

**1963**

# Surface Water Records of California

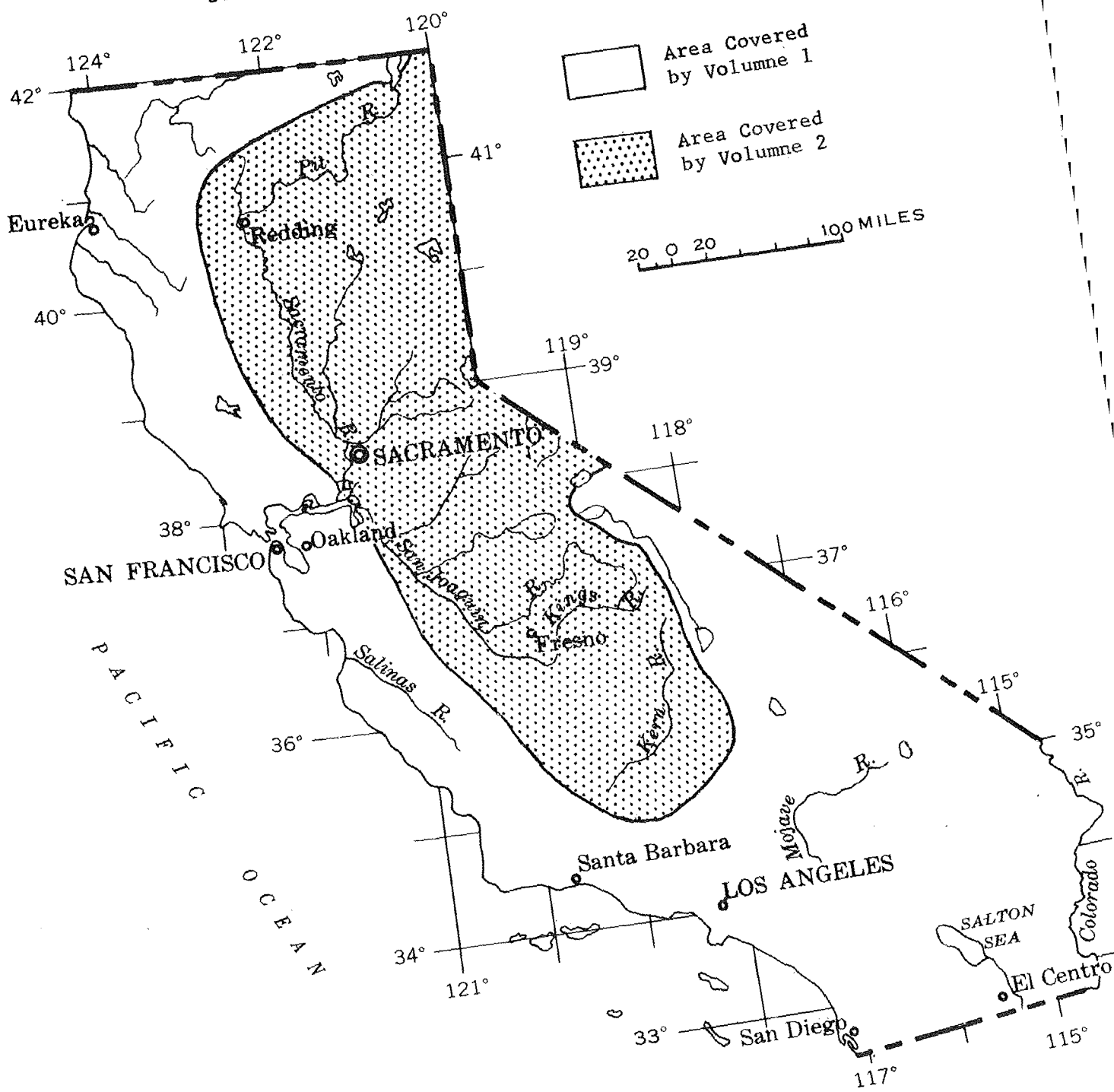
Volume 1: Colorado River Basin, Southern  
Great Basin, and Pacific Slope Basins  
excluding Central Valley



**UNITED STATES DEPARTMENT OF THE INTERIOR-GEOLOGICAL SURVEY**

Prepared in cooperation with the State of California  
and with other agencies

# SURFACE WATER RECORDS OF CALIFORNIA, 1963



United States Department of the Interior  
Geological Survey - Water Resources Division

SURFACE WATER RECORDS  
OF CALIFORNIA  
1963

Volume 1: Colorado River Basin, Southern Great Basin  
and Pacific Slope Basins excluding Central Valley

Prepared in cooperation with

State Department of Water Resources  
Alameda County Water District  
Calaveras County Water District  
Montecito County Water District  
Monterey County Flood Control and Water Conservation District  
Santa Clara County Flood Control and Water Conservation District  
Orange County Flood Control District  
San Luis Obispo County Flood Control and Water Conservation District  
Santa Barbara County Water Agency  
Santa Cruz County Flood Control and Water Conservation District  
San Benito County  
City of Arcata  
City of San Diego  
City of Santa Barbara  
East Bay Municipal Utility District  
Georgetown Divide Public Utility District  
Imperial Irrigation District  
San Bernardino Valley Water Conservation District  
Santa Maria Valley Water Conservation District  
Ventura River Municipal Water District  
Corps of Engineers, U. S. Army  
U. S. Navy  
Bureau of Reclamation, U. S. Department of the Interior  
Forest Service, U. S. Department of Agriculture  
Soil Conservation Service, U. S. Department of Agriculture

Copies of this report may be obtained from  
District Engineer, Surface Water Branch  
U. S. Geological Survey  
345 Middlefield Road  
Menlo Park, California

# CALENDAR FOR WATER YEAR 1963

## OCTOBER 1962

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

## NOVEMBER 1962

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

## DECEMBER 1962

| 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 |    |    |    |    |    |

## JANUARY 1963

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

## FEBRUARY 1963

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

## MARCH 1963

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

## APRIL 1963

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

## MAY 1963

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

## JUNE 1963

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

## JULY 1963

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

## AUGUST 1963

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

## SEPTEMBER 1963

| 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 |    |    |    |    |    |



# CONTENTS

|  | Page |
|--|------|
| Introduction.....  | 1    |
| Cooperation.....   | 2    |
| Definition of terms and abbreviations.....   | 3    |
| Downstream order and station numbers.....  | 4    |
| Explanation of data.....   | 5    |
| Accuracy of field data and computed results.....   | 8    |
| Supplemental data.....   | 9    |
| Hydrologic conditions.....   | 10   |
| Gaging-station records.....  | 11   |
| <u>Colorado River</u>  |      |
| Colorado River below Davis Dam, Ariz.-Nev.....   | 11   |
| Colorado River at Needles.....   | 12   |
| Colorado River near Topock, Ariz.....  | 13   |
| Chemehuevi Wash tributary near Needles.....  |      |
| Havasus Lake:  |      |
| <u>Diversion from Havasus Lake</u>   |      |
| Colorado River aqueduct near Parker Dam, Ariz.-Calif.....                                  | 15   |
| Havasus Lake near Parker Dam, Ariz.-Calif.....   | 16   |
| Colorado River below Parker Dam, Ariz.-Calif.....  | 18   |
| <u>Tributaries and diversions between Parker Dam and Palo Verde Dam</u>                    |      |
| Arch Creek near Earp.....  | 19   |
| Palo Verde Canal near Blythe.....  | 20   |
| Colorado River below Palo Verde Dam, Ariz.-Calif.....                                      | 21   |
| Colorado River at Imperial Dam, Ariz.-Calif.....   | 22   |
| Colorado River at Yuma, Ariz.....  | 23   |
| Colorado River at northerly international boundary above Morelos Dam,<br>near Andrade..... | 24   |
| <u>Diversions and return flows at and below Imperial Dam</u>                               |      |
| Gila Gravity Main Canal at Imperial Dam, Ariz.-Calif.....                                  | 25   |
| All-American Canal near Imperial Dam, Ariz.-Calif.....                                     | 26   |
| All-American Canal above Pilot Knob wasteway.....  | 27   |
| Pilot Knob powerplant and wasteway near Pilot Knob.....                                    | 28   |
| All-American Canal below Pilot Knob wasteway.....  | 29   |
| Return surface flows from Yuma project, Ariz.-Calif.....                                   | 30   |
| <u>Panamint Valley</u>   |      |
| Wildrose Creek near Wildrose Station.....  | 35   |
| Darwin Creek near Darwin.....  | 36   |
| <u>Death Valley</u>  |      |
| Amargosa River at Tecopa.....  | 37   |
| Horse Thief Creek near Tecopa.....   | 38   |
| <u>Ivanpah Valley</u>  |      |
| China Spring Creek near Mountain Pass.....   | 38   |
| <u>Bristol Lake basin</u>  |      |
| Sunflower Wash near Essex.....   | 39   |

## Gaging-station records-Continued

|  | Page |
|--|------|
| <u>Dale Lake basin</u>                               |      |
| Fortynine Palms Creek near Twentynine Palms.....     | 39   |
| <u>Chuckwalla Valley</u>                             |      |
| Eagle Creek at Eagle Mountain.....                   | 40   |
| <u>Salton Sea basin</u>                              |      |
| Salton Sea near Westmoreland.....                    | 41   |
| Inflow to Salton Sea.....                            | 41   |
| Salt Creek near Mecca.....                           | 42   |
| Alamo River near Niland.....                         | 43   |
| New River near Westmoreland.....                     | 44   |
| San Felipe Creek near Julian.....                    | 45   |
| Coyote Creek near Borrego Springs.....               | 46   |
| Borrego Palm Creek near Borrego Springs.....         | 47   |
| San Felipe Creek near Westmoreland.....              | 48   |
| Whitewater River at Whitewater.....                  | 49   |
| Snow Creek near Whitewater.....                      | 50   |
| Morongo Wash:  |      |
| Long Creek near Desert Hot Springs.....              | 51   |
| Tahquitz Creek near Palm Springs.....                | 52   |
| Palm Canyon Creek near Palm Springs.....             | 53   |
| Andreas Creek near Palm Springs.....                 | 54   |
| Deep Creek near Palm Desert.....                     | 55   |
| Whitewater River near Mecca.....                     | 56   |
| Cottonwood Wash near Cottonwood Spring.....          | 57   |
| <u>Emerson Lake basin</u>                            |      |
| Pipes Creek near Yucca Valley.....                   | 57   |
| <u>Lucerne Dry Lake basin</u>                        |      |
| Cushenbury Creek near Lucerne Valley.....            | 57   |
| <u>Mojave River basin</u>                            |      |
| Deep Creek (head of Mojave River) near Hesperia..... | 58   |
| West Fork Mojave River near Hesperia.....            | 59   |
| Mojave River at lower narrows, near Victorville..... | 60   |
| Beacon Creek at Helendale.....                       | 62   |
| Mojave River at Barstow.....                         | 62   |
| Mojave River at Afton.....                           | 63   |
| <u>Antelope Valley</u>                               |      |
| Big Rock Creek near Valyermo.....                    | 64   |
| Cooper Creek:  |      |
| Buckhorn Creek near Valyermo.....                    | 66   |
| Little Rock Creek near Little Rock.....              | 67   |
| Oak Creek near Mojave.....                           | 68   |
| Pine Tree Creek near Mojave.....                     | 69   |
| Ninemile Creek near Brown.....                       | 70   |
| <u>Owens Lake basin</u>                              |      |
| Owens River:   |      |
| Convict Creek near Mammoth Lakes.....                | 72   |
| Rock Creek at Little Round Valley, near Bishop.....  | 73   |
| Pine Creek at diversion box, near Bishop.....        | 74   |

# CONTENTS

V

## Gaging-station records--Continued

### Owens Lake basin--Continued

#### Owens River--Continued

|   | Page |
|---|------|
| Silver Canyon Creek near Laws.....                            | 75   |
| Big Pine Creek near Big Pine.....                             | 76   |
| Owens River near Big Pine.....                                | 78   |
| Independence Creek below Pinyon Creek, near Independence..... | 79   |
| Mazourka Creek near Independence.....                         | 80   |
| Owens River at Keeler Bridge, near Lone Pine.....             | 81   |
| Cottonwood Creek near Olancho.....                            | 82   |

#### Mono Lake basin

|  |    |
|--|----|
| Mono Lake near Mono Lake.....                    | 83 |
| Rush Creek above Grant Lake, near June Lake..... | 84 |
| Lee Vining Creek near Lee Vining.....            | 85 |

#### Tia Juana River basin

|   |    |
|---|----|
| Cottonwood Creek (head of Tia Juana River) at Morena Dam..... | 86 |
| Cottonwood Creek at Barrett Dam, near Dulzura.....            | 87 |
| Cottonwood Creek above Tecate Creek, near Dulzura.....        | 87 |

#### Tecate Creek:

##### Campo Creek:

|   |    |
|---|----|
| Miller Creek near Live Oak Springs.....                         | 88 |
| Campo Creek near Campo.....                                     | 88 |
| Tia Juana River near Dulzura.....                               | 88 |
| Rodriguez Reservoir at Rodriguez Dam, Baja California, Mex..... | 89 |
| Tia Juana River near Nestor.....                                | 89 |

#### Otay River basin

|  |    |
|--|----|
| Jamul Creek (head of Otay River) near Jamul..... | 90 |
|--|----|

#### Sweetwater River basin

|  |    |
|--|----|
| Sweetwater River near Descanso.....                | 91 |
| Sweetwater River at Loveland Dam, near Alpine..... | 93 |
| Sweetwater River at Sweetwater Dam.....            | 94 |

#### San Diego River basin

##### San Diego River:

|   |    |
|---|----|
| Boulder Creek at Cuyamaca Reservoir, near Julian..... | 95 |
| San Diego River at El Capitan Dam.....                | 96 |
| San Diego River near Santee.....                      | 97 |

##### San Dieguito River basin

|   |     |
|---|-----|
| Santa Ysabel Creek (head of San Dieguito River) at Sutherland Dam.... | 98  |
| Santa Ysabel Creek near Ramona.....                                   | 99  |
| Santa Ysabel Creek near San Pasqual.....                              | 100 |
| Guejito Creek near San Pasqual.....                                   | 101 |
| Santa Maria Creek near Ramona.....                                    | 102 |
| San Dieguito River near San Pasqual.....                              | 102 |
| San Dieguito River at Lake Hodges.....                                | 103 |

#### San Luis Rey River basin

##### San Luis Rey River:

|   |     |
|---|-----|
| Agua Caliente Creek near Warner Springs.....              | 104 |
| West Fork San Luis Rey River near Warner Springs.....     | 105 |
| San Luis Rey River at Lake Henshaw, near Mesa Grande..... | 106 |

## Gaging-station records--Continued

|  |      |
|--|------|
| San Luis Rey River basin--Continued                              | Page |
| San Luis Rey River at Monserate Narrows, near Pala.....          | 107  |
| San Luis Rey River near Bonsall.....                             | 107  |
| San Luis Rey River at Oceanside.....                             | 107  |
| <u>Santa Margarita River basin</u>                               |      |
| Temecula Creek (head of Santa Margarita River) near Aguanga..... | 108  |
| Temecula Creek at Vail Dam.....                                  | 109  |
| Murrieta Creek at Temecula.....                                  | 110  |
| Santa Margarita River near Temecula.....                         | 111  |
| Santa Margarita River near Fallbrook.....                        | 112  |
| Santa Margarita River tributary near Fallbrook.....              | 113  |
| De Luz Creek near Fallbrook.....                                 | 113  |
| Santa Margarita River at Ysidora.....                            | 114  |
| <u>Las Flores Creek basin</u>                                    |      |
| Las Flores Creek near Oceanside.....                             | 114  |
| <u>San Onofre Creek basin</u>                                    |      |
| San Onofre Creek near San Onofre.....                            | 115  |
| San Onofre Creek at San Onofre.....                              | 115  |
| <u>San Mateo Creek basin</u>                                     |      |
| San Mateo Creek near San Clemente.....                           | 116  |
| Cristianitos Creek near San Clemente.....                        | 117  |
| San Mateo Creek at San Onofre.....                               | 118  |
| <u>San Juan Creek basin</u>                                      |      |
| San Juan Creek near San Juan Capistrano.....                     | 119  |
| Arroyo Trabuco near San Juan Capistrano.....                     | 121  |
| <u>Aliso Creek basin</u>   |      |
| Aliso Creek at El Toro.....                                      | 122  |
| <u>Peters Canyon Wash basin</u>                                  |      |
| <u>Peters Canyon Wash:</u>                                       |      |
| San Diego Creek near Irvine.....                                 | 123  |
| <u>Santa Ana River basin</u>                                     |      |
| <u>Santa Ana River:</u>  |      |
| Bear Creek:  |      |
| Big Bear Lake near Big Bear Lake.....                            | 124  |
| Santa Ana River near Mentone.....                                | 125  |
| Mill Creek near Yucaipa.....                                     | 127  |
| Mill Creek near Mentone.....                                     | 129  |
| Plunge Creek near East Highlands.....                            | 130  |
| San Timoteo Creek:   |      |
| Little San Gorgonio Creek near Beaumont.....                     | 132  |
| San Timoteo Creek near Redlands.....                             | 132  |
| San Timoteo Creek near Loma Linda.....                           | 133  |
| Warm Creek:  |      |
| East Twin Creek near Arrowhead Springs.....                      | 134  |
| Waterman Canyon Creek near Arrowhead Springs.....                | 135  |
| City Creek near Highland.....                                    | 136  |

## Gaging-station records--Continued

## Santa Ana River basin--Continued

## Santa Ana River--Continued

|  |      |
|--|------|
| Warm Creek--Continued  | Page |
| Lytle Creek near Fontana.....                                | 138  |
| Cajon Creek near Keenbrook.....                              | 140  |
| Lone Pine Creek near Keenbrook.....                          | 141  |
| Devil Canyon Creek near San Bernardino.....                  | 142  |
| Meeks & Daley Canal near Colton.....                         | 143  |
| Santa Ana River at Colton.....                               | 144  |
| Santa Ana River at Riverside Narrows, near Arlington.....    | 145  |
| Day Creek near Etiwanda.....                                 | 146  |
| Santa Ana River at Auburndale Bridge, near Corona.....       | 148  |
| Cucamonga Creek near Upland.....                             | 149  |
| Lake Hemet near Idyllwild.....                               | 150  |
| South Fork San Jacinto River tributary near Valle Vista..... | 150  |
| San Jacinto River near San Jacinto.....                      | 151  |
| Bautista Creek near Hemet.....                               | 153  |
| San Jacinto River near Elsinore.....                         | 153  |
| Elsinore Lake at Elsinore.....                               | 154  |
| Temescal Creek near Corona.....                              | 155  |
| Chino Creek:   |      |
| San Antonio Creek near Claremont.....                        | 156  |
| Santa Ana River below Prado Dam.....                         | 158  |
| Carbon Creek below Carbon Canyon Dam.....                    | 159  |
| Santiago Creek at Modjeska.....                              | 160  |
| Santiago Creek near Villa Park.....                          | 161  |
| Santiago Creek at Santa Ana.....                             | 161  |
| Santa Ana River at Santa Ana.....                            | 162  |
| <u>San Gabriel River basin</u>                               |      |
| East Fork San Gabriel River near Camp Bonita.....            | 163  |
| West Fork San Gabriel River at Camp Rincon.....              | 164  |
| San Gabriel River near Azusa.....                            | 165  |
| Fish Creek near Duarte.....                                  | 166  |
| San Gabriel River below Santa Fe Dam, near Baldwin Park..... | 167  |
| Walnut Creek:  |      |
| Dalton Creek:  |      |
| San Dimas Creek below San Dimas Dam.....                     | 167  |
| Little Dalton Creek near Glendora.....                       | 168  |
| San Jose Creek near Whittier.....                            | 169  |
| San Gabriel River at Pico.....                               | 170  |
| San Gabriel River at Spring Street, near Los Alamitos.....   | 171  |
| Coyote Creek:  |      |
| Brea Creek below Brea Dam, near Fullerton.....               | 172  |
| Brea Creek at Fullerton.....                                 | 173  |
| Fullerton Creek below Fullerton Dam, near Brea.....          | 174  |
| Fullerton Creek at Fullerton.....                            | 175  |
| Coyote Creek near Artesia.....                               | 176  |

## Gaging-station records--Continued

|  | Page |
|--|------|
| <u>Los Angeles River basin</u>                               |      |
| Los Angeles River at Sepulveda Dam.....                      | 177  |
| Pacoima Creek near San Fernando.....                         | 178  |
| Tujunga Creek below Mill Creek, near Colby Ranch.....        | 179  |
| Tujunga Creek near Sunland.....                              | 180  |
| Little Tujunga Creek near San Fernando.....                  | 181  |
| Tujunga Creek below Hansen Dam.....                          | 181  |
| Los Angeles River at Los Angeles.....                        | 182  |
| Arroyo Seco near Pasadena.....                               | 183  |
| Los Angeles River near Downey.....                           | 184  |
| Rio Hondo:   |      |
| Santa Anita Creek near Sierra Madre.....                     | 185  |
| Eaton Creek near Pasadena.....                               | 186  |
| Rio Hondo above Whittier Narrows Dam.....                    | 187  |
| Rio Hondo near Montebello.....                               | 188  |
| Mission Creek near Montebello.....                           | 189  |
| Mission Creek below Whittier Narrows Dam.....                | 190  |
| Rio Hondo near Downey.....                                   | 191  |
| Los Angeles River at Long Beach.....                         | 192  |
| <u>Ballona Creek basin</u>                                   |      |
| Ballona Creek near Culver City.....                          | 193  |
| <u>Topanga Creek basin</u>                                   |      |
| Topanga Creek near Topanga Beach.....                        | 194  |
| <u>Malibu Creek basin</u>                                    |      |
| Malibu Creek at Crater Camp, near Calabasas.....             | 195  |
| <u>Calleguas Creek basin</u>                                 |      |
| Calleguas Creek:   |      |
| Honda Barranca (head of Revolon slough) near Somis.....      | 196  |
| <u>Santa Clara River basin</u>                               |      |
| Santa Clara River at Los Angeles-Ventura County line.....    | 197  |
| Piru Creek above Lake Piru.....                              | 198  |
| Lake Piru near Piru.....                                     | 199  |
| Piru Creek below Santa Felicia Dam.....                      | 200  |
| Hopper Creek near Piru.....                                  | 201  |
| Sespe Creek near Wheeler Springs.....                        | 202  |
| Sespe Creek near Fillmore.....                               | 204  |
| Santa Paula Creek near Santa Paula.....                      | 206  |
| <u>Ventura River basin</u>                                   |      |
| Matilija Creek (head of Ventura River) above reservoir, near |      |
| Matilija Hot Springs.....                                    | 207  |
| Matilija Reservoir at Matilija Hot Springs.....              | 208  |
| Matilija Creek at Matilija Hot Springs.....                  | 209  |
| North Fork Matilija Creek at Matilija Hot Springs.....       | 210  |
| Ventura River near Meiners Oaks.....                         | 211  |
| San Antonio Creek at Casitas Springs.....                    | 212  |
| Coyote Creek near Oak View.....                              | 213  |
| Santa Ana Creek near Oak View.....                           | 214  |
| Ventura River near Ventura.....                              | 215  |

# CONTENTS

IX

## Gaging-station records--Continued

|  | Page |
|--|------|
| <u>Carpinteria Creek basin</u>   |      |
| Carpinteria Creek near Carpinteria.....  | 217  |
| <u>Atascadero Creek basin</u>  |      |
| Atascadero Creek near Goleta.....  | 218  |
| <u>San Jose Creek basin</u>  |      |
| San Jose Creek near Goleta.....  | 219  |
| <u>Santa Ynez River basin</u>  |      |
| Santa Ynez River at Jameson Lake, near Montecito.....                                    | 220  |
| Santa Ynez River above Gibraltar Dam, near Santa Barbara.....                            | 221  |
| Santa Ynez River below Gibraltar Dam, near Santa Barbara.....                            | 222  |
| Santa Ynez River below Los Laureles Canyon, near Santa Ynez.....                         | 223  |
| Santa Cruz Creek near Santa Ynez.....  | 224  |
| Lake Cachuma near Santa Ynez.....  | 225  |
| Santa Ynez River near Santa Ynez.....  | 226  |
| Santa Agueda Creek near Santa Ynez.....  | 227  |
| Santa Ynez River at Grand Avenue, near Santa Ynez.....                                   | 228  |
| Alisal Creek near Solvang.....   | 229  |
| Santa Ynez River at Solvang.....   | 230  |
| Zaca Creek at Buellton.....  | 231  |
| Santa Ynez River near Buellton.....  | 232  |
| Santa Ynez River at Santa Rosa damsite, near Buellton.....                               | 233  |
| Santa Ynez River at Cooper's Reef, near Lompoc.....                                      | 234  |
| Salsipuedes Creek near Lompoc.....   | 235  |
| Santa Ynez River at Narrows, near Lompoc.....  | 236  |
| Santa Ynez River at 13th Street, near Lompoc.....  | 237  |
| Santa Ynez River at barrier, near Surf.....  | 238  |
| <u>San Antonio Creek basin</u>   |      |
| San Antonio Creek near Casmalia.....   | 239  |
| <u>Santa Maria River basin</u>   |      |
| Cuyama River (head of Santa Maria River) below Buckhorn Canyon,<br>near Santa Maria..... | 240  |
| Alamo Creek near Nipomo.....   | 240  |
| Huasna River near Arroyo Grande.....   | 241  |
| Cuyama River below Twitchell Dam.....  | 242  |
| Sisquoc River near Sisquoc.....  | 243  |
| La Brea Creek near Sisquoc.....  | 244  |
| Tepusquet Creek near Sisquoc.....  | 245  |
| Sisquoc River near Garey.....  | 246  |
| Santa Maria River at Guadalupe.....  | 246  |
| <u>Arroyo Grande basin</u>   |      |
| Arroyo Grande near Arroyo Grande.....  | 247  |
| Arroyo Grande at Arroyo Grande.....  | 248  |
| <u>Santa Rosa Creek basin</u>  |      |
| Santa Rosa Creek near Cambria.....   | 249  |
| <u>Arroyo de la Cruz basin</u>   |      |
| Arroyo de la Cruz near San Simeon.....   | 250  |
| <u>Rat Creek basin</u>   |      |
| Rat Creek near Lucia.....  | 251  |

## Gaging-station records--Continued

|  |      |
|--|------|
| <u>Big Sur River basin</u>                                     | Page |
| Big Sur River near Big Sur.....                                | 252  |
| <u>Carmel River basin</u>                                      |      |
| Carmel River at Robles del Rio.....                            | 253  |
| Carmel River near Carmel.....                                  | 254  |
| <u>Salinas River basin</u>                                     |      |
| Salinas River near Pozo.....                                   | 255  |
| Toro Creek near Pozo.....                                      | 256  |
| Salinas Reservoir near Pozo.....                               | 257  |
| Salinas River above Pilitas Creek, near Santa Margarita.....   | 258  |
| Jack Creek near Templeton.....                                 | 259  |
| Santa Rita Creek near Templeton.....                           | 260  |
| Salinas River at Paso Robles.....                              | 261  |
| Huerhuero Creek near Creston.....                              | 262  |
| Estrella River:  |      |
| Cholame Creek:   |      |
| Cholame Creek tributary near Cholame.....                      | 263  |
| Cholame Creek near Shandon.....                                | 264  |
| Estrella River near Estrella.....                              | 265  |
| Nacimiento River near Bryson.....                              | 266  |
| Nacimiento River below Nacimiento Dam, near Bradley.....       | 267  |
| San Antonio River at Sam Jones Bridge, near Lockwood.....      | 268  |
| San Antonio River at Pleyto.....                               | 269  |
| Salinas River near Bradley.....                                | 270  |
| San Lorenzo Creek:   |      |
| Cow Creek near Ardo.....                                       | 271  |
| San Lorenzo Creek below Bitterwater Creek, near King City..... | 272  |
| Arroyo Seco near Greenfield.....                               | 273  |
| Arroyo Seco near Soledad.....                                  | 274  |
| Salinas River near Spreckels.....                              | 275  |
| <u>Pajaro River basin</u>                                      |      |
| Pajaro River:  |      |
| Cedar Creek near Bell Station.....                             | 276  |
| Pacheco Creek near Dunneville.....                             | 277  |
| Llagas Creek near Morgan Hill.....                             | 278  |
| Pajaro River near Gilroy.....                                  | 279  |
| Carnadero Creek:   |      |
| Uvas Creek above Uvas Reservoir, near Morgan Hill.....         | 280  |
| Bodfish Creek near Gilroy.....                                 | 281  |
| Uvas Creek near Gilroy.....                                    | 282  |
| San Benito River below McCoy Creek, near Hernandez.....        | 283  |
| San Benito River near Willow Creek School.....                 | 284  |
| Pescadero Creek near Paicines.....                             | 285  |
| Tres Pinos Creek near Tres Pinos.....                          | 286  |
| San Benito River near Hollister.....                           | 288  |
| Pajaro River at Chittenden.....                                | 289  |
| Corralitos Creek near Corralitos.....                          | 290  |



# CONTENTS

XI

## Gaging-station records--Continued

### Pajaro River basin--Continued

|                                       |      |
|---------------------------------------|------|
| Pajaro River--Continued               | Page |
| Corralitos Creek at Freedom.....      | 291  |
| Reservoirs in Pajaro River basin..... | 292  |

### Aptos Creek basin

|                           |     |
|---------------------------|-----|
| Aptos Creek at Aptos..... | 293 |
|---------------------------|-----|

### Soquel Creek basin

#### Soquel Creek:

|   |     |
|---|-----|
| West Branch Soquel Creek near Soquel..... | 294 |
| Soquel Creek at Soquel.....               | 295 |

### San Lorenzo River basin

#### San Lorenzo River:

|                                      |     |
|--------------------------------------|-----|
| Zayante Creek at Zayante.....        | 296 |
| San Lorenzo River at Big Trees.....  | 297 |
| Branciforte Creek at Santa Cruz..... | 298 |

### Scott Creek basin

|   |     |
|---|-----|
| Scott Creek above Little Creek, near Davenport..... | 299 |
|---|-----|

### Pescadero Creek basin

|                                     |     |
|-------------------------------------|-----|
| Pescadero Creek near Pescadero..... | 300 |
|-------------------------------------|-----|

### Purisima Creek basin

|  |     |
|--|-----|
| Purisima Creek near Half Moon Bay..... | 301 |
|--|-----|

### Redwood Creek basin

|                                    |     |
|------------------------------------|-----|
| Redwood Creek at Redwood City..... | 302 |
|------------------------------------|-----|

### Atherton Drainage Channel basin

|                                   |     |
|-----------------------------------|-----|
| Sharon Creek near Menlo Park..... | 303 |
|-----------------------------------|-----|

### San Francisquito Creek basin

|   |     |
|---|-----|
| San Francisquito Creek below Ladera damsite, near Stanford University | 304 |
|---|-----|

|  |     |
|--|-----|
| San Francisquito Creek tributary near Stanford University..... | 305 |
|--|-----|

#### Los Trancos Creek:

|   |     |
|---|-----|
| Los Trancos Creek tributary near Stanford University..... | 306 |
| San Francisquito Creek at Stanford University.....        | 307 |

### Matadero Creek basin

|                                  |     |
|----------------------------------|-----|
| Matadero Creek at Palo Alto..... | 308 |
|----------------------------------|-----|

### Stevens Creek basin

|   |     |
|---|-----|
| Stevens Creek Reservoir near Monte Vista..... | 309 |
|---|-----|

### Guadalupe River basin

|  |     |
|--|-----|
| Alamitos Creek (head of Guadalupe River) near New Almaden..... | 310 |
|--|-----|

#### Guadalupe River:

|  |     |
|--|-----|
| Ross Creek at San Jose.....              | 311 |
| Los Gatos Creek at Los Gatos.....        | 312 |
| Guadalupe River at San Jose.....         | 313 |
| Saratoga Creek at Saratoga.....          | 314 |
| Reservoirs in Guadalupe River basin..... | 315 |

### Coyote Creek basin

|                               |     |
|-------------------------------|-----|
| Coyote Creek near Gilroy..... | 316 |
|-------------------------------|-----|

|                                |     |
|--------------------------------|-----|
| Coyote Creek near Madrone..... | 317 |
|--------------------------------|-----|

|   |     |
|---|-----|
| Upper Penitencia Creek at San Jose..... | 318 |
|---|-----|

|                                       |     |
|---------------------------------------|-----|
| Reservoirs in Coyote Creek basin..... | 319 |
|---------------------------------------|-----|

## Gaging-station records--Continued

|  |      |
|--|------|
| <u>Alameda Creek basin</u>                   |      |
| <u>Alameda Creek:</u>                        | Page |
| San Antonio Creek near Sunol.....            | 320  |
| Arroyo de la Laguna:                         |      |
| Arroyo Mocho Canal:                          |      |
| Arroyo Mocho near Pleasanton.....            | 321  |
| Arroyo Valle near Livermore.....             | 323  |
| Arroyo Valle at Pleasanton.....              | 324  |
| Alameda Creek near Niles.....                | 325  |
| Dry Creek at Union City.....                 | 326  |
| Patterson Creek at Union City.....           | 327  |
| Alameda Creek at Union City.....             | 328  |
| <u>San Lorenzo Creek basin</u>               |      |
| San Lorenzo Creek at Hayward.....            | 329  |
| <u>Rheem Creek basin</u>                     |      |
| Rheem Creek at San Pablo.....                | 330  |
| <u>Pinole Creek basin</u>                    |      |
| Pinole Creek at Pinole.....                  | 331  |
| <u>Pacheco Creek basin</u>                   |      |
| <u>Walnut Creek (head of Pacheco Creek):</u> |      |
| San Ramon Creek at San Ramon.....            | 332  |
| San Ramon Creek at Walnut Creek.....         | 333  |
| Walnut Creek at Walnut Creek.....            | 334  |
| <u>Napa River basin</u>                      |      |
| Napa River near St. Helena.....              | 335  |
| Dry Creek near Napa.....                     | 337  |
| Napa River near Napa.....                    | 338  |
| Napa Creek:                                  |      |
| Redwood Creek near Napa.....                 | 339  |
| <u>Sonoma Creek basin</u>                    |      |
| Sonoma Creek at Boyes Hot Springs.....       | 340  |
| <u>Petaluma River basin</u>                  |      |
| Petaluma River at Petaluma.....              | 341  |
| <u>Novato Creek basin</u>                    |      |
| Novato Creek near Novato.....                | 342  |
| <u>Corte Madera Creek basin</u>              |      |
| Corte Madera Creek at Ross.....              | 343  |
| <u>Walker Creek basin</u>                    |      |
| Walker Creek near Tomales.....               | 344  |
| <u>Salmon Creek basin</u>                    |      |
| Salmon Creek at Bodega.....                  | 345  |
| <u>Russian River basin</u>                   |      |
| Russian River near Ukiah.....                | 346  |
| East Fork Russian River near Calpella.....   | 347  |
| East Fork Russian River near Ukiah.....      | 348  |
| Russian River near Hopland.....              | 349  |
| Feliz Creek near Hopland.....                | 350  |

## Gaging-station records--Continued

|   |      |
|---|------|
| Russian River basin--Continued                                  | Page |
| Russian River near Cloverdale.....                              | 351  |
| Big Sulphur Creek near Cloverdale.....                          | 352  |
| Maacama Creek near Kellogg.....                                 | 353  |
| Russian River near Healdsburg.....                              | 354  |
| Dry Creek near Cloverdale.....                                  | 355  |
| Dry Creek near Geyserville.....                                 | 356  |
| Santa Rosa Creek near Santa Rosa.....                           | 357  |
| Russian River near Guerneville.....                             | 358  |
| Austin Creek near Cazadero.....                                 | 359  |
| <u>Gualala River basin</u>                                      |      |
| South Fork Gualala River near Annapolis.....                    | 360  |
| <u>Garcia River basin</u>                                       |      |
| Garcia River near Point Arena.....                              | 361  |
| <u>Navarro River basin</u>                                      |      |
| Navarro River:  |      |
| Rancheria Creek near Boonville.....                             | 363  |
| Navarro River near Navarro.....                                 | 364  |
| <u>Albion River basin</u>                                       |      |
| Albion River near Comptche.....                                 | 365  |
| <u>Big River basin</u>  |      |
| Big River:  |      |
| South Fork Big River near Comptche.....                         | 366  |
| <u>Noyo River basin</u>   |      |
| Noyo River near Fort Bragg.....                                 | 367  |
| <u>Cottoneva Creek basin</u>                                    |      |
| Cottoneva Creek:  |      |
| Dunn Creek near Rockport.....                                   | 368  |
| <u>Mattole River basin</u>                                      |      |
| Mattole River near Petrolia.....                                | 369  |
| <u>Eel River basin</u>  |      |
| Eel River:  |      |
| Lake Pillsbury near Potter Valley.....                          | 370  |
| Eel River below Scott Dam, near Potter Valley.....              | 371  |
| Potter Valley powerhouse tailrace near Potter Valley.....       | 372  |
| Eel River at Van Arsdale Dam, near Potter Valley.....           | 373  |
| Outlet Creek near Longvale.....                                 | 374  |
| Eel River above Dos Rios.....                                   | 375  |
| Middle Fork Eel River:  |      |
| Black Butte River near Covelo.....                              | 377  |
| Middle Fork Eel River below Black Butte River, near Covelo..... | 378  |
| Williams Creek near Covelo.....                                 | 380  |
| Mill Creek below Alder Creek, near Covelo.....                  | 381  |
| Short Creek near Covelo.....                                    | 382  |
| Mill Creek near Covelo.....                                     | 383  |

## Gaging-station records--Continued

|   |      |
|---|------|
| Eel River basin--Continued  | Page |
| Eel River below Dos Rios.....   | 385  |
| North Fork Eel River:   |      |
| Hulls Creek near Covelo.....  | 386  |
| North Fork Eel River near Mina.....   | 387  |
| Eel River at Alderpoint.....  | 388  |
| South Fork Eel River near Branscomb.....                                    | 390  |
| Tenmile Creek near Laytonville.....   | 392  |
| South Fork Eel River near Miranda.....                                      | 393  |
| Bull Creek near Weott.....  | 395  |
| Larabee Creek near Holmes.....  | 396  |
| Eel River at Scotia.....  | 397  |
| Van Duzen River:  |      |
| South Fork Van Duzen River near Bridgeville.....                            | 399  |
| Van Duzen River near Bridgeville.....                                       | 401  |
| Elk River basin   |      |
| Elk River near Falk.....  | 403  |
| Jacoby Creek basin  |      |
| Jacoby Creek near Freshwater.....   | 404  |
| Mad River basin   |      |
| Mad River near Forest Glen.....   | 405  |
| North Fork Mad River near Korbelt.....                                      | 407  |
| Mad River near Arcata.....  | 408  |
| Little River basin  |      |
| Little River at Crannell.....   | 410  |
| Redwood Creek basin   |      |
| Redwood Creek at Orick.....   | 411  |
| Lower Klamath Lake basin (closed basin adjacent to Klamath River<br>basin)  |      |
| Dry Lake tributary at Perez.....  | 412  |
| Antelope Creek near Tennant.....  | 413  |
| Klamath River basin   |      |
| Klamath River below John C. Boyle powerplant, near Keno, Oreg.....          | 414  |
| Klamath River below Iron Gate Dam.....                                      | 415  |
| Shasta River:   |      |
| Little Shasta River near Montague.....                                      | 417  |
| Shasta River near Yreka.....  | 418  |
| Beaver Creek near Klamath River.....  | 419  |
| Scott River:  |      |
| East Fork Scott River at Callahan.....                                      | 420  |
| Moffet Creek near Fort Jones.....   | 421  |
| Scott River near Fort Jones.....  | 422  |
| Klamath River near Seiad Valley.....  | 423  |
| Indian Creek near Happy Camp.....   | 424  |
| Elk Creek near Happy Camp.....  | 425  |
| Ti Creek near Somesbar.....   | 426  |
| South Fork Salmon River (head of Salmon River) near Forks of<br>Salmon..... | 427  |

## Gaging-station records--Continued

## Klamath River basin--Continued

## Klamath River--Continued

## Salmon River:

|   | Page |
|---|------|
| North Fork Salmon River near Forks of Salmon.....                 | 428  |
| Salmon River at Somesbar.....                                     | 429  |
| Klamath River at Somesbar.....                                    | 430  |
| Red Cap Creek near Orleans.....                                   | 431  |
| Bluff Creek near Weitchpec.....                                   | 432  |
| Trinity River above Coffee Creek, near Trinity Center.....        | 433  |
| Coffee Creek near Trinity Center.....                             | 434  |
| Trinity Lake near Lewiston.....                                   | 435  |
| Trinity River at Lewiston.....                                    | 436  |
| Weaver Creek near Douglas City.....                               | 438  |
| Browns Creek near Douglas City.....                               | 439  |
| North Fork Trinity River at Helena.....                           | 440  |
| Trinity River near Burnt Ranch.....                               | 441  |
| New River at Denny.....   | 443  |
| South Fork Trinity River at Forest Glen.....                      | 444  |
| South Fork Trinity River near Hyampom.....                        | 445  |
| Hayfork Creek near Hayfork.....                                   | 446  |
| Big Creek near Hayfork.....                                       | 447  |
| Hayfork Creek near Hyampom.....                                   | 448  |
| South Fork Trinity River near Salyer.....                         | 450  |
| Willow Creek at Willow Creek.....                                 | 452  |
| Trinity River near Hoopa.....                                     | 453  |
| Klamath River near Klamath.....                                   | 454  |
| <u>Smith River basin</u>  |      |
| Middle Fork Smith River (head of Smith River) at Gasquet.....     | 455  |
| Smith River near Crescent City.....                               | 456  |
| <u>Lopez Creek basin</u>  |      |
| Lopez Creek near Smith River.....                                 | 457  |
| Discharge at partial-record stations and miscellaneous sites..... | 458  |
| Crest-stage partial-record stations.....                          | 458  |
| Santa Ana River absorption studies.....                           | 459  |
| Colorado River below Imperial Dam, schematic diagram.....         | 34   |
| Index.....  | 460  |



## SURFACE WATER RECORDS OF CALIFORNIA, 1963

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### INTRODUCTION

The surface-water records for the 1963 water year for gaging stations, partial-record stations, and miscellaneous sites within the State of California are given in this report. For convenience there are also included records for a few pertinent gaging stations in bordering States. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey, under the direction of Walter Hofmann, district engineer, Surface Water Branch.

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

Beginning with the 1961 water year, streamflow records and related data are being released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these basic-data reports is limited and primarily for local needs. The records later will be published in Geological Survey water-supply papers at 5-year intervals. These 5-year water-supply papers will show daily discharge and will be compiled on the same geographical areas previously used for the annual series; however, some of the 14 parts of conterminous United States will be further subdivided.

## COOPERATION

In California the work was done under cooperative agreements with:

State Department of Water Resources, W. E. Warne, Director.  
Alameda County Water District, M. P. Whitfield, General  
Manager.

Calaveras County Water District, Paul E. Lewis, Secretary-  
Manager.

Montecito County Water District, Delbert D. Smith, General  
Manager.

Monterey County Flood Control and Water Conservation Dis-  
trict, Foren Bunte, District Engineer.

Santa Clara County Flood Control and Water Conservation  
District, Donald K. Currllin, Manager-Counsel.

Orange County Flood Control District, H. G. Osborne, Chief  
Engineer.

San Luis Obispo County Flood Control and Water Conserva-  
tion District, Robert H. Born, County Hydraulic Engineer.

Santa Barbara County Water Agency, C. W. Bradbury, Chair-  
man.

Santa Cruz County Flood Control and Water Conservation  
District, Warren M. Harrison, Director of Public Works.

San Benito County, E. R. Hanna, County Surveyor.

City of Arcata, Philip Brown, City Manager.

City of San Diego, E. W. Blom, Assistant City Manager.

City of Santa Barbara Water Department, Clyde Richardson,  
Superintendent.

East Bay Municipal Utility District, John W. McFarland,  
General Manager.

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

Imperial Irrigation District, R. F. Carter, General  
Manager.

San Bernardino Valley Water Conservation District, Edward  
F. Dibble, Engineer and Secretary.

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

Ventura River Municipal Water District, Leland G. Bennett,  
General Manager and Chief Engineer.



Assistance in the form of funds or services was given by the Corps of Engineers, U. S. Army; U. S. Navy; Bureau of Reclamation, U. S. Department of the Interior; and by the Soil Conservation Service and Forest Service, U. S. Department of Agriculture in collecting records published herein. The entire expense of the investigation of streamflow in the Tuolumne River basin made for the Hetch Hetchy project and of the flow of Alameda Creek near Niles was borne by the city and county of San Francisco.

The following organizations and individuals aided in collecting records: The Pacific Power and Light Co.; California Water and Telephone Co.; East Bay Municipal Utility District; The Irvine Ranch; Kings River Water Association; Los Angeles City Department of Water and Power; Los Angeles County Flood Control District; Pauba Ranch; Pacific Gas & Electric Co.; Placer County Water Agency; Sacramento Municipal Utility District; San Bernardino County Flood Control District; Southern California Edison Co.; United Water Conservation District; Ventura County Water Resources Division; and Helix, Madera, Merced, Modesto, Serrano and Carpenter, Turlock, Oakdale, Oroville-Wyandotte, South San Joaquin, Vista, and Woodbridge Irrigation Districts.

#### DEFINITION OF TERMS AND ABBREVIATIONS

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

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

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

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

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

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

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

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

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

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

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

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

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

#### DOWNSTREAM ORDER AND STATION NUMBERS

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

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

The complete number for each station, such as 11-1208.00 includes the part number "11" and a six digit station number. In this report, the part number and only the essential digits of the station number are shown. For example, the complete number 11-1208.00 would appear as 11-1208, just to the left of the station name. In this report, the records are listed in downstream order by parts. All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

#### EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. Records of stage are obtained from a water-stage recorder that gives a continuous chart of the fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-Supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge

is determined by shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. 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 in effect the shifting-control method.

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

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

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute the daily discharge. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, 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, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins.

The data in this report generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar for the 1963 water year is shown on page II to facilitate finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. Under "Records available" are given periods for which there are published records for the present station or for stations generally equivalent to the present one. Under "Gage" are given the type of gage currently in use and the datum of the gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of records available. The references to "datum of 1929" and adjustments of other years are to the datum and adjustments of the U.S. Coast and Geodetic Survey. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height if it is significant. In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

Skeleton rating tables are published for all stations except those for which the daily discharge for the greater part of the open-water period was determined by the shifting-control method, the slope method, or other special methods involving an equivalent adjustment to the gage height of more than one-tenth foot. Skeleton rating tables generally are not published for canals, ditches, or springs.

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

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

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

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

Footnotes to the table of daily discharge indicate periods for which discharge was computed or estimated by unusual or special methods because of no gage-height record, ice effect, or other conditions that reduce the degree of accuracy of the records. The footnotes are either reference footnotes, with corresponding symbols used in the table of daily discharge to indicate the days included, or general footnotes, introduced by the word "Note," in which the days included are stated.

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

For those stations equipped with a thermograph, a table of daily maximum and minimum water temperatures is included.

#### ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

The station description states the degree of accuracy of the records. "Excellent" indicates that, in general, the error in the daily records is believed to be less than 5 percent; "good," less than 10 percent; "fair," less than 15 percent; and "poor," probably more than 15 percent. The records of monthly and yearly mean discharge and runoff are, in general, more nearly accurate than the daily records.

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

#### SUPPLEMENTAL DATA

Data collected at about 280 partial-record stations are published in the California District report, Floods from Small Drainage Areas. Data from other partial-record stations and measurements made at miscellaneous sites are given at the end of this report. 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 given in special tables after the list of measurements at miscellaneous sites.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office, such as discharge measurements and recorder charts or nonrecording-gage readings. Most gaging-station records in the State through 1958 have been analyzed with an electronic computer to give: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year. At many gaging stations water samples are collected from the streams for the purpose of making chemical analyses; computing dissolved solids, suspended sediment loads, and particle-size distribution; or measuring water temperatures.

#### HYDROLOGIC CONDITIONS

Severe storms initiated the water year with local flooding in the central part of the State. The three months of winter drought that followed was broken by a violent storm during the period January 29 to February 1. This warm storm not only dumped 20 inches or more precipitation in the Sierra Nevada but melted almost all of the accumulated snow pack resulting in destructive floods. Property damage amounted to several million dollars, and 8 gaging stations were destroyed. A series of mountain storms during April replenished the snow pack and ensured above-median contents in the major reservoirs.

In the San Francisco Bay region runoff was about 280 percent of median and in the central coast area, 220 percent of median. In the south coastal area runoff was 50 percent of median. In the Central Valley runoff was about 140 percent of median.



## COLORADO RIVER MAIN STEM

9-4230, Colorado River below Davis Dam, Ariz.-Nev.

Location.--Lat 35°11'30", long 114°34'15", in SE 1/4 sec. 1, T.32 S., R.66 E., Mount Diablo meridian, on right bank half a mile downstream from Davis Dam, 29 miles west of Kingman, Ariz., and 68 miles downstream from Hoover Dam.

Drainage area.--169,300 sq mi, approximately.

Records available.--June 1905 to September 1907 (published as "at Hardyville"), March 1949 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 500.00 ft above mean sea level, datum of 1929. 1905-7, staff gage at site 4 1/2 miles downstream at datum about 13.4 ft lower. Mar. 16 to May 3, 1949, water-stage recorder at site half a mile downstream at present datum. May 4, 1949, to Feb. 24, 1956, water-stage recorder at site 400 ft upstream at present datum.

Average discharge.--14 years (1949-63), 13,810 cfs (9,998,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 26,900 cfs June 5 (gage height, 7.00 ft); minimum daily, 3,960 cfs Dec. 22

1905-7: Maximum daily discharge, 116,000 cfs June 20, 1906; minimum daily, 2,850 cfs Jan. 5, 1906.

1949-63: Maximum discharge, 31,200 cfs Apr. 22, 1952 (gage height, 13.91 ft); no flow at Davis Dam parts of several days July to September and Dec. 27, 1950, when gates in dam were closed; minimum daily discharge, 285 cfs Aug. 3, 1950.

Remarks.--Records excellent. Discharge measurements generally made two to three times a month. 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.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.      | May     | June    | July      | Aug.    | Sept.   |
|-------------------------|---------|---------|---------|---------|---------|---------|-----------|---------|---------|-----------|---------|---------|
| 1                       | 10.100  | 15.400  | 8.130   | 5.040   | 9.820   | 13.300  | 17.000    | 12.800  | 14.900  | 18.000    | 19.200  | 12.300  |
| 2                       | 10.200  | 15.600  | 8.220   | 4.920   | 9.970   | 13.400  | 16.600    | 12.700  | 12.000  | 18.200    | 19.000  | 13.100  |
| 3                       | 10.100  | 15.600  | 6.290   | 4.780   | 6.980   | 10.800  | 16.600    | 12.900  | 16.000  | 17.900    | 18.800  | 13.400  |
| 4                       | 11.300  | 8.650   | 6.190   | 4.880   | 8.290   | 12.400  | 16.600    | 12.800  | 15.600  | 17.900    | 14.000  | 13.300  |
| 5                       | 11.200  | 8.610   | 6.210   | 4.770   | 8.280   | 13.300  | 16.600    | 9.130   | 16.700  | 18.300    | 17.900  | 14.400  |
| 6                       | 11.100  | 8.480   | 6.300   | 4.950   | 8.260   | 13.200  | 16.700    | 14.200  | 17.600  | 18.300    | 18.100  | 14.500  |
| 7                       | 11.200  | 8.460   | 6.250   | 4.300   | 8.370   | 13.100  | 11.500    | 14.200  | 17.800  | 14.500    | 17.300  | 14.500  |
| 8                       | 11.200  | 8.410   | 6.200   | 4.340   | 8.250   | 13.200  | 18.200    | 15.300  | 17.800  | 15.900    | 16.900  | 12.700  |
| 9                       | 11.200  | 8.620   | 6.090   | 4.240   | 8.240   | 13.300  | 17.700    | 15.300  | 14.500  | 15.800    | 15.200  | 14.000  |
| 10                      | 11.200  | 8.520   | 6.430   | 5.150   | 6.260   | 10.500  | 17.200    | 15.200  | 17.700  | 16.000    | 15.100  | 14.200  |
| 11                      | 11.200  | 7.040   | 6.460   | 6.170   | 11.000  | 14.800  | 14.400    | 15.200  | 17.500  | 15.200    | 10.600  | 14.200  |
| 12                      | 11.200  | 8.760   | 6.510   | 6.650   | 11.000  | 14.900  | 14.100    | 9.400   | 15.300  | 14.600    | 16.500  | 14.500  |
| 13                      | 11.100  | 8.760   | 6.470   | 7.540   | 10.900  | 14.800  | 14.200    | 12.300  | 15.000  | 14.800    | 16.600  | 14.700  |
| 14                      | 8.270   | 8.890   | 6.560   | 7.910   | 10.900  | 14.700  | 7.690     | 12.500  | 15.100  | 12.600    | 17.000  | 14.700  |
| 15                      | 9.550   | 8.080   | 7.940   | 9.740   | 11.000  | 14.900  | 14.000    | 12.500  | 15.000  | 16.500    | 16.100  | 13.600  |
| 16                      | 6.970   | 7.880   | 6.550   | 9.770   | 10.900  | 14.900  | 13.100    | 12.600  | 12.000  | 16.600    | 15.100  | 14.300  |
| 17                      | 7.020   | 7.600   | 6.150   | 9.710   | 8.610   | 11.200  | 12.800    | 12.400  | 16.200  | 16.500    | 13.500  | 14.000  |
| 18                      | 7.020   | 6.170   | 6.180   | 9.910   | 10.300  | 15.900  | 12.900    | 12.500  | 16.800  | 16.600    | 10.500  | 9.330   |
| 19                      | 6.010   | 7.010   | 5.780   | 9.620   | 10.400  | 15.700  | 13.000    | 10.100  | 16.700  | 16.400    | 12.000  | 6.490   |
| 20                      | 5.900   | 6.980   | 4.010   | 5.960   | 10.000  | 15.500  | 13.100    | 14.800  | 16.600  | 16.500    | 11.900  | 7.150   |
| 21                      | 5.720   | 7.010   | 3.970   | 10.800  | 9.740   | 13.900  | 9.500     | 14.900  | 16.700  | 13.600    | 12.800  | 6.680   |
| 22                      | 5.560   | 7.040   | 3.960   | 11.000  | 9.700   | 13.900  | 12.700    | 14.700  | 16.700  | 16.800    | 14.100  | 6.500   |
| 23                      | 5.530   | 7.140   | 3.990   | 11.000  | 9.820   | 14.100  | 12.400    | 14.900  | 14.600  | 17.300    | 14.700  | 10.600  |
| 24                      | 5.490   | 7.070   | 5.650   | 11.100  | 6.910   | 9.760   | 12.500    | 14.900  | 18.400  | 17.700    | 15.200  | 9.420   |
| 25                      | 7.840   | 7.090   | 5.690   | 10.900  | 12.100  | 15.600  | 12.700    | 14.900  | 18.400  | 17.900    | 13.500  | 9.220   |
| 26                      | 10.100  | 7.980   | 5.840   | 10.900  | 13.300  | 15.700  | 12.800    | 11.400  | 18.400  | 18.200    | 15.200  | 10.400  |
| 27                      | 10.100  | 7.950   | 5.760   | 8.520   | 13.300  | 15.800  | 12.700    | 14.400  | 18.700  | 18.500    | 15.100  | 10.400  |
| 28                      | 7.460   | 7.990   | 5.780   | 9.840   | 13.200  | 16.000  | 9.780     | 14.500  | 18.700  | 15.000    | 14.900  | 10.000  |
| 29                      | 15.200  | 8.010   | 5.770   | 9.520   | -       | 15.700  | 12.800    | 14.800  | 18.500  | 18.600    | 13.900  | 9.880   |
| 30                      | 15.300  | 8.000   | 5.770   | 9.780   | -----   | 15.800  | 12.900    | 14.800  | 15.700  | 18.800    | 12.600  | 12.100  |
| 31                      | 15.200  | -----   | 4.880   | 9.760   | -----   | 10.600  | -----     | 14.900  | -----   | 19.000    | 12.600  | -----   |
| Total                   | 296,540 | 258,800 | 185,980 | 243,470 | 275,800 | 430,660 | 414,770   | 417,930 | 491,600 | 518,500   | 465,900 | 354,570 |
| Mean                    | 9,566   | 8,627   | 5,999   | 7,854   | 9,850   | 13,890  | 13,830    | 13,480  | 16,390  | 16,730    | 15,030  | 11,820  |
| Ac-ft                   | 588,200 | 513,300 | 368,900 | 482,900 | 547,000 | 854,200 | 822,700   | 829,000 | 975,100 | 1,028,000 | 924,100 | 703,300 |
| Calendar year 1962: Max | 18,700  | Min     | 3,010   | Mean    | 11,680  | Ac-ft   | 8,453,000 |         |         |           |         |         |
| Water year 1962-63: Max | 19,200  | Min     | 3,960   | Mean    | 11,930  | Ac-ft   | 8,637,000 |         |         |           |         |         |

## COLORADO RIVER MAIN STEM

9-4235. Colorado River at Needles, Calif.

Location.--Lat 34°51'05", long 114°36'35", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.19, T.9 N., R.23 E., San Bernardino meridian, on right bank at Needles, 18 miles upstream from gaging station near Topock, Ariz., 31 miles downstream from Davis Dam, and 98 miles downstream from Hoover Dam.

Drainage area.--170,600 sq mi, approximately.

Records available.--April 1931 to September 1963 (elevations only).

Gage.--Water-stage recorder. Datum of gage is 400.00 ft above mean sea level, datum of 1929; gage readings have been reduced to elevations above mean sea level. Prior to May 15, 1942, at site 750 ft downstream and May 15, 1942, to Jan. 12, 1952, at present site, both at datum 66.23 ft higher.

Extremes.--Maximum elevation recorded during year, 471.34 ft July 7; minimum not determined, probably occurred about Dec. 21.  
1931-63: Maximum elevation, 475.77 ft Nov. 30, 1944; minimum, about 462 ft Dec. 20, 28, 1961 (estimated on basis of records for station near Topock, Ariz., supplementary gage).

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

Mean elevation, in feet, water year October 1962 to September 1963

| Day | Oct.    | Nov.   | Dec.   | Jan.    | Feb.   | Mar.   | Apr.   | May    | June   | July    | Aug.   | Sept.   |
|-----|---------|--------|--------|---------|--------|--------|--------|--------|--------|---------|--------|---------|
| 1   | 465.72  | 468.54 | 465.05 | d463.40 | -      | 467.56 | 467.37 | 467.38 | 467.96 | 469.24  | -      | 466.89  |
| 2   | 466.45  | 468.70 | 464.94 | 463.46  | 465.64 | 467.54 | 469.03 | 467.30 | 467.56 | 469.31  | -      | 467.00  |
| 3   | 466.42  | 468.86 | 464.98 | 463.38  | 465.79 | 467.10 | 468.96 | 467.38 | 467.70 | 469.24  | 469.71 | 467.29  |
| 4   | 466.49  | 467.11 | 464.15 | d463.12 | 464.62 | 466.70 | 468.90 | 467.52 | 468.30 | 469.61  | 468.59 | 467.36  |
| 5   | 466.91  | 465.68 | 464.12 | d463.30 | 464.82 | 466.82 | 468.94 | 466.38 | 468.60 | 469.38  | 468.90 | 467.45  |
| 6   | 467.02  | 465.58 | 464.18 | d463.28 | 464.98 | 467.77 | 468.94 | 466.64 | 469.43 | 469.40  | 469.34 | 467.84  |
| 7   | 466.80  | 465.46 | 464.16 | d463.40 | 464.98 | 467.40 | 468.36 | 467.78 | 469.36 | 468.66  | 469.39 | 467.81  |
| 8   | 466.98  | 465.50 | 464.16 | d463.12 | 464.90 | 467.53 | 468.10 | 467.68 | 469.48 | -       | 468.85 | 467.64  |
| 9   | 466.92  | 465.45 | 464.08 | 462.92  | 465.07 | 467.56 | 469.62 | 468.26 | 468.85 | -       | 468.74 | 467.30  |
| 10  | 466.96  | 465.42 | 464.06 | 462.84  | 464.57 | 467.08 | 468.92 | 468.19 | 468.76 | -       | 467.92 | 467.69  |
| 11  | 466.86  | 465.22 | 464.25 | 463.36  | 465.05 | 467.08 | 469.02 | 468.22 | 468.94 | 468.32  | 467.62 | 467.69  |
| 12  | 466.94  | 465.02 | 464.18 | 463.82  | 466.26 | 468.26 | 467.85 | 466.95 | 468.62 | 467.89  | 467.23 | 467.68  |
| 13  | 466.89  | 465.50 | 464.30 | 464.40  | 466.38 | 468.23 | 468.01 | 466.44 | 468.01 | 467.94  | 468.73 | 468.13  |
| 14  | 466.64  | 465.48 | 464.28 | 464.92  | 466.30 | 468.18 | 466.68 | 467.07 | 468.24 | d468.00 | 468.78 | 467.90  |
| 15  | 465.81  | 465.58 | 464.38 | 464.86  | 466.66 | 468.17 | 466.52 | 466.96 | 468.22 | -       | 468.73 | 467.70  |
| 16  | 465.84  | 465.35 | 465.08 | 465.62  | 466.40 | 468.21 | 467.77 | 467.16 | 467.86 | -       | 468.39 | 467.49  |
| 17  | 464.99  | 465.02 | 464.17 | -       | 465.60 | 467.62 | 467.44 | 466.97 | 467.72 | -       | 467.78 | 467.67  |
| 18  | 464.79  | 464.51 | 464.15 | -       | 465.74 | 467.32 | 467.44 | 467.05 | 468.71 | -       | 467.04 | 467.37  |
| 19  | 464.91  | 464.44 | 464.13 | -       | 466.18 | 468.51 | 467.46 | 466.65 | 468.86 | -       | 466.65 | d464.49 |
| 20  | 464.48  | 464.63 | 463.92 | -       | 466.04 | 468.89 | 467.52 | 466.82 | 468.83 | -       | 466.57 | d464.08 |
| 21  | 464.40  | 464.68 | -      | -       | 465.94 | 468.18 | 466.46 | 467.99 | 468.79 | -       | 467.06 | d464.60 |
| 22  | 464.31  | 464.66 | -      | -       | 465.86 | 467.57 | 466.99 | 468.00 | 468.86 | -       | 466.97 | d463.95 |
| 23  | 464.26  | 464.64 | -      | -       | 465.94 | 467.93 | 467.29 | 468.10 | 468.40 | -       | 467.96 | d464.58 |
| 24  | 464.20  | 464.70 | 463.25 | -       | 465.08 | 467.01 | 467.41 | 468.10 | 469.02 | -       | 467.82 | d465.68 |
| 25  | 464.34  | 464.62 | 463.85 | -       | 465.76 | 467.64 | 467.35 | 468.04 | 469.72 | -       | 467.59 | d465.34 |
| 26  | d466.10 | 465.08 | 463.91 | -       | 467.42 | 468.69 | 466.97 | 467.49 | 469.72 | -       | 467.70 | d465.67 |
| 27  | 466.44  | 465.02 | 463.86 | -       | 467.56 | 468.62 | 467.34 | 467.03 | 469.72 | -       | 468.19 | d465.72 |
| 28  | 466.02  | 465.10 | 463.87 | -       | 467.40 | 468.26 | 466.94 | 467.96 | 469.61 | -       | 468.00 | 466.15  |
| 29  | 466.85  | 465.09 | 463.87 | -       | -      | 468.56 | 466.52 | 468.10 | 469.69 | -       | 467.88 | 466.59  |
| 30  | 468.67  | 465.10 | 463.84 | -       | -----  | 468.60 | 467.40 | 468.09 | 468.92 | -       | 467.34 | d465.28 |
| 31  | 468.66  | -----  | 463.89 | -       | -----  | 467.88 | -----  | 468.09 | -----  | -       | 467.08 | -----   |

d Computed from reconstructed gage-height graph.

Note.--No gage-height record Dec. 21-23, Jan. 17 to Feb. 1, July 8-10, July 15 to Aug. 2.

COLORADO RIVER MAIN STEM

13

9-4240. Colorado River near Topock, Ariz.

Location.--Lat  $34^{\circ}41'15''$ , long  $114^{\circ}27'45''$ , in SW $\frac{1}{4}$  NW $\frac{1}{4}$  sec.13, T.15 N., R.21 W., Gila and Salt River meridian, on left bank in Mohave Canyon, 2.7 miles downstream from Topock, 39.5 miles upstream from Parker Dam, and 49 miles downstream from Davis Dam.

Drainage area.--172,300 sq mi, approximately.

Records available.--January 1917 to September 1963. Daily mean elevations published since October 1938.

Gage.--Water-stage recorder. Datum of gage is 423.02 ft above mean sea level, datum of 1929; gage readings have been reduced to elevations above mean sea level. Prior to Dec. 3, 1922, at site about 1 mile upstream at different datum. Since May 1, 1939, supplementary water-stage recorder at former highway bridge at Topock, 2.7 miles upstream from base gage at datum 13.33 ft higher.

Average discharge.--17 years (1917-34), 20,260 cfs (14,670,000 acre-ft per year); 29 years (1934-63), 13,790 cfs (9,984,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 18,700 cfs Aug. 4; maximum elevation, 457.04 Aug. 4; minimum discharge, 3,520 cfs Dec. 21; minimum elevation, 450.45 ft Dec. 21.

1917-34: Maximum discharge probably exceeded 200,000 cfs June 22, 1921; minimum, 1,480 cfs Aug. 17, 1934.

1934-63: Maximum discharge, 35,700 cfs Jan. 29, 1942; maximum elevation, 457.37 ft, July 9, 1959; minimum discharge, 375 cfs Feb. 14, 1935; minimum daily, 422 cfs Feb. 14, 1935.

Discharge of about 300,000 cfs (based on determination at Lees Ferry gaging station) occurred about July 10, 1884. Discharge in excess of 400,000 cfs (estimated) probably occurred within the period 1857-68 and most likely in 1862.

Remarks.--Records excellent. Discharge measurements generally made twice a month. 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.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 9.280   | 13.100  | 8.060   | 4.820   | 9.300   | 12.000  | 13.300  | 11.900  | 14.100  | 17.200  | 17.900  | 12.600  |
| 2     | 9.800   | 13.600  | 8.020   | 5.060   | 9.280   | 12.300  | 14.600  | 12.000  | 13.900  | 17.200  | 18.000  | 12.500  |
| 3     | 9.850   | 14.200  | 7.930   | 4.910   | 9.500   | 12.400  | 15.300  | 12.100  | 13.200  | 17.300  | 18.200  | 12.600  |
| 4     | 9.940   | 13.700  | 7.090   | 4.660   | 8.140   | 11.600  | 15.700  | 12.400  | 14.300  | 17.500  | 17.500  | 12.700  |
| 5     | 10.500  | 11.100  | 6.700   | 4.680   | 8.230   | 11.500  | 15.800  | 11.700  | 14.400  | 17.400  | 16.800  | 12.800  |
| 6     | 10.600  | 10.100  | 6.680   | 4.530   | 8.210   | 12.300  | 15.900  | 10.800  | 15.400  | 17.500  | 17.100  | 13.400  |
| 7     | 10.600  | 9.450   | 6.620   | 4.720   | 8.230   | 12.400  | 15.900  | 12.300  | 16.000  | 17.200  | 17.400  | 13.600  |
| 8     | 10.700  | 9.050   | 6.560   | 4.340   | 8.080   | 12.500  | 14.600  | 12.600  | 16.600  | 16.300  | 17.000  | 13.700  |
| 9     | 10.700  | 8.940   | 6.480   | 4.230   | 8.080   | 12.600  | 15.900  | 13.500  | 16.600  | 16.100  | 16.800  | 13.100  |
| 10    | 10.800  | 8.900   | 6.320   | 4.230   | 7.910   | 12.600  | 16.200  | 13.800  | 16.000  | 15.800  | 15.700  | 13.400  |
| 11    | 10.700  | 8.690   | 6.540   | 4.710   | 7.300   | 11.800  | 16.300  | 14.100  | 16.200  | 15.500  | 15.400  | 13.700  |
| 12    | 10.700  | 8.040   | 6.520   | 5.370   | 9.520   | 13.000  | 15.600  | 13.500  | 16.200  | 15.200  | 13.900  | 13.800  |
| 13    | 10.700  | 8.610   | 6.560   | 6.240   | 9.800   | 13.600  | 14.900  | 11.900  | 15.700  | 14.800  | 15.100  | 14.200  |
| 14    | 10.600  | 8.650   | 6.520   | 6.880   | 9.940   | 13.800  | 13.800  | 12.200  | 15.400  | 14.400  | 15.300  | 14.200  |
| 15    | 9.410   | 8.690   | 6.560   | 7.220   | 10.400  | 14.000  | 11.800  | 12.000  | 15.100  | 13.900  | 15.600  | 14.100  |
| 16    | 9.430   | 8.560   | 7.470   | 8.290   | 10.300  | 14.100  | 12.900  | 12.200  | 14.800  | 14.800  | 15.400  | 13.700  |
| 17    | 8.160   | 8.270   | 6.700   | 8.480   | 9.940   | 14.100  | 12.800  | 12.100  | 14.000  | 15.200  | 14.800  | 14.000  |
| 18    | 7.870   | 7.850   | 6.520   | 8.650   | 9.390   | 13.100  | 12.800  | 12.000  | 14.800  | 15.500  | 13.900  | 14.000  |
| 19    | 7.600   | 7.090   | 6.440   | 8.800   | 9.850   | 14.100  | 12.700  | 11.700  | 15.300  | 15.600  | 12.700  | 11.400  |
| 20    | 6.990   | 7.260   | 6.080   | 8.480   | 9.890   | 14.600  | 12.700  | 11.400  | 15.500  | 15.600  | 12.100  | 9.030   |
| 21    | 6.720   | 7.220   | 4.180   | 7.240   | 9.740   | 14.700  | 12.100  | 12.800  | 15.600  | 15.200  | 12.200  | 9.260   |
| 22    | 6.520   | 7.220   | 4.280   | 9.320   | 9.630   | 14.100  | 11.600  | 13.200  | 15.700  | 14.900  | 12.000  | 8.500   |
| 23    | 6.240   | 7.180   | 4.180   | 9.720   | 9.540   | 13.900  | 12.000  | 13.500  | 15.600  | 15.600  | 13.100  | 7.930   |
| 24    | 6.180   | 7.260   | 4.480   | 9.980   | 9.070   | 13.300  | 12.000  | 13.700  | 15.800  | 16.000  | 13.300  | 9.850   |
| 25    | 6.080   | 7.220   | 5.460   | 10.200  | 8.250   | 12.600  | 12.000  | 14.000  | 16.800  | 16.400  | 13.400  | 9.450   |
| 26    | 7.640   | 7.450   | 5.680   | 10.200  | 10.600  | 13.700  | 11.800  | 13.700  | 17.200  | 16.600  | 13.200  | 9.540   |
| 27    | 8.960   | 7.850   | 5.700   | 10.100  | 11.400  | 14.300  | 12.100  | 12.800  | 17.500  | 17.000  | 13.800  | 10.000  |
| 28    | 9.050   | 7.930   | 5.700   | 9.320   | 11.600  | 14.400  | 12.000  | 13.500  | 17.700  | 16.800  | 13.900  | 10.500  |
| 29    | 8.860   | 8.020   | 5.680   | 9.500   | —       | 14.800  | 11.200  | 13.800  | 17.800  | 16.500  | 13.800  | 10.900  |
| 30    | 12.000  | 8.060   | 5.660   | 9.340   | -----   | 15.000  | 11.800  | 13.800  | 17.500  | 17.100  | 13.400  | 9.720   |
| 31    | 12.700  | -----   | 5.600   | 9.280   | -----   | 14.800  | -----   | 14.100  | -----   | 17.500  | 12.900  | -----   |
| Total | 285,880 | 269,260 | 192,970 | 223,500 | 261,120 | 414,000 | 408,100 | 395,100 | 470,700 | 499,600 | 461,600 | 358,180 |
| Mean  | 9,222   | 8,975   | 6,225   | 7,210   | 9,326   | 13,350  | 13,600  | 12,750  | 15,690  | 16,120  | 14,890  | 11,940  |
| Ac-ft | 567,000 | 534,100 | 382,800 | 443,300 | 517,900 | 821,200 | 809,500 | 783,700 | 933,600 | 990,900 | 915,600 | 710,400 |

Calendar year 1962: Max 17,400 Min 3,980 Mean 11,450 Ac-ft 8,288,000

Water year 1962-63: Max 18,200 Min 4,180 Mean 11,620 Ac-ft 8,410,000

## COLORADO RIVER MAIN STEM

9-4240. Colorado River near Topock, Ariz.--Continued

Mean elevation, in feet, water year October 1962 to September 1963

| Day | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June   | July   | Aug.   | Sept.  |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1   | 453.47 | 454.98 | 452.78 | 451.30 | 453.44 | 454.60 | 455.07 | 454.54 | 455.32 | 456.48 | 456.79 | 454.7  |
| 2   | 453.70 | 455.14 | 452.78 | 451.44 | 453.42 | 454.71 | 455.60 | 454.60 | 455.28 | 456.44 | 456.81 | 454.6  |
| 3   | 453.70 | 455.35 | 452.82 | 451.34 | 453.54 | 454.76 | 455.83 | 454.65 | 455.00 | 456.55 | 456.85 | 454.7  |
| 4   | 453.71 | 455.21 | 452.38 | 451.22 | 452.98 | 454.50 | 455.98 | 454.73 | 455.38 | 456.62 | 456.67 | 454.7  |
| 5   | 453.92 | 454.10 | 452.22 | 451.26 | 453.01 | 454.38 | 456.02 | 454.51 | 455.42 | 456.55 | 456.35 | 454.8  |
| 6   | 454.00 | 453.66 | 452.22 | 451.17 | 452.97 | 454.70 | 456.08 | 454.17 | 455.74 | 456.64 | 456.50 | 455.0  |
| 7   | 453.96 | 453.44 | 452.18 | 451.27 | 452.94 | 454.74 | 456.04 | 454.69 | 456.03 | 456.57 | 456.59 | 455.0  |
| 8   | 454.04 | 453.23 | 452.14 | 451.07 | 452.91 | 454.74 | 455.60 | 454.83 | 456.22 | 456.25 | 456.48 | 455.0  |
| 9   | 454.02 | 453.14 | 452.12 | 451.00 | 452.90 | 454.81 | 456.04 | 455.15 | 456.26 | 456.14 | 456.40 | 454.8  |
| 10  | 454.02 | 453.12 | 452.03 | 451.00 | 452.88 | 454.78 | 456.16 | 455.22 | 455.98 | 456.06 | 455.95 | 454.9  |
| 11  | 454.02 | 453.04 | 452.11 | 451.28 | 452.56 | 454.50 | 456.21 | 455.38 | 456.03 | 455.94 | 455.82 | 455.0  |
| 12  | 454.04 | 452.80 | 452.11 | 451.67 | 453.50 | 454.91 | 455.91 | 455.20 | 456.11 | 455.84 | 455.21 | 455.02 |
| 13  | 454.05 | 453.00 | 452.11 | 452.10 | 453.60 | 455.18 | 455.70 | 454.64 | 455.86 | 455.70 | 455.72 | 455.14 |
| 14  | 454.02 | 453.02 | 452.14 | 452.38 | 453.72 | 455.22 | 455.24 | 454.71 | 455.81 | 455.56 | 455.77 | 455.20 |
| 15  | 453.53 | 453.10 | 452.13 | 452.50 | 453.90 | 455.34 | 454.50 | 454.62 | 455.72 | 455.32 | 455.91 | 455.17 |
| 16  | 453.53 | 453.04 | 452.52 | 452.98 | 453.89 | 455.40 | 454.92 | 454.64 | 455.60 | 455.69 | 455.84 | 454.97 |
| 17  | 453.00 | 452.91 | 452.20 | 453.09 | 453.72 | 455.40 | 454.87 | 454.64 | 455.30 | 455.81 | 455.61 | 455.09 |
| 18  | 452.82 | 452.74 | 452.09 | 453.12 | 453.54 | 455.02 | 454.88 | 454.62 | 455.63 | 455.90 | 455.30 | 455.06 |
| 19  | 452.76 | 452.38 | 452.06 | 453.23 | 453.68 | 455.38 | 454.83 | 454.60 | 455.76 | 455.95 | 454.78 | 454.02 |
| 20  | 452.48 | 452.48 | 451.94 | 453.12 | 453.71 | 455.60 | 454.84 | 454.31 | 455.86 | 455.95 | 454.53 | 452.99 |
| 21  | 452.38 | 452.48 | 450.91 | 452.60 | 453.66 | 455.67 | 454.60 | 454.82 | 455.91 | 455.84 | 454.53 | 453.04 |
| 22  | 452.24 | 452.44 | 450.93 | 453.36 | 453.60 | 455.39 | 454.42 | 455.01 | 455.94 | 455.66 | 454.49 | 452.77 |
| 23  | 452.12 | 452.44 | 450.90 | 453.56 | 453.58 | 455.32 | 454.54 | 455.13 | 455.94 | 455.93 | 454.92 | 452.48 |
| 24  | 452.08 | 452.50 | 451.07 | 453.71 | 453.38 | 455.10 | 454.56 | 455.20 | 455.94 | 456.11 | 455.00 | 453.31 |
| 25  | 452.02 | 452.46 | 451.62 | 453.80 | 453.01 | 454.89 | 454.58 | 455.30 | 456.26 | 456.25 | 455.08 | 453.17 |
| 26  | 452.70 | 452.52 | 451.72 | 453.81 | 454.02 | 455.23 | 454.54 | 455.30 | 456.46 | 456.34 | 454.98 | 453.16 |
| 27  | 453.30 | 452.68 | 451.78 | 453.78 | 454.37 | 455.43 | 454.62 | 454.90 | 456.59 | 456.44 | 455.23 | 453.38 |
| 28  | 453.34 | 452.73 | 451.73 | 453.46 | 454.46 | 455.52 | 454.60 | 455.06 | 456.63 | 456.37 | 455.26 | 453.55 |
| 29  | 453.26 | 452.74 | 451.77 | 453.54 | -      | 455.66 | 454.24 | 455.18 | 456.75 | 456.24 | 455.28 | 453.70 |
| 30  | 454.49 | 452.81 | 451.71 | 453.50 | -----  | 455.72 | 454.48 | 455.23 | 456.60 | 456.50 | 455.1  | 453.25 |
| 31  | 454.74 | -----  | 451.70 | 453.47 | -----  | 455.68 | -----  | 455.30 | -----  | 456.66 | 454.8  | -----  |

Note.--No elevations recorded Aug. 30 to Sept. 12, (gage heights estimated from supplementary recorder).

9-4240.5. Chemehuevi Wash tributary near Needles, Calif.

Location.--Lat 34°30'30", long 114°36'10", on right bank, on Havasu Lake road, 22 miles south of Needles, San Bernardino County.

Drainage area.--2.04 sq mi.

Records available.--December 1959 to September 1963. Peak discharges only for December 1959 to September 1962.

Gage.--Type A flood-hydrograph recorder and crest-stage gage. Altitude of gage is 1,580 ft (from topographic map). December 1959 to April 1963, crest-stage gage only at same site and datum.

Extremes.--Maximum and minimum discharges for the water years 1960-63 are contained in the following table:

| Water year | Date                | Maximum             | Gage height<br>(feet)† | Minimum<br>Discharge<br>(cfs) |
|------------|---------------------|---------------------|------------------------|-------------------------------|
|            |                     | Discharge<br>(cfs)† |                        |                               |
| 1960       | Dec. 25, 1959       | 60                  | 6.18                   | 0                             |
| 1961       | Sept. 13, 1961      | 69                  | 6.47                   | 0                             |
| 1962       | Sept. 26, 1962      | 114                 | 8.51                   | 0                             |
| 1963       | No flow during year |                     |                        |                               |

† On basis of peak flow through culvert.

‡ From crest-stage gage.

1959-63: Maximum discharge, 114 cfs Sept. 26, 1962 (gage height, 8.51 ft, from crest-stage gage), on basis of peak flow through culvert; no flow for most of each year.

Remarks.--No flow since Sept. 26, 1962. No regulation or diversion above station.

DIVERSIONS FROM HAVASU LAKE

15.

9-4270. Colorado River aqueduct near Parker Dam, Ariz.-Calif.

Location.--Lat 34°19'00", long 114°09'25", in NW¼SW¼ sec.28, T.3 N., R.27 E., San Bernardino meridian, at intake pumping plant of Metropolitan Water District of Southern California on Havasu Lake, 1.8 miles upstream from Parker Dam and 154 miles downstream from Hoover Dam.

Records available.--January 1939 to September 1963 (monthly diversions only since October 1942). Published as a supplement to records for Colorado River below Parker Dam, 1942-50.

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

Average discharge.--24 years, 498 cfs (360,500 acre-ft per year).

Extremes.--1939-63: Maximum daily diversion, 3,966 acre-ft (2,000 cfs) Dec. 15, 1960; no diversion at times.

Remarks.--Pumping began Jan. 7, 1939. Figures of monthly diversion shown represent water pumped from Havasu Lake less return surface flow from Gene and Copper Basin Reservoirs. No water returned as surface flow from these reservoirs this year. During this year 5,550 acre-ft of cooling water, which is included in the record of diversions, was returned to Havasu Lake at the pumping plant. Percolation from Gene and Copper Basin Reservoirs was measured in 4 washes between pumping plant and Copper Basin Wash by means of weirs, each about 1 mile from Colorado River. Percolation amounted to 5,110 acre-ft during the water year and was not subtracted from the diversion record.

Cooperation.--Records furnished by Metropolitan Water District of Southern California.

Monthly diversions, in acre-feet, water year October 1962 to September 1963

| Monthly                 | Maximum | Minimum | Mean  | Total     |
|-------------------------|---------|---------|-------|-----------|
| October.....            | 3,483   | 2,859   | 3,170 | 98,269    |
| November.....           | 3,476   | 2,795   | 3,200 | 95,989    |
| December.....           | 3,503   | 2,655   | 3,130 | 97,018    |
| Calendar year 1962..... | 3,827   | 425     | 2,941 | 1,073,413 |
| January.....            | 3,472   | 2,960   | 3,257 | 100,964   |
| February.....           | 3,469   | 1,576   | 3,215 | 90,025    |
| March.....              | 2,740   | 630     | 2,155 | 66,790    |
| April.....              | 3,520   | 0       | 2,621 | 78,638    |
| May.....                | 3,477   | 979     | 2,659 | 82,415    |
| June.....               | 3,574   | 2,420   | 2,930 | 87,906    |
| July.....               | 3,452   | 2,074   | 2,928 | 90,754    |
| August.....             | 3,588   | 1,455   | 3,189 | 98,853    |
| September.....          | 3,572   | 2,741   | 3,271 | 98,123    |
| Water year 1962-63..... | 3,588   | 0       | 2,975 | 1,085,744 |

## COLORADO RIVER MAIN STEM

9-4275. Havasu Lake near Parker Dam, Ariz.-Calif.

Location.--Lat 34°19'00", long 114°09'25", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.28, T.3 N., R.27 E., San Bernardino meridian, at intake pumping plant for Colorado River aqueduct of Metropolitan Water District of Southern California, 1.8 miles upstream from Parker Dam on Colorado River, which is 156 miles downstream from Hoover Dam.

Drainage area.--178,800 sq mi, approximately.

Records available.--July 1938 to September 1963. Published as Parker Reservoir near Parker Dam 1938.

Gage.--Water-stage recorder. Datum of gage is 400.54 ft above mean sea level, datum of 1929. Gage readings have been reduced to elevations above mean sea level.

Extremes.--Maximum contents during year, 621,200 acre-ft June 16, 17 (elevation, 450.63 ft); minimum, 513,200 acre-ft Jan. 23 (elevation, 444.90 ft).

1938-63: Maximum contents, 693,000 acre-ft (by temporary use of flashboards) Apr. 18, 1943, June 4, 1953; maximum elevation, 450.77 ft June 26, 1958; minimum contents, 71,400 acre-ft June 25, 1942 (elevation, 442.09 ft).

Remarks.--Lake is formed by concrete-arch dam; dam was completed and storage began July 1, 1938. Usable capacity, 619,400 acre-ft between elevation 400.54 (sill of regulating gates) and 450.54 ft (top of regulating gates) above mean sea level, based on re-survey of Havasu Lake made in April 1957 by Bureau of Reclamation between elevations 430.54 and 450.54 ft. Prior to Oct. 1, 1956, different capacity table used. Dead storage, 28,600 acre-ft below 400.54 ft (based on original survey). About 0.07 ft fall indicated between gage and Parker Dam under normal operating conditions. Drawdown below elevation 440.54 ft 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, reregulation 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 and return flow, see record for Colorado River aqueduct near Parker Dam (sta 9-4270).

Contents, in acre-feet, at 2400, water year October 1962 to September 1963

| Day | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1   | 565,600 | 551,700 | 553,100 | 537,500 | 544,300 | 520,700 | 553,000 | 591,400 | 597,600 | 596,600 | 560,000 | 565,000 |
| 2   | 562,900 | 544,000 | 553,900 | 537,500 | 547,600 | 520,700 | 553,900 | 592,800 | 595,200 | 600,400 | 562,000 | 561,600 |
| 3   | 559,200 | 534,600 | 554,600 | 540,500 | 551,000 | 522,900 | 556,500 | 592,400 | 591,800 | 603,200 | 563,300 | 559,600 |
| 4   | 553,500 | 528,100 | 554,100 | 542,900 | 551,300 | 521,300 | 561,600 | 593,000 | 591,400 | 605,600 | 564,200 | 557,900 |
| 5   | 549,400 | 528,700 | 552,600 | 544,900 | 548,600 | 518,800 | 562,200 | 591,400 | 588,200 | 607,200 | 562,400 | 559,600 |
| 6   | 546,300 | 533,700 | 552,800 | 545,200 | 546,100 | 519,800 | 563,700 | 589,500 | 589,900 | 609,000 | 563,700 | 559,800 |
| 7   | 543,400 | 536,200 | 551,200 | 547,400 | 542,500 | 522,900 | 565,400 | 590,300 | 592,200 | 611,400 | 566,100 | 560,000 |
| 8   | 540,700 | 539,800 | 549,200 | 548,500 | 537,500 | 523,600 | 562,700 | 590,100 | 594,600 | 610,600 | 572,200 | 561,500 |
| 9   | 540,700 | 541,400 | 547,400 | 545,900 | 535,100 | 524,900 | 563,500 | 593,400 | 595,800 | 609,200 | 574,900 | 558,400 |
| 10  | 543,800 | 542,900 | 546,100 | 540,900 | 536,000 | 526,300 | 566,500 | 597,400 | 597,000 | 607,000 | 573,700 | 557,500 |
| 11  | 548,600 | 543,800 | 545,200 | 534,200 | 531,900 | 525,200 | 573,000 | 600,800 | 600,000 | 605,800 | 572,000 | 556,000 |
| 12  | 552,200 | 544,000 | 545,400 | 528,100 | 531,200 | 529,600 | 577,500 | 602,400 | 603,800 | 603,000 | 567,500 | 555,400 |
| 13  | 556,700 | 546,300 | 545,900 | 520,700 | 531,700 | 531,500 | 582,300 | 600,000 | 610,000 | 599,600 | 565,000 | 552,000 |
| 14  | 560,900 | 549,200 | 544,500 | 519,100 | 534,800 | 532,300 | 584,600 | 597,600 | 613,400 | 596,800 | 564,200 | 552,100 |
| 15  | 561,800 | 553,700 | 542,300 | 520,600 | 537,800 | 533,700 | 584,000 | 597,800 | 615,200 | 591,200 | 566,100 | 550,800 |
| 16  | 564,400 | 556,500 | 541,600 | 524,000 | 541,300 | 533,900 | 584,400 | 600,000 | 617,000 | 587,600 | 572,200 | 548,800 |
| 17  | 561,600 | 557,900 | 543,100 | 527,000 | 542,300 | 538,200 | 588,700 | 601,400 | 614,800 | 584,400 | 577,000 | 552,800 |
| 18  | 565,000 | 558,600 | 547,000 | 525,200 | 540,900 | 540,500 | 591,200 | 600,800 | 613,800 | 584,400 | 580,200 | 565,900 |
| 19  | 566,700 | 556,900 | 550,400 | 522,400 | 540,500 | 543,100 | 591,800 | 600,000 | 612,200 | 581,900 | 576,800 | 572,800 |
| 20  | 566,700 | 556,900 | 553,000 | 517,500 | 541,600 | 546,700 | 591,800 | 595,800 | 609,200 | 578,900 | 573,000 | 571,600 |
| 21  | 566,700 | 557,500 | 553,300 | 513,900 | 542,700 | 551,000 | 593,000 | 595,000 | 602,200 | 576,200 | 567,800 | 570,100 |
| 22  | 564,800 | 558,100 | 554,300 | 515,700 | 540,200 | 552,100 | 592,400 | 595,800 | 597,000 | 571,300 | 564,000 | 567,100 |
| 23  | 562,900 | 554,600 | 550,800 | 513,900 | 535,900 | 553,700 | 592,800 | 598,000 | 592,200 | 567,600 | 564,200 | 565,400 |
| 24  | 561,500 | 552,400 | 547,200 | 517,900 | 529,700 | 553,900 | 593,400 | 597,400 | 585,900 | 565,800 | 563,100 | 568,000 |
| 25  | 561,100 | 550,600 | 546,100 | 522,500 | 521,600 | 552,400 | 591,400 | 599,600 | 582,700 | 565,900 | 561,100 | 566,100 |
| 26  | 562,900 | 548,600 | 545,800 | 526,500 | 518,900 | 550,600 | 591,200 | 600,400 | 581,900 | 564,800 | 559,000 | 562,500 |
| 27  | 565,600 | 546,100 | 546,100 | 529,700 | 518,900 | 550,100 | 592,600 | 598,600 | 583,600 | 564,200 | 559,600 | 556,900 |
| 28  | 565,800 | 548,300 | 545,200 | 531,500 | 518,600 | 552,600 | 593,800 | 597,000 | 586,100 | 563,300 | 561,600 | 553,000 |
| 29  | 561,300 | 550,100 | 544,900 | 533,700 | -       | 553,900 | 592,800 | 597,600 | 589,500 | 560,300 | 565,600 | 548,800 |
| 30  | 559,600 | 551,700 | 542,200 | 536,400 | -----   | 555,400 | 592,200 | 599,600 | 593,200 | 557,100 | 565,200 | 542,900 |
| 31  | 556,900 | -----   | 540,000 | 540,900 | -----   | 556,000 | -----   | 600,400 | -----   | 556,500 | 565,800 | -----   |
| (#) | -10,700 | -5,200  | -11,700 | +900    | -22,300 | +37,400 | +36,200 | +8,200  | -7,200  | -36,700 | +9,300  | -22,900 |

Calendar year 1962.....# -1,600

Water year 1962-63.....# -24,700

# Change in contents, in acre-feet.

9-4275. Havasu Lake near Parker Dam, Ariz.-Calif.--Continued

Elevation, in feet, at 2400, water year October 1962 to September 1963

| Day | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June   | July   | Aug.   | Sept.  |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1   | 447.78 | 447.04 | 447.12 | 446.25 | 446.63 | 445.32 | 447.11 | 449.14 | 449.45 | 449.40 | 447.48 | 447.75 |
| 2   | 447.64 | 446.61 | 447.16 | 446.25 | 446.81 | 445.32 | 447.16 | 449.21 | 449.33 | 449.59 | 447.59 | 447.57 |
| 3   | 447.44 | 446.09 | 447.20 | 446.42 | 447.00 | 445.44 | 447.30 | 449.19 | 449.16 | 449.73 | 447.66 | 447.46 |
| 4   | 447.14 | 445.73 | 447.17 | 446.55 | 447.02 | 445.35 | 447.57 | 449.22 | 449.14 | 449.85 | 447.71 | 447.37 |
| 5   | 446.91 | 445.76 | 447.09 | 446.66 | 446.87 | 445.21 | 447.60 | 449.14 | 448.97 | 449.93 | 447.61 | 447.46 |
| 6   | 446.74 | 446.04 | 447.10 | 446.68 | 446.73 | 445.27 | 447.68 | 449.04 | 449.06 | 450.02 | 447.68 | 447.47 |
| 7   | 446.58 | 446.18 | 447.01 | 446.80 | 446.53 | 445.44 | 447.77 | 449.08 | 449.18 | 450.14 | 447.81 | 447.48 |
| 8   | 446.43 | 446.38 | 446.90 | 446.86 | 446.25 | 445.48 | 447.63 | 449.07 | 449.30 | 450.10 | 448.13 | 447.56 |
| 9   | 446.43 | 446.47 | 446.80 | 446.72 | 446.12 | 445.55 | 447.67 | 449.24 | 449.36 | 450.03 | 448.27 | 447.40 |
| 10  | 446.60 | 446.55 | 446.73 | 446.44 | 446.17 | 445.63 | 447.83 | 449.44 | 449.42 | 449.92 | 448.21 | 447.35 |
| 11  | 446.87 | 446.60 | 446.68 | 446.07 | 445.94 | 445.57 | 448.17 | 449.61 | 449.57 | 449.86 | 448.12 | 447.27 |
| 12  | 447.07 | 446.61 | 446.69 | 445.73 | 445.90 | 445.81 | 448.41 | 449.69 | 449.76 | 449.72 | 447.88 | 447.24 |
| 13  | 447.31 | 446.74 | 446.72 | 445.32 | 445.93 | 445.92 | 448.66 | 449.57 | 450.07 | 449.55 | 447.75 | 447.08 |
| 14  | 447.53 | 446.90 | 446.64 | 445.23 | 446.10 | 445.96 | 448.78 | 449.45 | 450.24 | 449.41 | 447.71 | 447.06 |
| 15  | 447.58 | 447.15 | 446.52 | 445.31 | 446.27 | 446.04 | 448.75 | 449.46 | 450.33 | 449.13 | 447.81 | 446.99 |
| 16  | 447.72 | 447.30 | 446.48 | 445.50 | 446.46 | 446.05 | 448.77 | 449.57 | 450.42 | 448.94 | 448.13 | 446.88 |
| 17  | 447.57 | 447.37 | 446.56 | 445.67 | 446.52 | 446.29 | 449.00 | 449.64 | 450.31 | 448.77 | 448.38 | 447.10 |
| 18  | 447.75 | 447.41 | 446.78 | 445.57 | 446.44 | 446.42 | 449.13 | 449.61 | 450.26 | 448.77 | 448.55 | 447.80 |
| 19  | 447.84 | 447.32 | 446.97 | 445.41 | 446.42 | 446.56 | 449.16 | 449.57 | 450.18 | 448.64 | 448.37 | 448.16 |
| 20  | 447.84 | 447.32 | 447.11 | 445.14 | 446.48 | 446.76 | 449.16 | 449.36 | 450.03 | 448.48 | 448.17 | 448.10 |
| 21  | 447.84 | 447.35 | 447.13 | 444.94 | 446.54 | 447.02 | 449.22 | 449.32 | 449.68 | 448.34 | 447.90 | 448.02 |
| 22  | 447.74 | 447.38 | 447.18 | 445.04 | 446.40 | 447.06 | 449.19 | 449.36 | 449.42 | 448.08 | 447.70 | 447.86 |
| 23  | 447.64 | 447.20 | 446.99 | 444.94 | 446.16 | 447.15 | 449.21 | 449.47 | 449.18 | 447.89 | 447.71 | 447.77 |
| 24  | 447.56 | 447.08 | 446.79 | 445.16 | 445.82 | 447.16 | 449.24 | 449.44 | 448.85 | 447.79 | 447.65 | 447.91 |
| 25  | 447.54 | 446.98 | 446.73 | 445.42 | 445.37 | 447.08 | 449.14 | 449.55 | 448.68 | 447.80 | 447.54 | 447.81 |
| 26  | 447.64 | 446.87 | 446.71 | 445.64 | 445.22 | 446.98 | 449.13 | 449.54 | 448.64 | 447.74 | 447.43 | 447.62 |
| 27  | 447.78 | 446.84 | 446.73 | 445.82 | 445.22 | 446.95 | 449.20 | 449.50 | 448.73 | 447.71 | 447.46 | 447.32 |
| 28  | 447.79 | 446.85 | 446.68 | 445.92 | 445.20 | 447.09 | 449.26 | 449.42 | 448.86 | 447.66 | 447.57 | 447.11 |
| 29  | 447.55 | 446.95 | 446.66 | 446.04 | —      | 447.16 | 449.21 | 449.45 | 449.04 | 447.50 | 447.78 | 446.88 |
| 30  | 447.46 | 447.04 | 446.51 | 446.19 | -----  | 447.24 | 449.18 | 449.55 | 449.23 | 447.33 | 447.76 | 446.55 |
| 31  | 447.32 | -----  | 446.39 | 446.44 | -----  | 447.27 | -----  | 449.59 | -----  | 447.30 | 447.79 | -----  |

Note.---Elevation for Oct. 1, June 7, 8, July 26-30, based on Bureau of Reclamation recorder graph at Parker Dam.

## COLORADO RIVER MAIN STEM

9-4280. Colorado River below Parker Dam, Ariz.-Calif.

Location.--Lat 34°15'30", long 114°09'00", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.16, T.2 N., R.27 E., San Bernardino meridian, on right bank 3.9 miles downstream from Parker Dam, 10.4 miles upstream from Headgate Rock Dam, and 11 miles northeast of Parker, Ariz.

Drainage area.--178,800 sq mi, approximately.

Records available.--February to September 1934 (gage heights and fragmentary discharge records), October 1934 to September 1963. Prior to October 1937 published as "near Parker, Ariz."

Gage.--Water-stage recorder. Datum of gage is 346.23 ft above mean sea level, datum of 1929.

Average discharge.--29 years (1934-63), 13,320 cfs (9,643,000 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 19,100 cfs June 20 (gage height, 22.41 ft); minimum daily, 2,350 cfs Jan. 3.

1934-63: Maximum discharge, 42,400 cfs Feb. 8, 1937; no flow at Parker Dam for parts of several days in 1942 when gates in dam were closed; minimum daily discharge, 1,440 cfs Feb. 15, 1935.

An unregulated discharge of probably less than 1,350 cfs occurred Aug. 18, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

Remarks.--Records excellent. Discharge measurements generally made twice a month. Flow regulated by Lake Mead since Feb. 1, 1935, Lake Mohave since Jan. 17, 1950, and by Havasu Lake since July 1, 1936. Many diversions above station. For record of diversion to Colorado River aqueduct and return flows, see record for Colorado River aqueduct near Parker Dam (sta 9-4270).

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 8,890   | 13,900  | 5,460   | 4,780   | 6,220   | 10,600  | 14,400  | 11,300  | 13,000  | 13,600  | 15,100  | 11,900  |
| 2     | 9,400   | 16,100  | 5,750   | 3,240   | 6,220   | 11,500  | 14,100  | 10,800  | 13,000  | 13,400  | 15,300  | 12,300  |
| 3     | 9,660   | 17,200  | 5,950   | 2,350   | 6,340   | 11,100  | 13,900  | 11,500  | 12,800  | 14,000  | 15,600  | 11,400  |
| 4     | 10,700  | 16,000  | 5,740   | 2,560   | 6,860   | 11,800  | 12,800  | 11,400  | 13,200  | 14,000  | 15,300  | 12,200  |
| 5     | 10,900  | 9,810   | 5,240   | 2,640   | 7,830   | 12,100  | 13,200  | 12,000  | 13,700  | 14,800  | 16,200  | 10,300  |
| 6     | 10,600  | 6,600   | 4,780   | 2,900   | 7,990   | 11,600  | 13,500  | 11,300  | 12,700  | 15,000  | 15,000  | 11,800  |
| 7     | 10,400  | 6,680   | 5,550   | 2,880   | 8,370   | 10,600  | 13,600  | 11,400  | 13,200  | 15,400  | 14,200  | 11,700  |
| 8     | 10,400  | 5,720   | 5,780   | 3,210   | 8,880   | 11,000  | 13,900  | 11,600  | 13,400  | 15,400  | 12,700  | 11,400  |
| 9     | 9,010   | 6,380   | 5,660   | 4,020   | 7,820   | 11,300  | 13,500  | 11,100  | 13,600  | 15,400  | 13,600  | 12,100  |
| 10    | 7,590   | 6,460   | 5,300   | 5,140   | 7,520   | 11,400  | 12,700  | 11,200  | 14,300  | 15,100  | 15,300  | 12,500  |
| 11    | 6,590   | 6,440   | 5,040   | 6,480   | 7,460   | 11,000  | 11,400  | 11,200  | 13,400  | 14,500  | 14,800  | 12,600  |
| 12    | 7,350   | 5,980   | 4,700   | 7,270   | 8,010   | 10,900  | 12,200  | 11,700  | 13,000  | 15,400  | 14,800  | 12,400  |
| 13    | 7,160   | 5,600   | 4,190   | 6,900   | 8,200   | 11,100  | 11,000  | 11,800  | 11,400  | 15,100  | 14,400  | 13,200  |
| 14    | 6,840   | 5,110   | 5,440   | 5,870   | 7,520   | 11,900  | 11,000  | 12,000  | 12,600  | 14,900  | 14,000  | 12,800  |
| 15    | 7,490   | 4,700   | 5,670   | 5,140   | 7,820   | 12,900  | 10,400  | 11,000  | 12,900  | 15,400  | 12,700  | 13,000  |
| 16    | 7,140   | 5,640   | 5,630   | 4,840   | 7,880   | 12,600  | 10,500  | 10,100  | 12,600  | 15,400  | 11,600  | 13,000  |
| 17    | 7,210   | 5,210   | 4,340   | 5,180   | 8,450   | 11,400  | 9,730   | 10,100  | 13,200  | 15,600  | 10,900  | 11,400  |
| 18    | 4,410   | 5,480   | 3,560   | 7,430   | 8,740   | 11,400  | 9,560   | 10,700  | 14,000  | 14,100  | 10,900  | 6,190   |
| 19    | 5,040   | 5,270   | 3,150   | 9,050   | 8,730   | 11,800  | 10,500  | 10,900  | 14,400  | 15,700  | 12,500  | 8,040   |
| 20    | 5,170   | 5,380   | 3,150   | 9,240   | 8,360   | 11,400  | 10,600  | 12,000  | 14,600  | 15,900  | 12,700  | 8,580   |
| 21    | 4,920   | 5,010   | 2,900   | 7,120   | 8,160   | 11,400  | 10,700  | 11,300  | 17,200  | 15,600  | 12,700  | 8,460   |
| 22    | 5,470   | 4,960   | 2,640   | 7,210   | 9,730   | 12,700  | 9,840   | 11,200  | 16,700  | 15,400  | 12,300  | 8,170   |
| 23    | 5,220   | 7,140   | 3,800   | 7,670   | 9,710   | 12,400  | 10,400  | 11,100  | 16,800  | 15,700  | 13,100  | 6,480   |
| 24    | 5,040   | 6,630   | 4,630   | 6,410   | 11,000  | 12,300  | 10,500  | 12,000  | 17,000  | 15,500  | 13,200  | 6,440   |
| 25    | 4,630   | 6,290   | 4,120   | 6,410   | 10,500  | 12,400  | 10,700  | 11,900  | 16,800  | 15,000  | 12,900  | 8,180   |
| 26    | 4,630   | 6,370   | 3,720   | 6,860   | 10,400  | 13,200  | 11,600  | 12,400  | 15,700  | 15,500  | 12,500  | 8,920   |
| 27    | 6,360   | 6,300   | 3,640   | 7,100   | 10,200  | 13,200  | 10,100  | 12,200  | 14,600  | 15,700  | 12,200  | 10,300  |
| 28    | 7,330   | 6,150   | 4,700   | 6,740   | 10,700  | 12,600  | 10,000  | 13,000  | 15,000  | 15,600  | 12,100  | 10,500  |
| 29    | 8,710   | 5,390   | 4,340   | 6,860   | -       | 13,500  | 10,400  | 12,200  | 14,500  | 16,000  | 11,200  | 10,500  |
| 30    | 10,800  | 5,000   | 5,040   | 6,800   | -----   | 13,700  | 11,300  | 11,500  | 14,300  | 16,500  | 11,300  | 10,900  |
| 31    | 12,400  | -----   | 4,850   | 5,890   | -----   | 13,600  | -----   | 12,900  | -----   | 16,000  | 11,600  | -----   |
| Total | 237,460 | 218,900 | 144,460 | 176,190 | 235,620 | 370,400 | 348,030 | 356,800 | 423,600 | 470,600 | 412,700 | 317,660 |
| Mean  | 7,660   | 7,297   | 4,660   | 5,684   | 8,415   | 11,950  | 11,600  | 11,510  | 14,120  | 15,180  | 13,310  | 10,590  |
| Ac-ft | 471,000 | 434,200 | 286,500 | 349,500 | 467,300 | 734,700 | 690,300 | 707,700 | 840,200 | 933,400 | 818,600 | 630,100 |

Calendar year 1962: Max 17,200 Min 2,640 Mean 9,888 Ac-ft 7,159,000

Water year 1962-63: Max 17,200 Min 2,350 Mean 10,170 Ac-ft 7,364,000



9-4285.3. Arch Creek near Earp, Calif.

Location--Lat 34°09'55", long 114°22'20", in NE $\frac{1}{4}$  sec.20, T.1 N., R.25 E., on right bank on Parker Dam road, 4 miles east of Earp.

Drainage area--1.52 sq mi.

Records available--January 1960 to September 1963.

Gage--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 600 ft (from topographic map).

Extremes--Maximum discharge during year, 2.0 cfs Sept. 17 (gage height, 3.82 ft); no flow for year except Sept. 17.

1959-63: Flood of Sept. 13, 1959, reached a stage of 13.24 ft from floodmarks (discharge, 674 cfs, by indirect measurement of peak flow through culvert); no flow most of each year.

Remarks--Records good. No regulation or diversion. Monthly precipitation, in inches, is as follows: December, 0.9; February, 0.1; March, 0.1; April, 0.1; August, 0.3; September, 1.0; the year, 2.5.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 17.....\*\*0.1

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|-------|------------------------|
| September 1963.....     | 0.1      | 0.1     | 0       | 0.003 | 0.2                    |
| Calendar year 1962..... | -        | 0       | 0       | 0     | 0                      |
| Water year 1962-63..... | -        | .1      | 0       | .0003 | .2                     |

\*\* Field estimate made on this day.

Note--Flow occurred only on day listed above.

TRIBUTARIES AND DIVERSIONS BETWEEN PARKER DAM AND PAJO VERDE DAM

9-4290. Palo Verde Canal near Blythe, Calif.

Location.--Lat 33°43'54", long 114°30'43", in SE 1/4 sec. 19, T. 5 S., R. 24 E., San Bernardino meridian, at canal intake structure on west side of Palo Verde Diversion Dam, 10 miles northeast of Blythe and 43 miles downstream from Headgate Rock Dam.

Records available.--January 1922 to December 1923, January 1925 to September 1963 (prior to October 1950, monthly discharge only).

Gage.--Recording gages above and below intakes to record head. Datum of gage is: Forebay gage, at mean sea level; tailrace gage, 274.13 ft above mean sea level, both to datum of 1929. Aug. 7, 1950, to Nov. 30, 1952, water-stage recorder on tailrace and auxiliary recorder half a mile downstream and Dec. 1, 1952, to Oct. 28, 1957, recording gage above and below former intake structure a quarter of a mile upstream, at different datums.

Average discharge.--13 years (1950-63), 1,190 cfs (861,500 acre-ft per year).

Extremes.--1950-63: Maximum daily discharge, 2,180 cfs Aug. 7, 1962; no flow at times in several years.

Remarks.--Records excellent except those below 1,000 cfs, which are good. Discharge measurements generally made three times a month. Daily diversions computed on basis of head on intake gates and gate openings. Records published herein represent flow diverted from Colorado River during 1963 for irrigation of 82,781 acres. Return flows to Colorado River are measured by 12 wasteways and drains extending throughout the project; 4 of these are equipped with water-stage recorders and Parshall flumes, 3 are equipped with Sparling flowmeters and 1 with total flow meter on Parshall flume. Return flows have not been subtracted; combined monthly return flows are given in table below. Check measurements of return flows are made about once a month by the Geological Survey.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |        |        |        |        |        |        |        |        |         |         |         |        |
|--|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| Day  | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June    | July    | Aug.    | Sept.  |
| 1  | 1,010  | 883    | 644    | 655    | 902    | 1,560  | 1,260  | 1,410  | 1,620   | 1,850   | 2,110   | 1,540  |
| 2  | 999    | 979    | 638    | 686    | 906    | 1,500  | 1,440  | 1,390  | 1,590   | 1,760   | 1,980   | 1,580  |
| 3  | 1,030  | 904    | 725    | 609    | 876    | 1,400  | 1,480  | 1,460  | 1,750   | 1,910   | 1,840   | 1,550  |
| 4  | 979    | 888    | 756    | 567    | 861    | 1,420  | 1,520  | 1,480  | 1,780   | 1,680   | 1,700   | 1,530  |
| 5  | 1,060  | 987    | 817    | 600    | 1,030  | 1,480  | 1,510  | 1,430  | 1,830   | 2,030   | 1,830   | 1,500  |
| 6  | 1,060  | 1,010  | 854    | 645    | 1,040  | 1,510  | 1,380  | 1,430  | 1,980   | 1,840   | 1,840   | 1,640  |
| 7  | 997    | 1,110  | 895    | 588    | 991    | 1,460  | 1,210  | 1,480  | 1,850   | 1,810   | 1,750   | 1,760  |
| 8  | 1,010  | 1,150  | 723    | 639    | 1,030  | 1,390  | 1,390  | 1,530  | 1,650   | 1,930   | 1,910   | 1,670  |
| 9  | 933    | 1,080  | 645    | 671    | 904    | 1,400  | 1,340  | 1,500  | 1,520   | 1,820   | 1,980   | 1,660  |
| 10   | 965    | 977    | 770    | 674    | 820    | 1,300  | 1,420  | 1,400  | 1,630   | 1,870   | 1,910   | 1,700  |
| 11   | 1,080  | 969    | 867    | 378    | 845    | 1,420  | 1,380  | 1,290  | 1,690   | 1,930   | 1,770   | 1,830  |
| 12   | 1,130  | 950    | 933    | 350    | 867    | 1,440  | 1,350  | 1,280  | 1,770   | 1,830   | 1,900   | 1,830  |
| 13   | 1,080  | 892    | 866    | 469    | 899    | 1,450  | 1,230  | 1,370  | 1,700   | 1,820   | 1,790   | 1,790  |
| 14   | 917    | 916    | 934    | 708    | 696    | 1,490  | 1,150  | 1,440  | 1,770   | 1,790   | 1,810   | 1,740  |
| 15   | 983    | 950    | 813    | 754    | 1,110  | 1,420  | 1,320  | 1,380  | 1,610   | 1,990   | 1,780   | 1,630  |
| 16   | 980    | 1,020  | 764    | 840    | 1,170  | 1,360  | 1,480  | 1,410  | 1,510   | 1,970   | 960     | 1,640  |
| 17   | 1,010  | 834    | 729    | 864    | 1,080  | 1,180  | 1,410  | 1,410  | 1,720   | 1,840   | 859     | 1,510  |
| 18   | 860    | 717    | 594    | 832    | 1,290  | 1,300  | 1,350  | 1,230  | 1,800   | 1,930   | 939     | 855    |
| 19   | 976    | 809    | 514    | 832    | 1,300  | 1,430  | 1,280  | 1,170  | 1,860   | 2,080   | 1,060   | 1,020  |
| 20   | 1,030  | 926    | 503    | 804    | 1,320  | 1,360  | 1,120  | 1,400  | 1,910   | 2,020   | 1,180   | 1,010  |
| 21   | 863    | 933    | 539    | 830    | 1,390  | 1,320  | 1,100  | 1,470  | 1,900   | 1,770   | 1,340   | 1,000  |
| 22   | 905    | 789    | 582    | 839    | 1,390  | 991    | 1,250  | 1,540  | 1,540   | 1,840   | 1,410   | 968    |
| 23   | 815    | 825    | 636    | 854    | 1,340  | 1,250  | 1,360  | 1,510  | 1,520   | 1,770   | 1,530   | 1,140  |
| 24   | 926    | 845    | 536    | 904    | 1,260  | 1,260  | 1,360  | 1,510  | 1,660   | 1,900   | 1,480   | 1,090  |
| 25   | 981    | 743    | 490    | 827    | 1,410  | 1,280  | 1,430  | 1,420  | 1,720   | 1,870   | 1,630   | 1,170  |
| 26   | 894    | 784    | 674    | 849    | 1,600  | 1,430  | 1,350  | 1,390  | 1,860   | 1,990   | 1,700   | 1,240  |
| 27   | 1,050  | 793    | 722    | 831    | 1,690  | 1,460  | 1,230  | 1,530  | 2,080   | 1,850   | 1,780   | 1,260  |
| 28   | 920    | 821    | 756    | 919    | 1,640  | 1,470  | 1,160  | 1,630  | 2,050   | 1,820   | 1,730   | 1,200  |
| 29   | 1,040  | 731    | 695    | 924    | -      | 1,550  | 1,250  | 1,780  | 1,940   | 1,880   | 1,730   | 1,180  |
| 30   | 1,070  | 743    | 654    | 1,000  | -----  | 1,470  | 1,320  | 1,800  | 1,670   | 1,900   | 1,640   | 1,290  |
| 31   | 1,000  | -----  | 632    | 882    | -----  | 1,300  | -----  | 1,850  | -----   | 1,980   | 1,680   | -----  |
| Total  | 30,553 | 26,958 | 21,900 | 22,824 | 31,657 | 43,051 | 39,830 | 45,320 | 52,480  | 58,270  | 50,548  | 45,523 |
| Mean   | 986    | 899    | 706    | 736    | 1,131  | 1,389  | 1,328  | 1,462  | 1,749   | 1,880   | 1,631   | 1,417  |
| Ac-ft  | 60,600 | 53,470 | 43,440 | 45,270 | 62,790 | 85,390 | 79,000 | 89,890 | 104,100 | 115,600 | 100,300 | 84,340 |
| (†)  | 49,120 | 44,690 | 45,180 | 43,980 | 39,190 | 49,730 | 51,890 | 49,730 | 45,980  | 45,640  | 54,130  | 52,620 |
| Calendar year 1962: Max 2,180 Min 490 Mean 1,316 Ac-ft 952,800 +580,400        |        |        |        |        |        |        |        |        |         |         |         |        |
| Water year 1962-63: Max 2,110 Min 350 Mean 1,285 Ac-ft 942,200 +571,900        |        |        |        |        |        |        |        |        |         |         |         |        |

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

COLORADO RIVER MAIN STEM

21

9-4291. Colorado River below Palo Verde Dam, Ariz.--Calif.

Location.--Lat 33°43'10", long 114°29'50", in NE $\frac{1}{4}$  sec.2, T.4 N., R.22 W., Gila and Salt River meridian, on right bank 1.2 miles downstream from Palo Verde Diversion Dam, 9.5 miles northeast of Blythe, Calif., and 11.0 miles upstream from Ehrenberg, Ariz.

Drainage area.--182,200 sq mi, approximately.

Records available.--March 1956 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 260.00 ft above mean sea level, datum of 1929.

Average discharge.--7 years (1957-63) 9,492 cfs (6,872,000 acre-ft per year).

Extremes.--Maximum discharge during year, 15,200 cfs Nov. 4 (gage height, 16.24 ft); minimum daily, 1,580 cfs Jan. 4.  
1956-63: Maximum discharge, 24,300 cfs Mar. 21, 1958; maximum gage height, 17.94 ft May 4, 1958; minimum daily discharge, 1,380 cfs Dec. 21, 1961.

Remarks.--Records excellent. Discharge measurements generally made two to three times a month. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Havasu Lake.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 8,260   | 10,900  | 4,460   | 3,880   | 4,610   | 8,200   | 11,600  | 8,120   | 10,600  | 11,000  | 12,200  | 9,760   |
| 2     | 8,540   | 12,400  | 4,790   | 3,530   | 4,790   | 8,310   | 13,100  | 8,890   | 10,900  | 10,800  | 12,200  | 9,980   |
| 3     | 7,210   | 14,100  | 4,960   | 2,140   | 4,740   | 9,220   | 11,200  | 8,400   | 10,600  | 11,100  | 12,500  | 9,980   |
| 4     | 8,300   | 13,800  | 5,090   | 1,580   | 4,840   | 8,500   | 11,600  | 9,140   | 10,600  | 11,500  | 12,700  | 9,550   |
| 5     | 9,080   | 12,100  | 4,910   | 1,780   | 5,090   | 9,220   | 10,500  | 9,250   | 10,700  | 11,700  | 13,100  | 9,640   |
| 6     | 9,080   | 8,200   | 4,490   | 1,910   | 6,230   | 9,460   | 11,400  | 9,410   | 10,500  | 12,100  | 12,900  | 8,650   |
| 7     | 8,920   | 5,520   | 4,060   | 2,110   | 6,460   | 8,640   | 11,500  | 8,880   | 10,300  | 12,100  | 11,800  | 9,680   |
| 8     | 8,920   | 5,380   | 4,720   | 2,390   | 6,920   | 8,420   | 11,200  | 8,840   | 10,800  | 12,200  | 10,800  | 9,600   |
| 9     | 8,840   | 4,680   | 5,060   | 3,350   | 7,180   | 8,720   | 11,600  | 9,330   | 11,200  | 12,500  | 10,500  | 9,640   |
| 10    | 7,700   | 5,140   | 4,910   | 4,220   | 6,620   | 8,820   | 11,200  | 8,490   | 11,900  | 12,400  | 11,900  | 10,200  |
| 11    | 6,570   | 5,230   | 4,540   | 4,780   | 6,350   | 8,780   | 10,600  | 8,720   | 10,800  | 11,900  | 12,100  | 10,500  |
| 12    | 5,810   | 5,170   | 4,420   | 5,970   | 6,350   | 8,410   | 9,600   | 8,920   | 10,700  | 12,300  | 12,200  | 10,200  |
| 13    | 6,210   | 4,960   | 4,000   | 6,520   | 6,890   | 8,250   | 10,400  | 9,500   | 10,400  | 12,300  | 12,000  | 10,200  |
| 14    | 6,210   | 4,540   | 3,590   | 6,150   | 7,210   | 8,460   | 9,710   | 9,350   | 9,210   | 12,000  | 11,400  | 10,700  |
| 15    | 5,870   | 4,080   | 4,610   | 5,250   | 6,180   | 9,690   | 9,220   | 9,690   | 10,500  | 12,000  | 11,200  | 10,700  |
| 16    | 6,550   | 3,800   | 5,140   | 4,660   | 6,180   | 9,990   | 8,600   | 8,880   | 10,600  | 12,100  | 11,300  | 10,800  |
| 17    | 6,260   | 4,360   | 5,090   | 4,500   | 6,260   | 10,100  | 7,880   | 7,790   | 10,600  | 12,800  | 10,300  | 10,600  |
| 18    | 6,450   | 4,360   | 4,060   | 4,860   | 6,620   | 9,020   | 8,010   | 8,250   | 11,500  | 11,800  | 9,590   | 10,500  |
| 19    | 3,900   | 4,420   | 3,220   | 6,750   | 6,990   | 8,860   | 7,940   | 8,840   | 11,100  | 12,200  | 9,980   | 5,890   |
| 20    | 4,000   | 4,220   | 2,740   | 8,030   | 7,090   | 9,370   | 8,960   | 8,780   | 11,500  | 13,000  | 10,400  | 7,170   |
| 21    | 4,080   | 4,320   | 2,560   | 8,010   | 6,520   | 9,370   | 9,560   | 9,370   | 12,900  | 13,000  | 10,600  | 7,430   |
| 22    | 3,840   | 4,040   | 2,210   | 6,620   | 6,460   | 9,440   | 8,180   | 9,250   | 13,900  | 12,800  | 10,500  | 7,010   |
| 23    | 4,160   | 4,010   | 2,050   | 6,400   | 7,730   | 10,100  | 8,360   | 8,880   | 13,700  | 13,000  | 10,300  | 6,830   |
| 24    | 4,040   | 5,890   | 3,260   | 5,470   | 9,160   | 10,200  | 8,530   | 8,660   | 13,900  | 12,600  | 11,100  | 5,620   |
| 25    | 3,740   | 5,670   | 3,900   | 5,280   | 7,950   | 10,400  | 8,380   | 9,920   | 13,800  | 12,100  | 10,700  | 5,490   |
| 26    | 3,580   | 5,230   | 3,350   | 5,540   | 8,080   | 10,400  | 9,480   | 9,550   | 12,800  | 11,900  | 10,500  | 6,810   |
| 27    | 3,500   | 5,280   | 3,100   | 5,890   | 7,840   | 10,800  | 8,630   | 10,300  | 12,300  | 12,400  | 10,000  | 7,300   |
| 28    | 4,790   | 5,150   | 2,820   | 5,670   | 7,660   | 10,900  | 8,690   | 10,300  | 11,900  | 12,700  | 9,780   | 8,810   |
| 29    | 5,810   | 5,220   | 3,730   | 5,430   | —       | 10,300  | 8,650   | 10,100  | 12,000  | 12,900  | 9,770   | 8,920   |
| 30    | 7,200   | 4,790   | 3,530   | 5,270   | -----   | 11,300  | 9,120   | 9,780   | 11,600  | 13,400  | 9,120   | 8,880   |
| 31    | 9,160   | -----   | 4,220   | 5,200   | -----   | 11,600  | -----   | 9,470   | -----   | 13,300  | 9,170   | -----   |
| Total | 196,580 | 186,960 | 123,590 | 149,140 | 185,000 | 293,250 | 293,400 | 283,050 | 343,810 | 379,900 | 342,510 | 267,040 |
| Mean  | 6,341   | 6,232   | 3,987   | 4,811   | 6,607   | 9,460   | 9,780   | 9,131   | 11,460  | 12,250  | 11,050  | 8,901   |
| Ac-ft | 389,900 | 370,800 | 245,100 | 295,800 | 366,900 | 581,700 | 582,000 | 561,400 | 681,900 | 753,500 | 679,400 | 529,700 |

Calendar year 1962: Max 14,100 Min 2,020 Mean 8,119 Ac-ft 5,878,000  
Water year 1962-63: Max 14,100 Min 1,580 Mean 8,340 Ac-ft 6,038,000

Note.--Portions of Oct. 20, 21, 23, 25-27; Nov. 15, 16; Dec. 19-21; Jan. 3, 4; Sept. 23-25, 27 reconstructed from gage-height record for station 1.2 miles upstream, operated by Palo Verde Irrigation District.

## COLORADO RIVER MAIN STEM

9-4295. Colorado River at Imperial Dam, Ariz.-Calif.

Location.--Lat 32°53'00", long 114°27'50", in W $\frac{1}{2}$  sec.9, T.15 S., R.24 E., San Bernardino meridian, near All-American Canal headworks at west end of Imperial Dam, 5 miles upstream from Laguna Dam, 15 miles northeast of Yuma, 90 miles downstream from Palo Verde Dam, and 147 miles downstream from Parker Dam.

Drainage area.--184,600 sq mi, approximately.

Records available.--Flow of Colorado River passing Imperial Dam: October 1960 to September 1963. Flow of Colorado River reaching Imperial Dam: 1903-34 (yearly discharge only), July 1934 to September 1963 (monthly discharge only since October 1942). Prior to 1943 published as "near Picacho, Calif."

Gage.--Water-stage recorder for obtaining head on gates. Datum of gage is 162.00 ft above mean sea level (U.S. Bureau of Reclamation bench mark). Prior to Oct. 1, 1942, water-stage recorder at site 14 $\frac{1}{2}$  miles upstream at datum 167.38 ft above mean sea level, datum of 1929. Oct. 1, 1942, to Sept. 30, 1960, no gage on river at this site (see Remarks).

Average discharge (flow reaching Imperial Dam).--29 years (1934-63), 12,470 cfs (9,028,000 acre-ft per year).

Extremes (flow reaching Imperial Dam).--1934-63: Maximum discharge, 40,800 cfs Sept. 5, 1939; minimum, 538 cfs Aug. 3, 1934; minimum daily since regulation of Hoover Dam began, 1,450 cfs Feb. 17, 1935.

Remarks.--Records excellent above 500 cfs and good below. Records of daily discharge show flow of Colorado River passing Imperial Dam, and include water released to river through California and Gila sluiceways, sludge from desilting basins returned to river, and leakage through dam. Records of flow reaching Imperial Dam (given in monthly and yearly summaries below) are based on combined daily discharge of Colorado River at this station, and at gaging stations on All-American Canal near Imperial Dam (sta 9-5230), and Gila Gravity Main Canal at Imperial Dam (sta 9-5225). Records for October 1942 to September 1960 were computed as combined flow of Colorado River at Yuma (sta 9-5210) and the All-American and Gila Gravity Main Canals, less flow of Gila River near Dome (drainage and waste return flows and channel losses between the gaging stations and Imperial Dam were neglected).

Flow of Colorado River regulated by many reservoirs, principally Lake Mead, since 1935. Many diversions from Colorado River and tributaries above station.

Cooperation.--Records of gate openings furnished by Bureau of Reclamation. Records of sludge return flow from desilting basins furnished by Imperial Irrigation District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 367     | * 844   | 1,550   | 1,350   | 1,650   | * 337   | 663     | * 477   | 477     | 957     | * 457   | 422     |
| 2     | *371    | 1,610   | 1,410   | 1,840   | 1,730   | 337     | *675    | 477     | 477     | 1,100   | 464     | 422     |
| 3     | 486     | 1,810   | 1,410   | 1,670   | 1,470   | 337     | 656     | 477     | 477     | 843     | 796     | * 422   |
| 4     | 375     | 1,690   | 1,320   | 1,350   | 1,360   | 337     | 477     | 477     | 477     | 690     | 795     | 422     |
| 5     | 467     | 1,680   | 1,380   | 961     | 1,040   | 999     | 477     | 477     | 839     | 562     | 911     | 422     |
| 6     | 1,000   | *1,750  | 1,360   | 1,060   | 850     | 387     | 477     | 477     | 477     | 457     | 802     | 422     |
| 7     | 1,930   | 1,840   | 1,380   | 575     | * 975   | 387     | 477     | 737     | 477     | 654     | 797     | 422     |
| 8     | 2,000   | 1,690   | 1,420   | 597     | * 1,120 | 387     | * 477   | 608     | 477     | 754     | 797     | 422     |
| 9     | 4,350   | 1,310   | 1,410   | 467     | 1,180   | 387     | 827     | 506     | 603     | * 755   | * 796   | 422     |
| 10    | *2,780  | 626     | 1,420   | * 292   | 1,190   | 387     | 597     | 514     | 759     | 851     | 796     | 422     |
| 11    | 557     | 462     | *1,420  | 292     | 1,290   | 487     | 477     | 477     | * 801   | 873     | 796     | 422     |
| 12    | 1,390   | 362     | 1,410   | 292     | 1,570   | 487     | 477     | 939     | 801     | 980     | 796     | 422     |
| 13    | 557     | 362     | 1,330   | 292     | 1,280   | 487     | 477     | 599     | 801     | 1,020   | 797     | 422     |
| 14    | 557     | 362     | 1,270   | 292     | * 1,410 | *487    | 489     | 501     | 801     | 822     | 797     | 422     |
| 15    | * 457   | * 362   | 1,210   | 292     | 1,580   | 487     | 477     | 673     | 801     | 812     | 797     | 422     |
| 16    | 457     | 522     | 1,080   | 612     | 1,490   | 487     | 698     | 894     | 801     | 811     | 797     | 483     |
| 17    | 478     | 366     | 1,180   | 392     | 1,450   | 487     | 698     | * 785   | 576     | 559     | 797     | 1,880   |
| 18    | 457     | 362     | 1,410   | 392     | 1,410   | 487     | *515    | 577     | 502     | 457     | 797     | 1,650   |
| 19    | 457     | 532     | 1,920   | 410     | * 1,310 | 487     | 493     | 477     | 477     | 457     | 796     | 2,470   |
| 20    | 457     | 520     | 1,460   | 392     | 1,270   | 487     | 477     | 477     | 477     | 457     | 797     | * 3,530 |
| 21    | 457     | 486     | 1,330   | 487     | 960     | 487     | 500     | 477     | 477     | 457     | * 795   | 2,420   |
| 22    | 457     | 362     | 1,350   | 1,310   | 1,260   | 487     | 846     | 477     | 477     | 457     | 818     | 2,190   |
| 23    | 457     | 389     | 1,560   | 1,990   | 879     | 487     | 963     | 477     | 477     | 457     | 553     | 2,250   |
| 24    | 557     | 362     | 1,450   | * 1,470 | 342     | 487     | 497     | 477     | 477     | 612     | 621     | 1,630   |
| 25    | 601     | 955     | 1,330   | 1,470   | 342     | 487     | 477     | 477     | 934     | * 584   | 1,100   | 814     |
| 26    | 462     | 1,770   | 1,370   | 1,550   | 342     | *487    | 477     | 477     | * 1,020 | 552     | 1,040   | 413     |
| 27    | 462     | * 1,900 | * 1,370 | 1,570   | 342     | 487     | 477     | 477     | 1,170   | 457     | 882     | 327     |
| 28    | 462     | 1,500   | 1,360   | 1,510   | 342     | 487     | 477     | 477     | 1,340   | 642     | 916     | 327     |
| 29    | 462     | 1,510   | 1,360   | 1,530   | -       | 487     | 477     | * 477   | 1,370   | 767     | 672     | 356     |
| 30    | 462     | 1,470   | 1,350   | 1,530   | -----   | 487     | 933     | 477     | 1,280   | 457     | 422     | 427     |
| 31    | 462     | -----   | 1,320   | 1,470   | -----   | 487     | -----   | 477     | -----   | 457     | 422     | -----   |
| Total | 25,251  | 29,766  | 42,900  | 29,707  | 31,434  | 14,509  | 17,205  | 16,873  | 21,400  | 20,770  | 23,619  | 27,497  |
| Mean  | 815     | 992     | 1,384   | 958     | 1,123   | 468     | 574     | 544     | 713     | 670     | 762     | 917     |
| Ac-ft | 50,080  | 59,040  | 85,090  | 58,920  | 62,350  | 28,780  | 34,130  | 33,470  | 42,450  | 41,200  | 46,850  | 54,540  |
| (+)   | 7,451   | 7,371   | 4,933   | 5,481   | 7,075   | 10,000  | 10,870  | 9,790   | 11,620  | 12,600  | 12,310  | 9,994   |
| (+)   | 458,600 | 438,600 | 303,300 | 337,000 | 392,900 | 614,900 | 646,800 | 602,000 | 691,600 | 774,900 | 757,100 | 594,700 |

Calendar year 1962: Max 4,350 Min 217 Mean 704 Ac-ft 509,500 + 8,920 + 6,458,000  
 Water year 1962-63: Max 4,350 Min 292 Mean 824 Ac-ft 596,900 + 9,133 + 6,612,000

\* Discharge measurement made on this day.

+ Flow reaching Imperial Dam, in cubic feet per second (combined flow of Colorado River, All-American Canal near Imperial Dam, and Gila Gravity Main Canal at Imperial Dam).

+ Flow reaching Imperial Dam, in acre-feet.

COLORADO RIVER MAIN STEM

23

9-5210. Colorado River at Yuma, Ariz.

Location (revised).--Lat 32°43'45", long 114°37'15", in NW 1/4 sec. 35, T.16 S., R.22 E., San Bernardino meridian, on left bank 500 ft upstream from lower highway bridge, 1,800 ft downstream from upper highway bridge at Yuma, 0.4 mile upstream from Yuma Main Canal wasteway, 4.6 miles downstream from Gila River, 7.0 miles upstream from boundary between California and Mexico, and 19 miles downstream from Imperial Dam.

Drainage area.--242,900 sq mi, approximately, including all closed basins entirely within the drainage boundary.

Records available.--January 1878 to December 1901 (gage heights only), January 1902 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 102.32 ft above mean sea level, Yuma project datum, or 102.86 ft, datum of 1929, leveling of 1941 (datum was 0.07 ft lower prior to earthquake of May 18, 1940). Supplementary water-stage recorder 180 ft downstream since Oct. 30, 1953. Prior to May 1922 staff gages at several sites 600 to 1,000 ft upstream at approximately same datum. May 1922 to October 1933, water-stage recorder or automatic transmitter at site 800 ft upstream from present site at same datum. Nov. 11, 1933, to July 19, 1934, staff gage at present site and datum.

Extremes.--Maximum discharge during year, 5,050 cfs Oct. 9; maximum gage height, 14.43 ft Sept. 18; minimum daily discharge, 760 cfs Oct. 30; minimum gage height, 10.65 ft Sept. 30.

1902-34: Maximum discharge, 250,000 cfs Jan. 22, 1916 (gage height, 34.0 ft); minimum daily, 18 cfs Aug. 25-27, 1934, caused by diversion at Laguna Dam.

1934-63: Maximum discharge, 34,900 cfs Sept. 7, 1939 (gage height, 24.57 ft); minimum, 41 cfs Mar. 8, 1956; minimum gage height, 8.36 ft July 16, 1947.

Remarks.--Records excellent. Discharge measurements generally made three times a month. Many diversions from Colorado River and tributaries. Principal diversions below Parker Dam are Colorado River Indian Reservation Canal, Palo Verde Canal, All-American Canal and Gila Gravity Main Canal. Return flows entering downstream but above northerly international boundary are Yuma Main Canal wasteway, Reservation Canal Main Drain No. 4, Drain 8-B, and Pilot Knob powerplant and wasteway. See monthly table below for combined flow of river, Yuma Main Canal wasteway, and Reservation Canal Main Drain No. 4. Flow of Colorado River regulated by Hoover, Davis, Parker, Headgate Rock, and to a small extent by Imperial, Palo Verde, and Laguna Dams. No regulation on Gila River below Painted Rock Dam.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.   | Nov.    | Dec.    | Jan.    | Feb.    | Mar.   | Apr.   | May    | June   | July   | Aug.    | Sept.   |             |
|---------------------|--------|---------|---------|---------|---------|--------|--------|--------|--------|--------|---------|---------|-------------|
| 1                   | 951    | 834     | 2180    | 1870    | 2250    | 897    | 1000   | 960    | 981    | 1570   | 946     | 925     |             |
| 2                   | 862    | 1800    | 2160    | 2140    | 2500    | 883    | 1030   | 890    | 1030   | 1450   | 918     | 946     |             |
| 3                   | 926    | 2220    | 2050    | 2530    | 2460    | 876    | 995    | 1010   | 1010   | 1500   | 967     | 946     |             |
| 4                   | 890    | 2290    | 1990    | 2120    | 2160    | 876    | 1000   | 1130   | 911    | 1240   | 1130    | 974     |             |
| 5                   | 867    | 2250    | 1950    | 1830    | 1990    | 939    | 932    | 943    | 862    | 1160   | 1320    | 960     |             |
| 6                   | 1580   | 2130    | 2000    | 1470    | 1840    | 953    | 960    | 926    | 890    | 1160   | 1320    | 967     |             |
| 7                   | 1910   | 2390    | 1950    | 1360    | 1610    | 827    | 960    | 905    | 918    | 1230   | 1300    | 953     |             |
| 8                   | 2260   | 2440    | 2030    | 1200    | 1570    | 802    | 1100   | 938    | 925    | 1340   | 1280    | 918     |             |
| 9                   | 2930   | 2120    | 2050    | 1140    | 1720    | 834    | 1140   | 1100   | 960    | 1320   | 1290    | 904     |             |
| 10                  | 2700   | 1550    | 2010    | 883     | 1760    | 827    | 1020   | 1160   | 1130   | 1270   | 1270    | 883     |             |
| 11                  | 2600   | 1080    | 2000    | 848     | 1720    | 876    | 974    | 975    | 1200   | 1320   | 1280    | 1230    |             |
| 12                  | 1820   | 1020    | 2020    | 820     | 1610    | 960    | 1030   | 995    | 1190   | 1360   | 1280    | 1110    |             |
| 13                  | 1020   | 946     | 2010    | 790     | 1780    | 974    | 1010   | 982    | 1200   | 1310   | 1270    | 996     |             |
| 14                  | 984    | 932     | 1900    | 790     | 1820    | 981    | 953    | 935    | 1180   | 1280   | 1210    | 992     |             |
| 15                  | 986    | 924     | 1830    | 829     | 2010    | 953    | 995    | 1050   | 1180   | 1290   | 1230    | 981     |             |
| 16                  | 841    | 1100    | 1730    | 1060    | 2070    | 946    | 988    | 1180   | 1230   | 1280   | 1280    | 980     |             |
| 17                  | 838    | 999     | 1710    | 904     | 2140    | 1040   | 1300   | 1320   | 1200   | 1270   | 1300    | 1070    |             |
| 18                  | 869    | 920     | 1920    | 876     | 1940    | 1030   | 1100   | 1160   | 1010   | 1220   | 1280    | 1010    |             |
| 19                  | 869    | 953     | 2450    | 890     | 1840    | 995    | 1000   | 1010   | 960    | 918    | 1300    | 1210    |             |
| 20                  | 820    | 1040    | 2250    | 876     | 1830    | 981    | 995    | 958    | 981    | 918    | 1240    | 13950   |             |
| 21                  | 820    | 1090    | 2070    | 904     | 1900    | 981    | 995    | 934    | 1240   | 911    | 1240    | 1290    |             |
| 22                  | 827    | 939     | 1900    | 1660    | 1780    | 946    | 1080   | 931    | 1040   | 925    | 1250    | 2670    |             |
| 23                  | 848    | 1010    | 2070    | 2090    | 1710    | 946    | 1300   | 1100   | 995    | 918    | 1260    | 2630    |             |
| 24                  | 834    | 1000    | 2170    | 2000    | 1150    | 981    | 1240   | 988    | 981    | 897    | 1330    | 2680    |             |
| 25                  | 883    | 1060    | 1980    | 2020    | 1050    | 960    | 1080   | 1000   | 932    | 1020   | 1340    | 1690    |             |
| 26                  | 932    | 1870    | 1890    | 2030    | 1010    | 974    | 1400   | 970    | 1070   | 1020   | 1320    | 1200    |             |
| 27                  | 802    | 2560    | 1940    | 2160    | 986     | 1120   | 1120   | 970    | 1270   | 995    | 1210    | 1080    |             |
| 28                  | 779    | 2360    | 1900    | 2130    | 971     | 1090   | 1040   | 1060   | 1570   | 925    | 1310    | 1070    |             |
| 29                  | 772    | 2130    | 1960    | 2130    | -       | 1020   | 1030   | 954    | 1680   | 1120   | 1180    | 1060    |             |
| 30                  | 760    | 2160    | 1970    | 2210    | -----   | 974    | 1020   | 954    | 1690   | 1090   | 1030    | 921     |             |
| 31                  | 778    | -----   | 1940    | 2180    | -----   | 974    | -----  | 988    | -----  | 946    | 974     | -----   |             |
| Total               | 36,558 | 46,117  | 61,980  | 46,740  | 49,177  | 29,416 | 31,787 | 31,376 | 33,416 | 36,173 | 37,855  | 45,196  |             |
| Mean                | 1,179  | 1,537   | 1,999   | 1,508   | 1,756   | 949    | 1,060  | 1,012  | 1,114  | 1,167  | 1,221   | 1,507   |             |
| Ac-ft               | 72,510 | 91,470  | 122,900 | 92,710  | 97,540  | 58,350 | 63,050 | 62,230 | 66,280 | 71,750 | 75,080  | 89,640  |             |
| (†)                 | 1,352  | 1,766   | 2,161   | 1,647   | 2,167   | 1,066  | 1,350  | 1,571  | 1,244  | 1,292  | 1,352   | 1,872   |             |
| (‡)                 | 83,110 | 105,100 | 132,900 | 101,200 | 120,400 | 65,520 | 80,310 | 96,600 | 74,020 | 79,430 | 83,120  | 111,400 |             |
| Calendar year 1962: | Max    | 2,930   |         | Min     | 637     |        | Mean   | 1,189  |        | Ac-ft  | 860,500 | † 1,359 | * 983,600   |
| Water year 1962-63: | Max    | 3,950   |         | Min     | 760     |        | Mean   | 1,331  |        | Ac-ft  | 963,500 | † 1,565 | * 1,133,000 |

† Combined flow in cubic feet per second, of river, Yuma Main Canal Wasteway and Reservation Canal Main Drain No. 4.

\* Combined flow in acre-feet.

## COLORADO RIVER MAIN STEM

9-5220. Colorado River at northerly international boundary  
above Morelos Dam, near Andrade, Calif.

Location.--Lat 32°43'00", long 114°43'00", in NE  $\frac{1}{4}$  sec. 21, T.8 S., R.24 W., Gila and Salt River meridian, on left bank at northerly international boundary, half a mile east of Andrade, 1.1 miles upstream from Morelos Dam, 1.1 miles downstream from Rockwood Gate, and 7.2 miles downstream from gaging station on Colorado River at Yuma.

Drainage area.--243,000 sq mi, approximately, including all closed basins entirely within the drainage boundary.

Records available.--January 1950 to September 1963. Prior to October 1958, published as "at international boundary."

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, leveling of 1941. Supplementary water-stage recorder 1,450 ft upstream at same datum.

Extremes.--Maximum discharge during year, 11,900 cfs Sept. 18; maximum elevation, 112.14 ft Sept. 18; minimum discharge, 884 cfs Oct. 31; minimum elevation, 102.94 ft Sept. 30.  
1950-63: Maximum discharge, 25,390 cfs Jan. 1, 1953; maximum elevation, 114.24 ft Jan. 28, 1958; minimum discharge, 570 cfs Feb. 24, 1956 (elevation, 103.00 ft).

Remarks.--This record shows water passing northerly international boundary. Minor diversions to the United States below this station from river and by pumping from ground water for irrigation in the floodway between river and Yuma levee. Discharge measurements generally made six times a week.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 1,290  | 1,030   | 2,640   | 2,100   | 2,380   | 2,040   | 3,440   | 1,970   | 2,260   | 4,190   | 3,890   | 2,230   |
| 2     | 1,140  | 2,890   | 2,810   | 2,240   | 2,840   | 2,180   | 3,910   | 2,000   | 2,280   | 3,600   | 4,130   | 2,300   |
| 3     | 1,360  | 4,910   | 2,340   | 3,130   | 3,130   | 2,150   | 3,940   | 2,050   | 2,280   | 3,300   | 4,200   | 2,250   |
| 4     | 1,680  | 6,430   | 2,080   | 3,460   | 2,480   | 2,120   | 4,010   | 2,000   | 2,140   | 2,880   | 4,310   | 2,400   |
| 5     | 1,540  | 7,280   | 2,120   | 2,370   | 2,140   | 2,170   | 4,300   | 2,140   | 2,200   | 2,900   | 4,760   | 2,690   |
| 6     | 1,430  | 8,520   | 2,100   | 1,820   | 2,040   | 2,920   | 4,210   | 2,120   | 2,200   | 2,790   | 4,800   | 2,620   |
| 7     | 1,890  | 8,860   | 2,020   | 1,600   | 1,820   | 2,380   | 4,470   | 2,000   | 2,250   | 2,960   | 5,250   | 2,490   |
| 8     | 2,500  | 6,220   | 2,200   | 1,330   | 1,910   | 2,790   | 4,400   | 2,070   | 2,270   | 3,320   | 5,560   | 2,350   |
| 9     | 3,310  | 3,470   | 2,240   | 1,310   | 2,030   | 2,900   | 4,570   | 1,800   | 2,320   | 3,240   | 5,740   | 2,060   |
| 10    | 3,210  | 2,930   | 2,150   | 1,090   | 2,090   | 2,930   | 4,150   | 1,380   | 2,500   | 3,170   | 4,420   | 2,040   |
| 11    | 3,000  | 2,620   | 2,060   | 1,040   | 1,980   | 2,980   | 3,770   | 1,290   | 3,130   | 3,300   | 4,360   | 1,970   |
| 12    | 2,090  | 2,570   | 2,110   | 974     | 2,800   | 3,140   | 4,250   | 1,380   | 3,420   | 3,240   | 3,940   | 2,040   |
| 13    | 1,290  | 2,330   | 2,130   | 932     | 2,520   | 2,690   | 4,770   | 1,350   | 3,410   | 3,230   | 3,860   | 1,990   |
| 14    | 1,210  | 2,140   | 2,050   | 938     | 2,150   | 2,450   | 4,470   | 1,240   | 3,070   | 3,490   | 3,910   | 2,060   |
| 15    | 1,250  | 2,060   | 2,030   | 959     | 2,280   | 2,190   | 4,190   | 1,330   | 3,110   | 3,700   | 3,840   | 2,040   |
| 16    | 1,170  | 1,510   | 2,010   | 2,050   | 2,620   | 2,480   | 3,860   | 1,510   | 2,870   | 3,420   | 3,860   | 2,060   |
| 17    | 1,170  | 1,680   | 2,030   | 2,240   | 2,680   | 2,930   | 3,580   | 1,730   | 2,630   | 3,530   | 4,190   | 2,430   |
| 18    | 1,180  | 1,190   | 2,160   | 1,680   | 2,290   | 3,890   | 3,080   | 1,650   | 2,290   | 3,490   | 5,130   | 2,880   |
| 19    | 1,140  | 1,100   | 3,540   | 1,050   | 2,010   | 4,590   | 2,590   | 1,280   | 2,120   | 3,520   | 4,380   | 8,670   |
| 20    | 1,060  | 1,240   | 4,320   | 1,040   | 2,050   | 4,620   | 2,320   | 1,260   | 2,510   | 3,550   | 3,640   | 6,770   |
| 21    | 1,030  | 1,260   | 2,910   | 1,050   | 2,140   | 3,300   | 2,270   | 1,220   | 2,780   | 3,580   | 3,370   | 4,850   |
| 22    | 1,020  | 1,160   | 2,040   | 1,680   | 1,950   | 3,250   | 2,250   | 1,190   | 2,990   | 3,620   | 3,240   | 3,970   |
| 23    | 1,050  | 1,300   | 2,160   | 2,470   | 1,890   | 3,190   | 2,780   | 1,310   | 3,350   | 3,590   | 3,260   | 4,040   |
| 24    | 1,020  | 1,430   | 2,310   | 3,320   | 1,950   | 3,300   | 2,400   | 1,170   | 3,700   | 3,550   | 2,980   | 4,010   |
| 25    | 1,110  | 1,360   | 2,170   | 3,170   | 1,890   | 3,220   | 1,950   | 1,220   | 3,960   | 3,640   | 2,800   | 2,990   |
| 26    | 1,200  | 1,840   | 1,980   | 2,470   | 2,000   | 3,210   | 2,080   | 1,810   | 4,480   | 3,670   | 2,830   | 1,560   |
| 27    | 1,100  | 3,020   | 2,080   | 2,270   | 1,990   | 3,190   | 2,140   | 1,950   | 4,650   | 3,520   | 3,090   | 1,330   |
| 28    | 1,110  | 2,960   | 1,980   | 2,310   | 2,060   | 3,020   | 2,070   | 2,060   | 4,600   | 3,440   | 3,160   | 1,310   |
| 29    | 980    | 2,360   | 2,120   | 2,230   | -       | 3,310   | 2,120   | 1,990   | 4,150   | 3,530   | 2,870   | 1,240   |
| 30    | 980    | 2,500   | 2,140   | 2,350   | -       | 3,160   | 2,060   | 1,990   | 4,120   | 3,520   | 2,680   | 1,190   |
| 31    | 932    | -       | 2,130   | 2,320   | -       | 3,290   | -       | 2,330   | -       | 3,550   | 2,520   | -       |
| Total | 45,442 | 90,170  | 71,160  | 58,993  | 62,110  | 91,980  | 100,400 | 51,790  | 90,040  | 106,030 | 120,970 | 89,830  |
| Mean  | 1,466  | 3,006   | 2,295   | 1,903   | 2,218   | 2,967   | 3,347   | 1,671   | 3,001   | 3,420   | 3,902   | 2,994   |
| Ac-ft | 90,130 | 176,800 | 141,100 | 117,000 | 123,200 | 182,400 | 199,100 | 102,700 | 176,600 | 210,300 | 239,900 | 178,200 |

Calendar year 1962: Max 8,860 Min 818 Mean 2,501 Ac-ft 1,810,000  
Water year 1962-63: Max 9,880 Min 932 Mean 2,682 Ac-ft 1,941,000

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

25

9-5225. Gila Gravity Main Canal at Imperial Dam, Ariz.-Calif.

Location.--Lat 32°52'35", long 114°27'15", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.30, T.6 S., R.21 W., Gila and Salt River meridian, on right bank 3,200 ft downstream from intake at east end of Imperial Dam.

Records available.--August 1943 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 160.00 ft above mean sea level, datum of 1929.

Extremes.--1943-63: Maximum daily discharge, 2,100 cfs Apr. 11, June 1, 1963; no flow at canal intake at times in several years when intake gates were closed.

Remarks.--Records excellent except those below 100 cfs, which are fair. Discharge measurements generally made two to three times a month. Gila Gravity Main Canal diverts water from Colorado River at left end of Imperial Dam for irrigation of lands on Gila Project in Arizona. Diversion to this canal began Aug. 17, 1943. Diversion to North Gila Valley from this canal began Dec. 16, 1954. During the 1963 water year, water was used for irrigation of 83,619 acres divided as follows: North and South Gila Valleys, 7,645 acres; Yuma Mesa Division, 16,556 acres; Wellton-Mohawk Division, 56,289 acres; Yuma Mesa Auxiliary Division, 3,129 acres.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May     | June    | July    | Aug.    | Sept.  |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|
| 1     | 1,240  | 1,640  | 554    | 289    | 541    | 1,200  | 1,390  | 1,680   | 2,100   | 1,800   | 1,890   | 1,500  |
| 2     | 1,240  | 1,570  | 500    | 440    | 512    | 940    | 1,590  | 1,540   | 1,780   | 1,980   | 1,960   | 1,610  |
| 3     | 1,200  | 1,480  | 674    | 324    | 449    | 925    | 1,510  | 1,630   | 2,010   | 1,870   | 1,870   | 1,730  |
| 4     | 1,180  | 1,310  | 732    | 352    | 715    | 1,430  | 1,350  | 1,470   | 2,080   | 1,810   | 1,780   | 1,700  |
| 5     | 1,140  | 1,320  | 715    | 317    | 844    | 1,530  | 1,340  | 1,110   | 2,040   | 1,820   | 1,710   | 1,680  |
| 6     | 1,020  | 1,200  | 616    | 243    | 948    | 1,420  | 1,300  | 1,510   | 1,940   | 1,880   | 1,860   | 1,650  |
| 7     | 1,010  | 1,170  | 685    | 454    | 927    | 1,310  | 1,000  | 1,720   | 2,010   | 1,580   | 1,820   | 1,560  |
| 8     | 1,190  | 1,140  | 599    | 440    | 982    | 1,260  | 1,390  | 1,840   | 1,980   | 1,700   | 1,770   | 1,370  |
| 9     | 1,150  | 1,070  | 521    | 523    | 816    | 1,070  | 1,650  | 1,770   | 1,600   | 1,870   | 1,780   | 1,530  |
| 10    | 1,260  | 846    | 687    | 839    | 575    | 760    | 1,660  | 1,900   | 1,980   | 1,820   | 1,380   | 1,620  |
| 11    | 1,480  | 677    | 800    | 1,110  | 1,040  | 1,030  | 2,100  | 1,780   | 2,090   | 1,840   | 1,200   | 1,700  |
| 12    | 1,180  | 780    | 768    | 908    | 1,030  | 1,220  | 1,550  | 1,320   | 1,970   | 2,000   | 1,570   | 1,700  |
| 13    | 1,170  | 913    | 725    | 760    | 1,160  | 1,230  | 1,290  | 1,780   | 1,880   | 1,960   | 1,950   | 1,660  |
| 14    | 986    | 884    | 698    | 1,140  | 1,070  | 1,080  | 1,020  | 1,940   | 1,920   | 1,670   | 1,920   | 1,570  |
| 15    | 1,180  | 812    | 654    | 796    | 936    | 1,200  | 1,550  | 1,890   | 1,620   | 1,830   | 1,910   | 1,290  |
| 16    | 1,460  | 702    | 548    | 493    | 880    | 1,310  | 1,560  | 1,740   | 1,350   | 2,010   | 1,880   | 1,550  |
| 17    | 1,520  | 721    | 766    | 518    | 605    | 925    | 1,600  | 1,880   | 1,770   | 2,020   | 1,680   | 1,600  |
| 18    | 1,550  | 758    | 662    | 723    | 806    | 1,280  | 1,600  | 1,900   | 1,920   | 1,840   | 1,400   | 913    |
| 19    | 1,800  | 717    | 512    | 1,050  | 974    | 1,290  | 1,430  | 1,650   | 1,910   | 1,900   | 1,720   | 774    |
| 20    | 1,660  | 772    | 430    | 770    | 994    | 1,280  | 1,340  | 1,780   | 1,940   | 1,860   | 1,800   | 696    |
| 21    | 62     | 762    | 507    | 1,110  | 919    | 1,160  | 1,270  | 1,970   | 2,000   | 1,630   | 1,840   | 812    |
| 22    | 4      | 723    | 476    | 636    | 904    | 1,090  | 1,460  | 2,050   | 1,930   | 1,700   | 1,720   | 668    |
| 23    | 4      | 641    | 368    | 748    | 756    | 1,010  | 1,550  | 1,910   | 1,470   | 1,840   | 1,820   | 828    |
| 24    | 4      | 772    | 395    | 590    | 495    | 766    | 1,550  | 1,880   | 1,880   | 1,880   | 1,620   | 1,210  |
| 25    | 3      | 674    | 691    | 624    | 1,120  | 1,360  | 1,400  | 1,610   | 1,970   | 1,900   | 1,410   | 1,350  |
| 26    | 1      | 1,010  | 997    | 611    | 1,160  | 1,550  | 1,440  | 1,270   | 1,960   | 1,930   | 1,670   | 1,410  |
| 27    | 4      | 950    | 1,090  | 474    | 1,250  | 1,550  | 1,250  | 1,860   | 1,910   | 1,920   | 1,750   | 1,440  |
| 28    | 4      | 1,030  | 803    | 662    | 1,270  | 1,250  | 1,040  | 1,930   | 1,870   | 1,720   | 1,790   | 1,370  |
| 29    | 99     | 894    | 599    | 566    | -      | 1,210  | 1,620  | 1,970   | 1,760   | 1,770   | 1,820   | 1,210  |
| 30    | 1,200  | 864    | 605    | 496    | -----  | 1,110  | 1,690  | 1,970   | 1,540   | 1,880   | 1,820   | 1,450  |
| 31    | 1,340  | -----  | 439    | 486    | -----  | 955    | -----  | 2,060   | -----   | 1,950   | 1,800   | -----  |
| Total | 28,341 | 28,802 | 19,816 | 19,492 | 24,678 | 36,701 | 43,490 | 54,310  | 56,180  | 57,180  | 53,910  | 41,151 |
| Mean  | 914    | 960    | 639    | 629    | 881    | 1,184  | 1,450  | 1,752   | 1,873   | 1,845   | 1,739   | 1,372  |
| Ac-ft | 56,210 | 57,130 | 39,300 | 38,660 | 48,950 | 72,800 | 86,260 | 107,700 | 111,400 | 113,400 | 106,900 | 81,620 |

Calendar year 1962: Max 1,900 Min 1 Mean 1,216 Ac-ft 880,200  
 Water year 1962-63: Max 2,100 Min 1 Mean 1,271 Ac-ft 920,300

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

9-5230. All-American Canal near Imperial Dam, Ariz.-Calif.

Location.--Lat 32°52'15", long 114°28'50", in SE $\frac{1}{4}$  NW $\frac{1}{4}$  sec.17, T.15 S., R.24 E., San Bernardino meridian, on left bank 6,000 ft downstream from intake at west end of Imperial Dam and 13 $\frac{1}{2}$  miles upstream from turnout to Yuma Main Canal.

Records available.--October 1938 to September 1963. Monthly discharge only prior to October 1939, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 150.00 ft above mean sea level, datum of 1929 (subject to undetermined changes caused by earthquake of May 18, 1940). Since Aug. 21, 1952, auxiliary water-stage recorder 18 $\frac{1}{2}$  miles downstream from base gage.

Average discharge.--22 years (1941-63), 7,234 cfs (5,237,000 acre-ft per year).

Extremes.--1938-63: Maximum daily discharge, 13,500 cfs Apr. 16, 1958; no flow at times in several years.

Remarks.--Records excellent. Discharge measurements generally made weekly. 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.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 6.770   | 4.860   | 3.830   | 2.430   | 3.870   | 7.380   | 9.540   | 7.760   | 8.090   | 9.870   | 11.300  | 8.030   |
| 2     | 6.830   | 6.020   | 3.810   | 2.640   | 3.950   | 7.490   | 9.440   | 8.060   | 7.950   | 9.360   | 11.400  | 7.960   |
| 3     | 7.340   | 7.590   | 3.520   | 3.060   | 3.620   | 7.340   | 9.850   | 7.950   | 7.950   | 9.300   | 11.200  | 7.990   |
| 4     | 7.800   | 8.990   | 3.540   | 3.150   | 3.590   | 7.260   | 10.500  | 7.570   | 8.170   | 9.320   | 10.600  | 8.320   |
| 5     | 7.400   | 10.200  | 3.600   | 1.930   | 3.650   | 7.280   | 10.600  | 7.610   | 8.360   | 9.310   | 10.500  | 8.560   |
| 6     | 7.280   | 11.000  | 3.660   | 1.600   | 4.040   | 8.050   | 10.600  | 7.290   | 8.500   | 9.360   | 10.600  | 8.370   |
| 7     | 6.980   | 10.600  | 3.720   | 1.930   | 4.390   | 8.170   | 10.400  | 7.310   | 8.490   | 9.370   | 11.000  | 8.290   |
| 8     | 6.730   | 8.120   | 3.350   | 2.110   | 5.070   | 8.630   | 10.000  | 7.860   | 8.520   | 9.620   | 11.300  | 7.880   |
| 9     | 6.190   | 5.560   | 3.100   | 2.460   | 5.100   | 8.590   | 9.750   | 7.750   | 8.440   | 9.620   | 11.100  | 7.880   |
| 10    | 6.340   | 5.260   | 3.190   | 3.060   | 5.440   | 8.360   | 9.960   | 7.480   | 8.060   | 9.860   | 10.300  | 8.090   |
| 11    | 6.830   | 5.020   | 3.370   | 3.680   | 5.370   | 8.090   | 9.860   | 7.460   | 8.500   | 10.000  | 9.810   | 8.320   |
| 12    | 6.150   | 5.260   | 3.420   | 3.730   | 4.800   | 7.980   | 10.400  | 7.400   | 8.880   | 9.960   | 9.540   | 8.570   |
| 13    | 6.070   | 5.220   | 3.470   | 4.270   | 4.400   | 8.010   | 10.400  | 7.280   | 8.940   | 9.670   | 9.880   | 8.650   |
| 14    | 5.770   | 5.130   | 3.310   | 4.170   | 4.470   | 7.880   | 9.870   | 7.520   | 8.620   | 9.860   | 10.200  | 8.620   |
| 15    | 5.550   | 4.860   | 3.290   | 4.840   | 4.730   | 7.980   | 9.340   | 7.580   | 8.520   | 10.100  | 10.100  | 8.890   |
| 16    | 5.180   | 4.490   | 3.160   | 5.570   | 5.080   | 7.800   | 8.920   | 7.560   | 8.200   | 10.000  | 9.960   | 8.700   |
| 17    | 5.230   | 4.310   | 3.020   | 5.470   | 5.010   | 8.470   | 8.320   | 7.360   | 8.140   | 10.100  | 10.200  | 8.700   |
| 18    | 5.620   | 3.860   | 3.030   | 4.540   | 4.730   | 8.920   | 7.850   | 7.270   | 8.430   | 10.200  | 10.900  | 11.500  |
| 19    | 5.230   | 3.940   | 3.640   | 4.410   | 4.870   | 9.390   | 7.470   | 6.980   | 8.740   | 10.500  | 9.690   | 10.700  |
| 20    | 5.080   | 3.970   | 3.510   | 4.610   | 5.360   | 8.910   | 7.440   | 6.820   | 9.220   | 10.500  | 8.700   | 8.300   |
| 21    | 4.910   | 4.080   | 2.420   | 4.990   | 5.770   | 8.390   | 7.390   | 6.870   | 8.990   | 10.500  | 8.730   | 5.960   |
| 22    | 4.750   | 4.140   | 1.760   | 5.040   | 5.490   | 8.420   | 7.410   | 7.310   | 9.420   | 10.700  | 8.990   | 5.670   |
| 23    | 4.650   | 4.240   | 1.680   | 5.240   | 5.580   | 8.700   | 7.720   | 7.390   | 9.830   | 10.700  | 9.000   | 5.510   |
| 24    | 4.600   | 4.050   | 1.520   | 5.630   | 6.150   | 9.010   | 7.870   | 7.190   | 10.300  | 10.700  | 8.820   | 5.510   |
| 25    | 4.720   | 3.740   | 1.390   | 5.060   | 6.280   | 9.110   | 8.060   | 7.210   | 10.600  | 10.800  | 8.590   | 5.620   |
| 26    | 4.890   | 3.500   | 1.710   | 4.160   | 6.610   | 8.780   | 7.850   | 7.540   | 11.100  | 10.800  | 8.650   | 5.450   |
| 27    | 4.660   | 3.550   | 2.110   | 4.000   | 7.130   | 8.940   | 8.060   | 7.540   | 11.100  | 10.700  | 8.910   | 5.430   |
| 28    | 4.320   | 3.610   | 2.300   | 3.980   | 7.470   | 9.080   | 7.980   | 7.510   | 10.800  | 10.400  | 8.780   | 6.100   |
| 29    | 4.350   | 3.570   | 2.180   | 4.490   | -       | 9.320   | 7.690   | 7.880   | 10.300  | 10.400  | 8.590   | 6.830   |
| 30    | 4.530   | 3.730   | 2.210   | 4.350   | -----   | 9.370   | 7.520   | 7.860   | 10.000  | 10.500  | 8.440   | 6.990   |
| 31    | 4.590   | -----   | 2.380   | 4.090   | -----   | 9.580   | -----   | 8.170   | -----   | 10.800  | 8.300   | -----   |
| Total | 177,340 | 162,470 | 90,200  | 120,690 | 142,020 | 260,680 | 268,060 | 232,340 | 271,160 | 312,880 | 304,080 | 231,390 |
| Mean  | 5,721   | 5,416   | 2,910   | 3,893   | 5,072   | 8,409   | 8,935   | 7,495   | 9,039   | 10,090  | 9,809   | 7,713   |
| Ac-ft | 351,700 | 322,300 | 178,900 | 239,400 | 281,700 | 517,100 | 531,700 | 460,800 | 537,800 | 620,600 | 603,100 | 459,000 |

Calendar year 1962: Max 11,000 Min 1,390 Mean 7,000 Ac-ft 5,068,000

Water year 1962-63: Max 11,500 Min 1,390 Mean 7,050 Ac-ft 5,104,000



DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

27

9-5265. All-American Canal above Pilot Knob wasteway, Calif.

Location.--Lat 32°45'00", long 114°42'20", in NW¼SE¼ sec.24, T.16 S., R.21 E., San Bernardino meridian, near right bank on downstream side of pier of bridge on U. S. Highway 80, 1.1 miles upstream from Pilot Knob wasteway, 5 miles downstream from turnout to Yuma Main Canal, 5½ miles northwest of Yuma, and 19½ miles downstream from intake at Imperial Dam.

Records available.--October 1938 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 150.00 ft above mean sea level, datum of 1929. Prior to Oct. 3, 1961, at datum 1.48 ft lower. Auxiliary water-stage recorder, in NE¼NW¼ sec.15, T.16 S., R.22 E., on wash overshoot structure 4.4 miles upstream at same datum.

Average discharge.--22 years (1941-63), 5,351 cfs (3,874,000 acre-ft per year).

Extremes.--1938-63: Maximum daily discharge, 11,400 cfs Apr. 28, 1958; no flow (since continuous operation of canal began Sept. 18, 1940) Dec. 17-20, 1940.

Remarks.--Records excellent. Discharge measurements generally made once a week. First flow in All-American Canal at this point began Feb. 5, 1939. Water is used for power development, irrigation in Coachella and Imperial Valleys, and can be released back to Colorado River through Pilot Knob powerplant and wasteway for power, for regulatory purposes, or downstream use in Mexico.

Cooperation.--Gage-height record furnished by Imperial Irrigation District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 5.830   | 3.910   | 2.840   | 2.030   | 2.830   | 6.460   | 9.070   | 6.020   | 7.160   | 8.990   | 9.940   | 7.260   |
| 2     | 5.820   | 5.020   | 2.720   | 2.030   | 2.540   | 6.820   | 8.710   | 6.100   | 7.090   | 8.260   | 10.200  | 7.100   |
| 3     | 6.020   | 6.490   | 2.950   | 2.320   | 2.210   | 6.910   | 8.950   | 6.040   | 7.080   | 8.150   | 10.000  | 7.030   |
| 4     | 6.440   | 7.950   | 3.070   | 2.760   | 2.670   | 6.620   | 9.500   | 5.910   | 7.290   | 8.150   | 9.670   | 7.330   |
| 5     | 6.290   | 9.300   | 3.190   | 1.740   | 2.970   | 6.580   | 9.730   | 5.900   | 7.450   | 8.220   | 9.710   | 7.770   |
| 6     | 6.270   | 10.200  | 3.080   | 1.780   | 3.330   | 7.150   | 9.750   | 5.700   | 7.780   | 8.240   | 9.920   | 7.590   |
| 7     | 6.020   | 9.890   | 3.220   | 2.000   | 3.450   | 6.970   | 9.580   | 5.750   | 7.630   | 8.310   | 10.200  | 7.500   |
| 8     | 5.710   | 7.370   | 2.740   | 2.210   | 4.010   | 7.420   | 9.300   | 6.050   | 7.590   | 8.620   | 10.200  | 7.230   |
| 9     | 5.260   | 4.760   | 2.480   | 2.380   | 4.090   | 7.680   | 9.030   | 5.980   | 7.580   | 8.550   | 10.200  | 7.070   |
| 10    | 5.330   | 4.510   | 2.630   | 3.070   | 4.390   | 7.490   | 9.160   | 6.230   | 7.110   | 8.770   | 9.410   | 7.160   |
| 11    | 5.700   | 4.230   | 2.630   | 3.250   | 4.400   | 7.310   | 9.050   | 6.310   | 7.490   | 8.930   | 8.870   | 6.690   |
| 12    | 5.020   | 4.450   | 2.750   | 3.290   | 3.910   | 7.100   | 9.600   | 6.070   | 7.830   | 8.910   | 8.460   | 6.700   |
| 13    | 4.920   | 4.440   | 2.750   | 3.770   | 3.500   | 7.160   | 9.650   | 5.900   | 7.860   | 8.630   | 8.780   | 6.640   |
| 14    | 4.780   | 4.330   | 2.750   | 3.580   | 3.650   | 7.020   | 9.270   | 6.140   | 7.520   | 8.780   | 9.100   | 6.630   |
| 15    | 4.690   | 4.140   | 2.750   | 4.220   | 3.810   | 7.180   | 8.780   | 6.200   | 7.580   | 9.030   | 9.070   | 6.940   |
| 16    | 4.390   | 3.570   | 2.750   | 4.990   | 3.890   | 6.870   | 8.370   | 6.250   | 7.230   | 8.800   | 8.930   | 6.660   |
| 17    | 4.280   | 3.350   | 2.490   | 4.880   | 4.030   | 7.690   | 7.680   | 6.030   | 7.120   | 8.810   | 9.380   | 6.800   |
| 18    | 4.630   | 3.240   | 2.490   | 4.100   | 4.160   | 8.180   | 7.120   | 6.110   | 7.320   | 8.870   | 10.500  | 10.200  |
| 19    | 4.290   | 3.350   | 3.100   | 3.910   | 4.290   | 8.750   | 6.660   | 6.050   | 7.560   | 9.220   | 9.060   | 10.600  |
| 20    | 4.280   | 3.360   | 2.970   | 4.210   | 4.510   | 8.090   | 6.740   | 5.770   | 8.090   | 9.330   | 7.810   | 7.750   |
| 21    | 4.090   | 3.460   | 1.870   | 4.490   | 4.750   | 7.270   | 6.630   | 5.730   | 7.830   | 9.390   | 7.730   | 5.290   |
| 22    | 3.900   | 3.360   | 1.450   | 4.490   | 4.630   | 7.380   | 6.500   | 6.110   | 8.350   | 9.480   | 7.750   | 5.010   |
| 23    | 3.710   | 3.360   | 1.680   | 4.570   | 4.720   | 7.690   | 6.820   | 6.240   | 8.820   | 9.410   | 7.990   | 4.940   |
| 24    | 3.520   | 3.140   | 1.210   | 4.880   | 4.760   | 8.030   | 6.630   | 6.060   | 9.300   | 9.330   | 7.940   | 4.910   |
| 25    | 3.630   | 3.030   | 1.210   | 4.390   | 4.660   | 8.060   | 6.210   | 6.060   | 9.600   | 9.410   | 7.750   | 4.800   |
| 26    | 4.100   | 2.680   | 1.450   | 3.440   | 4.870   | 7.760   | 6.530   | 5.910   | 10.200  | 9.510   | 7.710   | 4.700   |
| 27    | 3.790   | 2.440   | 1.860   | 3.090   | 5.420   | 7.790   | 6.400   | 5.810   | 10.100  | 9.430   | 8.020   | 4.700   |
| 28    | 3.710   | 2.580   | 1.860   | 3.090   | 5.910   | 8.030   | 6.200   | 5.920   | 9.890   | 9.350   | 8.070   | 5.370   |
| 29    | 3.720   | 2.820   | 1.860   | 3.460   | -       | 8.310   | 6.060   | 6.130   | 9.280   | 9.220   | 8.010   | 5.940   |
| 30    | 3.810   | 2.820   | 1.840   | 3.230   | -----   | 8.410   | 5.870   | 6.130   | 9.120   | 9.280   | 7.820   | 5.960   |
| 31    | 3.900   | -----   | 2.030   | 3.220   | -----   | 8.890   | -----   | 7.140   | -----   | 9.520   | 7.590   | -----   |
| Total | 147,850 | 137,550 | 74,670  | 104,870 | 112,360 | 233,070 | 239,550 | 187,750 | 241,850 | 276,900 | 275,790 | 200,270 |
| Mean  | 4,769   | 4,585   | 2,409   | 3,383   | 4,013   | 7,518   | 7,985   | 6,056   | 8,062   | 8,932   | 8,896   | 6,676   |
| Ac-ft | 293,300 | 272,800 | 148,100 | 208,000 | 222,900 | 462,300 | 475,100 | 372,400 | 479,700 | 549,200 | 547,000 | 397,200 |

Calendar year 1962: Max 10,200 Min 1,210 Mean 6,106 Ac-ft 4,421,000  
 Water year 1962-63: Max 10,600 Min 1,210 Mean 6,116 Ac-ft 4,428,000

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

9-5270. Pilot Knob powerplant and wasteway near Pilot Knob, Calif.

Location.--Lat 32°44'15", long 114°42'55", in NW¼SW¼ sec.25, T.16 S., R.21 E., San Bernardino meridian, 2 miles east of summit of Pilot Knob, 6 miles west of Yuma, Ariz., and 20.8 miles downstream from intake of All-American Canal at Imperial Dam.

Records available.--February 1939 to September 1963. Prior to October 1943, monthly discharge only, published in WSP 1313. Prior to October 1956, published as Pilot Knob wasteway near Pilot Knob.

Gage.--Water-stage recorder on right bank of All-American Canal, 550 ft upstream from wasteway gates and 1,800 ft from entrance to powerplant (also used as auxiliary gage for station 9-5275, All-American Canal below Pilot Knob wasteway). Datum of gage is 150.00 ft (corrected) above mean sea level, datum of 1929. Tailrace gage is on left bank 680 ft downstream from powerplant, with automatic recording equipment in control house. All bypass gates are equipped with calibrated openings, which are read on all gate changes. Datum of tailrace is at mean sea level, datum of 1929. Elevation of sill of wasteway gates is 147.88 ft, datum of 1929.

Extremes.--1939-63: Maximum daily discharge, 8,350 cfs Jan. 26, 1958; no flow for long periods.

Remarks.--Records excellent. Daily discharge computed from flowmeter equipment and head and openings on wasteway gates or from head and gate openings on wicket and wasteway gates. Discharge measurements generally made three times a month during flow. 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.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.   | Dec.  | Jan.   | Feb.  | Mar.    | Apr.    | May   | June    | July    | Aug.    | Sept.  |
|-------|------|--------|-------|--------|-------|---------|---------|-------|---------|---------|---------|--------|
| 1     |      | 0      | 0     | 0      | 0     | 1,020   | 2,320   | 0     | 1,090   | 2,440   | 2,710   | 1,120  |
| 2     |      | 1,060  | 0     | 0      | 0     | 1,070   | 2,540   | 0     | 1,020   | 2,000   | 2,960   | 1,160  |
| 3     |      | 2,680  | 0     | 401    | 0     | 1,080   | 2,690   | 0     | 996     | 1,580   | 2,970   | 1,120  |
| 4     |      | 4,190  | 0     | 1,260  | 0     | 1,090   | 2,750   | 0     | 1,030   | 1,520   | 2,960   | 1,220  |
| 5     |      | 5,360  | 0     | 146    | 0     | 1,110   | 3,000   | 0     | 1,100   | 1,600   | 3,180   | 1,530  |
| 6     |      | 6,180  | 0     | 0      | 0     | 1,710   | 3,010   | 0     | 1,100   | 1,600   | 3,300   | 1,440  |
| 7     |      | 6,120  | 0     | 0      | 0     | 1,350   | 3,340   | 0     | 1,100   | 1,600   | 3,680   | 1,280  |
| 8     |      | 3,670  | 0     | 0      | 0     | 1,800   | 3,140   | 0     | 1,100   | 1,810   | 3,870   | 1,240  |
| 9     |      | 1,270  | 0     | 0      | 0     | 1,880   | 2,940   | 0     | 1,100   | 1,770   | 4,140   | 1,020  |
| 10    |      | 1,020  | 0     | 0      | 0     | 1,910   | 2,900   | 0     | 1,100   | 1,810   | 2,840   | 1,020  |
| 11    |      | 1,040  | 0     | 0      | 20    | 1,970   | 2,550   | 0     | 1,740   | 1,840   | 2,860   | 339    |
| 12    |      | 1,180  | 0     | 0      | 1,000 | 1,900   | 3,040   | 0     | 2,000   | 1,770   | 2,410   | 0      |
| 13    |      | 1,010  | 0     | 0      | 537   | 1,590   | 3,460   | 0     | 2,000   | 1,780   | 2,400   | 0      |
| 14    |      | 1,010  | 0     | 0      | 0     | 1,180   | 3,310   | 0     | 1,720   | 2,000   | 2,430   | 0      |
| 15    |      | 524    | 0     | 0      | 0     | 995     | 2,860   | 0     | 1,700   | 2,190   | 2,380   | 0      |
| 16    |      | 0      | 0     | 908    | 0     | 1,240   | 2,580   | 0     | 1,430   | 2,070   | 2,340   | 0      |
| 17    |      | 0      | 0     | 1,120  | 0     | 1,700   | 1,980   | 0     | 1,200   | 2,070   | 2,700   | 654    |
| 18    |      | 0      | 0     | 544    | 0     | 2,570   | 1,690   | 0     | 1,100   | 2,090   | 3,640   | 6,980  |
| 19    |      | 0      | 1,410 | 0      | 0     | 3,270   | 1,310   | 0     | 1,050   | 2,360   | 2,790   | 5,060  |
| 20    |      | 0      | 1,830 | 0      | 0     | 3,110   | 1,110   | 0     | 1,400   | 2,420   | 2,120   | 2,800  |
| 21    |      | 0      | 721   | 0      | 0     | 1,990   | 1,090   | 0     | 1,380   | 2,430   | 1,910   | 1,060  |
| 22    |      | 0      | 0     | 0      | 0     | 1,970   | 1,060   | 0     | 1,770   | 2,530   | 1,780   | 1,030  |
| 23    |      | 0      | 0     | 567    | 0     | 2,010   | 1,200   | 0     | 2,200   | 2,480   | 1,700   | 1,020  |
| 24    |      | 0      | 0     | 1,320  | 0     | 2,020   | 661     | 0     | 2,550   | 2,420   | 1,420   | 1,020  |
| 25    |      | 0      | 0     | 1,120  | 0     | 1,970   | 0       | 0     | 2,950   | 2,450   | 1,220   | 664    |
| 26    |      | 0      | 0     | 297    | 0     | 1,900   | 0       | 0     | 3,360   | 2,350   | 1,280   | 0      |
| 27    |      | 0      | 0     | 0      | 0     | 1,720   | 0       | 0     | 3,220   | 2,240   | 1,620   | 0      |
| 28    |      | 0      | 0     | 0      | 334   | 1,740   | 0       | 0     | 2,880   | 2,220   | 1,660   | 0      |
| 29    |      | 0      | 0     | 0      | -     | 1,950   | 0       | 0     | 2,450   | 2,180   | 1,440   | 0      |
| 30    |      | 0      | 0     | 0      | -     | 1,880   | 0       | 0     | 2,350   | 2,190   | 1,350   | 0      |
| 31    |      | -----  | 0     | 0      | ----- | 2,070   | -----   | 1,100 | -----   | 2,420   | 1,290   | -----  |
| Total | 0    | 36,314 | 3,961 | 7,683  | 1,891 | 54,765  | 56,531  | 1,100 | 51,186  | 64,230  | 75,350  | 32,777 |
| Mean  | 0    | 1,210  | 128   | 248    | 67.5  | 1,767   | 1,884   | 35.5  | 1,706   | 2,072   | 2,431   | 1,093  |
| Ac-ft | 0    | 72,030 | 7,860 | 15,240 | 3,750 | 108,600 | 112,100 | 2,180 | 101,500 | 127,400 | 149,500 | 65,010 |
| (t)   | 0    | 0      | 0     | 0      | 0     | 0       | 69      | 0     | 0       | 0       | 0       | 69     |

Calendar year 1962: Max 6,180 Min 0 Mean 1,097 Ac-ft 794,400 † 486  
 Water year 1962-63: Max 6,980 Min 0 Mean 1,057 Ac-ft 765,200 † 138

† Return flow, in acre-feet, by Pilot Knob wasteway (also included in daily discharge table).

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

29

9-5275. All-American Canal below Pilot Knob wasteway, Calif.

Location.--Lat 32°44'05", long 114°43'25", in NW 1/4 sec. 26, T.16 S., R.21 E., San Bernardino meridian, on left bank 0.4 mile downstream from Pilot Knob wasteway, 6 1/2 miles west of Yuma, Ariz., 15 miles upstream from turnout to Coachella Canal, and 21.2 miles downstream from intake at Imperial Dam.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 150.00 ft above mean sea level, datum of 1929. Auxiliary water-stage recorder on right bank 0.4 mile upstream, used to determine head on Pilot Knob check gates (also used as forebay gage for sta 9-5270, Pilot Knob powerplant and wasteway). Datum of auxiliary gage is 150.00 ft above mean sea level, datum of 1929.

Extremes.--1961-63: Maximum daily discharge, 7,220 cfs July 12, 1963; minimum daily, 798 cfs Dec. 15, 1961.

Remarks.--Records excellent. Discharge measurements generally made once a week. 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.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 5.770   | 3.860   | 2.800   | 2.090   | 2.750   | 5.290   | 6.320   | 6.000   | 5.920   | 6.410   | 7.170   | 6.140   |
| 2     | 5.810   | 3.890   | 2.850   | 2.090   | 2.660   | 5.190   | 6.160   | 6.210   | 5.980   | 6.340   | 7.040   | 5.990   |
| 3     | 5.980   | 3.830   | 2.970   | 1.970   | 2.370   | 5.330   | 6.350   | 6.180   | 5.980   | 6.610   | 6.930   | 5.900   |
| 4     | 6.020   | 3.810   | 3.040   | 1.520   | 2.610   | 5.430   | 6.690   | 5.910   | 6.170   | 6.700   | 6.690   | 6.100   |
| 5     | 6.170   | 3.870   | 3.060   | 1.530   | 2.770   | 5.360   | 6.750   | 5.900   | 6.150   | 6.680   | 6.490   | 6.120   |
| 6     | 6.170   | 3.830   | 3.050   | 1.490   | 3.050   | 5.340   | 6.780   | 5.660   | 6.280   | 6.740   | 6.460   | 6.090   |
| 7     | 5.930   | 3.680   | 3.100   | 1.810   | 3.380   | 5.600   | 6.340   | 5.630   | 6.360   | 6.770   | 6.280   | 6.240   |
| 8     | 5.690   | 3.770   | 2.820   | 1.930   | 3.890   | 5.690   | 6.120   | 5.900   | 6.480   | 6.820   | 6.020   | 6.000   |
| 9     | 5.170   | 3.640   | 2.660   | 2.180   | 3.990   | 5.520   | 5.990   | 6.000   | 6.520   | 6.880   | 5.810   | 6.110   |
| 10    | 5.330   | 3.550   | 2.670   | 2.420   | 4.400   | 5.510   | 6.200   | 6.000   | 6.110   | 6.990   | 6.340   | 6.190   |
| 11    | 5.860   | 3.390   | 2.800   | 3.090   | 4.430   | 5.260   | 6.550   | 5.970   | 5.840   | 7.120   | 6.010   | 6.310   |
| 12    | 5.230   | 3.420   | 2.830   | 3.210   | 3.060   | 5.280   | 6.550   | 6.120   | 5.940   | 7.220   | 6.090   | 6.640   |
| 13    | 5.040   | 3.460   | 2.870   | 3.630   | 3.050   | 5.560   | 6.180   | 5.940   | 5.960   | 6.970   | 6.340   | 6.670   |
| 14    | 4.760   | 3.310   | 2.720   | 3.530   | 3.510   | 5.820   | 5.860   | 6.080   | 5.950   | 6.940   | 6.560   | 6.650   |
| 15    | 4.600   | 3.510   | 2.750   | 4.090   | 3.550   | 5.950   | 5.750   | 6.120   | 5.950   | 6.930   | 6.570   | 6.880   |
| 16    | 4.310   | 3.350   | 2.630   | 4.000   | 3.890   | 5.710   | 5.430   | 6.220   | 5.940   | 6.870   | 6.520   | 6.660   |
| 17    | 4.210   | 3.340   | 2.430   | 3.760   | 4.120   | 5.990   | 5.350   | 6.070   | 5.990   | 6.880   | 6.470   | 6.230   |
| 18    | 4.430   | 3.250   | 2.510   | 3.470   | 4.060   | 5.790   | 5.250   | 6.130   | 6.300   | 6.930   | 6.320   | 3.260   |
| 19    | 4.280   | 3.300   | 1.810   | 3.900   | 4.130   | 5.420   | 5.250   | 5.970   | 6.550   | 6.930   | 6.230   | 5.130   |
| 20    | 4.160   | 3.340   | 1.290   | 4.160   | 4.380   | 4.920   | 5.400   | 5.740   | 6.680   | 6.920   | 5.870   | 4.900   |
| 21    | 4.030   | 3.380   | 1.350   | 4.410   | 4.640   | 5.300   | 5.540   | 5.690   | 6.470   | 6.990   | 5.930   | 4.390   |
| 22    | 3.890   | 3.360   | 1.390   | 4.410   | 4.500   | 5.360   | 5.510   | 6.020   | 6.550   | 6.980   | 6.100   | 4.090   |
| 23    | 3.760   | 3.340   | 1.380   | 3.980   | 4.560   | 5.590   | 5.650   | 6.210   | 6.650   | 6.980   | 6.280   | 3.940   |
| 24    | 3.650   | 3.100   | 1.150   | 3.680   | 4.670   | 5.940   | 6.010   | 6.060   | 6.770   | 6.980   | 6.490   | 3.870   |
| 25    | 3.720   | 2.990   | 1.190   | 3.280   | 4.640   | 6.060   | 6.270   | 6.050   | 6.670   | 6.980   | 6.500   | 4.290   |
| 26    | 3.890   | 2.670   | 1.450   | 3.170   | 4.870   | 5.800   | 6.240   | 5.990   | 6.700   | 7.120   | 6.410   | 4.790   |
| 27    | 3.760   | 2.400   | 1.660   | 3.190   | 5.400   | 6.070   | 6.350   | 5.850   | 6.810   | 7.150   | 6.310   | 4.790   |
| 28    | 3.620   | 2.600   | 1.830   | 2.970   | 5.590   | 6.200   | 6.350   | 5.770   | 6.910   | 7.060   | 6.270   | 5.370   |
| 29    | 3.750   | 2.720   | 1.660   | 3.400   | -       | 6.290   | 6.100   | 6.060   | 6.860   | 7.040   | 6.400   | 5.970   |
| 30    | 3.820   | 2.810   | 1.760   | 3.210   | -----   | 6.460   | 5.880   | 6.080   | 6.780   | 7.090   | 6.320   | 5.950   |
| 31    | 3.740   | -----   | 1.860   | 3.190   | -----   | 6.720   | -----   | 6.000   | -----   | 7.090   | 6.290   | -----   |
| Total | 146,550 | 100,770 | 70,340  | 94,760  | 108,920 | 175,750 | 181,170 | 185,530 | 190,220 | 214,110 | 197,510 | 167,660 |
| Mean  | 4,727   | 3,359   | 2,269   | 3,057   | 3,890   | 5,669   | 6,039   | 5,985   | 6,341   | 6,907   | 6,371   | 5,589   |
| Ac-ft | 290,700 | 199,900 | 139,500 | 188,000 | 216,000 | 348,600 | 359,300 | 368,000 | 377,300 | 424,700 | 391,800 | 332,500 |

Calendar year 1962: Max 7,010 Min 1,150 Mean 4,942 Ac-ft 3,578,000  
 Water year 1962-63: Max 7,220 Min 1,150 Mean 5,023 Ac-ft 3,636,000

## Return surface flows below Imperial Dam, Ariz.-Calif.

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 (9-5205). 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 9-5225). Diversions for the Yuma project in Arizona and California are made at Imperial Dam by the All-American Canal (see sta 9-5230) and from the Yuma Main Canal.

9-5270. Pilot Knob powerplant and wasteway.--See daily table elsewhere in this report.

9-5286. 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., 1,000 ft downstream from Laguna Dam and three-quarters of a mile upstream from outlet to Colorado River.

Records available.--Monthly discharge October 1960 to September 1963.

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

Cooperation.--Record furnished by Bureau of Reclamation.

9-5288. 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., 1,000 ft upstream from outlet to Colorado River.

Records available.--Monthly discharge October 1960 to September 1963.

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

Cooperation.--Record furnished by Bureau of Reclamation.

9-5290. North Gila Drain No. 1.

Location.--Enters Colorado River in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.9, T.8 S., R.22 W.,  $5\frac{1}{2}$  miles downstream from Laguna Dam.

Records available.--Monthly discharge October 1960 to September 1963.

Remarks.--Record shows waste water from North Gila Valley Irrigation and Drainage District returned to Colorado River. There is no gage but, due to fairly constant drainage, flow record is computed by interpolation between discharge measurements, which are made on a weekly basis at bridge 1,000 ft above outlet.

Cooperation.--Record furnished by Bureau of Reclamation.

9-5290.5 North Gila Drain No. 3.

Location.--Enters Gila River in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.18, T.8 S., R.21 W., 10 miles upstream from mouth.

Records available.--Monthly discharge April 1962 to September 1963.

Remarks.--Record shows seepage from Gila Gravity Main Canal. There is no gage; records are computed by interpolation between discharge measurements made five to six times a year.

Cooperation.--Record furnished by Bureau of Reclamation.

9-5291. Fortuna wasteway.

Location.--Water-stage recorder and sharp-crested weir, in NE $\frac{1}{4}$  sec.30, T.8 S., R.21 W.,  $1\frac{1}{4}$  miles upstream from outlet to Gila River.

Records available.--Monthly discharge October 1960 to September 1963.

Remarks.--Record shows waste water spilled from Gila Gravity Main Canal; flow rarely reaches Gila River. Flow record computed from standard weir rating.

Cooperation.--Record furnished by Bureau of Reclamation.

## Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

## 9-5291.5 North Gila Main Canal wasteway.

Location.--Water-stage recorder and sharp-crested weir, in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.15, T.8 S., R.22 W., 1 mile upstream from outlet to Gila River.

Records available.--Monthly discharge October 1960 to September 1963.

Remarks.--Record shows waste water from North Gila Valley Irrigation and Drainage District less flow diverted for irrigation between gage and Gila River. Flow record computed from standard weir rating occasionally checked by discharge measurements.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5292. Bruce Church Drain.

Location.--Pump in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.21, T.8 S., R.22 W., a quarter of a mile upstream from outlet to Gila River.

Records available.--Monthly discharge April 1962 to September 1963.

Remarks.--Record shows seepage water from parts of secs. 15, 16, and 21 (Bruce Church Ranch). Flow determined from pump rating.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5292.5. 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 W., 500 ft upstream from outlet to Gila River.

Records available.--Monthly discharge October 1960 to September 1963.

Remarks.--Record shows waste water from North Gila Valley Irrigation and Drainage District returned to Gila River.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5293. Wellton-Mohawk Main Outlet Drain.

Location.--Water-stage recorder in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.17, T.8 S., R.21 W., 8 miles upstream from outlet to Gila River, which is half a mile upstream from mouth of Gila River. Prior to Feb. 20, 1962, gage heights measured from reference point on measuring bridge.

Records available.--Monthly discharge October 1960 to September 1963.

Remarks.--Record shows water pumped from numerous wells in Wellton-Mohawk Irrigation and Drainage District to lower the water table. Drainage is conveyed by concrete and earth channels to Gila River. Flow records computed from discharge measurements made on a weekly basis.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5293.3. South Gila Pump Outlet Channel No. 2.

Location.--Sparling total-flow meter, in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.28, T.8 S., R.22 W., at outlet to Wellton-Mohawk Main Outlet Drain.

Records available.--Monthly discharge January 1962 to September 1963.

Remarks.--Record shows water pumped from 4 wells in South Gila Valley Irrigation and Drainage District and conveyed by concrete channel to Gila River.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5293.6. South Gila Pump Outlet Channel No. 1.

Location.--Sparling total-flow meter, near center of sec.30, T.8 S., R.22 W., a quarter of a mile upstream from outlet to Gila River, which is half a mile upstream from mouth of Gila River.

Records available.--Monthly discharge August 1961 to September 1963.

Remarks.--Record shows water pumped from wells in South Gila Valley Irrigation and Drainage District and conveyed by concrete channel to Gila River.

Cooperation.--Record furnished by Bureau of Reclamation.

## 9-5294. South Gila Drain No. 2.

Location.--Sparling total-flow meter, near center of sec.24, T.8 S., R.23 W., at outlet to Colorado River.

Records available.--Monthly discharge October 1960 to September 1963.

Remarks.--Record shows waste water from South Gila Valley Irrigation and Drainage District returned to Colorado River.

Cooperation.--Record furnished by Bureau of Reclamation.

## DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

## 9-5300. Reservation Canal Main Drain No. 4.

Location--Water-stage recorder in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.26, T.16 S., R.22 E., San Bernardino meridian, 500 ft upstream from crossing of U. S. Highway 80. Drainage canal enters Yuma Main Canal wasteway 200 ft downstream from spillway structure. Prior to May 1955, it entered 500 ft 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.

Records available--Monthly discharge January 1913 to April 1920, October 1921 to March 1925, January 1934 to September 1963. 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. Fifty-two discharge measurements made during year.

Cooperation--Record furnished by Bureau of Reclamation.

## 9-5305. Drain 8-B.

Location--Enters Colorado River in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.30, T.16 S., R.22 E., San Bernardino meridian, 4 miles downstream from outlet of Yuma Main Canal wasteway.

Records available--Monthly discharge March 1948 to September 1963. Prior to October 1955, published as Araz drain.

Remarks--Record shows waste and drainage water west of Yuma Main Canal on the Reservation Division. There is no gage, but due to fairly constant drainage, flow record is computed by Bureau of Reclamation by interpolation between discharge measurements, of which 52 were made during year by Imperial Irrigation District.

Cooperation--Record furnished by Bureau of Reclamation.

## 9-5320. Cooper wasteway.

Location--Water-stage recorder and weir, in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.33, T.8 S., R.24 W., half a mile downstream from Morelos Dam.

Records available--Monthly discharge January 1934 to September 1963.

Remarks--Record shows waste water from Valley Division returned to Colorado River.

Cooperation--Record furnished by International Boundary and Water Commission (U. S. Section).

## 9-5325. Eleven Mile wasteway.

Location--Water-stage recorder and regulating gate in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.8, T.9 S., R.24 W.,  $3\frac{1}{4}$  miles downstream from Morelos Dam.

Records available--January 1924 to September 1963.

Remarks--Record shows waste water from Valley Division returned to Colorado River.

Cooperation--Record furnished by International Boundary and Water Commission (U. S. Section).

## 9-5330. Twenty-one Mile wasteway.

Location--Recording gage and flume, in NE $\frac{1}{4}$  sec.35, T.10 S., R.25 W.,  $17\frac{1}{2}$  miles downstream from Morelos Dam.

Records available--March 1939 to September 1963.

Remarks--Record shows waste water from Valley Division returned to Colorado River.

Cooperation--Record furnished by International Boundary and Water Commission (U. S. Section).

## 9-5340. Main drain.

Location--Pumping plant in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.11, T.11 S., R.25 W., half a mile west of San Luis, Ariz. Water-stage recorder at outlet, and at inlet since May 8, 1953.

Records available--Monthly discharge January 1919 to September 1963.

Remarks--Record computed from rated pumps checked by discharge measurements made once a month by International Boundary and Water Commission (U. S. Section). Flow consists mostly of drainage water from the Valley Division which is pumped across the Arizona-Sonora boundary for use in Mexico.

Cooperation--Record furnished by Yuma County Water Users' Association, and International Boundary and Water Commission (U. S. Section).

## 9-5345. East Main Canal wasteway.

Location--Water-stage recorder, in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.12, T.11 S., R.25 W., a quarter of a mile east of Main drain pumping plant and a quarter of a mile west of San Luis, Ariz.

Records available--Monthly discharge January 1924 to June 1928, January 1932 to December 1933, April 1935 to September 1963. 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).

## Return surface flows below Imperial Dam, Ariz.-Calif. Continued

Monthly return flows, in acre-feet, water year October 1962 to September 1963

| Month                   | Laguna Canal<br>wasteway | Levee Canal<br>wasteway | North Gila<br>Drain No.1 | North Gila<br>Drain No.3 | Fortuna<br>wasteway | North Gila<br>Main Canal<br>wasteway | Bruce Church<br>Drain |
|-------------------------|--------------------------|-------------------------|--------------------------|--------------------------|---------------------|--------------------------------------|-----------------------|
| October.....            | 474                      | 887                     | 831                      | 32                       | 36                  | 530                                  | 61                    |
| November.....           | 577                      | 1,840                   | 589                      | 62                       | 48                  | 895                                  | 60                    |
| December.....           | 676                      | 1,610                   | 611                      | 51                       | 64                  | 1,530                                | 61                    |
| Calendar year 1962..... | 5,940                    | 15,450                  | 7,580                    | -                        | 521                 | 9,160                                | -                     |
| January.....            | 138                      | 1,700                   | 353                      | 50                       | 81                  | 356                                  | 61                    |
| February.....           | 523                      | 1,760                   | 639                      | 42                       | 91                  | 564                                  | 56                    |
| March.....              | 429                      | 1,960                   | 670                      | 48                       | 101                 | 605                                  | 61                    |
| April.....              | 572                      | 2,030                   | 627                      | 55                       | 73                  | 570                                  | 60                    |
| May.....                | 424                      | 1,110                   | 718                      | 79                       | 38                  | 664                                  | 61                    |
| June.....               | 339                      | 1,140                   | 664                      | 104                      | 56                  | 585                                  | 60                    |
| July.....               | 978                      | 1,010                   | 738                      | 129                      | 70                  | 941                                  | 61                    |
| August.....             | 967                      | 1,590                   | 754                      | 114                      | 74                  | 1,650                                | 61                    |
| September.....          | 916                      | 1,540                   | 575                      | 140                      | 113                 | 466                                  | 60                    |
| Water year 1962-63..... | 7,010                    | 18,180                  | 7,770                    | 906                      | 845                 | 9,360                                | 723                   |

| Month                   | Bruce Church<br>wasteway | Wellton-<br>Mohawk<br>Main Outlet<br>Drain | South Gila<br>Pump Outlet<br>Channel<br>No. 2 | South Gila<br>Pump Outlet<br>Channel<br>No. 1 | South Gila<br>Drain No.2 | Reservation<br>Canal Main<br>Drain No. 4 | Drain<br>8-B |
|-------------------------|--------------------------|--|---|---|--------------------------|--|--------------|
| October.....            | 267                      | 17,910                                     | 2,510   | 2,550   | 0.5                      | 3,790                                    | 405          |
| November.....           | 847                      | 17,630                                     | 2,510   | 2,510   | .9                       | 3,590                                    | 369          |
| December.....           | 1,130                    | 18,990                                     | 2,340   | 2,530   | 0                        | 3,380                                    | 329          |
| Calendar year 1962..... | 9,570                    | 215,100                                    | 25,300  | 29,030  | 165                      | 47,150                                   | 4,340        |
| January.....            | 1,020                    | 18,510                                     | 2,520   | 2,310   | 0                        | 2,940                                    | 272          |
| February.....           | 394                      | 16,780                                     | 2,360   | 2,280   | 0                        | 3,070                                    | 298          |
| March.....              | 745                      | 18,740                                     | 2,540   | 2,270   | 0                        | 4,030                                    | 401          |
| April.....              | 668                      | 18,570                                     | 2,390   | 2,280   | 0                        | 3,890                                    | 351          |
| May.....                | 433                      | 19,780                                     | 2,440   | 2,750   | 0                        | 3,800                                    | 300          |
| June.....               | 613                      | 19,190                                     | 2,250   | 2,670   | 0                        | 4,410                                    | 387          |
| July.....               | 629                      | 19,060                                     | 2,190   | 2,760   | 0                        | 4,260                                    | 325          |
| August.....             | 1,010                    | 17,640                                     | 2,190   | 2,760   | 0                        | 4,370                                    | 430          |
| September.....          | 1,070                    | 15,960                                     | 2,070   | 2,550   | 0                        | 4,500                                    | 424          |
| Water year 1962-63..... | 8,830                    | 218,800                                    | 28,310  | 30,220  | 1.4                      | 46,030                                   | 4,290        |

| Month                   | Cooper<br>wasteway | Eleven<br>Mile<br>wasteway | Twenty-<br>one Mile<br>wasteway | Main<br>drain | East<br>Main<br>Canal<br>wasteway |  |  |
|-------------------------|--------------------|----------------------------|---------------------------------|---------------|-----------------------------------|--|--|
| October.....            | 194                | 1,040                      | 822                             | 12,380        | 1,520                             |  |  |
| November.....           | 194                | 1,370                      | 804                             | 10,930        | 1,780                             |  |  |
| December.....           | 99                 | 1,530                      | 491                             | 10,550        | 959                               |  |  |
| Calendar year 1962..... | 1,430              | 15,300                     | 7,060                           | 132,600       | 14,450                            |  |  |
| January.....            | 151                | 1,480                      | 593                             | 10,630        | 1,040                             |  |  |
| February.....           | 95                 | 1,110                      | 797                             | 10,780        | 930                               |  |  |
| March.....              | 125                | 1,360                      | 804                             | 12,310        | 1,100                             |  |  |
| April.....              | 101                | 1,430                      | 803                             | 11,600        | 1,160                             |  |  |
| May.....                | 168                | 1,150                      | 623                             | 11,910        | 1,450                             |  |  |
| June.....               | 202                | 1,270                      | 577                             | 11,000        | 1,100                             |  |  |
| July.....               | 190                | 1,310                      | 453                             | 11,420        | 907                               |  |  |
| August.....             | 145                | 1,260                      | 879                             | 11,080        | 1,580                             |  |  |
| September.....          | 108                | 1,060                      | 786                             | 10,550        | 1,170                             |  |  |
| Water year 1962-63..... | 1,770              | 15,370                     | 8,430                           | 135,100       | 14,700                            |  |  |

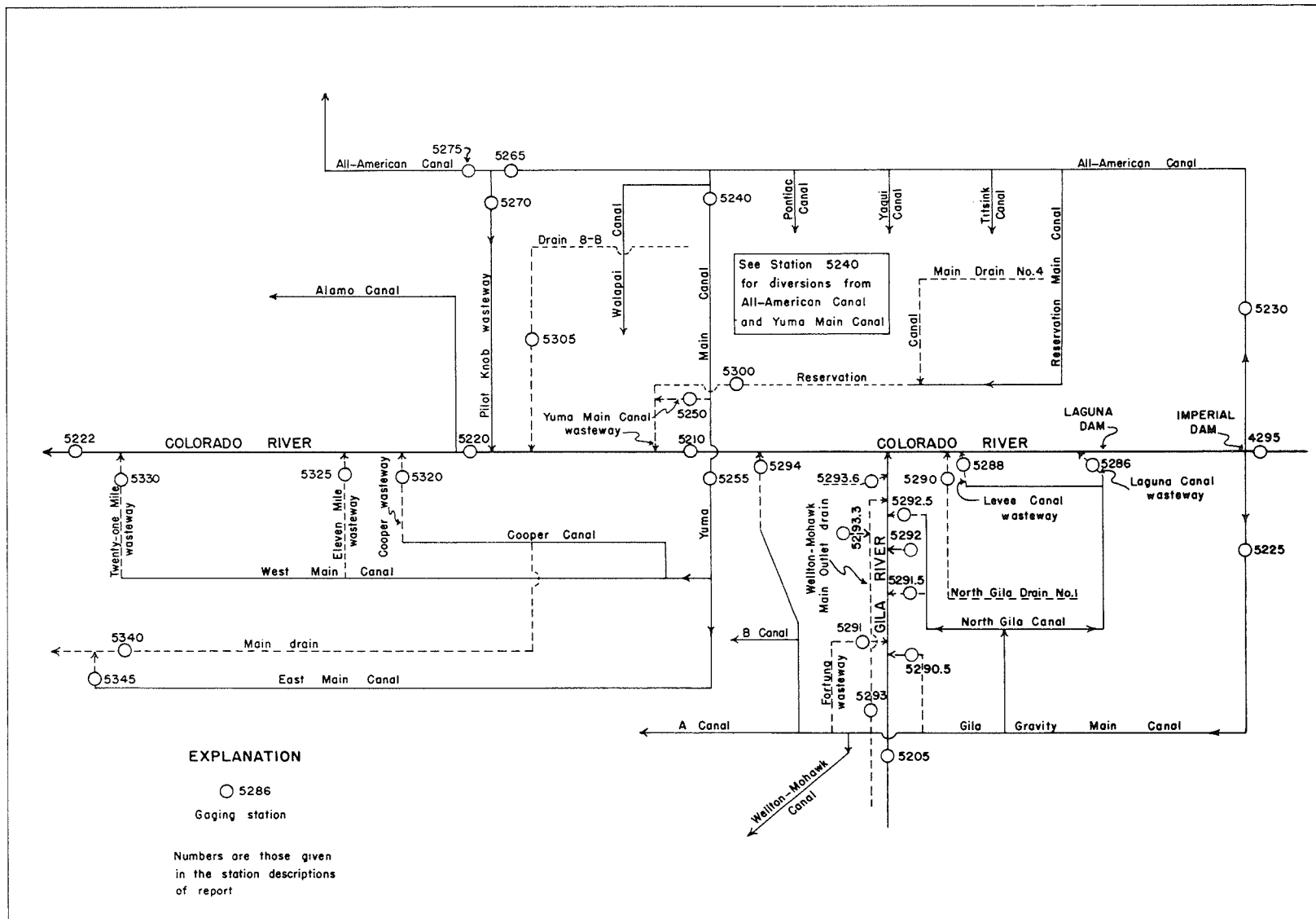


Figure 1.--Schematic diagram showing gaging stations on streams, diversions, and return flows between Imperial Dam and the southerly international boundary



10-2506. Wildrose Creek near Wildrose Station, Calif.

Location.--Lat 36°15'55", long 117°10'40", in Death Valley National Monument, on left bank 0.8 mile east of road from Wildrose Station to Stovepipe Wells and 2 miles east of Wildrose Spring, Inyo County.

Drainage area.--23.7 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 4,300 ft (from topographic map).

Extremes.--Maximum discharge during year, 1.1 cfs Feb. 10 (gage height, 3.62 ft); no flow all year except Feb. 9, 10.

1960-63: Maximum discharge, 330 cfs Aug. 5, 1961 (gage height, 5.10 ft), on basis of slope-area measurement of peak flow; no flow for all or part of each year.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 9.....0.1  
10......1

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|-------|------------------------|
| February 1963.....      | 0.2      | 0.1     | 0       | .0007 | 0.4                    |
| Calendar year 1962..... | -        | 0       | 0       | 0     | 0                      |
| Water year 1962-63..... | -        | .1      | 0       | .0005 | .4                     |

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

## PANAMINT VALLEY

10-2508. Darwin Creek near Darwin, Calif.

Location.--Lat 36°19'15", long 117°31'20", in SE 1/4 sec. 34, T.18 S., R.41 E., on right bank 700 ft downstream from Darwin Falls, 1.3 miles upstream from unnamed tributary, and 5.4 miles northeast of Darwin.

Drainage area.--173 sq mi.

Records available.--October 1962 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,640 ft (from topographic map).

Extremes.--Maximum discharge during year, 2.5 cfs Aug. 8 (gage height, 1.91 ft); minimum daily 0.2 cfs for many days.

Remarks.--Records good. Town of Darwin diverts water above station for municipal supply.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |    |
|-----|----|
| 1.1 | 0  |
| 1.2 | .1 |
| 1.3 | .2 |
| 1.5 | .6 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan. | Feb. | Mar. | Apr.  | May  | June | July | Aug. | Sept. |
|-------|-------|-------|------|------|------|------|-------|------|------|------|------|-------|
| 1     |       | * 0.4 | 0.3  |      | 0.4  | 0.3  |       | 0.3  | 0.3  | 0.2  | 0.2  | 0.2   |
| 2     |       | .4    | .3   |      | .4   | .3   |       | .3   | .3   | .2   | .2   | .2    |
| 3     | a 0.3 | .4    | .3   |      | .4   | .3   |       | .3   | .3   | .2   | .2   | .2    |
| 4     |       | .4    | .3   |      | .4   | .3   | a 0.3 | .3   | .3   | .2   | .2   | .2    |
| 5     |       | .4    | .3   |      | .4   | .3   |       | .3   | .3   | .2   | .2   | .3    |
| 6     |       | .4    | .3   |      | .4   | .3   |       | .3   | .3   | .2   | .2   | .2    |
| 7     |       | .3    | .3   |      | .4   | .3   |       | .3   | .3   | .2   | .2   | .2    |
| 8     |       | .3    | .3   |      | .4   | .3   | * .3  | .3   | .3   | .2   | .2   | .2    |
| 9     |       | .3    | .3   | a .4 | .4   | .3   | .3    | .3   | .3   | .2   | .2   | * .2  |
| 10    |       | .3    | .3   |      | .4   | .3   | .3    | .3   | .3   | .2   | .2   |       |
| 11    |       | .3    | * .3 |      | .3   | .3   | .3    | .3   | .3   | .2   | .2   | .3    |
| 12    |       | .3    | .3   |      | .3   | .3   | .3    | .3   | .3   | .2   | .2   | .3    |
| 13    |       | .3    |      |      | .3   | * .3 | .3    | .3   | .3   | .2   | .2   | .3    |
| 14    |       | .3    |      |      | * .3 | .3   | .3    | .3   | .3   | .2   | .2   | .3    |
| 15    |       | * .3  |      |      | .3   |      | .3    | .2   | .3   | .2   | .2   | .3    |
| 16    | (*)   | .3    |      |      | .3   |      | .3    | * .2 | .3   | .2   | .2   | .3    |
| 17    |       | .3    |      |      | .3   |      | .3    | .2   | * .3 | .2   | .2   | .3    |
| 18    | a .4  | .3    |      |      | .3   |      | .3    | .2   | .3   | .2   | .2   | .3    |
| 19    |       | .3    |      |      | .3   |      | .3    | .2   | .3   | .2   | .2   | .3    |
| 20    |       | .3    |      |      | .3   |      | .3    | .2   | .3   | .2   | .2   | .3    |
| 21    |       | .3    | a .3 |      | .3   | a .3 | .3    | .2   | .3   | .2   | .2   | .3    |
| 22    |       | .3    |      |      | .3   |      | .3    | .2   | .3   | * .2 | .2   | .3    |
| 23    |       | .3    |      | * .4 | .3   |      | .3    | .2   | .3   | .2   | .2   | * .3  |
| 24    |       | .3    |      | .4   | .3   |      | .3    | .2   | .3   | .2   | .2   | .3    |
| 25    |       | .3    |      | .4   | .3   |      | .3    | .3   | .3   | .2   | .2   | .3    |
| 26    |       | .3    |      | .4   | .3   |      | .3    | .3   | .2   | .2   | * .2 | .3    |
| 27    |       | .3    |      | .4   | .3   |      | .3    | .3   | .2   | .2   | .2   | .3    |
| 28    |       | .3    |      | .4   | .3   |      | .3    | .3   | .2   | .2   | .2   | .3    |
| 29    |       | .3    |      | .4   |      |      | .3    | .3   | .2   | .2   | .2   | .3    |
| 30    |       | .3    |      | .4   |      |      | .3    | .3   | .2   | .2   | .2   | .3    |
| 31    |       |       |      | .4   |      |      |       | .3   |      | .2   | .2   |       |
| Total | 11.9  | 9.6   | 9.3  | 12.4 | 9.4  | 9.3  | 9.0   | 8.5  | 8.5  | 6.2  | 6.5  | 8.0   |
| Mean  | 0.38  | 0.32  | 0.30 | 0.40 | 0.34 | 0.30 | 0.30  | 0.27 | 0.28 | 0.20 | 0.21 | 0.27  |
| Max   | -     | 0.4   | -    | -    | 0.4  | -    | -     | 0.3  | 0.3  | 0.2  | 0.5  | 0.3   |
| Min   | -     | 0.3   | -    | -    | 0.3  | -    | -     | 0.2  | 0.2  | 0.2  | 0.2  | 0.2   |
| Ac-ft | 24    | 19    | 18   | 25   | 19   | 18   | 18    | 17   | 17   | 12   | 13   | 16    |

Calendar year 1962: Max - Min - Mean - Ac-ft -  
 Water year 1962-63: Max 0.5 Min 0.2 Mean 0.30 Ac-ft 216

\* Discharge measurement made on this day.  
 a No gage-height record.

## DEATH VALLEY

37

10-2513. Amargosa River at Tecopa, Calif.

Location.--Lat 35°50'55", long 116°13'45", in NW¼SE¼ sec.9, T.20 N., R.7 E., on right bank 20 ft upstream from county road and 0.2 mile west of Tecopa.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder, tipping-bucket rain gage, and concrete-culvert control. Altitude of gage is 1,310 ft (from topographic map).

Extremes.--Maximum discharge during year, 257 cfs Feb. 10 (gage height, 3.84 ft), from rating curve extended above 8.0 cfs on basis of indirect measurement of flow through culvert at gage height 3.41 ft; no flow June 13 to Aug. 2, Aug. 7.

1961-63: Maximum discharge, that of Feb. 10, 1963; no flow for many days in each year.

Flood (date unknown) reached a stage of 8.1 ft, from floodmarks (discharge, 790 cfs).

Remarks.--Records good. Monthly figures of precipitation, in inches, are as follows: October, 0.3; December, 0.1; February, 1.2; August, 0.2; September, 1.2; the year, 3.0.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.7 | 0   | 1.6 | 19  |
| .8  | .1  | 1.9 | 35  |
| .9  | .8  | 2.2 | 55  |
| 1.0 | 1.9 | 2.5 | 80  |
| 1.1 | 3.5 | 3.0 | 136 |
| 1.3 | 8.1 | 3.5 | 205 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY                | OCT.    | NOV.  | DEC.  | JAN. | FEB.      | MAR. | APR.        | MAY  | JUNE  | JULY | AUG. | SEPT. |
|--------------------|---------|-------|-------|------|-----------|------|-------------|------|-------|------|------|-------|
| 1                  | 0.3     | 0.4   | 0.9   | 1.7  | 1.9       | 0.7  | 0.6         | 0.4  | 0.2   |      | 0    | 0.1   |
| 2                  | .2      | .5    | 1.0   | 1.7  | 1.7       | .8   | .6          | .3   | .2    |      | 0    | .1    |
| 3                  | .2      | .6    | 1.1   | 1.8  | 1.7       | 1.0  | .7          | .3   | .1    |      | .1   | .1    |
| 4                  | .1      | .6    | 1.0   | 1.8  | 1.5       | .7   | .7          | .2   | .1    |      | .1   | 1.0   |
| 5                  | .1      | .6    | 1.1   | 1.7  | 1.4       | .6   | .7          | .2   | .1    |      | .1   | 29    |
| 6                  | .3      | .6    | 1.1   | 1.7  | 1.4       | .7   | .6          | .2   | .1    |      | .1   | 3.5   |
| 7                  | .3      | .7    | 1.1   | 1.7  | 1.4       | .8   | .5          | .1   | .1    |      | 0    | .5    |
| 8                  | .3      | .7    | 1.1   | 1.5  | 1.5       | 1.0  | .5          | .2   | .1    |      | .1   | .2    |
| 9                  | .3      | .7    | 1.1   | 1.7  | 1.7       | 1.0  | .5          | .2   | .1    |      | 2.4  | .2    |
| 10                 | .3      | .7    | 1.2   | 1.9  | 167       | 1.0  | .5          | .2   | .1    |      | .2   | .1    |
| 11                 | .2      | .6    | 1.2   | 1.5  | 61        | .8   | .5          | .2   | .1    |      | .1   | .1    |
| 12                 | .1      | .7    | 1.2   | 2.2  | 16        | .8   | .6          | .2   | .1    |      | .1   | .1    |
| 13                 | .2      | .8    | 1.2   | 2.6  | 20        | .7   | .6          | .2   | 0     |      | .1   | .1    |
| 14                 | .2      | .8    | 1.3   | 2.4  | 16        | .7   | .6          | *.2  | 0     |      | .1   | .1    |
| 15                 | .2      | .8    | 1.3   | 1.8  | 8.7       | .7   | .6          | .2   | 0     |      | .1   | .1    |
| 16                 | .3      | .9    | 1.4   | 1.7  | 4.6       | .7   | .5          | .2   | 0     |      | .1   | .1    |
| 17                 | .2      | .7    | *1.9  | 1.8  | 4.6       | 1.1  | *.5         | .2   | 0     |      | 28   | .3    |
| 18                 | .2      | .7    | 2.6   | 1.9  | 3.9       | 1.1  | .5          | .2   | *0    |      | 24   | 18    |
| 19                 | .4      | *.6   | 1.8   | 1.7  | *3.7      | 1.0  | .4          | .2   | 0     |      | 9.7  | 68    |
| 20                 | .5      | .6    | 1.7   | 1.1  | 3.5       | *.9  | .4          | .2   | 0     |      | 4.1  | 65    |
| 21                 | .4      | .7    | 1.4   | 1.4  | 2.9       | .8   | .4          | .2   | 0     |      | .7   | 71    |
| 22                 | *.4     | .8    | 1.4   | *1.5 | 2.2       | .7   | .4          | .2   | 0     |      | .2   | 57    |
| 23                 | .4      | .9    | 1.4   | 1.7  | 1.0       | .7   | .5          | .2   | 0     | (*)  | .1   | 23    |
| 24                 | .4      | 1.0   | 1.5   | 1.7  | .7        | .7   | .4          | .2   | 0     |      | .1   | *7.1  |
| 25                 | .4      | 1.0   | 1.0   | 1.7  | .8        | .7   | .4          | .2   | 0     |      | .1   | 2.9   |
| 26                 | .4      | 1.0   | 1.0   | 1.7  | .9        | .7   | .4          | .2   | 0     |      | .1   | 1.3   |
| 27                 | .4      | 1.0   | 1.1   | 1.5  | 1.1       | .7   | .4          | .2   | 0     |      | *.1  | .7    |
| 28                 | .4      | 1.0   | 1.3   | 1.5  | .7        | .6   | .4          | .2   | 0     |      | .1   | .4    |
| 29                 | .4      | 1.0   | 1.4   | 1.4  | -----     | .6   | .4          | .2   | 0     |      | .1   | .2    |
| 30                 | .4      | 1.1   | 1.5   | 1.4  | -----     | .6   | .4          | .2   | 0     |      | .1   | .2    |
| 31                 | .4      | ----- | 1.5   | 1.7  | -----     | .6   | -----       | .2   | ----- |      | .1   | ----- |
| TOTAL              | 9.3     | 22.8  | 40.8  | 53.1 | 333.5     | 24.2 | 15.2        | 6.6  | 1.4   | 0    | 71.3 | 350.5 |
| MEAN               | 0.30    | 0.76  | 1.32  | 1.71 | 11.9      | 0.78 | 0.51        | 0.21 | 0.05  | 0    | 2.30 | 11.7  |
| MAX                | 0.5     | 1.1   | 2.6   | 2.6  | 167       | 1.1  | 0.7         | 0.4  | 0.2   | 0    | 28   | 71    |
| MIN                | 0.1     | 0.4   | 0.9   | 1.1  | 0.7       | 0.6  | 0.4         | 0.2  | 0     | 0    | 0    | 0.1   |
| AC-FT              | 18      | 45    | 81    | 105  | 661       | 48   | 30          | 13   | 2.8   | 0    | 141  | 695   |
| CALENDAR YEAR 1962 | MAX 72  |       | MIN 0 |      | MEAN 0.92 |      | AC-FT 667   |      |       |      |      |       |
| WATER YEAR 1962-63 | MAX 167 |       | MIN 0 |      | MEAN 2.54 |      | AC-FT 1,840 |      |       |      |      |       |

\*Discharge measurement made on this day.

## DEATH VALLEY

10-2513.5. Horse Thief Creek near Tecopa, Calif.

Location--Lat 35°46'50", long 115°53'35", T.20 N., R.10 E. (corrected), on left bank 0.6 mile northwest of Horse Thief Springs and 19.2 miles southeast of Tecopa, San Bernardino County.

Drainage area--3.06 sq mi.

Records available--October 1960 to September 1963.

Gage--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 4,600 ft (from topographic map).

Extremes--No flow during year.

1960-63: Maximum discharge, 411 cfs Aug. 23, 1961 (gage height, 3.13 ft), from rating curve extended above 10 cfs on basis of slope-area measurement of peak flow; no flow except Nov. 6, 1960 and Aug. 23, 1961.

Remarks--No flow since Aug. 23, 1961. No regulation or diversion above station.

## Monthly precipitation, water year October 1962 to September 1963

| Month                   | Precipitation<br>(inches) |
|-------------------------|---------------------------|
| October.....            | 0.1                       |
| November.....           | 0                         |
| December.....           | .7                        |
| Calendar year 1962..... | 5.4                       |
| January.....            | .3                        |
| February.....           | 2.2                       |
| March.....              | .7                        |
| April.....              | .7                        |
| May.....                | 0                         |
| June.....               | .5                        |
| July.....               | 0                         |
| August.....             | .7                        |
| September.....          | 2.8                       |
| Water year 1962-63..... | 8.7                       |

## IVANPAH VALLEY

10-2523. China Spring Creek near Mountain Pass, Calif.

Location--Lat 35°28'05", long 115°30'30", in E½ sec.31, T.16 N., R.14 E., on upstream right bank of State highway culvert on U. S. Highway 466 and 91 and 2.0 miles east of Mountain Pass.

Drainage area--0.94 sq mi.

Records available--January 1959 to September 1963. Precipitation record for water year 1963 incomplete.

Gage--Water-stage recorder, crest-stage gage, tipping-bucket rain gage, and 6-ft corrugated-pipe culvert control. Altitude of gage is 4,400 ft (from topographic map).

Remarks--No flow since Jan. 14, 1959, date of establishment. No regulation or diversion. Monthly figures of precipitation, in inches, are as follows: October, 0.6; December, 0.3; January, 0.4; February, 1.7; remainder of year incomplete due to removal of gage for highway relocation.

## DANEY LAKE BASIN

39

10-2530.8. Sunflower Wash near Essex, Calif.

Location--Lat 34°33'00", long 115°06'25", in NE 1/4 sec. 5, T.5 N., R.18 E., on left bank about 0.3 mile downstream from road crossing and 14.9 miles southeast of Essex.

Drainage area--3.04 sq mi.

Records available---October 1962 to September 1963.

Gage--Type A flood-hydrograph recorder with crest-stage gage attached, standard U.S.W.B. rain gage, and recording rain gage. Altitude of gages is 3,040 ft, 3,360 ft, and 3,850 ft, respectively (from topographic map).

Extremes--Maximum discharge during year, 834 cfs Sept. 18 (gage height, 4.17 ft), on basis of slope-area measurement of peak flow; no flow for most of year.

Remarks--Records poor. No regulation or diversion above station. Monthly figures of precipitation, in inches, from standard U.S.W.B. rain gage are as follows: August, 0.60; September, 4.00; the year, 4.60. Monthly figures of precipitation, in inches, from recording rain gage are as follows: August, 0.01; September, 2.90; the year, 2.91.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 17..... a5  
18.....\*a70

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| September 1963.....     | 75       | 70      | 0       | 2.50 | 149                 |
| Calendar year 1962..... | -        | -       | -       | -    | -                   |
| Water year 1962-63..... | -        | 70      | 0       | .21  | 149                 |

\* Discharge measurement made on this day.

a No gage-height record.

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

## BRISTOL LAKE BASIN

10-2533.5. Fortynine Palms Creek near Twentynine Palms, Calif.

Location--Lat 34°07'15", long 116°05'45", in Joshua Tree National Monument on left bank 50 ft upstream from North Monument boundary, 1.1 miles downstream from Fortynine Palms Oasis, and 2.6 miles southwest of Twentynine Palms, San Bernardino County.

Drainage area--8.55 sq mi.

Records available---October 1962 to September 1963.

Gage--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 2,260 ft (from topographic map).

Extremes--Maximum discharge during year, 1,240 cfs Aug. 7 (gage height, 4.55 ft, from crest-stage gage), from rating curve extended above 0.2 cfs on basis of slope-area measurements at gage heights 2.55 and 4.55 ft; no flow for most of year. Flood in August 1961 reached a stage of 4.9 ft, from profile of floodmarks on left bank (discharge, 1,240 cfs).

Remarks--Records poor. No regulation or diversion above station. Monthly figures of precipitation, in inches, are as follows: October, about 0.3; December, 0.5; January, 0.5; February, 0.1; April, 0.2; July, 0.4; August, 0.4; September, 2.3; the year, 4.7.

Discharge, in cubic feet per second, water year October 1962 to September 1963

July 31..... a0.1      Aug. 8..... \*a0.5  
Aug. 6..... a.5      Sept. 17..... \*13  
7.....\*a60      18..... 4.1

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in acre-feet |
|-------------------------|----------|---------|---------|-------|---------------------|
| July 1963.....          | 0.1      | 0.1     | 0       | 0.003 | 0.2                 |
| August.....             | 61.0     | 60      | 0       | 1.97  | 121                 |
| September.....          | 17.1     | 13      | 0       | .57   | 34                  |
| Calendar year 1962..... | -        | -       | -       | -     | -                   |
| Water year 1962-63..... | -        | 60      | 0       | .21   | 155                 |

\* Discharge measurement made on this day.

a No gage-height record.

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

## CHUCKWALLA VALLEY

10-2536. Eagle Creek at Eagle Mountain, Calif.

Location.--Lat 33°51'50", long 115°29'50", on right bank in Joshua Tree National Monument, 0.6 mile from Eagle Mountain and 11.8 miles northwest of Desert Center, Riverside County.

Drainage area.--7.63 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder and tipping-bucket rain gage. Datum of gage is 1,515.35 ft (revised) above mean sea level (levels by Kaiser Industries). Prior to Mar. 12, 1962, at site 0.2 mile downstream at datum 39.77 ft lower.

Extremes.--Maximum discharge during year, 3 cfs (estimated) Sept. 17 (gage height, 1.58 ft); no flow all year except Sept. 17.  
1960-63: Maximum discharge, about 380 cfs Aug. 23, 1961 (gage height, 2.81 ft, present datum), on basis of field estimate of peak flow; no flow for each year except Aug. 23, 1961 and Sept. 17, 1963.

Remarks.--Records poor. No regulation or diversion. Monthly precipitation, in inches, is as follows: December, 0.6; January, 0.4; February, 0.1; September, 1.8; the year, 2.9.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 17.....\*\*0.2

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|-------|------------------------|
| September 1963.....     | 0.2      | 0.2     | 0       | 0.007 | 0.4                    |
| Calendar year 1962..... | -        | 0       | 0       | 0     | 0                      |
| Water year 1962-63..... | -        | .2      | 0       | .0005 | .4                     |

\*\* Field estimate made on this day.

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

Location.--Lat 33°11'37", long 115°49'54", in NE <sup>1</sup>/<sub>4</sub> sec. 21, T. 11 S., R. 11 E., at outer end of third mooring pier from western shore at Sandy Beach 15.5 miles northwest of Westmoreland. Prior to Oct. 23, 1951, at site on west shore 22 miles northwest of present cage.

Records available.--November 1904 to September 1963. Records prior to 1932 are published in WSP 735.

Gage.--Water-stage recorder. Datum of gage is 250.00 ft below mean sea level, datum of 1929, adjustment of 1934; gage readings have been converted to elevations below mean sea level. Prior to January 1925, staff gages at various sites along eastern shore, but all elevations have been converted to datum of 1901. January 1925 to Oct. 22, 1951, staff gages and reference marks at site on western shore 22 miles northwest originally set to 1901 datum and on Mar. 2, 1956, found at mean-sea-level datum 0.91 ft lower than 1929 datum. Adjustment of 1934 (levels by U.S.C. & G.S.).

Extremes.---Maximum elevation during year, 232.4 ft below mean sea level May 3-27; minimum, 233.9 ft below mean sea level Oct. 4, 5, 14, 19-22.

1901-63: Maximum elevation, 195.9 ft below mean sea level (present datum) in February and March 1907; minimum since 1906, 251.6 ft below mean sea level (present datum) in November 1924.

Remarks.--Bottom of sea is 277.7 ft (revised) below mean sea level. See WSP 300, 735, and 918 for condensed history of Salton Sea. Revised area and capacity table for sea dated Aug. 2, 1963, based on resurveys made in 1956 above elevation -240 ft and in 1962 below -236 ft, is given below.

| Elevation<br>(feet below<br>mean sea<br>level) | Area<br>(acres) | Capacity<br>(acre-feet) | Elevation<br>(feet below<br>mean sea<br>level) | Area<br>(acres) | Capacity<br>(acre-feet) |
|--|-----------------|-------------------------|--|-----------------|-------------------------|
| 277.7  | 0               | 0                       | 256  | 134,870         | 1,678,000               |
| 276  | 3,789           | 2,147                   | 252  | 148,520         | 2,245,000               |
| 274  | 20,670          | 24,360                  | 248  | 163,600         | 2,869,000               |
| 272  | 40,130          | 84,090                  | 244  | 179,720         | 3,555,000               |
| 270  | 63,250          | 166,600                 | 240  | 196,900         | 4,308,000               |
| 268  | 81,510          | 331,000                 | 235  | 221,800         | 5,354,000               |
| 266  | 94,520          | 506,900                 | 230  | 235,400         | 6,497,000               |
| 264  | 105,360         | 706,700                 | 225  | 249,200         | 7,709,000               |
| 262  | 114,790         | 926,800                 | 220  | 262,200         | 8,987,000               |
| 260  | 122,320         | 1,164,000               |  |                 |                         |

| Elevation, in feet, below mean sea level, water year October 1962 to September 1963 |                     |               |                     |
|---|---------------------|---------------|---------------------|
| Date  | Elevation<br>(feet) | Date          | Elevation<br>(feet) |
| Sept. 30, 1962.....   | 233.8               | Apr. 30.....  | 232.5               |
| Oct. 31.....  | 233.8               | May 31.....   | 232.5               |
| Nov. 30.....  | 233.7               | June 30.....  | 232.7               |
| Dec. 31.....  | 233.5               | July 31.....  | 232.7               |
| Jan. 31, 1963.....  | 233.2               | Aug. 31.....  | 232.7               |
| Feb. 28.....  | 232.9               | Sept. 30..... | 232.6               |
| Mar. 31.....  | 232.6               |               |                     |

Salton Sea, located near the northwest corner of Imperial County, is a closed basin consisting of 8,360 sq. mi. A systematic record of inflow was not attempted until the fall of 1960. The following table shows monthly and annual inflow, in acre-feet, for the water year October 1962 to September 1963. Inflow from Imperial Valley is the sum of flows in Alamo River (see p.43), New River (see p.44), and about 30 drains and wasteways. About 95 percent of the inflow was measured at gaging stations; the remainder was estimated on the basis of weekly discharge measurements made on 5 drains and the relation between flows in groups of drains. These figures are based in part on data not available at the time the Imperial Irrigation District figures were released at monthly intervals. Inflow from Coachella Valley is the sum of flows in Whitewater River and 18 drains. Flow in the river was measured by a gaging station (see p.56), but that for the drains was furnished by Coachella Valley County Water District. (See pp. 46 to 57 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.

| Inflow from      | Oct.    | Nov.   | Dec.   | Jan.   | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   | Total     |
|------------------|---------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|
| Imperial Valley  | 123,600 | 91,480 | 89,630 | 87,440 | 98,690  | 131,900 | 130,300 | 109,500 | 105,900 | 113,800 | 118,700 | 136,800 | 1,337,740 |
| Coachella Valley | 9,200   | 7,270  | 7,750  | 11,810 | 8,330   | 10,330  | 9,690   | 13,560  | 10,640  | 11,240  | 12,630  | 14,880  | 127,330   |
| Total            | 132,800 | 98,750 | 97,380 | 99,250 | 107,020 | 142,230 | 139,990 | 123,060 | 116,540 | 125,040 | 131,330 | 151,680 | 1,465,070 |

|             |       |        |        |        |        |        |        |       |       |       |        |        |         |
|-------------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|--------|--------|---------|
| Alamo River | 131   | 153    | 195    | 205    | 162    | 194    | 213    | 195   | 205   | 170   | 147    | 180    | 2,150   |
| New River   | 7,380 | 12,320 | 21,200 | 14,730 | 17,840 | 12,960 | 10,730 | 8,430 | 9,690 | 9,090 | 10,470 | 12,690 | 147,530 |

## SALTON SEA BASIN

10-2540.5. Salt Creek near Mecca, Calif.

Location.--Lat 33°26'50", long 115°50'35", in NE 1/4 SW 1/4 sec. 28, T. 8 S., R. 11 E., on pier of Southern Pacific railroad bridge, 0.3 mile upstream from mouth and 16 miles southeast of Mecca.

Drainage area.--269 sq mi.

Records available.--January 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 230 ft below mean sea level (from topographic map).

Extremes.--Maximum discharge during year, 154 cfs Sept. 18 (gage height, 3.37 ft), from rating curve extended above 25 cfs; minimum daily, 2.3 cfs July 23-26.

1961-63: Maximum discharge, that of Sept. 18, 1963; minimum daily, 1.2 cfs July 10-12, 1961.

Remarks.--Records good except those above 25 cfs, which are poor. No diversions or regulation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 21 to Nov. 12, Aug. 28 to Sept. 30)

|     |     |
|-----|-----|
| 1.5 | 1.6 |
| 1.6 | 2.4 |
| 1.8 | 4.6 |
| 2.0 | 8.9 |
| 2.3 | 21  |
| 2.7 | 52  |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY                | OCT.  | NOV.  | DEC.  | JAN.    | FEB.  | MAR.  | APR.  | MAY       | JUNE  | JULY | AUG.  | SEPT.       |  |
|--------------------|-------|-------|-------|---------|-------|-------|-------|-----------|-------|------|-------|-------------|--|
| 1                  | 5.2   | 6.5   | 7.7   | 9.3     | 11    | 7.5   | 7.2   | 6.3       | 3.4   | *2.8 | 3.1   | 3.3         |  |
| 2                  | 5.2   | 7.0   | 7.7   | 9.6     | 11    | 8.0   | 7.0   | 5.6       | 3.2   | 2.8  | 3.1   | 3.4         |  |
| 3                  | 5.1   | 7.2   | 8.0   | 10      | 11    | 8.9   | 6.3   | 5.5       | 3.0   | 2.7  | 3.0   | 3.6         |  |
| 4                  | 5.1   | 7.5   | 8.3   | 11      | 10    | 8.3   | 6.5   | 5.2       | 3.1   | 2.8  | 2.8   | 6.4         |  |
| 5                  | 5.2   | 7.5   | 8.3   | 9.3     | 10    | 7.5   | 6.7   | 4.9       | 3.0   | 2.8  | 2.8   | 4.6         |  |
| 6                  | 5.2   | 7.5   | 8.3   | 8.9     | 10    | 7.5   | 7.0   | 4.9       | 3.1   | 2.9  | 3.0   | 4.6         |  |
| 7                  | 5.6   | 7.5   | 8.0   | 8.9     | 10    | 8.6   | 6.7   | *4.8      | *3.4  | 3.0  | 3.4   | 4.0         |  |
| 8                  | 5.8   | *7.2  | 8.0   | 8.6     | 10    | 8.9   | 6.5   | 4.8       | 3.2   | 3.0  | 14    | 3.9         |  |
| 9                  | 5.8   | 7.2   | 8.3   | 8.9     | 11    | 8.9   | 6.3   | 4.6       | 3.3   | 3.1  | 3.4   | 3.8         |  |
| 10                 | *5.8  | 7.5   | 8.3   | 9.3     | 17    | 11    | *6.2  | 4.2       | 3.3   | 3.1  | 3.2   | *4.6        |  |
| 11                 | 6.2   | 7.5   | 8.6   | 9.3     | 20    | 9.3   | 6.2   | 4.0       | 3.3   | 3.0  | 3.0   | 4.0         |  |
| 12                 | 6.2   | 7.2   | 8.6   | 8.0     | 12    | 8.9   | 6.2   | 4.0       | 3.5   | 2.9  | 2.9   | 4.0         |  |
| 13                 | 6.0   | 7.2   | 8.3   | 7.0     | *9.6  | *15   | 6.2   | 4.2       | 3.6   | 2.8  | *3.0  | 4.0         |  |
| 14                 | 6.2   | 7.5   | *8.3  | 6.7     | 8.9   | 8.0   | 6.3   | 4.4       | 3.4   | 2.8  | 3.1   | 4.0         |  |
| 15                 | 6.2   | 7.7   | 8.6   | *8.3    | 9.6   | 7.7   | 6.3   | 4.0       | 3.3   | 2.7  | 3.2   | 4.0         |  |
| 16                 | 6.0   | *7.5  | 8.9   | 9.3     | 9.6   | 7.7   | 6.3   | 3.9       | 3.2   | 2.6  | 3.2   | 4.4         |  |
| 17                 | 6.0   | 7.5   | 9.3   | 9.6     | 9.3   | 8.3   | 6.2   | 3.8       | 3.0   | 2.5  | 3.2   | 5.1         |  |
| 18                 | 6.0   | 7.0   | 11    | 9.6     | 9.3   | 13    | 6.0   | 3.8       | 2.8   | 2.5  | 3.2   | 51          |  |
| 19                 | 7.0   | 6.7   | 23    | 10      | 8.9   | 9.3   | 6.0   | 3.7       | 2.7   | 2.6  | 3.2   | 24          |  |
| 20                 | 7.0   | 6.2   | *12   | 8.3     | 8.9   | 8.6   | 6.0   | 3.8       | *2.7  | 2.6  | 3.1   | 11          |  |
| 21                 | 7.0   | 6.7   | 9.6   | 7.2     | 9.3   | 15    | 6.0   | 3.7       | 2.7   | 2.6  | 3.0   | 7.2         |  |
| 22                 | 7.0   | 7.7   | 8.3   | 8.9     | 8.9   | 9.3   | 5.6   | 3.7       | 2.7   | 2.4  | 2.9   | 6.3         |  |
| 23                 | *6.7  | 8.0   | 8.9   | 9.6     | 8.3   | 8.6   | *5.5  | *3.6      | 2.8   | 2.3  | 2.9   | 5.8         |  |
| 24                 | 6.7   | 8.0   | 8.9   | 22      | 7.2   | 8.0   | 6.3   | 3.6       | 2.8   | 2.3  | 2.9   | 5.5         |  |
| 25                 | 6.7   | 8.0   | 8.6   | 20      | 7.5   | 7.2   | 6.0   | 3.6       | 2.8   | 2.3  | 3.0   | 5.5         |  |
| 26                 | 6.7   | *8.0  | 7.2   | 11      | *8.3  | 7.2   | 6.0   | 3.4       | 2.8   | 2.3  | *3.3  | *4.6        |  |
| 27                 | 6.7   | 8.0   | 7.5   | 10      | 8.6   | *7.5  | 6.0   | 3.6       | 2.8   | 2.5  | 4.8   | 4.6         |  |
| 28                 | 6.5   | 8.0   | 8.0   | 10      | 8.6   | 7.7   | 5.8   | 3.6       | 2.8   | 2.6  | 3.7   | 4.6         |  |
| 29                 | 6.5   | 8.0   | 8.3   | *10     | ----- | 7.5   | 5.8   | 3.6       | 2.8   | 2.7  | 3.6   | 4.6         |  |
| 30                 | 6.5   | 8.0   | 8.3   | 10      | ----- | 7.2   | 15    | 3.5       | 2.8   | *2.8 | 3.5   | 4.6         |  |
| 31                 | 6.5   | ----- | 8.6   | 10      | ----- | 7.0   | ----- | 3.4       | ----- | 2.9  | 3.3   | -----       |  |
| TOTAL              | 190.3 | 223.0 | 279.7 | 308.6   | 283.8 | 273.1 | 196.1 | 129.7     | 91.3  | 83.7 | 109.8 | 211.0       |  |
| MEAN               | 6.14  | 7.43  | 9.02  | 9.95    | 10.1  | 8.81  | 6.54  | 4.18      | 3.04  | 2.70 | 3.54  | 7.03        |  |
| MAX                | 7.0   | 8.0   | 23    | 22      | 20    | 15    | 15    | 6.3       | 3.6   | 3.1  | 14    | 51          |  |
| MIN                | 5.1   | 6.2   | 7.2   | 6.7     | 7.2   | 7.0   | 5.5   | 3.4       | 2.7   | 2.3  | 2.8   | 3.3         |  |
| AC-FT              | 377   | 442   | 555   | 612     | 563   | 542   | 389   | 257       | 181   | 166  | 218   | 419         |  |
| CALENDAR YEAR 1962 |       |       |       |         |       |       |       |           |       |      |       |             |  |
| WATER YEAR 1962-63 |       |       |       |         |       |       |       |           |       |      |       |             |  |
| MAX 20             |       |       |       | MIN 2.6 |       |       |       | MEAN 6.11 |       |      |       | AC-FT 4,420 |  |
| MAX 51             |       |       |       | MIN 2.3 |       |       |       | MEAN 6.52 |       |      |       | AC-FT 4,720 |  |

\* Discharge measurement made on this day.



## 43

Location.--Lat 33°12'03", long 115°36'07", in NE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.22, T.11 S., R.13 E., on left bank 0.6 mile upstream from mouth and 5.8 miles southwest of Niland.

Gage.--Water-stage recorder. Altitude of gage is 235 ft below mean sea level (from topographic map).

Cooperation.--Records furnished by Imperial Irrigation District and reviewed by Geological Survey.

| Day   | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June   | July   | Aug.   | Sept.  |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1     | 1.380  | 917    | 705    | 511    | 733    | 979    | 1.350  | 1.160  | 913    | 998    | 1.100  | 1.020  |
| 2     | 1.380  | 917    | 738    | 488    | 790    | 1.020  | 1.350  | 1.140  | 951    | 1.010  | 1.120  | 1.040  |
| 3     | 1.400  | 932    | 771    | 521    | 705    | 1.010  | 1.270  | 1.120  | 917    | 960    | 1.140  | 1.090  |
| 4     | 1.350  | 922    | 738    | 507    | 724    | 1.010  | 1.300  | 1.090  | 932    | 994    | 1.120  | 1.070  |
| 5     | 1.340  | 941    | 691    | 507    | 691    | 1.070  | 1.350  | 1.100  | 951    | 998    | 1.080  | 1.140  |
| 6     | 1.390  | 970    | 733    | 483    | 663    | 1.050  | 1.360  | 1.120  | 965    | 979    | 1.110  | 1.170  |
| 7     | 1.470  | 946    | 705    | 474    | 696    | 1.110  | 1.410  | 1.040  | 955    | 960    | 1.190  | 1.180  |
| 8     | 1.460  | 946    | 710    | 511    | 714    | 1.090  | 1.330  | 994    | 965    | 970    | 1.280  | 1.200  |
| 9     | 1.380  | 894    | 681    | 558    | 752    | 1.110  | 1.220  | 989    | 989    | 936    | 1.210  | 1.190  |
| 10    | 1.230  | 889    | 696    | 601    | 847    | 1.190  | 1.240  | 998    | 989    | 946    | 1.140  | 1.220  |
| 11    | 1.180  | 866    | 700    | 573    | 889    | 1.140  | 1.320  | 970    | 979    | 1.010  | 1.060  | 1.210  |
| 12    | 1.140  | 842    | 653    | 601    | 908    | 1.100  | 1.280  | 979    | 979    | 1.030  | 1.090  | 1.210  |
| 13    | 1.170  | 856    | 658    | 620    | 842    | 1.060  | 1.310  | 1.010  | 994    | 1.060  | 1.110  | 1.240  |
| 14    | 1.160  | 847    | 677    | 649    | 856    | 1.120  | 1.290  | 1.010  | 998    | 1.060  | 1.090  | 1.310  |
| 15    | 1.160  | 829    | 681    | 729    | 871    | 1.120  | 1.220  | 1.040  | 979    | 1.040  | 1.030  | 1.310  |
| 16    | 1.160  | 842    | 686    | 781    | 885    | 1.170  | 1.160  | 1.070  | 1.030  | 1.080  | 1.000  | 1.320  |
| 17    | 1.060  | 814    | 719    | 866    | 899    | 1.270  | 1.140  | 1.040  | 1.050  | 1.040  | 1.040  | 1.410  |
| 18    | 998    | 838    | 1.030  | 894    | 908    | 1.310  | 1.210  | 1.010  | 1.020  | 994    | 1.070  | 1.770  |
| 19    | 989    | 838    | 871    | 955    | 917    | 1.230  | 1.140  | 984    | 994    | 984    | 1.050  | 1.660  |
| 20    | 1.040  | 809    | 635    | 913    | 932    | 1.180  | 1.090  | 970    | 1.030  | 1.060  | 1.030  | 1.590  |
| 21    | 1.060  | 814    | 539    | 979    | 941    | 1.190  | 1.040  | 951    | 989    | 1.090  | 932    | 1.430  |
| 22    | 1.070  | 814    | 511    | 1.050  | 989    | 1.130  | 1.070  | 913    | 984    | 1.080  | 899    | 1.380  |
| 23    | 1.070  | 833    | 535    | 1.020  | 1.010  | 1.140  | 1.060  | 894    | 975    | 1.040  | 960    | 1.350  |
| 24    | 965    | 866    | 554    | 1.040  | 979    | 1.140  | 1.040  | 908    | 1.010  | 1.000  | 979    | 1.240  |
| 25    | 989    | 838    | 502    | 955    | 975    | 1.200  | 1.040  | 908    | 998    | 1.070  | 1.010  | 1.030  |
| 26    | 994    | 762    | 431    | 908    | 941    | 1.210  | 1.060  | 913    | 960    | 1.040  | 998    | 932    |
| 27    | 989    | 757    | 426    | 838    | 941    | 1.190  | 1.070  | 941    | 951    | 1.030  | 1.010  | 979    |
| 28    | 975    | 743    | 450    | 880    | 899    | 1.200  | 1.140  | 922    | 975    | 1.050  | 1.000  | 1.020  |
| 29    | 975    | 710    | 459    | 880    | -----  | 1.180  | 1.180  | 894    | 1.010  | 1.080  | 1.010  | 1.060  |
| 30    | 960    | 705    | 469    | 842    | -----  | 1.250  | 1.170  | 899    | 1.000  | 1.140  | 994    | 1.140  |
| 31    | 946    | -----  | 521    | 781    | -----  | 1.290  | -----  | 913    | -----  | 1.120  | 1.060  | -----  |
| Total | 35.830 | 25.497 | 19.875 | 22.915 | 23.897 | 35.459 | 36.210 | 30.890 | 29.432 | 31.849 | 32.912 | 36.911 |
| Mean  | 1,156  | 850    | 641    | 739    | 853    | 1,144  | 1,207  | 996    | 981    | 1,027  | 1,062  | 1,230  |
| Max   | 1,470  | 970    | 1,030  | 1,050  | 1,01   |        |        |        |        |        |        |        |



10-2557. San Felipe Creek near Julian, Calif.

Location.--Lat 33°07'07", long 116°26'04", in Anza Borrego State Park, on left bank at bridge on State Highway 78, in Sentenac Canyon 1.0 mile upstream from Grapevine Canyon and 10 miles northeast of Julian, San Diego County.

Drainage area.--89.3 sq mi.

Records available.--August 1958 to September 1963.

Gage.--Water-stage recorder and concrete low-water control. Datum of gage is 1,872.69 ft above mean sea level (datum of 1929).

Average discharge.--5 years, 0.29 cfs (210 acre-ft per year).

Extremes.--Maximum discharge during year, 5.8 cfs Mar. 17 (gage height, 1.63 ft); no flow Oct. 1 to Dec. 10, June 1-5, June 15 to Sept. 30.

1958-63: Maximum discharge, 16 cfs Sept. 13, 1961 (gage height, 1.85 ft); no flow for many days each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |    |     |     |
|-----|----|-----|-----|
| 1.1 | 0  | 1.4 | 1.3 |
| 1.2 | .2 | 1.5 | 2.6 |
| 1.3 | .6 | 1.6 | 4.8 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.    | Nov.  | Dec.      | Jan.      | Feb.  | Mar. | Apr. | May  | June | July | Aug. | Sept. |
|---------------------|---------|-------|-----------|-----------|-------|------|------|------|------|------|------|-------|
| 1                   |         |       | 0         | 0.2       | 0.4   | 0.3  | 0.4  | 0.3  | 0    |      |      |       |
| 2                   |         |       | 0         | .3        | .4    | .3   | .4   | .2   | 0    |      |      |       |
| 3                   |         |       | 0         | .4        | .3    | .3   | .4   | .2   | 0    |      |      |       |
| 4                   |         |       | 0         | .3        | .3    | * .3 | .4   | .2   | 0    |      |      |       |
| 5                   |         |       | 0         | .3        | * .4  | .3   | .4   | .2   | 0    |      |      |       |
| 6                   |         |       | 0         | .3        | .4    | .4   | .3   | .2   | .1   |      |      |       |
| 7                   |         | (*)   | 0         | .3        | .4    | .4   | .3   | * .2 | .1   |      |      |       |
| 8                   |         |       | 0         | .3        | .4    | .4   | .3   | .2   | .1   |      |      |       |
| 9                   |         |       | 0         | .3        | .4    | .4   | .3   | .2   | .1   | (*)  |      |       |
| 10                  |         |       | * 0       | * .3      | 1.3   | .4   | .3   | .2   | .1   |      |      |       |
| 11                  | (*)     |       | .1        | .3        | .9    | .4   | .3   | .2   | .1   |      |      | (*)   |
| 12                  |         |       | .2        | .3        | .5    | .4   | .3   | .2   | .1   |      |      |       |
| 13                  |         |       | .2        | .3        | .5    | .4   | .3   | .2   | .1   |      |      |       |
| 14                  |         |       | .2        | .3        | .5    | .4   | .3   | .2   | .1   |      |      |       |
| 15                  |         |       | .2        | .3        | .4    | .4   | * .3 | .1   | 0    |      |      |       |
| 16                  |         |       | .2        | .3        | .4    | .4   | .3   | .1   | 0    |      |      |       |
| 17                  |         |       | .2        | .3        | .4    | 2.9  | 1.2  | .1   | 0    |      |      |       |
| 18                  |         |       | .4        | .3        | .4    | .8   | .7   | .1   | * 0  |      |      |       |
| 19                  |         |       | * .2      | .3        | .4    | .5   | .5   | .1   | 0    |      |      |       |
| 20                  |         |       | .2        | .3        | * .4  | .5   | .4   | .1   | 0    |      |      |       |
| 21                  |         |       | .2        | .3        | .4    | .4   | .4   | .1   | 0    |      |      |       |
| 22                  | (*)     |       | .2        | .3        | .4    | .4   | .4   | .1   | 0    |      |      |       |
| 23                  |         |       | .2        | * .3      | .3    | .4   | .4   | .1   | 0    |      |      |       |
| 24                  |         |       | .2        | .3        | .3    | .4   | .3   | .1   | 0    |      |      |       |
| 25                  |         |       | .2        | .3        | .3    | .4   | .3   | .1   | 0    |      |      |       |
| 26                  |         |       | .2        | .3        | .3    | * .4 | .6   | .1   | 0    |      |      |       |
| 27                  |         |       | .2        | .3        | .3    | .4   | .5   | .1   | 0    |      |      |       |
| 28                  |         | (*)   | .2        | .3        | .3    | .4   | .4   | .1   | 0    |      |      |       |
| 29                  |         |       | .2        | .3        | ----- | .4   | .3   | * .1 | 0    | (*)  | (*)  |       |
| 30                  |         |       | .2        | .3        | ----- | .4   | .3   | .1   | 0    |      |      |       |
| 31                  |         |       | .2        | .3        | ----- | .4   | .3   | .1   | 0    |      |      |       |
| Total               | 0       | 0     | 4.3       | 9.3       | 12.1  | 15.0 | 12.0 | 4.6  | 0.9  | 0    | 0    | 0     |
| Mean                | 0       | 0     | 0.14      | 0.30      | 0.43  | 0.48 | 0.40 | 0.15 | 0.03 | 0    | 0    | 0     |
| Max                 | 0       | 0     | 0.4       | 0.4       | 1.3   | 2.9  | 1.2  | 0.3  | 0.1  | 0    | 0    | 0     |
| Min                 | 0       | 0     | 0         | 0.2       | 0.3   | 0.3  | 0.3  | 0.1  | 0    | 0    | 0    | 0     |
| Ac-ft               | 0       | 0     | 8.5       | 18        | 24    | 30   | 24   | 9.1  | 1.8  | 0    | 0    | 0     |
| Calendar year 1962: | Max 3.0 | Min 0 | Mean 0.23 | Ac-ft 166 |       |      |      |      |      |      |      |       |
| Water year 1962-63: | Max 2.9 | Min 0 | Mean 0.16 | Ac-ft 115 |       |      |      |      |      |      |      |       |

Peak discharge (base, 50 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Apr. 10-14.

## SALTON SEA BASIN

10-2558. Coyote Creek near Borrego Springs, Calif.

Location.--Lat 33°22'25", long 116°25'39", in SE 1/4 SW 1/4 sec.23, T.9 S., R.5 E., on right bank 500 ft upstream from Box Canyon and 8.5 miles northwest of Borrego Springs.

Drainage area.--144 sq mi.

Records available.--October 1950 to September 1963. Monthly discharge only for October and November 1950, published in WSP 1734.

Gage.--Water-stage recorder. Altitude of gage is 1,250 ft (from topographic map).

Average discharge.--13 years, 2.29 cfs (1,660 acre-ft per year).

Extremes.--Maximum discharge during year, 20 cfs Aug. 7 (gage height, 8.93 ft); minimum daily, 0.8 cfs July 3, 4, 11, 12, 14.  
1950-63: Maximum discharge, 3,800 cfs July 28, 1951 (gage height, 14.14 ft, from floodmark), from rating curve extended above 4 cfs on basis of slope-area measurement of peak flow; minimum daily, that of July 3, 4, 11, 12, 14, 1963.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 29 to June 30, Aug. 8 to Sept. 29)

|     |     |
|-----|-----|
| 8.2 | 0   |
| 8.3 | 1.1 |
| 8.4 | 2.9 |
| 8.5 | 5.3 |
| 8.6 | 8.0 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 1.2  | 1.4   | 1.2  | 1.6  | 1.9   | 1.7  | 1.4   | 1.6  | 1.2   | 1.1  | 1.4  | 1.9   |
| 2     | 1.2  | 1.4   | 1.2  | 1.6  | 1.7   | 1.7  | 1.4   | 1.6  | 1.2   | .9   | 1.6  | 1.7   |
| 3     | 1.2  | 1.4   | 1.2  | 1.6  | 1.7   | 1.7  | 1.4   | 1.4  | 1.2   | .8   | 1.6  | 1.7   |
| 4     | 1.2  | 1.4   | 1.4  | 1.6  | 1.7   | *1.7 | 1.2   | 1.4  | 1.2   | .8   | 1.6  | 2.1   |
| 5     | 1.2  | 1.4   | 1.4  | 1.6  | *1.7  | 1.7  | 1.2   | 1.2  | 1.4   | .9   | 1.9  | 1.7   |
| 6     | 1.2  | 1.4   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.4   | .9   | 2.1  | 1.7   |
| 7     | 1.2  | *1.2  | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | *1.2 | 1.6   | .9   | 5.7  | 1.6   |
| 8     | 1.2  | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.7   | .9   | A5.8 | 1.4   |
| 9     | 1.2  | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.7   | *.9  | A5.3 | 1.4   |
| 10    | 1.2  | 1.2   | *1.4 | *1.6 | 1.7   | 1.7  | 1.2   | 1.2  | 1.9   | .9   | A5.1 | 1.2   |
| 11    | *1.2 | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.9   | .8   | A2.3 | *1.4  |
| 12    | 1.2  | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.9   | .8   | A2.1 | 1.7   |
| 13    | 1.2  | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.9   | .9   | A1.9 | 1.6   |
| 14    | 1.2  | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.7   | .8   | A1.9 | 1.6   |
| 15    | 1.2  | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | *1.2  | 1.2  | 1.7   | .9   | A1.9 | 1.6   |
| 16    | 1.2  | 1.2   | 1.4  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.6   | .9   | *4.3 | 1.6   |
| 17    | 1.4  | 1.2   | 1.6  | 1.6  | 1.7   | 1.7  | 1.2   | 1.2  | 1.4   | .9   | A3.2 | 4.2   |
| 18    | 1.4  | 1.2   | 1.6  | 1.6  | 1.7   | 1.6  | 1.2   | 1.2  | *1.4  | .9   | A2.5 | A1.9  |
| 19    | 1.4  | 1.2   | *1.6 | 1.7  | 1.7   | 1.6  | 1.2   | 1.2  | 1.1   | .9   | A2.1 | A1.7  |
| 20    | 1.4  | 1.2   | 1.4  | 1.7  | *1.7  | 1.6  | 1.2   | 1.2  | 1.1   | .9   | A1.7 | A1.7  |
| 21    | 1.4  | 1.2   | 1.4  | 1.7  | 1.7   | 1.6  | 1.2   | 1.2  | 1.2   | .9   | A1.6 | A1.7  |
| 22    | *1.4 | 1.2   | 1.4  | 1.7  | 1.7   | 1.6  | 1.2   | 1.2  | 1.4   | .9   | A1.6 | A1.7  |
| 23    | 1.4  | 1.2   | 1.4  | *1.7 | 1.7   | 1.7  | 1.2   | 1.2  | 1.6   | .9   | A1.6 | *1.7  |
| 24    | 1.4  | 1.2   | 1.4  | 1.7  | 1.7   | 1.6  | 1.2   | 1.2  | 1.2   | .9   | A1.6 | 2.3   |
| 25    | 1.4  | 1.2   | 1.6  | 1.9  | 1.7   | 1.6  | 1.4   | 1.2  | 1.2   | .9   | A1.6 | 2.1   |
| 26    | 1.4  | 1.2   | 1.6  | 1.9  | 1.7   | *1.6 | 1.4   | 1.2  | 1.2   | .9   | A1.6 | 1.9   |
| 27    | 1.4  | 1.2   | 1.4  | 2.1  | 1.7   | 1.6  | 1.4   | 1.2  | 1.4   | 1.1  | A1.6 | 1.6   |
| 28    | 1.4  | *1.2  | 1.4  | 2.1  | 1.7   | 1.6  | 1.4   | 1.1  | 1.4   | 1.1  | A1.6 | 1.6   |
| 29    | 1.4  | 1.2   | 1.4  | 2.1  | ----- | 1.6  | 1.4   | *1.2 | 1.4   | *1.1 | A1.6 | 1.4   |
| 30    | 1.4  | 1.2   | 1.6  | 2.1  | ----- | 1.6  | 1.4   | 1.1  | 1.4   | 1.2  | *1.6 | 1.4   |
| 31    | 1.4  | ----- | 1.6  | 1.9  | ----- | 1.4  | ----- | 1.2  | ----- | 1.6  | 1.7  | ---   |
| TOTAL | 40.2 | 37.2  | 44.2 | 53.1 | 47.8  | 51.2 | 37.8  | 38.2 | 43.6  | 29.2 | 73.7 | 52.8  |
| MEAN  | 1.30 | 1.24  | 1.43 | 1.71 | 1.71  | 1.65 | 1.26  | 1.23 | 1.45  | 0.94 | 2.38 | 1.76  |
| MAX   | 1.4  | 1.4   | 1.6  | 2.1  | 1.9   | 1.7  | 1.4   | 1.6  | 1.9   | 1.6  | 5.8  | 4.2   |
| MIN   | 1.2  | 1.2   | 1.2  | 1.6  | 1.7   | 1.4  | 1.2   | 1.1  | 1.1   | 0.8  | 1.4  | 1.2   |
| AC-FT | 80   | 74    | 88   | 105  | 95    | 102  | 75    | 76   | 86    | 58   | 146  | 105   |

CALENDAR YEAR 1962: MAX 1.9 MIN 0.9 MEAN 1.41 AC-FT 1,020  
WATER YEAR 1962-63 MAX 5.8 MIN 0.8 MEAN 1.50 AC-FT 1,090

Peak discharge (base, 50 cfs).--No peak above base.

\* Discharge measurement made on this day.  
A No gage-height record.

## SALTON SEA BASIN

47

10-2558.1. Borrego Palm Creek near Borrego Springs, Calif.

Location.--Lat 33°16'44", long 116°25'45", in Anza-Borrego Desert State Park, on left bank 3.3 miles northwest of Borrego Springs, San Diego County.

Drainage area.--21.7 sq mi.

Records available.--October 1950 to September 1963. Prior to October 1960, published as "Palm Canyon Creek." Monthly discharge only for October to November 1950, published in WSP 1734.

Gage.--Water-stage recorder. Altitude of gage is 1,200 ft (from topographic map).

Average discharge.--13 years, 0.40 cfs (290 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 3.5 cfs Feb. 10 (gage height, 2.10 ft); no flow Oct. 1 to Jan. 22, May 21 to Sept. 30. 1950-63: Maximum discharge, about 2,000 cfs Aug. 23, 1955 (gage height, 9.9 ft, from floodmarks), on basis of velocity-area study; no flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|------|------|------|------|-------|
| 1     |      |      |      | 0    | 0.1   | 0.2  | 0.2   | 0.1  |      |      |      |       |
| 2     |      |      |      | 0    | .1    | .2   | .2    | .1   |      |      |      |       |
| 3     |      |      |      | 0    | .1    | .2   | .2    | .1   |      |      |      |       |
| 4     |      |      |      | 0    | .1    | *.2  | .2    | .1   |      |      |      |       |
| 5     |      |      |      | 0    | *.1   | .2   | .1    | .1   |      |      |      |       |
| 6     |      |      |      | 0    | .2    | .2   | .1    | .1   |      |      |      |       |
| 7     |      | (*)  |      | 0    | .2    | .2   | .1    | *.1  |      |      |      |       |
| 8     |      |      |      | 0    | .2    | .2   | .1    | .1   |      |      |      |       |
| 9     |      |      |      | 0    | .2    | .2   | .1    | .1   |      |      |      |       |
| 10    |      |      | (*)  | *0   | 1.6   | .2   | .1    | .1   |      |      |      |       |
| 11    | (*)  |      |      | 0    | 1.3   | .2   | .1    | .1   |      |      |      |       |
| 12    |      |      |      | 0    | .5    | .2   | .1    | .1   |      |      |      |       |
| 13    |      |      |      | 0    | .4    | .2   | .1    | .1   |      |      |      |       |
| 14    |      |      |      | 0    | .4    | .2   | .1    | .1   |      |      | (*)  |       |
| 15    |      |      |      | 0    | .3    | .2   | *.1   | .1   |      |      |      |       |
| 16    |      |      |      | 0    | .3    | .3   | .1    | .1   |      |      |      |       |
| 17    |      |      |      | 0    | .3    | .6   | .2    | .1   |      |      |      |       |
| 18    |      |      |      | 0    | .3    | .4   | .2    | .1   | (*)  |      |      |       |
| 19    |      |      | (*)  | 0    | .3    | .3   | .2    | .1   |      |      |      |       |
| 20    |      |      |      | 0    | *.2   | .3   | .2    | .1   |      |      |      |       |
| 21    |      |      |      | 0    | .2    | .3   | .2    | 0    |      |      |      |       |
| 22    | (*)  |      |      | 0    | .2    | .3   | .2    | 0    |      |      |      |       |
| 23    |      |      |      | .1   | .2    | .3   | .1    | 0    |      |      |      |       |
| 24    |      |      |      | .1   | .2    | .2   | .1    | 0    |      |      |      |       |
| 25    |      |      |      | .1   | .2    | .2   | .1    | 0    |      |      |      |       |
| 26    |      |      |      | .1   | .2    | *.2  | .2    | 0    |      |      |      |       |
| 27    |      |      |      | .1   | .2    | .3   | .2    | 0    |      |      |      |       |
| 28    |      |      |      | .1   | .2    | .3   | .2    | 0    |      |      |      |       |
| 29    |      |      |      | .1   | ----- | .3   | .1    | *0   |      | (*)  |      |       |
| 30    |      |      |      | .1   | ----- | .2   | .1    | 0    |      |      |      |       |
| 31    |      |      |      | .1   | ----- | .2   | ----- | 0    |      |      |      |       |
| Total | 0    | 0    | 0    | 0.9  | 8.8   | 7.7  | 4.3   | 2.0  | 0    | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0.03 | 0.31  | 0.25 | 0.14  | 0.06 | 0    | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 0.1  | 1.6   | 0.6  | 0.2   | 0.1  | 0    | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0.1   | 0.2  | 0.1   | 0    | 0    | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 1.8  | 17    | 15   | 8.5   | 4.0  | 0    | 0    | 0    | 0     |

Calendar year 1962: Max 1.8 Min 0 Mean 0.18 Ac-ft 129  
 Water year 1962-63: Max 1.6 Min 0 Mean 0.06 Ac-ft 46

Peak discharge (base, 15 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

Note.--Stage-discharge relation indefinite Apr. 7-11, Apr. 28 to May 6.

## SALTON SEA BASIN

10-2558.85. San Felipe Creek near Westmoreland, Calif.

Location.--Lat 33°07'25", long 115°51'05", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.17, T.12 S., R.11 E., on left bank 320 ft downstream from U.S. Highway 99 and 14.6 miles northwest of Westmoreland.

Records available.--December 1960 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 190 ft below mean sea level (from topographic map).

Extremes.--Maximum discharge during year, 6,080 cfs Sept. 18 (gage height, 10.18 ft, from profile of floodmarks), on basis of slope-area measurement of peak flow; no flow for most of year.

1960-63: Maximum discharge, that of Sept. 18, 1963; no flow for some months in each year.

Remarks.--Records fair except those above 10 cfs, which are poor. No regulation. Diversion and pumping for domestic use and irrigation in Borrego Valley 25 miles upstream.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec.  | Jan. | Feb.  | Mar. | Apr.  | May   | June  | July  | Aug.  | Sept.  |
|-------|------|------|-------|------|-------|------|-------|-------|-------|-------|-------|--------|
| 1     |      |      | 0     | 0.4  | 0.5   | 0.3  | 0.3   |       |       |       | 0     | 0      |
| 2     |      |      | 0     | .4   | .4    | .3   | .2    | (*)   |       |       | 0     | 0      |
| 3     |      |      | 0     | *.4  | .4    | .3   | .2    |       |       |       | 0     | 0      |
| 4     |      |      | 0     | .4   | .4    | .3   | .2    |       |       |       | 0     | 0      |
| 5     | (*)  |      | 0     | .4   | .3    | *.3  | .2    |       |       |       | 0     | *0     |
| 6     |      |      | 0     | .4   | .3    | .3   | .2    |       |       |       | 0     | 0      |
| 7     |      |      | 0     | .4   | *.3   | .3   | .1    |       |       |       | 0     | 0      |
| 8     |      |      | 0     | .4   | .3    | .3   | .1    |       |       |       | *.48  | 0      |
| 9     |      |      | 0     | *.4  | .4    | .3   | .1    | (*)   |       |       | *.1.7 | 0      |
| 10    |      |      | 0     | .4   | .4    | .3   | .1    |       |       |       | .1    | 0      |
| 11    |      |      | 0     | .4   | .4    | .2   | .1    |       |       | (*)   | 0     | 0      |
| 12    |      |      | 0     | .3   | .4    | .2   | .1    |       |       |       | 0     | 0      |
| 13    |      |      | *0    | .3   | .4    | .2   | .1    |       | (*)   |       | *0    | *0     |
| 14    |      |      | 0     | .3   | .3    | .3   | .1    |       |       |       | .1    | 0      |
| 15    |      |      | 0     | .3   | .3    | .3   | .1    |       |       |       | 0     | 0      |
| 16    |      |      | 0     | .4   | .3    | .3   | .1    |       |       |       | 0     | 0      |
| 17    |      |      | 0     | .4   | .3    | .3   | *.1   |       |       |       | 0     | 67     |
| 18    |      |      | *.9   | .4   | .4    | .4   | .1    |       |       |       | 0     | *1.250 |
| 19    |      |      | .6    | .3   | .4    | .3   | .1    |       | (*)   |       | 0     | *2.44  |
| 20    |      |      | .5    | .4   | .4    | .3   | .1    |       |       |       | 0     | *1     |
| 21    |      |      | .4    | .4   | *.4   | .3   | .1    |       |       |       | 0     | 0      |
| 22    |      |      | .4    | .4   | .4    | .3   | .1    |       |       |       | *0    | 0      |
| 23    |      |      | .3    | *.4  | .3    | .3   | .1    |       |       |       | 0     | 0      |
| 24    |      |      | .3    | .4   | .3    | .2   | .1    |       |       |       | 0     | 0      |
| 25    | (*)  |      | .3    | .4   | .3    | .3   | .1    |       |       |       | 0     | *0     |
| 26    |      |      | .3    | .4   | .3    | *.3  | .1    |       |       |       | 0     | 0      |
| 27    |      |      | .3    | .4   | .3    | .3   | *.1   |       |       |       | 0     | 0      |
| 28    |      |      | .3    | .4   | .3    | .2   | .1    |       |       |       | 0     | 0      |
| 29    |      |      | .3    | .4   | ----- | .2   | .1    |       |       | (*)   | 0     | 0      |
| 30    |      |      | .3    | .4   | ----- | .2   | 0     | (*)   |       |       | 0     | 0      |
| 31    |      |      | ----- | .4   | ----- | .2   | ----- | ----- | ----- | ----- | 0     | -----  |
| Total | 0    | 0    | 5.6   | 12.0 | 9.9   | 8.6  | 3.6   | 0     | 0     | 0     | 49.9  | 1562   |
| Mean  | 0    | 0    | 0.18  | 0.39 | 0.35  | 0.28 | 0.12  | 0     | 0     | 0     | 1.61  | 52.1   |
| Max   | 0    | 0    | 0.9   | 0.5  | 0.5   | 0.4  | 0.3   | 0     | 0     | 0     | .48   | 1,250  |
| Min   | 0    | 0    | 0     | 0.3  | 0.3   | 0.2  | 0     | 0     | 0     | 0     | 0     | 0      |
| Ac-ft | 0    | 0    | 11    | 24   | 20    | 17   | 7.1   | 0     | 0     | 0     | 99    | 3,100  |

Calendar year 1962: Max 126 Min 0 Mean 0.52 Ac-ft 374

Water year 1962-63: Max 1,250 Min 0 Mean 4.52 Ac-ft 3,280

Peak discharge (base, 200 cfs).--Sept. 18 (2200 hrs) 6,080 cfs (10.18 ft).

\* Discharge measurement or observation of no flow made on this day.

## SALTON SEA BASIN

49

10-2560. Whitewater River at White Water, Calif.

Location.--Lat 33°56'48", long 116°38'24", in NW¼NW¼NE¼ sec.2, T.3 S., R.3 E., on right bank 1.5 miles north of White Water and 3½ miles upstream from San Geronio River.

Drainage area.--57.4 sq mi.

Records available.--October 1948 to September 1963.

Gage.--Water-stage recorder and supplementary water-stage recorder 200 ft upstream on river; water-stage recorder and 8-ft Cipolletti weir on diversion 500 ft downstream. Feb. 24, 1950, to Sept. 30, 1952, supplementary gage used as base gage. Since Apr. 13, 1960, supplementary gage 150 ft upstream at datum 5.0 ft higher.

Average discharge (river only).--15 years, 9.91 cfs (7,170 acre-ft per year).  
(adjusted).--14 years (1949-63), 11.5 cfs (8,330 acre-ft per year), adjusted for flow in infiltration line; median of yearly mean adjusted discharges, 9.8 cfs (7,100 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 660 cfs Sept. 18 (gage height, 7.80 ft), from rating curve extended above 10 cfs on basis of field estimate at gage height 7.04 ft; minimum daily, 2.8 cfs Sept. 21.  
1948-63: Maximum discharge, about 1,500 cfs Apr. 3, 1958 (gage height, 8.35 ft), from rating curve extended above 230 cfs on basis of slope-area measurement at gage height 7.52 ft; no flow Jan. 9, 11, 1957.  
Maximum discharge known, 42,000 cfs Mar. 2, 1938, from slope-area measurement of peak flow, at site 2.5 miles upstream (drainage area, 51.4 sq mi).

Remarks.--Records good except those above 10 cfs, which are poor. Discharge measurements generally made twice a month. Monthly runoff is adjusted for flow from infiltration line that bypasses station. Water is diverted out of basin about 15 miles upstream to power-plants in San Geronio River basin and thence to an area north of Banning for irrigation. One small diversion for domestic use and one for irrigation are made 2 to 3 miles upstream.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 9.2   | 6.3   | 5.4   | 4.4   | 4.4   | 3.8   | 8.2   | 4.9   | 6.1   | 7.4   | 8.4   | 5.4   |
| 2     | 9.2   | 6.3   | 5.1   | 6.1   | 3.8   | 3.8   | 6     | 4.7   | 5.6   | 8.2   | 8.4   | 7.9   |
| 3     | 9.2   | 6.1   | 6.3   | 5.1   | 3.6   | 3.4   | 5     | 4.3   | 6.6   | 8.7   | 7.6   | 8.7   |
| 4     | 9.2   | 4.9   | 5.9   | 5.4   | 4.7   | 4.2   | 4     | 4.3   | 7.1   | 7.9   | 4.7   | 7.4   |
| 5     | 8.2   | 6.3   | 6.1   | 4.7   | 4.7   | 4.2   | 4.4   | 4.3   | 6.8   | 7.9   | 8.7   | 4.7   |
| 6     | 6.8   | 6.3   | 6.1   | 4.2   | 4.4   | 4.7   | 4.0   | 4.0   | 6.6   | 6.3   | 9.5   | 4.9   |
| 7     | 6.1   | 6.6   | 6.3   | 5.1   | 4.0   | 4.2   | 4     | 4.9   | 6.6   | 5.9   | 8.0   | 4.9   |
| 8     | 7.1   | 6.3   | 5.6   | 6.6   | 4.0   | 4.7   | 4.7   | 5.4   | 6.1   | 7.4   | 3.7   | 4.2   |
| 9     | 7.9   | 6.3   | 5.4   | 6.3   | 4.4   | 4.9   | 5.1   | 5.4   | 5.6   | 7.4   | 5.3   | 4.9   |
| 10    | 8.2   | 6.1   | 6.1   | 4.9   | 3.7   | 4.4   | 5.1   | 5.4   | 6.6   | 7.1   | 4.7   | 6.3   |
| 11    | 7.6   | 5.4   | 6.1   | 5.1   | 4.3   | 5.1   | 5.1   | 5.4   | 6.8   | 6.6   | 4.0   | 7.1   |
| 12    | 8.4   | 6.3   | 6.1   | 5.6   | 2.8   | 4.9   | 4.0   | 4.7   | 6.8   | 7.6   | 7.5   | 7.1   |
| 13    | 7.1   | 6.6   | 6.1   | 4.0   | 3.1   | 4.0   | 3.4   | 5.1   | 6.6   | 6.1   | 8.7   | 7.9   |
| 14    | 7.1   | 6.3   | 6.3   | 5.6   | 3.1   | 4.9   | 3.4   | 5.1   | 6.6   | 5.6   | 8.7   | 6.3   |
| 15    | 7.9   | 6.1   | 5.9   | 6.1   | 2.8   | 4.9   | 4.2   | 4.9   | 5.9   | 6.8   | 8.2   | 5.4   |
| 16    | 7.9   | 6.3   | 5.4   | 6.1   | 3.1   | 4.7   | 4.0   | 6.8   | 5.1   | 7.4   | 8.2   | 6.6   |
| 17    | 7.9   | 6.1   | 6.3   | 4.0   | 3.4   | 5.1   | 5.1   | 7.4   | 6.1   | 7.4   | 6.8   | 7     |
| 18    | 6.8   | 5.4   | 5.1   | 4.0   | 4.0   | 3.8   | 4.7   | 6.3   | 7.4   | 8.7   | 4.9   | 100   |
| 19    | 6.3   | 6.6   | 3.6   | 3.4   | 4.0   | 3.2   | 4.3   | 6.1   | 7.9   | 8.7   | 7.9   | 5.5   |
| 20    | 6.3   | 6.6   | 3.4   | 3.4   | 4.2   | 3.2   | 4.7   | 6.3   | 7.6   | 7.9   | 8.2   | 3.7   |
| 21    | 6.3   | 5.9   | 3.8   | 4.2   | 4.0   | 3.1   | 5.5   | 7.4   | 7.6   | 5.1   | 8.2   | 2.8   |
| 22    | 5.9   | 5.1   | 3.8   | 4.2   | 4.0   | 3.1   | 5.5   | 7.1   | 6.3   | 9.0   | 7.6   | 3.4   |
| 23    | 5.4   | 6.8   | 4.0   | 4.2   | 3.6   | 3.4   | 5.1   | 7.4   | 6.6   | 9.0   | 7.6   | 4.9   |
| 24    | 5.1   | 5.4   | 5.4   | 4.0   | 3.0   | 3.2   | 4.7   | 7.1   | 8.2   | 9.0   | 6.6   | 7.7   |
| 25    | 5.4   | 4.9   | 4.4   | 4.0   | 3.6   | 4.2   | 4.4   | 6.3   | 8.2   | 8.7   | 5.5   | 5.9   |
| 26    | 6.8   | 6.3   | 5.9   | 3.6   | 4.0   | 4.4   | 5.5   | 6.1   | 7.4   | 8.7   | 8.2   | 6.3   |
| 27    | 6.1   | 6.6   | 5.1   | 3.6   | 4.2   | 4.4   | 5.1   | 6.6   | 7.6   | 7.9   | 7.9   | 8.2   |
| 28    | 5.6   | 6.6   | 5.6   | 4.0   | 4.0   | 1.5   | 5.1   | 7.4   | 7.6   | 5.1   | 7.6   | 6.1   |
| 29    | 6.3   | 6.3   | 4.4   | 4.4   | 4.0   | 1.1   | 4.3   | 7.4   | 6.8   | 9.0   | 7.4   | 6.1   |
| 30    | 6.6   | 6.8   | 4.4   | 4.7   | ----- | 7.2   | 4.9   | 6.8   | 6.1   | 9.2   | 7.6   | 7.4   |
| 31    | 6.8   | ----- | 5.6   | 4.7   | ----- | 6.3   | ----- | 6.3   | ----- | 9.0   | 6.6   | ----- |
| Total | 220.7 | 183.9 | 165.0 | 145.7 | 106.9 | 151.4 | 143.5 | 182.3 | 203.2 | 236.7 | 222.9 | 274.7 |
| Mean  | 7.12  | 6.13  | 5.32  | 4.70  | 3.82  | 4.88  | 4.78  | 5.88  | 6.77  | 7.64  | 7.19  | 9.16  |
| Max   | 9.2   | 6.8   | 6.3   | 6.6   | 4.7   | 15    | 8.2   | 7.4   | 8.2   | 9.2   | 9.5   | 100   |
| Min   | 5.1   | 4.9   | 3.4   | 3.4   | 3.0   | 3.1   | 3.4   | 4.3   | 5.1   | 5.1   | 3.7   | 2.8   |
| Ac-ft | 438   | 365   | 327   | 289   | 212   | 300   | 285   | 362   | 403   | 469   | 442   | 545   |
| (†)   | 31    | 37    | 10    | 40    | 76    | 78    | 78    | 65    | 53    | 40    | 26    | 49    |
| (‡)   | 469   | 402   | 337   | 329   | 288   | 378   | 363   | 427   | 456   | 509   | 468   | 594   |
| (††)  | 67    | 64    | 72    | 124   | 660   | 75    | 89    | 76    | 63    | 48    | 53    | 55    |

Calendar year 1962: Max 22 Min 0.2 Mean 6.43 Ac-ft 4,650 Mean † 7.00 Ac-ft † 5,070  
Water year 1962-63: Max 100 Min 2.8 Mean 6.13 Ac-ft 4,440 Mean ‡ 6.97 Ac-ft ‡ 5,020

Peak discharge (base, 100 cfs).--Feb. 10 (0300 hrs) 109 cfs (6.83 ft); Sept. 18 (2300 hrs) 660 cfs (7.80 ft).

† Runoff, in acre-feet, from infiltration line; furnished by Whitewater Mutual Water Co.

‡ Adjusted for water collected in infiltration line.

†† Runoff, in acre-feet, diverted from basin 15 miles upstream; furnished by California Electric Power Co.

## SALTON SEA BASIN

10-2565. Snow Creek near White Water, Calif.

Location.--Lat 33°52'10", long 116°40'50", in NW¼ sec.33, T.3 S., R.3 E., on left bank 50 ft upstream from Southern Pacific Railroad diversion dam, 500 ft downstream from unnamed tributary, 2.8 miles upstream from mouth, and 4.5 miles southwest of White Water.

Drainage area.--11.0 sq mi.

Records available.--July to December 1921, May 1922 to February 1927, December 1927 to September 1931, October 1959 to September 1963. Yearly discharge only for 1930, published in WSP 1314.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 2,100 ft (from topographic map). Prior to Dec. 16, 1927, water-stage recorders at sites 50 ft and 150 ft downstream at different datum. Dec. 16, 1927, to Sept. 30, 1931, water-stage recorder at site 500 ft upstream at different datum.

Average discharge.--11 years (1922-26, 1928-31, 1959-63), 6.39 cfs (4,630 acre-ft per year).

Extremes.--Maximum discharge during year, 68 cfs Feb. 10, Sept. 18 (gage height, 3.10 ft); minimum daily, 2.4 cfs July 12-30, Aug. 24 to Sept. 3.

1921-31, 1959-63: Maximum discharge, 285 cfs Dec. 2, 1961 (gage height, 3.87 ft), from rating curve extended above 65 cfs; minimum daily, 2.1 cfs June 23-27, Sept. 5-11, 1961.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |    |
|-----|-----|-----|----|
| 1.8 | 2.2 | 2.6 | 22 |
| 2.0 | 4.0 | 2.8 | 35 |
| 2.2 | 7.2 | 3.0 | 55 |
| 2.4 | 13  |     |    |

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 2.8  | 2.7   | 2.8  | 3.8   | 4.4   | 3.8   | 5.2   | 6.5   | 3.8   | 2.8  | *2.8 | 2.4   |
| 2     | 2.8  | 2.6   | 2.8  | 3.9   | 4.4   | 3.8   | 5.0   | 6.7   | 3.8   | *2.8 | 2.7  | 2.4   |
| 3     | 2.8  | 2.6   | 2.8  | 3.9   | 3.9   | 3.8   | 4.6   | 6.9   | 3.7   | 2.8  | 2.6  | 2.4   |
| 4     | 2.8  | 2.6   | 2.9  | 3.9   | 3.8   | 3.8   | 4.4   | 6.7   | 3.7   | 2.8  | 2.5  | 3.1   |
| 5     | 2.9  | *2.6  | 2.9  | 3.8   | 3.6   | 3.9   | 4.3   | 6.2   | 3.6   | 2.8  | 2.5  | 3.2   |
| 6     | 2.8  | 2.7   | 2.9  | 3.7   | 3.5   | 3.8   | 4.1   | 5.8   | *3.6  | 2.8  | 2.8  | 3.0   |
| 7     | 2.8  | 2.7   | 2.9  | 3.7   | 3.4   | 3.8   | 4.4   | 6.2   | 3.6   | 2.8  | 4.3  | 2.8   |
| 8     | *2.7 | 2.7   | 2.8  | 3.7   | 3.4   | 3.8   | 4.7   | *6.9  | 3.5   | 2.8  | 4.1  | 2.8   |
| 9     | 2.7  | 2.7   | 2.8  | 3.6   | 4.5   | 3.8   | 4.7   | 7.2   | 3.5   | 2.8  | 3.0  | *2.7  |
| 10    | 2.7  | 2.7   | 2.8  | 3.6   | 3.6   | 3.8   | *4.6  | 6.3   | 3.5   | 2.7  | 2.8  | 2.7   |
| 11    | 2.6  | 2.7   | *2.8 | 3.6   | 13    | A3.7  | 4.4   | 5.6   | 3.5   | 2.6  | 2.7  | 2.6   |
| 12    | 2.7  | 2.7   | 2.9  | 3.5   | 8.4   | *A3.6 | 4.3   | 5.2   | 3.5   | 2.4  | *2.6 | 2.6   |
| 13    | 2.7  | 2.7   | 2.9  | 3.4   | 6.9   | A3.6  | 4.3   | 5.0   | 3.5   | 2.4  | 2.6  | 2.6   |
| 14    | 2.8  | 2.8   | 3.0  | 3.4   | 6.9   | A3.6  | 4.1   | 4.7   | 3.4   | 2.4  | 2.7  | 2.6   |
| 15    | 2.8  | 2.8   | 3.0  | 3.5   | 6.5   | 3.5   | 4.6   | 4.7   | 3.2   | *2.4 | 2.8  | 2.7   |
| 16    | 2.8  | 2.8   | 3.0  | 3.4   | 5.5   | 3.5   | 4.3   | 4.4   | 3.1   | 2.4  | 2.8  | 2.8   |
| 17    | 2.9  | 2.8   | 3.0  | *3.4  | 5.0   | 4.4   | 4.6   | 4.6   | 3.1   | 2.4  | 2.8  | 13    |
| 18    | 3.3  | 2.7   | 3.5  | 3.4   | 4.6   | 3.9   | 4.4   | 4.7   | 3.0   | 2.4  | 2.7  | 36    |
| 19    | 3.4  | 2.8   | 3.4  | 3.4   | 4.4   | 3.7   | 4.3   | 4.7   | 3.0   | 2.4  | 2.6  | 10    |
| 20    | 3.3  | 2.8   | 3.2  | 3.4   | 4.3   | 3.7   | 4.1   | 4.9   | *3.0  | 2.4  | 2.5  | *6.2  |
| 21    | 3.1  | 2.8   | 3.2  | 3.4   | 4.3   | *3.6  | 4.6   | 4.7   | 3.0   | 2.4  | 2.5  | 4.9   |
| 22    | 3.1  | 2.8   | 3.3  | 3.4   | 4.1   | 3.7   | 4.3   | *4.6  | 3.1   | 2.4  | 2.5  | 4.0   |
| 23    | *2.9 | 2.8   | 3.3  | 3.5   | 4.1   | 3.7   | 4.0   | 4.4   | 3.1   | 2.4  | 2.5  | 3.8   |
| 24    | 2.8  | 2.8   | 3.3  | 3.5   | 4.0   | 3.7   | *4.0  | 4.3   | 3.1   | 2.4  | 2.4  | 3.6   |
| 25    | 2.8  | 2.8   | 3.7  | 3.5   | 3.8   | 3.7   | 4.0   | 4.3   | 3.0   | 2.4  | 2.4  | 3.3   |
| 26    | 2.8  | *2.8  | 3.6  | 3.5   | *3.7  | 3.5   | 5.5   | 4.1   | 2.9   | 2.4  | *2.4 | 3.2   |
| 27    | 2.7  | 2.8   | *3.5 | 3.6   | 3.7   | 3.5   | 5.6   | 4.1   | 2.9   | 2.4  | 2.4  | 3.2   |
| 28    | 2.6  | 2.8   | 3.4  | 3.6   | 3.7   | 19    | 6.2   | 4.0   | 2.8   | 2.4  | 2.4  | 3.1   |
| 29    | 2.7  | 2.8   | 3.3  | *3.6  | ----- | 10    | 6.0   | 4.0   | 2.8   | 2.4  | 2.4  | 3.0   |
| 30    | 2.7  | 2.8   | 3.3  | 3.6   | ----- | 6.7   | 6.2   | 3.9   | 2.8   | 2.4  | 2.4  | 3.0   |
| 31    | 2.7  | ----- | 3.4  | 3.6   | ----- | 5.5   | ----- | 3.8   | ----- | 2.7  | 2.4  | ----- |
| TOTAL | 88.0 | 82.4  | 96.4 | 110.8 | 167.8 | 141.9 | 139.8 | 160.1 | 98.1  | 78.8 | 83.6 | 143.7 |
| MEAN  | 2.84 | 2.75  | 3.11 | 3.57  | 5.99  | 4.58  | 4.66  | 5.16  | 3.27  | 2.54 | 2.70 | 4.79  |
| MAX   | 3.4  | 2.9   | 3.7  | 3.9   | 3.6   | 19    | 6.2   | 7.2   | 3.8   | 2.8  | 4.3  | 36    |
| MIN   | 2.6  | 2.6   | 2.8  | 3.4   | 3.4   | 3.5   | 4.0   | 3.8   | 2.8   | 2.4  | 2.4  | 2.4   |
| AC-FT | 175  | 163   | 191  | 220   | 333   | 281   | 277   | 318   | 195   | 156  | 166  | 285   |

Calendar year 1962: Max 78 Min 2.4 Mean 5.56 Ac-ft 4,030  
 Water year 1962-63: Max 36 Min 2.4 Mean 3.81 Ac-ft 2,760

Peak discharge (base, 50 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-10 | 0200 | 3.10        | 68        | 9-18 | 1000 | 3.10        | 68        |
| 3-28 | 1330 | 3.04        | 60        |      |      |             |           |

\* Discharge measurement made on this day.  
 A No gage-height record.



## SALTON SEA BASIN

51

10-2578. Long Creek near Desert Hot Springs, Calif.

Location.--Lat 33°57'55", long 116°26'35", in SW 1/4 sec. 27, T.2 S., R.5 E., on left bank, 0.4 mile downstream from Metropolitan Water District aqueduct, and 3.3 miles east of Desert Hot Springs.

Records available.--April to September 1963.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,520 ft (from topographic map).

Extremes.--Maximum discharge during period, 9,270 cfs Aug. 7 (gage height, 8.0 ft, from floodmarks); no flow during most of period.

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

Discharge, in cubic feet per second, April to September 1963

Aug. 7.....\*a340  
Sept. 18.....\*\* a.2

| Month                               | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------------------|----------|---------|---------|------|------------------------|
| August 1963.....                    | 340      | 340     | 0       | 11.0 | 674                    |
| September.....                      | .2       | .2      | 0       | .007 | .4                     |
| Period April to September 1963..... | -        | 340     | 0       | -    | 674                    |

\* Discharge measurement and field estimate made on this day.

\*\* Field estimate made on this day.

a No gage-height record.

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

## SALTON SEA BASIN

10-2580. Tahquitz Creek near Palm Springs, Calif.

Location.--Lat 33°48'18", long 116°33'30", in NE 1/4 SW 1/4 sec. 22, T. 4 S., R. 4 E., on left bank 2.2 miles southwest of Palm Springs and 7 miles upstream from mouth.

Drainage area.--16.7 sq mi.

Records available.--October 1947 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 764.5 ft above mean sea level (levels by Riverside County Flood Control and Water Conservation District).

Average discharge.--16 years, 2.44 cfs (1,770 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5.1 cfs Feb. 10 (gage height, 1.25 ft); no flow Oct. 1 to Jan. 20, June 25 to Sept. 30. 1947-63: Maximum discharge, 1,570 cfs Aug. 31, 1954 (gage height, 8.45 ft in gage well, 10.0 ft outside, from floodmarks), from rating curve extended above 70 cfs on basis of slope-area measurement of peak flow; no flow for parts of each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 4-8)

|     |     |
|-----|-----|
| 0.5 | 0   |
| .6  | .2  |
| .7  | .5  |
| .8  | 1.0 |
| 1.0 | 2.4 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      |       |      | 0    | 0.1   | 0.2  | 1.0   | 1.4  | 0.2   | (*)  | (*)  |       |
| 2     |      |       |      | 0    | .1    | .2   | 1.1   | 1.7  | .2    |      |      |       |
| 3     |      |       |      | 0    | .1    | .2   | 1.0   | 1.8  | .2    |      |      |       |
| 4     |      |       |      | 0    | .1    | .2   | .9    | 1.8  | .2    |      |      |       |
| 5     |      | (*)   |      | 0    | .1    | .2   | .8    | 1.6  | .2    |      |      |       |
| 6     |      |       |      | 0    | .1    | .2   | .8    | 1.6  | *.2   |      |      |       |
| 7     |      |       |      | 0    | .1    | .2   | .8    | 1.5  | .1    |      |      |       |
| 8     | (*)  |       |      | 0    | .1    | .2   | .9    | *1.6 | .1    |      |      |       |
| 9     |      |       |      | 0    | .2    | .3   | 1.0   | 1.6  | .1    |      |      | (*)   |
| 10    |      |       |      | 0    | 1.4   | .3   | *.9   | 1.5  | .1    |      |      |       |
| 11    |      |       |      | 0    | *1.1  | .2   | .8    | 1.4  | .1    |      |      |       |
| 12    |      |       | (*)  | 0    | A.4   | *.2  | .7    | 1.3  | .1    |      | (*)  |       |
| 13    |      |       |      | 0    | A.4   | .2   | .6    | 1.2  | .1    |      |      |       |
| 14    |      |       |      | 0    | A.3   | .2   | .5    | 1.1  | .1    |      |      |       |
| 15    |      |       |      | 0    | A.3   | .2   | .6    | 1.0  | .1    |      |      |       |
| 16    |      |       |      | 0    | A.2   | .2   | .8    | .8   | .1    |      |      |       |
| 17    |      |       |      | 0    | A.2   | .3   | .9    | .8   | .1    |      |      |       |
| 18    |      |       |      | 0    | A.2   | .3   | .8    | .7   | .1    |      |      |       |
| 19    |      |       |      | 0    | A.2   | .4   | .8    | .6   | .1    |      |      |       |
| 20    |      |       |      | 0    | A.2   | .4   | .9    | .5   | *.1   |      |      | (*)   |
| 21    |      |       |      | .1   | A.2   | *.3  | .9    | .5   | .1    |      |      |       |
| 22    | (*)  |       |      | .1   | A.2   | .3   | .8    | *.4  | .1    |      |      |       |
| 23    |      |       |      | .1   | A.2   | .3   | .8    | .4   | .1    |      |      |       |
| 24    |      |       |      | .1   | A.2   | .3   | *.8   | .4   | .1    |      |      |       |
| 25    |      |       |      | .1   | A.2   | .3   | .8    | .4   | 0     |      |      |       |
| 26    |      |       |      | .1   | *.2   | .3   | 1.0   | .3   | 0     |      |      |       |
| 27    |      |       | (*)  | .1   | .2    | .3   | 1.0   | .3   | 0     |      |      |       |
| 28    |      |       |      | .1   | .2    | .4   | 1.1   | .3   | 0     |      |      |       |
| 29    |      |       |      | *.1  | ----- | 1.9  | 1.2   | .2   | 0     |      |      |       |
| 30    |      |       |      | .1   | ----- | 1.3  | 1.3   | .2   | 0     |      |      |       |
| 31    |      | ----- |      | .1   | ----- | 1.1  | ----- | .2   | ----- |      |      | ----- |
| TOTAL | 0    | 0     | 0    | 1.1  | 7.5   | 11.6 | 26.3  | 29.1 | 3.0   | 0    | 0    | 0     |
| MEAN  | 0    | 0     | 0    | 0.04 | 0.27  | 0.37 | 0.88  | 0.94 | 0.10  | 0    | 0    | 0     |
| MAX   | 0    | 0     | 0    | 0.1  | 1.4   | 1.9  | 1.3   | 1.8  | 0.2   | 0    | 0    | 0     |
| MIN   | 0    | 0     | 0    | 0    | 0.1   | 0.2  | 0.5   | 0.2  | 0     | 0    | 0    | 0     |
| AC-FT | 0    | 0     | 0    | 2.2  | 15    | 23   | 52    | 58   | 6.0   | 0    | 0    | 0     |

CALENDAR YEAR 1962 MAX 15 MIN 0 MEAN 2.17 AC-FT 1,570  
WATER YEAR 1962-63 MAX 1.9 MIN 0 MEAN 0.22 AC-FT 156

Peak discharge (base, 20 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

A No gage-height record.

10-2585. Palm Canyon Creek near Palm Springs, Calif.

Location.--Lat 33°44'55", long 116°32'15", in S $\frac{1}{2}$  sec. 11, T.5 S., R.4 E., on right bank three-quarters of a mile upstream from Murray Canyon Creek and 6 miles south of Palm Springs.

Drainage area.--94.0 sq mi.

Records available.--January 1930 to January 1942, October 1947 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 700 ft (from topographic map). Prior to Jan. 14, 1942, at datum 0.2 ft higher.

Average discharge.--27 years (1930-41, 1947-63), 4.05 cfs (2,930 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 100 cfs Aug. 7 (gage height, 2.98 ft); no flow for most of year.

1930-42, 1947-63: Maximum discharge, 3,850 cfs Feb. 6, 1937 (gage height, 5.60 ft, datum then in use), from rating curve extended above 120 cfs on basis of velocity-area study; no flow for several months in most years.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 10.....\*\*10  
 11.....\* .7  
 Aug. 7.....8.6  
 8.....1.4

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| February 1963.....      | 10.7     | 10      | 0       | 0.38 | 21                     |
| August.....             | 10.0     | 8.6     | 0       | .32  | 20                     |
| Calendar year 1962..... | -        | 3.4     | 0       | .23  | 170                    |
| Water year 1962-63..... | -        | 10      | 0       | .06  | 41                     |

Peak discharge (base, 100 cfs).--Aug. 7 (1500 hrs) 100 cfs (2.98 ft).

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

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

## SALTON SEA BASIN

10-2590. Andreas Creek near Palm Springs, Calif.

Location.--Lat 33°45'36", long 116°32'57", in NW 1/4 SE 1/4 sec. 3, T.5 S., R.4 E., on left bank at Bureau of Indian Affairs diversion dam, 1.1 miles above mouth and 5.1 miles south of Palm Springs.

Drainage area.--8.78 sq mi.

Records available.--October 1948 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 800 ft (from topographic map). Prior to Mar. 25, 1949, reference point at same site at different datum.

Average discharge.--15 years, 1.80 cfs (1,300 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes.--Maximum discharge during year, 21 cfs Feb. 10 (gage height, 2.03 ft); no flow for some days.

1948-63: Maximum discharge, 1,960 cfs Aug. 31, 1954 (gage height, 7.11 ft), from rating curve extended above 80 cfs on basis of slope-area measurement of peak flow; no flow at times in 1961, 1963.

Remarks.--Records good. One small diversion for domestic use about 1 mile above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 1.3 | 0   |
| 1.4 | 1.1 |
| 1.5 | 2.6 |
| 1.6 | 4.5 |
| 1.8 | 9.9 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.3  | 0.4   | 0.7  | 1.1  | 1.4   | 1.4  | 1.4   | 1.5  | 0.7   | *0.3 | *0.3 | 0     |
| 2     | .2   | .7    | .7   | 1.1  | 1.3   | 1.3  | 1.5   | 1.7  | .7    | .3   | .3   | 0     |
| 3     | .2   | .6    | .7   | 1.1  | 1.1   | 1.4  | 1.4   | 1.7  | .7    | .3   | 0    | *.1   |
| 4     | .3   | .6    | .7   | 1.1  | 1.1   | 1.4  | 1.3   | 1.5  | .7    | .3   | 0    | .7    |
| 5     | .4   | .6    | .9   | 1.1  | 1.1   | 1.4  | 1.1   | 1.4  | .9    | .3   | 0    | .6    |
| 6     | .4   | *.6   | .9   | 1.1  | 1.1   | 1.4  | 1.1   | 1.3  | *.9   | .2   | .3   | .4    |
| 7     | .4   | .6    | .9   | 1.1  | 1.1   | 1.4  | 1.1   | 1.1  | .9    | .2   | .4   | .3    |
| 8     | .4   | .6    | .9   | 1.1  | 1.1   | 1.4  | 1.1   | *1.1 | .9    | .2   | .4   | .2    |
| 9     | *.4  | .5    | 1.0  | 1.1  | 1.5   | 1.4  | 1.1   | 1.1  | .9    | .2   | .3   | *0    |
| 10    | .4   | .5    | 1.0  | 1.1  | 9.7   | 1.4  | *1.1  | 1.1  | .9    | .2   | .2   | 0     |
| 11    | .4   | .4    | 1.0  | 1.1  | *3.3  | 1.4  | 1.1   | 1.1  | .9    | .1   | 0    | 0     |
| 12    | .4   | .4    | *1.0 | 1.1  | 1.8   | *1.4 | 1.1   | 1.1  | 1.0   | .1   | *0   | .1    |
| 13    | .4   | .5    | 1.0  | 1.1  | 1.4   | 1.4  | 1.3   | 1.0  | 1.0   | 0    | 0    | .1    |
| 14    | .5   | .5    | 1.0  | 1.1  | 1.4   | 1.4  | 1.3   | 1.0  | .9    | 0    | .1   | .1    |
| 15    | .5   | .5    | 1.0  | 1.1  | 1.3   | 1.4  | 1.3   | .9   | .7    | *0   | .2   | .2    |
| 16    | .4   | .5    | 1.0  | 1.1  | 1.3   | 1.4  | 1.4   | .9   | .6    | 0    | .4   | .3    |
| 17    | .4   | .6    | 1.0  | *1.1 | 1.3   | 2.1  | 2.0   | .9   | .5    | 0    | .4   | 1.5   |
| 18    | .9   | .7    | 1.3  | 1.1  | 1.3   | 1.5  | 1.7   | .7   | .5    | 0    | .3   | 1.5   |
| 19    | .7   | .7    | 1.1  | 1.1  | 1.3   | 1.4  | 1.5   | .7   | .5    | 0    | .2   | 1.0   |
| 20    | .6   | .7    | .9   | 1.1  | 1.3   | 1.3  | 1.4   | .7   | *.5   | 0    | .1   | *.5   |
| 21    | .5   | .7    | .9   | 1.1  | 1.3   | *1.3 | 1.4   | .7   | .5    | 0    | 0    | .5    |
| 22    | *.5  | .6    | .9   | 1.3  | 1.3   | 1.3  | 1.4   | *.7  | .6    | 0    | .1   | .5    |
| 23    | .5   | .6    | .9   | 1.3  | 1.1   | 1.3  | 1.4   | .9   | .6    | 0    | 0    | .5    |
| 24    | .5   | .7    | .9   | 1.3  | 1.1   | 1.3  | *1.3  | .7   | .6    | 0    | 0    | .5    |
| 25    | .5   | .7    | 1.0  | 1.3  | 1.3   | 1.3  | 1.1   | .7   | .5    | 0    | 0    | .5    |
| 26    | .5   | *.7   | 1.0  | 1.3  | *1.3  | 1.3  | 2.3   | .7   | .5    | 0    | 0    | .5    |
| 27    | .4   | .7    | *1.1 | 1.1  | 1.3   | 1.3  | 1.8   | .7   | .4    | 0    | .2   | *.5   |
| 28    | .4   | .7    | 1.1  | 1.1  | 1.3   | 2.0  | 1.7   | .7   | .3    | 0    | 0    | .4    |
| 29    | .4   | .7    | 1.1  | *1.1 | ----- | 1.7  | 1.7   | .7   | .3    | 0    | 0    | .4    |
| 30    | .5   | .7    | 1.1  | 1.1  | ----- | 1.5  | 1.7   | .7   | .3    | 0    | 0    | .4    |
| 31    | .4   | ----- | 1.1  | 1.3  | ----- | 1.3  | ----- | .7   | ----- | 0    | 0    | ----- |
| TOTAL | 13.7 | 19.0  | 29.8 | 35.3 | 46.2  | 44.2 | 42.1  | 30.4 | 19.9  | 2.7  | 4.2  | 12.3  |
| MEAN  | 0.44 | 0.60  | 0.96 | 1.14 | 1.65  | 1.43 | 1.40  | 0.98 | 0.66  | 0.09 | 0.14 | 0.41  |
| MAX   | 0.9  | 0.7   | 1.3  | 1.3  | 9.7   | 2.1  | 2.3   | 1.7  | 1.0   | 0.3  | 0.4  | 1.5   |
| MIN   | 0.2  | 0.4   | 0.7  | 1.1  | 1.1   | 1.3  | 1.1   | 0.7  | 0.3   | 0    | 0    | 0     |
| AC-FT | 27   | 36    | 59   | 70   | 92    | 88   | 84    | 60   | 39    | 5.4  | 8.3  | 24    |

CALENDAR YEAR 1962 MAX 12 MIN 0.1 MEAN 1.22 AC-FT 884  
WATER YEAR 1962-63 MAX 9.7 MIN 0 MEAN 0.82 AC-FT 593

Peak discharge (base, 30 cfs).--No peak above base.

\* Discharge measurement made on this day.

10-2592. Deep Creek near Palm Desert, Calif.

Location.--Lat 33°37'50", long 116°23'30", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.19, T.6 S., R.6 E., on left bank 500 ft downstream from unnamed tributary, and 6.3 miles south of Palm Desert.

Drainage area.--30.6 sq mi.

Records available.--May 1962 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,440 ft above mean sea level (from topographic map).

Extremes.--Maximum discharge during year, 3.0 cfs Sept. 17 (gage height, 1.62 ft), on basis of field estimate of peak flow; no flow all year except Sept. 17, 18.

1962-63: Maximum discharge, that of Sept. 17, 1963; no flow for long periods each year.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 17.....\*\*0.4  
18......2

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| September 1963.....     | 0.6      | 0.4     | 0       | 0.02 | 1.2                    |
| Calendar year 1962..... | -        | -       | -       | -    | -                      |
| Water year 1962-63..... | -        | .4      | 0       | .002 | 1.2                    |

\*\*Field estimate made on this day.

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

Location.--Lat 33°30'39", long 116°03'35", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.33, T.7 S., R.9 E., on left bank 0.3 mile upstream from mouth and 4.3 miles south of Mecca.

Records available.--October 1960 to September 1963 in reports of Geological Survey. May 1957 to September 1960 in reports of Coachella Valley County Water District.

Extremes.--Maximum discharge during year, 160 cfs Oct. 3 (elevation, 232.48 ft below mean sea level); minimum daily, 68 cfs Jan. 4, 1960-63; Maximum discharge, that of Oct. 3, 1962; minimum daily, 37 cfs Nov. 25-29, 1960.

Remarks.--Records good. Discharge measurements made once or twice a week. Practically all of the flow represents seepage and return flow from irrigated areas.

Cooperation.--Fifty-five discharge measurements furnished by Coachella Valley County Water District.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |       |       |       |       |       |       |       |        |       |       |       |       |
|--|-------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|
| Day  | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May    | June  | July  | Aug.  | Sept. |
| 1  | 117   | 77    | 78    | 75    | 87    | 85    | 100   | 101    | 115   | 110   | 141   | 131   |
| 2  | 129   | 82    | 79    | 69    | 94    | 88    | 97    | 99     | 115   | 108   | 142   | 131   |
| 3  | 150   | 79    | 79    | 69    | 98    | 84    | 93    | 102    | 115   | 116   | 136   | 131   |
| 4  | 131   | 79    | 81    | 68    | 100   | 84    | 92    | 104    | 114   | 117   | 117   | 131   |
| 5  | 106   | 81    | 87    | 69    | 99    | 87    | 93    | 107    | 118   | 115   | 116   | 131   |
| 6  | 100   | 80    | 87    | 70    | 99    | 92    | 92    | 115    | 118   | 114   | 108   | 128   |
| 7  | 100   | 76    | 80    | 70    | 99    | 94    | 92    | 128    | 125   | 115   | 107   | 128   |
| 8  | 100   | 75    | 78    | 73    | 98    | 96    | 90    | 128    | 123   | 117   | 108   | 123   |
| 9  | 101   | 74    | 77    | 77    | 98    | 98    | 104   | 125    | 114   | 118   | 114   | 120   |
| 10   | 102   | 74    | 75    | 79    | 100   | 103   | 113   | 108    | 103   | 114   | 118   | 123   |
| 11   | 100   | 77    | 75    | 76    | 98    | 105   | 106   | 105    | 103   | 115   | 121   | 123   |
| 12   | 98    | 74    | 75    | 77    | 97    | 108   | 100   | 105    | 104   | 114   | 124   | 123   |
| 13   | 98    | 77    | 75    | 79    | 97    | 113   | 99    | 105    | 101   | 114   | 125   | 123   |
| 14   | 100   | 77    | 75    | 88    | 97    | 114   | 98    | 107    | 102   | 110   | 126   | 123   |
| 15   | 97    | 77    | 75    | 110   | 96    | 110   | 93    | 106    | 101   | 109   | 128   | 124   |
| 16   | 76    | 82    | 77    | 88    | 96    | 107   | 94    | 108    | 105   | 105   | 128   | 124   |
| 17   | 77    | 78    | 77    | 92    | 95    | 108   | 84    | 108    | 107   | 109   | 125   | 124   |
| 18   | 80    | 76    | 83    | 83    | 92    | 108   | 80    | 115    | 109   | 110   | 125   | 131   |
| 19   | 81    | 76    | 82    | 77    | 89    | 110   | 77    | 114    | 108   | 113   | 122   | 129   |
| 20   | 82    | 74    | 82    | 77    | 86    | 115   | 79    | 108    | 108   | 119   | 124   | 125   |
| 21   | 85    | 76    | 79    | 72    | 86    | 116   | 83    | 107    | 108   | 112   | 126   | 124   |
| 22   | 86    | 74    | 76    | 77    | 85    | 113   | 84    | 108    | 108   | 108   | 127   | 123   |
| 23   | 83    | 71    | 76    | 74    | 87    | 108   | 84    | 112    | 111   | 111   | 126   | 121   |
| 24   | 80    | 70    | 74    | 75    | 85    | 106   | 88    | 108    | 112   | 108   | 128   | 118   |
| 25   | 80    | 70    | 72    | 75    | 84    | 111   | 92    | 110    | 108   | 110   | 128   | 113   |
| 26   | 79    | 72    | 75    | 75    | 84    | 113   | 92    | 111    | 108   | 110   | 129   | 113   |
| 27   | 78    | 74    | 75    | 77    | 84    | 110   | 89    | 111    | 110   | 107   | 131   | 119   |
| 28   | 79    | 76    | 72    | 79    | 84    | 109   | 93    | 106    | 108   | 108   | 131   | 120   |
| 29   | 77    | 77    | 77    | 77    | ----- | 112   | 93    | 106    | 108   | 108   | 131   | 118   |
| 30   | 77    | 77    | 80    | 76    | ----- | 100   | 96    | 111    | 108   | 129   | 131   | 131   |
| 31   | 76    | ----- | 81    | 76    | ----- | 102   | ----- | 113    | ----- | 136   | 131   | ----- |
| Total  | 2,905 | 2,282 | 2,414 | 2,399 | 2,594 | 3,209 | 2,770 | 3,401  | 3,297 | 3,509 | 3,874 | 3,726 |
| Mean   | 93.7  | 76.1  | 77.9  | 77.4  | 92.6  | 104   | 92.3  | 110    | 110   | 113   | 125   | 124   |
| Max  | 150   | 82    | 87    | 110   | 100   | 116   | 113   | 128    | 125   | 136   | 142   | 131   |
| Min  | 76    | 70    | 72    | 68    | 84    | 84    | 77    | 99     | 101   | 105   | 107   | 113   |
| Ac-ft  | 5,760 | 4,530 | 4,790 | 4,760 | 5,150 | 6,360 | 5,490 | 6,750  | 6,540 | 6,960 | 7,680 | 7,390 |
| Calendar year 1962:  | Max   | 150   | Min   | 67    | Mean  | 96.1  | Ac-ft | 69,600 |       |       |       |       |
| Water year 1962-63:  | Max   | 150   | Min   | 68    | Mean  | 99.7  | Ac-ft | 72,160 |       |       |       |       |

## SALTON SEA BASIN

57

10-2596. Cottonwood Wash near Cottonwood Spring, Calif.

Location.--Lat 33°44'40", long 115°49'35", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.10, T.5 S., R.11 E., on right bank on Cottonwood Spring road, one mile north-west of Cottonwood Spring.

Drainage area.--0.71 sq mi.

Records available.--October 1959 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, tipping-bucket rain gage, and 6x3.5-ft arch corrugated-pipe culvert control. Altitude of gage is 3,100 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.2 cfs (estimated) Sept. 17 (gage height, 3.30 ft, from crest-stage gage); no flow all year including maximum day, which was less than 0.05 cfs.  
1959-63: Maximum discharge, 1 cfs Sept. 5, 1960 (gage height, 1.33 ft, from crest-stage gage), estimated on basis of velocity-area study; no daily flow for each year.

Remarks.--No flow since Oct. 1, 1959, date of establishment. Monthly precipitation, in inches, water year 1962-63, is as follows:  
December, 0.5; January, 0.2; February, 1.1; March, 0.5; August, 0.1; September, 1.4; the year, 3.8.

## EMERSON LAKE BASIN

10-2602. Pipes Creek near Yucca Valley, Calif.

Location.--Lat 34°10'20", long 116°32'45", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.15, T.1 N., R.4 E., on left bank 2.8 miles upstream from Antelope Wash and 6.8 miles northwest of Yucca Valley.

Records available.--September 1958 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 4,435.40 ft above mean sea level, datum of 1929.

Remarks.--No flow since station established, Sept. 3, 1958. No regulation or diversion above station.

## LUCERNE LAKE BASIN

10-2604. Cushenbury Creek near Lucerne Valley, Calif.

Location.--Lat 34°21'50", long 116°50'35", in NE $\frac{1}{4}$  sec.14, T.3 N., R.1 E., on right bank 0.3 mile upstream from San Bernardino National Forest boundary and 9 miles southeast of Lucerne Valley.

Drainage area.--6.36 sq mi.

Records available.--August 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 4,750 ft (from topographic map).

Average discharge.--6 years, 0.004 cfs (2.9 acre-ft per year).

Extremes.--Maximum discharge during year, 8 cfs (estimated) Aug. 7 (gage height, 1.54 ft); no flow all year except Aug. 7, Sept. 4, 17.  
1957-63: Maximum discharge, 35 cfs Apr. 11, 1958 (gage height, 1.90 ft), on basis of area-velocity study; no flow in most years.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

Aug. 7.....\*\*1.2  
Sept. 4.....\*\* .1  
17.....\*\* .1

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| August 1963.....        | 1.2      | 1.2     | 0       | 0.04 | 2.4                    |
| September.....          | .2       | .1      | 0       | .007 | .4                     |
| Calendar year 1962..... | -        | 0       | 0       | 0    | 0                      |
| Water year 1962-63..... | -        | 1.2     | 0       | .004 | 2.8                    |

\*\* Field estimate made on this day.

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

## MOJAVE RIVER BASIN

10-2605. Deep Creek near Hesperia, Calif.

Location.--Lat 34°20'30", long 117°13'40", in SE $\frac{1}{4}$  sec.18, T.3 N., R.3 W., on right bank 0.5 mile upstream from confluence with West Fork Mojave River and 7 miles southeast of Hesperia.

Drainage area.--137 sq mi.

Records available.--October 1904 to September 1922, October 1929 to September 1963. Monthly discharge only prior to January 1930, published in WSP 1314. Combined creek and canal, October 1950 to September 1963.

Gage.--Water-stage recorder (digital) and broad-crested weir since December 1938. Altitude of gage is 3,050 ft (from topographic map). Prior to Sept. 30, 1922, staff gage and water-stage recorder at same site at different datum. December 1929 to Apr. 20, 1938, at same site at different datum. Apr. 21 to Dec. 10, 1938, at site 0.25 mile downstream at different datum.

Average discharge (creek only).--52 years, 67.1 cfs (48,580 acre-ft per year); median of yearly mean discharge, 48 cfs (34,800 acre-ft per year).

(combined).--13 years (1950-63), 38.6 cfs (27,950 acre-ft per year); median of yearly mean discharge, 22 cfs (15,900 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 627 cfs Feb. 10 (gage height, 3.13 ft); minimum daily, 0.2 cfs Sept. 1, 2, 1904-22, 1929-63: Maximum discharge, 46,600 cfs Mar. 2, 1938, based on slope-area measurement of peak flow; no flow July 17, 18, 1961.

(combined).--Same as "creek," no diversion during year.

1950-63: Maximum discharge, 12,400 cfs Apr. 3, 1958 (gage height, 8.59 ft), from rating curve extended above 3,500 cfs on basis of slope-area measurement at gage height 11.3 ft; no flow July 17, 18, 1961.

Remarks.--Records good. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft), used principally for recreation. Hesperia Water Co.'s canal diverts water about  $2\frac{1}{2}$  miles above station for irrigation of about 1,500 acres and domestic use below station. No diversion since May 9, 1959.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 20-29, May 2 to Aug. 4, Aug. 29 to Sept. 2)

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 0.6 | 0.1 | 0.9 | 2.0 | 1.4 | 9.6 | 2.1 | 76  |
| .7  | .4  | 1.0 | 3.4 | 1.6 | 16  | 2.4 | 166 |
| .8  | 1.0 | 1.2 | 7.3 | 1.8 | 30  | 2.6 | 258 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 1.0  | 2.4   | 4.4   | 5.6   | 6.6   | 7.7   | *21   | 33    | 4.9   | 1.7  | 0.3  | 0.2   |
| 2     | 1.0  | 2.7   | 4.4   | 5.8   | 7.1   | 7.5   | 21    | 27    | 4.8   | 1.6  | .3   | .2    |
| 3     | *1.0 | 2.8   | 4.8   | 6.2   | 6.6   | 7.3   | 19    | 22    | 4.6   | 1.5  | .3   | A.5   |
| 4     | 1.1  | 2.8   | 4.8   | 6.2   | 6.4   | 7.3   | 19    | 18    | 4.4   | 1.3  | .5   | A.5   |
| 5     | 1.1  | 2.8   | 4.8   | 5.8   | 6.2   | *7.3  | 19    | 16    | 4.6   | 1.2  | .5   | A.5   |
| 6     | 1.2  | 3.0   | 4.9   | 5.8   | 6.2   | 7.3   | 17    | 14    | 4.6   | 1.1  | *.5  | A.5   |
| 7     | 1.3  | 3.1   | 4.9   | 5.8   | 6.2   | 7.3   | 15    | 14    | 4.6   | 1.0  | .6   | A.5   |
| 8     | 1.4  | 3.2   | 4.9   | 5.6   | 6.0   | 7.1   | 14    | 13    | 4.4   | 1.0  | .8   | A.5   |
| 9     | 1.4  | 3.2   | 5.1   | 5.8   | 8.1   | 7.3   | 13    | 13    | 4.4   | 1.0  | .7   | *.5   |
| 10    | 1.3  | 3.2   | *5.1  | 7.0   | 21.4  | 7.5   | 12    | 12    | *4.4  | *.9  | .5   | .5    |
| 11    | 1.2  | 3.2   | 5.1   | 8.3   | 50    | 7.5   | 12    | 12    | 4.1   | .8   | .4   | .5    |
| 12    | 1.2  | 3.4   | 5.1   | 7.3   | 30    | 7.3   | 11    | 11    | 3.9   | .6   | .4   | .5    |
| 13    | 1.3  | 3.4   | 5.1   | 6.6   | *22   | 7.1   | 11    | 11    | 4.2   | .6   | .4   | .6    |
| 14    | 1.4  | *3.4  | 5.1   | *6.0  | 19    | 6.9   | 11    | 11    | 3.7   | .6   | *.4  | .6    |
| 15    | *1.6 | 3.4   | 5.3   | 6.0   | 23    | 7.9   | *11   | *11   | 3.4   | .6   | .4   | .7    |
| 16    | 1.6  | 3.4   | 5.1   | 6.0   | 20    | 9.3   | 11    | 10    | 3.2   | .6   | .4   | .8    |
| 17    | 1.7  | 3.2   | 5.1   | 6.0   | 17    | 13    | 11    | 9.8   | 3.2   | .5   | .4   | 4.2   |
| 18    | 2.0  | 3.4   | 5.3   | 6.0   | 14    | 11    | 11    | 9.6   | 3.2   | .4   | .4   | 42    |
| 19    | 2.3  | 3.4   | 5.3   | 6.0   | 11    | * 11  | 11    | 9.5   | 3.2   | .3   | .4   | *48   |
| 20    | 2.3  | 3.4   | 5.6   | 5.6   | 10    | 11    | 11    | 9.4   | 3.1   | .3   | .4   | 36    |
| 21    | 2.1  | 3.5   | 5.6   | 6.0   | 9.7   | 15    | 18    | 9.3   | 3.1   | .3   | .5   | 12    |
| 22    | 2.0  | 3.5   | 5.6   | 6.2   | 9.5   | 18    | 25    | 9.1   | 3.0   | *.3  | .5   | 8.9   |
| 23    | 2.0  | 3.5   | 5.6   | 6.0   | 9.4   | 21    | 26    | 8.9   | 3.0   | .3   | .4   | 6.4   |
| 24    | 2.0  | 3.7   | 5.6   | 6.0   | 9.3   | 25    | 31    | 8.3   | 3.0   | .3   | .4   | 4.8   |
| 25    | 2.0  | 3.7   | 5.6   | 6.0   | *9.1  | 21    | 31    | 7.7   | *2.8  | .3   | .3   | 3.9   |
| 26    | 2.0  | *3.9  | 5.3   | 6.0   | 8.7   | 19    | 34    | 7.1   | 2.7   | .3   | .3   | *3.4  |
| 27    | 2.1  | 3.9   | 5.1   | 5.8   | 8.3   | 18    | 34    | *6.6  | 2.6   | .3   | *.4  | 3.4   |
| 28    | 2.1  | 4.1   | 5.1   | 5.8   | 8.1   | 23    | 44    | 6.0   | 2.4   | .3   | .4   | 3.1   |
| 29    | 2.3  | 4.1   | 5.3   | *5.8  | ----- | 56    | 44    | 5.8   | 2.1   | .3   | .4   | 2.8   |
| 30    | *2.3 | 4.2   | 5.3   | 6.0   | ----- | 32    | *39   | 5.6   | 1.8   | .3   | .4   | 2.4   |
| 31    | 2.3  | ----- | *5.6  | 6.2   | ----- | 22    | ----- | 5.1   | ----- | .3   | .4   | ----- |
| TOTAL | 51.6 | 100.9 | 159.9 | 189.2 | 561.5 | 435.6 | 607   | 365.8 | 107.4 | 20.9 | 13.4 | 189.4 |
| MEAN  | 1.66 | 3.36  | 5.16  | 6.10  | 20.1  | 14.1  | 20.2  | 11.8  | 3.58  | 0.67 | 0.43 | 6.31  |
| MAX   | 2.3  | 4.2   | 5.6   | 8.3   | 21.4  | 56    | 44    | 33    | 4.9   | 1.7  | 0.8  | 48    |
| MIN   | 1.0  | 2.4   | 4.4   | 5.6   | 6.0   | 6.9   | 11    | 5.1   | 1.8   | 0.3  | 0.3  | 0.2   |
| AC-FT | 102  | 200   | 317   | 375   | 1,110 | 864   | 1,200 | 726   | 213   | 41   | 27   | 376   |

Calendar year 1962: Max 4,150 Min 0.4 Mean 64.6 Ac-ft 46,770  
Water year 1962-63: Max 214 Min 0.2 Mean 7.68 Ac-ft 5,550

Peak discharge (base, 400 cfs).--Feb. 10 (0600 hrs) 627 cfs (3.13 ft)

\* Discharge measurement made on this day.

a No gage-height record.

Note.--No diversion by Hesperia Water Co.'s canal during water year; therefore, there is no need to publish a table of combined flow of creek and canal.



## MOJAVE RIVER BASIN

59

10-2610. West Fork Mojave River near Hesperia, Calif.

Location.--Lat 34°20'27", long 117°14'24", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.18, T.3 N., R.4 W., on left bank at highway bridge, 0.5 mile upstream from confluence with Deep Creek and 6.5 miles southeast of Hesperia.

Drainage area.--74.8 sq mi.

Records available.--October 1904 to September 1922, October 1929 to September 1963. Prior to February 1930, monthly discharge only, published in WSP 1314.

Gage.--Water-stage recorder. Altitude of gage is 3,050 ft (from topographic map). Prior to June 30, 1922, staff gage and water-stage recorder several hundred feet downstream at different datum.

Average discharge.--52 years, 39.4 cfs (28,520 acre-ft per year); median of yearly mean discharges, 23 cfs (16,700 acre-ft per year).

Extremes.--Maximum discharge during year, 164 cfs Sept. 18 (gage height, 2.62 ft); no flow for most of year.

1904-22, 1929-63: Maximum discharge, 26,100 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. Water diverted from Lake Gregory for domestic use and fire protection. One small diversion for irrigation above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      |      |      |      | 0     | 0    | * 0   | 0.1  |       |      |      | 0     |
| 2     |      |      |      |      | 0     | 0    | 0     | .1   |       |      |      | 0     |
| 3     | (*)  |      |      |      | 0     | 0    | 0     | .4   |       |      |      | 0     |
| 4     |      |      |      |      | 0     | 0    | 0     | .3   |       |      |      | 0     |
| 5     |      |      |      |      | 0     | 0    | 0     | .1   |       |      |      | 0     |
| 6     |      |      |      |      | 0     | 0    | 0     | 0    |       |      |      | 0     |
| 7     |      |      |      |      | 0     | 0    | 0     | 0    |       |      |      | 0     |
| 8     |      |      |      |      | 0     | 0    | 0     | 0    |       |      |      | 0     |
| 9     |      |      |      |      | .2    | 0    | 0     | 0    |       |      |      | * 0   |
| 10    |      |      |      |      | * 7.0 | 0    | 0     | 0    |       |      |      | 0     |
| 11    |      |      |      |      | .2    | 0    | 0     | 0    |       |      |      | 0     |
| 12    |      |      |      |      | .1    | 0    | 0     | 0    |       |      |      | 0     |
| 13    |      |      |      |      | * 0   | 0    | 0     | 0    |       |      |      | 0     |
| 14    |      |      |      |      | 0     | 0    | 0     | 0    |       |      | (*)  | 0     |
| 15    |      |      |      |      | 0     | 0    | * 0   | * 0  |       |      |      | 0     |
| 16    |      |      |      |      | 0     | .1   | 0     | 0    |       |      |      | 0     |
| 17    |      |      |      |      | 0     | .1   | 0     | 0    |       |      |      | 0     |
| 18    |      |      |      |      | 0     | .1   | 0     | 0    |       |      |      | 32    |
| 19    |      |      |      |      | 0     | * 0  | 0     | 0    |       |      |      | * 1.4 |
| 20    |      |      |      |      | 0     | 0    | .1    | 0    |       |      |      | 0     |
| 21    |      |      |      |      | 0     | 0    | .1    | 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    | .1    | 0    |       |      |      | 0     |
| 27    |      |      |      |      | 0     | 0    | .1    | * 0  |       |      | (*)  | 0     |
| 28    |      |      |      |      | 0     | .1   | .1    | 0    |       |      |      | 0     |
| 29    |      |      |      |      | ----- | 0    | .1    | 0    |       |      |      | 0     |
| 30    | (*)  |      |      |      | ----- | 0    | * 0   | 0    |       |      |      | 0     |
| 31    |      |      | (*)  |      | ----- | 0    | ----- | 0    | ----- |      |      | ----- |
| Total | 0    | 0    | 0    | 0    | 7.5   | 0.4  | 0.6   | 1.0  | 0     | 0    | 0    | 33.4  |
| Mean  | 0    | 0    | 0    | 0    | 0.27  | 0.01 | 0.02  | 0.03 | 0     | 0    | 0    | 1.11  |
| Max   | 0    | 0    | 0    | 0    | 7.0   | 0.1  | 0.1   | 0.4  | 0     | 0    | 0    | 32    |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 15    | 0.8  | 1.2   | 2.0  | 0     | 0    | 0    | 66    |

Calendar year 1962: Max 1,430 Min 0 Mean 21.8 Ac-ft 15,810

Water year 1962-63: Max 32 Min 0 Mean 0.12 Ac-ft 85

Peak discharge (base, 500 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

## MOJAVE RIVER BASIN

10-2615. Mojave River at lower narrows, near Victorville, Calif.

Location.--Lat 34°34'22", long 117°19'08", in SW 1/4, SE 1/4, sec. 29, T. 6 N., R. 4 W., on left bank 1,000 ft upstream from bridge on county road, formerly U.S. Highway 66, 2,500 ft downstream from Atchison, Topeka and Santa Fe Railway bridge, and 3 miles northwest of Victorville.

Drainage area.--530 sq mi.

Records available.--February 1899 to September 1906, October 1930 to September 1963. 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 with thermograph attachment. Altitude of gage is 2,650 ft (from topographic map). Prior to Aug. 1, 1906, staff gage and Nov. 12, 1930, to Dec. 8, 1936, water-stage recorder, at site 3.8 miles upstream at different datum. Dec. 9, 1936, to Mar. 28, 1938, water-stage recorder at present site at datum 2.00 ft higher.

Average discharge.--40 years (1899-1906, 1930-63), 73.3 cfs (53,070 acre-ft per year); median of yearly mean discharges, 40 cfs (29,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,500 cfs Aug. 7 (gage height, 3.84 ft); minimum daily, 11 cfs July 26-31, Aug. 9, Sept. 9-12. 1930-63: Maximum discharge, 70,600 cfs Mar. 2, 1938 (gage height, 18.7 ft, present datum), from rating curve extended above 10,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 6 cfs Aug. 19, 21, 26, 1951.

Remarks.--Records good. Periodic regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 5,000 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY                | OCT. | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY    | JUNE  | JULY | AUG.  | SEPT. |
|--------------------|------|-------|-------|-------|-------|-------|-------|--------|-------|------|-------|-------|
| 1                  | 12   | 20    | 26    | 32    | 44    | 31    | * 27  | 29     | 16    | 13   | 12    | 14    |
| 2                  | 13   | 20    | 26    | 32    | 42    | 29    | 24    | 26     | 16    | 12   | 12    | 13    |
| 3                  | *13  | 20    | 26    | 32    | 42    | 29    | 24    | 24     | 16    | 14   | 12    | 13    |
| 4                  | 14   | 20    | 26    | 32    | 42    | 29    | 24    | 21     | 18    | 13   | 12    | 17    |
| 5                  | 14   | 21    | 26    | 31    | 42    | *29   | 24    | 20     | 21    | 14   | 12    | 20    |
| 6                  | 16   | 20    | 26    | 31    | 42    | 29    | 24    | 16     | 21    | 13   | *13   | 16    |
| 7                  | 16   | 21    | 26    | 32    | 42    | 29    | 26    | 16     | 21    | 13   | 242   | 13    |
| 8                  | 16   | 20    | 26    | 32    | 44    | 29    | 26    | 16     | 20    | 14   | *26   | 13    |
| 9                  | 13   | 21    | 27    | 32    | 44    | 29    | 26    | 17     | 17    | 14   | 11    | *11   |
| 10                 | 13   | 23    | *27   | 32    | 46    | 31    | 24    | 16     | *18   | *13  | 13    | 11    |
| 11                 | 13   | 23    | 27    | 32    | 38    | 31    | 24    | 17     | 20    | 13   | 16    | 11    |
| 12                 | 12   | 23    | 29    | 32    | 38    | 29    | 23    | 17     | 20    | 14   | 16    | 11    |
| 13                 | 13   | 21    | 31    | 32    | *40   | 29    | 23    | 18     | 29    | 14   | 16    | 12    |
| 14                 | 14   | *23   | 31    | *34   | 40    | 29    | 24    | 20     | 21    | 13   | 16    | 13    |
| 15                 | *16  | 23    | 31    | 36    | 38    | 29    | *26   | *26    | 17    | 12   | 18    | 13    |
| 16                 | 17   | 23    | 31    | 38    | 36    | 34    | 26    | 17     | 16    | 12   | 18    | 14    |
| 17                 | 17   | 23    | 31    | 38    | 36    | 40    | 24    | 16     | 16    | 12   | 18    | 33    |
| 18                 | 21   | 23    | 32    | 38    | 36    | 32    | 27    | 14     | 14    | 12   | 18    | 31    |
| 19                 | 20   | 23    | 32    | 38    | 32    | *31   | 26    | 13     | 16    | 12   | 18    | *29   |
| 20                 | 18   | 23    | 29    | 40    | 32    | 31    | 27    | 14     | 16    | 12   | 18    | 18    |
| 21                 | 17   | 23    | 29    | 42    | 31    | 31    | 31    | 14     | 16    | 12   | 18    | 16    |
| 22                 | 18   | 24    | 29    | 38    | 31    | 31    | 31    | 14     | 17    | *12  | *18   | 14    |
| 23                 | 17   | 24    | 31    | 38    | 31    | 31    | 26    | 16     | 17    | 12   | 17    | 13    |
| 24                 | 18   | 24    | 29    | 38    | 31    | 29    | 26    | 17     | 17    | 12   | 16    | 14    |
| 25                 | 18   | 24    | 29    | 36    | *31   | 31    | 26    | 18     | *17   | 12   | 14    | 13    |
| 26                 | 18   | *26   | 29    | 36    | 31    | 29    | 31    | 16     | 16    | 11   | 14    | 14    |
| 27                 | 18   | 26    | 29    | 36    | 29    | 29    | 31    | *23    | 13    | 11   | *13   | 17    |
| 28                 | 18   | 26    | 29    | 38    | 31    | 29    | 31    | 20     | 14    | 11   | 13    | 16    |
| 29                 | 18   | 26    | 29    | *40   | ----- | 29    | 31    | 18     | 14    | 11   | 13    | 14    |
| 30                 | *20  | 26    | 29    | 42    | ----- | 29    | *31   | 18     | 13    | 11   | 12    | 16    |
| 31                 | 20   | ----- | *31   | 42    | ----- | 27    | ----- | 18     | ----- | 11   | 12    | ----- |
| TOTAL              | 501  | 683   | 889   | 1,102 | 1,042 | 934   | 794   | 565    | 523   | 385  | 697   | 473   |
| MEAN               | 16.2 | 22.8  | 28.7  | 35.5  | 37.2  | 30.1  | 26.5  | 18.2   | 17.4  | 12.4 | 22.5  | 15.8  |
| MAX                | 21   | 26    | 32    | 42    | 46    | 40    | 31    | 29     | 29    | 14   | 242   | 33    |
| MIN                | 12   | 20    | 26    | 31    | 29    | 27    | 23    | 13     | 13    | 11   | 11    | 11    |
| AC-FT              | 994  | 1,350 | 1,760 | 2,190 | 2,070 | 1,850 | 1,570 | 1,120  | 1,040 | 764  | 1,380 | 938   |
| CALENDAR YEAR 1962 | MAX  | 1,760 | MIN   | 8.7   | MEAN  | 33.6  | AC-FT | 24,340 |       |      |       |       |
| WATER YEAR 1962-63 | MAX  | 242   | MIN   | 11    | MEAN  | 23.5  | AC-FT | 17,030 |       |      |       |       |

Peak discharge (base, 200 cfs).--Aug. 7 (1400 hrs) 1,500 cfs (3.84 ft).

\* Discharge measurement made on this day.

10-2615. Mojave River at lower narrows, near Victorville, Calif.--Continued.

Records available.--Water temperatures: March 1962 to September 1963.

Extremes.--Maximum temperature during year, 90°F Aug. 16; minimum, 39°F Jan. 13.

1962-63: Maximum temperature, 94°F July 23, Aug. 14, 1962; minimum, that of Jan. 13, 1963.

| Temperature (°F) of water, water year October 1962 to September 1963 |      |     |      |     |      |     |      |     |      |     |      |     |      |     |     |     |      |     |      |     |      |     |       |     |
|--|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|-----|-----|------|-----|------|-----|------|-----|-------|-----|
| Day  | Oct. |     | Nov. |     | Dec. |     | Jan. |     | Feb. |     | Mar. |     | Apr. |     | May |     | June |     | July |     | Aug. |     | Sept. |     |
|  | max  | min | max  | min | max  | min | max  | min | max  | min | max  | min | max  | min | max | min | max  | min | max  | min | max  | min | max   | min |
| 1  | 81   | 61  | 68   | 55  | 61   | 50  | 56   | 47  | 63   | 56  | 68   | 50  | 68   | 52  | 74  | 58  | 79   | 61  | 81   | 60  | 86   | 64  | 84    | 60  |
| 2  | 81   | 61  | 65   | 57  | 62   | 51  | 54   | 50  | 65   | 54  | 64   | 51  | 68   | 50  | 76  | 57  | 81   | 60  | 82   | 62  | 82   | 66  | 85    | 62  |
| 3  | 78   | 62  | 70   | 56  | 62   | 52  | 60   | 52  | 63   | 51  | 61   | 49  | 70   | 51  | 75  | 58  | 78   | 60  | 81   | 59  | 85   | 63  | 84    | 63  |
| 4  | 72   | 60  | 68   | 56  | 62   | 52  | 58   | 50  | 63   | 51  | 63   | 48  | 71   | 52  | 75  | 58  | 76   | 57  | 80   | 58  | 86   | 62  | 67    | 65  |
| 5  | 73   | 59  | 68   | 55  | 62   | 50  | 57   | 47  | 65   | 52  | 65   | 46  | 72   | 53  | 78  | 57  | 77   | 59  | 80   | 60  | 83   | 61  | 82    | 63  |
| 6  | 75   | 57  | 68   | 56  | 62   | 50  | 58   | 47  | 66   | 51  | 67   | 49  | 73   | 56  | 78  | 57  | 71   | 56  | 82   | 60  | 76   | 64  | 81    | 62  |
| 7  | 76   | 57  | 68   | 54  | 62   | 50  | 58   | 46  | 65   | 51  | 66   | 51  | 70   | 54  | 76  | 58  | 76   | 57  | 82   | 60  | 71   | 66  | 84    | 62  |
| 8  | 75   | 57  | 67   | 53  | 62   | 50  | 58   | 48  | 62   | 52  | 68   | 50  | 68   | 57  | 74  | 60  | 78   | 58  | 84   | 60  | 80   | 64  | 84    | 62  |
| 9  | 76   | 58  | 67   | 54  | 62   | 50  | 59   | 48  | 62   | 53  | 63   | 52  | 63   | 54  | 74  | 58  | 77   | 59  | 83   | 61  | 86   | 63  | 84    | 62  |
| 10   | 75   | 59  | 66   | 55  | 61   | 52  | 58   | 51  | 62   | 53  | 66   | 51  | 68   | 53  | 72  | 58  | 72   | 59  | 85   | 61  | 86   | 61  | 84    | 62  |
| 11   | 73   | 58  | 66   | 54  | 62   | 52  | 56   | 48  | 61   | 53  | 66   | 50  | 72   | 52  | 70  | 56  | 73   | 57  | 85   | 61  | 85   | 61  | 84    | 60  |
| 12   | 72   | 58  | 65   | 56  | 60   | 50  | 50   | 42  | 65   | 51  | 66   | 51  | 73   | 52  | 75  | 54  | 73   | 59  | 83   | 60  | 86   | 62  | 84    | 62  |
| 13   | 66   | 59  | 64   | 56  | 60   | 50  | 51   | 39  | 62   | 54  | 67   | 50  | 74   | 55  | 75  | 56  | 77   | 59  | 86   | 62  | 88   | 62  | 84    | 65  |
| 14   | 72   | 59  | 64   | 57  | 60   | 50  | 53   | 41  | 64   | 55  | 66   | 49  | 65   | 55  | 77  | 57  | 78   | 59  | 86   | 63  | 89   | 64  | 82    | 60  |
| 15   | 70   | 56  | 64   | 55  | 62   | 51  | 55   | 42  | 65   | 51  | 61   | 48  | 66   | 54  | 74  | 57  | 82   | 61  | 86   | 64  | 88   | 65  | 80    | 62  |
| 16   | 69   | 55  | 60   | 53  | 60   | 50  | 56   | 43  | 64   | 52  | 54   | 50  | 68   | 53  | 76  | 55  | 84   | 62  | 84   | 63  | 90   | 66  | 77    | 62  |
| 17   | 69   | 56  | 62   | 52  | 60   | 55  | 57   | 44  | 64   | 51  | 62   | 49  | 66   | 52  | 78  | 57  | 83   | 63  | 84   | 62  | 87   | 65  | 63    | 60  |
| 18   | 66   | 61  | 56   | 49  | 59   | 57  | 56   | 43  | 65   | 52  | 66   | 48  | 67   | 52  | 78  | 57  | 83   | 62  | 86   | 61  | 87   | 62  | 67    | 63  |
| 19   | 71   | 59  | 62   | 50  | 62   | 53  | 54   | 44  | 66   | 51  | 68   | 50  | 66   | 52  | 78  | 59  | 85   | 62  | 84   | 61  | 88   | 62  | 69    | 62  |
| 20   | 71   | 58  | 63   | 52  | 60   | 51  | 55   | 42  | 66   | 52  | 69   | 50  | 66   | 56  | 79  | 58  | 83   | 62  | 84   | 62  | 86   | 61  | 74    | 61  |
| 21   | 71   | 56  | 64   | 53  | 60   | 50  | 57   | 43  | 67   | 52  | 70   | 51  | 66   | 52  | 77  | 58  | 81   | 61  | 87   | 62  | 84   | 62  | 76    | 61  |
| 22   | 72   | 56  | 64   | 53  | 60   | 49  | 59   | 44  | 65   | 52  | 60   | 55  | 71   | 50  | 74  | 59  | 79   | 59  | 85   | 62  | 79   | 61  | 77    | 61  |
| 23   | 71   | 56  | 60   | 52  | 59   | 48  | 59   | 45  | 66   | 51  | 66   | 52  | 72   | 52  | 75  | 59  | 75   | 60  | 86   | 62  | 79   | 59  | 76    | 60  |
| 24   | 71   | 56  | 64   | 56  | 57   | 50  | 59   | 46  | 67   | 50  | 70   | 51  | 70   | 52  | 77  | 56  | 80   | 58  | 86   | 62  | 82   | 58  | 76    | 60  |
| 25   | 72   | 56  | 64   | 54  | 54   | 45  | 60   | 46  | 68   | 50  | 70   | 51  | 69   | 54  | 78  | 57  | 83   | 58  | 84   | 62  | 83   | 58  | 78    | 60  |
| 26   | 71   | 56  | 64   | 52  | 56   | 45  | 59   | 46  | 64   | 52  | 70   | 52  | 64   | 53  | 78  | 57  | 81   | 60  | 82   | 60  | 83   | 59  | 76    | 62  |
| 27   | 71   | 56  | 63   | 51  | 54   | 43  | 59   | 45  | 67   | 54  | 70   | 54  | 70   | 52  | 70  | 58  | 82   | 59  | 83   | 60  | 84   | 60  | 78    | 61  |
| 28   | 70   | 55  | 62   | 52  | 56   | 44  | 59   | 47  | 67   | 50  | 64   | 52  | 72   | 53  | 75  | 57  | 80   | 59  | 86   | 61  | 85   | 60  | 78    | 62  |
| 29   | 70   | 56  | 58   | 51  | 55   | 44  | 59   | 50  |      |     | 70   | 50  | 74   | 54  | 77  | 58  | 80   | 58  | 86   | 61  | 83   | 62  | 77    | 63  |
| 30   | 71   | 58  | 60   | 50  | 55   | 44  | 56   | 52  |      |     | 70   | 52  | 76   | 58  | 78  | 59  | 82   | 58  | 86   | 62  | 78   | 58  | 75    | 62  |
| 31   | 70   | 56  |      |     | 55   | 44  | 60   | 51  |      |     | 70   | 52  |      |     | 77  | 59  |      |     | 87   | 64  | 82   | 60  |       |     |
| Avg  | 72   | 58  | 64   | 54  | 59   | 49  | 57   | 46  | 65   | 52  | 66   | 50  | 69   | 53  | 76  | 57  | 79   | 59  | 84   | 61  | 84   | 62  | 78    | 62  |

## MOJAVE RIVER BASIN

10-2618. Beacon Creek at Helendale, Calif.

Location.--Lat 34°45'00", long 117°18'53", in SE¼ sec.29, T.8 N., R.4 W., on county road (formerly U. S. Highway 66 and 91), 0.6 mile northeast of Helendale.

Drainage area.--0.72 sq mi.

Records available.--Water year 1959-60 (annual maximum), October 1960 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, tipping-bucket rain gage, and 3-ft corrugated-pipe culvert control. Altitude of gage is 2,470 ft (from topographic map). Jan. 13, 1959, to Sept. 30, 1960, crest-stage gage at same site and datum.

Extremes.--Maximum discharge during year, 5.3 cfs Sept. 19 (gage height, 11.25 ft, from crest-stage gage), by indirect measurement of peak flow through culvert; no flow all year except Sept. 19.

1959-63: Maximum discharge, 28 cfs Sept. 13, 1959 (gage height, 13.12 ft, from crest-stage gage), by indirect measurement of peak flow through culvert; no flow for most of each year.

Remarks.--Records poor. No regulation or diversion. Monthly precipitation, in inches, is as follows: October, 0.1; December, 0.1; February, 0.2; March, 0.3; August, 0.2; September, 1.3; the year, 2.2.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 19.....\*0.2

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in acre-feet |
|-------------------------|----------|---------|---------|-------|---------------------|
| September 1963.....     | 0.2      | 0.2     | 0       | 0.007 | 0.4                 |
| Calendar year 1962..... | -        | 0       | 0       | 0     | 0                   |
| Water year 1962-63..... | -        | .2      | 0       | .0005 | .4                  |

\* Discharge measurement made on this day.

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

10-2625. Mojave River at Barstow, Calif.

Location.--Lat 34°54'25", long 117°01'20", in SE¼SW¼ sec.31, T.10 N., R.1 W., on left bank 75 ft upstream from bridge on U.S. Highway 91 at Barstow.

Records available.--October 1930 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 2,089.80 ft above mean sea level, unadjusted.

Average discharge.--33 years, 24.1 cfs (17,450 acre-ft per year); median of yearly mean discharges, 0.02 cfs (14 acre-ft per year).

Extremes.--Maximum discharge during year, 8.5 cfs Sept. 18 (gage height, 2.32 ft); no flow all year except Sept. 18.

1930-63: Maximum discharge, 64,300 cfs Mar. 3, 1938 (gage height, 8.60 ft), by slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records poor. Slight regulation by Lake Arrowhead (capacity, 48,000 acre-ft, used principally for recreation). Diversions and pumping for irrigation of about 15,000 acres above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 18.....0.1

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in acre-feet |
|-------------------------|----------|---------|---------|-------|---------------------|
| September 1963.....     | 0.1      | 0.1     | 0       | 0.003 | 0.2                 |
| Calendar year 1962..... | -        | 369     | 0       | 1.01  | 732                 |
| Water year 1962-63..... | -        | .1      | 0       | .0003 | .2                  |

Peak discharge (base, 100 cfs).--No peak above base.

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

## MOJAVE RIVER BASIN

63

10-2630. Mojave River at Afton, Calif.

Location.--Lat 35°02'15", long 116°23'00", in SE $\frac{1}{4}$  sec.18, T.11 N., R.6 E., on downstream end of right pier of Union Pacific Railroad bridge, 0.3 mile west of Afton.

Records available.--October 1929 to September 1932, October 1952 to September 1963. 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 above mean sea level, datum of 1929, supplementary adjustment of 1943. Dec. 21, 1929, to Sept. 30, 1932, water-stage recorder at site 1.7 miles downstream at different datum.

Average discharge.--14 years, 2.03 cfs (1,470 acre-ft per year); median of yearly mean discharges, 1.2 cfs (870 acre-ft per year).

Extremes.--Maximum discharge during year, 763 cfs Aug. 26 (gage height, 5.60 ft), from rating curve extended above 250 cfs; no flow July 16, 17.

1929-32, 1952-63: Maximum discharge, 3,550 cfs Feb. 10, 1932 (gage height, 4.70 ft, site and datum then in use); no flow for some days in 1961-63.

Remarks.--Records good except those above 2 cfs and those for Aug. 27 to Sept. 30, which are poor. Natural flow affected by ground-water withdrawals, diversions, municipal use, and storage in two small reservoirs.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.5  | 0.8   | 0.9  | 1.1  | 1.1   | 1.1  | 1.3   | 0.8  | 0.5   | 0.4  | 0.2  | A0.3  |
| 2     | *.5  | .8    | .9   | 1.1  | 1.1   | 1.1  | 1.3   | .8   | .5    | .4   | .1   | A.3   |
| 3     | .4   | .8    | 1.1  | 1.1  | 1.2   | 1.1  | 1.3   | .8   | .5    | .4   | .1   | A.3   |
| 4     | .4   | .8    | 1.1  | 1.1  | 1.2   | 1.1  | 1.2   | .8   | .5    | .4   | .1   | A.3   |
| 5     | .5   | .8    | 1.1  | 1.1  | 1.2   | 1.1  | 1.2   | .8   | .5    | .4   | .1   | A.3   |
| 6     | .5   | .7    | 1.1  | 1.1  | 1.2   | 1.2  | 1.2   | .8   | .5    | .4   | .2   | A.3   |
| 7     | .4   | .7    | 1.1  | 1.1  | 1.2   | 1.2  | 1.2   | .8   | .6    | .4   | .4   | A.3   |
| 8     | .5   | .8    | 1.1  | 1.1  | 1.2   | 1.2  | 1.2   | .8   | .6    | .4   | .4   | A.3   |
| 9     | .5   | .8    | 1.2  | 1.1  | 1.2   | 1.2  | 1.2   | .8   | .6    | .3   | .4   | A.3   |
| 10    | .5   | .8    | 1.2  | 1.1  | 1.8   | 1.2  | 1.2   | .8   | .6    | .3   | .3   | A.3   |
| 11    | .5   | .8    | 1.1  | 1.1  | 1.3   | 1.1  | 1.2   | .8   | .6    | .3   | .3   | A.3   |
| 12    | .5   | .8    | 1.1  | 1.1  | 1.2   | 1.1  | 1.2   | .8   | .7    | .3   | .3   | A.3   |
| 13    | .5   | .8    | 1.1  | 1.1  | 1.2   | 1.1  | 1.2   | .8   | .7    | .3   | .2   | A.3   |
| 14    | .5   | .8    | 1.1  | 1.1  | 1.2   | 1.1  | 1.2   | *.8  | .6    | .1   | .2   | A.3   |
| 15    | .6   | .8    | 1.1  | 1.1  | 1.3   | 1.1  | 1.2   | .7   | .6    | .1   | .2   | A.3   |
| 16    | .6   | .8    | 1.1  | 1.1  | 1.3   | 1.2  | 1.1   | .7   | .6    | 0    | .2   | A.3   |
| 17    | .5   | .9    | *1.1 | 1.1  | 1.2   | 1.2  | 1.1   | .6   | *.5   | 0    | .3   | A10   |
| 18    | .7   | .9    | 1.1  | 1.1  | 1.2   | 1.2  | *1.1  | .6   | .4    | .1   | .3   | A2.0  |
| 19    | .8   | .9    | 1.1  | 1.1  | *1.2  | 1.2  | .9    | .6   | .3    | .1   | .2   | A.6   |
| 20    | .7   | *.9   | 1.1  | 1.1  | 1.2   | 1.2  | .9    | .6   | .3    | .1   | .2   | A.6   |
| 21    | .7   | .9    | 1.1  | 1.1  | 1.2   | *1.3 | .9    | .5   | .2    | .1   | .2   | A.6   |
| 22    | *.7  | .9    | 1.1  | 1.1  | 1.2   | 1.3  | .9    | .5   | .3    | .1   | *.2  | A.6   |
| 23    | .7   | .9    | 1.1  | 1.1  | 1.2   | 1.3  | .9    | .6   | .3    | *.1  | .2   | A.6   |
| 24    | .7   | .9    | 1.1  | 1.1  | 1.2   | 1.3  | .9    | .6   | .4    | A.1  | .3   | A.6   |
| 25    | .7   | .9    | 1.1  | 1.1  | 1.2   | 1.3  | .9    | .6   | .4    | A.1  | .3   | A.6   |
| 26    | .7   | 1.1   | 1.1  | 1.1  | 1.2   | 1.3  | .9    | .6   | .4    | A.1  | 29   | *A.6  |
| 27    | .7   | .9    | 1.1  | 1.1  | 1.2   | 1.3  | .9    | .6   | .4    | A.1  | 61   | A.6   |
| 28    | .7   | .9    | 1.1  | 1.1  | 1.2   | 1.3  | .9    | .6   | .4    | A.1  | A.7  | A.6   |
| 29    | .7   | .9    | 1.1  | *1.1 | ----- | 1.3  | .8    | .6   | .4    | A.1  | A.4  | A.6   |
| 30    | .7   | .9    | 1.1  | 1.1  | ----- | 1.3  | .8    | .6   | .4    | .1   | A.3  | A.6   |
| 31    | .7   | ----- | 1.1  | 1.1  | ----- | 1.3  | ----- | .6   | ----- | .1   | A.3  | ----- |
| TOTAL | 18.3 | 25.4  | 33.9 | 34.1 | 34.3  | 37.3 | 32.2  | 21.4 | 14.3  | 6.3  | 97.6 | 24.0  |
| MEAN  | 0.59 | 0.85  | 1.09 | 1.10 | 1.22  | 1.20 | 1.07  | 0.69 | 0.48  | 0.20 | 3.15 | 0.80  |
| MAX   | 0.8  | 1.1   | 1.2  | 1.1  | 1.8   | 1.3  | 1.3   | 0.8  | 0.7   | 0.4  | 61   | 10    |
| MIN   | 0.4  | 0.7   | 0.9  | 1.1  | 1.1   | 1.1  | 0.8   | 0.5  | 0.2   | 0    | 0.1  | 0.3   |
| AC-FT | 36   | 50    | 67   | 68   | 63    | 74   | 64    | 42   | 28    | 12   | 194  | 48    |

CALENDAR YEAR 1962 MAX 4.6 MIN 0 MEAN 0.77 AC-FT 558  
WATER YEAR 1962-63 MAX 61 MIN 0 MEAN 1.04 AC-FT 751

Peak discharge (base, 100 cfs).--Aug. 26 (2330 hrs) 763 cfs (5.60 ft); Sept. 17 (time unknown) 100 cfs (4.57 ft).

\* Discharge measurement made on this day.  
A No gage-height record.

## ANTELOPE VALLEY

10-2635. Big Rock Creek near Valyermo, Calif.

Location.--Lat 34°25'15", long 117°50'19", in NW 1/4 sec. 20, T.4 N., R.9 W., on left bank 0.1 mile upstream from Punchbowl Canyon and 1.9 miles southwest of Valyermo.

Drainage area.--23.0 sq mi.

Records available.--January 1923 to September 1963. 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 with thermograph attachment. Altitude of gage is 4,050 ft (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 mile downstream (below Punchbowl Canyon) at different datum.

Average discharge.--40 years, 15.1 cfs (10,930 acre-ft per year); median of yearly mean discharges, 8.5 cfs (6,200 acre-ft per year).

Extremes.--Maximum discharge during year, 80 cfs Feb. 9 (gage height, 2.56 ft); minimum daily, 1.8 cfs Sept. 27-30.

1923-63: Maximum discharge, 8,300 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, 0.7 cfs Nov. 5, 1951.

Remarks.--Records good. No regulation or diversion. There is evidence of appreciable infiltration into the stream bed in the immediate vicinity of station.

Cooperation.--Thirty-two discharge measurements furnished by Los Angeles County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.3 | 1.0 | 1.7 | 9.6 |
| 1.4 | 2.2 | 1.8 | 14  |
| 1.5 | 4.0 | 2.0 | 25  |
| 1.6 | 6.4 | 2.5 | 72  |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963.

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 7.4   | 4.9   | 4.9   | 4.7   | 4.4   | 5.9   | 5.9   | * 7.0 | 4.9   | 3.2   | 2.2   | 2.1   |
| 2     | 7.4   | 4.9   | 4.9   | * 4.7 | 4.4   | 5.9   | 5.9   | 7.0   | 4.9   | 3.0   | 2.2   | 2.1   |
| 3     | 7.4   | 4.9   | 4.9   | 4.7   | 4.4   | 5.9   | 5.9   | 7.0   | 4.9   | 3.0   | 2.2   | 2.2   |
| 4     | 7.0   | 4.9   | 5.2   | 4.7   | 4.4   | 5.9   | 5.7   | 7.0   | 4.9   | 2.8   | 2.2   | * 2.5 |
| 5     | 7.0   | 4.9   | * 5.2 | 4.7   | 4.4   | 5.9   | 5.7   | 6.7   | 4.9   | 3.0   | 2.2   | 2.4   |
| 6     | 7.0   | 4.9   | 4.7   | 4.4   | * 4.4 | * 5.9 | 5.4   | 6.7   | * 4.9 | 2.8   | 2.4   | 2.1   |
| 7     | 7.0   | * 4.9 | 4.7   | 4.4   | 4.4   | 5.9   | 5.4   | 6.4   | 4.9   | 2.8   | * 2.4 | 2.1   |
| 8     | 6.7   | 4.9   | 4.7   | 4.4   | 4.4   | 5.9   | 5.4   | 6.4   | 4.9   | 2.7   | 2.5   | 2.1   |
| 9     | * 6.4 | 4.9   | 4.7   | * 4.4 | 14    | 5.9   | 5.4   | 6.4   | 4.7   | * 2.7 | 2.4   | 1.9   |
| 10    | 6.4   | 4.9   | 4.4   | 4.4   | * 26  | 5.9   | * 5.4 | 6.4   | 4.4   | * 2.7 | 2.2   | 1.9   |
| 11    | 6.2   | 4.9   | 4.4   | 4.4   | 7.7   | 5.7   | 5.4   | 6.4   | 4.7   | 2.7   | 2.2   | 1.8   |
| 12    | 6.2   | 4.9   | * 4.4 | 4.4   | 6.7   | 5.7   | 5.4   | 6.4   | * 4.9 | 2.7   | 2.2   | 1.8   |
| 13    | 6.2   | * 4.9 | 4.4   | 4.4   | 6.2   | 5.7   | 5.4   | 6.2   | 4.7   | 2.7   | 2.1   | 1.9   |
| 14    | 5.9   | 4.9   | 4.7   | 4.4   | 6.2   | * 5.9 | 6.2   | * 5.9 | 4.4   | 2.7   | 2.1   | 1.9   |
| 15    | 5.9   | 4.9   | 4.7   | 4.4   | 5.9   | 5.4   | 6.2   | 5.9   | 4.2   | 2.7   | 2.1   | 1.9   |
| 16    | 5.9   | 4.9   | 4.7   | * 4.4 | 5.9   | 5.7   | 6.2   | 5.9   | 4.2   | 2.7   | 2.1   | 1.9   |
| 17    | 5.9   | 4.9   | 4.7   | 4.4   | 5.9   | 5.9   | * 6.4 | 5.9   | 4.2   | 2.7   | 2.1   | 2.4   |
| 18    | 5.9   | 4.9   | 4.9   | 4.4   | 5.9   | 5.9   | * 6.4 | 5.7   | 4.0   | 2.7   | 2.1   | * 2.7 |
| 19    | 5.7   | 4.9   | * 4.9 | 4.4   | 5.9   | 5.9   | 6.7   | 5.7   | * 4.0 | 2.7   | 2.1   | * 4.7 |
| 20    | 5.7   | 4.9   | 4.9   | 4.4   | * 5.9 | * 5.7 | 6.7   | 5.4   | 4.0   | 2.5   | * 2.1 | 2.8   |
| 21    | 5.4   | * 4.9 | 4.9   | 4.4   | 5.9   | 5.4   | 6.7   | 5.4   | 4.0   | 2.5   | 1.9   | 2.2   |
| 22    | 5.2   | 4.9   | 4.9   | 4.4   | 5.9   | 5.4   | 6.7   | * 5.4 | 4.0   | 2.5   | 1.9   | 2.2   |
| 23    | * 4.9 | 4.9   | 4.9   | * 4.4 | 5.9   | 5.4   | 6.4   | 5.4   | 4.0   | 2.5   | 1.9   | 2.1   |
| 24    | * 4.9 | 4.9   | 4.9   | * 4.4 | 5.9   | 5.4   | * 6.4 | 5.4   | 4.0   | * 2.5 | 1.9   | 1.9   |
| 25    | 4.9   | 4.9   | 4.9   | 4.4   | 5.9   | 5.4   | 6.4   | 5.4   | 3.8   | 2.5   | 1.9   | * 1.9 |
| 26    | 4.9   | 4.9   | * 4.9 | 4.4   | 5.9   | 5.2   | 7.0   | 5.4   | * 3.8 | 2.5   | 1.9   | 1.9   |
| 27    | 4.9   | 4.9   | 4.9   | 4.4   | * 5.9 | * 5.2 | 6.7   | 5.4   | 3.8   | 2.4   | 1.9   | 1.8   |
| 28    | 4.9   | 4.9   | 4.9   | 4.4   | 5.9   | 11    | 6.7   | 5.2   | 3.6   | 2.2   | 1.9   | 1.8   |
| 29    | 4.9   | 4.9   | 4.9   | 4.4   | ----- | 6.2   | 6.7   | * 5.2 | 3.6   | 2.2   | 2.1   | 1.8   |
| 30    | 4.9   | 4.9   | 4.9   | 4.4   | ----- | 5.9   | 7.0   | 5.2   | 3.2   | 2.2   | 2.1   | 1.8   |
| 31    | 4.9   | ----- | 4.9   | 4.4   | ----- | 5.9   | ----- | 5.2   | ----- | 2.2   | 2.1   | ----- |
| TOTAL | 183.9 | 147.0 | 148.9 | 137.9 | 184.6 | 182.4 | 183.8 | 185.0 | 129.4 | 81.7  | 65.6  | 64.6  |
| MEAN  | 5.93  | 4.90  | 4.80  | 4.45  | 6.59  | 5.88  | 6.13  | 5.97  | 4.31  | 2.64  | 2.12  | 2.15  |
| MAX   | 7.4   | 4.9   | 5.2   | 4.7   | 26    | 11    | 7.0   | 7.0   | 4.9   | 3.2   | 2.5   | 4.7   |
| MIN   | 4.9   | 4.9   | 4.4   | 4.4   | 4.4   | 5.2   | 5.4   | 5.2   | 3.2   | 2.2   | 1.9   | 1.8   |
| AC-FT | 365   | 292   | 295   | 274   | 366   | 362   | 365   | 367   | 257   | 162   | 130   | 128   |

CALENDAR YEAR 1962: MAX 678

MIN 2.6

MEAN 20.4

AC-FT 14,760

WATER YEAR 1962-63 MAX 26

MIN 1.8

MEAN 4.64

AC-FT 3,360

Peak discharge (base, 50 cfs).--Feb. 9 (2300 hrs) 80 cfs (2.56 ft).

\* Discharge measurement made on this day.

ANTELOPE VALLEY

65

10-2635. Big Rock Creek near Valyermo, Calif.--Continued.

Records available.--Water temperatures: January 1962 to September 1963.

Extremes.--Maximum temperature during year, 65°F Aug. 14-17; minimum, 45°F Jan. 13.

1962-63: Maximum temperature, 65°F June 20-21, 23, 24, 1962, Aug. 14-17, 1963; minimum, 42°F Jan. 24, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 58   | 55  | 55    | 53    | 52   | 51  | 50   | 48  | 53    | 51    | 54   | 51  | 54    | 51    | 58  | 52  | 58    | 55    | 59   | 55  | 64   | 61  | 62    | 57    |
| 2   | 58   | 55  | 55    | 54    | 52   | 51  | 50   | 50  | 52    | 50    | 53   | 50  | 54    | 49    | 58  | 52  | 59    | 55    | 59   | 54  | 63   | 61  | 62    | 58    |
| 3   | 57   | 54  | 55    | 54    | 53   | 51  | 51   | 49  | 52    | 50    | 51   | 50  | 55    | 49    | 58  | 52  | 58    | 54    | 59   | 54  | 63   | 60  | 62    | 59    |
| 4   | 55   | 53  | 55    | 53    | 52   | 51  | 50   | 49  | 52    | 50    | 53   | 50  | 55    | 50    | 58  | 53  | 57    | 53    | 59   | 54  | 63   | 58  | 61    | 60    |
| 5   | 56   | 53  | 55    | 53    | 52   | 51  | 50   | 49  | 52    | 49    | 53   | 50  | 56    | 51    | 59  | 53  | 57    | 54    | 59   | 54  | 63   | 59  | 62    | 58    |
| 6   | 56   | 53  | 54    | 52    | 52   | 51  | 50   | 48  | 52    | 50    | 54   | 50  | 56    | 52    | 60  | 54  | 55    | 53    | 59   | 54  | 61   | 59  | 62    | 58    |
| 7   | 56   | 53  | 55    | 53    | 52   | 51  | 50   | 48  | 52    | 49    | 54   | 51  | 56    | 51    | 58  | 54  | 57    | 54    | 59   | 54  | 61   | 61  | 62    | 58    |
| 8   | 56   | 53  | 54    | 52    | 52   | 50  | 50   | 48  | 52    | 50    | 55   | 51  | 55    | 52    | 59  | 55  | 58    | 54    | 60   | 55  | 63   | 61  | 62    | 58    |
| 9   | 57   | 54  | 54    | 52    | 52   | 50  | 50   | 48  | 52    | 47    | 53   | 51  | 55    | 51    | 59  | 55  | 58    | 55    | 61   | 55  | 64   | 60  | 62    | 58    |
| 10  | 57   | 55  | 54    | 53    | 52   | 51  | 50   | 48  | 49    | 46    | 54   | 51  | 54    | 50    | 58  | 54  | 56    | 55    | 62   | 56  | 64   | 59  | 62    | 58    |
| 11  | 57   | 55  | 54    | 52    | 52   | 51  | 49   | 48  | 50    | 49    | 54   | 50  | 55    | 50    | 57  | 53  | 55    | 54    | 61   | 57  | 64   | 60  | 62    | 58    |
| 12  | 56   | 55  | 54    | 52    | 52   | 51  | 48   | 46  | 52    | 49    | 55   | 51  | 56    | 50    | 58  | 53  | 56    | 54    | 61   | 57  | 64   | 60  | 62    | 58    |
| 13  | 56   | 56  | 54    | 53    | 52   | 51  | 47   | 45  | 52    | 50    | 54   | 51  | 56    | 51    | 58  | 54  | 58    | 55    | 62   | 58  | 64   | 60  | 62    | 59    |
| 14  | 57   | 55  | 55    | 53    | 52   | 51  | 48   | 46  | 52    | 51    | 54   | 51  | 54    | 51    | 57  | 53  | 59    | 55    | 62   | 58  | 65   | 62  | 61    | 57    |
| 15  | 55   | 53  | 53    | 52    | 53   | 52  | 48   | 47  | 52    | 48    | 52   | 50  | 55    | 51    | 57  | 52  | 60    | 56    | 62   | 58  | 65   | 62  | 62    | 58    |
| 16  | 55   | 53  | 52    | 51    | 52   | 51  | 49   | 47  | 52    | 49    | 52   | 46  | 54    | 50    | 58  | 53  | 60    | 56    | 62   | 58  | 65   | 62  | 60    | 57    |
| 17  | 54   | 53  | 52    | 50    | 52   | 52  | 49   | 47  | 52    | 49    | 52   | 44  | 53    | 50    | 58  | 53  | 60    | 56    | 62   | 58  | 65   | 62  | 58    | 57    |
| 18  | 54   | 54  | 52    | 50    | 52   | 52  | 49   | 47  | 52    | 48    | 55   | 50  | 55    | 50    | 58  | 52  | 60    | 56    | 62   | 56  | 64   | 61  | 59    | 58    |
| 19  | 56   | 54  | 52    | 50    | 53   | 52  | 48   | 46  | 52    | 48    | 55   | 50  | 55    | 50    | 58  | 54  | 60    | 56    | 62   | 57  | 64   | 60  | 60    | 57    |
| 20  | 56   | 54  | 53    | 51    | 52   | 51  | 48   | 46  | 53    | 51    | 55   | 50  | 53    | 50    | 58  | 53  | 60    | 56    | 62   | 57  | 62   | 60  | 60    | 57    |
| 21  | 56   | 54  | 53    | 52    | 52   | 51  | 49   | 47  | 53    | 50    | 56   | 51  | 54    | 50    | 58  | 53  | 59    | 55    | 63   | 59  | 62   | 57  | 60    | 57    |
| 22  | 56   | 54  | 53    | 51    | 52   | 50  | 50   | 47  | 53    | 50    | 56   | 52  | 54    | 50    | 58  | 53  | 59    | 55    | 63   | 59  | 60   | 56  | 61    | 58    |
| 23  | 56   | 54  | 52    | 51    | 52   | 50  | 50   | 47  | 53    | 50    | 56   | 52  | 55    | 50    | 57  | 54  | 58    | 55    | 63   | 59  | 60   | 56  | 61    | 58    |
| 24  | 55   | 53  | 53    | 52    | 50   | 49  | 50   | 47  | 53    | 50    | 55   | 51  | 55    | 50    | 57  | 53  | 58    | 54    | 63   | 59  | 60   | 56  | 61    | 58    |
| 25  | 55   | 53  | 54    | 52    | 49   | 48  | 51   | 48  | 54    | 50    | 56   | 51  | 55    | 50    | 58  | 53  | 59    | 54    | 63   | 58  | 60   | 55  | 62    | 58    |
| 26  | 55   | 53  | 53    | 52    | 48   | 48  | 49   | 47  | 54    | 51    | 56   | 51  | 54    | 49    | 57  | 52  | 60    | 55    | 63   | 58  | 60   | 56  | 62    | 59    |
| 27  | 55   | 53  | 53    | 51    | 49   | 48  | 49   | 47  | 53    | 51    | 56   | 52  | 56    | 51    | 56  | 54  | 59    | 54    | 62   | 57  | 62   | 57  | 62    | 59    |
| 28  | 55   | 53  | 52    | 50    | 50   | 48  | 49   | 47  | 53    | 50    | 54   | 50  | 57    | 51    | 57  | 53  | 59    | 55    | 63   | 57  | 62   | 57  | 62    | 59    |
| 29  | 55   | 53  | 51    | 51    | 50   | 48  | 49   | 48  | ----- | ----- | 57   | 51  | 57    | 52    | 58  | 54  | 58    | 54    | 63   | 57  | 62   | 58  | 62    | 59    |
| 30  | 55   | 54  | 52    | 51    | 50   | 48  | 51   | 49  | ----- | ----- | 57   | 51  | 58    | 52    | 58  | 54  | 59    | 54    | 63   | 59  | 60   | 56  | 61    | 59    |
| 31  | 55   | 53  | ----- | ----- | 50   | 48  | 51   | 50  | ----- | ----- | 57   | 51  | ----- | ----- | 58  | 55  | ----- | ----- | 64   | 60  | 61   | 57  | ----- | ----- |
| Avg | 56   | 54  | 53    | 52    | 51   | 50  | 49   | 48  | 52    | 50    | 54   | 50  | 55    | 50    | 58  | 53  | 58    | 55    | 62   | 57  | 63   | 59  | 61    | 58    |

## ANTELOPE VALLEY

10-2639. Buckhorn Creek near Valyermo, Calif.

Location.--Lat 34°20'35", long 117°55'13", in SW¼ sec.15, T.3 N., R.10 W., on right bank at culvert on State Highway 2, 8.1 miles southwest of Valyermo.

Drainage area.--0.48 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, tipping-bucket rain gage, and 7-ft corrugated-pipe culvert control. Altitude of gage is 6,720 ft (from topographic map).

Extremes.--Maximum discharge during year, 5.9 cfs Sept. 18 (gage height, 1.66 ft); no flow for most of year.  
1960-63: Maximum discharge, 27 cfs Feb. 11, 1962 (gage height, 2.66 ft), from rating curve extended above 5 cfs on basis of indirect measurements of flow through culvert at gage heights 1.9, 2.4 and 2.7 ft; no flow for most of each year.

Remarks.--Records fair. Flow of spring above station diverted to ranger station for domestic use.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 1.0 | 0   |
| 1.1 | .3  |
| 1.3 | 1.4 |
| 1.5 | 3.3 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May  | June | July | Aug. | Sept. |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1     |      |      |      |      | 0    | 0    | 0.2  | 0.4  |      |      |      | 0     |
| 2     |      |      |      |      | 0    | 0    | .1   | .3   |      |      |      | 0     |
| 3     |      |      | (*)  |      | 0    | 0    | .1   | .2   |      |      |      | 0     |
| 4     |      |      |      |      | 0    | 0    | .1   | .1   |      |      |      | 0     |
| 5     |      |      |      |      | 0    | 0    | 0    | .1   |      |      |      | 0     |
| 6     |      |      |      |      | 0    | 0    | 0    | 0    |      |      |      | 0     |
| 7     |      |      |      |      | 0    | 0    | .1   | 0    |      |      |      | 0     |
| 8     |      |      |      |      | 0    | 0    | .1   | 0    |      |      |      | 0     |
| 9     |      |      |      |      | .9   | 0    | .1   | 0    |      | (*)  | (*)  | 0     |
| 10    |      |      |      |      | 1.0  | 0    | .1   | 0    |      |      |      | 0     |
| 11    |      |      |      |      | .1   | 0    | 0    | 0    |      |      |      | 0     |
| 12    |      |      |      |      | .1   | 0    | 0    | 0    | (*)  |      |      | 0     |
| 13    |      | (*)  |      |      | 0    | 0    | 0    | 0    |      |      |      | 0     |
| 14    |      |      |      |      | .1   | * 0  | 0    | * 0  |      |      |      | 0     |
| 15    |      |      |      |      | .2   | 0    | 0    | 0    |      |      |      | 0     |
| 16    |      |      |      |      | .1   | 0    | 0    | 0    |      |      |      | 0     |
| 17    |      |      |      |      | 0    | 0    | 0    | 0    |      |      |      | 0     |
| 18    | (*)  |      | (*)  |      | 0    | 0    | 0    | 0    |      |      |      | .6    |
| 19    |      |      |      |      | 0    | 0    | * 0  | 0    |      |      |      | 2.2   |
| 20    |      |      |      |      | .1   | 0    | 0    | 0    |      |      |      | * .6  |
| 21    |      |      |      |      | * .1 | 0    | 0    | 0    |      |      |      | .2    |
| 22    |      |      |      |      | .1   | 0    | 0    | 0    |      |      |      | .1    |
| 23    | (*)  |      |      |      | .1   | .1   | 0    | 0    |      |      |      | 0     |
| 24    |      |      |      | (*)  | 0    | 0    | .1   | 0    |      |      |      | 0     |
| 25    |      |      |      |      | 0    | .1   | .1   | 0    |      |      |      | 0     |
| 26    |      |      |      |      | 0    | .1   | 0    | 0    |      |      |      | 0     |
| 27    |      |      |      |      | * 0  | .1   | .1   | 0    |      |      |      | 0     |
| 28    |      |      |      |      | 0    | .4   | .4   | 0    |      |      |      | 0     |
| 29    |      |      |      |      |      | .5   | .5   | 0    |      |      |      | 0     |
| 30    |      |      |      |      |      | .4   | .4   | 0    |      |      |      | 0     |
| 31    |      |      |      |      |      | .3   |      | 0    |      |      |      | 0     |
| Total | 0    | 0    | 0    | 0    | 2.9  | 2.0  | 2.5  | 1.1  | 0    | 0    | 0    | 3.7   |
| Mean  | 0    | 0    | 0    | 0    | 0.10 | 0.06 | 0.08 | 0.04 | 0    | 0    | 0    | 0.12  |
| Max   | 0    | 0    | 0    | 0    | 1.0  | 0.5  | 0.5  | 0.4  | 0    | 0    | 0    | 2.2   |
| Min   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 5.8  | 4.0  | 5.0  | 2.2  | 0    | 0    | 0    | 7.3   |
| (†)   | 0.6  | 0    | 0.1  | 1.5  | 6.6  | 1.7  | 2.3  | 0    | 0.3  | 0    | 0.1  | 6.2   |

Calendar year 1962: Max 16 Min 0 Mean 0.58 Ac-ft 420

Water year 1962-63: Max 2.2 Min 0 Mean 0.03 Ac-ft 24

\* Discharge measurement or observation of no flow made on this day.

† Precipitation, in inches.



10-2640. Little Rock Creek near Little Rock, Calif.

Location.--Lat 34°27'50", long 118°01'05", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.3, T.4 N., R.11 W., on right bank 0.3 mile upstream from Santiago Creek, 1.65 miles upstream from Little Rock Palmdale Irrigation District's dam, and 5 miles south of Little Rock.

Drainage area.--49.0 sq mi.

Records available.--October 1930 to February 1938, May to September 1938, April 1939 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 3,290 ft (from topographic map). Prior to May 1943, at site 500 ft downstream at different datums (datum changed in March 1939).

Average discharge.--31 years (1930-37, 1939-63), 16.1 cfs (11,660 acre-ft per year); median of yearly mean discharges, 8.0 cfs (5,800 acre-ft per year).

Extremes.--Maximum discharge during year, 314 cfs Feb. 10 (gage height, 5.12 ft); no flow Oct. 1 to Nov. 2, July 20 to Sept. 18. 1930-63: Maximum discharge, 17,000 cfs (estimated) Mar. 2, 1938; no flow at times in most years.

Remarks.--Discharge measurements or observations of no flow made two or more times a month. No regulation or diversions above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |      |       |      |      |       |       |       |       |       |      |      |       |
|--|------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| Day  | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
| 1  |      | 0     | 1.6  | 2.0  | 3.1   | 4.2   | 8.6   | 11    | 2.2   | 0.2  |      | 0     |
| 2  |      | 0     | 1.6  | 2.0  | 3.1   | 4.0   | 8.4   | 11    | 2.0   | 2    |      | 0     |
| 3  |      | .1    | 1.6  | 2.2  | 2.5   | 4.0   | 7.8   | 9.8   | 1.8   | 2    |      | 0     |
| 4  |      | .2    | 1.6  | 2.3  | 2.5   | 4.0   | 7.5   | 8.9   | 1.7   | 2    |      | 0     |
| 5  |      | .3    | 1.6  | 2.2  | 2.3   | 4.0   | 6.7   | 8.6   | 1.7   | 2    |      | 0     |
| 6  |      | .4    | 1.6  | 2.2  | 2.3   | 4.0   | 6.4   | 7.8   | 1.7   | 2    |      | 0     |
| 7  |      | .6    | 1.6  | 2.2  | 2.3   | 3.8   | 6.2   | 7.0   | 1.8   | 2    |      | 0     |
| 8  |      | .7    | 1.6  | 2.2  | 2.2   | 3.8   | 6.2   | 6.7   | 1.7   | 2    |      | 0     |
| 9  |      | .7    | 1.6  | 2.2  | 15    | 3.8   | 6.0   | 6.7   | 1.6   | 2    |      | 0     |
| 10   |      | .7    | 1.6  | 2.2  | 112   | 3.8   | 5.7   | 6.2   | 1.4   | 2    |      | 0     |
| 11   |      | .8    | 1.6  | 2.2  | 30    | 3.8   | 5.5   | 6.0   | 1.6   | 2    |      | 0     |
| 12   |      | .8    | 1.6  | 2.2  | 17    | 3.6   | 5.5   | 5.5   | 2.5   | 2    |      | 0     |
| 13   |      | 1.1   | 1.6  | 2.0  | 13    | 3.6   | 5.5   | 5.5   | 2.3   | 2    |      | 0     |
| 14   |      | 1.1   | 1.6  | 2.0  | 12    | 3.6   | 5.7   | 5.1   | 2.0   | 1    |      | 0     |
| 15   |      | 1.2   | 1.7  | 2.2  | 12    | 3.6   | 7.5   | 4.9   | 1.7   | 1    |      | 0     |
| 16   |      | 1.4   | 1.7  | 2.2  | 11    | 3.8   | 7.2   | 4.6   | 1.6   | 1    |      | 0     |
| 17   |      | 1.4   | 1.7  | 2.2  | 9.5   | 6.4   | 7.0   | 4.4   | 1.4   | 1    |      | 0     |
| 18   |      | 1.6   | 1.8  | 2.2  | 8.6   | 6.4   | 7.0   | 4.0   | 1.1   | 1    |      | 0     |
| 19   |      | 1.6   | 1.8  | 2.2  | 7.8   | 6.2   | 7.0   | 3.6   | 1.0   | 1    |      | 10    |
| 20   |      | 1.6   | 1.8  | 2.2  | 7.5   | 6.4   | 7.0   | 3.2   | .8    | 0    |      | 5.7   |
| 21   |      | 1.6   | 1.8  | 2.2  | 7.0   | 6.4   | 8.1   | 2.9   | .7    | 0    |      | 3.6   |
| 22   |      | 1.6   | 1.8  | 2.2  | 6.4   | 6.7   | 8.1   | 2.9   | .6    | 0    |      | 2.5   |
| 23   |      | 1.4   | 1.8  | 2.2  | 5.7   | 7.2   | 8.1   | 2.9   | .6    | 0    |      | 2.2   |
| 24   |      | 1.6   | 1.8  | 2.2  | 5.3   | 7.5   | 8.1   | 2.9   | .6    | 0    |      | 1.7   |
| 25   |      | 1.6   | 1.8  | 2.2  | 5.1   | 7.2   | 8.1   | 2.9   | .4    | 0    |      | 1.4   |
| 26   |      | 1.6   | 1.8  | 2.2  | 4.6   | 7.2   | 9.5   | 2.9   | .4    | 0    |      | 1.1   |
| 27   |      | 1.6   | 1.8  | 2.2  | 4.4   | 7.0   | 10    | 2.7   | .4    | 0    |      | .8    |
| 28   |      | 1.6   | 1.8  | 2.0  | 4.4   | 9.4   | 11    | 2.7   | .4    | 0    |      | .7    |
| 29   |      | 1.7   | 2.0  | 2.0  | ----- | 10    | 12    | 2.5   | .3    | 0    |      | .6    |
| 30   |      | 1.6   | 2.0  | 2.0  | ----- | 9.5   | 12    | 2.5   | .2    | 0    |      | .5    |
| 31   |      | ----- | 2.0  | 2.0  | ----- | 8.9   | ----- | 2.3   | ----- | 0    |      | ----- |
| Total  | 0    | 32.2  | 53.3 | 66.7 | 318.6 | 173.8 | 229.4 | 160.6 | 38.2  | 3.2  | 0    | 30.8  |
| Mean   | 0    | 1.07  | 1.72 | 2.15 | 11.4  | 5.61  | 7.65  | 5.18  | 1.27  | 0.10 | 0    | 1.03  |
| Max  | 0    | 1.7   | 2.0  | 2.3  | 112   | 10    | 12    | 11    | 2.5   | 0.2  | 0    | 10    |
| Min  | 0    | 0     | 1.6  | 2.0  | 2.2   | 3.6   | 5.5   | 2.3   | 0.2   | 0    | 0    | 0     |
| Ac-ft  | 0    | 64    | 106  | 132  | 632   | 345   | 455   | 319   | 76    | 6.3  | 0    | 61    |
| Calendar year 1962: Max 2,060 Min 0 Mean 25.2 Ac-ft 18,260                     |      |       |      |      |       |       |       |       |       |      |      |       |
| Water year 1962-63: Max 112 Min 0 Mean 3.03 Ac-ft 2,200                        |      |       |      |      |       |       |       |       |       |      |      |       |

Note.--No gage-height record Nov. 3-6, May 25-28.

10-2646. Oak Creek near Mojave, Calif.

Location.--Lat 35°03'00", long 118°21'25", in NW¼ sec.15, T.11 N., R.14 W., on upstream right wingwall of culvert, 100 ft downstream from unnamed tributary, 0.1 mile west of junction of Oak Creek and Willow Springs Roads and 10.5 miles west of Mojave.

Drainage area.--15.8 sq mi.

Records available.--August 1957 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,100 ft (from topographic map).

Average discharge.--6 years, 0.80 cfs (579 acre-ft per year).

Extremes.--Maximum discharge during year, 3.6 cfs Feb. 9 (gage height, 0.97 ft); no flow Oct. 1 to Nov. 9, Aug. 2 to Sept. 30.  
1957-63: Maximum discharge, 29 cfs Feb. 11, 1962 (gage height, 1.55 ft); no flow for some months in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 0.5 | 0   |
| .6  | .1  |
| .7  | .3  |
| .8  | 1.0 |
| .9  | 2.1 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug.  | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|-------|-------|
| 1     |      | 0     | 0.2  | 0.3  | 0.3   | 0.6  | 0.9   | 1.0  | 0.6   | 0.2  | 0.1   |       |
| 2     |      | * 0   | .2   | .3   | .3    | .6   | 1.0   | 1.0  | .6    | .2   | 0     |       |
| 3     |      | 0     | .2   | .3   | .3    | .6   | .9    | 1.0  | .6    | .2   | 0     |       |
| 4     |      | 0     | .2   | .3   | .3    | .6   | .9    | 1.0  | .6    | .2   | 0     |       |
| 5     |      | 0     | .2   | .3   | .3    | .6   | .8    | 1.0  | .6    | .2   | 0     |       |
| 6     |      | 0     | .2   | .3   | .3    | .6   | .7    | 1.0  | .6    | .2   | 0     |       |
| 7     |      | 0     | .2   | .3   | .3    | .6   | .7    | 1.0  | .6    | .2   | 0     |       |
| 8     |      | 0     | .2   | .3   | .3    | .6   | .7    | 1.0  | .6    | .2   | 0     |       |
| 9     |      | 0     | .2   | .3   | 1.0   | .6   | .8    | 1.0  | .5    | * .2 | * 0   |       |
| 10    |      | .1    | * .2 | .3   | 1.3   | .6   | .9    | 1.0  | .6    | .2   | 0     |       |
| 11    |      | .1    | .2   | .3   | .8    | .6   | .9    | 1.0  | .6    | .2   | 0     |       |
| 12    |      | .1    | .2   | .3   | .6    | .6   | .9    | .9   | * .8  | .2   | 0     |       |
| 13    |      | .1    | .2   | .3   | .6    | .6   | .9    | .6   | * .5  | .1   | 0     |       |
| 14    |      | * .1  | .2   | .3   | .6    | * .6 | 1.0   | * .6 | .3    | .1   | 0     |       |
| 15    |      | .1    | .2   | .3   | * .6  | .7   | 1.0   | .6   | .3    | .1   | 0     |       |
| 16    |      | .1    | .3   | .3   | .6    | .7   | 1.0   | .6   | .2    | .1   | 0     |       |
| 17    |      | .1    | .3   | .3   | .6    | .7   | 1.0   | .6   | .2    | .1   | 0     |       |
| 18    | (*)  | .1    | .3   | .3   | .6    | .8   | * 1.0 | .6   | .2    | .1   | 0     | (*)   |
| 19    |      | .1    | .3   | .3   | .6    | .8   | 1.0   | .6   | .2    | .1   | 0     |       |
| 20    |      | .1    | .3   | .3   | * .6  | .8   | 1.0   | .6   | .2    | .1   | 0     |       |
| 21    |      | .1    | .3   | .4   | .6    | .8   | 1.2   | .5   | .2    | .1   | 0     |       |
| 22    |      | .1    | .3   | .4   | .6    | .8   | 1.1   | .6   | .2    | .1   | 0     |       |
| 23    |      | .1    | .3   | .4   | .6    | .7   | 1.0   | .6   | .2    | .1   | 0     |       |
| 24    |      | .1    | .3   | * .3 | .6    | .7   | 1.0   | .6   | .2    | .1   | 0     |       |
| 25    |      | .2    | .3   | .3   | .6    | .7   | 1.0   | .6   | .2    | .1   | 0     |       |
| 26    |      | .2    | .3   | .3   | .6    | .6   | 1.2   | .6   | .2    | .1   | 0     |       |
| 27    |      | .2    | .3   | .3   | .6    | .6   | 1.1   | .6   | .2    | .1   | 0     |       |
| 28    |      | .2    | .3   | .3   | .6    | 1.0  | 1.0   | .6   | .2    | .1   | 0     |       |
| 29    |      | .2    | .3   | .3   | ----- | .9   | 1.0   | .6   | .2    | .1   | 0     |       |
| 30    |      | .2    | .3   | .3   | ----- | .9   | 1.0   | .6   | .2    | .1   | 0     |       |
| 31    |      | ----- | .3   | .3   | ----- | .9   | ----- | .6   | ----- | .1   | 0     | ----- |
| Total | 0    | 2.7   | 7.8  | 9.6  | 15.7  | 21.5 | 28.6  | 23.2 | 11.4  | 4.3  | 0.1   | 0     |
| Mean  | 0    | 0.09  | 0.25 | 0.31 | 0.56  | 0.69 | 0.95  | 0.75 | 0.38  | 0.14 | 0.003 | 0     |
| Max   | 0    | 0.2   | 0.3  | 0.4  | 1.3   | 1.0  | 1.2   | 1.0  | 0.8   | 0.2  | 0.1   | 0     |
| Min   | 0    | 0     | 0.2  | 0.3  | 0.3   | 0.6  | 0.7   | 0.5  | 0.2   | 0.1  | 0     | 0     |
| Ac-ft | 0    | 5.4   | 15   | 19   | 31    | 43   | 57    | 46   | 23    | 8.5  | 0.2   | 0     |

Calendar year 1962: Max 19 Min 0 Mean 1.22 Ac-ft 880

Water year 1962-63: Max 1.3 Min 0 Mean 0.34 Ac-ft 248

Peak discharge (base, 10 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

KOEHN LAKE BASIN

69

10-2647.5. Pine Tree Creek near Mojave, Calif.

Location.--Lat 35°13'50", long 118°05'05", in SE $\frac{1}{4}$  sec.14, T.31 S., R.36 E., on downstream side of city of Los Angeles aqueduct-siphon pier, near right bank 0.5 mile downstream from unnamed tributary, and 13 miles northeast of Mojave.

Drainage area.--33.5 sq mi.

Records available.--July 1958 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 2,700 ft (from topographic map). Prior to Oct. 1, 1961, at datum 3.0 ft higher.

Extremes.--Maximum discharge during year, 1,220 cfs Sept. 19 (gage height, 5.60 ft, from profile of floodmarks), on basis of indirect measurement of peak flow; no flow most of year.

1958-63: Maximum discharge, about 30,000 cfs Aug. 23, 1961, on basis of field estimate of peak flow; no flow for most of each year.

Remarks.--Records poor. No regulation or diversion. Monthly precipitation, in inches, water year 1962-63, is as follows: October, 0.1; January, 0.6; February, 1.1; March, 1.3; April, 0.3; June, 0.3; August, 0.1; September, 3.6; the year, 7.4.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|       |         |     |
|-------|---------|-----|
| Aug.  | 8.....  | 0.1 |
| Sept. | 4.....  | .3  |
|       | 5.....  | .1  |
|       | 18..... | 4.6 |
|       | 19..... | *58 |

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in acre-feet |
|-------------------------|----------|---------|---------|-------|---------------------|
| August 1963.....        | 0.1      | 0.1     | 0       | 0.003 | 0.2                 |
| September.....          | 63       | 58      | 0       | 2.10  | 125                 |
| Calendar year 1962..... | -        | 7.8     | 0       | .03   | 21                  |
| Water year 1962-63..... | -        | 58      | 0       | .17   | 125                 |

\* Discharge measurement made on this day.

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

## INDIAN WELLS VALLEY

10-2648.78. Ninemile Creek near Brown, Calif.

Location.--Lat 35°50'35", long 117°55'35", on left bank 600 ft upstream from Los Angeles aqueduct and 6.4 miles northwest of Brown, Inyo County.

Drainage area.--10.4 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 3,350 ft (from topographic map).

Extremes.--1961-62: Maximum discharge during water year, 20 cfs Feb. 9 (gage height, 3.58 ft); no flow for most of year.  
1962-63: Maximum discharge during water year, 1.8 cfs Jan. 31 (gage height, 3.07 ft); no flow for most of year.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1961 to September 1962

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|-------|-------|------|------|-------|
| 1     |      |      |      | 0    | 7.0   | 0.2  | 0.1   | 0.1   |       |      |      |       |
| 2     |      |      |      | 0    | 6.7   | .2   | .1    | .1    |       |      |      |       |
| 3     |      |      |      | 0    | 4.8   | .2   | .1    | 0     |       |      |      |       |
| 4     |      |      |      | 0    | 3.7   | .2   | .1    | 0     |       |      |      |       |
| 5     |      |      | (*)  | 0    | 2.6   | .2   | .1    | 0     |       |      |      |       |
| 6     |      |      |      | 0    | 1.5   | .2   | .1    | 0     |       |      |      |       |
| 7     |      |      |      | 0    | 1.3   | .2   | .1    | * 0   |       |      |      |       |
| 8     |      |      |      | 0    | 8.6   | .2   | .1    | 0     |       |      |      |       |
| 9     |      |      |      | 0    | * 16  | .2   | .1    | 0     |       |      |      |       |
| 10    |      | (*)  |      | 0    | 14    | .2   | .1    | 0     |       |      |      |       |
| 11    |      |      |      | 0    | a 5   | .2   | .1    | 0     | (*)   |      |      |       |
| 12    |      |      |      | 0    | a 3   | .2   | * .1  | 0     |       |      |      |       |
| 13    |      |      |      | 0    | a 2   | .2   | .1    | 0     |       |      |      |       |
| 14    |      |      |      | 0    | a 1   | * .2 | .1    | 0     |       |      | (*)  |       |
| 15    |      |      |      | * 0  |       | .2   | .1    | 0     |       |      |      |       |
| 16    |      |      |      | 0    |       | .2   | .1    | 0     |       |      |      |       |
| 17    |      |      |      | 0    |       | .2   | .1    | 0     |       |      |      |       |
| 18    |      |      |      | 0    | a .5  | .2   | .1    | 0     |       | (*)  |      | (*)   |
| 19    |      |      |      | 0    |       | .2   | .1    | 0     |       |      |      |       |
| 20    |      |      |      | 3.3  |       | .2   | .1    | 0     |       |      |      |       |
| 21    |      |      |      | 1.7  |       | .2   | .1    | 0     |       |      |      |       |
| 22    |      |      |      | .1   |       | .2   | .1    | 0     |       |      |      |       |
| 23    |      |      |      | 2.3  | a .2  | .2   | .1    | 0     |       |      |      |       |
| 24    |      |      |      | 3.0  |       | .2   | .1    | 0     |       |      |      |       |
| 25    |      |      |      | 4.6  |       | .2   | * .1  | 0     |       |      |      |       |
| 26    |      |      |      | 4.8  |       | .2   | .1    | 0     | (*)   |      |      |       |
| 27    |      |      |      | 5.6  | * .2  | .2   | .1    | 0     |       |      |      |       |
| 28    |      |      |      | 5.6  | .2    | * .2 | .1    | * 0   |       |      |      |       |
| 29    |      |      |      | 5.6  | ----- | .2   | .1    | 0     |       |      |      |       |
| 30    |      |      |      | 6.4  | ----- | .2   | .1    | 0     |       |      |      |       |
| 31    |      |      |      | 6.4  | ----- | .1   | ----- | 0     | ----- |      |      | ----- |
| Total | 0    | 0    | 0    | 49.4 | 81.8  | 6.1  | 3.0   | 0.2   | 0     | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 1.59 | 2.92  | 0.20 | 0.10  | 0.006 | 0     | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 6.4  | 16    | 0.2  | 0.1   | 0.1   | 0     | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0.2   | 0.1  | 0.1   | 0     | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 98   | 162   | 12   | 6.0   | 0.4   | 0     | 0    | 0    | 0     |

Calendar year 1961: Max - Min - Mean - Ac-ft -  
Water year 1961-62: Max 16 Min 0 Mean 0.38 Ac-ft 278

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record.

10-2648.78. Ninemile Creek near Brown, Calif.--Continued.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |      |       |      |      |       |      |       |      |       |      |      |       |
|--|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| Day  | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
| 1  |      | (*)   |      | 0    | 0.5   | 0.1  | 0.1   | 0.1  |       |      |      |       |
| 2  |      |       |      | 0    | .5    | .1   | .1    | .1   |       |      |      |       |
| 3  |      |       |      | 0    | .6    | .1   | .1    | .1   |       |      |      |       |
| 4  |      |       |      | 0    | .2    | .1   | .1    | .1   |       |      |      |       |
| 5  |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 6  |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 7  |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 8  |      |       |      | 0    | .1    | .1   | .1    | .1   |       | (*)  |      |       |
| 9  |      |       |      | 0    | .3    | .1   | .1    | .1   |       |      |      |       |
| 10   |      |       |      | 0    | .4    | .1   | .1    | .1   |       |      |      |       |
| 11   |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 12   |      |       | (*)  | 0    | .1    | .1   | .1    | .1   | (*)   |      | (*)  |       |
| 13   |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 14   |      | (*)   |      | 0    | *.1   | .1   | .1    | .1   |       |      |      |       |
| 15   |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 16   |      |       |      | 0    | .1    | .1   | .1    | *.1  |       |      |      |       |
| 17   |      |       |      | 0    | .1    | .1   | *.1   | .1   |       |      |      |       |
| 18   | (*)  |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 19   |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 20   |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      | (*)   |
| 21   |      |       |      | 0    | .1    | .1   | .2    | .1   |       |      |      |       |
| 22   |      |       |      | 0    | .1    | .1   | .1    | .1   |       |      |      |       |
| 23   |      |       |      | *0   | .1    | .1   | .1    | 0    |       |      |      |       |
| 24   |      |       |      | 0    | .1    | .1   | .1    | 0    |       |      |      |       |
| 25   |      |       |      | 0    | .1    | .1   | .1    | 0    |       |      |      |       |
| 26   |      |       |      | 0    | .1    | .1   | .2    | 0    |       |      |      |       |
| 27   |      |       |      | 0    | .1    | .1   | .1    | 0    |       |      |      |       |
| 28   |      |       |      | 0    | .1    | .2   | .1    | 0    |       |      |      |       |
| 29   |      |       |      | 0    | ----- | .1   | .1    | 0    |       |      |      |       |
| 30   |      |       |      | .4   | ----- | .1   | .1    | 0    |       |      |      |       |
| 31   |      | ----- |      | 1.1  | ----- | .1   | ----- | 0    | ----- |      |      | ----- |
| Total  | 0    | 0     | 0    | 1.5  | 4.7   | 3.2  | 3.2   | 2.2  | 0     | 0    | 0    | 0     |
| Mean   | 0    | 0     | 0    | 0.05 | 0.17  | 0.10 | 0.11  | 0.07 | 0     | 0    | 0    | 0     |
| Max  | 0    | 0     | 0    | 1.1  | 0.6   | 0.2  | 0.2   | 0.1  | 0     | 0    | 0    | 0     |
| Min  | 0    | 0     | 0    | 0    | 0.1   | 0.1  | 0.1   | 0    | 0     | 0    | 0    | 0     |
| Ac-ft  | 0    | 0     | 0    | 3.0  | 9.3   | 6.3  | 6.3   | 4.4  | 0     | 0    | 0    | 0     |
| Calendar year 1962: Max 16 Min 0 Mean 0.38 Ac-ft 278                           |      |       |      |      |       |      |       |      |       |      |      |       |
| Water year 1962-63: Max 1.1 Min 0 Mean 0.04 Ac-ft 29                           |      |       |      |      |       |      |       |      |       |      |      |       |

\* Discharge measurement or observation of no flow made on this day.

## OWENS LAKE BASIN

10-2652. Convict Creek near Mammoth Lakes, Calif.

Location.--Lat 37°36'30", long 118°50'55", in NE $\frac{1}{4}$  sec.14, T.4 S., R.28 E., on right bank 1.1 miles downstream from Convict Lake, 2.0 miles upstream from U.S. Highway 395, and 7.0 miles southeast of Mammoth Lakes (ranger station).

Drainage area.--18.7 sq mi.

Records available.--July 1925 to September 1963. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and wood control. Altitude of gage is 7,450 ft (from topographic map). Prior to Nov. 15, 1926, staff gage at same site and datum.

Average discharge.--38 years, 23.5 cfs (17,010 acre-ft per year).

Extremes.--Maximum discharge during year, 223 cfs June 21 (gage height, 3.53 ft); minimum daily, 5.4 cfs May 3-4.  
1925-63: Maximum discharge, 290 cfs June 29, 1932 (gage height, 4.43 ft); minimum daily, 1.3 cfs Jan. 10, 1951.

Remarks.--Discharge measurements generally made once a week. No diversion; some regulation by Convict Lake above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct. | Nov.  | Dec.    | Jan.  | Feb.      | Mar.  | Apr.         | May   | June  | July  | Aug.  | Sept. |
|-------------------------|------|-------|---------|-------|-----------|-------|--------------|-------|-------|-------|-------|-------|
| 1                       | 18   | 10    | 7.4     | 8.5   | 33        | 9.5   | 11           | 6.2   | 57    | 103   | 60    | 24    |
| 2                       | 18   | 10    | 7.5     | 8.5   | 26        | 9.5   | 11           | 5.8   | 51    | 105   | 58    | 23    |
| 3                       | 17   | 10    | 7.5     | 8.5   | 23        | 9.1   | 11           | 5.4   | 50    | 110   | 56    | 22    |
| 4                       | 16   | 9.9   | 7.5     | 8.5   | 22        | 9.1   | 11           | 5.4   | 50    | 111   | 54    | 22    |
| 5                       | 16   | 9.9   | 7.5     | 8.5   | 21        | 8.7   | 11           | 6.5   | 52    | 111   | 52    | 22    |
| 6                       | 15   | 9.9   | 7.5     | 8.5   | 20        | 9.1   | 12           | 7.7   | 54    | 110   | 47    | 22    |
| 7                       | 14   | 9.9   | 7.5     | 8.5   | 20        | 9.1   | 13           | 8.8   | 58    | 110   | 47    | 21    |
| 8                       | 14   | 9.9   | 7.5     | 8.5   | 20        | 9.1   | 14           | 11    | 52    | 114   | 50    | 21    |
| 9                       | 14   | 10    | 7.5     | 8.5   | 19        | 9.1   | 13           | 16    | 44    | 119   | 52    | 21    |
| 10                      | 14   | 11    | 7.5     | 8.9   | 19        | 9.1   | 12           | 21    | 34    | 119   | 52    | 21    |
| 11                      | 15   | 8.5   | 7.5     | 8.1   | 18        | 8.7   | 12           | 20    | 42    | 119   | 50    | 21    |
| 12                      | 12   | 8.0   | 7.5     | 8.1   | 17        | 7.9   | 12           | 20    | 41    | 121   | 47    | 21    |
| 13                      | 12   | 8.0   | 7.5     | 8.1   | 15        | 7.9   | 12           | 20    | 37    | 121   | 45    | 20    |
| 14                      | 11   | 8.0   | 7.5     | 8.1   | 15        | 8.3   | 13           | 20    | 36    | 122   | 43    | 20    |
| 15                      | 11   | 8.0   | 7.5     | 8.1   | 14        | 8.7   | 15           | 20    | 36    | 116   | 42    | 20    |
| 16                      | 11   | 8.0   | 7.6     | 8.1   | 14        | 8.7   | 13           | 19    | 49    | 112   | 41    | 20    |
| 17                      | 11   | 8.0   | 7.6     | 8.1   | 13        | 9.1   | 12           | 18    | 67    | 110   | 40    | 19    |
| 18                      | 11   | 8.0   | 7.6     | 7.7   | 13        | 8.7   | 12           | 18    | 97    | 104   | 40    | 19    |
| 19                      | 11   | 7.9   | 7.5     | 7.7   | 12        | 8.3   | 13           | 20    | 119   | 97    | 39    | 18    |
| 20                      | 12   | 7.9   | 7.5     | 7.3   | 12        | 8.3   | 12           | 22    | 158   | 91    | 37    | 18    |
| 21                      | 12   | 7.9   | 7.5     | 7.3   | 11        | 8.3   | 12           | 26    | 211   | 85    | 36    | 18    |
| 22                      | 12   | 7.9   | 7.5     | 7.3   | 11        | 8.3   | 11           | 32    | 177   | 83    | 34    | 18    |
| 23                      | 12   | 7.9   | 7.5     | 7.3   | 11        | 8.3   | 11           | 37    | 146   | 83    | 32    | 18    |
| 24                      | 12   | 7.9   | 7.3     | 7.3   | 11        | 8.3   | 11           | 40    | 124   | 81    | 30    | 18    |
| 25                      | 12   | 7.9   | 7.3     | 7.3   | 10        | 8.3   | 12           | 41    | 106   | 76    | 30    | 18    |
| 26                      | 12   | 8.1   | 7.3     | 7.3   | 9.8       | 7.7   | 11           | 41    | 103   | 71    | 28    | 18    |
| 27                      | 11   | 8.0   | 7.1     | 6.9   | 9.8       | 8.9   | 11           | 41    | 104   | 67    | 26    | 18    |
| 28                      | 11   | 7.6   | 7.1     | 6.9   | 9.5       | 11    | 11           | 41    | 112   | 66    | 25    | 18    |
| 29                      | 11   | 7.6   | 7.1     | 6.9   | -----     | 11    | 11           | 43    | 105   | 65    | 25    | 18    |
| 30                      | 11   | 7.5   | 7.1     | 12    | -----     | 10    | 8.2          | 44    | 103   | 64    | 24    | 17    |
| 31                      | 11   | ----- | 7.1     | 26    | -----     | 10    | -----        | 47    | ----- | 62    | 24    | ----- |
| Total                   | 400  | 259.1 | 230.1   | 267.3 | 449.1     | 276.1 | 354.2        | 723.8 | 2475  | 3028  | 1266  | 594   |
| Mean                    | 12.9 | 8.64  | 7.42    | 8.62  | 16.0      | 8.91  | 11.8         | 23.3  | 82.5  | 97.7  | 40.8  | 19.8  |
| Max                     | 18   | 11    | 7.6     | 26    | 33        | 11    | 15           | 47    | 211   | 122   | 60    | 24    |
| Min                     | 11   | 7.5   | 7.1     | 6.9   | 9.5       | 7.7   | 8.2          | 5.4   | 34    | 62    | 24    | 17    |
| Ac-ft                   | 793  | 514   | 456     | 530   | 891       | 548   | 703          | 1,440 | 4,910 | 6,010 | 2,510 | 1,180 |
| Calendar year 1962: Max | 157  |       | Min 4.9 |       | Mean 26.9 |       | Ac-ft 19,450 |       |       |       |       |       |
| Water year 1962-63: Max | 211  |       | Min 5.4 |       | Mean 28.3 |       | Ac-ft 20,480 |       |       |       |       |       |

10-2657. Rock Creek at Little Round Valley, near Bishop, Calif.

Location (revised).--Lat 37°33'10", long 118°41'00", in SE $\frac{1}{4}$  sec. 32, T.4 S., R.30 E., on right bank just upstream from diversion to Little Round Valley, 0.6 mile south of Toms Place, and 20 miles northwest of Bishop, Mono County.

Drainage area.--35.8 sq mi.

Records available.--January to December 1918, January 1920 to September 1963. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and 6-ft Parshall flume since May 1953. Altitude of gage is 7,450 ft (from topographic map). Prior to May 24, 1926, staff gage at same site at different datums. May 24, 1926, to May 28, 1953, water-stage recorder at same site at different datums.

Average discharge.--43 years (1920-63), 30.1 cfs (21,790 acre-ft per year).

Extremes.--Maximum discharge during year, 207 cfs June 20 (gage height, 3.88 ft); minimum daily, 6.2 cfs Jan. 23, 24.

1926-63: Maximum discharge, 270 cfs July 26, 1952 (gage height, 2.93 ft, datum then in use); minimum daily, 3.2 cfs Mar. 11, 1926.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 14    | 11    | 11   | 11    | 37    | 10    | 12    | 18    | 109   | 77    | 54    | 22    |
| 2     | 14    | 10    | 10   | 9.0   | 23    | 10    | 12    | 20    | 110   | 84    | 50    | 22    |
| 3     | 13    | 10    | 10   | 8.2   | 18    | 10    | 11    | 22    | 112   | 89    | 49    | 22    |
| 4     | 12    | 10    | 10   | 8.2   | 17    | 13    | 11    | 23    | 105   | 88    | 42    | 22    |
| 5     | 12    | 10    | 10   | 8.7   | 15    | 13    | 12    | 25    | 97    | 86    | 37    | 27    |
| 6     | 12    | 10    | 10   | 8.7   | 15    | 10    | 14    | 28    | 93    | 84    | 35    | 27    |
| 7     | 12    | 10    | 10   | 7.9   | 14    | 9.8   | 14    | 33    | 89    | 81    | 36    | 33    |
| 8     | 12    | 11    | 10   | 7.9   | 14    | 10    | 14    | 33    | 81    | 87    | 42    | 37    |
| 9     | 12    | 11    | 10   | 7.9   | 14    | 9.8   | 14    | 31    | 76    | 93    | 44    | 34    |
| 10    | 11    | 10    | 10   | 8.2   | 14    | 10    | 14    | 30    | 74    | 96    | 49    | 29    |
| 11    | 10    | 10    | 10   | 7.7   | 14    | 10    | 14    | 29    | 75    | 98    | 47    | 26    |
| 12    | 9.8   | 10    | 11   | 7.2   | 14    | 9.8   | 14    | 28    | 71    | 102   | 41    | 24    |
| 13    | 9.2   | 10    | 11   | 7.2   | 13    | 10    | 14    | 29    | 65    | 110   | 34    | 23    |
| 14    | 9.8   | 10    | 10   | 7.2   | 13    | 9.8   | 15    | 29    | 63    | 113   | 29    | 23    |
| 15    | 9.8   | 10    | 10   | 7.2   | 13    | 10    | 15    | 31    | 71    | 105   | 31    | 22    |
| 16    | 10    | 10    | 11   | 7.2   | 12    | 11    | 14    | 35    | 102   | 98    | 37    | 21    |
| 17    | 11    | 12    | 10   | 7.7   | 12    | 11    | 14    | 40    | 143   | 92    | 36    | 20    |
| 18    | 11    | 11    | 10   | 7.4   | 12    | 11    | 14    | 48    | 171   | 86    | 35    | 20    |
| 19    | 11    | 11    | 10   | 11    | 12    | 11    | 14    | 58    | 179   | 71    | 38    | 22    |
| 20    | 11    | 11    | 10   | 7.4   | 11    | 10    | 13    | 68    | 193   | 64    | 38    | 23    |
| 21    | 11    | 10    | 11   | 7.0   | 11    | 10    | 14    | 80    | 187   | 65    | 35    | 21    |
| 22    | 11    | 10    | 11   | 6.5   | 11    | 10    | 14    | 88    | 166   | 69    | 32    | 20    |
| 23    | 11    | 9.8   | 11   | 6.2   | 11    | 10    | 13    | 99    | 145   | 73    | 30    | 19    |
| 24    | 11    | 9.8   | 11   | 6.2   | 11    | 11    | 13    | 107   | 112   | 70    | 27    | 17    |
| 25    | 11    | 9.8   | 11   | 6.5   | 11    | 10    | 13    | 94    | 88    | 62    | 26    | 17    |
| 26    | 11    | 10    | 11   | 7.0   | 11    | 10    | 13    | 94    | 82    | 55    | 24    | 16    |
| 27    | 11    | 9.8   | 11   | 7.2   | 11    | 11    | 13    | 95    | 91    | 52    | 23    | 16    |
| 28    | 11    | 9.8   | 11   | 7.0   | 10    | 13    | 13    | 99    | 96    | 51    | 22    | 16    |
| 29    | 11    | 11    | 11   | 6.5   | ----- | 11    | 15    | 96    | 86    | 49    | 21    | 15    |
| 30    | 11    | 11    | 11   | 8.0   | ----- | 11    | 16    | 98    | 76    | 49    | 21    | 15    |
| 31    | 11    | ----- | 11   | 19    | ----- | 11    | ----- | 106   | ----- | 55    | 22    | ----- |
| Total | 3 476 | 3 090 | 3 25 | 2 500 | 3 94  | 3 272 | 4 06  | 1 714 | 3 208 | 2 454 | 1 087 | 671   |
| Mean  | 11.2  | 10.3  | 10.5 | 8.06  | 14.1  | 10.6  | 13.5  | 55.3  | 107   | 79.2  | 35.1  | 22.4  |
| Max   | 14    | 12    | 11   | 19    | 37    | 13    | 16    | 107   | 193   | 113   | 54    | 37    |
| Min   | 9.2   | 9.8   | 10   | 6.2   | 10    | 9.8   | 11    | 18    | 63    | 49    | 21    | 15    |
| Ac-ft | 689   | 613   | 645  | 496   | 781   | 649   | 805   | 3,400 | 6,360 | 4,870 | 2,160 | 1,330 |

Calendar year 1962: Max 141 Min 7.2 Mean 28.6 Ac-ft 20,700  
 Water year 1962-63: Max 193 Min 6.2 Mean 31.5 Ac-ft 22,800

## OWENS LAKE BASIN

10-2670. Pine Creek at division box, near Bishop, Calif.

Location.--Lat 37°25'00", long 118°37'15", in NW $\frac{1}{4}$  sec.19, T.6 S., R.31 E., on right bank 0.25 mile upstream from division box (at Rovana), 1.9 miles west of Round Valley schoolhouse, and 13 miles northwest of Bishop.

Drainage area.--37.9 sq mi.

Records available.--October 1921 to September 1963. Prior to October 1959 monthly discharge only, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and 6-ft Parshall flume since November 1938. Altitude of gage is 5,280 ft (from topographic map).

Average discharge.--42 years, 43.5 cfs (31,490 acre-ft per year).

Extremes.--Maximum discharge during year, 343 cfs June 20 (gage height, not determined); minimum daily, 20 cfs Jan. 12, 17, 18.  
1921-63: Maximum discharge, 356 cfs June 4, 1957; minimum, 10 cfs Jan. 8, 1930, Jan. 21, 1935.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 27    | 23    | 24    | 23    | 73    | 23    | 24    | 27    | 133   | 167   | 61    | 44    |
| 2     | 25    | 23    | 24    | 23    | 38    | 24    | 24    | 28    | 160   | 171   | 56    | 42    |
| 3     | 25    | 24    | 24    | 22    | 31    | 24    | 24    | 30    | 157   | 167   | 57    | 41    |
| 4     | 25    | 24    | 24    | 22    | 29    | 23    | 24    | 30    | 126   | 167   | 54    | 41    |
| 5     | 25    | 24    | 24    | 23    | 28    | 23    | 24    | 33    | 119   | 163   | 47    | 54    |
| 6     | 26    | 23    | 24    | 23    | 26    | 23    | 25    | 36    | 111   | 162   | 48    | 65    |
| 7     | 27    | 23    | 24    | 23    | 26    | 23    | 31    | 38    | 94    | 176   | 47    | 63    |
| 8     | 26    | 23    | 24    | 22    | 26    | 23    | 27    | 41    | 84    | 186   | 70    | 56    |
| 9     | 25    | 23    | 25    | 22    | 26    | 23    | 26    | 40    | 83    | 187   | 76    | 52    |
| 10    | 25    | 23    | 24    | 22    | 26    | 24    | 26    | 39    | 87    | 191   | 68    | 49    |
| 11    | 25    | 24    | 23    | 22    | 25    | 23    | 26    | 37    | 83    | 215   | 50    | 47    |
| 12    | 25    | 23    | 23    | 20    | 25    | 23    | 26    | 36    | 75    | 204   | 39    | 45    |
| 13    | 25    | 23    | 23    | 21    | 25    | 22    | 26    | 35    | 70    | 210   | 34    | 45    |
| 14    | 27    | 22    | 23    | 22    | 24    | 23    | 27    | 35    | 75    | 193   | 32    | 45    |
| 15    | 26    | 22    | 24    | 21    | 24    | 22    | 26    | 35    | 135   | 165   | 33    | 43    |
| 16    | 25    | 22    | 24    | 21    | 25    | 23    | 25    | 40    | 211   | 167   | 35    | 42    |
| 17    | 25    | 23    | 24    | 20    | 25    | 23    | 25    | 47    | 262   | 156   | 39    | 40    |
| 18    | 25    | 24    | 23    | 20    | 24    | 23    | 25    | 58    | 293   | 136   | 40    | 40    |
| 19    | 24    | 23    | 23    | 21    | 24    | 22    | 25    | 70    | 318   | 138   | 41    | 41    |
| 20    | 25    | 22    | 22    | 21    | 24    | 23    | 25    | 83    | 321   | 144   | 45    | 41    |
| 21    | 26    | 23    | 22    | 21    | 24    | 23    | 26    | 105   | 277   | 140   | 52    | 41    |
| 22    | 25    | 24    | 23    | 21    | 24    | 23    | 25    | 123   | 210   | 138   | 54    | 40    |
| 23    | 24    | 24    | 24    | 21    | 24    | 23    | 24    | 124   | 155   | 122   | 50    | 38    |
| 24    | 24    | 24    | 23    | 21    | 24    | 24    | 24    | 106   | 125   | 110   | 49    | 36    |
| 25    | 24    | 24    | 22    | 21    | 24    | 23    | 24    | 98    | 125   | 102   | 47    | 36    |
| 26    | 24    | 23    | 21    | 21    | 24    | 23    | 24    | 102   | 159   | 86    | 44    | 35    |
| 27    | 25    | 23    | 22    | 22    | 24    | 25    | 25    | 107   | 189   | 75    | 45    | 34    |
| 28    | 25    | 24    | 22    | 21    | 24    | 26    | 25    | 108   | 177   | 72    | 42    | 34    |
| 29    | 25    | 24    | 22    | 21    | ----- | 24    | 25    | 101   | 130   | 77    | 43    | 33    |
| 30    | 24    | 24    | 23    | 29    | ----- | 24    | 26    | 115   | 141   | 79    | 43    | 32    |
| 31    | 24    | ----- | 23    | 57    | ----- | 24    | ----- | 133   | ----- | 74    | 45    | ----- |
| Total | 778   | 698   | 720   | 710   | 766   | 722   | 759   | 2,040 | 4,685 | 4,540 | 1,486 | 1,295 |
| Mean  | 25.1  | 23.3  | 23.2  | 22.9  | 27.4  | 23.3  | 25.3  | 65.8  | 156   | 146   | 47.9  | 43.2  |
| Max   | 27    | 24    | 25    | 57    | 73    | 26    | 31    | 133   | 321   | 215   | 76    | 65    |
| Min   | 24    | 22    | 21    | 20    | 24    | 22    | 24    | 27    | 70    | 72    | 32    | 32    |
| Ac-ft | 1,540 | 1,380 | 1,430 | 1,410 | 1,520 | 1,430 | 1,510 | 4,050 | 9,290 | 9,000 | 2,950 | 2,570 |

Calendar year 1962: Max 232 Min 17 Mean 48.2 Ac-ft 34,930  
 Water year 1962-63: Max 321 Min 20 Mean 52.6 Ac-ft 38,080

Note.--No gage-height record June 17-21, Aug. 14-21.



10-2687. Silver Canyon Creek near Laws, Calif.

Location.--Lat 37°24'15", long 118°18'30", in NW $\frac{1}{4}$  sec.25, T.6 S., R.33 E., on right bank at mouth of canyon, 2.0 miles east of Laws.Drainage area.--22.4 sq mi.Records available.--March 1930 to September 1963. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.Gage.--Water-stage recorder and 1-ft Parshall flume. Altitude of gage is 4,600 ft (from topographic map). Prior to Feb. 24, 1943, staff gage and 2-ft Cipolletti weir at site  $1\frac{1}{2}$  miles downstream at different datum.Average discharge.--33 years, 1.53 cfs (1,110 acre-ft per year).Extremes.--Maximum discharge during year, 4.4 cfs Aug. 7; minimum daily discharge, 1.0 cfs Nov. 19.

1930-63: Maximum discharge, 8.4 cfs Oct. 19, 1958; no flow at times in some years.

Remarks.--Discharge by computation of flow through Parshall flume. No regulation; occasional diversion above station.Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      |       |      |      |       |      |       |      |       |      |      |       |
| 2     | 1.7  | 1.7   | 1.8  | 1.8  | 1.9   | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6  | 1.7   |
| 3     | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.7  | 1.5  | 1.7   |
| 4     | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.7  | 1.5  | 1.7   |
| 5     | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.7  | 1.6  | 1.6   |
|       | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.5  | 1.8   | 1.8  | 1.7   | 1.7  | 1.6  | 1.7   |
| 6     |      |       |      |      |       |      |       |      |       |      |      |       |
| 7     | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.5  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6  | 1.6   |
| 8     | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.5  | 1.8   | 1.8  | 1.8   | 1.7  | 1.7  | 1.7   |
| 9     | 1.7  | 1.7   | 1.8  | 1.8  | 1.9   | 1.5  | 1.8   | 1.8  | 1.8   | 1.7  | 1.7  | 1.6   |
| 10    | 1.6  | 1.7   | 1.8  | 1.8  | 1.8   | 1.5  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6  | 1.6   |
| 11    | 1.6  | 1.7   | 1.8  | 1.8  | 1.8   | 1.5  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6  | 1.6   |
| 12    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.5  | 1.8   | 1.8  | 1.8   | 1.6  | 1.6  | 1.6   |
| 13    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.6  | 1.8   | 1.8  | 1.8   | 1.6  | 1.6  | 1.6   |
| 14    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.8   | 1.6  | 1.6  | 1.6   |
| 15    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.6  | 1.6  | 1.6   |
| 16    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.7   | 1.6  | 1.6  | 1.7   |
| 17    | 1.7  | 1.2   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6   | 1.6  | 1.6  | 1.7   |
| 18    | 1.7  | 1.1   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6   | 1.6  | 1.6  | 1.7   |
| 19    | 1.7  | 1.0   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6   | 1.6  | 1.6  | 1.8   |
| 20    | 1.7  | 1.2   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6   | 1.5  | 1.6  | 1.7   |
| 21    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.6   | 1.5  | 1.6  | 1.7   |
| 22    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.7   | 1.5  | 1.6  | 1.7   |
| 23    | 1.7  | 1.7   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.5  | 1.6  | 1.7   |
| 24    | 1.7  | 1.8   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.5  | 1.6  | 1.7   |
| 25    | 1.7  | 1.8   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.5  | 1.6  | 1.7   |
| 26    | 1.7  | 1.8   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.5  | 1.6  | 1.7   |
| 27    | 1.7  | 1.8   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.5  | 1.6  | 1.7   |
| 28    | 1.7  | 1.8   | 1.8  | 1.8  | 1.8   | 1.8  | 1.8   | 1.8  | 1.7   | 1.5  | 1.6  | 1.7   |
| 29    | 1.7  | 1.8   | 1.8  | 1.8  | ----- | 1.7  | 1.8   | 1.8  | 1.8   | 1.5  | 1.6  | 1.7   |
| 30    | 1.7  | 1.8   | 1.8  | 1.9  | ----- | 1.6  | 1.8   | 1.8  | 1.8   | 1.5  | 1.6  | 1.7   |
| 31    | 1.7  | ----- | 1.8  | 2.0  | ----- | 1.8  | ----- | 1.8  | ----- | 1.5  | 1.6  | ----- |
| Total | 52.5 | 49.4  | 55.8 | 56.1 | 50.6  | 52.9 | 54.0  | 55.1 | 51.7  | 49.5 | 49.7 | 50.2  |
| Mean  | 1.69 | 1.65  | 1.80 | 1.81 | 1.81  | 1.71 | 1.80  | 1.78 | 1.72  | 1.60 | 1.60 | 1.67  |
| Max   | 1.7  | 1.8   | 1.8  | 2.0  | 1.9   | 1.8  | 1.8   | 1.8  | 1.8   | 1.7  | 1.7  | 1.8   |
| Min   | 1.6  | 1.0   | 1.8  | 1.8  | 1.8   | 1.5  | 1.8   | 1.7  | 1.6   | 1.5  | 1.5  | 1.6   |
| Ac-ft | 104  | 98    | 111  | 111  | 100   | 105  | 107   | 109  | 103   | 98   | 99   | 100   |

Calendar year 1962: Max 1.9 Min 1.0 Mean 1.71 Ac-ft 1,240

Water year 1962-63: Max 2.0 Min 1.0 Mean 1.72 Ac-ft 1,240

## 10-2760. Big Pine Creek near Big Pine, Calif.

Location.--Lat 37°08'40", long 118°18'55", in NW¼ sec.25, T.9 S., R.33 E., on left bank 0.3 mile downstream from Little Pine Creek, 0.5 mile downstream from powerhouse No. 3, and 2.2 miles southwest of Big Pine.

Drainage area.--39.0 sq mi.

Records available.--November 1907 to February 1911, January 1920 to September 1963; combined records of creek and diversions, June 1930 to September 1963. Monthly discharge only for some periods, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and 6-ft Parshall flume since April 1949 on creek; water-stage recorder and 2-ft Parshall flume on each diversion. Altitude of gage is 4,550 ft (from topographic map). Prior to January 1923, staff gage at same site and datum.

Average combined discharge.--33 years (1930-63), 40.6 cfs (29,390 acre-ft per year), including diversion to upper and lower Giroux ditches.

Extremes (creek only).--Maximum discharge during year, 203 cfs June 21 (gage height, 3.81 ft); minimum daily, 9.0 cfs Jan. 26, Mar. 11, 12.

1907-11, 1920-63: Maximum discharge, 458 cfs July 3, 1932 (gage height, 6.55 ft); no flow Dec. 3-12, 1935.

(combined).--Maximum discharge during year, 211 cfs June 21; minimum daily, 9.9 cfs Jan. 26.

1907-11, 1920-63: Maximum discharge, 458 cfs July 3, 1932; minimum daily, 6.4 cfs Dec. 11, 12, 1935.

Remarks.--Diversions for power and irrigation. For records of combined discharge of Big Pine Creek and Giroux ditches, see following page.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.    | Nov.  | Dec. | Jan.    | Feb.      | Mar.   | Apr.  | May          | June   | July   | Aug.   | Sept. |
|---------------------|---------|-------|------|---------|-----------|--------|-------|--------------|--------|--------|--------|-------|
| 1                   | 13      | 17    | 14   | 12      | 37        | 11     | 12    | 15           | 56     | 113    | 92     | 29    |
| 2                   | 13      | 17    | 14   | 14      | 17        | 11     | 11    | 16           | 62     | 123    | 91     | 30    |
| 3                   | 13      | 17    | 15   | 14      | 15        | 10     | 12    | 18           | 61     | 128    | 93     | 32    |
| 4                   | 13      | 17    | 15   | 13      | 14        | 10     | 11    | 20           | 56     | 125    | 88     | 36    |
| 5                   | 12      | 17    | 16   | 13      | 14        | 10     | 11    | 19           | 58     | 133    | 85     | 61    |
| 6                   | 12      | 16    | 16   | 13      | 13        | 11     | 12    | 21           | 55     | 122    | 85     | 68    |
| 7                   | 11      | 16    | 15   | 13      | 13        | 11     | 15    | 24           | 50     | 131    | 87     | 53    |
| 8                   | 11      | 16    | 15   | 12      | 13        | 11     | 14    | 25           | 44     | 146    | 177    | 44    |
| 9                   | 11      | 16    | 15   | 12      | 13        | 11     | 13    | 24           | 42     | 156    | 182    | 38    |
| 10                  | 10      | 15    | 15   | 12      | 13        | 10     | 13    | 21           | 46     | 160    | 141    | 35    |
| 11                  | 9.8     | 16    | 15   | 12      | 12        | 9.0    | 12    | 17           | 44     | 171    | 112    | 33    |
| 12                  | 15      | 15    | 15   | 12      | 12        | 9.0    | 12    | 15           | 42     | 179    | 96     | 30    |
| 13                  | 17      | 16    | 15   | 12      | 11        | 9.2    | 12    | 17           | 37     | 175    | 83     | 30    |
| 14                  | 13      | 16    | 15   | 11      | 11        | 9.5    | 14    | 17           | 37     | 171    | 77     | 30    |
| 15                  | 13      | 15    | 15   | 11      | 10        | 9.8    | 14    | 16           | 48     | 164    | 82     | 28    |
| 16                  | 13      | 14    | 15   | 11      | 10        | 10     | 13    | 20           | 73     | 171    | 91     | 26    |
| 17                  | 12      | 14    | 15   | 9.8     | 10        | 11     | 13    | 25           | 91     | 153    | 99     | 24    |
| 18                  | 12      | 15    | 15   | 9.5     | 10        | 10     | 11    | 31           | 110    | 125    | 87     | 24    |
| 19                  | 12      | 15    | 15   | 9.8     | 10        | 10     | 11    | 36           | 119    | 118    | 76     | 24    |
| 20                  | 12      | 15    | 14   | 9.5     | 10        | 10     | 11    | 42           | 138    | 122    | 63     | 22    |
| 21                  | 12      | 15    | 14   | 9.8     | 10        | 10     | 12    | 49           | 187    | 131    | 58     | 21    |
| 22                  | 15      | 15    | 14   | 9.8     | 10        | 10     | 12    | 51           | 157    | 146    | 51     | 19    |
| 23                  | 16      | 15    | 13   | 9.8     | 10        | 10     | 13    | 51           | 122    | 141    | 45     | 21    |
| 24                  | 17      | 15    | 11   | 9.5     | 10        | 10     | 12    | 49           | 93     | 120    | 42     | 23    |
| 25                  | 16      | 15    | 13   | 9.5     | 10        | 11     | 12    | 46           | 89     | 108    | 41     | 23    |
| 26                  | 17      | 15    | 11   | 9.0     | 11        | 11     | 12    | 55           | 112    | 106    | 35     | 23    |
| 27                  | 17      | 15    | 14   | 9.2     | 11        | 14     | 11    | 50           | 135    | 106    | 33     | 23    |
| 28                  | 17      | 15    | 11   | 9.2     | 11        | 19     | 11    | 48           | 126    | 106    | 33     | 23    |
| 29                  | 17      | 14    | 11   | 9.8     | -----     | 13     | 12    | 42           | 99     | 104    | 33     | 23    |
| 30                  | 17      | 14    | 11   | 23      | -----     | 13     | 13    | 48           | 96     | 102    | 35     | 23    |
| 31                  | 17      | ----- | 14   | 37      | -----     | 12     | ----- | 63           | -----  | 99     | 32     | ----- |
| Total               | 4 25.8  | 4 63  | 4 36 | 3 81.2  | 3 51      | 3 36.5 | 3 67  | 9 91         | 2 4 85 | 4 1 55 | 2 4 25 | 9 19  |
| Mean                | 13.7    | 15.4  | 14.1 | 12.3    | 12.5      | 10.9   | 12.2  | 32.0         | 82.8   | 134    | 78.2   | 30.6  |
| Max                 | 17      | 17    | 16   | 37      | 37        | 19     | 15    | 63           | 187    | 179    | 182    | 68    |
| Min                 | 9.8     | 14    | 11   | 9.0     | 10        | 9.0    | 11    | 15           | 37     | 99     | 32     | 19    |
| Ac-ft               | 845     | 918   | 865  | 756     | 696       | 667    | 728   | 1,970        | 4,930  | 8,240  | 4,810  | 1,820 |
| Calendar year 1962: | Max 167 |       |      | Min 7.7 | Mean 32.0 |        |       | Ac-ft 23,180 |        |        |        |       |
| Water year 1962-63: | Max 187 |       |      | Min 9.0 | Mean 37.6 |        |       | Ac-ft 27,240 |        |        |        |       |

Combined discharge, in cubic feet per second, of Big Pine Creek and upper and lower Giroux ditches,  
near Big Pine, Calif., water year October 1962 to September 1963

| Day                 | Oct.  | Nov.  | Dec. | Jan.  | Feb.  | Mar. | Apr.  | May    | June  | July  | Aug.  | Sept. |
|---------------------|-------|-------|------|-------|-------|------|-------|--------|-------|-------|-------|-------|
| 1                   | 26    | 21    | 18   | 14    | 38    | 12   | 14    | 18     | 65    | 125   | 112   | 44    |
| 2                   | 26    | 21    | 18   | 15    | 19    | 12   | 13    | 18     | 71    | 135   | 111   | 45    |
| 3                   | 26    | 21    | 18   | 15    | 17    | 11   | 14    | 21     | 70    | 140   | 113   | 47    |
| 4                   | 26    | 21    | 17   | 14    | 16    | 11   | 13    | 23     | 65    | 138   | 108   | 51    |
| 5                   | 25    | 21    | 18   | 14    | 16    | 11   | 13    | 23     | 67    | 147   | 105   | 75    |
| 6                   | 25    | 20    | 18   | 14    | 15    | 12   | 14    | 26     | 64    | 136   | 105   | 82    |
| 7                   | 24    | 20    | 17   | 14    | 15    | 12   | 17    | 29     | 58    | 145   | 107   | 67    |
| 8                   | 24    | 20    | 17   | 13    | 15    | 12   | 16    | 30     | 53    | 160   | 196   | 58    |
| 9                   | 24    | 20    | 17   | 13    | 15    | 12   | 15    | 29     | 51    | 170   | 198   | 52    |
| 10                  | 22    | 19    | 17   | 13    | 15    | 12   | 15    | 27     | 56    | 173   | 156   | 50    |
| 11                  | 22    | 20    | 17   | 13    | 14    | 12   | 14    | 25     | 54    | 185   | 127   | 48    |
| 12                  | 22    | 19    | 17   | 13    | 14    | 12   | 14    | 20     | 51    | 193   | 111   | 45    |
| 13                  | 22    | 20    | 17   | 13    | 13    | 12   | 14    | 22     | 47    | 189   | 98    | 45    |
| 14                  | 23    | 20    | 17   | 12    | 13    | 12   | 16    | 23     | 47    | 185   | 92    | 45    |
| 15                  | 22    | 19    | 17   | 12    | 12    | 12   | 16    | 22     | 57    | 179   | 97    | 43    |
| 16                  | 22    | 18    | 17   | 12    | 12    | 12   | 15    | 26     | 82    | 186   | 106   | 41    |
| 17                  | 21    | 18    | 17   | 11    | 12    | 13   | 15    | 31     | 100   | 168   | 114   | 35    |
| 18                  | 21    | 19    | 17   | 10    | 12    | 12   | 13    | 37     | 120   | 140   | 102   | 38    |
| 19                  | 21    | 19    | 17   | 11    | 12    | 12   | 14    | 42     | 128   | 132   | 92    | 38    |
| 20                  | 21    | 19    | 16   | 10    | 12    | 12   | 14    | 48     | 147   | 137   | 82    | 36    |
| 21                  | 21    | 19    | 16   | 11    | 12    | 12   | 15    | 55     | 196   | 146   | 77    | 35    |
| 22                  | 22    | 19    | 16   | 11    | 12    | 12   | 14    | 57     | 166   | 161   | 69    | 33    |
| 23                  | 21    | 19    | 15   | 11    | 12    | 12   | 15    | 57     | 131   | 156   | 62    | 31    |
| 24                  | 22    | 19    | 13   | 10    | 12    | 12   | 14    | 55     | 102   | 138   | 58    | 30    |
| 25                  | 20    | 19    | 15   | 10    | 12    | 13   | 15    | 52     | 98    | 129   | 55    | 30    |
| 26                  | 21    | 19    | 13   | 9.9   | 12    | 13   | 14    | 61     | 120   | 125   | 50    | 31    |
| 27                  | 21    | 19    | 16   | 10    | 12    | 16   | 14    | 56     | 145   | 125   | 48    | 31    |
| 28                  | 21    | 19    | 13   | 10    | 12    | 21   | 13    | 57     | 138   | 125   | 48    | 31    |
| 29                  | 21    | 18    | 13   | 11    | ----- | 15   | 14    | 52     | 111   | 123   | 48    | 31    |
| 30                  | 21    | 18    | 13   | 24    | ----- | 15   | 15    | 58     | 108   | 121   | 50    | 31    |
| 31                  | 21    | ----- | 16   | 38    | ----- | 14   | ----- | 72     | ----- | 120   | 47    | ----- |
| Total               | 697   | 583   | 503  | 411.9 | 403   | 393  | 432   | 1,172  | 2,768 | 4,632 | 2,944 | 1299  |
| Mean                | 22.5  | 19.4  | 16.2 | 13.3  | 14.4  | 12.7 | 14.4  | 37.8   | 92.3  | 149   | 95.0  | 43.3  |
| Max                 | 26    | 21    | 18   | 38    | 38    | 21   | 17    | 72     | 196   | 193   | 198   | 82    |
| Min                 | 20    | 18    | 13   | 9.9   | 12    | 11   | 13    | 18     | 47    | 120   | 47    | 30    |
| Ac-ft               | 1,380 | 1,160 | 998  | 817   | 799   | 780  | 857   | 2,320  | 5,490 | 9,190 | 5,840 | 2,580 |
| Calendar year 1962: | Max   | 189   | Min  | 8.9   | Mean  | 41.3 | Ac-ft | 29,930 |       |       |       |       |
| Water year 1962-63: | Max   | 198   | Min  | 9.9   | Mean  | 44.5 | Ac-ft | 32,210 |       |       |       |       |

## OWENS LAKE BASIN

10-2775. Owens River near Big Pine, Calif.

Location.--Lat 37°00'55", long 118°13'30", in SE $\frac{1}{4}$  sec.2, T.11 S., R.34 E., on left bank 0.1 mile downstream from Little Seeley Spring, 0.15 mile downstream from Charles Butte, and 10.8 miles southeast of Big Pine.

Drainage area.--1,930 sq mi, approximately.

Records available.--January 1906 to September 1963. Monthly discharge only for some periods, published in WSP 1314. Published as "near Tinemaha" prior to 1912.

Gage.--Water-stage recorder and rock artificial control since October 1958. Altitude of gage is 3,800 ft (from topographic map). Prior to Oct. 8, 1922, staff gage at same site and datum.

Average discharge.--57 years, 369 cfs (267,100 acre-ft per year).

Extremes.--Maximum discharge during year, 784 cfs July 21 (gage height, 6.31 ft); minimum daily, 20 cfs Jan. 16.  
1906-63: Maximum discharge, about 3,220 cfs Jan. 26, 1914 (gage height, 11.2 ft), from rating curve extended above 1,100 cfs; no flow Jan. 9-13, 21-26, 1937.

Remarks.--Discharge measurements generally made once a week. Diversions from both main stream and tributaries. Flow regulated since 1914 by Lake Crowley (capacity, 183,500 acre-ft), and several small reservoirs (combined capacity, 41,400 acre-ft). Water imported from Mono Lake basin since 1941 for diversion to Los Angeles aqueduct which diverts 4 miles downstream.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.    | May    | June   | July   | Aug.   | Sept. |
|-------------------------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|--------|-------|
| 1                       | 564    | 578    | 502    | 414    | 110    | 357    | 360     | 421    | 491    | 419    | 459    | 592   |
| 2                       | 551    | 571    | 505    | 425    | 103    | 365    | 358     | 423    | 512    | 419    | 480    | 585   |
| 3                       | 527    | 546    | 507    | 418    | 183    | 379    | 364     | 431    | 492    | 444    | 474    | 377   |
| 4                       | 492    | 534    | 507    | 423    | 285    | 379    | 362     | 419    | 421    | 481    | 494    | 45    |
| 5                       | 450    | 531    | 504    | 432    | 425    | 378    | 360     | 417    | 423    | 482    | 512    | 34    |
| 6                       | 422    | 529    | 501    | 445    | 459    | 378    | 361     | 401    | 424    | 482    | 518    | 32    |
| 7                       | 411    | 526    | 492    | 445    | 581    | 378    | 359     | 404    | 422    | 482    | 525    | 32    |
| 8                       | 401    | 523    | 461    | 441    | 611    | 379    | 377     | 389    | 421    | 482    | 423    | 32    |
| 9                       | 351    | 514    | 447    | 448    | 542    | 378    | 366     | 388    | 421    | 485    | 333    | 34    |
| 10                      | 345    | 506    | 442    | 452    | 347    | 382    | 333     | 384    | 448    | 487    | 328    | 34    |
| 11                      | 467    | 490    | 432    | 445    | 415    | 378    | 329     | 384    | 491    | 530    | 335    | 32    |
| 12                      | 504    | 461    | 430    | 432    | 552    | 371    | 329     | 393    | 491    | 621    | 411    | 34    |
| 13                      | 468    | 448    | 430    | 411    | 560    | 367    | 324     | 387    | 490    | 624    | 481    | 32    |
| 14                      | 466    | 447    | 432    | 168    | 561    | 368    | 316     | 390    | 478    | 625    | 583    | 32    |
| 15                      | 470    | 446    | 433    | 25     | 560    | 375    | 316     | 383    | 418    | 643    | 609    | 34    |
| 16                      | 474    | 445    | 436    | 20     | 562    | 372    | 314     | 374    | 420    | 684    | 690    | 34    |
| 17                      | 499    | 442    | 438    | 52     | 558    | 378    | 314     | 381    | 408    | 727    | 691    | 34    |
| 18                      | 513    | 441    | 438    | 136    | 560    | 379    | 367     | 375    | 338    | 732    | 692    | 38    |
| 19                      | 522    | 445    | 437    | 186    | 558    | 373    | 378     | 362    | 292    | 741    | 691    | 38    |
| 20                      | 522    | 447    | 435    | 189    | 556    | 370    | 378     | 369    | 286    | 777    | 694    | 38    |
| 21                      | 522    | 452    | 431    | 222    | 550    | 364    | 358     | 400    | 277    | 784    | 698    | 36    |
| 22                      | 516    | 455    | 431    | 325    | 542    | 357    | 350     | 415    | 245    | 780    | 690    | 38    |
| 23                      | 515    | 453    | 431    | 411    | 535    | 351    | 335     | 401    | 245    | 774    | 588    | 40    |
| 24                      | 526    | 453    | 430    | 440    | 524    | 349    | 307     | 410    | 244    | 763    | 511    | 40    |
| 25                      | 542    | 486    | 417    | 491    | 514    | 351    | 312     | 415    | 277    | 755    | 535    | 40    |
| 26                      | 555    | 495    | 410    | 494    | 504    | 352    | 314     | 426    | 324    | 648    | 563    | 133   |
| 27                      | 568    | 495    | 401    | 498    | 448    | 351    | 357     | 451    | 346    | 617    | 571    | 376   |
| 28                      | 573    | 500    | 406    | 511    | 367    | 372    | 379     | 467    | 392    | 618    | 573    | 561   |
| 29                      | 574    | 503    | 412    | 526    | -----  | 384    | 405     | 487    | 416    | 613    | 575    | 620   |
| 30                      | 573    | 503    | 417    | 536    | -----  | 375    | 412     | 479    | 418    | 539    | 583    | 622   |
| 31                      | 573    | -----  | 420    | 376    | -----  | 368    | -----   | 472    | -----  | 473    | 580    | ----- |
| Total                   | 15,456 | 14,665 | 13,815 | 11,237 | 13,072 | 11,458 | 10,494  | 12,698 | 11,771 | 18,731 | 16,890 | 4,649 |
| Mean                    | 499    | 489    | 446    | 362    | 467    | 370    | 350     | 410    | 392    | 604    | 545    | 155   |
| Max                     | 574    | 578    | 507    | 536    | 611    | 384    | 412     | 487    | 512    | 784    | 698    | 622   |
| Min                     | 345    | 441    | 401    | 20     | 103    | 349    | 307     | 362    | 244    | 419    | 328    | 32    |
| Ac-ft                   | 30,660 | 29,090 | 27,400 | 22,290 | 25,930 | 22,730 | 20,810  | 25,190 | 23,350 | 37,150 | 33,500 | 9,220 |
| Calendar year 1962: Max | 596    | Min    | 18     | Mean   | 412    | Ac-ft  | 298,500 |        |        |        |        |       |
| Water year 1962-63: Max | 784    | Min    | 20     | Mean   | 425    | Ac-ft  | 307,300 |        |        |        |        |       |

10-2818. Independence Creek below Pinyon Creek, near Independence, Calif.

Location.--Lat 36°46'45", long 118°15'45", in NE¼ sec.27, T.13 S., R.34 E., on right bank 0.2 mile downstream from Pinyon Creek and 4.0 miles southwest of Independence.

Drainage area.--18.2 sq mi.

Records available.--January 1923 to September 1963. Prior to October 1959, monthly discharge only, published in WSP 1734.

Gage.--Water-stage recorder and 4-ft Parshall flume. Altitude of gage is 5,300 ft (from topographic map). Prior to Sept. 12, 1934, water-stage recorder; Sept. 12, 1934, to Dec. 13, 1936, water-stage recorder and Cipolletti weir (removed during high water), at same site and datum.

Average discharge.--40 years, 12.7 cfs (9,190 acre-ft per year).

Extremes.--Maximum discharge during year, 138 cfs June 21 (gage height, 3.98 ft); minimum daily, 1.8 cfs Jan. 25.  
1923-63: Maximum discharge, that of June 21, 1963; minimum daily, 0.7 cfs Jan. 25, 1926, Dec. 15, 1935.

Remarks.--Discharge by computation of flow through Parshall flume. No regulation or diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |       |       |      |         |           |              |       |       |       |       |       |       |
|--|-------|-------|------|---------|-----------|--------------|-------|-------|-------|-------|-------|-------|
| Day  | Oct.  | Nov.  | Dec. | Jan.    | Feb.      | Mar.         | Apr.  | May   | June  | July  | Aug.  | Sept. |
| 1  | 5.7   | 4.4   | 3.6  | 2.4     | 4.2       | 4.7          | 5.2   | 7.3   | 4.3   | 5.2   | 2.3   | 1.3   |
| 2  | 5.4   | 4.4   | 3.6  | 2.6     | 2.6       | 4.7          | 5.2   | 7.9   | 4.7   | 5.5   | 2.6   | 1.2   |
| 3  | 5.2   | 4.2   | 3.5  | 2.5     | 1.6       | 4.7          | 5.0   | 8.9   | 5.1   | 5.5   | 2.6   | 1.1   |
| 4  | 5.4   | 4.2   | 3.5  | 2.3     | 1.2       | 5.0          | 5.0   | 9.5   | 5.1   | 5.4   | 2.4   | 1.1   |
| 5  | 5.4   | 4.1   | 3.4  | 2.5     | 9.6       | 5.2          | 5.2   | 10    | 5.1   | 5.2   | 2.3   | 1.5   |
| 6  | 5.4   | 4.1   | 3.4  | 2.5     | 8.7       | 4.5          | 5.4   | 11    | 5.0   | 5.1   | 2.2   | 1.4   |
| 7  | 5.2   | 4.1   | 3.4  | 2.6     | 7.4       | 4.5          | 7.7   | 13    | 4.7   | 5.2   | 2.3   | 1.4   |
| 8  | 5.0   | 4.1   | 3.2  | 2.6     | 6.9       | 4.2          | 6.4   | 14    | 4.2   | 5.3   | 3.4   | 1.3   |
| 9  | 4.9   | 4.0   | 3.2  | 2.6     | 7.2       | 4.1          | 6.2   | 15    | 4.0   | 5.4   | 2.7   | 1.3   |
| 10   | 4.7   | 4.1   | 3.2  | 2.5     | 7.9       | 3.9          | 6.2   | 16    | 4.1   | 5.4   | 2.4   | 1.2   |
| 11   | 4.5   | 4.1   | 3.2  | 2.5     | 6.5       | 3.9          | 6.0   | 16    | 4.5   | 5.4   | 2.3   | 1.2   |
| 12   | 4.5   | 4.2   | 3.0  | 2.5     | 6.1       | 3.9          | 5.9   | 15    | 4.3   | 5.5   | 2.2   | 1.2   |
| 13   | 4.4   | 4.1   | 2.5  | 2.5     | 5.5       | 3.9          | 5.9   | 15    | 3.9   | 5.6   | 2.2   | 1.1   |
| 14   | 4.7   | 4.0   | 2.6  | 2.6     | 5.3       | 4.1          | 6.2   | 15    | 3.3   | 5.4   | 2.1   | 1.1   |
| 15   | 4.7   | 4.0   | 3.2  | 2.6     | 5.2       | 4.1          | 6.2   | 15    | 3.4   | 5.0   | 2.0   | 1.1   |
| 16   | 4.5   | 4.0   | 3.0  | 2.6     | 5.0       | 4.2          | 6.4   | 17    | 4.7   | 5.1   | 1.9   | 1.0   |
| 17   | 4.7   | 3.8   | 3.0  | 2.6     | 4.9       | 4.2          | 6.2   | 19    | 6.0   | 4.7   | 1.9   | 1.0   |
| 18   | 5.0   | 3.8   | 3.0  | 2.5     | 4.7       | 4.7          | 6.2   | 23    | 7.6   | 4.1   | 1.8   | 1.0   |
| 19   | 4.9   | 3.9   | 3.0  | 2.4     | 4.5       | 4.1          | 6.0   | 28    | 8.2   | 3.8   | 1.7   | 1.2   |
| 20   | 4.9   | 4.1   | 3.0  | 2.3     | 4.5       | 4.1          | 6.0   | 34    | 9.1   | 3.6   | 1.7   | 1.3   |
| 21   | 4.7   | 3.9   | 2.8  | 2.2     | 4.5       | 4.1          | 6.0   | 38    | 11.1  | 3.5   | 1.8   | 1.3   |
| 22   | 4.7   | 3.9   | 2.8  | 2.1     | 4.5       | 4.1          | 5.7   | 43    | 8.9   | 3.3   | 1.7   | 1.2   |
| 23   | 4.7   | 3.8   | 2.7  | 2.0     | 4.5       | 3.9          | 5.7   | 43    | 7.1   | 3.4   | 1.6   | 1.1   |
| 24   | 4.7   | 3.7   | 2.7  | 1.9     | 4.5       | 3.8          | 5.7   | 45    | 6.0   | 3.2   | 1.6   | 1.0   |
| 25   | 4.7   | 3.6   | 2.6  | 1.8     | 4.4       | 3.6          | 5.7   | 44    | 5.9   | 3.0   | 1.7   | 9.7   |
| 26   | 4.7   | 3.6   | 2.5  | 1.9     | 4.5       | 3.8          | 5.7   | 42    | 5.9   | 2.7   | 1.7   | 9.5   |
| 27   | 4.5   | 3.6   | 2.5  | 1.9     | 4.7       | 4.4          | 5.5   | 39    | 6.1   | 2.5   | 1.7   | 9.3   |
| 28   | 4.5   | 3.6   | 3.7  | 2.1     | 4.7       | 6.8          | 5.5   | 40    | 6.2   | 2.3   | 1.7   | 9.1   |
| 29   | 4.4   | 3.6   | 3.9  | 2.1     | -----     | 5.5          | 5.9   | 37    | 5.2   | 2.2   | 1.5   | 8.9   |
| 30   | 4.4   | 3.6   | 3.5  | 6.8     | -----     | 5.4          | 6.4   | 37    | 5.2   | 2.4   | 1.3   | 8.7   |
| 31   | 4.4   | ----- | 2.4  | 2.4     | -----     | 5.2          | ----- | 42    | ----- | 2.3   | 1.4   | ----- |
| Total  | 149.5 | 118.6 | 95.6 | 99.0    | 232.2     | 137.3        | 176.3 | 759.6 | 168.9 | 132.2 | 62.7  | 341.2 |
| Mean   | 4.82  | 3.95  | 3.08 | 3.19    | 8.29      | 4.43         | 5.88  | 24.5  | 56.3  | 42.6  | 20.2  | 11.4  |
| Max  | 5.7   | 4.4   | 3.9  | 2.4     | 4.2       | 6.8          | 7.7   | 45    | 111   | 56    | 34    | 15    |
| Min  | 4.4   | 3.6   | 2.4  | 1.8     | 4.4       | 3.6          | 5.0   | 7.3   | 33    | 22    | 13    | 8.7   |
| Ac-ft  | 297   | 235   | 190  | 196     | 461       | 272          | 350   | 1,510 | 3,350 | 2,620 | 1,240 | 677   |
| Calendar year 1962: Max  | 7.4   |       |      | Min 1.4 | Mean 14.5 | Ac-ft 10,490 |       |       |       |       |       |       |
| Water year 1962-63: Max  | 111   |       |      | Min 1.8 | Mean 15.7 | Ac-ft 11,400 |       |       |       |       |       |       |

Note.--No gage-height record Jan. 31 to Feb. 12.

## OWENS LAKE BASIN

10-2824.8. Mazourka Creek near Independence, Calif.

Location.--Lat  $36^{\circ}50'50''$ , long  $118^{\circ}05'05''$ , in NE $\frac{1}{4}$  lot 19, N $\frac{1}{2}$  sec. 5, T.13 S., R.36 E., on right bank 7 miles northeast of Independence.

Drainage area.--15.6 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 4,800 ft (from topographic map).

Remarks.--No flow since Oct. 1, 1960, date station established. About 1 cfs passed gage Feb. 1, 1963 for a period of 1 hour; the day was called zero. No regulation or diversion above station.

## 81

Location.--Lat 36°34'30", long 118°00'45", in NW 1/4 sec.1, T.16 S., R.36 E., on left bank under old timber bridge, 0.5 mile upstream from bridge on State Highway 190 and 3.4 miles southeast of Lone Pine.

Gage.--Water-stage recorder and 10-ft Cipolletti weir. Altitude of gage is 3,600 ft (from topographic map). Prior to Oct. 19, 1930, staff gage, and Oct. 20, 1930, to Feb. 14, 1935, staff gage and 3-ft Cipolletti weir, all at present site at different datum.

Extremes.--Maximum discharge during year, 24 cfs Feb. 2; no flow Aug. 3-8, 23-30.

Remarks.--Discharge by computation of flow over Cipolletti weir. Natural flow affected by storage in several reservoirs, many natural lakes, diversions for irrigation, and return flow from irrigated areas. Major portion of runoff from drainage is diverted out of basin through Los Angeles aqueduct. Discharge at this point is wasted into Owens Lake.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

| Day                     | Oct. | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1                       | 1.2  | 2.8   | 3.5   | 4.2   | 8.8   | 9.2   | 9.5   | 7.9   | 3.7   | 4.7  | 0.2  | 0.2   |
| 2                       | 1.2  | 2.8   | 3.7   | 4.2   | 1.9   | 9.2   | 9.5   | 7.9   | 3.5   | 4.2  | .1   | .2    |
| 3                       | 1.4  | 3.0   | 4.0   | 4.5   | 1.3   | 9.2   | 9.5   | 7.6   | 3.5   | 4.0  | 0    | .1    |
| 4                       | 1.4  | 3.0   | 4.2   | 5.0   | 1.6   | 8.8   | 9.5   | 7.6   | 3.2   | 3.5  | 0    | .1    |
| 5                       | 1.4  | 3.0   | 4.5   | 5.3   | 1.5   | 8.8   | 9.2   | 7.6   | 3.2   | 2.8  | 0    | .4    |
| 6                       | 1.4  | 3.2   | 4.7   | 5.3   | 1.4   | 8.8   | 9.2   | 7.3   | 3.0   | 2.6  | 0    | .4    |
| 7                       | 1.6  | 3.5   | 5.0   | 5.5   | 1.3   | 8.8   | 9.2   | 7.0   | 3.7   | 2.4  | 0    | .4    |
| 8                       | 1.8  | 3.5   | 5.0   | 5.5   | 1.2   | 8.8   | 9.2   | 6.7   | 3.7   | 2.2  | 0    | .4    |
| 9                       | 1.8  | 3.7   | 5.0   | 5.5   | 1.2   | 8.8   | 9.2   | 6.7   | 3.5   | 1.8  | .8   | .4    |
| 10                      | 2.0  | 3.7   | 5.0   | 5.5   | 1.2   | 9.2   | 9.2   | 6.4   | 3.5   | 1.6  | 5.8  | .4    |
| 11                      | 2.0  | 3.7   | 5.0   | 5.3   | 1.2   | 9.2   | 9.2   | 6.4   | 3.5   | 1.6  | 6.1  | .5    |
| 12                      | 2.0  | 3.7   | 4.7   | 5.3   | 1.2   | 9.2   | 9.2   | 6.4   | 3.7   | 1.8  | 3.5  | .8    |
| 13                      | 2.0  | 3.7   | 4.7   | 5.5   | 1.2   | 9.2   | 8.8   | 6.4   | 3.7   | 2.2  | 2.0  | .9    |
| 14                      | 2.0  | 4.0   | 4.7   | 5.5   | 1.2   | 9.2   | 8.5   | 6.1   | 4.0   | 2.4  | .9   | .9    |
| 15                      | 2.0  | 4.0   | 5.0   | 5.5   | 1.2   | 9.2   | 8.5   | 6.1   | 3.7   | 2.2  | .6   | .9    |
| 16                      | 2.4  | 4.0   | 5.0   | 5.5   | 1.1   | 9.2   | 8.5   | 6.1   | 3.5   | 1.8  | .4   | .8    |
| 17                      | 2.6  | 4.0   | 5.0   | 5.5   | 1.1   | 9.2   | 8.2   | 5.8   | 3.0   | 1.6  | .3   | .8    |
| 18                      | 2.8  | 3.7   | 5.0   | 5.8   | 1.1   | 9.2   | 8.2   | 5.5   | 5.0   | 2.0  | .2   | 1.1   |
| 19                      | 3.0  | 3.7   | 5.0   | 5.8   | 1.0   | 9.2   | 7.9   | 5.5   | 5.0   | 2.2  | .2   | 1.4   |
| 20                      | 3.0  | 3.7   | 5.0   | 6.1   | 1.0   | 9.2   | 7.9   | 5.3   | 6.4   | 1.8  | .2   | 1.8   |
| 21                      | 3.0  | 3.7   | 5.0   | 6.7   | 1.0   | 9.2   | 7.9   | 5.0   | 8.5   | 1.4  | .2   | 1.8   |
| 22                      | 3.0  | 3.5   | 5.0   | 6.7   | 1.0   | 9.2   | 7.9   | 4.7   | 10    | 1.1  | .1   | 1.8   |
| 23                      | 2.8  | 3.5   | 5.0   | 6.7   | 9.8   | 9.2   | 7.9   | 4.5   | 12    | .9   | 0    | 1.8   |
| 24                      | 2.8  | 3.5   | 5.0   | 6.7   | 9.8   | 9.2   | 8.2   | 4.5   | 11    | .8   | 0    | 1.8   |
| 25                      | 2.8  | 3.5   | 5.0   | 6.7   | 9.8   | 9.2   | 8.2   | 4.2   | 12    | .6   | 0    | 1.8   |
| 26                      | 2.8  | 3.5   | 5.0   | 6.7   | 9.5   | 9.2   | 8.2   | 4.2   | 11    | .6   | 0    | 1.8   |
| 27                      | 2.8  | 3.5   | 4.7   | 6.7   | 9.5   | 9.2   | 8.2   | 4.2   | 9.8   | .6   | 0    | 1.8   |
| 28                      | 2.8  | 3.5   | 4.5   | 6.7   | 9.5   | 9.5   | 8.2   | 4.0   | 9.5   | .5   | 0    | 1.6   |
| 29                      | 2.8  | 3.5   | 4.5   | 6.7   | ----- | 9.5   | 8.2   | 4.0   | 8.5   | .5   | 0    | 1.6   |
| 30                      | 2.8  | 3.5   | 4.2   | 7.3   | ----- | 9.5   | 8.2   | 3.7   | 6.4   | .4   | 0    | 1.4   |
| 31                      | 2.8  | ----- | 4.2   | 7.9   | ----- | 9.5   | ----- | 3.7   | ----- | .3   | .1   | ----- |
| Total                   | 70.2 | 105.6 | 145.8 | 181.8 | 325.7 | 284.0 | 259.2 | 179.0 | 174.7 | 57.1 | 21.7 | 30.1  |
| Mean                    | 2.26 | 3.52  | 4.70  | 5.86  | 11.6  | 9.16  | 8.64  | 5.77  | 5.82  | 1.84 | 0.70 | 1.00  |
| Max                     | 3.0  | 4.0   | 5.0   | 7.9   | 19    | 9.5   | 9.5   | 7.9   | 12    | 4.7  | 6.1  | 1.8   |
| Min                     | 1.2  | 2.8   | 3.5   | 4.2   | 8.8   | 8.8   | 7.9   | 3.7   | 3.0   | 0.3  | 0    | 0.1   |
| Ac-ft                   | 139  | 209   | 289   | 361   | 646   | 563   | 514   | 355   | 347   | 113  | 43   | 60    |
| Calendar year 1962: Max | 51   | Min   | 0     | Mean  | 4.61  | Ac-ft | 3,340 |       |       |      |      |       |
| Water year 1962-63: Max | 19   | Min   | 0     | Mean  | 5.03  | Ac-ft | 3,640 |       |       |      |      |       |





## OWENS LAKE BASIN

83

10-2860. Cottonwood Creek near Olancho, Calif.--Continued.

Combined discharge, in cubic feet per second, of Cottonwood Creek and powerhouse near Olancho, Calif., water year October 1962 to September 1963

| Day  | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1  | 9.0   | 7.6   | 5.6   | 4.1   | 4.7   | 9.9   | 1.1   | 2.4   | 9.7   | 8.1   | 2.8   | 1.7   |
| 2  | 8.7   | 7.6   | 5.6   | 4.3   | 3.2   | 9.9   | 1.1   | 2.9   | 10.2  | 7.8   | 2.6   | 1.6   |
| 3  | 8.4   | 8.1   | 6.1   | 4.6   | 2.3   | 9.5   | 1.1   | 3.4   | 9.1   | 7.5   | 2.5   | 1.6   |
| 4  | 8.4   | 7.6   | 6.1   | 4.6   | 1.9   | 9.3   | 1.1   | 4.0   | 9.4   | 7.3   | 2.5   | 1.7   |
| 5  | 8.4   | 7.6   | 6.1   | 4.6   | 1.6   | 9.3   | 1.1   | 5.0   | 9.0   | 7.1   | 2.4   | 3.1   |
| 6  | 8.4   | 7.5   | 6.1   | 4.8   | 1.4   | 9.3   | 1.2   | 5.9   | 9.8   | 6.9   | 2.3   | 2.1   |
| 7  | 8.4   | 7.0   | 6.1   | 4.8   | 1.4   | 9.3   | 1.3   | 6.6   | 10.5  | 6.5   | 2.8   | 1.9   |
| 8  | 8.4   | 7.2   | 6.1   | 4.2   | 1.6   | 8.9   | 1.2   | 6.7   | 8.8   | 6.3   | 7.4   | 1.8   |
| 9  | 8.2   | 7.5   | 5.6   | 4.0   | 1.6   | 7.4   | 1.2   | 6.5   | 8.8   | 6.1   | 4.3   | 1.7   |
| 10   | 7.9   | 7.2   | 5.6   | 4.0   | 1.5   | 8.4   | 1.2   | 6.7   | 8.7   | 6.0   | 3.4   | 1.6   |
| 11   | 7.9   | 6.9   | 5.6   | 4.0   | 1.4   | 8.4   | 1.2   | 6.4   | 8.1   | 5.7   | 3.1   | 1.5   |
| 12   | 7.6   | 6.9   | 5.3   | 3.8   | 1.3   | 8.3   | 1.3   | 6.2   | 9.5   | 5.7   | 2.9   | 1.4   |
| 13   | 7.3   | 7.2   | 5.6   | 3.7   | 1.3   | 8.3   | 1.3   | 6.4   | 10.1  | 5.5   | 2.7   | 1.4   |
| 14   | 8.4   | 7.2   | 5.8   | 3.7   | 1.2   | 8.3   | 1.4   | 6.4   | 10.4  | 5.4   | 2.5   | 1.4   |
| 15   | 8.4   | 6.9   | 6.1   | 3.7   | 1.2   | 8.3   | 1.4   | 6.7   | 11.0  | 5.2   | 2.4   | 1.4   |
| 16   | 8.2   | 5.8   | 6.1   | 3.7   | 1.2   | 8.3   | 1.4   | 8.2   | 12.6  | 5.1   | 2.6   | 1.3   |
| 17   | 8.7   | 5.6   | 5.8   | 3.4   | 1.2   | 8.6   | 1.3   | 9.2   | 13.8  | 5.1   | 2.6   | 1.7   |
| 18   | 10    | 5.6   | 6.1   | 3.2   | 1.1   | 8.3   | 1.3   | 10.6  | 14.4  | 5.0   | 2.4   | 2.4   |
| 19   | 10    | 6.4   | 5.8   | 3.4   | 1.1   | 8.6   | 1.3   | 11.6  | 14.9  | 4.8   | 2.2   | 2.5   |
| 20   | 10    | 7.2   | 5.6   | 3.7   | 1.1   | 8.6   | 1.2   | 12.0  | 15.1  | 4.5   | 2.1   | 2.3   |
| 21   | 10    | 6.6   | 5.6   | 3.7   | 1.1   | 8.6   | 1.2   | 12.3  | 14.8  | 4.3   | 2.1   | 2.1   |
| 22   | 9.6   | 6.4   | 5.3   | 3.7   | 1.1   | 8.6   | 1.2   | 12.6  | 14.4  | 4.2   | 2.0   | 2.0   |
| 23   | 9.0   | 6.6   | 5.1   | 3.7   | 1.0   | 8.3   | 1.2   | 11.1  | 12.9  | 4.0   | 2.0   | 1.8   |
| 24   | 8.7   | 6.6   | 4.6   | 3.9   | 1.0   | 8.1   | 1.2   | 10.6  | 11.7  | 3.9   | 1.9   | 1.7   |
| 25   | 8.4   | 6.4   | 3.0   | 3.9   | 9.9   | 8.1   | 1.2   | 9.7   | 11.2  | 3.7   | 1.8   | 1.7   |
| 26   | 8.4   | 6.6   | 2.8   | 3.9   | 9.9   | 8.3   | 1.2   | 9.8   | 10.4  | 3.6   | 1.8   | 1.6   |
| 27   | 8.4   | 6.4   | 3.0   | 3.9   | 9.9   | 9.9   | 1.2   | 9.2   | 9.7   | 3.4   | 1.7   | 1.6   |
| 28   | 8.4   | 6.1   | 4.1   | 3.9   | 9.9   | 9.4   | 1.3   | 9.0   | 9.2   | 3.3   | 1.3   | 1.4   |
| 29   | 8.1   | 5.8   | 4.6   | 4.3   | ----- | 1.1   | 1.4   | 8.0   | 8.7   | 3.2   | 1.6   | 1.4   |
| 30   | 7.8   | 5.8   | 4.3   | 8.9   | ----- | 1.1   | 1.6   | 8.1   | 8.6   | 2.8   | 1.2   | 1.4   |
| 31   | 7.6   | ----- | 4.3   | 2.9   | ----- | 1.1   | ----- | 9.2   | ----- | 2.8   | 1.7   | ----- |
| Total  | 265.3 | 204.9 | 164.1 | 153.7 | 414.6 | 277.5 | 37.4  | 243.4 | 325.5 | 160.8 | 77.6  | 52.8  |
| Mean   | 8.56  | 6.83  | 5.29  | 4.96  | 14.8  | 8.95  | 12.5  | 78.5  | 108.1 | 51.9  | 25.0  | 17.6  |
| Max  | 10    | 8.1   | 6.1   | 2.9   | 4.7   | 11    | 16    | 126   | 151   | 81    | 74    | 31    |
| Min  | 7.3   | 5.6   | 2.8   | 3.2   | 9.9   | 7.4   | 11    | 24    | 81    | 28    | 12    | 13    |
| Ac-ft  | 526   | 406   | 325   | 305   | 822   | 550   | 742   | 4,830 | 6,460 | 3,190 | 1,540 | 1,050 |
| Calendar year 1962: Max 149 Min 2.0 Mean 29.9 Ac-ft 21,660 |       |       |       |       |       |       |       |       |       |       |       |       |
| Water year 1962-63: Max 151 Min 2.8 Mean 28.6 Ac-ft 20,750 |       |       |       |       |       |       |       |       |       |       |       |       |

## MONO LAKE BASIN

10-2870. Mono Lake near Mono Lake, Calif.

Location---Lat 38°00', long 119°08', in NE $\frac{1}{4}$  sec. 31, T.2 N., R.26 E., on west bank 1 mile south of town of Mono Lake.Records available---June 1912 to September 1963. Records prior to September 1934 are published in WSP 765.Gage---Staff gage or reference point read once a week. Datum of gage is 6,410.73 ft above mean sea level, datum of 1929. Prior to Oct. 2, 1945, at datum 20.07 ft lower. Gage readings have been reduced to elevations above mean sea level.Extremes---1912-63: Maximum elevation observed, 6,428.1 ft July 18, 1919, present datum; minimum observed, 6,392.77 ft Sept. 23, 30, 1963.Remarks---Since 1941 water diverted to Owens Lake basin via Mono tunnel (capacity, 200 cfs).Cooperation---Records furnished by city of Los Angeles, Department of Water and Power.

Elevation, in feet, water year October 1962 to September 1963

| Date   | Elevation | Date   | Elevation | Date    | Elevation | Date    | Elevation |
|--------|-----------|--------|-----------|---------|-----------|---------|-----------|
| Oct. 1 | 6,394.00  | Jan. 7 | 6,393.46  | Apr. 15 | 6,393.74  | July 11 | 6,393.58  |
| 8      | 6,393.97  | 14     | 6,393.45  | 22      | 6,393.80  | 15      | 6,393.60  |
| 15     | 6,393.74  | 21     | 6,393.40  | 29      | 6,393.80  | 22      | 6,393.48  |
| 22     | 6,393.73  | 28     | 6,393.40  | May 6   | 6,393.79  | 29      | 6,393.43  |
| 29     | 6,393.73  | Feb. 6 | 6,393.92  | 13      | 6,393.75  | Aug. 5  | 6,393.36  |
| Nov. 5 | 6,393.70  | 13     | 6,393.97  | 20      | 6,393.76  | 12      | 6,393.34  |
| 13     | 6,393.64  | 18     | 6,393.96  | 27      | 6,393.73  | 19      | 6,393.21  |
| 19     | 6,393.58  | 25     | 6,393.95  | June 3  | 6,393.74  | 26      | 6,393.04  |
| 26     | 6,393.59  | Mar. 4 | 6,393.95  | 10      | 6,393.74  | Sept. 5 | 6,392.95  |
| Dec. 3 | 6,393.57  | 11     | 6,393.89  | 17      | 6,393.79  | 9       | 6,392.92  |
| 10     | 6,393.53  | 18     | 6,393.90  | 24      | 6,393.74  | 16      | 6,392.86  |
| 17     | 6,393.47  | 25     | 6,393.87  | July 1  | 6,393.66  | 23      | 6,392.77  |
| 26     | 6,393.49  | Apr. 5 | 6,393.91  | 8       | 6,393.60  | 30      | 6,392.77  |
| Jan. 2 | 6,393.47  | 8      | 6,393.84  |         |           |         |           |

MONO LAKE BASIN

10-2874. Rush Creek above Grant Lake, near June Lake, Calif.

Location--Lat 37°48'20", long 119°06'30", in NE $\frac{1}{4}$  sec.4, T.2 S., R.26 E., on left bank in narrows, 0.6 mile upstream from Grant Lake, and 2.7 miles northwest of town of June Lake.

Drainage area.--51.2 sq mi.

Records available.--December 1936 to September 1963. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and 15-ft Parshall flume. Altitude of gage is 7,200 ft (from topographic map).

Average discharge.--26 years (1937-63), 80.2 cfs (58,060 acre-ft per year).

Extremes.--Maximum discharge during year, 307 cfs June 20 (gage height, 2.84 ft); minimum daily, 14 cfs Mar. 19, 20. 1936-63: Maximum daily discharge, 711 cfs June 28, 1938; minimum daily, 5.5 cfs Sept. 6-8, 14, 1954.

Remarks.--Flow regulated by Gem Lake, Lake Agnew, and Waugh Lake (combined capacity, 23,400 acre-ft), and by many natural lakes.  
No diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May    | June   | July   | Aug.  | Sept. |
|---------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|-------|-------|
| 1                   | 96    | 77    | 63    | 55    | 249   | 39    | 22    | 26     | 178    | 188    | 140   | 99    |
| 2                   | 96    | 69    | 66    | 48    | 134   | 36    | 20    | 26     | 184    | 191    | 128   | 99    |
| 3                   | 95    | 68    | 58    | 39    | 109   | 35    | 20    | 27     | 190    | 191    | 129   | 98    |
| 4                   | 96    | 67    | 42    | 43    | 100   | 35    | 20    | 29     | 182    | 187    | 119   | 97    |
| 5                   | 98    | 67    | 35    | 50    | 95    | 29    | 20    | 34     | 177    | 184    | 114   | 96    |
| 6                   | 97    | 67    | 28    | 51    | 89    | 22    | 21    | 36     | 181    | 184    | 114   | 99    |
| 7                   | 96    | 67    | 29    | 54    | 84    | 18    | 29    | 53     | 178    | 185    | 115   | 99    |
| 8                   | 79    | 67    | 33    | 53    | 81    | 17    | 28    | 60     | 167    | 188    | 117   | 99    |
| 9                   | 81    | 66    | 34    | 45    | 79    | 17    | 26    | 117    | 163    | 192    | 119   | 99    |
| 10                  | 96    | 66    | 33    | 42    | 79    | 16    | 24    | 121    | 171    | 191    | 118   | 99    |
| 11                  | 99    | 66    | 28    | 42    | 78    | 16    | 22    | 123    | 174    | 188    | 115   | 98    |
| 12                  | 101   | 63    | 26    | 47    | 76    | 15    | 22    | 98     | 167    | 190    | 113   | 98    |
| 13                  | 99    | 44    | 28    | 51    | 76    | 15    | 22    | 90     | 158    | 185    | 111   | 101   |
| 14                  | 75    | 30    | 30    | 55    | 74    | 15    | 29    | 90     | 157    | 195    | 108   | 100   |
| 15                  | 75    | 27    | 32    | 60    | 74    | 15    | 32    | 91     | 171    | 254    | 108   | 100   |
| 16                  | 84    | 28    | 34    | 60    | 72    | 15    | 28    | 92     | 213    | 290    | 107   | 98    |
| 17                  | 92    | 33    | 36    | 49    | 70    | 16    | 38    | 89     | 250    | 290    | 107   | 98    |
| 18                  | 95    | 37    | 38    | 45    | 70    | 15    | 47    | 95     | 282    | 268    | 106   | 99    |
| 19                  | 95    | 34    | 37    | 45    | 71    | 14    | 84    | 115    | 285    | 241    | 105   | 100   |
| 20                  | 95    | 30    | 36    | 40    | 70    | 14    | 83    | 144    | 299    | 224    | 105   | 99    |
| 21                  | 95    | 29    | 35    | 42    | 69    | 16    | 98    | 157    | 283    | 210    | 104   | 99    |
| 22                  | 93    | 45    | 35    | 55    | 63    | 17    | 91    | 168    | 254    | 204    | 102   | 99    |
| 23                  | 91    | 61    | 35    | 59    | 40    | 17    | 46    | 177    | 225    | 201    | 101   | 98    |
| 24                  | 91    | 63    | 35    | 60    | 30    | 18    | 30    | 171    | 197    | 194    | 100   | 97    |
| 25                  | 91    | 64    | 36    | 60    | 34    | 16    | 25    | 164    | 187    | 178    | 99    | 97    |
| 26                  | 91    | 51    | 37    | 60    | 38    | 16    | 22    | 166    | 194    | 166    | 99    | 97    |
| 27                  | 91    | 45    | 40    | 60    | 33    | 20    | 21    | 164    | 207    | 156    | 99    | 96    |
| 28                  | 91    | 47    | 55    | 60    | 40    | 34    | 21    | 167    | 210    | 148    | 99    | 95    |
| 29                  | 91    | 45    | 63    | 60    | ----- | 28    | 21    | 167    | 190    | 147    | 99    | 96    |
| 30                  | 91    | 57    | 64    | 86    | ----- | 24    | 22    | 167    | 182    | 147    | 99    | 96    |
| 31                  | 91    | ----- | 63    | 204   | ----- | 24    | ----- | 175    | -----  | 144    | 99    | ----- |
| Total               | 2,847 | 1,580 | 1,244 | 1,780 | 2,177 | 644   | 1,034 | 3,399  | 6,056  | 6,101  | 3,398 | 2,945 |
| Mean                | 91.8  | 52.7  | 40.1  | 57.4  | 77.8  | 20.8  | 34.5  | 110    | 202    | 197    | 110   | 98.2  |
| Max                 | 101   | 77    | 66    | 204   | 249   | 39    | 98    | 177    | 299    | 290    | 140   | 101   |
| Min                 | 75    | 27    | 26    | 39    | 30    | 14    | 20    | 26     | 157    | 144    | 99    | 95    |
| Ac-ft               | 5,650 | 3,130 | 2,470 | 3,530 | 4,320 | 1,280 | 2,050 | 6,740  | 12,010 | 12,100 | 6,740 | 5,840 |
| Calendar year 1962: | Max   | 249   | Min   | 13    | Mean  | 91.0  | Ac-ft | 65,920 |        |        |       |       |
| Water year 1962-63: | Max   | 299   | Min   | 14    | Mean  | 91.0  | Ac-ft | 65,860 |        |        |       |       |

MONO LAKE BASIN

85

10-2879, Lee Vining Creek near Lee Vining, Calif.

Location.--Lat 37°55'45", long 119°10'10", in SW $\frac{1}{4}$  sec.24, T.1 N., R.25 E., on right bank 0.8 mile upstream from Gibbs Canyon and 3.3 miles southwest of Lee Vining.

Drainage area.--35.2 sq mi.

Records available.--April 1934 to September 1963. Monthly discharge only prior to October 1959, published in WSP 1314 and 1734.

Gage.--Water-stage recorder and partial concrete control. Altitude of gage is 7,400 ft (from topographic map). Prior to Aug. 6, 1944, staff gage at same site at different datum. Aug. 6, 1944, to Oct. 17, 1955, water-stage recorder at same site at different datum.

Average discharge.--29 years, 66.6 cfs (48,220 acre-ft per year).

Extremes.--Maximum discharge during year, 424 cfs June 18 (gage height, 3.89 ft); minimum daily, 12 cfs Dec. 22.  
1934-63: Maximum discharge observed, 503 cfs June 9, 1938 (gage height, 3.07 ft, datum then in use); no flow Nov. 29, 1935.

Remarks.--Discharge measurements generally made twice a month. Flow regulated by Ellery, Saddlebag, and Tioga Lakes (combined capacity, 13,269 acre-ft) and several small natural lakes. No diversion above station.

Cooperation.--Records furnished by city of Los Angeles, Department of Water and Power, and reviewed by Geological Survey; furnished figures rounded by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct.  | Nov.  | Dec.  | Jan.  | Feb.      | Mar.         | Apr.  | May   | June   | July   | Aug.  | Sept. |
|-------------------------|-------|-------|-------|-------|-----------|--------------|-------|-------|--------|--------|-------|-------|
| 1                       | 33    | 35    | 27    | 32    | 122       | 38           | 24    | 30    | 211    | 220    | 96    | 32    |
| 2                       | 24    | 21    | 27    | 24    | 50        | 27           | 42    | 43    | 209    | 231    | 96    | 31    |
| 3                       | 25    | 41    | 49    | 24    | 56        | 25           | 57    | 38    | 202    | 234    | 44    | 31    |
| 4                       | 28    | 44    | 18    | 25    | 58        | 29           | 38    | 32    | 171    | 224    | 47    | 31    |
| 5                       | 34    | 46    | 18    | 22    | 47        | 40           | 28    | 34    | 163    | 222    | 48    | 45    |
| 6                       | 18    | 56    | 29    | 22    | 38        | 31           | 30    | 47    | 155    | 224    | 73    | 33    |
| 7                       | 16    | 53    | 19    | 22    | 36        | 23           | 30    | 56    | 150    | 235    | 54    | 33    |
| 8                       | 37    | 28    | 22    | 22    | 41        | 25           | 29    | 73    | 134    | 254    | 67    | 32    |
| 9                       | 54    | 43    | 31    | 22    | 72        | 31           | 49    | 107   | 140    | 243    | 112   | 32    |
| 10                      | 48    | 16    | 30    | 21    | 34        | 24           | 28    | 57    | 151    | 237    | 82    | 47    |
| 11                      | 43    | 21    | 43    | 20    | 59        | 26           | 36    | 48    | 89     | 228    | 51    | 46    |
| 12                      | 29    | 47    | 30    | 23    | 50        | 39           | 26    | 44    | 100    | 230    | 60    | 42    |
| 13                      | 42    | 37    | 43    | 22    | 33        | 27           | 26    | 44    | 141    | 233    | 65    | 42    |
| 14                      | 35    | 53    | 58    | 23    | 30        | 30           | 27    | 37    | 153    | 212    | 69    | 32    |
| 15                      | 29    | 49    | 47    | 21    | 28        | 35           | 36    | 51    | 194    | 192    | 70    | 31    |
| 16                      | 24    | 38    | 44    | 26    | 28        | 37           | 44    | 72    | 325    | 190    | 48    | 30    |
| 17                      | 23    | 23    | 43    | 21    | 27        | 33           | 29    | 73    | 390    | 180    | 39    | 30    |
| 18                      | 20    | 27    | 31    | 21    | 26        | 30           | 28    | 85    | 399    | 169    | 38    | 32    |
| 19                      | 44    | 45    | 24    | 15    | 26        | 36           | 34    | 113   | 382    | 148    | 38    | 32    |
| 20                      | 25    | 56    | 16    | 17    | 26        | 43           | 30    | 137   | 374    | 94     | 48    | 62    |
| 21                      | 19    | 51    | 30    | 18    | 26        | 43           | 28    | 153   | 335    | 121    | 39    | 58    |
| 22                      | 37    | 28    | 12    | 18    | 26        | 24           | 27    | 161   | 277    | 110    | 38    | 71    |
| 23                      | 59    | 30    | 25    | 19    | 26        | 20           | 31    | 160   | 232    | 121    | 35    | 39    |
| 24                      | 46    | 32    | 18    | 20    | 31        | 19           | 36    | 153   | 197    | 113    | 37    | 16    |
| 25                      | 45    | 22    | 25    | 22    | 26        | 35           | 43    | 153   | 197    | 109    | 35    | 16    |
| 26                      | 44    | 37    | 31    | 22    | 28        | 31           | 28    | 160   | 207    | 104    | 38    | 15    |
| 27                      | 29    | 43    | 38    | 22    | 30        | 35           | 25    | 161   | 236    | 47     | 39    | 15    |
| 28                      | 29    | 30    | 26    | 23    | 30        | 39           | 25    | 161   | 246    | 50     | 35    | 14    |
| 29                      | 39    | 32    | 28    | 46    | -----     | 25           | 39    | 160   | 197    | 100    | 40    | 13    |
| 30                      | 22    | 27    | 16    | 35    | -----     | 26           | ----- | 161   | 194    | 89     | 33    | 13    |
| 31                      | 33    | ----- | 15    | 146   | -----     | 25           | ----- | 178   | -----  | 95     | 32    | ----- |
| Total                   | 1,033 | 1,111 | 913   | 836   | 1,110     | 951          | 994   | 2,982 | 6,551  | 5,259  | 1,646 | 996   |
| Mean                    | 33.3  | 37.0  | 29.5  | 27.0  | 39.6      | 30.7         | 33.1  | 96.2  | 218    | 170    | 53.1  | 33.2  |
| Max                     | 59    | 56    | 58    | 146   | 122       | 43           | 57    | 178   | 399    | 254    | 112   | 71    |
| Min                     | 16    | 16    | 12    | 15    | 26        | 19           | 24    | 30    | 89     | 47     | 32    | 13    |
| Ac-ft                   | 2,050 | 2,200 | 1,810 | 1,660 | 2,200     | 1,890        | 1,970 | 5,910 | 12,990 | 10,430 | 3,260 | 1,980 |
| Calendar year 1962: Max | 258   |       |       | 10    | Mean 64.1 | Ac-ft 46,410 |       |       |        |        |       |       |
| Water year 1962-63: Max | 399   |       |       | 12    | Mean 66.8 | Ac-ft 48,350 |       |       |        |        |       |       |

## TIA JUANA RIVER BASIN

11-100. Cottonwood Creek at Morena Dam, Calif.

Location.--Lat 32°41'01", long 116°32'45", in NE¼ sec.23, T.17 S., R.4 E., on Morena Dam outlet tower.

Drainage area.--120 sq mi, approximately.

Records available.--January 1916, October 1936 to September 1963.

Gage.--Staff gage read once daily. Datum of gage is 2,882.4 ft above mean sea level.

Average discharge.--27 years (1936-63), 11.4 cfs (8,240 acre-ft per year); median of yearly mean discharges, 3.7 cfs (2,700 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Morena Reservoir, including precipitation on reservoir surface. Runoff computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Evaporation from reservoir surface computed on basis of evaporation from Colorado land pan using a coefficient of 0.80, excepting the period January 1962 to June 1963, when the mass-transfer method was used. Capacity and area ratings for reservoir are based on a resurvey made in 1948. Dam completed and storage began in 1910. Capacity of reservoir at permanent spillway level (gage height, 157.00 ft), 50,210 acre-ft. Dead storage, 654 acre-ft below outlet No. 3 at gage height 70.5 ft. No diversion above reservoir. Water is released down Cottonwood Creek to Barrett Reservoir as required.

Cooperation.--Records computed in cooperation with city of San Diego.

Monthly runoff, water year October 1962 to September 1963

| Month                   | Gage height (feet)† | Contents (acre-feet) | Change in contents (acre-feet) | Draft (acre-feet)¹ | Evaporation (acre-feet) | Spill plus leakage (acre-feet) | Runoff (acre-feet) |
|-------------------------|---------------------|----------------------|--------------------------------|--------------------|-------------------------|--------------------------------|--------------------|
|                         | Morena Reservoir    |                      |                                |                    |                         |                                |                    |
| Sept. 30.....           | 68.6                | 526                  | -                              | -                  | -                       | -                              | -                  |
| Oct. 31.....            | 68.1                | 495                  | -31                            | 0                  | 29                      | 2                              | 0                  |
| Nov. 30.....            | 67.9                | 483                  | -12                            | 0                  | 17                      | 2                              | 7                  |
| Dec. 31.....            | 67.8                | 476                  | -7                             | 0                  | 14                      | 2                              | 9                  |
| Calendar year 1962..... | -                   | -                    | -44                            | 0                  | 372                     | 30                             | 358                |
| Jan. 31.....            | 67.7                | 470                  | -6                             | 0                  | 10                      | 3                              | 7                  |
| Feb. 28.....            | 68.2                | 501                  | +31                            | 0                  | 17                      | 3                              | 51                 |
| Mar. 31.....            | 68.4                | 514                  | +13                            | 0                  | 23                      | 3                              | 39                 |
| Apr. 30.....            | 68.4                | 514                  | 0                              | 0                  | 26                      | 3                              | 29                 |
| May 31.....             | 67.8                | 476                  | -38                            | 0                  | 26                      | 2                              | -10                |
| June 30.....            | 67.2                | 441                  | -35                            | 0                  | 37                      | 2                              | 4                  |
| July 31.....            | 66.5                | 401                  | -40                            | 0                  | 40                      | 2                              | 2                  |
| Aug. 31.....            | 65.8                | 363                  | -38                            | 0                  | 28                      | 1                              | -9                 |
| Sept. 30.....           | 65.5                | 347                  | -16                            | 0                  | 22                      | 1                              | 7                  |
| Water year 1962-63..... | -                   | -                    | -179                           | 0                  | 289                     | 26                             | 136                |

† Gage height at 0800 hours.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff 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.

## 11-110. Cottonwood Creek at Barrett Dam, near Dulzura, Calif.

Location.--Lat 32°40'46", long 116°40'11", in SE<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec.22, T.17 S., R.3 E., on Barrett Dam outlet tower, 7.0 miles northeast of Dulzura.

Drainage area.--250 sq mi.

Records available.--January 1906 to December 1915, October 1945 to September 1963. Published as "near Jamul" prior to October 1912 and as "near Dulzura" October 1912 to December 1915. October 1936 to September 1945, published as "near Dulzura"; records not equivalent, as they were computed to represent runoff from Cottonwood Creek Basin below Morena Dam (drainage area, 130 sq mi).

Gage.--Staff gage read once daily. Datum of gage is 1,446.12 ft above mean sea level. January 1906 to December 1915, staff gage at same site at different datum (prior to completion of dam).

Remarks.--Records of inflow represent all water reaching Barrett Reservoir, including precipitation on the reservoir and water passing down Cottonwood Creek from Morena Reservoir. Inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Evaporation from reservoir surface computed on basis of evaporation from Colorado land pan using a coefficient of 0.80, excepting the period January 1962 to June 1963, when the mass-transfer method was used. Capacity and area ratings for reservoir are based on a resurvey made in 1948, 1951, and 1955. Barrett Dam was completed and storage began in 1922. Capacity of reservoir at top of flash gates on spillway (gage height, 168.88 ft), 44,760 acre-ft. Dead storage, 719 acre-ft below lowest outlet at gage height 58.88 ft, included in these records. Flow partly regulated by Morena Reservoir (see p. 86). Water drawn from Barrett Reservoir is diverted out of drainage basin to Lower Otay Reservoir by Dulzura conduit for municipal use.

Cooperation.--Records computed in cooperation with city of San Diego.

## Monthly inflow, water year October 1962 to September 1963

| Month                   | Gage height (feet)† | Contents (acre-feet) | Change in contents (acre-feet) | Draft (acre-feet) | Evaporation (acre-feet) | Spill plus leakage (acre-feet) | Inflow (acre-feet) |
|-------------------------|---------------------|----------------------|--------------------------------|-------------------|-------------------------|--------------------------------|--------------------|
|                         | Barrett Reservoir   |                      |                                |                   |                         |                                |                    |
| Sept. 30.....           | 69.6                | 1,495                | -                              | -                 | -                       | -                              | -                  |
| Oct. 31.....            | 69.2                | 1,460                | -35                            | 0                 | 24                      | 0                              | -11                |
| Nov. 30.....            | 69.0                | 1,443                | -17                            | 0                 | 16                      | 0                              | -1                 |
| Dec. 31.....            | 69.0                | 1,443                | 0                              | 0                 | 8                       | 0                              | 8                  |
| Calendar year 1962..... | -                   | -                    | +456                           | 0                 | 338                     | 0.1                            | 794                |
| Jan. 31.....            | 68.9                | 1,435                | -8                             | 0                 | 8                       | 0                              | 0                  |
| Feb. 28.....            | 69.2                | 1,460                | +25                            | 0                 | 15                      | 0                              | 40                 |
| Mar. 31.....            | 69.2                | 1,460                | 0                              | 0                 | 22                      | 0                              | 22                 |
| Apr. 30.....            | 69.1                | 1,452                | -8                             | 0                 | 25                      | 0                              | 17                 |
| May 31.....             | 68.7                | 1,418                | -34                            | 0                 | 34                      | 0                              | 0                  |
| June 30.....            | 68.2                | 1,376                | -42                            | 0                 | 40                      | 0                              | -2                 |
| July 31.....            | 67.5                | 1,318                | -58                            | 0                 | 57                      | 0                              | -1                 |
| Aug. 31.....            | 66.9                | 1,270                | -48                            | 0                 | 44                      | 0                              | -4                 |
| Sept. 30.....           | 66.6                | 1,246                | -24                            | 0                 | 35                      | 0                              | 11                 |
| Water year 1962-63..... | -                   | -                    | -249                           | 0                 | 328                     | 0                              | 79                 |

† Gage height at 0800 hours.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of inflow may appear. This arises primarily from the difficulty of computing 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.

## 11-120. Cottonwood Creek above Tecate Creek, near Dulzura, Calif.

Location.--Lat 32°34'30", long 116°45'10", in SW<sup>1</sup>/<sub>4</sub> sec.26, T.18 S., R.2 E., on right bank 0.8 mile upstream from confluence with Tecate Creek and 5.1 miles south of Dulzura.

Drainage area.--316 sq mi.

Records available.--October 1936 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 569.40 ft above mean sea level (levels by International Boundary and Water Commission).

Average discharge.--27 years, 8.10 cfs (5,860 acre-ft per year); median of yearly mean discharges, 1.1 cfs (800 acre-ft per year).

Extremes.--No flow during year.

1936-63: Maximum discharge, 4,340 cfs Feb. 7, 1937 (gage height, 9.65 ft), from rating curve extended above 1,500 cfs; no flow for part of each year.

Remarks.--No flow since Apr. 19, 1962. Flow regulated by Morena Reservoir (see p. 86) and Barrett Reservoir (see above). Water released from Barrett Reservoir through Dulzura conduit is diverted to Lower Otay Reservoir. Figures for calendar year 1962 are as follows: maximum daily discharge, 8.0 cfs; minimum, zero; mean, 0.32 cfs; runoff, 234 acre-ft.

## TIA JUANA RIVER BASIN

## 11-121. Miller Creek near Live Oak Springs, Calif.

Location.--Lat 32°42'15", long 116°21'48", in SW $\frac{1}{4}$  sec.10, T.17 S., R.6 E., 10 ft upstream from culvert on U. S. Highway 80, 2.0 miles northwest of Live Oak Springs.

Drainage area.--1.00 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, tipping-bucket rain gage, and 6x6-ft box-culvert control. Altitude of gage is 4,020 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.2 cfs Feb. 10 (gage height, 3.14 ft); no flow all year except for Feb. 11.

1961-63: Maximum discharge, 0.2 cfs Mar. 6, 1962, Feb. 10, 1963; no flow for most of each year.

Remarks.--Records poor. No regulation or diversion above station. Monthly figures of precipitation, in inches, are as follows:

December, 0.5; January, about 0.5; February, about 3; March, 1.4; April, 1.0; September, 1.1; the year, 7.5.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 11.....0.1

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in acre-feet |
|-------------------------|----------|---------|---------|-------|---------------------|
| February 1963.....      | 0.1      | 0.1     | 0       | 0.004 | 0.2                 |
| Calendar year 1962..... | -        | .1      | 0       | .001  | 1.0                 |
| Water year 1962-63..... | -        | .1      | 0       | .0003 | .2                  |

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

## 11-125. Campo Creek near Campo, Calif.

Location.--Lat 32°35'25", long 116°31'30", in SE $\frac{1}{4}$  sec.24, T.18 S., R.4 E., on left bank just upstream from bridge on State Highway 94, about 3.5 miles southwest of Campo.

Drainage area.--84 sq mi, approximately, of which 4 sq mi are in Mexico.

Records available.--October 1936 to September 1963.

Gage.--Water-stage recorder and broad-crested weir. Datum of gage is 2,179.08 ft above mean sea level (State Highway Department bench mark). Prior to Dec. 1, 1954, at datum 1 ft higher.

Average discharge.--27 years, 2.33 cfs (1,690 acre-ft per year); median of yearly mean discharges, 0.2 cfs (140 acre-ft per year).

Extremes.--No flow during year.

1936-63: Maximum discharge, 880 cfs Feb. 6, 1937 (gage height, 4.80 ft, present datum), from rating curve extended above 110 cfs on basis of velocity mean-depth relation and cross-sectional area at control; no flow for part of most years.

Remarks.--No flow since May 9, 1960. Flow partly regulated since August 1956 by small conservation reservoir.

## 11-130. Tia Juana River near Dulzura, Calif.

Location.--Lat 32°33'50", long 116°46'25", in sec.33, T.18 S., R.2 E., on left bank 0.5 mile downstream from confluence of Cottonwood and Tecate Creeks and 5.5 miles south of Dulzura.

Drainage area.--478 sq mi, of which 62 sq mi are in Mexico.

Records available.--October 1936 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 542.42 ft above mean sea level (levels by International Boundary and Water Commission). Prior to Sept. 19, 1939, at datum 2.00 ft higher.

Average discharge.--27 years, 13.0 cfs (9,410 acre-ft per year); median of yearly mean discharges, 2.4 cfs (1,700 acre-ft per year).

Extremes.--No flow during year.

1936-63: Maximum discharge, 4,700 cfs Feb. 7, 1937 (gage height, 8.50 ft, present datum), from rating curve extended above 300 cfs on basis of velocity mean-depth and area studies; no flow for part of most years.

Remarks.--No flow since May 29, 1962. Flow regulated by Morena Reservoir (see p. 86) and Barrett Reservoir (see p. 87). Water diverted from Cottonwood Creek at Barrett Dam by Dulzura conduit to Jamul Creek. Figures for calendar year 1962 are as follows: maximum daily discharge, 8.8 cfs; minimum, zero; mean, 0.36 cfs; runoff, 258 acre-ft.

## 11-132. Rodriguez Reservoir at Rodriguez Dam, Baja California, Mexico

Location.--Lat 32°26'40", long 116°54'25", at Rodriguez Dam on Rio de las Palmas, a quarter of a mile upstream from Arroyo Matanuco and 10 miles southeast of Tijuana, Baja California, Mexico.

Drainage area.--988 sq mi, of which 7 sq mi are in the United States.

Records available.--April 1937 to September 1963. Published with record for Tia Juana River near Nestor, Calif., October 1953 to September 1957. Month-end contents for April 1937 to September 1950 published in WSP 1315-B and for October 1950 to September 1960 in WSP 1735.

Gage.--Staff gage read once a day. Altitude of gage is 250 ft (from topographic map).

Extremes.--Maximum contents during year, 28 acre-ft Oct. 1, 5, 8, 9; minimum, 12 acre-ft July 28, 29.

1937-63: Reservoir spilled during March 1938, September 1940, February to May 1941, March 1942, and February, March 1944; minimum contents, that for July 28, 29, 1963.

Correction.--The maximum contents for the water year 1962 has been corrected to 89 acre-ft Jan. 23, 1962, superseding figure published in Basic Data Release.

Remarks.--Reservoir is formed by thin shell concrete arch dam completed in 1936; storage began in 1937. Area and capacity ratings are based on surveys made in 1927. Maximum storage at top of spillway gates (elevation, 410.10 ft), 111,070 acre-ft; at spillway lip (elevation, 380.08 ft), 74,580 acre-ft; dead storage below outlet (elevation, 267.39 ft), 1,650 acre-ft included in contents. Reservoir is used to store water for irrigation of about 3,000 acres on both banks one-half to 5½ miles downstream and for municipal supply of city of Tijuana.

Cooperation.--Records furnished by Ministry of Hydraulic Resources, Government of Mexico, through International Boundary and Water Commission, United States Section.

Month-end contents, water year October 1962 to September 1963

| Month                   | Contents (acre-feet) | Change in contents (acre-feet) | Month                   | Contents (acre-feet) | Change in contents (acre-feet) |
|-------------------------|----------------------|--------------------------------|-------------------------|----------------------|--------------------------------|
| Sept. 30.....           | 28                   | -                              | Apr. 30.....            | 23                   | -1                             |
| Oct. 31.....            | 26                   | -2                             | May 31.....             | 20                   | -3                             |
| Nov. 30.....            | 23                   | -3                             | June 30.....            | 20                   | 0                              |
| Dec. 31.....            | 20                   | -3                             | July 31.....            | 18                   | -2                             |
|                         |                      |                                | Aug. 31.....            | 19                   | +1                             |
| Calendar year 1962..... | -                    | -27                            | Sept. 30.....           | 17                   | -2                             |
| Jan. 31.....            | 24                   | +4                             | Water year 1962-63..... | -                    | -11                            |
| Feb. 28.....            | 24                   | 0                              |                         |                      |                                |
| Mar. 31.....            | 24                   | 0                              |                         |                      |                                |

## 11-135. Tia Juana River near Nestor, Calif.

Location.--Lat 32°33'05", long 117°05'00", on line between secs.3 and 4, T.19 S., R.2 W., on downstream side of county highway bridge, 1.7 miles south of Nestor and 2.9 miles upstream from mouth.

Drainage area.--1,668 sq mi, of which 1,198 sq mi are in Mexico.

Records available.--October 1914 to September 1915, October 1936 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 15.14 ft above mean sea level. Oct. 1, 1914, to Sept. 30, 1915, reference point at same site at mean sea level datum. Oct. 1, 1936, to Apr. 9, 1953, water-stage recorder at different datum. Apr. 10, 1953, to Aug. 5, 1958, at site 2 miles upstream at different datum.

Average discharge.--28 years, 39.8 cfs (28,810 acre-ft per year); median of yearly mean discharges, 4.6 cfs (3,600 acre-ft per year).

Extremes.--Maximum discharge during year, 8.4 cfs Mar. 17 (gage height, 2.87 ft); no flow all year except Mar. 17, 18.

1936-63: Maximum discharge, 17,700 cfs Feb. 7, 1937 (gage height, 8.20 ft, at different datum), from rating curve extended above 2,000 cfs on basis of velocity-depth relation and cross section after peak; no flow in parts of each year.

Remarks.--Records good. Flow regulated by Morena Reservoir (see p. 86) and Barrett Reservoir (see p. 87) in the United States, and Rodriguez Reservoir (see above) in Mexico. Water diverted from Cottonwood Creek at Barrett Dam by Dulzura conduit to Jamul Creek.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Mar. 17.....2.6  
18......2

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| March 1963.....         | 2.8      | 2.6     | 0       | 0.09 | 5.6                 |
| Calendar year 1962..... | -        | 14      | 0       | .09  | 68                  |
| Water year 1962-63..... | -        | 2.6     | 0       | .008 | 5.6                 |

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

## OTAY RIVER BASIN

11-140. Jamul Creek near Jamul, Calif.

Location.--Lat 32°38'15", long 116°53'00", in NE $\frac{1}{4}$  sec.4, T.18 S., R.1 E., on right bank 300 ft upstream from county road crossing at upper end of Lower Otay Reservoir, 1.4 miles downstream from Dulzura Creek, and 5.5 miles south of Jamul.

Drainage area.--70.3 sq mi (revised).

Records available.--April 1940 to September 1963.

Gage.--Water-stage recorder and broad-crested weir control with 5-ft Parshall low-water flume. Datum of gage is 511.64 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1951, at same site at datum 1.00 ft higher.

Extremes.--No flow during year.

1940-63: Maximum discharge, 4,000 cfs Dec. 1, 1947 (gage height, 6.42 ft, present datum), from rating curve extended above 1,200 cfs; no flow at times in some years.

Remarks.--No flow since Apr. 24, 1962. Water diverted from Cottonwood Creek by Dulzura conduit discharges into Jamul Creek via Dulzura Creek and is included in discharge records for this station (see p. 87). Figures for calendar year 1962 are as follows: maximum daily discharge, 16 cfs; minimum, zero; mean, 0.35 cfs; runoff, 249 acre-ft.



## SWEETWATER RIVER BASIN

91

11-150. Sweetwater River near Descanso, Calif.

Location---Lat 32°50'05", long 116°37'20", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.25, T.15 S., R.3 E., on right bank at county road bridge, 0.7 mile downstream from unnamed tributary and 1.3 miles south of Descanso.

Drainage area---45.5 sq mi (revised).

Records available---October 1905 to September 1927, October 1956 to September 1963. 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 September 1963.

Gage---Water-stage recorder on river; water-stage recorder on concrete diversion. Datum of gage is 3,269.24 ft above mean sea level, datum of 1929. Prior to June 25, 1927, staff gages at several sites within 0.1 mile upstream at various datums.

Average discharge (creek only)---29 years, 12.4 cfs (8,980 acre-ft per year); median of yearly mean discharges, 7.1 cfs (5,100 acre-ft per year).

(combined)---7 years (1956-63), 2.26 cfs (1,640 acre-ft per year).

Extremes (creek only)---Maximum discharge during year, 6.5 cfs Mar. 17 (gage height, 2.52 ft); no flow for most of year.

1905-27, 1956-63: Maximum discharge, 11,200 cfs Feb. 16, 1927 (gage height, 13.2 ft, from floodmark, site and datum then in use), on basis of slope-area measurement of peak flow; no flow on many days in most years.

(combined)---Maximum discharge during year, 6.6 cfs Mar. 17; no flow for most of year.

1956-63: Maximum discharge, 1,290 cfs Apr. 3, 1958; no flow on many days in each year.

Remarks---Records good. Sweetwater River diversion diverts about 0.3 mile above station for irrigation below. For records of combined discharge of river and diversion, see following page.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     |      |      |      |      | 0     | * 0.1 | 0.1   | 0.2  | 0.1   |      |      |       |
| 2     |      |      |      |      | 0     | .1    | .1    | .2   | 0     |      |      |       |
| 3     |      |      |      |      | 0     | .1    | .1    | .2   | 0     |      |      |       |
| 4     |      |      |      |      | 0     | .1    | .1    | .2   | * 0   |      |      |       |
| 5     |      |      |      |      | 0     | .1    | * .1  | .1   | 0     |      |      |       |
| 6     |      |      |      |      | 0     | .1    | .1    | .1   | 0     |      |      |       |
| 7     |      |      |      |      | 0     | .1    | .1    | .1   | 0     |      |      |       |
| 8     |      |      |      |      | 0     | .1    | .1    | .1   | 0     |      |      |       |
| 9     |      |      |      |      | 0     | .1    | .1    | .1   | 0     |      |      |       |
| 10    |      |      |      |      | .1    | .1    | .1    | .1   | 0     |      |      |       |
| 11    |      |      |      |      | 1.0   | 0     | * .1  | .1   | * 0   |      |      |       |
| 12    |      |      |      |      | .2    | 0     | .1    | .1   | 0     |      |      |       |
| 13    |      |      |      |      | .2    | 0     | .1    | * .1 | 0     |      |      |       |
| 14    |      |      |      |      | .2    | * 0   | .2    | .1   | 0     |      |      |       |
| 15    |      |      |      |      | .1    | .1    | .2    | .1   | 0     |      | (*)  |       |
| 16    | (*)  |      |      |      | .1    | .1    | .2    | .1   | 0     | (*)  |      |       |
| 17    |      |      |      |      | .1    | 2.3   | .7    | .1   | 0     |      |      |       |
| 18    |      |      |      |      | .1    | .9    | .6    | .1   | 0     |      |      |       |
| 19    |      |      |      |      | .1    | .5    | .3    | .1   | 0     |      |      |       |
| 20    |      |      |      |      | .1    | .2    | .3    | 0    | 0     |      |      |       |
| 21    |      |      |      |      | .1    | .2    | .4    | 0    | 0     |      |      |       |
| 22    |      |      |      |      | .1    | .2    | .3    | 0    | 0     |      |      |       |
| 23    |      |      |      |      | .1    | .2    | .2    | 0    | 0     |      |      |       |
| 24    |      |      |      |      | .1    | .2    | .2    | 0    | 0     |      |      |       |
| 25    |      |      |      |      | .1    | .2    | .2    | 0    | 0     |      |      |       |
| 26    |      |      |      |      | .1    | .2    | .5    | 0    | * 0   |      |      |       |
| 27    |      | (*)  |      |      | .1    | .2    | .3    | 0    | 0     |      |      |       |
| 28    |      |      |      | (*)  | .1    | .3    | .3    | .1   | 0     |      |      |       |
| 29    |      |      |      |      | ----- | .3    | .2    | 0    | 0     |      | (*)  |       |
| 30    |      |      |      |      | ----- | .2    | * .2  | 0    | 0     |      |      |       |
| 31    |      |      | (*)  |      | ----- | .2    | ----- | 0    | ----- |      |      | ----- |
| Total | 0    | 0    | 0    | 0    | 3.1   | 7.5   | 6.6   | 2.4  | 0.1   | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 0.11  | 0.24  | 0.22  | 0.08 | 0.003 | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 1.0   | 2.3   | 0.7   | 0.2  | 0.1   | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0     | 0     | 0.1   | 0    | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 6.1   | 15    | 13    | 4.8  | 0.2   | 0    | 0    | 0     |

Calendar year 1962: Max 20 Min 0 Mean 1.19 Ac-ft 864

Water year 1962-63: Max 2.3 Min 0 Mean 0.05 Ac-ft 39

Peak discharge (base, 100 cfs)---No peak above base.

\* Discharge measurement or observation of no flow made on this day.

## SWEETWATER RIVER BASIN

## 150. Sweetwater River near Descanso, Calif.--Continued

Combined discharge, in cubic feet per second, of Sweetwater River and Sweetwater River diversion,  
near Descanso, Calif., water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      |      |      |      | 0     | 0.1  | 0.3   | 0.3  | 0.1   |      |      |       |
| 2     |      |      |      |      | 0     | .1   | .3    | .3   | 0     |      |      |       |
| 3     |      |      |      |      | 0     | .1   | .1    | .3   | 0     |      |      |       |
| 4     |      |      |      |      | 0     | .1   | .2    | .3   | 0     |      |      |       |
| 5     |      |      |      |      | 0     | .1   | .1    | .1   | 0     |      |      |       |
| 6     |      |      |      |      | 0     | .1   | .1    | .1   | 0     |      |      |       |
| 7     |      |      |      |      | 0     | .1   | .2    | .1   | 0     |      |      |       |
| 8     |      |      |      |      | 0     | .1   | .2    | .1   | 0     |      |      |       |
| 9     |      |      |      |      | 0     | .1   | .2    | .1   | 0     |      |      |       |
| 10    |      |      |      |      | .2    | .1   | .2    | .1   | 0     |      |      |       |
| 11    |      |      |      |      | 1.2   | 0    | .2    | .1   | 0     |      |      |       |
| 12    |      |      |      |      | .2    | 0    | .1    | .1   | 0     |      |      |       |
| 13    |      |      |      |      | .2    | 0    | .1    | .1   | 0     |      |      |       |
| 14    |      |      |      |      | .2    | 0    | .2    | .1   | 0     |      |      |       |
| 15    |      |      |      |      | .1    | .1   | .3    | .1   | 0     |      |      |       |
| 16    |      |      |      |      | .1    | .1   | .3    | .1   | 0     |      |      |       |
| 17    |      |      |      |      | .1    | 2.3  | 1.1   | .1   | 0     |      |      |       |
| 18    |      |      |      |      | .1    | .9   | 1.0   | .1   | 0     |      |      |       |
| 19    |      |      |      |      | .1    | .5   | .6    | .1   | 0     |      |      |       |
| 20    |      |      |      |      | .1    | .2   | .6    | 0    | 0     |      |      |       |
| 21    |      |      |      |      | .1    | .2   | .7    | 0    | 0     |      |      |       |
| 22    |      |      |      |      | .1    | .2   | .5    | 0    | 0     |      |      |       |
| 23    |      |      |      |      | .1    | .2   | .4    | 0    | 0     |      |      |       |
| 24    |      |      |      |      | .1    | .2   | .3    | 0    | 0     |      |      |       |
| 25    |      |      |      |      | .1    | .2   | .3    | 0    | 0     |      |      |       |
| 26    |      |      |      |      | .1    | .2   | .5    | 0    | 0     |      |      |       |
| 27    |      |      |      |      | .1    | .2   | .6    | 0    | 0     |      |      |       |
| 28    |      |      |      |      | .1    | .3   | .5    | .1   | 0     |      |      |       |
| 29    |      |      |      |      | ----- | .3   | .4    | 0    | 0     |      |      |       |
| 30    |      |      |      |      | ----- | .2   | .4    | 0    | 0     |      |      |       |
| 31    |      |      |      |      | ----- | .3   | ----- | 0    | ----- |      |      |       |
| Total | 0    | 0    | 0    | 0    | 3.4   | 7.6  | 11.4  | 2.8  | 0.1   | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 0.12  | 0.25 | 0.38  | 0.09 | 0.003 | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 1.2   | 2.3  | 1.1   | 0.3  | 0.1   | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0.1   | 0    | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 6.7   | 15   | 23    | 5.6  | 0.2   | 0    | 0    | 0     |

Calendar year 1962: Max 20 Min 0 Mean 1.24 Ac-ft 897

Water year 1962-63: Max 2.3 Min 0 Mean 0.07 Ac-ft 50

Peak discharge (base, 100 cfs)---No peak above base.

11-155. Sweetwater River at Loveland Dam, near Alpine, Calif.

Location.--Lat 32°46'54", long 116°47'35", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.17, T.16 S., R.2 E., on upstream face near center of Loveland Dam, 4 miles southwest of Alpine.

Drainage area.--98.1 sq mi (revised).

Records available.--October 1944 to September 1963.

Gage.--Staff gage read once daily. Datum of gage is 1,215 ft above mean sea level.

Average discharge.--19 years, 4.83 cfs (3,500 acre-ft per year); median of yearly mean discharges, 1.2 cfs (900 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Loveland Reservoir, including precipitation on the reservoir. Runoff computed on the basis of records of storage, release (draft), spill, leakage, and evaporation. Evaporation from reservoir surface computed on basis of evaporation from Colorado pan using a coefficient of 0.80, excepting July through September of 1963 when the coefficient used was 0.66 and the period October 1960 to June 1963, when the mass-transfer method was used. Capacity and area ratings for the reservoir are dated April 1946. Loveland Dam was completed in July 1945; storage began in March 1945. Capacity of reservoir at spillway level (gage height, 140.00 ft), 25,387 acre-ft. Dead storage, 125 acre-ft below lowest outlet at gage height -1.25 ft, included in these records. One small diversion for irrigation. Water is released down Sweetwater River to Sweetwater Reservoir as required.

Cooperation.--Records of stage, draft and spill plus leakage furnished by California Water & Telephone Co.

Monthly runoff, water year October 1962 to September 1963

| Month                   | Elevation<br>(feet)† | Contents<br>(acre-<br>feet) | Change<br>in<br>contents<br>(acre-<br>feet) | Draft<br>(acre-<br>feet) | Evapo-<br>ration<br>(acre-<br>feet) | Spill<br>plus<br>leakage<br>(acre-<br>feet) | Runoff<br>(acre-<br>feet) |
|-------------------------|----------------------|-----------------------------|---|--------------------------|-------------------------------------|---|---------------------------|
|                         | Lake Loveland        |                             |   |                          |                                     |   |                           |
| October.....            | 1,255.00             | 1,589                       | -10   | 0                        | 18                                  | 0   | 8                         |
| November.....           | 1,254.86             | 1,579                       | -11   | 0                        | 8                                   | 0   | -3                        |
| December.....           | 1,254.71             | 1,568                       | -9  | 0                        | 5                                   | 0   | -4                        |
| Calendar year 1962..... | -                    | -                           | +619  | 0                        | 271                                 | 0   | 890                       |
| January.....            | 1,254.59             | 1,559                       | -2  | 0                        | 4                                   | 0   | 2                         |
| February.....           | 1,254.56             | 1,557                       | +29   | 0                        | 8                                   | 0   | 37                        |
| March.....              | 1,254.96             | 1,586                       | +1  | 0                        | 18                                  | 0   | 19                        |
| April.....              | 1,254.97             | 1,587                       | -7  | 0                        | 23                                  | 0   | 16                        |
| May.....                | 1,254.87             | 1,580                       | -34   | 0                        | 32                                  | 0   | -2                        |
| June.....               | 1,254.40             | 1,546                       | -31   | 0                        | 32                                  | 0   | 1                         |
| July.....               | 1,253.98             | 1,515                       | -39   | 0                        | 38                                  | 0   | -1                        |
| August.....             | 1,253.42             | 1,476                       | -33   | 0                        | 33                                  | 0   | 0                         |
| September.....          | 1,252.95             | 1,443                       | -26   | 0                        | 27                                  | 0   | 1                         |
| October.....            | 1,252.56             | 1,417                       | -   | -                        | -                                   | -   | -                         |
| Water year 1962-63..... | -                    | -                           | -172  | 0                        | 246                                 | 0   | 74                        |

† On first day of month.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff 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.

## SWEETWATER RIVER BASIN

11-165. Sweetwater River at Sweetwater Dam, Calif.

Location.--Lat 32°41'20", long 117°00'35", in La Nacion Grant, at Sweetwater Dam, 6 miles east of National City, San Diego County, and 8 miles upstream from mouth.

Drainage area.--182 sq mi (revised).

Records available.--October 1887 to September 1963.

Gage.--Staff gage read once daily. Datum of gage is 149.12 ft above mean sea level, datum of 1929.

Remarks.--Records of total inflow represent all water reaching Sweetwater Reservoir, including precipitation on reservoir and supplemental Colorado River water delivered through aqueduct of San Diego County Water Authority. Total inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Records of net inflow exclude supplemental water from Colorado River. Monthly evaporation from reservoir surface computed on basis of evaporation from Colorado pan using coefficient of 0.80. Capacity and area ratings for reservoir are dated December 1947. Capacity of reservoir at spillway level (gage height, 89.70 ft), 27,690 acre-ft. Dead storage, 4 acre-ft below lowest outlet at gage height 19.7 ft, included in these records. Diversions for irrigation. Regulation at Loveland Reservoir (see p. 93). Water is released as required for irrigation and domestic use in Chula Vista, National City, and contiguous areas.

Cooperation.--Records furnished by California Water & Telephone Co.

Monthly net inflow, water year October 1962 to September 1963

| Month                   | Gage height (feet)†  | Contents (acre-feet) | Change in contents (acre-feet) | Draft (acre-feet) | Evaporation (acre-feet) | Spill plus leakage (acre-feet) | Total inflow (acre-feet) | Colorado River water imported (acre-feet) | Net inflow (acre-feet) |
|-------------------------|----------------------|----------------------|--------------------------------|-------------------|-------------------------|--------------------------------|--------------------------|---|------------------------|
|                         | Sweetwater Reservoir |                      |                                |                   |                         |                                |                          |   |                        |
| October.....            | 43.11                | 2,567                | -41                            | 79                | 85                      | 0                              | 123                      | 60  | 63                     |
| November.....           | 42.94                | 2,526                | +3                             | 59                | 59                      | 0                              | 121                      | 67  | 54                     |
| December.....           | 42.95                | 2,529                | -43                            | 132               | 47                      | 0                              | 136                      | 92  | 44                     |
| Calendar year 1962..... | -                    | -                    | +240                           | 869               | 1,024                   | 0                              | 2,133                    | 1,426                                     | 707                    |
| January.....            | 42.77                | 2,486                | -148                           | 270               | 48                      | 0                              | 170                      | 68  | 102                    |
| February.....           | 42.13                | 2,338                | +30                            | 125               | 55                      | 0                              | 210                      | 118                                       | 92                     |
| March.....              | 42.26                | 2,368                | +292                           | 22                | 82                      | 0                              | 396                      | 294                                       | 102                    |
| April.....              | 43.50                | 2,660                | +63                            | 58                | 104                     | 0                              | 225                      | 93  | 132                    |
| May.....                | 43.76                | 2,723                | -206                           | 313               | 117                     | 0                              | 224                      | 100                                       | 124                    |
| June.....               | 42.90                | 2,517                | -154                           | 353               | 102                     | 0                              | 301                      | 168                                       | 133                    |
| July.....               | 42.24                | 2,363                | -25                            | 103               | 133                     | 0                              | 211                      | 143                                       | 68                     |
| August.....             | 42.13                | 2,338                | +103                           | 27                | 129                     | 0                              | 259                      | 172                                       | 87                     |
| September.....          | 42.58                | 2,441                | +61                            | 143               | 118                     | 0                              | 322                      | 189                                       | 133                    |
| October.....            | 42.84                | 2,502                | -                              | -                 | -                       | -                              | -                        | -   | -                      |
| Water year 1962-63..... | -                    | -                    | -65                            | 1,684             | 1,079                   | 0                              | 2,698                    | 1,564                                     | 1,134                  |

† On first day of month.

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.

## 11-170. Boulder Creek at Cuyamaca Reservoir, near Julian, Calif.

Location.--Lat 32°59'20", long 116°35'10", in NE $\frac{1}{4}$  sec.5, T.14 S., R.4 E., on outlet tower at Cuyamaca Dam, 7 miles south of Julian.

Drainage area.--12.1 sq mi (revised).

Records available.--October 1935 to September 1963 (inflow to Cuyamaca Reservoir; precipitation on water surface deducted October 1939 to September 1944). June 1912 to September 1926, records not equivalent as they represent only outflow (draft) from Cuyamaca reservoir.

Gage.--Staff gage read periodically. Datum of gage is 4,600.2 ft above mean sea level (Helix Irrigation District bench mark).

Average discharge.--23 years (1935-39, 1944-63), 4.31 cfs (3,120 acre-ft per year); median of yearly mean discharges, 1.7 cfs (1,200 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Cuyamaca Reservoir, including precipitation on reservoir. Runoff computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Monthly evaporation from lake surface computed on basis of evaporation from Colorado pan using a coefficient of 0.80. Capacity and area ratings for reservoir are based on a resurvey made in the fall of 1949. Capacity of reservoir at spillway level (gage height, 35.4 ft), 11,540 acre-ft. No dead storage. Small diversions for local use near dam. Water is released down Boulder Creek to El Capitan Reservoir.

Cooperation.--Records of reservoir operation furnished by Helix Irrigation District.

## Monthly runoff, water year October 1962 to September 1963

| Month                   | Gage height<br>(feet)† | Contents<br>(acre-feet) | Change<br>in<br>contents<br>(acre-feet) | Draft<br>(acre-feet) | Evapo-<br>ration<br>(acre-feet) | Spill<br>plus<br>leakage<br>(acre-feet) | Runoff<br>(acre-feet) |
|-------------------------|------------------------|-------------------------|---|----------------------|---------------------------------|---|-----------------------|
|                         | Cuyamaca Reservoir     |                         |   |                      |                                 |   |                       |
| Sept. 30.....           | -                      | 0                       | -                                       | -                    | -                               | -                                       | -                     |
| Oct. 31.....            | -                      | 0                       | 0                                       | 0                    | 0                               | 0                                       | 0                     |
| Nov. 30.....            | -                      | 0                       | 0                                       | 0                    | 0                               | 0                                       | 0                     |
| Dec. 31.....            | -                      | 0                       | 0                                       | 0                    | 0                               | 0                                       | 0                     |
| Calendar year 1962..... | -                      | 0                       | 0                                       | 975                  | 139                             | 0                                       | 1,114                 |
| Jan. 31.....            | -                      | 0                       | 0                                       | 0                    | 0                               | 0                                       | 0                     |
| Feb. 28.....            | 12.1                   | 12                      | +12                                     | 0                    | a 2                             | 0                                       | 14                    |
| Mar. 31.....            | 12.5                   | 21                      | +9                                      | 0                    | a 3                             | 0                                       | 12                    |
| Apr. 30.....            | 13.6                   | 67                      | +46                                     | 0                    | a 6                             | 0                                       | 52                    |
| May 31.....             | 13.0                   | 33                      | -34                                     | 0                    | 14                              | 0                                       | -20                   |
| June 30.....            | 12.1                   | 12                      | -21                                     | 0                    | 10                              | 0                                       | -11                   |
| July 31.....            | 10.9                   | 2                       | -10                                     | 0                    | 5                               | 0                                       | -5                    |
| Aug. 31.....            | 10.2                   | 1                       | -1                                      | 0                    | 1                               | 0                                       | 0                     |
| Sept. 30.....           | -                      | 0                       | -1                                      | 0                    | 1                               | 0                                       | 0                     |
| Water year 1962-63..... | -                      | 0                       | 0                                       | 0                    | 42                              | 0                                       | 42                    |

† Gage height at 0800 hours.

a Estimated (pan frozen).

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff 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.

## SAN DIEGO RIVER BASIN

11-205. San Diego River at El Capitan Dam, Calif.

Location.--Lat 32°53'00", long 116°48'25", in NE 1/4 sec. 7, T.15 S., R.2 E., on outlet tower of El Capitan Dam, 7 miles east of Lakeside.

Drainage area.--188 sq mi (revised).

Records available.--October 1945 to September 1963. October 1936 to September 1945, records not equivalent owing to exclusion of greater part of flow released from Cuyamaca Reservoir.

Gage.--Staff gage read daily. Datum of gage is 553.0 ft above mean sea level.

Remarks.--Records of total inflow represent all water reaching El Capitan Reservoir, including precipitation on reservoir, water passing down Boulder Creek from Cuyamaca Reservoir, and supplemental Colorado River water delivered through aqueduct of San Diego County Water Authority. Total inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Records of net inflow exclude the supplemental Colorado River water. Evaporation from reservoir surface computed on basis of evaporation from Colorado land pan using a coefficient of 0.80, excepting the period October 1957 to June 1963, when the mass-transfer method was used. Revised area and capacity ratings for reservoir, based on a resurvey completed in 1955, are dated Mar. 29, 1956, and May 25, 1956, respectively. Dam was completed in 1935. Capacity of reservoir at spillway level (gage height, 197.00 ft), 112,810 acre-ft. Dead storage, 59.2 acre-ft below outlet at gage height 21.0 ft, included in these records. No significant diversion above reservoir. Flow partly regulated by Cuyamaca Reservoir (see p. 95). Water is released as required for municipal use and irrigation.

Cooperation.--Records computed in cooperation with city of San Diego.

Monthly net inflow, water year October 1962 to September 1963

| Month                   | Gage height<br>(feet)† | Contents<br>(acre-feet) | Change<br>in<br>contents<br>(acre-feet) | Draft<br>(acre-feet) | Evapo-<br>ration<br>(acre-feet) | Spill<br>plus<br>leakage<br>(acre-feet) | Total<br>inflow<br>(acre-feet) | Colorado<br>River<br>water<br>included<br>(acre-feet) | Net<br>inflow<br>(acre-feet) |
|-------------------------|------------------------|-------------------------|---|----------------------|---------------------------------|---|--------------------------------|---|------------------------------|
|                         | El Capitan Reservoir   |                         |   |                      |                                 |   |                                |   |                              |
| Sept. 30.....           | 82.78                  | 9,760                   | -                                       | -                    | -                               | -                                       | -                              | -   | -                            |
| Oct. 31.....            | 81.53                  | 9,323                   | -437                                    | 216                  | 126                             | 0                                       | -95                            | 0   | -95                          |
| Nov. 30.....            | 80.75                  | 9,055                   | -268                                    | 0                    | 98                              | 0                                       | -170                           | 0   | -170                         |
| Dec. 31.....            | 79.48                  | 8,627                   | -428                                    | 337                  | 57                              | 3                                       | -31                            | 0   | -31                          |
| Calendar year 1962..... | -                      | -                       | +1,106                                  | 1,840                | 1,560                           | 3                                       | 4,509                          | 620   | 3,889                        |
| Jan. 31.....            | 76.32                  | 7,606                   | -1,021                                  | 927                  | 51                              | 0                                       | -43                            | 0   | -43                          |
| Feb. 28.....            | 76.23                  | 7,578                   | -28                                     | 105                  | 45                              | 0                                       | 122                            | 0   | 122                          |
| Mar. 31.....            | 76.17                  | 7,559                   | -19                                     | 12                   | 70                              | 0                                       | 63                             | 0   | 63                           |
| Apr. 30.....            | 79.33                  | 8,577                   | +1,018                                  | 39                   | 104                             | 0                                       | 1,161                          | 1,051   | 110                          |
| May 31.....             | 78.08                  | 8,166                   | -411                                    | 278                  | 158                             | 0                                       | 25                             | 0   | 25                           |
| June 30.....            | 81.06                  | 9,160                   | +994                                    | 439                  | 271                             | 0                                       | 1,704                          | 1,596   | 108                          |
| July 31.....            | 79.62                  | 8,674                   | -486                                    | 205                  | 315                             | 0                                       | 34                             | 0   | 34                           |
| Aug. 31.....            | 79.03                  | 8,477                   | -197                                    | 0                    | 284                             | 0                                       | 87                             | 0   | 87                           |
| Sept. 30.....           | 78.62                  | 8,343                   | -134                                    | 51                   | 215                             | 0                                       | 132                            | 0   | 132                          |
| Water year 1962-63..... | -                      | -                       | -1,417                                  | 2,609                | 1,794                           | 3                                       | 2,989                          | 2,647   | 342                          |

† Gage height at 0800 hours.

Note.--For months when inflow to the reservoir was small and other quantities were large, discordant figures of inflow may appear. This arises primarily from the difficulty of computing 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.

11-225. San Diego River near Santee, Calif.

Location--Lat 32°49'27", long 117°03'17", in Ex Mission San Diego Grant, on right bank in Mission Gorge, 0.2 mile upstream from left tributary and 6 miles west of Santee, San Diego County.

Drainage area--377 sq mi (revised).

Records available--May 1912 to December 1915, March 1916 to September 1962. Monthly discharge only for some periods and yearly estimates only for 1924-25, published in WSP 1315-B.

Gage--Water-stage recorder (digital) and unfinished rubble dam control. Altitude of gage is 180 ft (from topographic map). Prior to Nov. 10, 1920, staff gage at site  $1\frac{1}{2}$  miles upstream at different datum. Nov. 10, 1920, to Dec. 1, 1954, water-stage recorder at present site at datum 1.0 ft higher.

Average discharge--50 years, 25.2 cfs (18,240 acre-ft per year); median of yearly mean discharges, 4.7 cfs (3,400 acre-ft per year).

Extremes--Maximum discharge during year, 348 cfs Mar. 17 (gage height, 3.32 ft); minimum daily, 0.1 cfs for many days in September. 1912-63: Maximum discharge, 70,200 cfs Jan. 27, 1916 (gage height, 25.1 ft, site and datum then in use), based on slope-conveyance computation; no flow at times in most years.

Remarks--Records fair. Discharge measurements made twice a month. Flow regulated by Cuyamaca, El Capitan (see p. 95, 96) and San Vicente Reservoirs. 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.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 10-12, Mar. 17, 18)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.1 | 0.1 | 1.7 | 5.7 |
| 1.2 | .2  | 1.8 | 9.3 |
| 1.3 | .5  | 2.0 | 30  |
| 1.5 | 2.1 | 2.3 | 92  |
| 1.6 | 3.5 | 2.5 | 145 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 5.7   | 3.2   | 3.7   | 4.2   | 5.0   | 5.0   | 6.8   | 4.4   | 3.9   | 4.7   | 3.7   | 0.2   |
| 2     | 4.6   | 3.5   | 3.7   | 4.4   | 5.0   | 5.0   | 5.5   | 5.1   | 3.9   | 4.3   | 3.8   | .2    |
| 3     | 4.6   | 3.7   | 4.2   | 4.4   | 4.8   | 4.8   | 5.3   | 4.7   | 4.3   | 4.3   | 3.6   | .1    |
| 4     | 4.4   | 3.2   | 3.7   | 4.8   | 5.3   | 4.6   | 5.1   | 4.5   | 3.7   | 3.9   | 3.2   | .3    |
| 5     | 4.4   | 3.7   | 3.9   | 4.6   | 4.8   | 4.2   | 4.8   | 4.1   | 3.9   | 4.2   | 3.6   | .2    |
| 6     | 4.4   | 3.4   | 4.8   | 4.4   | 4.6   | 4.2   | 4.3   | 4.7   | 4.0   | 4.3   | 3.7   | .1    |
| 7     | 4.2   | 3.2   | 4.8   | 4.8   | 4.8   | 4.6   | 3.4   | 4.2   | 4.0   | 4.1   | 3.6   | .1    |
| 8     | 4.8   | 3.2   | 4.4   | 4.6   | 4.8   | 3.7   | 3.7   | 4.0   | 3.9   | 4.3   | 3.4   | .1    |
| 9     | 4.2   | 3.4   | 4.2   | 5.0   | 6.4   | 4.4   | 4.0   | 4.0   | 3.9   | 4.1   | 3.3   | .1    |
| 10    | 4.2   | 3.4   | 4.4   | 5.5   | 20    | 3.9   | 4.5   | 4.2   | 4.3   | 4.1   | 3.4   | .1    |
| 11    | 4.2   | 3.2   | 4.4   | 5.0   | 108   | 4.6   | 4.5   | 4.1   | 4.0   | 4.1   | 3.4   | .1    |
| 12    | 4.4   | 3.1   | 4.2   | 4.8   | 14    | 4.2   | 4.6   | 3.9   | 3.9   | 4.1   | 3.6   | .1    |
| 13    | 4.4   | 3.2   | 4.2   | 4.4   | 14    | 3.9   | 4.5   | 4.3   | 4.2   | 4.0   | 3.6   | .1    |
| 14    | 3.9   | 2.8   | 4.4   | 5.0   | 13    | 3.9   | 4.2   | 3.9   | 4.1   | 4.0   | 3.7   | .1    |
| 15    | 4.8   | 3.1   | 4.4   | 4.8   | 14    | 4.4   | 4.6   | 3.9   | 4.4   | 4.2   | 3.5   | .1    |
| 16    | 4.2   | 3.1   | 4.2   | 4.8   | 12    | 4.2   | 4.6   | 3.9   | 4.1   | 4.1   | 3.6   | .2    |
| 17    | 4.2   | 3.1   | 4.4   | 4.8   | 8.9   | 58    | 6.0   | 3.9   | 4.5   | 4.2   | 3.6   | .2    |
| 18    | 4.2   | 2.9   | 4.8   | 4.8   | 10    | 14    | 6.4   | 4.1   | 4.1   | 4.2   | 3.5   | 1.0   |
| 19    | 4.2   | 3.1   | 4.6   | 5.0   | 8.6   | 7.9   | 5.3   | 3.5   | 4.0   | 4.2   | 3.6   | 7.4   |
| 20    | 4.2   | 3.1   | 4.6   | 4.6   | 8.2   | 6.6   | 4.9   | 3.9   | 3.9   | 4.1   | 3.7   | 1.2   |
| 21    | 3.7   | 2.9   | 4.6   | 5.3   | 7.9   | 5.5   | 7.1   | 3.7   | 4.4   | 4.0   | 3.7   | .4    |
| 22    | 4.4   | 3.2   | 4.4   | 4.8   | 7.1   | 5.3   | 8.6   | 3.7   | 3.9   | 4.2   | 3.6   | .3    |
| 23    | 3.9   | 3.2   | 4.2   | 5.0   | 7.1   | 6.4   | 6.0   | 3.8   | 4.0   | 4.1   | 3.6   | .2    |
| 24    | 4.2   | 3.2   | 4.4   | 5.0   | 6.8   | 5.5   | 5.3   | 3.8   | 4.6   | 4.0   | 3.9   | .2    |
| 25    | 3.9   | 3.2   | 3.9   | 5.0   | 6.8   | 5.3   | 4.9   | 3.9   | 4.2   | 4.0   | 3.6   | .2    |
| 26    | 3.7   | 3.9   | 4.2   | 5.0   | 5.5   | 5.3   | 7.1   | 3.4   | 4.3   | 4.1   | 3.6   | .1    |
| 27    | 3.9   | 3.7   | 4.6   | 4.6   | 5.5   | 5.7   | 7.6   | 4.4   | 4.1   | 3.9   | 3.8   | .1    |
| 28    | 3.4   | 3.7   | 4.4   | 5.0   | 5.3   | 5.3   | 5.1   | 4.1   | 4.9   | 3.9   | 4.0   | .1    |
| 29    | 4.2   | 3.7   | 4.4   | 5.0   | ----- | 6.4   | 5.4   | 4.0   | 4.7   | 4.0   | 4.3   | .1    |
| 30    | 3.4   | 3.7   | 4.2   | 5.0   | ----- | 5.7   | 4.8   | 3.5   | 4.4   | 3.9   | 1.9   | .1    |
| 31    | 3.4   | ----- | 4.6   | 5.0   | ----- | 6.8   | ----- | 3.9   | ----- | 4.0   | .3    | ----- |
| TOTAL | 130.3 | 99.0  | 133.9 | 149.4 | 328.2 | 219.5 | 158.9 | 125.5 | 124.5 | 127.6 | 107.8 | 13.8  |
| MEAN  | 4.20  | 3.30  | 4.32  | 4.82  | 11.7  | 7.08  | 5.30  | 4.05  | 4.15  | 4.12  | 3.48  | .46   |
| AC-FT | 258   | 196   | 266   | 296   | 651   | 435   | 315   | 249   | 247   | 253   | 214   | 27    |
| MAX   | 5.7   | 3.9   | 4.8   | 5.5   | 108   | 58    | 8.6   | 5.1   | 4.9   | 4.7   | 4.3   | 7.4   |
| MIN   | 3.4   | 2.8   | 3.7   | 4.2   | 4.6   | 3.7   | 3.4   | 3.4   | 3.7   | 3.9   | 0.3   | 0.1   |

|                    |         |         |           |             |
|--------------------|---------|---------|-----------|-------------|
| CALNDAR YEAR 1962  | MAX 183 | MIN 2.8 | MEAN 7.54 | AC-FT 5,450 |
| WATER YEAR 1962-63 | MAX 108 | MIN .1  | MEAN 4.71 | AC-FT 3,407 |

## SAN DIEGUITO RIVER BASIN

11-240. Santa Ysabel Creek at Sutherland Dam, Calif.

Location---Lat 33°07'05", long 116°47'10", in NW 1/4 SW 1/4 sec. 21, T.12 S., R.2 E., on face of Sutherland Dam, 1.6 miles upstream from Black Canyon Creek and 7 miles northeast of Ramona.

Drainage area---53.9 sq mi (revised).

Records available---December 1912 to September 1928, October 1936 to September 1963. Prior to October 1953, published as "near Mesa Grande."

Gage---Water-stage recorder. Datum of gage is 1,912.00 ft above mean sea level (levels by city of San Diego). Prior to Oct. 1, 1936, water-stage recorder at same site at various datums. Oct. 1, 1936, to Sept. 30, 1953, at site 1 mile downstream at different datum. Mar. 7 to Nov. 29, 1954, staff gage at present site and datum.

Average discharge---42 years (1913-28, 1936-63), 18.6 cfs (13,430 acre-ft per year); median of yearly mean discharges, 9.4 cfs (6,800 acre-ft per year).

Remarks---Records of runoff represent all water reaching Sutherland Reservoir including precipitation on reservoir. Runoff computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Monthly evaporation from lake surface computed on basis of evaporation from Colorado pan using coefficient of 0.80. Sutherland Dam was completed and storage began in October 1953. Capacity and area ratings for the reservoir are based on an aerial survey made in 1949. Capacity of reservoir at spillway level (gage height, 145.00 ft), 29,680 acre-ft. Dead storage, 176 acre-ft below lowest outlet at gage height 28.00 ft, included in these records. Small diversion above reservoir. Water is released as required for municipal use.

Cooperation---Records computed in cooperation with city of San Diego.

Monthly runoff, water year October 1962 to September 1963

| Month                   | Gage height<br>(feet)† | Contents<br>(acre-<br>feet) | Change<br>in<br>contents<br>(acre-<br>feet) | Draft<br>(acre-<br>feet) | Evapo-<br>ration<br>(acre-<br>feet) | Spill<br>plus<br>leakage<br>(acre-<br>feet) | Runoff<br>(acre-<br>feet) |
|-------------------------|------------------------|-----------------------------|---|--------------------------|-------------------------------------|---|---------------------------|
|                         | Sutherland Reservoir   |                             |   |                          |                                     |   |                           |
| Sept. 30.....           | 69.05                  | 3,238                       | -   | -                        | -                                   | -   | -                         |
| Oct. 31.....            | 68.68                  | 3,182                       | -56   | 0                        | 56                                  | 0   | 0                         |
| Nov. 30.....            | 68.39                  | 3,138                       | -44   | 0                        | 39                                  | 0   | -5                        |
| Dec. 31.....            | 68.22                  | 3,112                       | -26   | 0                        | 34                                  | 0   | 8                         |
| Calendar year 1962..... | -                      | -                           | +585  | 0                        | 643                                 | 0.1   | 1,228                     |
| Jan. 31.....            | 68.14                  | 3,100                       | -12   | 0                        | 25                                  | 0   | 13                        |
| Feb. 28.....            | 68.92                  | 3,218                       | +118  | 0                        | 30                                  | 0   | 148                       |
| Mar. 31.....            | 69.20                  | 3,261                       | +43   | 0                        | 35                                  | 0   | 78                        |
| Apr. 30.....            | 69.38                  | 3,289                       | +28   | 0                        | 41                                  | 0   | 69                        |
| May 31.....             | 69.00                  | 3,230                       | -59   | 0                        | 54                                  | 0   | -5                        |
| June 30.....            | 68.59                  | 3,168                       | -62   | 0                        | 58                                  | 0   | -4                        |
| July 31.....            | 67.93                  | 3,069                       | -99   | 0                        | 90                                  | 0   | -9                        |
| Aug. 31.....            | 67.33                  | 2,981                       | -88   | 0                        | 75                                  | 0   | -13                       |
| Sept. 30.....           | 67.12                  | 2,950                       | -31   | 0                        | 66                                  | 0   | 35                        |
| Water year 1962-63..... | -                      | -                           | -288  | 0                        | 603                                 | 0   | 315                       |

† Gage height at 0800 hours.

Note---For months when inflow to the reservoir was small and other elements were large, discordant figures of runoff may appear. This arises primarily from the difficulty of computing runoff 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.



## SAN DIEGUITO RIVER BASIN

99

11-255. Santa Ysabel Creek near Ramona, Calif.

Location.--Lat 33°06'25", long 116°51'55", in SW 1/4 NE 1/4 sec.27, T.12 S., R.1 E., on left bank 1.6 miles downstream from Temescal Creek and 4.5 miles north of Ramona.

Drainage area.--112 sq mi (revised).

Records available.--February 1912 to February 1923, October 1943 to September 1963. 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 above mean sea level (levels by city of San Diego Water Department). Prior to Jan. 31, 1916, staff gage at site 0.5 mile upstream at different datum. Jan. 31, 1916, to Feb. 3, 1923, staff gage or water-stage recorder at present site at datum 0.3 ft higher.

Extremes.--Maximum discharge during year, 174 cfs Feb. 10 (gage height, 3.68 ft); no flow for most of year.

1912-23, 1943-63: Maximum discharge, 28,400 cfs Jan. 27, 1916 (gage height, 14.0 ft, datum then in use), from rating curve extended above 1,500 cfs based on slope-conveyance computation of peak flow; no flow for parts of some years.

Remarks.--Records fair. Flow regulated since July 1954 by Sutherland Reservoir (see p. 98). Some small diversions above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct. | Nov. | Dec. | Jan.  | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------------------------|------|------|------|-------|-------|-------|-------|------|-------|------|------|-------|
| 1                       |      |      |      | 0     | 0     | 0.1   | 0     | 0    |       |      |      |       |
| 2                       |      |      |      | 0     | 0     | 0     | 0     | 0    |       |      |      |       |
| 3                       |      |      |      | *0    | 0     | 0     | 0     | 0    |       |      |      |       |
| 4                       |      |      |      | 0     | 0     | 0     | 0     | 0    |       |      |      |       |
| 5                       |      |      | (*)  | 0     | .1    | *0    | 0     | .1   |       |      |      |       |
| 6                       |      |      |      | 0     | .1    | .1    | 0     | .1   | (*)   |      |      |       |
| 7                       |      |      |      | 0     | .2    | .1    | 0     | .1   |       |      |      |       |
| 8                       |      |      |      | 0     | .2    | .1    | 0     | .1   |       |      |      |       |
| 9                       |      |      |      | 0     | .3    | .1    | 0     | 0    |       |      |      | (*)   |
| 10                      |      |      |      | .1    | 50    | 0     | 0     | 0    |       |      |      |       |
| 11                      |      |      |      | 0     | 24    | 0     | 0     | 0    |       |      |      |       |
| 12                      |      |      |      | 0     | 1.1   | 0     | 0     | 0    |       |      |      |       |
| 13                      |      |      |      | 0     | .3    | 0     | 0     | *0   |       |      |      |       |
| 14                      |      |      |      | 0     | .2    | 0     | .1    | 0    |       |      |      |       |
| 15                      | (*)  |      |      | 0     | .1    | 0     | .1    | 0    |       |      |      |       |
| 16                      |      |      |      | 0     | .1    | 0     | .1    | 0    |       |      |      |       |
| 17                      |      |      |      | 0     | 0     | 26    | 2.1   | 0    |       |      |      |       |
| 18                      |      |      |      | 0     | *0    | 2.6   | 3.1   | .1   |       |      |      |       |
| 19                      |      |      |      | 0     | 0     | .1    | *.4   | .1   |       |      |      |       |
| 20                      |      |      |      | 0     | .1    | .1    | .2    | 0    |       |      |      |       |
| 21                      |      |      |      | 0     | .1    | 0     | .2    | .1   | (*)   |      |      |       |
| 22                      |      |      |      | 0     | .1    | 0     | .2    | .1   |       |      |      |       |
| 23                      |      |      |      | 0     | .1    | 0     | .1    | .1   |       |      |      |       |
| 24                      |      |      |      | 0     | .1    | 0     | .1    | 0    |       |      |      |       |
| 25                      |      |      |      | 0     | .1    | *0    | .1    | 0    |       | (*)  |      | (*)   |
| 26                      |      |      |      | 0     | .1    | 0     | .4    | 0    |       |      |      |       |
| 27                      |      |      |      | 0     | .1    | 0     | 1.6   | 0    |       |      |      |       |
| 28                      |      |      |      | 0     | .1    | .1    | .3    | 0    |       |      |      |       |
| 29                      |      |      |      | 0     | ----- | .1    | .1    | 0    |       |      |      |       |
| 30                      |      |      |      | 0     | ----- | 0     | 0     | 0    |       |      |      |       |
| 31                      |      |      |      | *0    | ----- | 0     | ----- | 0    | ----- |      |      | ----- |
| Total                   | 0    | 0    | 0    | 0.1   | 77.6  | 29.5  | 9.2   | 1.0  | 0     | 0    | 0    | 0     |
| Mean                    | 0    | 0    | 0    | 0.003 | 2.77  | 0.95  | 0.31  | 0.03 | 0     | 0    | 0    | 0     |
| Max                     | 0    | 0    | 0    | 0.1   | 50    | 26    | 3.1   | 0.1  | 0     | 0    | 0    | 0     |
| Min                     | 0    | 0    | 0    | 0     | 0     | 0     | 0     | 0    | 0     | 0    | 0    | 0     |
| Ac-ft                   | 0    | 0    | 0    | 0.2   | 154   | 59    | 18    | 2.0  | 0     | 0    | 0    | 0     |
| Calendar year 1962: Max | 25   | Min  | 0    | Mean  | 0.89  | Ac-ft | 640   |      |       |      |      |       |
| Water year 1962-63: Max | 50   | Min  | 0    | Mean  | 0.32  | Ac-ft | 233   |      |       |      |      |       |

\* Discharge measurement or observation of no flow made on this day.

## SAN DIEGUITO RIVER BASIN

11-260. Santa Ysabel Creek near San Pasqual, Calif.

Location.--Lat 33°05'10", long 116°54'56", in NE 1/4 NW 1/4 Sec. 31, T. 12 S., R. 1 E., on left bank 1.1 miles downstream from Clevenger Canyon and 2 miles east of San Pasqual.

Drainage area.--128 sq mi.

Records available.--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 September 1963. 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 and concrete control since April 1947. Altitude of gage is 510 ft (from topographic map). Dec. 17, 1905, to Sept. 30, 1912, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--11 years (1906-10, 1912, 1957-63), 20.1 cfs (14,550 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes.--Maximum discharge during year, 176 cfs Feb. 10 (gage height, 3.00 ft); no flow for most of year.

1905-12, 1947-63: Maximum discharge observed, 8,000 cfs Mar. 24, 1906 (gage height, 6.3 ft, site and datum then in use); no flow at times in most years.

Remarks.--Records fair. Small diversion. Flow regulated since July 1954 by Sutherland Reservoir (see p. 98).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |    |     |     |     |    |
|-----|----|-----|-----|-----|----|
| 0.4 | 0  | 0.9 | 1.1 | 1.6 | 13 |
| .5  | .1 | 1.1 | 2.4 | 1.7 | 19 |
| .6  | .2 | 1.3 | 4.2 | 1.8 | 28 |
| .7  | .4 | 1.4 | 5.7 | 1.9 | 41 |
| .8  | .7 | 1.5 | 8.0 |     |    |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May   | June  | July | Aug. | Sept. |
|-------------------------|------|------|------|------|-------|------|-------|-------|-------|------|------|-------|
| 1                       |      |      |      |      | 0     | 0    | 0.1   | 0.1   |       |      |      |       |
| 2                       |      |      |      |      | 0     | 0    | .1    | .1    |       |      |      |       |
| 3                       |      |      |      | (*)  | 0     | 0    | .1    | .1    |       |      |      |       |
| 4                       |      |      | (*)  |      | *0    | 0    | .1    | .1    |       |      |      |       |
| 5                       |      |      |      |      | 0     | *0   | 0     | .1    |       |      |      |       |
| 6                       |      |      |      |      | *0    | 0    | 0     | .1    | (*)   |      |      |       |
| 7                       |      |      |      |      | 0     | 0    | 0     | 0     |       |      |      |       |
| 8                       |      |      |      |      | 0     | 0    | .1    | 0     |       |      |      |       |
| 9                       |      |      |      |      | 0     | 0    | .1    | 0     |       |      |      | (*)   |
| 10                      |      |      |      |      | 28    | 0    | 0     | 0     |       |      |      |       |
| 11                      |      |      |      |      | 36    | 0    | 0     | 0     |       |      |      |       |
| 12                      |      |      |      |      | 2.8   | 0    | 0     | 0     |       |      |      |       |
| 13                      |      |      |      |      | .5    | 0    | 0     | *0    |       |      |      |       |
| 14                      |      |      |      |      | .2    | 0    | 0     | 0     |       |      |      |       |
| 15                      | (*)  |      |      |      | .1    | 0    | 0     | 0     |       |      |      |       |
| 16                      |      |      |      |      | 0     | 0    | 0     | 0     |       |      |      |       |
| 17                      |      |      |      |      | 0     | 1.4  | .3    | 0     |       |      |      |       |
| 18                      |      |      |      |      | *0    | 5.4  | 1.4   | 0     |       |      |      |       |
| 19                      |      |      |      |      | 0     | .9   | *1.0  | 0     |       |      |      |       |
| 20                      |      |      |      |      | 0     | .4   | .4    | 0     |       |      |      |       |
| 21                      |      |      |      |      | 0     | .3   | .3    | 0     | (*)   |      |      |       |
| 22                      |      |      |      |      | 0     | .2   | .2    | 0     |       |      |      |       |
| 23                      |      |      |      |      | 0     | .2   | .1    | 0     |       |      |      |       |
| 24                      |      |      |      |      | 0     | .1   | .1    | 0     |       |      |      |       |
| 25                      |      |      |      |      | 0     | *.1  | .1    | 0     |       | (*)  |      |       |
| 26                      |      |      |      |      | 0     | .1   | .2    | 0     |       |      |      | (*)   |
| 27                      |      |      |      |      | 0     | .1   | .4    | 0     |       |      |      |       |
| 28                      |      |      |      |      | 0     | .1   | .4    | 0     |       |      |      |       |
| 29                      |      |      |      |      | ----- | .1   | .2    | 0     |       |      |      |       |
| 30                      |      |      |      |      | ----- | .1   | .1    | 0     |       |      |      |       |
| 31                      |      |      |      | (*)  | ----- | .1   | ----- | 0     | ----- |      |      | ----- |
| Total                   | 0    | 0    | 0    | 0    | 67.6  | 22.2 | 5.8   | 0.6   | 0     | 0    | 0    | 0     |
| Mean                    | 0    | 0    | 0    | 0    | 2.41  | 0.72 | 0.19  | 0.02  | 0     | 0    | 0    | 0     |
| Max                     | 0    | 0    | 0    | 0    | 36    | 14   | 1.4   | 0.1   | 0     | 0    | 0    | 0     |
| Min                     | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0     | 0     | 0    | 0    | 0     |
| Ac-ft                   | 0    | 0    | 0    | 0    | 134   | 44   | 12    | 1.2   | 0     | 0    | 0    | 0     |
| Calendar year 1962: Max | 22   |      |      | Min  | 0     | Mean | 0.74  | Ac-ft | 537   |      |      |       |
| Water year 1962-63: Max | 36   |      |      | Min  | 0     | Mean | 0.26  | Ac-ft | 191   |      |      |       |

\* Discharge measurement or observation of no flow made on this day.

## SAN DIEGUITO RIVER BASIN

101

11-270. Guejito Creek near San Pasqual, Calif.

Location.--Lat 33°06'57", long 116°57'08", in NW 1/4 sec. 23, T. 12 S., R. 1 W., on left bank 0.3 mile upstream from Rockwood Canyon Creek and 1.8 miles north of San Pasqual.

Drainage area.--22.5 sq mi (revised).

Records available.--December 1946 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 560 ft (from topographic map).

Average discharge.--16 years (1947-63), 1.03 cfs (746 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 77 cfs Feb. 11 (gage height, 2.77 ft); no flow Oct. 1 to Feb. 9, Feb. 24 to Mar. 13, May 8 to Sept. 30.

1946-63: Maximum discharge, 1,660 cfs Apr. 3, 1958 (gage height, 5.83 ft), from rating curve extended above 440 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records good. Diversion for irrigation about a quarter of a mile upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.1 | 0   | 1.8 | 7.6 |
| .2  | .1  | 2.0 | 12  |
| .5  | .7  | 2.2 | 19  |
| 1.0 | 2.4 | 2.3 | 25  |
| 1.5 | 4.7 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      |      |      |      | 0     | 0    | 0.1   | 0.1  |       |      |      |       |
| 2     |      |      |      |      | 0     | 0    | .1    | .1   |       |      |      |       |
| 3     |      |      |      | (*)  | 0     | 0    | .1    | a .1 |       |      |      |       |
| 4     |      |      | (*)  |      | 0     | 0    | .1    | a .1 |       |      |      |       |
| 5     |      |      |      |      | 0     | * 0  | .1    | a .1 |       |      |      |       |
| 6     |      |      |      |      | 0     | 0    | .1    | a .1 | (*)   |      |      |       |
| 7     |      |      |      |      | 0     | 0    | .1    | a .1 |       |      |      |       |
| 8     |      |      |      |      | 0     | 0    | .1    | a 0  |       |      |      |       |
| 9     |      |      |      |      | 0     | 0    | .1    | a 0  |       |      |      | (*)   |
| 10    |      |      |      |      | 18    | 0    | .1    | a 0  |       |      |      |       |
| 11    |      |      |      |      | 22    | 0    | .1    | a 0  |       |      |      |       |
| 12    |      |      |      |      | 1.4   | 0    | .1    | a 0  |       |      |      |       |
| 13    |      |      |      |      | .3    | 0    | .1    | * 0  |       |      |      |       |
| 14    |      |      |      |      | .2    | .1   | .1    | 0    |       |      |      |       |
| 15    | (*)  |      |      |      | .2    | .1   | .1    | 0    |       |      |      |       |
| 16    |      |      |      |      | .1    | .1   | .1    | 0    |       |      |      |       |
| 17    |      |      |      |      | .1    | 1.6  | .6    | 0    |       |      |      |       |
| 18    |      |      |      |      | .1    | .5   | .6    | 0    |       |      |      |       |
| 19    |      |      |      |      | .1    | .3   | * .3  | 0    |       |      |      |       |
| 20    |      |      |      |      | .1    | .2   | .2    | 0    |       |      | (*)  |       |
| 21    |      |      |      |      | .1    | .1   | .3    | 0    | (*)   |      |      |       |
| 22    |      |      |      |      | .1    | .1   | .2    | 0    |       |      |      |       |
| 23    |      |      |      |      | .1    | .1   | .2    | 0    |       |      |      |       |
| 24    |      |      |      |      | 0     | .1   | .1    | 0    |       |      |      |       |
| 25    |      |      |      |      | 0     | * .1 | .1    | 0    |       | (*)  |      |       |
| 26    |      |      |      |      | 0     | .1   | .4    | 0    |       |      |      | (*)   |
| 27    |      |      |      |      | 0     | .1   | .4    | 0    |       |      |      |       |
| 28    |      |      |      |      | 0     | .2   | .2    | 0    |       |      |      |       |
| 29    |      |      |      |      | ----- | .3   | .1    | 0    |       |      |      |       |
| 30    |      |      |      |      | ----- | .2   | .1    | 0    |       |      |      | (*)   |
| 31    |      |      |      | (*)  | ----- | .1   | ----- | 0    | ----- |      |      | ----- |
| Total | 0    | 0    | 0    | 0    | 42.9  | 4.4  | 5.4   | 0.7  | 0     | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 1.53  | 0.14 | 0.18  | 0.02 | 0     | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 22    | 1.6  | 0.6   | 0.1  | 0     | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0.1   | 0    | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 85    | 8.7  | 11    | 1.4  | 0     | 0    | 0    | 0     |

Calendar year 1962: Max 29 Min 0 Mean 0.40 Ac-ft 291

Water year 1962-63: Max 22 Min 0 Mean 0.15 Ac-ft 106

Peak discharge (base, 30 cfs).--Feb. 11 (0030 hrs) 77 cfs (2.77 ft).

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SAN DIEGUITO RIVER BASIN

11-285. Santa Maria Creek near Ramona, Calif.

Location.--Lat  $33^{\circ}03'08''$ , long  $116^{\circ}56'41''$ , in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.11, T.13 S., R.1 W., on left bank 3.75 miles northwest of Ramona and 4.6 miles upstream from mouth.

Drainage area.--57.6 sq mi (revised).

Records available.--November 1912 to September 1920, October 1946 to September 1963.

Gage.--Water-stage recorder and concrete control since October 1946. Datum of gage is 1,294.44 ft above mean sea level, datum of 1927. Prior to Oct. 1, 1946, at same site at datum 1.78 ft lower.

Average discharge.--24 years (1913-20, 1946-63), 4.30 cfs (3,110 acre-ft per year); median of yearly mean discharges, 0.1 cfs (72 acre-ft per year).

Extremes.--No flow during year.

1912-20, 1946-63: Maximum discharge, 7,140 cfs Jan. 27, 1916 (gage height, 14.1 ft, from floodmarks, present datum), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--No flow since Apr. 28, 1962. City of Ramona pumps water from stream above station for municipal supply. Figures for calendar year 1962 are as follows: maximum daily discharge, 17 cfs; minimum, zero; mean, 0.10 cfs; runoff, 71 acre-ft.

11-290. San Dieguito River near San Pasqual, Calif.

Location.--Lat  $33^{\circ}04'00''$ , long  $117^{\circ}02'05''$ , in San Bernardo Grant, on right bank 1.5 miles downstream from Bach Creek, 4.5 miles southeast of Escondido, and 5 miles west of San Pasqual, San Diego County.

Drainage area.--249 sq mi (revised).

Records available.--April 1947 to April 1956 (irrigation seasons only), May 1956 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 325 ft (from topographic map).

Extremes.--No flow during year.

1956-63: Maximum discharge, about 3,600 cfs Apr. 3, 1958 (gage height, 7.35 ft), from field estimate of peak flow; no flow in most months each year.

Remarks.--No flow since May 13, 1958 (corrected). Diversions for irrigation and pumping from wells along river in San Pasqual Valley above station. Flow regulated since July 1954 by Sutherland Reservoir (see p. 98).

## SAN DIEGUITO RIVER BASIN

103

11-300. San Dieguito River at Lake Hodges, Calif.

Location.--Lat 33°02'48", long 117°07'33", in NE 1/4 sec. 18, T.13 S., R.2 W., on right bank 800 ft upstream from Lake Hodges Dam and 6.2 miles southwest of Escondido.

Drainage area.--303 sq mi.

Records available.--January 1916 to September 1963. Published as "near Bernardo" prior to October 1920 and as "near Escondido" October 1920 to September 1925.

Gage.--Staff gage read once daily. Datum of gage is 200.0 ft above mean sea level. Prior to January 1919, staff gage at same site at different datum (prior to completion of dam).

Remarks.--Records of total inflow represent all the water reaching Lake Hodges, including precipitation on the lake and supplemental water from Colorado River delivered through aqueduct of San Diego County Water Authority. Total inflow computed on basis of records of storage, release (draft), spill, leakage, and evaporation. Records of net inflow exclude supplemental water from Colorado River. Capacity and area ratings for lake are based on a resurvey in 1948. Evaporation from reservoir surface computed on basis of evaporation from Colorado land pan using a coefficient of 0.80, excepting the period October 1957 to June 1963, when the mass-transfer method was used. Lake Hodges Dam was completed and storage began Feb. 1, 1919. Capacity of lake at spillway level (gage height, 115.00 ft), 33,550 acre-ft. Dead storage, 1,160 acre-ft below lowest outlet at gage height 54.0 ft, included in these records. 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. Diversions for irrigation above Lake Hodges. Flow regulated since July 1954 by Sutherland Reservoir (see p. 98).

Cooperation.--Records computed in cooperation with city of San Diego.

Monthly net inflow, water year October 1962 to September 1963

| Month                   | Gage height (feet)† | Contents (acre-feet) | Change in contents (acre-feet) | Draft (acre-feet) | Evaporation (acre-feet) | Spill plus leakage (acre-feet) | Total inflow (acre-feet) | Colorado River water included (acre-feet) | Net inflow (acre-feet) |
|-------------------------|---------------------|----------------------|--------------------------------|-------------------|-------------------------|--------------------------------|--------------------------|---|------------------------|
|                         | Lake Hodges         |                      |                                |                   |                         |                                |                          |   |                        |
| Sept. 30.....           | 68.90               | 3,906                | -                              | -                 | -                       | -                              | -                        | -   | -                      |
| Oct. 31.....            | 64.90               | 2,989                | -917                           | 986               | 64                      | 0.2                            | 133                      | 45  | 88                     |
| Nov. 30.....            | 62.75               | 2,551                | -438                           | 786               | 36                      | .2                             | 384                      | 460                                       | -76                    |
| Dec. 31.....            | 66.50               | 3,345                | +794                           | 545               | 27                      | .2                             | 1,366                    | 1,427                                     | -61                    |
| Calendar year 1962..... | -                   | -                    | +524                           | 9,832             | 793                     | 4.8                            | 11,155                   | 11,503                                    | -348                   |
| Jan. 31.....            | 64.30               | 2,863                | -482                           | 595               | 27                      | .2                             | 140                      | 92  | 48                     |
| Feb. 28.....            | 63.10               | 2,620                | -243                           | 285               | 26                      | .2                             | 68                       | 0   | 68                     |
| Mar. 31.....            | 65.00               | 3,010                | +390                           | 577               | 46                      | .2                             | 1,013                    | 1,053                                     | -40                    |
| Apr. 30.....            | 66.70               | 3,391                | +381                           | 579               | 63                      | .2                             | 1,023                    | 1,028                                     | -5                     |
| May 31.....             | 64.65               | 2,936                | -455                           | 989               | 76                      | .2                             | 610                      | 650                                       | -40                    |
| June 30.....            | 64.00               | 2,800                | -136                           | 909               | 128                     | .2                             | 901                      | 890                                       | 11                     |
| July 31.....            | 62.65               | 2,532                | -268                           | 1,230             | 110                     | .2                             | 1,072                    | 1,190                                     | -118                   |
| Aug. 31.....            | 62.55               | 2,512                | -20                            | 1,240             | 103                     | .2                             | 1,323                    | 1,421                                     | -98                    |
| Sept. 30.....           | 65.10               | 3,032                | +520                           | 721               | 91                      | .2                             | 1,332                    | 1,374                                     | -42                    |
| Water year 1962-63..... | -                   | -                    | -874                           | 9,442             | 797                     | 2.4                            | 9,365                    | 9,630                                     | -265                   |

† Gage height at 0800 hours.

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.

## SAN LUIS REY RIVER BASIN

11-315. Agua Caliente Creek near Warner Springs, Calif.

Location--Lat 33°17'20", long 116°39'08", in San Jose del Valle Grant, on left bank 60 ft upstream from highway bridge, 1.2 miles upstream from Canada Verde Creek and 1.2 miles northwest of Warner Springs, San Diego County.

Drainage area--19.0 sq mi.

Records available--February 1961 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 2,950 ft (from topographic map).

Extremes--Maximum discharge during year, 67 cfs Feb. 10 (gage height, 3.53 ft, from outside high-water mark), from rating curve extended above 10 cfs on basis of velocity-area study of peak flow at gage height 3.76 ft; no flow all year except Feb. 10, 11. 1961-63: Maximum discharge, 88 cfs Mar. 6, 1962 (gage height, 3.76 ft), from rating curve extended above 10 cfs on basis of velocity-area study; no flow for most of each year.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 10..... 4.9  
11.....\*1.9

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| February 1963.....      | 6.8      | 4.9     | 0       | 0.24 | 13                     |
| Calendar year 1962..... | -        | 27      | 0       | .75  | 542                    |
| Water year 1962-63..... | -        | 4.9     | 0       | .02  | 13                     |

Peak discharge (base, 50 cfs)--Feb. 10 (2100 hrs) 67 cfs (3.53 ft, from outside high-water mark).

\*Discharge measurement made on this day.

Note--Flow occurred only on days listed above.

11-330. West Fork San Luis Rey River near Warner Springs, Calif.

Location.--Lat 33°17'50", long 116°45'30", in San Jose del Valle Grant, on left bank 0.1 mile downstream from small unnamed tributary, 2.5 miles upstream from mouth, and 7.5 miles west of Warner Springs, San Diego County.

Drainage area.--25.5 sq mi (revised).

Records available.--January 1913 to November 1915, October 1956 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,800 ft (from topographic map). Prior to Oct. 1, 1956, at different datum.

Average discharge.--8 years (1913-15, 1957-63), 7.84 cfs (5,680 acre-ft per year).

Extremes.--Maximum discharge during year, 15 cfs Feb. 10 (gage height, 5.04 ft); no flow for many days.

1913-15, 1956-63: Maximum discharge, 2,060 cfs Mar. 16, 1958 (gage height, 10.77 ft), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; no flow at times in most years.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 4.3 | 0   |
| 4.4 | .2  |
| 4.5 | 1.0 |
| 4.6 | 2.2 |
| 4.8 | 6.6 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0    | * 0.1 | 0.1  | 0.1  | 0.1   | 0.1  | * 0.1 | 0.4  | 0.1   | 0.1  | 0.1  | 0     |
| 2     | * 0  | .1    | .1   | * .1 | .1    | .1   | .1    | .4   | .1    | .1   | * .1 | 0     |
| 3     | 0    | .1    | * .1 | .1   | .1    | .1   | .1    | .3   | .1    | * .1 | .1   | 0     |
| 4     | 0    | .1    | .1   | .1   | * .1  | .1   | .1    | .2   | .1    | .1   | 0    | 0     |
| 5     | 0    | .1    | .1   | .1   | .1    | .1   | .1    | .2   | * .1  | .1   | 0    | 0     |
| 6     | 0    | .1    | .1   | .1   | .1    | .1   | .1    | * .2 | .1    | .1   | .1   | 0     |
| 7     | 0    | .1    | .1   | .1   | .1    | .1   | .1    | .2   | .1    | .1   | .3   | 0     |
| 8     | 0    | .1    | .1   | .1   | .1    | .1   | .1    | .1   | .1    | .1   | .3   | 0     |
| 9     | 0    | .1    | .1   | .1   | .1    | .1   | .1    | .1   | .1    | .1   | .3   | 0     |
| 10    | 0    | .1    | .1   | .1   | 3.0   | .1   | .1    | .1   | .1    | .1   | .2   | 0     |
| 11    | 0    | .1    | .1   | .1   | * 3.3 | .1   | .1    | .1   | .1    | .1   | .1   | 0     |
| 12    | 0    | .1    | .1   | .1   | .1    | .1   | .1    | .1   | .1    | .1   | .1   | 0     |
| 13    | .1   | .1    | .1   | .1   | .1    | .1   | .1    | .1   | .1    | .1   | 0    | 0     |
| 14    | .1   | * .1  | .1   | .1   | .1    | * .1 | .1    | .1   | .1    | .1   | 0    | 0     |
| 15    | .1   | .1    | .1   | .1   | .1    | .1   | .1    | .1   | .1    | .1   | 0    | 0     |
| 16    | * .1 | .1    | .1   | * .1 | .1    | .1   | .1    | .1   | .1    | .1   | 0    | 0     |
| 17    | .1   | .1    | .1   | .1   | .1    | .2   | .1    | .1   | .1    | .1   | 0    | 0     |
| 18    | .1   | .1    | * .1 | .1   | .1    | .1   | * .1  | .1   | .1    | .1   | 0    | .1    |
| 19    | .1   | .1    | .1   | .1   | .1    | .1   | .1    | .1   | * .1  | .1   | 0    | .1    |
| 20    | .1   | .1    | .1   | .1   | .1    | .1   | .1    | .1   | .1    | .1   | 0    | * .1  |
| 21    | .1   | .1    | .1   | .1   | .1    | .1   | 2.5   | .1   | .1    | .1   | 0    | 0     |
| 22    | .1   | .1    | .1   | .1   | .1    | .1   | 1.7   | .1   | .1    | .1   | 0    | 0     |
| 23    | .1   | .1    | .1   | .1   | .1    | .1   | .2    | .1   | .1    | .1   | 0    | 0     |
| 24    | .1   | .1    | .1   | .1   | .1    | .1   | .2    | .1   | .1    | .1   | 0    | 0     |
| 25    | .1   | .1    | .1   | .1   | .1    | .1   | .2    | .1   | .1    | .1   | 0    | 0     |
| 26    | .1   | .1    | .1   | .1   | .1    | .1   | 1.7   | .1   | .1    | .1   | 0    | 0     |
| 27    | .1   | .1    | .1   | .1   | * .1  | .1   | 4.8   | * .1 | .1    | .1   | * 0  | * 0   |
| 28    | .1   | .1    | .1   | .1   | .1    | .1   | 2.1   | .1   | .1    | .1   | 0    | 0     |
| 29    | .1   | .1    | .1   | .1   | ----- | .1   | 1.0   | .1   | .1    | .1   | 0    | 0     |
| 30    | .1   | .1    | .1   | .1   | ----- | .1   | .5    | .1   | .1    | .1   | 0    | 0     |
| 31    | .1   | ----- | .1   | .1   | ----- | .1   | ----- | .1   | ----- | .1   | 0    | ----- |
| Total | 1.9  | 3.0   | 3.1  | 3.1  | 8.9   | 3.2  | 16.9  | 4.3  | 3.0   | 3.1  | 1.7  | 0.3   |
| Mean  | 0.06 | 0.10  | 0.10 | 0.10 | 0.32  | 0.10 | 0.56  | 0.14 | 0.10  | 0.10 | 0.05 | 0.01  |
| Max   | 0.1  | 0.1   | 0.1  | 0.1  | 3.3   | 0.2  | 4.8   | 0.4  | 0.1   | 0.1  | 0.3  | 0.1   |
| Min   | 0    | 0.1   | 0.1  | 0.1  | 0.1   | 0.1  | 0.1   | 0.1  | 0.1   | 0.1  | 0    | 0     |
| Ac-ft | 3.8  | 6.0   | 6.1  | 6.1  | 18    | 6.3  | 34    | 8.5  | 6.0   | 6.1  | 3.4  | 0.6   |

Calendar year 1962: Max 34 Min 0 Mean 2.37 Ac-ft 1,710

Water year 1962-63: Max 4.8 Min 0 Mean 0.14 Ac-ft 105

Peak discharge (base, 100 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

## SAN LUIS REY RIVER BASIN

11-350. San Luis Rey River at Lake Henshaw, near Mesa Grande, Calif.

Location.--Lat 33°14'20", long 116°45'43", in Valle de San Jose Grant, at Henshaw Dam, 4 miles north of Mesa Grande, San Diego County.

Drainage area.--206 sq mi.

Records available.--October 1922 to September 1963. October 1911 to September 1922 at site 1 mile downstream published as "near Mesa Grande"; records not equivalent owing to change in natural water losses resulting from creation of Lake Henshaw. Monthly net runoff only October to December 1922, published in WSP 1315-B.

Gage.--Staff gage read once daily. Datum of gage is 2,620 ft above mean sea level. Prior to June 14, 1912, staff gage at same site at different datum. June 14, 1912, to Oct. 7, 1922, water-stage recorder at site 1 mile downstream at different datum.

Average discharge.--11 years (1911-22), 59.6 cfs (43,160 acre-ft per year), below damsite; 41 years (1922-63), 26.2 cfs (18,980 acre-ft per year), discharge at Lake Henshaw, exclusive of 90 percent of precipitation on lake surface; median of yearly mean discharges, 15 cfs (11,000 acre-ft per year).

Remarks.--Records of net runoff represent all water reaching Lake Henshaw, exclusive of 90 percent of rainfall on water surface of lake and supplemental water obtained by pumping ground water from lake bed. Net runoff computed on basis of records of storage, release (draft), spill, leakage, evaporation, precipitation, and ground-water pumpage. Monthly evaporation from lake surface computed on basis of evaporation from a floating pan using a coefficient of 0.87, except during periods when winds swamp the floating pan. Net evaporation for these periods is computed on basis of Colorado pan using coefficient of 0.80. Storage began on Oct. 7, 1922. Capacity and area ratings for lake are based on resurvey made in October 1951. Capacity of lake at spillway level (gage height, 107.00 ft), 194,300 acre-ft. No dead storage. No flow over spillway since dam was completed. Water is released down San Luis Rey River for diversion downstream for irrigation, power, and domestic use. No diversion above Lake Henshaw.

Cooperation.--Records furnished by Vista Irrigation District.

Monthly net runoff, water year October 1962 to September 1963

| Month                   | Gage height<br>(feet) | Contents<br>(acre-<br>feet) | Change<br>in<br>contents<br>(acre-<br>feet) | Draft<br>(acre-<br>feet) | Net<br>evapo-<br>ration<br>(acre-<br>feet) <sup>†</sup> | Spill<br>plus<br>leakage<br>(acre-<br>feet) | Pumped<br>ground<br>water<br>(acre-<br>feet) | Net<br>runoff<br>(acre-<br>feet) |
|-------------------------|-----------------------|-----------------------------|---|--------------------------|---|---|--|----------------------------------|
|                         | Lake Henshaw          |                             |   |                          |   |   |  |                                  |
| Sept. 30.....           | 39.52                 | 5,896                       | -   | -                        | -   | -   | -  | -                                |
| Oct. 31.....            | 39.96                 | 6,250                       | +354  | 212                      | 293   | 0   | 977  | -118                             |
| Nov. 30.....            | 39.73                 | 6,063                       | -187  | 744                      | 207   | 0   | 838  | -74                              |
| Dec. 31.....            | 39.84                 | 6,152                       | +89   | 368                      | 128   | 0   | 611  | -26                              |
| Calendar year 1962..... | -                     | -                           | +1,569                                      | 8,511                    | 3,606   | 0   | 12,262                                       | 1,424                            |
| Jan. 31.....            | 39.54                 | 5,911                       | -241  | 766                      | 57  | 0   | 631  | -49                              |
| Feb. 28.....            | 40.54                 | 6,739                       | +828  | 152                      | -146  | 0   | 695  | 139                              |
| Mar. 31.....            | 40.61                 | 6,800                       | +61   | 605                      | 56  | 0   | 748  | -26                              |
| Apr. 30.....            | 40.29                 | 6,525                       | -275  | 920                      | 100   | 0   | 732  | 13                               |
| May 31.....             | 39.57                 | 5,936                       | -589  | 911                      | 454   | 0   | 854  | -78                              |
| June 30.....            | 39.06                 | 5,542                       | -394  | 866                      | 516   | 0   | 1,068  | -80                              |
| July 31.....            | 38.38                 | 5,046                       | -496  | 883                      | 641   | 0   | 1,122  | -94                              |
| Aug. 31.....            | 38.18                 | 4,906                       | -140  | 843                      | 414   | 0   | 1,114  | 3                                |
| Sept. 30.....           | 38.30                 | 4,990                       | +84   | 717                      | 252   | 0   | 1,044  | 9                                |
| Water year 1962-63..... | -                     | -                           | -906  | 7,987                    | 2,972   | 0   | 10,434                                       | -381                             |

<sup>†</sup> During the year the amount of precipitation excluded was 1,009 acre-ft.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff may appear. This arises primarily from the difficulty of computing net runoff 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.



## 11-400. San Luis Rey River at Monserate Narrows, near Pala, Calif.

Location.--Lat 33°20'15", long 117°08'10", in NE $\frac{1}{4}$  sec.6, T.10 S., R.2 W., on left bank 4 miles southwest of Pala and 6 miles northeast of Bonsall.

Drainage area.--373 sq mi (revised).

Records available.--December 1935 to March 1938 (fragmentary), April 1938 to November 1941, October 1946 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map). Prior to October 1946, at same site at different datum. Oct. 22, 1946, to Nov. 30, 1954, at datum 1.0 ft higher.

Average discharge.--20 years (1938-41, 1946-63), 8.48 cfs (6,140 acre-ft per year); median of yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

Extremes.--No flow during year.

1935-41, 1946-63: Maximum gage height, 8.7 ft Feb. 7, 1937, datum then in use (discharge not determined); no flow at times in 1948-63.

Remarks.--No flow since Apr. 30, 1959. Flow regulated by Lake Henshaw (see p. 106). Several diversions above station.

## 11-410. San Luis Rey River near Bonsall, Calif.

Location.--Lat 33°15'13", long 117°14'48", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.1, T.11 S., R.4 W., on left bank 0.7 mile downstream from bridge on State Highway 76 and 2.8 miles southwest of Bonsall.

Drainage area.--512 sq mi (revised).

Records available.--July 1916 to September 1918 (gage heights and discharge measurements only), October 1929 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 108.10 ft above mean sea level, datum of 1929. July 1916 to September 1918, staff gages at site 0.8 mile upstream at different datums. October 1929 to Nov. 15, 1945, water-stage recorder at present site at datum 3.44 ft higher and Nov. 16, 1945, to Sept. 16, 1946, at datum 1.44 ft higher.

Average discharge.--34 years (1929-63), 20.6 cfs (14,910 acre-ft per year); median of yearly mean discharges, 5.6 cfs (4,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1.5 cfs Feb. 10 (gage height, 4.00 ft); no flow all year including maximum day, which was less than 0.05 cfs.

1929-63: Maximum discharge, 18,100 cfs Mar. 3, 1938 (gage height, 12.60 ft, datum then in use), from rating curve extended above 2,400 cfs; no flow for part of each year.

Remarks.--No flow since Mar. 19, 1962. Flow regulated by Lake Henshaw (see p. 106). Several diversions. Figures for calendar year 1962 are as follows: maximum daily discharge, 0.4 cfs; minimum, zero; mean, 0.005 cfs; runoff, 3.8 acre-ft.

## 11-420. San Luis Rey River at Oceanside, Calif.

Location.--Lat 33°12'48", long 117°22'33", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.14, T.11 S., R.5 W., on right bank 0.7 mile upstream from bridge on U.S. Highway 101, 1.1 miles upstream from mouth, and 1.2 miles north of Oceanside.

Drainage area.--557 sq mi (revised).

Records available.--April 1912 to September 1914 (published as "near Oceanside"), January 1916, October 1929 to January 1942, October 1946 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map). April 1912 to September 1914, staff gage at site three-quarters of a mile upstream at different datum. January 1916, staff gage a quarter of a mile downstream at different datum.

Average discharge.--31 years (1912-14, 1929-41, 1946-63), 17.2 cfs (12,450 acre-ft per year); median of yearly mean discharges, zero.

Extremes.--No flow during year.

1912-14, 1916, 1929-42, 1946-63: Maximum discharge, 95,600 cfs Jan. 27, 1916, from hydrograph based on discharge measurements; no flow for several months in each year.

Remarks.--No flow since Apr. 13, 1958. Flow regulated by Lake Henshaw (see p. 106). Several diversions for irrigation and domestic use above station.

## SANTA MARGARITA RIVER BASIN

11-424. Temecula Creek near Aguanga, Calif.

Location.--Lat 33°27'33", long 116°55'22", in NE 1/4 SW 1/4 sec. 19, T. 8 S., R. 1 E., on right bank, 1.6 miles downstream from Long Canyon, and 3.5 miles northwest of Aguanga.

Drainage area.--131 sq mi (revised).

Records available.--August 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,590 ft (from topographic map).

Average discharge.--6 years, 2.90 cfs (2,100 acre-ft per year).

Extremes.--Maximum discharge during year, 49 cfs Feb. 10 (gage height, 1.97 ft); no flow Oct. 1 to Jan. 2, Jan. 4, July 3-5, July 7 to Sept. 30.

1957-63: Maximum discharge, 3,540 cfs Apr. 3, 1958 (gage height, 6.57 ft), from rating curve extended above 800 cfs; no flow for several months each year.

Remarks.--Records good. Pumping for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.7 | 0   | 1.2 | 3.2 |
| .8  | .1  | 1.3 | 5.2 |
| .9  | .4  | 1.4 | 8.0 |
| 1.0 | .9  | 1.5 | 12  |
| 1.1 | 1.8 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      | (*)  |      | 0    | 0.2   | 0.5  | * 0.8 | 1.1  | 0.2   | 0.1  |      |       |
| 2     | (*)  |      |      | * 0  | .2    | .5   | .7    | 1.0  | .2    | .1   | (*)  |       |
| 3     |      |      | (*)  | .1   | .2    | .5   | .7    | .9   | .2    | * 0  |      |       |
| 4     |      |      |      | 0    | * .2  | .5   | .7    | .9   | .2    | 0    |      |       |
| 5     |      |      |      | .1   | .2    | .5   | .7    | .6   | * .2  | 0    |      |       |
| 6     |      |      |      | .1   | .2    | .5   | .6    | * .7 | .2    | .1   |      |       |
| 7     |      |      |      | .1   | .2    | .5   | .6    | .6   | .2    | 0    |      |       |
| 8     |      |      |      | .1   | .2    | .6   | .6    | .5   | .2    | 0    |      |       |
| 9     |      |      |      | .1   | .2    | .6   | .6    | .5   | .2    | 0    |      |       |
| 10    |      |      |      | .1   | 1.1   | .6   | .6    | .5   | .2    | 0    |      |       |
| 11    |      |      |      | .1   | 6.3   | .6   | .6    | .5   | .2    | 0    |      |       |
| 12    |      |      |      | .1   | * 2.4 | .6   | .5    | .5   | .2    | 0    |      |       |
| 13    |      |      |      | .1   | 1.7   | .6   | .5    | .4   | .2    | 0    |      |       |
| 14    |      | (*)  |      | .1   | 1.5   | * .6 | .5    | .4   | .2    | 0    |      |       |
| 15    |      |      |      | .1   | 1.2   | .6   | .5    | .4   | .2    | 0    |      |       |
| 16    | (*)  |      |      | * .1 | 1.1   | .7   | .5    | .3   | .2    | 0    |      |       |
| 17    |      |      |      | .1   | .9    | 2.2  | 1.1   | .3   | .2    | 0    |      |       |
| 18    |      |      | (*)  | .1   | .9    | 1.6  | * 1.4 | .3   | .1    | 0    |      |       |
| 19    |      |      |      | .1   | .7    | 1.1  | 1.0   | .3   | * .1  | * 0  |      |       |
| 20    |      |      |      | .1   | .7    | 1.0  | .9    | .3   | .1    | 0    |      |       |
| 21    |      |      |      | .1   | .7    | .9   | 1.4   | .3   | .1    | 0    |      |       |
| 22    |      |      |      | .1   | .6    | .9   | 1.7   | * .3 | .1    | 0    |      |       |
| 23    |      |      |      | .1   | .6    | .9   | 1.4   | .3   | .1    | 0    |      |       |
| 24    |      |      |      | .1   | .5    | .9   | 1.1   | .2   | .1    | 0    |      |       |
| 25    |      |      |      | .1   | .5    | .9   | 1.1   | .2   | .1    | 0    |      |       |
| 26    |      |      |      | .1   | .5    | .9   | 1.5   | .2   | .1    | 0    |      |       |
| 27    |      |      |      | .1   | * .5  | .8   | 2.1   | .2   | .1    | 0    |      |       |
| 28    |      |      |      | .1   | .5    | .9   | 1.7   | .2   | .1    | 0    | (*)  |       |
| 29    |      |      |      | .1   | ----- | 1.1  | 1.4   | .2   | .1    | 0    |      |       |
| 30    |      |      |      | .1   | ----- | .9   | 1.1   | .2   | .1    | 0    |      |       |
| 31    |      |      |      | .2   | ----- | .9   | ----- | .2   | ----- | 0    |      |       |
| Total | 0    | 0    | 0    | 2.9  | 34.6  | 24.9 | 28.6  | 13.7 | 4.7   | 0.3  | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0.09 | 1.24  | 0.80 | 0.95  | 0.44 | 0.16  | 0.01 | 0    | 0     |
| Max   | 0    | 0    | 0    | 0.2  | 11    | 2.2  | 2.1   | 1.1  | 0.2   | 0.1  | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0.2   | 0.5  | 0.5   | 0.2  | 0.1   | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 5.8  | 69    | 49   | 57    | 27   | 9.3   | 0.6  | 0    | 0     |

Calendar year 1962: Max 37 Min 0 Mean 2.05 Ac-ft 1,490  
 Water year 1962-63: Max 11 Min 0 Mean 0.30 Ac-ft 218

Peak discharge (base, 50 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

11-425. Temecula Creek at Vail Dam, Calif.

Location.--Lat 33°29'44", long 116°58'33", in Pauba Grant, at Vail Dam 0.2 mile downstream from Arroyo Seco, and 10 miles east of Temecula, Riverside County.

Drainage area.--320 sq mi (revised).

Records available.--October 1948 to September 1963. January 1923 to October 1930 at site 200 ft downstream and October 1930 to September 1948 at site 500 ft 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.--Water-stage recorder and tipping-bucket rain gage. Datum of gage is 1,350.0 ft above mean sea level (levels by Bureau of Reclamation). Water-stage recorder at site 500 ft downstream measures release and spill.

Average discharge.--25 years (1923-48), 14.5 cfs (10,500 acre-ft per year); median of yearly mean discharges, 8.3 cfs (6,010 acre-ft per year), see records available; 15 years (1948-63), 4.34 cfs (3,140 acre-ft per year); median of yearly mean discharges, 2.1 cfs (1,500 acre-ft per year).

Remarks.--Records of runoff represent all water reaching Vail Lake, including precipitation on lake surface. Runoff computed on basis of records of storage, release (draft), spill, and evaporation. Monthly evaporation from lake surface, computed on basis of evaporation from Class A pan using coefficient of 0.77. Capacity and area ratings for lake are based on a survey made in 1947. Vail Dam completed in June 1949. Capacity of lake at spillway level (gage height, 120.00 ft), 49,370 acre-ft. Dead storage, 2.4 acre-ft below lowest outlet at gage height 2.5 ft, included in these records. Water is released down Temecula Creek for diversion about 1 mile below dam as required. Monthly precipitation, in inches, water year 1962-63, is as follows: December, 0.1; January, 0.1; February, 3.2; March, 0.9; April, 0.4; August, 0.1; September, 1.6; the year, 6.4.

Monthly runoff, water year October 1962 to September 1963

| Month                   | Elevation<br>(feet)† | Contents<br>(acre-<br>feet) | Change<br>in<br>contents<br>(acre-<br>feet) | Draft<br>(acre-<br>feet) | Evapo-<br>ration<br>(acre-<br>feet) | Runoff<br>(acre-<br>feet) |
|-------------------------|----------------------|-----------------------------|---|--------------------------|-------------------------------------|---------------------------|
|                         | Vail Lake            |                             |   |                          |                                     |                           |
| Sept. 30.....           | 1,384.83             | 1,646                       | -   | -                        | -                                   | -                         |
| Oct. 31.....            | 1,384.57             | 1,613                       | -33   | 0                        | 55                                  | 22                        |
| Nov. 30.....            | 1,384.47             | 1,601                       | -12   | 0                        | 33                                  | 21                        |
| Dec. 31.....            | 1,384.51             | 1,606                       | +5  | 0                        | 29                                  | 34                        |
| Calendar year 1962..... | -                    | -                           | +515  | 0                        | 718                                 | 1,233                     |
| Jan. 31.....            | 1,384.69             | 1,629                       | +23   | 0                        | 31                                  | 54                        |
| Feb. 28.....            | 1,385.72             | 1,764                       | +135  | 0                        | 36                                  | 171                       |
| Mar. 31.....            | 1,386.08             | 1,812                       | +48   | 0                        | 34                                  | 82                        |
| Apr. 30.....            | 1,386.26             | 1,837                       | +25   | 0                        | 42                                  | 67                        |
| May 31.....             | 1,386.00             | 1,801                       | -36   | 0                        | 76                                  | 40                        |
| June 30.....            | 1,385.62             | 1,750                       | -51   | 0                        | 75                                  | 24                        |
| July 31.....            | 1,384.97             | 1,664                       | -86   | 0                        | 99                                  | 13                        |
| Aug. 31.....            | 1,384.42             | 1,594                       | -70   | 0                        | 91                                  | 21                        |
| Sept. 30.....           | 1,384.35             | 1,585                       | -9  | 0                        | 53                                  | 44                        |
| Water year 1962-63..... | -                    | -                           | -61   | 0                        | 654                                 | 593                       |

† Elevation at 2400 hours.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff may appear. This arises primarily from the difficulty of computing net runoff 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.

11-430. Murrieta Creek at Temecula, Calif.

Location.--Lat 33°28'47", long 117°08'35", in Temecula Grant, on right bank 0.4 mile upstream from mouth and 1.0 mile south of Temecula, Riverside County.

Drainage area.--222 sq mi (revised).

Records available.--October 1924 to September 1963. Monthly discharge only October 1924 to September 1930, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete low-water control since August 1962. Altitude of gage is 970 ft (from topographic map). Prior to Jan. 6, 1931, staff gage and sharp-crested weir at site 0.4 mile downstream at different datum. Jan. 6, 1931, to Dec. 16, 1938, supplemental water-stage recorder and sharp-crested weir at site 0.4 mile downstream at different datum used to record low flows.

Average discharge.--39 years, 9.05 cfs (6,550 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,700 cfs Feb. 10 (gage height, 6.87 ft); minimum daily, 0.1 cfs July 11-18, Aug. 27, 28. 1930-63: Maximum discharge, 17,500 cfs Jan. 23, 1943 (gage height, 13.82 ft); minimum daily, 0.1 cfs for several days in some years.

Remarks.--Records good. Discharge measurements generally made three times a week. Pumping above station for irrigation of about 2,500 acres.

Rating table (gage height, in feet, and discharge in cubic feet per second)  
(Shifting-control method used Oct. 1-3)

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 0.2 | 0.1 | 0.7 | 4.7 | 2.1 | 130 |
| .3  | .4  | .9  | 10  | 2.5 | 225 |
| .4  | .9  | 1.2 | 23  | 3.0 | 390 |
| .5  | 1.8 | 1.5 | 46  | 3.5 | 600 |
| .6  | 3.0 | 1.8 | 80  | 4.0 | 880 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.   | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|--------|------|-------|------|-------|------|------|-------|
| 1     | 0.2  | 0.3   | 0.3  | 0.3  | 0.2    | 0.3  | 0.4   | 0.4  | 0.4   | 0.2  | 0.2  | 0.2   |
| 2     | .2   | .4    | .3   | .3   | .2     | .3   | .4    | .6   | .6    | .2   | .2   | .2    |
| 3     | .3   | .8    | .3   | .3   | .2     | .3   | .3    | .8   | .4    | .2   | .2   | .2    |
| 4     | .2   | .5    | .3   | .3   | .2     | .3   | .3    | .8   | .2    | .4   | .2   | .3    |
| 5     | .2   | .3    | .3   | .3   | .2     | .3   | .3    | .8   | .2    | .3   | .2   | .2    |
| 6     | .5   | .3    | .3   | .3   | .3     | .5   | .3    | .3   | .2    | .3   | .2   | .2    |
| 7     | .6   | .3    | .3   | .3   | .3     | .6   | .3    | 1.2  | .2    | .2   | .2   | .2    |
| 8     | .3   | .2    | .3   | .3   | .3     | 1.3  | .3    | 1.0  | .2    | .2   | .2   | .3    |
| 9     | .6   | .3    | .3   | .3   | .7     | .6   | .3    | .8   | .2    | .2   | .2   | .3    |
| 10    | .7   | .6    | .3   | .3   | 7 13   | 1.2  | .3    | .8   | .2    | .2   | .2   | .4    |
| 11    | .4   | .8    | .3   | .3   | 2 9    | 1.0  | .3    | .8   | .2    | .1   | .2   | .2    |
| 12    | .4   | .4    | .3   | .3   | 2.6    | .8   | .3    | .4   | .2    | .1   | .2   | .3    |
| 13    | .5   | .3    | .3   | .3   | 1.4    | .5   | .3    | .3   | .2    | .1   | .2   | .2    |
| 14    | .4   | .3    | .3   | .3   | 1.0    | .5   | .3    | .2   | .2    | .1   | .2   | .2    |
| 15    | .3   | .6    | .3   | .3   | .9     | 1.5  | .3    | .2   | .2    | .1   | .2   | .2    |
| 16    | .3   | .9    | .3   | .3   | .7     | .8   | .3    | .2   | .2    | .1   | .2   | .2    |
| 17    | .3   | .9    | .3   | .3   | .6     | 23   | .5    | .2   | .2    | .1   | .3   | .5    |
| 18    | .3   | .9    | .3   | .3   | .6     | 12   | .7    | .3   | .2    | .1   | .2   | 1 0   |
| 19    | .3   | .8    | .3   | .3   | .6     | 1.4  | .4    | .6   | .2    | .2   | .3   | .9    |
| 20    | .3   | 1.0   | .2   | .3   | .5     | .9   | .3    | .3   | .2    | .2   | .2   | .4    |
| 21    | .3   | 1.0   | .2   | .3   | .5     | .6   | .3    | .3   | .2    | .2   | .4   | .2    |
| 22    | .3   | .5    | .2   | .3   | .5     | .6   | .3    | .6   | .2    | .2   | .4   | .2    |
| 23    | .3   | .4    | .3   | .3   | .5     | .5   | .3    | .9   | .2    | .2   | .2   | .2    |
| 24    | .3   | .4    | .3   | .3   | .4     | .5   | .3    | .4   | .2    | .4   | .2   | .2    |
| 25    | .4   | .4    | .3   | .3   | .4     | .4   | .3    | .6   | .2    | .4   | .2   | .2    |
| 26    | .3   | .4    | .3   | .3   | .4     | .4   | .3    | .6   | .2    | .3   | .2   | .2    |
| 27    | .3   | .3    | .3   | .3   | .4     | .4   | .3    | .3   | .2    | .2   | .1   | .2    |
| 28    | .3   | .3    | .2   | .3   | .3     | .6   | .3    | .5   | .3    | .2   | .1   | .2    |
| 29    | .3   | .3    | .2   | .2   | -----  | .6   | .3    | .6   | .6    | .2   | .2   | .2    |
| 30    | .3   | .3    | .2   | .2   | -----  | .4   | .3    | .5   | .3    | .2   | .2   | .2    |
| 31    | .3   | ----- | .3   | .2   | -----  | .4   | ----- | .9   | ----- | .2   | .2   | ----- |
| Total | 10.7 | 15.2  | 8.7  | 9.0  | 7 56.9 | 53.5 | 9.9   | 17.2 | 7.4   | 6.3  | 6.6  | 8.6   |
| Mean  | 0.35 | 0.51  | 0.28 | 0.29 | 27.0   | 1.73 | 0.33  | 0.55 | 0.25  | 0.20 | 0.21 | 0.29  |
| Max   | 0.7  | 1.0   | 0.3  | 0.3  | 713    | 23   | 0.7   | 1.2  | 0.6   | 0.4  | 0.4  | 1.0   |
| Min   | 0.2  | 0.2   | 0.2  | 0.2  | 0.2    | 0.3  | 0.3   | 0.2  | 0.2   | 0.1  | 0.1  | 0.2   |
| Ac-ft | 21   | 30    | 17   | 18   | 1,500  | 106  | 20    | 34   | 15    | 12   | 13   | 17    |

Calendar year 1962: Max 184 Min 0.2 Mean 1.76 Ac-ft 1,270

Water year 1962-63: Max 713 Min 0.1 Mean 2.49 Ac-ft 1,800

Peak discharge (base, 55 cfs).--Feb. 10 (1200 hrs) 3,700 cfs (6.87 ft); Mar. 17 (1100 hrs) 76 cfs (1.77 ft).

## SANTA MARGARITA RIVER BASIN

111

11-440. Santa Margarita River near Temecula, Calif.

Location---Lat 33°28'26", long 117°08'30", in Temecula Grant, on left bank at upper end of Temecula Canyon, 0.1 mile downstream from Murrieta Creek and 1.4 miles south of Temecula, Riverside County.

Drainage area---588 sq mi (revised).

Records available---January 1923 to September 1963. Prior to October 1952, published as Temecula Creek at Railroad Canyon, near Temecula.

Gage---Water-stage recorder. Altitude of gage is 950 ft (from topographic map).

Average discharge---25 years (1923-48), 28.2 cfs (20,420 acre-ft per year), 15 years (1948-63), 9.66 cfs (6,990 acre-ft per year); median of yearly mean discharges (1923-48), 13 cfs (9,400 acre-ft per year); (1948-63), 5.5 cfs (4,000 acre-ft per year).

Extremes---Maximum discharge during year, 3,720 cfs Feb. 10 (gage height, 7.95 ft), from rating curve extended above 1,100 cfs on basis of slope-area measurement of peak flow; minimum daily, 1.8 cfs Aug. 17.  
1923-63: Maximum discharge, 25,000 cfs Feb. 16, 1927 (gage height, 14.6 ft), from rating curve extended above 10,000 cfs; minimum, 0.4 cfs July 16, 1925.

Remarks---Records good. Discharge measurements generally made five or more times a month. Pumping above gage affects flow during irrigation season. Flow partly regulated since November 1948 by Vail Lake (see p. 109).

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.   | Mar.    | Apr.    | May  | June  | July  | Aug.  | Sept. |
|-------|------|-------|------|------|--------|---------|---------|------|-------|-------|-------|-------|
| 1     | 2.6  | 2.8   | 3.0  | 3.0  | 3.0    | 3.9     | 3.4     | 3.3  | 2.7   | 2.6   | 2.8   | 2.4   |
| 2     | 2.6  | 3.0   | 3.0  | 3.0  | 3.0    | 3.9     | 3.5     | 3.4  | 3.2   | 2.4   | 2.6   | 2.6   |
| 3     | 3.0  | 3.0   | 3.0  | 3.0  | 3.0    | 3.8     | 3.7     | 3.5  | 2.8   | 2.7   | 2.3   | 3.2   |
| 4     | 3.2  | 3.0   | 3.0  | 3.0  | 3.0    | 3.7     | 3.5     | 3.4  | 2.6   | 2.7   | 2.3   | 3.3   |
| 5     | 3.4  | 2.4   | 3.0  | 3.0  | 3.0    | 3.7     | 3.4     | 3.4  | 2.6   | 3.0   | 2.1   | 3.3   |
| 6     | 3.2  | 2.4   | 3.0  | 3.0  | 3.0    | 3.7     | 3.5     | 3.2  | 2.6   | 2.6   | 2.3   | 3.0   |
| 7     | 3.3  | 2.4   | 3.0  | 3.0  | 3.0    | 3.7     | 3.7     | 3.4  | 2.8   | 2.6   | 2.1   | 2.3   |
| 8     | 3.4  | 2.4   | 3.0  | 3.0  | 3.0    | 4.2     | 3.5     | 3.7  | 3.2   | 2.1   | 2.3   | 2.4   |
| 9     | 4.1  | 3.0   | 2.8  | 3.0  | 6.5    | 3.9     | 3.4     | 3.3  | 3.3   | 2.0   | 2.4   | 2.3   |
| 10    | 4.2  | 3.3   | 2.8  | 3.0  | 7 2 4  | 4.4     | 3.7     | 3.3  | 3.2   | 2.7   | 2.3   | 2.8   |
| 11    | 3.3  | 3.0   | 2.8  | 3.0  | 2 9    | 4.2     | 3.5     | 3.2  | 3.0   | 2.6   | 2.0   | 2.6   |
| 12    | 3.0  | 2.8   | 2.8  | 3.0  | 1 5    | 4.4     | 3.5     | 3.0  | 3.2   | 2.4   | 1.9   | 2.0   |
| 13    | 3.0  | 2.6   | 2.8  | 3.0  | 9 3    | 4.2     | 3.5     | 3.0  | 3.0   | 2.4   | 2.4   | 2.1   |
| 14    | 2.8  | 2.6   | 2.8  | 3.0  | 6 7    | 4.4     | 3.4     | 2.8  | 2.8   | 2.6   | 2.3   | 2.6   |
| 15    | 2.8  | 2.8   | 2.8  | 3.0  | 6 5    | 5.2     | 3.4     | 2.8  | 2.8   | 2.4   | 2.1   | 2.7   |
| 16    | 2.8  | 3.4   | 2.8  | 3.0  | 6 0    | 5 0     | 3.8     | 2.8  | 2.7   | 2.8   | 2.1   | 2.4   |
| 17    | 2.6  | 3.8   | 2.8  | 3.0  | 5 5    | 1 4     | 4.6     | 2.6  | 3 0   | 2.3   | 1.8   | 5.4   |
| 18    | 2.6  | 3.5   | 2.8  | 3.0  | 5 0    | 1 3     | 4.6     | 2.8  | 2.7   | 2.3   | 2.0   | 5.5   |
| 19    | 2.6  | 3.5   | 2.8  | 3.0  | 4 7    | 5 4     | 4.1     | 3 0  | 2.6   | 2.2   | 2.4   | 5.0   |
| 20    | 2.6  | 3.7   | 3.0  | 3.0  | 4 6    | 4 1     | 4 1     | 2 8  | 2 4   | 2 6   | 2 6   | 3 2   |
| 21    | 2.6  | 3.8   | 3.0  | 2 9  | 4 4    | 3 8     | 3 9     | 3 0  | 2 6   | 2 7   | 2 5   | 2 6   |
| 22    | 2.6  | 3.3   | 3 0  | 2 8  | 4 2    | 3 5     | 3 5     | 3 0  | 2 6   | 2 8   | 2 7   | 2 6   |
| 23    | 2.6  | 3 4   | 3 0  | 2 8  | 4 1    | 3 3     | 3 7     | 3 3  | 2 4   | 2 4   | 2 1   | 2 6   |
| 24    | 2.6  | 3 2   | 3 2  | 2 8  | 3 9    | 3 3     | 3 9     | 3 2  | 2 4   | 2 0   | 2 3   | 2 6   |
| 25    | 2.8  | 3 2   | 3 2  | 2 8  | 3 9    | 3 4     | 3 9     | 3 0  | 2 4   | 2 1   | 2 4   | 2 4   |
| 26    | 2.8  | 3 0   | 3 2  | 3 0  | 3 9    | 3 3     | 3 9     | 3 0  | 2 3   | 2 1   | 2 7   | 2 4   |
| 27    | 2.6  | 3 0   | 3 0  | 3 0  | 3 9    | 3 2     | 3 5     | 2 8  | 2 4   | 2 1   | 3 2   | 2 3   |
| 28    | 2.6  | 3 0   | 2 8  | 3 0  | 3 9    | 3 3     | 3 3     | 2 8  | 2 7   | 2 1   | 2 8   | 2 6   |
| 29    | 2.6  | 3 0   | 2 8  | 3 0  | -----  | 3 4     | 3 3     | 3 0  | 3 3   | 2 4   | 3 0   | 2 7   |
| 30    | 2.6  | 2 8   | 2 8  | 3 0  | -----  | 3 7     | 3 3     | 3 0  | 3 0   | 2 4   | 3 2   | 2 4   |
| 31    | 2 4  | ----- | 2 8  | 3 0  | -----  | 3 5     | -----   | 3 7  | ----- | 2 4   | 3 0   | ----- |
| Total | 89.9 | 91.1  | 90.6 | 92.1 | 87 9 0 | 1 4 0 5 | 1 1 0 0 | 96.5 | 8 3 3 | 7 5 7 | 7 5 0 | 8 6 3 |
| Mean  | 2.90 | 3.04  | 2.92 | 2.97 | 31.4   | 4.53    | 3.67    | 3.11 | 2.78  | 2.44  | 2.42  | 2.88  |
| Max   | 4.2  | 3.8   | 3.2  | 3.2  | 724    | 14      | 4.6     | 3.7  | 3.3   | 3.0   | 3.2   | 5.5   |
| Min   | 2.4  | 2.4   | 2.8  | 2.8  | 3.0    | 3.2     | 3.3     | 2.6  | 2.3   | 2.0   | 1.8   | 2.0   |
| Ac-ft | 178  | 181   | 180  | 183  | 1,740  | 279     | 218     | 191  | 165   | 150   | 149   | 171   |

Calendar year 1962: Max 228 Min 2.2 Mean 5.41 Ac-ft 3,910  
Water year 1962-63: Max 724 Min 1.8 Mean 5.23 Ac-ft 3,780

11-445. Santa Margarita River near Fallbrook, Calif.

Location.--Lat 33°25'54", long 117°15'44", in NE 1/4 SE 1/4 sec. 14, T.9 S., R.4 W., on right bank 180 ft upstream from De Luz Road, 1.3 miles northwest of Fallbrook, and 1.9 miles downstream from Sandia Canyon.

Drainage area.--644 sq mi.

Records available.--October 1924 to September 1963. Monthly discharge only for October to November 1924, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete-road control since October 1955. Altitude of gage is 280 ft (from topographic map). Prior to Oct. 1, 1955, at site 1.7 miles upstream at different datum. Records equivalent except those for extreme low flows.

Average discharge.--24 years (1924-48), 35.4 cfs (25,630 acre-ft per year), 15 years (1948-63), 10.1 cfs (7,310 acre-ft per year); median of yearly mean discharges (1924-48), 17 cfs (12,300 acre-ft per year); (1948-63), 4.9 cfs (3,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,090 cfs Feb. 10 (gage height, 8.30 ft); minimum daily, 0.1 cfs Oct. 1, Nov. 2. 1924-63: Maximum discharge, 33,100 cfs Feb. 16, 1927 (gage height, 15.6 ft, site and datum then in use), from rating curve extended above 8,800 cfs on basis of slope-area measurement of peak flow; no flow at times during recent years.

Remarks.--Records good. Flow partly regulated since November 1948 by Vail Lake (see p. 109). Several small diversions for irrigation. The Fallbrook Public Utility District pumped 45 acre-ft of water from a well in the stream bed 2.1 miles upstream from the station during the water year.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 2-16, June 23 to July 24)

|     |     |     |     |
|-----|-----|-----|-----|
| 2.0 | 0   | 2.6 | 26  |
| 2.1 | .5  | 2.9 | 63  |
| 2.2 | 2.2 | 3.3 | 145 |
| 2.3 | 5.5 | 3.7 | 260 |
| 2.4 | 10  | 4.7 | 720 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.    | Nov.    | Dec.      | Jan.        | Feb.    | Mar.    | Apr.   | May   | June  | July  | Aug. | Sept. |
|---------------------|---------|---------|-----------|-------------|---------|---------|--------|-------|-------|-------|------|-------|
| 1                   | 0.1     | 0.2     | 2.2       | 3.6         | 3.6     | * 4.4   | 4.0    | 3.0   | 2.0   | * 0.8 | 0.6  | 0.3   |
| 2                   | .2      | * .1    | 2.5       | * 3.3       | 3.6     | 4.0     | 3.6    | 3.0   | 2.0   | .7    | .6   | .4    |
| 3                   | * .2    | .2      | * 2.2     | 3.3         | 3.6     | 4.0     | * 3.6  | 3.3   | 2.0   | .6    | .6   | .6    |
| 4                   | .2      | .7      | 2.0       | 3.3         | 3.3     | 4.0     | 4.0    | 3.3   | 2.0   | .5    | .6   | .7    |
| 5                   | .5      | 1.4     | 2.0       | 3.3         | 3.0     | 4.0     | 4.0    | 3.3   | * 2.0 | .5    | .5   | * 2.0 |
| 6                   | 1.0     | 1.4     | 2.0       | 3.3         | 3.0     | 4.0     | 3.6    | * 3.0 | 2.0   | .6    | .6   | 2.0   |
| 7                   | 1.6     | 1.4     | 2.0       | 3.0         | 3.6     | 4.0     | 3.6    | 3.0   | 2.2   | .6    | .6   | 1.6   |
| 8                   | 1.2     | 1.0     | 2.2       | 2.8         | 3.6     | 4.0     | 3.6    | 3.0   | 2.5   | .6    | .6   | 1.4   |
| 9                   | 1.2     | 1.0     | 2.2       | 3.0         | 4.4     | 4.7     | 3.6    | 3.3   | 2.5   | .6    | .5   | 1.0   |
| 10                  | 1.2     | 1.4     | 2.5       | 3.0         | 6 8 9   | 4.7     | 3.6    | 3.3   | 2.8   | .5    | .4   | 1.0   |
| 11                  | 1.4     | 1.8     | 2.5       | 3.3         | * 1 5 9 | 4.7     | 3.6    | 3.6   | 2.8   | .5    | .5   | .3    |
| 12                  | 1.4     | 2.2     | 2.8       | 3.3         | 20      | 4.7     | 3.6    | 3.3   | 2.5   | .5    | .5   | .3    |
| 13                  | 1.4     | 2.2     | 2.8       | 3.3         | 12      | 5.1     | 3.3    | 3.0   | 2.2   | .4    | .6   | .3    |
| 14                  | 1.6     | * 2.5   | 2.8       | 3.3         | 8 2     | 4.7     | 3.6    | 3.0   | 2.0   | .4    | .7   | .2    |
| 15                  | * 1.8   | 2.2     | 2.8       | 3.3         | 6.4     | 5.1     | * 4.0  | 3.0   | 2.0   | .4    | .5   | .2    |
| 16                  | 1.6     | 2.2     | 2.8       | 3.3         | 5.5     | 5.5     | 4.0    | 3.3   | 1.8   | .8    | .5   | .3    |
| 17                  | 1.4     | 3.0     | * 3.0     | * 3.3       | 5.1     | 1.4     | 5.5    | 3.6   | * 1.8 | .8    | .3   | 2.8   |
| 18                  | 1.4     | 2.8     | 3.0       | 3.0         | 4.7     | 3.3     | 5.9    | 4.0   | 1.4   | .6    | .3   | 5.9   |
| 19                  | 1.4     | 2.8     | 3.3       | 3.0         | 4.7     | 1.6     | 5.5    | 3.0   | 1.4   | * .5  | .4   | 6.4   |
| 20                  | 1.4     | 2.2     | 3.3       | 3.0         | 4.7     | * 10    | 5.1    | 2.2   | 1.2   | .4    | .3   | * 4.7 |
| 21                  | 1.2     | 2.2     | 3.0       | 3.0         | 4.7     | 5.9     | 5.1    | 2.2   | 1.2   | .3    | .4   | 3.3   |
| 22                  | 1.4     | 2.5     | 3.0       | 3.0         | 4.7     | * 4.7   | 4.7    | * 2.2 | 1.2   | .3    | .6   | 2.5   |
| 23                  | 1.0     | 2.8     | 3.0       | 3.0         | 4.7     | 4.7     | 4.4    | 2.2   | .8    | .3    | .7   | 4.1   |
| 24                  | 1.0     | 2.8     | 3.3       | 3.0         | 4.7     | 4.4     | 4.4    | 2.5   | .8    | .2    | .7   | 2.5   |
| 25                  | .8      | 2.8     | 3.3       | 3.0         | 4.4     | 4.4     | 4.7    | 2.8   | .8    | .2    | .6   | .8    |
| 26                  | .8      | 2.5     | 3.3       | 3.0         | 4.4     | 4.0     | 5.9    | 2.2   | .8    | .2    | .6   | .6    |
| 27                  | .8      | 2.5     | 3.3       | 3.0         | 4.4     | 4.0     | 5.5    | 2.0   | .8    | .3    | .6   | .4    |
| 28                  | .8      | 2.0     | 3.3       | 3.0         | 4.4     | 4.7     | 4.7    | 2.0   | .8    | .5    | .7   | .2    |
| 29                  | .8      | 2.0     | 3.3       | 3.0         | -----   | 4.7     | 3.6    | 2.0   | .7    | .4    | .6   | .2    |
| 30                  | .7      | 2.0     | 3.3       | 3.3         | -----   | 4.4     | 3.3    | 2.0   | .7    | .4    | .4   | .3    |
| 31                  | .4      | -----   | 3.3       | 3.3         | -----   | 4.0     | -----  | 2.0   | ----- | * .5  | .3   | ----- |
| Total               | 31.9    | 56.8    | 86.3      | 97.6        | 987.4   | 1 9 4.5 | 1 27.6 | 87.6  | 49.7  | 14.9  | 16.4 | 47.3  |
| Mean                | 1.03    | 1.89    | 2.78      | 3.15        | 35.3    | 6.27    | 4.25   | 2.83  | 1.66  | 0.48  | 0.53 | 1.58  |
| Max                 | 1.8     | 3.0     | 3.3       | 3.6         | 689     | 33      | 5.9    | 4.0   | 2.8   | 0.8   | 0.7  | 6.4   |
| Min                 | 0.1     | 0.1     | 2.0       | 2.8         | 3.0     | 4.0     | 3.3    | 2.0   | 0.7   | 0.2   | 0.3  | 0.2   |
| Ac-ft               | 63      | 113     | 171       | 194         | 1,960   | 386     | 253    | 174   | 99    | 30    | 33   | 94    |
| Calendar year 1962: | Max 144 | Min 0   | Mean 5.14 | Ac-ft 3,720 |         |         |        |       |       |       |      |       |
| Water year 1962-63: | Max 689 | Min 0.1 | Mean 4.93 | Ac-ft 3,570 |         |         |        |       |       |       |      |       |

\* Discharge measurement made on this day.

## 11-446. Santa Margarita River tributary near Fallbrook, Calif.

Location--Lat 33°24'39", long 117°16'45", in SE  $\frac{1}{4}$  sec.10, T.9 S., R.4 W., on left bank at culvert on De Luz Road, 2.5 miles north-west of Fallbrook.

Drainage area--0.52 sq mi.

Records available--October 1961 to September 1963.

Gage--Water-stage recorder, crest-stage gage, tipping-bucket rain gage, and 4-ft concrete-pipe culvert control. Altitude of gage is 750 ft (from topographic map).

Extremes--Maximum discharge during year, 1.4 cfs Feb. 9 (gage height, 1.98 ft); no flow for most of year.

1961-63: Maximum discharge, 1.6 cfs Jan. 20, 1962 (gage height, 2.03 ft, from crest-stage gage), by indirect measurement of peak flow through culvert; no flow for most of each year.

Remarks--Records poor. No regulation or diversion above station. Monthly figures of precipitation, in inches, are as follows: January, 0.2; February, 4.4; March, 2.3; April, 1.5; September, 3.4; the year, 11.8.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 9..... 0.1  
Mar. 16..... .1  
17..... .1  
Sept. 17..... .1  
18.....\*\* .1

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in acre-feet |
|-------------------------|----------|---------|---------|-------|---------------------|
| February 1963.....      | 0.1      | 0.1     | 0       | 0.004 | 0.2                 |
| March.....              | .2       | .1      | 0       | .006  | .4                  |
| September.....          | .2       | .1      | 0       | .007  | .4                  |
| Calendar year 1962..... | -        | .7      | 0       | .03   | 19                  |
| Water year 1962-63..... | -        | .1      | 0       | .001  | 1.0                 |

\*\* Field estimate made on this day.

Note--Flow occurred only on days listed above.

## 11-449. De Luz Creek near Fallbrook, Calif.

Location--Lat 33°22'10", long 117°19'15", in NW  $\frac{1}{4}$  sec.29, T.9 S., R.4 W., on left bank 0.65 mile upstream from mouth and 4.2 miles west of Fallbrook.

Drainage area--47.5 sq mi (revised).

Records available--February 1951 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 150 ft (from topographic map). Prior to Dec. 23, 1958, at site 750 ft upstream at same datum.

Average discharge--12 years, 5.12 cfs (3,710 acre-ft per year); median of yearly mean discharges, 1.2 cfs (870 acre-ft per year).

Extremes--Maximum discharge during year, 58 cfs Feb. 10 (gage height, 5.72 ft); no flow for most of year.

1951-63: Maximum discharge, 2,800 cfs Apr. 1, 1958 (gage height, 9.95 ft, at present site, from floodmarks), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; no flow for several months of each year.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 10.....\*4.0  
Mar. 17..... 3.4  
Sept. 18..... .1

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 4.0      | 4.0     | 0       | 0.14 | 7.9                 |
| March.....              | 3.4      | 3.4     | 0       | .11  | 6.7                 |
| September.....          | .1       | .1      | 0       | .003 | .2                  |
| Calendar year 1962..... | -        | 164     | 0       | 4.79 | 3,460               |
| Water year 1962-63..... | -        | 4.0     | 0       | .02  | 15                  |

Peak discharge (base, 200 cfs)--No peak above base.

\* Observation of no flow made on this day.

Note--Flow occurred only on days listed above.

## SANTA MARGARITA RIVER BASIN

11-460. Santa Margarita River at Ysidora, Calif.

Location.--Lat 33°14'38", long 117°22'56", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.3, T.11 S., R.5 W., on right bank 1 mile downstream from Ysidora and about 2.5 miles upstream from mouth.

Drainage area.--739 sq mi (revised).

Records available.--February 1923 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map). Prior to Feb. 16, 1927, at site 1 mile upstream at different datum (destroyed by flood). Feb. 16, 1927, to Feb. 1, 1931, no gage in operation; records based on discharge measurements. Feb. 2, 1931, to Nov. 27, 1935, at same site at datum 1.00 ft higher.

Average discharge.--40 years, 29.3 cfs (21,210 acre-ft per year); median of yearly mean discharges, 8.4 cfs (6,100 acre-ft per year).

Extremes.--No flow during year.

1923-63: Maximum discharge, 33,600 cfs Feb. 16, 1927, on basis of slope-area measurement of peak flow; no flow for part of most years.

Remarks.--No flow since June 1, 1958. Diversions for irrigation on Santa Margarita Ranch and Pauba Ranch. Flow partly regulated by Vail Lake since November 1948 (see p. 109). "Average discharge" represents flow to ocean during period of record, regardless of upstream development.

## LAS FLORES CREEK BASIN

11-461. Las Flores Creek near Oceanside, Calif.

Location.--Lat 33°17'32", long 117°27'21", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.24, T.10 S., R.6 W., on upstream side and at center of bridge on Atchison, Topeka and Santa Fe Railway, 0.5 mile upstream from mouth and 8.5 miles northwest of Oceanside.

Drainage area.--26.6 sq mi.

Records available.--May 1951 to September 1963.

Gage.--Water-stage recorder and multiple concrete culvert control. Altitude of gage is 35 ft (from topographic map).

Average discharge.--12 years, 0.80 cfs (579 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 27 cfs Sept. 18 (gage height, 0.56 ft); no flow for most of year.

1951-63: Maximum discharge, 960 cfs Jan. 16, 1952 (gage height, 4.75 ft), based on critical-depth determination of peak flow; no flow for most of each year.

Remarks.--Records fair. Rising water from area, which bypasses the station 1,000 ft to the northwest, amounted to 28 acre-ft this year. No regulation. Some pumping above station for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 9..... 0.1  
10..... \*\*.2  
11..... .1  
Sept. 18..... 2.1

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 0.4      | 0.2     | 0       | 0.01 | 0.8                 |
| September.....          | 2.1      | 2.1     | 0       | .07  | 4.2                 |
| Calendar year 1962..... | -        | 61      | 0       | .85  | 617                 |
| Water year 1962-63..... | -        | 2.1     | 0       | .007 | 5.0                 |

Peak discharge (base, 100 cfs).--No peak above base.

\*\* Field estimate made on this day.

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



## SAN ONOFRE CREEK BASIN

115

11-462. San Onofre Creek near San Onofre, Calif.

Location--Lat 33°23'23", long 117°30'50", in SE 1/4 sec.16, T.9 S., R.6 W., on left bank 0.3 mile southwest of Tent Camp No. 2, 0.5 mile downstream from ford on Basilone Road, 4 miles east of San Onofre, and 5 miles upstream from mouth.

Drainage area--34.6 sq mi.

Records available--October 1950 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 170 ft (from topographic map). Prior to June 22, 1957, at datum 1.00 ft higher. June 22, 1957, to Oct. 7, 1960, at site 50 ft upstream at same datum.

Average discharge--13 years, 2.46 cfs (1,780 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes--Maximum discharge during year, 128 cfs Feb. 10 (gage height, 2.08 ft); no flow for most of year.

1950-63: Maximum discharge, 2,680 cfs Apr. 1, 1958 (gage height, 5.90 ft), from rating curve extended above 200 cfs on basis of maximum flows for station at San Onofre; no flow for several months in each year.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

|              |     |              |     |
|--------------|-----|--------------|-----|
| Feb. 9.....  | 6.5 | Mar. 17..... | 20  |
| 10.....      | *30 | 18.....      | .1  |
| 11.....      | *19 | 28.....      | *.7 |
| Mar. 16..... | *.3 |              |     |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 55.5     | 30      | 0       | 1.98 | 110                 |
| March.....              | 21.1     | 20      | 0       | .68  | 42                  |
| Calendar year 1962..... | -        | 126     | 0       | 3.31 | 2,390               |
| Water year 1962-63..... | -        | 30      | 0       | .21  | 152                 |

Peak discharge (base, 150 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

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

11-462.5. San Onofre Creek at San Onofre, Calif.

Location--Lat 33°23'00", long 117°34'22", in SE 1/4 sec.14, T.9 S., R.7 W., on left bank 0.2 mile north of San Onofre, 0.3 mile upstream from U.S. Highway 101, and 0.5 mile upstream from mouth.

Drainage area--42.2 sq mi.

Records available--October 1946 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 15 ft (from topographic map).

Average discharge--17 years, 1.25 cfs (905 acre-ft per year); median of yearly mean discharges, 0.02 cfs (14 acre-ft per year).

Extremes--Maximum discharge during year, 36 cfs Mar. 17 (gage height, 4.44 ft, from floodmark); no flow for most of year.

1946-63: Maximum discharge, 2,600 cfs Apr. 1, 1958 (gage height, 6.90 ft); no flow for most or all of each year.

Remarks--Records poor. No regulation. Pumping above station for irrigation and water supply.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|              |     |
|--------------|-----|
| Feb. 10..... | 5.9 |
| 11.....      | 3.1 |
| Mar. 17..... | 3.4 |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 9.0      | 5.9     | 0       | 0.32 | 18                  |
| March.....              | 3.4      | 3.4     | 0       | .11  | 6.7                 |
| Calendar year 1962..... | -        | 115     | 0       | 3.02 | 2,180               |
| Water year 1962-63..... | -        | 5.9     | 0       | .03  | 25                  |

Peak discharge (base, 150 cfs).--No peak above base.

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

## SAN MATEO CREEK BASIN

11-463. San Mateo Creek near San Clemente, Calif.

Location.--Lat 33°28'15", long 117°28'20", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.23, T.8 S., R.6 W., on left bank 0.4 mile downstream from mouth of Devil Canyon and 8.6 miles northeast of San Clemente.

Drainage area.--80.8 sq mi (revised).

Records available.--October 1952 to September 1963.

Gage.--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 405 ft (from topographic map).

Average discharge.--11 years, 6.28 cfs (4,550 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,300 cfs Feb. 10 (gage height, 7.54 ft, from floodmark); no flow Oct. 1 to Feb. 9, June 16 to Sept. 30.

1952-63: Maximum discharge, 4,800 cfs Apr. 1, 1958 (gage height, 9.10 ft), from rating curve extended above 2,000 cfs; no flow for several months in each year.

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

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |      |      |      |      |        |       |       |       |      |      |      |       |
|--|------|------|------|------|--------|-------|-------|-------|------|------|------|-------|
| Day  | Oct. | Nov. | Dec. | Jan. | Feb.   | Mar.  | Apr.  | May   | June | July | Aug. | Sept. |
| 1  |      |      |      |      | 0      | 0.5   | 1.2   | 1.1   | 0.2  |      |      |       |
| 2  | (*)  |      |      |      | 0      | .5    | * 1.2 | 1.0   | .2   |      |      |       |
| 3  |      |      |      |      | 0      | .5    | 1.2   | .9    | .2   |      |      |       |
| 4  |      |      |      | (*)  | 0      | .4    | 1.1   | .8    | .2   |      |      |       |
| 5  |      |      |      |      | * 0    | .4    | 1.0   | .7    | .2   | (*)  |      |       |
| 6  |      |      |      |      | 0      | .4    | .9    | .6    | .2   |      | (*)  |       |
| 7  |      |      |      |      | 0      | .4    | .8    | .5    | .1   |      |      |       |
| 8  |      |      |      |      | 0      | * .4  | .9    | .4    | .1   |      |      |       |
| 9  |      |      |      |      | 0      | .4    | .8    | .3    | .1   |      |      |       |
| 10   |      |      |      |      | 91     | .4    | .8    | .3    | .1   |      |      |       |
| 11   |      |      |      |      | * 3.4  | .4    | .7    | .2    | * .2 |      |      | (*)   |
| 12   |      |      |      |      | 9.0    | .4    | .6    | .2    | .2   |      |      |       |
| 13   |      |      |      |      | a 5    | .4    | .6    | .2    | .2   |      |      |       |
| 14   |      |      |      |      | a 4    | .4    | .6    | * .2  | .1   |      |      |       |
| 15   |      |      |      |      | * 3.0  | .5    | .6    | .2    | .1   |      |      |       |
| 16   |      |      |      |      | a 3    | 1.4   | * .6  | .2    | 0    |      |      |       |
| 17   |      |      | (*)  |      | a 2.5  | 1.8   | .9    | .2    | 0    |      |      |       |
| 18   |      |      |      |      | a 2    | 2.7   | .9    | .2    | 0    |      |      |       |
| 19   |      |      |      |      | a 1.5  | 1.8   | .8    | .2    | 0    |      |      |       |
| 20   |      |      |      |      | a 1    | 1.7   | .8    | .2    | 0    |      |      | (*)   |
| 21   |      |      |      | (*)  | * 1.0  | * 1.5 | 1.1   | .2    | 0    |      |      |       |
| 22   | (*)  |      |      |      | .9     | 1.5   | 1.1   | .2    | 0    |      |      |       |
| 23   |      |      |      |      | .8     | 1.5   | 1.0   | .2    | 0    |      |      |       |
| 24   |      |      |      |      | .7     | 1.5   | 1.0   | .2    | 0    |      |      |       |
| 25   |      |      |      |      | .7     | 1.4   | 1.0   | .1    | 0    |      |      |       |
| 26   |      |      |      |      | .6     | 1.4   | 1.5   | .1    | 0    |      |      |       |
| 27   |      | (*)  |      |      | .6     | 1.3   | 1.5   | .1    | 0    |      |      |       |
| 28   |      |      |      |      | .5     | 1.7   | 1.3   | .1    | 0    |      |      |       |
| 29   |      |      |      |      |        | 1.8   | * 1.2 | .2    | 0    |      |      |       |
| 30   |      |      |      |      |        | 1.5   | 1.1   | .1    | 0    |      |      |       |
| 31   |      |      |      |      |        | 1.3   |       | * .1  |      |      |      |       |
| Total  | 0    | 0    | 0    | 0    | 1 61.8 | 4 8.4 | 2 8.9 | 1 0.2 | 2.4  | 0    | 0    | 0     |
| Mean   | 0    | 0    | 0    | 0    | 5.79   | 1.56  | 0.96  | 0.33  | 0.08 | 0    | 0    | 0     |
| Max  | 0    | 0    | 0    | 0    | 91     | 18    | 1.5   | 1.1   | 0.2  | 0    | 0    | 0     |
| Min  | 0    | 0    | 0    | 0    | 0      | 0.4   | 0.6   | 0.1   | 0    | 0    | 0    | 0     |
| Ac-ft  | 0    | 0    | 0    | 0    | 321    | 96    | 57    | 20    | 4.8  | 0    | 0    | 0     |
| (†)  | 0.01 | 0    | 0.08 | 0.10 | 4.24   | 1.95  | 1.09  | 0.01  | 0.14 | 0    | 0.06 | 2.66  |

Calendar year 1962: Max 125 Min 0 Mean 6.00 Ac-ft 4,340  
 Water year 1962-63: Max 91 Min 0 Mean 0.69 Ac-ft 499

Peak discharge (base, 200 cfs).--Feb. 10 (about 1600 hrs) 1,300 cfs (7.54 ft, from floodmark).

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record.

† Precipitation, in inches.

## SAN MATEO CREEK BASIN

117

11-463.5. Cristianitos Creek near San Clemente, Calif.

Location.--Lat 33°26'57", long 117°34'13", in SW $\frac{1}{4}$  NW $\frac{1}{4}$  sec.25, T.8 S., R.7 W., on right bank 900 ft downstream from Talenga Canyon, 2.3 miles upstream from mouth, and 2.8 miles northeast of San Clemente.

Drainage area.--29.0 sq mi (revised).

Records available.--October 1950 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 165 ft (from topographic map). Prior to Sept. 19, 1952, at datum 3.92 ft higher.

Average discharge.--13 years, 1.60 cfs (1,160 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 890 cfs Feb. 10 (gage height, 7.16 ft), from rating curve extended above 360 cfs on basis of slope-area measurements at gage heights 7.48 and 8.86 ft; no flow for most of year.

1950-63: Maximum discharge, 1,800 cfs Jan. 16, 1952 (gage height, 8.86 ft, present datum), from rating curve extended above 360 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec.  | Jan. | Feb.    | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|-------|------|---------|-------|-------|-------|-------|------|------|-------|
| 1     |      | 0     | 0     | 0.1  | 0.2     | 0     | 0.1   | 0.1   | 0     |      |      | 0     |
| 2     |      | 0     | 0     | .1   | 0       | 0     | * 0   | 0     | 0     |      |      | 0     |
| 3     |      | 0     | 0     | .1   | 0       | 0     | 0     | 0     | 0     |      |      | 0     |
| 4     |      | 0     | 0     | *.1  | 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     | .1    |      |      | 0     |
| 9     |      | 0     | 0     | 0    | 1.8     | 0     | 0     | 0     | .2    |      |      | 0     |
| 10    |      | 0     | 0     | 0    | *1 2 5  | 0     | 0     | 0     | 0     |      |      | * 0   |
| 11    |      | 0     | 0     | 0    | *1 6    | 0     | 0     | 0     | * 0   |      |      | 0     |
| 12    |      | 0     | 0     | 0    | .6      | 0     | 0     | 0     | 0     |      |      | 0     |
| 13    |      | 0     | 0     | 0    | *.5     | 0     | 0     | 0     | 0     |      |      | 0     |
| 14    |      | 0     | 0     | 0    | .6      | 0     | 0     | * 0   | 0     |      |      | 0     |
| 15    | (*)  | 0     | 0     | 0    | .4      | 0     | 0     | 0     | 0     |      |      | 0     |
| 16    |      | .1    | 0     | 0    | .4      | 2.8   | * 0   | 0     | 0     |      |      | 0     |
| 17    |      | 0     | 0     | 0    | .4      | 1 8   | .9    | 0     | 0     |      |      | 0     |
| 18    |      | 0     | 0     | 0    | .3      | 2     | .3    | 0     | 0     |      |      | .2    |
| 19    |      | 0     | 0     | 0    | .2      | .1    | .3    | 0     | 0     |      |      | * 0   |
| 20    |      | 0     | 0     | 0    | 2       | .1    | .2    | 0     | 0     |      |      | 0     |
| 21    |      | 0     | 0     | * 0  | .2      | *.1   | .2    | 0     | 0     |      |      | 0     |
| 22    | (*)  | 0     | 0     | 0    | .1      | 0     | .2    | 0     | 0     |      |      | 0     |
| 23    |      | 0     | 0     | 0    | .1      | 0     | .2    | 0     | 0     |      |      | 0     |
| 24    |      | 0     | 0     | 0    | .1      | 0     | .1    | 0     | 0     |      |      | 0     |
| 25    |      | 0     | 0     | 0    | .1      | 0     | .1    | 0     | 0     |      |      | 0     |
| 26    |      | 0     | 0     | 0    | .1      | 0     | .3    | 0     | 0     |      |      | 0     |
| 27    |      | * 0   | 0     | 0    | .1      | 0     | .2    | 0     | 0     |      |      | 0     |
| 28    |      | 0     | 0     | 0    | 0       | 1.2   | .1    | 0     | 0     |      |      | 0     |
| 29    |      | 0     | 0     | 0    | -----   | .3    | * 0   | 0     | 0     |      |      | 0     |
| 30    |      | 0     | 0     | 0    | -----   | .2    | .1    | 0     | 0     |      |      | 0     |
| 31    |      | ----- | .1    | 0    | -----   | .1    | ----- | 0     | ----- |      |      | ----- |
| Total | 0    | 0.1   | 0.1   | 0.4  | 1 4 7.4 | 2 3.1 | 3.3   | 0.1   | 0.3   | 0    | 0    | 0.2   |
| Mean  | 0    | 0.003 | 0.003 | 0.01 | 5.26    | 0.75  | 0.11  | 0.003 | 0.01  | 0    | 0    | 0.007 |
| Max   | 0    | 0.1   | 0.1   | 0.1  | 125     | 18    | 0.9   | 0.1   | 0.2   | 0    | 0    | 0.2   |
| Min   | 0    | 0     | 0     | 0    | 0       | 0     | 0     | 0     | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0.2   | 0.2   | 0.8  | 292     | 46    | 6.5   | 0.2   | 0.6   | 0    | 0    | 0.4   |

Calendar year 1962: Max 73 Min 0 Mean 1.28 Ac-ft 925

Water year 1962-63: Max 125 Min 0 Mean 0.48 Ac-ft 347

Peak discharge (base, 100 cfs).--Feb. 10 (0700 hrs) 890 cfs (7.16 ft); Mar. 17 (0100 hrs) 232 cfs (5.53 ft).

\* Discharge measurement or observation of no flow made on this day.

## SAN MATEO CREEK BASIN

11-463.7. San Mateo Creek at San Onofre, Calif.

Location--Lat 33°23'46", long 117°35'21", in NW<sup>1</sup>/<sub>4</sub> NW<sup>1</sup>/<sub>4</sub> sec. 14, T.9 S., R.7 W., on right bank 0.3 mile upstream from U.S. Highway 101, 0.8 mile upstream from mouth, 1.3 miles northwest of San Onofre, and 2.25 miles downstream from Cristianitos Creek.

Drainage area--132 sq mi (revised).

Records available--October 1946 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge--17 years, 4.74 cfs (3,430 acre-ft per year); median of yearly mean discharges, 0.04 cfs (29 acre-ft per year).

Extremes--No flow during year.

1946-63: Maximum discharge, 4,650 cfs Apr. 1, 1958 (gage height, 5.62 ft); no flow for all or several months in each year.

Revisions--The maximum discharge for the water year 1956 has been revised to 4,570 cfs Jan. 26, 1956 (gage height, 8.67 ft), superseding figure published in WSP 1445.

Remarks--No flow since Mar. 27, 1962. Minor flows regulated by percolation basins. No diversion. Figures for calendar year 1962 are as follows: maximum daily discharge, 307 cfs; minimum, zero; mean, 3.93 cfs; runoff, 2,850 acre-ft.

## SAN JUAN CREEK BASIN

119

11-465. San Juan Creek near San Juan Capistrano, Calif.

Location.--Lat 33°31'08", long 117°37'27", in NE 1/4 sec. 32, T.7 S., R.7 W., on right pier of bridge on State Highway 74, 2.5 miles northeast of San Juan Capistrano.

Drainage area.--106 sq mi (revised).

Records available.--October 1928 to September 1963. Combined records of creek and diversion, October 1954 to September 1963.

Gage.--Water-stage recorder on creek; water-stage recorder and 6-inch Parshall flume on diversion. Altitude of gage is 150 ft (from topographic map). Prior to Feb. 28, 1934, at site 2 1/2 miles downstream at different datum. Feb. 28, 1934, to Dec. 10, 1938, at present site at different datum. Dec. 11, 1938, to Dec. 17, 1941, at present site at datum 2.00 ft higher.

Average discharge (creek only).--35 years, 11.9 cfs (8,620 acre-ft per year); median of yearly mean discharges, 2.7 cfs (2,000 acre-ft per year).

(combined).--9 years, 7.75 cfs (5,610 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 129 cfs Feb. 10 (gage height, 2.48 ft); no flow Oct. 1-17, Nov. 26, Aug. 6 to Sept. 30.

1929-63: Maximum discharge, 13,000 cfs Mar. 2, 1938, slope-area measurement, by Corps of Engineers; no flow at times in most years.

(combined).--Maximum discharge during year, 129 cfs Feb. 10; no flow Oct. 1-17, Aug. 6-15, Aug. 18 to Sept. 30.

1954-63: Maximum discharge, 3,920 cfs Mar. 16, 1958; no flow for many days in 1961-63.

Remarks.--Records good. No regulation. See following page for records of combined discharge of creek and Capistrano Water Co.'s canal, which diverts 500 ft upstream from station.

Cooperation.--Twenty-two discharge measurements furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug.  | Sept. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|-------|-------|
| 1     | 0    | * 0.4 | 0.2  | 0.2  | 0.2   | 0.4   | * 1.0 | 0.3  | 0.3   | 0.3  | * 0.1 |       |
| 2     | * 0  | .4    | .3   | .2   | .2    | .3    | * .9  | .3   | .3    | .3   | .1    |       |
| 3     | 0    | .4    | .3   | .2   | .2    | .3    | 1.0   | .3   | .3    | .3   | .1    |       |
| 4     | 0    | .5    | * .4 | .2   | .2    | .3    | .7    | .3   | .3    | .3   | .1    |       |
| 5     | 0    | .5    | .4   | .2   | * .2  | * .3  | .4    | .3   | .3    | .3   | .1    | (*)   |
| 6     | 0    | * .4  | .4   | .2   | .2    | .3    | .4    | .3   | .2    | .2   | 0     |       |
| 7     | 0    | .4    | .4   | .2   | .2    | .4    | .4    | .3   | .2    | .2   | 0     |       |
| 8     | 0    | .6    | .4   | * .2 | .2    | .4    | .4    | .3   | .2    | * .2 | 0     |       |
| 9     | 0    | .6    | .5   | .2   | .3    | .5    | * .4  | .3   | .2    | .2   | 0     |       |
| 10    | 0    | .6    | .6   | .2   | * 3.6 | .6    | .5    | .3   | .2    | .2   | 0     |       |
| 11    | 0    | .7    | .6   | .2   | * 2.1 | 1.2   | .5    | .3   | .2    | .2   | 0     |       |
| 12    | 0    | .7    | .6   | .2   | 6.0   | * 1.4 | .5    | .3   | .2    | .1   | 0     |       |
| 13    | 0    | * .7  | .7   | .2   | 3.8   | 1.4   | .5    | .3   | .1    | .1   | 0     |       |
| 14    | 0    | .7    | .7   | .2   | * 3.8 | .9    | .5    | .3   | .1    | .1   | * 0   |       |
| 15    | * 0  | .7    | .7   | * .2 | 3.2   | 1.2   | .6    | .3   | .1    | * .1 | 0     |       |
| 16    | 0    | .7    | .7   | .2   | 2.9   | .7    | * .4  | .3   | .1    | .1   | 0     |       |
| 17    | 0    | .7    | * .6 | * .2 | 2.2   | 4.8   | .6    | .3   | .1    | .1   | 0     |       |
| 18    | .1   | .7    | .6   | .2   | 2.4   | 2.2   | .5    | .3   | .1    | .1   | 0     |       |
| 19    | .1   | .7    | .6   | .2   | * 2.2 | * 1.6 | .4    | .3   | .1    | .1   | 0     |       |
| 20    | .1   | * .7  | .4   | .2   | 2.2   | * 1.4 | .4    | .3   | .1    | .1   | 0     |       |
| 21    | .1   | .7    | .3   | .2   | 2.4   | 1.3   | .4    | .3   | .1    | .1   | 0     |       |
| 22    | .1   | .7    | .3   | * .2 | 2.2   | 1.2   | .3    | .3   | .2    | * .1 | 0     |       |
| 23    | * .2 | .3    | .2   | .2   | 2.0   | 1.2   | .3    | .3   | .2    | .3   | 0     |       |
| 24    | .2   | .5    | .2   | .2   | 1.0   | .5    | .3    | .3   | .2    | .5   | 0     |       |
| 25    | .2   | .4    | .2   | .2   | .5    | .5    | .2    | .3   | .2    | .3   | 0     |       |
| 26    | .2   | 0     | .2   | .2   | * .4  | * .7  | .3    | * .3 | .2    | .1   | 0     |       |
| 27    | .3   | * .1  | .2   | .2   | .4    | 1.2   | .3    | .3   | * .2  | .1   | 0     |       |
| 28    | .3   | .1    | * .2 | .2   | .4    | 1.6   | .3    | .4   | .3    | .1   | 0     |       |
| 29    | .3   | .1    | .2   | * .2 | ----- | 1.4   | .3    | .4   | .3    | * .1 | 0     |       |
| 30    | * .3 | * .2  | .2   | .2   | ----- | 1.4   | * .3  | .3   | .3    | .1   | 0     |       |
| 31    | .3   | ----- | .2   | .2   | ----- | 1.3   | ----- | .3   | ----- | .1   | 0     | ----- |
| Total | 2.8  | 14.9  | 12.9 | 6.2  | 96.9  | 33.3  | 14.0  | 9.5  | 5.9   | 5.5  | 0.5   | 0     |
| Mean  | 0.09 | 0.50  | 0.42 | 0.20 | 3.46  | 1.07  | 0.47  | 0.31 | 0.20  | 0.18 | 0.02  | 0     |
| Max   | 0.3  | 0.7   | 0.8  | 0.2  | 3.6   | 4.8   | 1.0   | 0.4  | 0.3   | 0.5  | 0.1   | 0     |
| Min   | 0    | 0     | 0.2  | 0.2  | 0.2   | 0.3   | 0.2   | 0.3  | 0.1   | 0.1  | 0     | 0     |
| Ac-ft | 5.6  | 30    | 26   | 12   | 192   | 66    | 28    | 19   | 12    | 11   | 1.0   | 0     |

Calendar year 1962: Max 244 Min 0 Mean 8.03 Ac-ft 5,810

Water year 1962-63: Max 36 Min 0 Mean 0.55 Ac-ft 403

Peak discharge (base, 200 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

## SAN JUAN CREEK BASIN

11-465. San Juan Creek near San Juan Capistrano, Calif.--Continued.

Combined discharge, in cubic feet per second, of San Juan Creek and Capistrano Water Co.'s canal  
near San Juan Capistrano, Calif., water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|---|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1   | 0    | 0.4   | 0.5  | 0.9  | 1.1   | 1.4  | 1.2   | 0.3  | 0.4   | 0.3  | 0.1  |       |
| 2   | 0    | .4    | .6   | .9   | 1.0   | 1.4  | 1.2   | .3   | .3    | .3   | .1   |       |
| 3   | 0    | .4    | .5   | 1.0  | 1.1   | 1.3  | 1.2   | .3   | .3    | .3   | .1   |       |
| 4   | 0    | .5    | .6   | 1.0  | 1.1   | 1.3  | 1.0   | .3   | .3    | .3   | .1   |       |
| 5   | 0    | .6    | .6   | .9   | 1.1   | 1.3  | 1.0   | .3   | .3    | .3   | .1   |       |
| 6   | 0    | .6    | .6   | .9   | 1.0   | 1.3  | 1.0   | .3   | .2    | .2   | 0    |       |
| 7   | 0    | .5    | .6   | .9   | 1.0   | 1.3  | 1.0   | .3   | .2    | .2   | 0    |       |
| 8   | 0    | .6    | .6   | .9   | 1.0   | 1.3  | 1.0   | .4   | .2    | .2   | 0    |       |
| 9   | 0    | .6    | .7   | .9   | 1.3   | 1.4  | 1.0   | .4   | .2    | .2   | 0    |       |
| 10  | 0    | .6    | .8   | .9   | 3.7   | 1.4  | 1.1   | .4   | .2    | .2   | 0    |       |
| 11  | 0    | .7    | .8   | 1.0  | 2.1   | 1.4  | 1.1   | .4   | .2    | .2   | 0    |       |
| 12  | 0    | .7    | .8   | 1.0  | 6.1   | 1.4  | 1.0   | .5   | .2    | .1   | 0    |       |
| 13  | 0    | .7    | .9   | .9   | 3.9   | 1.5  | 1.0   | .5   | .1    | .1   | 0    |       |
| 14  | 0    | .7    | .9   | .9   | 4.0   | 1.5  | 1.0   | .5   | .1    | .1   | 0    |       |
| 15  | 0    | .7    | .9   | .9   | 3.4   | 2.1  | 1.1   | .5   | .1    | .1   | 0    |       |
| 16  | 0    | .7    | .9   | 1.0  | 3.1   | 1.7  | .9    | .5   | .1    | .1   | .1   |       |
| 17  | 0    | .7    | 1.0  | 1.0  | 2.3   | 6.3  | 1.1   | 1.2  | .1    | .1   | .1   |       |
| 18  | .1   | .7    | 1.0  | 1.0  | 2.6   | 2.7  | .9    | .6   | .1    | .1   | 0    |       |
| 19  | .1   | .7    | 1.0  | 1.0  | 2.3   | 2.0  | .7    | .6   | .1    | .1   | 0    |       |
| 20  | .1   | .7    | 1.0  | 1.0  | 2.3   | 1.6  | .7    | .6   | .1    | .3   | 0    |       |
| 21  | .1   | .7    | .9   | .9   | 2.5   | 1.7  | .7    | .6   | .1    | .2   | 0    |       |
| 22  | .1   | .7    | .9   | 1.0  | 2.3   | 1.6  | .5    | .6   | .3    | .1   | 0    |       |
| 23  | .2   | .5    | .6   | 1.0  | 2.1   | 1.6  | .5    | .6   | .3    | .4   | 0    |       |
| 24  | .2   | .6    | .6   | 1.0  | 1.6   | 1.5  | .4    | .6   | .3    | .5   | 0    |       |
| 25  | .2   | .7    | .6   | 1.0  | 1.6   | 1.4  | .3    | .6   | .3    | .3   | 0    |       |
| 26  | .2   | .4    | .6   | 1.0  | 1.7   | 1.4  | .5    | .6   | .3    | .1   | 0    |       |
| 27  | .3   | .5    | .9   | 1.1  | 1.6   | 1.2  | .4    | .6   | .2    | .1   | 0    |       |
| 28  | .3   | .4    | .9   | 1.0  | 1.6   | 1.6  | .4    | .7   | .4    | .1   | 0    |       |
| 29  | .3   | .4    | .9   | 1.0  | ----- | 1.4  | .4    | .6   | .3    | .1   | 0    |       |
| 30  | .3   | .5    | 1.0  | 1.0  | ----- | 1.4  | .3    | .5   | .3    | .1   | 0    |       |
| 31  | .3   | ----- | 1.0  | 1.1  | ----- | 1.3  | ----- | .4   | ----- | .1   | 0    | ----- |
| Total   | 2.8  | 17.8  | 25.0 | 30.0 | 112.7 | 51.9 | 24.6  | 15.6 | 6.6   | 5.9  | 0.7  | 0     |
| Mean  | 0.09 | 0.59  | 0.81 | 0.97 | 4.02  | 1.67 | 0.82  | 0.50 | 0.22  | 0.19 | 0.02 | 0     |
| Max   | 0.3  | 0.8   | 1.0  | 1.1  | 37    | 6.3  | 1.2   | 1.2  | 0.4   | 0.5  | 0.1  | 0     |
| Min   | 0    | 0.4   | 0.5  | 0.9  | 1.0   | 1.2  | 0.3   | 0.3  | 0.1   | 0.1  | 0    | 0     |
| Ac-ft   | 5.6  | 35    | 50   | 60   | 224   | 103  | 49    | 31   | 13    | 12   | 1.4  | 0     |
| Calendar year 1962: Max 244 Min 0 Mean 8.25 Ac-ft 5,970 |      |       |      |      |       |      |       |      |       |      |      |       |
| Water year 1962-63: Max 37 Min 0 Mean 0.80 Ac-ft 584    |      |       |      |      |       |      |       |      |       |      |      |       |

Peak discharge (base, 200 cfs).--No peak above base.

## SAN JUAN CREEK BASIN

121

11-470. Arroyo Trabuco near San Juan Capistrano, Calif.

Location.--Lat 33°31'36", long 117°40'08", in NE 1/4 sec. 36, T.7 S., R.8 W., on downstream side of right pier of county road bridge (formerly U.S. Highway 101), 1.8 miles north of San Juan Capistrano.

Drainage area.--35.7 sq mi (revised).

Records available.--October 1930 to September 1963. Prior to October 1956, published as Trabuco Creek near San Juan Capistrano.

Gage.--Water-stage recorder. Altitude of gage is 180 ft (from topographic map).

Average discharge.--33 years, 4.63 cfs (3,350 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 9.2 cfs Feb. 10 (gage height, 2.27 ft); no flow for most of year.  
1930-63: Maximum discharge, 9,240 cfs Feb. 6, 1937; no flow at times in each year.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May  | June | July | Aug. | Sept. |
|-------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 1     | 0    | 0    | 0.1  | 0    | 0    |      |      |      |      |      | 0    | 0.1   |
| 2     | 1.0  | 0    | 0    | 0    | 0    |      |      |      |      |      | 0    | 0     |
| 3     | 0    | 0    | 0    | .1   | 0    |      |      |      |      |      | .1   | .1    |
| 4     | 0    | 0    | 0    | .1   | 0    |      |      |      |      |      | .1   | .5    |
| 5     | 1.0  | .1   | 0    | .2   | 0    |      |      |      |      |      | 0    | 0     |
| 6     | 2.1  | .2   | 0    | .1   | 0    |      |      |      |      |      | 0    | 0     |
| 7     | .7   | .1   | 0    | .1   | 0    |      |      |      |      |      | .1   | 0     |
| 8     | 0    | .2   | 0    | .5   | 0    |      |      |      |      |      | .2   | 0     |
| 9     | 2.2  | .2   | 0    | .5   | .7   |      |      |      |      |      | .1   | 0     |
| 10    | 2.2  | .3   | 0    | .3   | 3.5  |      |      |      |      |      | 0    | .1    |
| 11    | 1.2  | .5   | 0    | .4   | 1.1  |      |      |      |      |      | 0    | .2    |
| 12    | 0    | .5   | 0    | .2   | 0    |      |      |      |      |      | 0    | 0     |
| 13    | 0    | .3   | 0    | .1   | 0    |      |      |      |      |      | 0    | 0     |
| 14    | 0    | 0    | 0    | 0    | 0    |      |      |      |      |      | 0    | 0     |
| 15    | 0    | .1   | 0    | 2    | 0    |      |      | a0.1 | a0.1 | a0.1 | 0    | 0     |
| 16    | .1   | .2   | 0    | .3   | 0    |      |      |      |      |      | 0    | 0     |
| 17    | .1   | .3   | 0    | .2   | 0    |      |      |      |      |      | 0    | 0     |
| 18    | 0    | .3   | 0    | 0    | 0    |      |      |      |      |      | 0    | .1    |
| 19    | 0    | .5   | 0    | 0    | 0    |      |      |      |      |      | 0    | 0     |
| 20    | 0    | .4   | 0    | 0    | 0    |      |      |      |      |      | 0    | 0     |
| 21    | 0    | .3   | 0    | 0    | 0    |      |      |      |      |      | 0    | 0     |
| 22    | 0    | .2   | .1   | 0    | 0    |      |      |      |      |      | 0    | 0     |
| 23    | 0    | 0    | 0    | .1   | 0    |      |      |      |      |      | .1   | 0     |
| 24    | 0    | 0    | 0    | .1   | 0    |      |      |      |      | .1   | .1   | 0     |
| 25    | 0    | 0    | 0    | 0    | 0    |      |      |      |      | .1   | 0    | 0     |
| 26    | 0    | 0    | 0    | 0    | 0    |      |      |      |      | .1   | .1   | 0     |
| 27    | 0    | 0    | .3   | 0    | 0    |      |      |      |      | 0    | .1   | 0     |
| 28    | 0    | 0    | .5   | 0    | 0    |      |      |      |      | 0    | 0    | 0     |
| 29    | 0    | 0    | .7   | 0    | 0    |      |      |      |      | 0    | 0    | 0     |
| 30    | 0    | 0    | .4   | 0    | 0    |      |      |      |      | 0    | 0    | 0     |
| 31    | 0    | 0    | 0    | 0    | 0    |      |      |      |      | 0    | .1   | 0     |
| Total | 10.6 | 4.9  | 2.1  | 3.5  | 5.3  | 0    | 0    | --   | --   | --   | 1.1  | 1.1   |
| Mean  | 0.34 | 0.16 | 0.07 | 0.11 | 0.19 | 0    | 0    | --   | --   | --   | 0.04 | 0.04  |
| Max   | 2.2  | 0.5  | 0.7  | 0.5  | 3.5  | 0    | 0    | --   | --   | --   | 0.2  | 0.5   |
| Min   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | --   | 0    | 0    | 0     |
| Ac-ft | 21   | 9.7  | 4.2  | 6.9  | 11   | 0    | 0    | 1    | 2    | 2    | 2.2  | 2.2   |

Calendar year 1962: Max 58 Min 0 Mean 1.31 Ac-ft 950  
Water year 1962-63: Max 3.5 Min 0 Mean 0.09 Ac-ft 62

Note.--No gage-height record May 7 to July 23.

## ALISO CREEK BASIN

11-475. Aliso Creek at El Toro, Calif.

Location--Lat 33°37'34", long 117°41'03", in Canada de los Alisos Grant, near center of channel on upstream side of Second Street Bridge at El Toro, Orange County.

Drainage area--7.97 sq mi (revised).

Records available--October 1930 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 440 ft (from topographic map). Prior to July 1962, at different datum.

Average discharge--33 years, 0.67 cfs (485 acre-ft per year); median of yearly mean discharges, 0.2 cfs (140 acre-ft per year).

Extremes--Maximum discharge during year, 88 cfs Feb. 10 (gage height, 2.31 ft); no flow for most of year.  
1930-63: Maximum discharge, 1,950 cfs Feb. 6, 1937; no flow for most of each year.

Remarks--No diversions or regulation above station; some pumping from wells along stream.

Cooperation--Records furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 9.....18  
10.....11  
Mar. 16.....1.8  
17......3

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| February 1963.....      | 29       | 18      | 0       | 1.04 | 58                     |
| March.....              | 2.1      | 1.8     | 0       | .07  | 4.2                    |
| Calendar year 1962..... | -        | 12      | 0       | .24  | 173                    |
| Water year 1962-63..... | -        | 18      | 0       | .09  | 62                     |

Note--Flow occurred only on days listed above.



## PETERS CANYON WASH BASIN

123

11-485. San Diego Creek near Irvine, Calif.

Location.--Lat 33°40'20", long 117°47'10", in San Joaquin Grant, on left bank 200 ft downstream from Jeffrey Road Bridge and 1.5 miles west of Irvine, Orange County.

Drainage area.--40.3 sq mi.

Records available.--October 1949 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 102.86 ft above mean sea level (levels by Orange County Flood Control District).

Average discharge.--14 years, 1.73 cfs (1,250 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 439 cfs Feb. 9 (gage height, 3.22 ft); no flow for many days.

1949-63: Maximum discharge, 4,040 cfs Jan. 18, 1952 (gage height, 7.70 ft), from rating curve extended above 1,000 cfs on basis of slope-area measurement of peak flow; no flow for most of each year.

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

Cooperation.--Twenty discharge measurements furnished by Orange County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|      |     |     |    |
|------|-----|-----|----|
| 1.05 | 0   | 1.5 | 11 |
| 1.1  | .1  | 1.7 | 27 |
| 1.2  | .6  | 1.9 | 53 |
| 1.3  | 2.2 | 2.1 | 84 |
| 1.4  | 5.6 |     |    |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar. | Apr.  | May  | June | July | Aug. | Sept. |
|-------|------|-------|------|-------|-------|------|-------|------|------|------|------|-------|
| 1     | 0    | 0.4   | 0.2  | 0.4   | * 0.5 | 0.8  | 0     | 0    | 0.2  | 0.4  | 0    | 0.1   |
| 2     | * 0  | * .1  | .2   | .4    | 1.1   | 1.4  | 0     | 0    | .1   | .5   | * 0  | .1    |
| 3     | 0    | .2    | .4   | .4    | 1.1   | .3   | 0     | 0    | .1   | .2   | 0    | 0     |
| 4     | * .2 | .2    | .4   | * .5  | .6    | .4   | 0     | 0    | .1   | .2   | 0    | 0     |
| 5     | .2   | .4    | .4   | .6    | * .7  | * .3 | 0     | 0    | .1   | .7   | 0    | 0     |
| 6     | .3   | * 1.4 | .4   | .5    | .5    | .4   | 0     | 0    | 0    | .8   | 0    | 0     |
| 7     | .2   | 1.2   | .7   | .8    | .5    | .6   | 0     | * 0  | 0    | 1.0  | 0    | 0     |
| 8     | .2   | 1.2   | .7   | * .6  | .6    | .5   | 0     | 0    | 0    | * .4 | 0    | 0     |
| 9     | .2   | .4    | .6   | 1.0   | * 7.0 | .7   | 0     | 0    | 0    | .2   | 0    | 0     |
| 10    | .2   | .7    | .5   | .8    | * 7.1 | .2   | 0     | 0    | 0    | .2   | 0    | 0     |
| 11    | .2   | .4    | * .5 | 1.0   | * .6  | .7   | 0     | 0    | .3   | .3   | .2   | 0     |
| 12    | .2   | .5    | .3   | .7    | 0     | * .3 | 0     | 0    | .2   | .2   | 0    | 0     |
| 13    | .2   | * .4  | .5   | .8    | 0     | .6   | 0     | 0    | .3   | .2   | 0    | 0     |
| 14    | .2   | .2    | .4   | 1.2   | * 0   | .5   | .2    | * 0  | .2   | .2   | 0    | 0     |
| 15    | * .2 | .2    | .4   | * .4  | 0     | 1.8  | 0     | .1   | .8   | * .1 | 0    | 0     |
| 16    | .1   | .6    | .4   | .2    | 0     | 2.2  | * 0   | .3   | .4   | .1   | 0    | 0     |
| 17    | .1   | 1.0   | .4   | .1    | 0     | 2.2  | 1.7   | 0    | .4   | .1   | .1   | 1.6   |
| 18    | .1   | .6    | * .2 | 0     | 0     | * 0  | 0     | .1   | .1   | .1   | .1   | 1.1   |
| 19    | .2   | .6    | .4   | .1    | * 0   | * .3 | 0     | .1   | .2   | 0    | 0    | 5.2   |
| 20    | .3   | * .4  | .2   | .1    | 0     | .4   | 0     | .1   | 0    | 0    | .1   | .2    |
| 21    | .1   | .6    | .4   | 0     | 0     | .3   | .6    | * 0  | .4   | 0    | .1   | 0     |
| 22    | * 0  | .6    | .2   | * 1.2 | 0     | .5   | 0     | 0    | .2   | 0    | .1   | 0     |
| 23    | .4   | .3    | .3   | 1.6   | 0     | .2   | 0     | .1   | .2   | 0    | 0    | 0     |
| 24    | .2   | .2    | .4   | 1.2   | 0     | 0    | 0     | .1   | .6   | 0    | .1   | 0     |
| 25    | .2   | .2    | .4   | 1.4   | 0     | .1   | 0     | .3   | * .5 | 0    | .1   | 0     |
| 26    | .1   | .5    | .3   | 1.8   | * 0   | * .1 | * 2.1 | 0    | .1   | 0    | 0    | * 0   |
| 27    | .1   | * .2  | .4   | 2.2   | 0     | .2   | 0     | * .2 | * .4 | 0    | * .1 | .2    |
| 28    | .1   | .4    | .6   | 1.8   | ----- | .3   | * 1.0 | 0    | .3   | .5   | 0    | .2    |
| 29    | .2   | .4    | .6   | * 1.8 | ----- | 0    | 0     | 0    | .1   | .2   | 0    | .4    |
| 30    | * .1 | * .6  | .6   | 1.2   | ----- | 0    | 0     | * 0  | .1   | 0    | 0    | .6    |
| 31    | .2   | ----- | .8   | 1.1   | ----- | 0    | ----- | .3   | 0    | 0    | .1   | ----- |
| Total | 4.8  | 15.2  | 13.2 | 25.9  | 147.5 | 65.6 | 38.8  | 2.2  | 6.6  | 5.9  | 1.3  | 34.0  |
| Mean  | 0.15 | 0.51  | 0.43 | 0.84  | 5.27  | 2.12 | 1.29  | 0.07 | 0.22 | 0.19 | 0.04 | 1.13  |
| Max   | 0.3  | 1.4   | 0.8  | 2.2   | 7.1   | 2.2  | 2.1   | 0.3  | 0.8  | 1.0  | 0.2  | 1.6   |
| Min   | 0    | 0.1   | 0.2  | 0     | 0     | 0    | 0     | 0    | 0    | 0    | 0    | 0     |
| Ac-ft | 9.5  | 30    | 26   | 51    | 293   | 130  | 77    | 4.4  | 13   | 12   | 2.6  | 67    |

Calendar year 1962: Max 151 Min 0 Mean 2.47 Ac-ft 1,790

Water year 1962-63: Max 71 Min 0 Mean 0.99 Ac-ft 716

Peak discharge (base, 200 cfs).--Feb. 9 (2330 hrs) 439 cfs (3.22 ft); Mar. 16 (2330 hrs) 338 cfs (2.97 ft).

\* Discharge measurement or observation of no flow made on this day.

## SANTA ANA RIVER BASIN

11-490. Big Bear Lake near Big Bear Lake, Calif.

Location.--Lat 34°14'20", long 116°58'50", in SW $\frac{1}{4}$  sec.22, T.2 N., R.1 W., at Big Bear Lake Dam on Bear Creek, 4 miles west of town of Big Bear Lake and  $7\frac{1}{2}$  miles upstream from mouth.

Drainage area.--38 sq mi, approximately.

Records available.--October 1950 to September 1963 in reports of Geological Survey. February 1884 to September 1950 in files of Bear Valley Mutual Water Co.

Gage.--Staff gage read once daily. Datum of gage is 6,670.9 ft above mean sea level (levels by Bear Valley Mutual Water Co.). Prior to 1912, staff gage at old dam 200 ft upstream at same datum (spillway at gage height 52.4 ft).

Extremes.--Maximum contents observed during year, 7,166 acre-ft Apr. 30, May 1; minimum contents, 2,870 acre-ft Sept. 30.  
1884-1963: Maximum contents unknown, lake spilled in 1916, 1917, 1922, 1923, 1938, 1939; lake dry October, November 1898, August to November 1899, October, November 1904.

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 at elevation 6,743.2 ft (top of dam). No dead storage. Water used for irrigation only.

Cooperation.--Record of contents furnished by Bear Valley Mutual Water Co.

Month-end contents, water year October 1962 to September 1963

| Month                   | Contents<br>(acre-feet) | Change in contents<br>(acre-feet) |
|-------------------------|-------------------------|-----------------------------------|
| Sept. 30.....           | 7,102                   | -                                 |
| Oct. 31.....            | 6,594                   | -508                              |
| Nov. 30.....            | 6,338                   | -256                              |
| Dec. 31.....            | 6,338                   | 0                                 |
| Calendar year 1962..... | -                       | +5,638                            |
| Jan. 31.....            | 6,465                   | +127                              |
| Feb. 28.....            | 6,657                   | +192                              |
| Mar. 31.....            | 6,784                   | +127                              |
| Apr. 30.....            | 7,166                   | +382                              |
| May 31.....             | 7,039                   | -127                              |
| June 30.....            | 6,338                   | -701                              |
| July 31.....            | 4,557                   | -1,781                            |
| Aug. 31.....            | 3,109                   | -1,448                            |
| Sept. 30.....           | 2,870                   | -239                              |
| Water year 1962-63..... | -                       | -4,232                            |

11-515. Santa Ana River near Mentone, Calif.

Location.--Lat 34°06'40", long 117°05'54", in NW 1/4 sec. 4, T.1 S., R.2 W., on left bank near mouth of canyon, 1.8 miles upstream from Mill Creek and 3.5 miles northeast of Mentone.

Drainage area.--202 sq mi, including area tributary to Baldwin Lake at head of Bear Valley.

Records available.--July 1896 to September 1963. Monthly discharge only for January 1910, January, February 1916, published in WSP 1315-B. Prior to October 1914, observed records not equivalent owing to Greenspot pipeline diversion between sites and exclusion of discharge from Warm Springs Canyon.

Gage.--Water-stage recorder on river; water-stage recorder on powerhouse diversion. Datum of gage is 1,984.28 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1914, staff gages at various sites within 1,000 ft of point 1 1/2 miles upstream at various datums. Oct. 1, 1914, to Jan. 17, 1916, staff gage at site 10 ft upstream at different datum. Jan. 18, 1916, to Sept. 2, 1917, staff gage at same site and datum.

Average discharge (river only).--49 years (1914-63), 29.0 cfs (21,000 acre-ft per year); median of yearly mean discharges, 8.9 cfs (6,400 acre-ft per year).

(combined).--67 years (1896-1963), 81.7 cfs (59,150 acre-ft per year); median of yearly mean discharges, 68 cfs (49,200 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 880 cfs Feb. 10 (gage height, 8.40 ft, from floodmarks); no flow for most of year.

1896-1963: Maximum discharge, 52,300 cfs Mar. 2, 1938 (gage height, 14.3 ft), on basis of slope-area measurement of peak flow; no flow at times in some years.

(combined).--Maximum discharge during year, 880 cfs Feb. 10; minimum daily, 13 cfs Oct. 31.

1896-1963: Maximum discharge, 52,300 cfs Mar. 2, 1938; minimum daily, 3 cfs Nov. 21, 22, 1909.

Remarks.--Records good. Flow partly regulated by Big Bear Lake (see preceding page). 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. Bear Valley Mutual Water Company pumped 432 acre-ft into canal below canal gage. Prior to Oct. 1, 1952, pumped water entered canal above gage.

Cooperation.--Twelve discharge measurements on Southern California Edison Co.'s canal below powerplant No. 2 furnished by that agency in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 10-12)

|     |     |     |     |     |    |     |     |
|-----|-----|-----|-----|-----|----|-----|-----|
| 4.9 | 0   | 5.3 | 2.5 | 5.7 | 17 | 6.4 | 100 |
| 5.0 | .1  | 5.4 | 4.6 | 5.9 | 32 | 6.7 | 172 |
| 5.1 | .4  | 5.5 | 7.6 | 6.1 | 50 | 7.0 | 265 |
| 5.2 | 1.2 |     |     |     |    |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.    | Mar. | Apr.  | May | June | July | Aug. | Sept.  |
|-------|------|-------|------|------|---------|------|-------|-----|------|------|------|--------|
| 1     | (*)  |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 2     |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 3     |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 4     |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 5     |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 6     |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 7     |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 8     |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 9     |      |       |      |      | 3.0     | 0    | 0     |     |      |      |      | 0      |
| 10    |      |       |      |      | * 2 2 4 | 0    | 0     |     |      |      |      | 0      |
| 11    |      |       |      |      | * 6.6   | 0    | 0     |     |      |      |      | 0      |
| 12    |      |       |      |      | * 2.6   | 0    | 0     |     |      |      |      | 0      |
| 13    |      |       |      |      | .1      | 0    | 0     | (*) |      |      |      | 0      |
| 14    |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 0      |
| 15    |      | (*)   |      | (*)  | 0       | 0    | 0     |     |      |      |      | 0      |
| 16    | (*)  |       |      |      | 0       | 0    | * 0   |     |      |      |      | 0      |
| 17    |      |       |      |      | 0       | .7   | 0     |     |      |      |      | * 0    |
| 18    |      |       |      |      | 0       | * .1 | 0     |     | (*)  |      |      | * 5.4  |
| 19    |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 61     |
| 20    |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 48     |
| 21    |      |       |      |      | 0       | 0    | 4.0   |     |      |      |      | 27     |
| 22    |      |       |      |      | 0       | 0    | .2    |     |      |      |      | 0      |
| 23    |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 7.6    |
| 24    |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 29     |
| 25    |      |       |      |      | 0       | 0    | 0     |     |      |      |      | 14     |
| 26    |      |       |      |      | * 0     | 0    | * .8  |     |      |      |      | 0      |
| 27    |      | (*)   | (*)  |      | 0       | 0    | 1.5   |     |      |      |      | 0      |
| 28    |      |       |      |      | 0       | * 0  | .1    |     | (*)  |      | (*)  | 0      |
| 29    |      |       |      | (*)  | -----   | * 0  | * 0   | (*) |      |      |      | 0      |
| 30    |      |       |      |      | -----   | 0    | 0     |     |      |      |      | 0      |
| 31    | (*)  | ----- |      |      | -----   | 0    | ----- |     |      | (*)  |      | -----  |
| Total | 0    | 0     | 0    | 0    | 2 36.3  | 0.8  | 6.6   | 0   | 0    | 0    | 0    | 1 92.0 |
| Mean  | 0    | 0     | 0    | 0    | 8.44    | 0.03 | 0.22  | 0   | 0    | 0    | 0    | 6.40   |
| Max   | 0    | 0     | 0    | 0    | 224     | 0.7  | 4.0   | 0   | 0    | 0    | 0    | 61     |
| Min   | 0    | 0     | 0    | 0    | 0       | 0    | 0     | 0   | 0    | 0    | 0    | 0      |
| Ac-ft | 0    | 0     | 0    | 0    | 469     | 1.6  | 13    | 0   | 0    | 0    | 0    | 381    |

Calendar year 1962: Max 481 Min 0 Mean 10.4 Ac-ft 7,540

Water year 1962-63: Max 224 Min 0 Mean 1.19 Ac-ft 865

Peak discharge (base, 150 cfs).--Feb. 10 (0200 hrs) 880 cfs (8.40 ft, from floodmarks); Sept. 19 (1630 hrs) 192 cfs (6.77 ft).

\* Discharge measurement or observation of no flow made on this day.

## SANTA ANA RIVER BASIN

## 515. Santa Ana River near Mentone, Calif.--Continued

Combined discharge, in cubic feet per second, of Santa Ana River and Southern California Edison Co.'s canal near Mentone, Calif., water year October 1962 to September 1963

| Day                 | Oct.    | Nov.   | Dec.      | Jan.         | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|---------------------|---------|--------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1                   | 24      | 18     | 27        | 22           | 24    | 21    | 28    | 32    | 22    | 16    | 24    | 23    |
| 2                   | 24      | 18     | 28        | 22           | 22    | 20    | 28    | 31    | 22    | 16    | 24    | 23    |
| 3                   | 24      | 18     | 28        | 22           | 22    | 20    | 27    | 30    | 21    | 20    | 24    | 23    |
| 4                   | 27      | 18     | 25        | 22           | 21    | 20    | 27    | 30    | 21    | 22    | 23    | 30    |
| 5                   | 28      | 18     | 22        | 22           | 21    | 20    | 26    | 28    | 22    | 22    | 22    | 24    |
| 6                   | 27      | 18     | 21        | 22           | 21    | 20    | 25    | 28    | 22    | 22    | 23    | 21    |
| 7                   | 26      | 18     | 21        | 22           | 21    | 22    | 25    | 28    | 22    | 22    | 31    | 19    |
| 8                   | 25      | 18     | 21        | 22           | 21    | 23    | 25    | 28    | 22    | 22    | 33    | 18    |
| 9                   | 22      | 18     | 21        | 22           | 30    | 24    | 25    | 28    | 21    | 22    | 27    | 17    |
| 10                  | 21      | 21     | 20        | 27           | 229   | 22    | 26    | 28    | 22    | 22    | 25    | 18    |
| 11                  | 21      | 24     | 20        | 21           | 50    | 23    | 27    | 27    | 23    | 22    | 24    | 27    |
| 12                  | 21      | 25     | 20        | 20           | 38    | 21    | 27    | 27    | 23    | 22    | 23    | 28    |
| 13                  | 21      | 26     | 20        | 18           | 32    | 22    | 26    | 26    | 23    | 22    | 23    | 29    |
| 14                  | 21      | 26     | 21        | 19           | 31    | 21    | 26    | 26    | 21    | 22    | 22    | 29    |
| 15                  | 22      | 27     | 21        | 20           | 29    | 22    | 30    | 25    | 20    | 22    | 24    | 30    |
| 16                  | 22      | 23     | 21        | 21           | 27    | 22    | 28    | 24    | 19    | 22    | 32    | 31    |
| 17                  | 22      | 22     | 21        | 22           | 25    | 25    | 31    | 24    | 18    | 22    | 31    | 44    |
| 18                  | 23      | 22     | 21        | 22           | 24    | 24    | 29    | 24    | 18    | 26    | 27    | 62    |
| 19                  | 22      | 21     | 21        | 22           | 24    | 25    | 29    | 23    | 18    | 26    | 26    | 70    |
| 20                  | 21      | 21     | 21        | 21           | 24    | 25    | 28    | 23    | 18    | 31    | 26    | 76    |
| 21                  | 20      | 20     | 21        | 22           | 23    | 25    | 38    | 23    | 19    | 32    | 26    | 49    |
| 22                  | 20      | 21     | 21        | 22           | 22    | 24    | 32    | 23    | 24    | 32    | 25    | 20    |
| 23                  | 19      | 20     | 21        | 22           | 22    | 25    | 30    | 23    | 27    | 32    | 25    | 27    |
| 24                  | 19      | 21     | 22        | 22           | 22    | 25    | 29    | 22    | 27    | 28    | 25    | 46    |
| 25                  | 19      | 21     | 21        | 22           | 22    | 25    | 28    | 22    | 23    | 29    | 24    | 30    |
| 26                  | 19      | 20     | 20        | 22           | 21    | 24    | 35    | 23    | 19    | 30    | 24    | 15    |
| 27                  | 19      | 20     | 20        | 22           | 21    | 24    | 38    | 22    | 19    | 28    | 19    | 15    |
| 28                  | 18      | 24     | 20        | 21           | 21    | 36    | 37    | 22    | 18    | 24    | 17    | 16    |
| 29                  | 18      | 27     | 20        | 22           | ----- | 36    | 35    | 22    | 17    | 24    | 17    | 16    |
| 30                  | 18      | 28     | 21        | 22           | ----- | 30    | 33    | 22    | 16    | 23    | 17    | 16    |
| 31                  | 13      | -----  | 22        | 23           | ----- | 28    | ----- | 22    | 16    | 23    | 22    | ----- |
| Total               | 6 66    | 6 42   | 6 70      | 6 73         | 9 10  | 7 4 4 | 8 7 8 | 7 8 6 | 6 2 7 | 7 4 8 | 7 5 5 | 8 9 2 |
| Mean                | 21.5    | 21.4   | 21.6      | 21.7         | 32.5  | 24.0  | 29.3  | 25.4  | 20.9  | 24.1  | 24.4  | 29.7  |
| Max                 | 28      | 28     | 28        | 27           | 229   | 36    | 38    | 32    | 27    | 32    | 33    | 76    |
| Min                 | 13      | 18     | 20        | 18           | 21    | 20    | 25    | 22    | 16    | 16    | 17    | 15    |
| Ac-ft               | 1,320   | 1,270  | 1,330     | 1,330        | 1,800 | 1,480 | 1,740 | 1,560 | 1,240 | 1,480 | 1,500 | 1,770 |
| Calendar year 1962: | Max 481 | Min 13 | Mean 46.2 | Ac-ft 33,470 |       |       |       |       |       |       |       |       |
| Water year 1962-63: | Max 229 | Min 13 | Mean 24.6 | Ac-ft 17,820 |       |       |       |       |       |       |       |       |

Peak discharge (base, 150 cfs).--Feb. 10, 880 cfs; Sept. 19, 196 cfs.

## SANTA ANA RIVER BASIN

127

11-540. Mill Creek near Yucaipa, Calif.

Location.--Lat 34°05'27", long 117°02'12", in NW 1/4 NE 1/4 sec. 13, T.1 S., R.2 W., on left bank 50 ft downstream from bridge on State Highway 190-D, 3.9 miles north of Yucaipa, and 5.3 miles upstream from mouth.

Drainage area.--38.1 sq mi (revised).

Records available.--January 1919 to September 1938, October 1947 to September 1963. 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 6-ft sharp-crested weir on power canal No. 1; water-stage recorder and 3-ft Parshall flume on power canals Nos. 2 and 3. Datum of gage is 2,916.36 ft above mean sea level (Southern California Edison Co. bench mark). Prior to August 1926, at site 100 ft upstream at different datums. August 1926 to Mar. 2, 1938, at site 500 ft downstream at different datum (destroyed by flood).

Average discharge (creek only).--35 years, 10.3 cfs (7,460 acre-ft per year); median of yearly mean discharges, 1.0 cfs (720 acre-ft per year).

(combined).--35 years, 30.8 cfs (22,300 acre-ft per year); median of yearly mean discharges, 22 cfs (15,900 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 150 cfs Sept. 18 (gage height, 6.35 ft); no flow for many days.

1919-38, 1947-63: Maximum discharge, 18,100 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in some years.

(combined).--Maximum discharge during year, 150 cfs Sept. 18; minimum daily, 8.7 cfs Sept. 24.

1919-38, 1947-63: Maximum discharge, 18,100 cfs Mar. 2, 1938; minimum daily, 2.7 cfs Feb. 23, 1949.

Remarks.--Records (creek) poor; records (combined) good. Mill Creek power canals Nos. 1, 2, and 3 divert from points 100 ft, 3 miles, and 6 miles above station, respectively. Combined flow of Mill Creek and Mill Creek power canals Nos. 1, 2, and 3 is given on following page.

Cooperation.--Water-stage recorder chart and 13 discharge measurements for Mill Creek power canals Nos. 2 and 3 furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | *0.1 | 0.1   | 0    | 0    | 8.5   | 0.1  | 1.6   | *0.1 | 0.2   | 0.1  | 0.1  | 0.1   |
| 2     | .1   | .1    | 0    | 0    | .2    | .1   | 1.0   | .1   | .2    | .1   | .1   | .1    |
| 3     | .1   | .1    | 0    | *0   | .1    | A0   | A.1   | .1   | .2    | .1   | .1   | .1    |
| 4     | .1   | .1    | 0    | *0   | 0     | A0   | A.1   | .1   | *.2   | .1   | .1   | *.1   |
| 5     | .1   | .1    | 0    | 0    | 0     | A0   | A.1   | .1   | .2    | .1   | .1   | .1    |
| 6     | .1   | .1    | .1   | .1   | * 0   | A0   | A.1   | .1   | A.2   | .1   | .1   | .1    |
| 7     | .1   | .1    | .1   | .1   | 0     | A0   | A.1   | .1   | A.2   | .1   | 1.7  | .1    |
| 8     | .1   | .1    | .1   | .1   | 0     | A0   | A.1   | .1   | A.2   | *.1  | .7   | .1    |
| 9     | .1   | .1    | 0    | .1   | 5.7   | .1   | A.1   | .1   | A.2   | .1   | .3   | .1    |
| 10    | .1   | .1    | 0    | .1   | * 12  | .8   | A.1   | .1   | A.2   | A.1  | .3   | .1    |
| 11    | .1   | .1    | 0    | .1   | * 1.2 | 1.1  | A.1   | .1   | A.2   | A.1  | .3   | *.1   |
| 12    | .1   | .1    | *0   | .1   | A.1   | .9   | A.1   | .1   | A.1   | A.1  | .1   | .1    |
| 13    | .1   | 0     | 0    | .1   | A.1   | .4   | A.1   | *.1  | A.1   | A.1  | *.1  | .1    |
| 14    | .1   | 0     | 0    | .1   | A.1   | .3   | .7    | .1   | A.1   | A.1  | .1   | .1    |
| 15    | .1   | *0    | 0    | .1   | A.1   | .2   | .6    | .1   | A.1   | A.1  | .1   | .1    |
| 16    | *.1  | 0     | 0    | .1   | A.1   | .1   | *.1   | .2   | A.1   | A.1  | *.9  | .1    |
| 17    | .1   | 0     | .1   | .1   | A.1   | 0    | .1    | .2   | A.1   | A.1  | .7   | *1.4  |
| 18    | .2   | 0     | .2   | .1   | A.1   | *0   | .1    | .3   | *.1   | A.1  | .1   | *17   |
| 19    | .2   | 0     | .1   | .1   | A.1   | .1   | .1    | .1   | .1    | A.1  | .1   | 41    |
| 20    | .1   | 0     | A.1  | .1   | A.1   | 9.4  | .1    | .2   | .1    | A.1  | .1   | 9.5   |
| 21    | .1   | 0     | A.1  | .1   | A.1   | .1   | .2    | .2   | .1    | A.1  | .1   | .3    |
| 22    | .1   | 0     | A.1  | *.1  | A.1   | .1   | .2    | .3   | .1    | A.1  | *.1  | .3    |
| 23    | .1   | 0     | A.2  | .1   | A.1   | .1   | .2    | .3   | .1    | A.1  | .1   | .3    |
| 24    | .1   | 0     | A.4  | .1   | A.1   | 1.0  | .1    | .3   | .1    | *.1  | .1   | .4    |
| 25    | .1   | 0     | A.4  | .1   | A.1   | .4   | .1    | .3   | .1    | .1   | .1   | .4    |
| 26    | .1   | 0     | A.1  | .1   | * .1  | 1.3  | *.1   | .1   | .1    | .1   | .1   | .4    |
| 27    | .1   | *0    | *.1  | .1   | .1    | .1   | .1    | .2   | .1    | .1   | .1   | .4    |
| 28    | .1   | 0     | 0    | .1   | .1    | *5.5 | .1    | *.2  | *.1   | .1   | .1   | .4    |
| 29    | *.1  | 0     | 0    | .1   | ----- | 4.1  | .1    | .2   | .1    | .1   | .1   | .5    |
| 30    | .1   | 0     | 0    | .1   | ----- | A.1  | .1    | .2   | .1    | .1   | .1   | 1.4   |
| 31    | .1   | ----- | 0    | .1   | ----- | A.1  | ----- | .2   | ----- | .1   | .1   | ----- |
| TOTAL | 3.3  | 1.2   | 2.2  | 2.6  | 29.4  | 26.5 | 6.8   | 5.0  | 4.1   | 3.1  | 7.3  | 75.3  |
| MEAN  | 0.11 | 0.04  | 0.07 | 0.08 | 1.05  | 0.85 | 0.23  | 0.16 | 0.14  | 0.10 | 0.24 | 2.51  |
| MAX   | 0.2  | 0.1   | 0.4  | 0.1  | 12    | 9.4  | 1.6   | 0.3  | 0.2   | 0.1  | 1.7  | 41    |
| MIN   | 0.1  | 0     | 0    | 0    | 0     | 0    | 0.1   | 0.1  | 0.1   | 0.1  | 0.1  | 0.1   |
| AC-FT | 6.5  | 2.4   | 4.4  | 5.2  | 58    | 53   | 13    | 9.9  | 8.1   | 6.1  | 14   | 149   |

CALENDAR YEAR 1962 MAX 37 MIN 0 MEAN 1.41 AC-FT 1,020  
WATER YEAR 1962-63 MAX 41 MIN 0 MEAN .46 AC-FT 330

Peak discharge (base, 50 cfs).--Feb. 10 (0200 hrs) 108 cfs (6.20 ft); Sept. 18 (2300 hrs) 150 cfs (6.35 ft).

\* Discharge measurement made on this day.

A No gage-height record.

## SANTA ANA RIVER BASIN

540. Mill Creek near Yucaipa, Calif.--Continued.

Combined discharge, in cubic feet per second, of Mill Creek and Mill Creek power canals Nos. 1, 2, and 3, near Yucaipa, Calif., water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|------|------|-------|------|-------|-------|-------|------|------|-------|
| 1     | 17    | 16    | 15   | 14   | 23    | 12   | 14    | 14    | 16    | 12   | 10   | 10    |
| 2     | 17    | 16    | 15   | 14   | 16    | 12   | 13    | 15    | 16    | 12   | 10   | 10    |
| 3     | 17    | 16    | 15   | 14   | 15    | 12   | 14    | 15    | 15    | 12   | 10   | 11    |
| 4     | 18    | 16    | 14   | 14   | 15    | 12   | 13    | 14    | 16    | 12   | 10   | 14    |
| 5     | 18    | 16    | 15   | 14   | 15    | 12   | 13    | 14    | 16    | 12   | 10   | 12    |
| 6     | 17    | 15    | 14   | 14   | 15    | 11   | 13    | 15    | 16    | 12   | 10   | 11    |
| 7     | 17    | 15    | 14   | 14   | 15    | 10   | 13    | 15    | 16    | 12   | 14   | 11    |
| 8     | 17    | 15    | 14   | 14   | 15    | 10   | 14    | 17    | 16    | 11   | 13   | 11    |
| 9     | 17    | 15    | 14   | 14   | 24    | 11   | 14    | 19    | 15    | 11   | 12   | 11    |
| 10    | 17    | 15    | 14   | 15   | 33    | 12   | 15    | 19    | 15    | 11   | 12   | 11    |
| 11    | 16    | 15    | 14   | 14   | 18    | 13   | 16    | 18    | 17    | 11   | 11   | 11    |
| 12    | 16    | 15    | 14   | 14   | 15    | 12   | 14    | 18    | 16    | 11   | 11   | 10    |
| 13    | 16    | 15    | 14   | 14   | 15    | 12   | 14    | 17    | 15    | 11   | 10   | 10    |
| 14    | 16    | 15    | 14   | 14   | 14    | 12   | 16    | 17    | 15    | 11   | 13   | 10    |
| 15    | 17    | 16    | 14   | 14   | 14    | 12   | 17    | 17    | 14    | 11   | 13   | 10    |
| 16    | 17    | 15    | 14   | 14   | 13    | 11   | 16    | 17    | 14    | 11   | 12   | 11    |
| 17    | 16    | 15    | 14   | 14   | 13    | 11   | 16    | 17    | 14    | 11   | 12   | 17    |
| 18    | 18    | 15    | 14   | 14   | 13    | 13   | 14    | 17    | 14    | 11   | 11   | 39    |
| 19    | 18    | 15    | 14   | 14   | 13    | 12   | 14    | 17    | 14    | 11   | 10   | 49    |
| 20    | 16    | 15    | 14   | 14   | 14    | 21   | 15    | 17    | 14    | 11   | 11   | 20    |
| 21    | 16    | 15    | 14   | 14   | 13    | 12   | 16    | 17    | 14    | 11   | 11   | 9.1   |
| 22    | 16    | 15    | 14   | 14   | 13    | 12   | 15    | 17    | 14    | 10   | 11   | 9.3   |
| 23    | 16    | 15    | 14   | 14   | 13    | 13   | 15    | 16    | 14    | 10   | 11   | 8.8   |
| 24    | 16    | 15    | 14   | 14   | 13    | 12   | 14    | 16    | 14    | 10   | 10   | 8.7   |
| 25    | 16    | 15    | 14   | 14   | 13    | 12   | 13    | 16    | 14    | 10   | 10   | 10    |
| 26    | 16    | 15    | 14   | 13   | 13    | 12   | 14    | 16    | 14    | 10   | 11   | 11    |
| 27    | 16    | 15    | 14   | 13   | 13    | 11   | 15    | 16    | 12    | 10   | 10   | 11    |
| 28    | 16    | 15    | 14   | 14   | 12    | 17   | 14    | 16    | 12    | 10   | 10   | 11    |
| 29    | 16    | 15    | 14   | 14   | ----- | 16   | 15    | 16    | 12    | 10   | 10   | 10    |
| 30    | 16    | 15    | 14   | 14   | ----- | 15   | 14    | 16    | 12    | 10   | 10   | 12    |
| 31    | 16    | ----- | 14   | 15   | ----- | 14   | ----- | 16    | ----- | 10   | 10   | ----- |
| Total | 514   | 456   | 438  | 434  | 431   | 389  | 433   | 507   | 436   | 338  | 339  | 399.9 |
| Mean  | 16.6  | 15.2  | 14.1 | 14.0 | 15.4  | 12.6 | 14.4  | 16.4  | 14.5  | 10.9 | 10.9 | 13.3  |
| Max   | 18    | 16    | 15   | 15   | 33    | 21   | 17    | 19    | 17    | 12   | 14   | 49    |
| Min   | 16    | 15    | 14   | 13   | 12    | 10   | 13    | 14    | 12    | 10   | 10   | 8.7   |
| Ac-ft | 1,020 | 904   | 869  | 861  | 855   | 772  | 859   | 1,010 | 865   | 670  | 672  | 793   |

Calendar year 1962: Max 55 Min 9.4 Mean 20.8 Ac-ft 15,030  
 Water year 1962-63: Max 49 Min 8.7 Mean 14.0 Ac-ft 10,150

Peak discharge (base, 50 cfs).--Feb. 10 (0200 hrs) 136 cfs; Aug. 7 (1800 hrs) 59 cfs; Sept. 18 (2300 hrs) 150 cfs.

## SANTA ANA RIVER BASIN

129

11-550. Mill Creek near Mentone, Calif.

Location.--Lat 34°05'14", long 117°06'46", in NE 1/4 SE 1/4 NW 1/4 sec. 17, T.1 S., R.2 W., on downstream side of right pier of Bear Valley Mutual Water Co.'s pipeline crossing, 0.4 mile upstream from mouth, and 1.6 miles northeast of Mentone.

Drainage area.--46.3 sq mi (revised).

Records available.--February 1939 to September 1963. Monthly discharge only for February 1939, published in WSP 1315-B.

Gage.--Water-stage recorder and broad-crested weir. Altitude of gage is 1,780 ft (from topographic map).

Average discharge.--24 years, 2.85 cfs (2,060 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

Extremes.--Maximum discharge during year, 33 cfs Sept. 18 (gage height, 4.03 ft); no flow for most of year.

1939-63: Maximum discharge, 1,500 cfs Dec. 23, 1945 (gage height, 6.5 ft), on basis of slope-area measurement of peak flow; no flow for parts of each year.

Remarks.--Records good. The Zanja and Mill Creek spreading grounds divert most of low-water flow above station. Pumping from wells along stream above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 3.2 | 0   |
| 3.3 | .5  |
| 3.4 | 1.5 |
| 3.5 | 3.2 |
| 3.6 | 5.8 |
| 3.7 | 9.3 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug.  | Sept. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|-------|-------|
| 1     | * 0  | 0.2   | 0.1  | 0    | 1.0   | 0     | 0     | * 0   | 0     | 0    | 0     | 0     |
| 2     | 0    | .1    | .1   | 0    | .1    | 0     | 0     | 0     | 0     | 0    | 0     | 0     |
| 3     | 0    | 0     | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0     | 0     |
| 4     | 0    | 0     | 0    | 0    | 0     | 0     | 0     | 0     | * 0   | 0    | 0     | * .1  |
| 5     | 0    | 0     | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0     | .6    |
| 6     | 0    | .1    | 0    | 0    | * 0   | 0     | 0     | 0     | 0     | 0    | 0     | .3    |
| 7     | 0    | .2    | 0    | * 0  | 0     | 0     | 0     | 0     | 0     | 0    | .5    | 0     |
| 8     | .1   | .3    | .1   | 0    | 0     | 0     | 0     | 0     | 0     | * .1 | .8    | .1    |
| 9     | .1   | .2    | .1   | 0    | 1.1   | 0     | 0     | 0     | 0     | 0    | .4    | .1    |
| 10    | 0    | .1    | .1   | .1   | 3.8   | 0     | 0     | 0     | 0     | .1   | .1    | 0     |
| 11    | 0    | 0     | 0    | .1   | * .1  | 0     | 0     | 0     | .1    | 0    | .1    | 0     |
| 12    | 0    | .1    | * 0  | 0    | 0     | 0     | 0     | 0     | .6    | 0    | 0     | 0     |
| 13    | .1   | .1    | .1   | 0    | 0     | 0     | .1    | * 0   | 0     | 0    | 0     | 0     |
| 14    | 0    | 0     | .1   | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0     | .1    |
| 15    | .1   | * .1  | .1   | 0    | 0     | 0     | .2    | 0     | .1    | 0    | .1    | 0     |
| 16    | * .1 | .1    | .1   | 0    | 0     | .4    | * 0   | 0     | 0     | 0    | 0     | 0     |
| 17    | .1   | .2    | .1   | 0    | 0     | 1.4   | .4    | 0     | .1    | 0    | .3    | * 1.5 |
| 18    | 0    | .1    | .1   | 0    | 0     | * 0   | 0     | 0     | * .1  | 0    | .3    | * 7.2 |
| 19    | 0    | 0     | 0    | 0    | 0     | 0     | 0     | .1    | .1    | .1   | .1    | 4.3   |
| 20    | 0    | .1    | 0    | 0    | 0     | 0     | 0     | 0     | 0     | .1   | * 0   | 2.0   |
| 21    | 0    | .1    | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0     | .4    |
| 22    | 0    | .1    | 0    | * 0  | 0     | 0     | 0     | 0     | .1    | 0    | 0     | 0     |
| 23    | 0    | .1    | 0    | .1   | 0     | 0     | 0     | 0     | .1    | 0    | 0     | 1.1   |
| 24    | 0    | .2    | 0    | .1   | 0     | 0     | 0     | 0     | .1    | * 0  | .2    | .8    |
| 25    | 0    | .1    | 0    | .1   | 0     | 0     | 0     | 0     | 0     | 0    | .1    | 0     |
| 26    | .1   | .1    | 0    | 0    | * 0   | 0     | 0     | 0     | 0     | 0    | 0     | 0     |
| 27    | .2   | * .1  | * 2  | .1   | 0     | 0     | 0     | 0     | 0     | 0    | 0     | 0     |
| 28    | .2   | 0     | 0    | 0    | 0     | * 1.7 | .1    | * .1  | * 0   | 0    | .1    | 0     |
| 29    | * .2 | 0     | .1   | 0    | ----- | 2.1   | 0     | 0     | 0     | 0    | .1    | 0     |
| 30    | .1   | .1    | 0    | 0    | ----- | .3    | 0     | 0     | 0     | 0    | .1    | 0     |
| 31    | .1   | ----- | 0    | .1   | ----- | 0     | ----- | 0     | ----- | 0    | ----- | ----- |
| Total | 1.5  | 2.9   | 1.4  | 0.7  | 6.1   | 5.9   | 0.8   | 0.2   | 1.4   | 0.4  | 3.3   | 18.6  |
| Mean  | 0.05 | 0.10  | 0.05 | 0.02 | 0.22  | 0.19  | 0.03  | 0.006 | 0.05  | 0.01 | 0.11  | 0.62  |
| Max   | 0.2  | 0.3   | 0.2  | 0.1  | 3.8   | 2.1   | 0.4   | 0.1   | 0.6   | 0.1  | 0.8   | 7.2   |
| Min   | 0    | 0     | 0    | 0    | 0     | 0     | 0     | 0     | 0     | 0    | 0     | 0     |
| Ac-ft | 3.0  | 5.8   | 2.8  | 1.4  | 12    | 12    | 1.6   | 0.4   | 2.8   | 0.8  | 6.5   | 37    |

Calendar year 1962: Max 25 Min 0 Mean 0.81 Ac-ft 585

Water year 1962-63: Max 7.2 Min 0 Mean 0.12 Ac-ft 86

Peak discharge (base, 50 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

## SANTA ANA RIVER BASIN

11-555. Plunge Creek near East Highlands, Calif.

Location.--Lat 34°07'06", long 117°08'27", in SW 1/4 sec. 1, T.1 S., R.3 W., on left bank at mouth of canyon at crossing of North Fork ditch siphon, 1.8 miles northeast of East Highlands.

Drainage area.--17.1 sq mi (revised).

Records available.--January 1919 to September 1963; combined records of creek and diversions, March 1951 to September 1963.

Gage.--Water-stage recorder and since December 1938 broad-crested weir on creek; water-stage recorder and 0.44-ft weir on upper diversion; water-stage recorder and concrete-lined canal on middle diversion; water-stage recorder and 2-ft sharp-crested weir on lower diversion. Altitude of gage is 1,590 ft (from topographic map).

Average discharge (creek only).--44 years, 5.51 cfs (3,990 acre-ft per year); median of yearly mean discharges, 3.8 cfs (2,800 acre-ft per year).

(combined).--12 years, 5.49 cfs (3,970 acre-ft per year); median of yearly mean discharges, 3.7 cfs (2,700 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 99 cfs Feb. 9 (gage height, 1.23 ft); no flow for several months.

1919-63: Maximum discharge, 5,340 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for part of each year.

(combined).--Maximum discharge during year, 99 cfs Feb. 9; minimum daily, 0.3 cfs Sept. 12, 13.

1951-63: Maximum discharge, 1,720 cfs Apr. 3, 1958; minimum daily, 0.1 cfs Nov. 4, 1953, Nov. 3, 1959, and Nov. 14, 1961.

Remarks.--Records good. Diversions for irrigation are made at sites 0.5, 1.0, and 2.5 miles above station. Water has been diverted above station for irrigation during entire period of record. Combined flow of Plunge Creek and upper, middle, and lower diversions is given on following page.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.1 | 0   | 0.5 | 6.3 |
| .2  | .4  | .6  | 10  |
| .3  | 1.8 | .8  | 24  |
| .4  | 3.7 | 1.0 | 50  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan.  | Feb.  | Mar. | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|------|------|-------|-------|------|-------|-------|-------|------|------|-------|
| 1     | (*)  |      |      | 0     | 0     | 0    | 3.0   | * 3.5 | 0     |      |      | 0     |
| 2     |      |      |      | 0     | 0     | 0    | 3.5   | 3.3   | .1    |      |      | 0     |
| 3     |      |      |      | 0     | 0     | 0    | .5    | 2.3   | 0     |      |      | 0     |
| 4     |      |      |      | 0     | .1    | 0    | * 0   | 1.0   | * 0   |      |      | * 0   |
| 5     |      |      |      | 0     | 0     | 0    | 0     | .1    | 0     |      |      | 0     |
| 6     |      |      |      | 0     | * 0   | 0    | 0     | .1    | 0     |      |      | 0     |
| 7     |      |      |      | 0     | 0     | 0    | 0     | 0     | 0     |      | (*)  | 0     |
| 8     |      |      |      | * 0   | 0     | 0    | 0     | 0     | 0     | (*)  | (*)  | 0     |
| 9     |      |      |      | 0     | 9.5   | 0    | 0     | 0     | 0     |      |      | 0     |
| 10    |      |      |      | .1    | 3.7   | 0    | 0     | 0     | 0     |      |      | 0     |
| 11    |      |      |      | 0     | * 7.0 | 0    | 0     | 0     | 0     |      |      | 0     |
| 12    |      |      |      | 0     | 2.1   | 0    | 0     | 0     | .1    |      |      | 0     |
| 13    |      |      |      | 0     | 1.0   | 0    | 0     | * 0   | 0     |      |      | 0     |
| 14    |      |      |      | 0     | 1.6   | 0    | 0     | 0     | 0     |      |      | 0     |
| 15    |      |      |      | 0     | .4    | 0    | 0     | 0     | 0     |      |      | 0     |
| 16    |      |      |      | 0     | .1    | 0    | * 0   | 0     | 0     |      |      | 0     |
| 17    |      |      |      | 0     | .1    | 1.0  | 1.1   | 0     | 0     |      |      | * 0   |
| 18    |      |      |      | 0     | 0     | * 2  | 1.3   | 0     | * 0   |      |      | .7    |
| 19    |      |      |      | 0     | 0     | 0    | 1.0   | 0     | 0     |      |      | 2.9   |
| 20    |      |      |      | 0     | 0     | 0    | 1.0   | 0     | 0     |      | (*)  | 0     |
| 21    |      |      |      | 0     | 0     | 0    | 7.3   | 0     | 0     |      |      | 0     |
| 22    |      |      |      | * 0   | 0     | 0    | 5.2   | 0     | 0     |      |      | 0     |
| 23    |      |      |      | 0     | 0     | .2   | 4.2   | 0     | 0     |      |      | 0     |
| 24    |      |      |      | 0     | 0     | .4   | 3.3   | 0     | 0     | (*)  |      | 0     |
| 25    |      |      |      | 0     | 0     | 1.3  | 3.1   | 0     | 0     |      |      | 0     |
| 26    |      |      | (*)  | 0     | * 0   | 2.3  | * 5.5 | 0     | * 0   |      |      | 0     |
| 27    |      | (*)  |      | 0     | 0     | .2   | 5.8   | 0     | 0     |      |      | 0     |
| 28    |      |      |      | 0     | 0     | .4   | 5.5   | * 0   | 0     |      |      | 0     |
| 29    | (*)  |      |      | 0     | ----- | .1   | 4.5   | 0     | 0     |      |      | 0     |
| 30    |      |      |      | 0     | ----- | 0    | 3.9   | 0     | 0     |      |      | 0     |
| 31    |      |      |      | 0     | ----- | 0    | ----- | 0     | ----- |      |      | ----- |
| Total | 0    | 0    | 0    | 0.1   | 58.9  | 6.1  | 59.7  | 10.3  | 0.2   | 0    | 0    | 3.6   |
| Mean  | 0    | 0    | 0    | 0.003 | 2.10  | 0.20 | 1.99  | 0.33  | 0.01  | 0    | 0    | 0.12  |
| Max   | 0    | 0    | 0    | 0.1   | 37    | 2.3  | 7.3   | 3.5   | 0.1   | 0    | 0    | 2.9   |
| Min   | 0    | 0    | 0    | 0     | 0     | 0    | 0     | 0     | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0.2   | 117   | 12   | 118   | 20    | 0.4   | 0    | 0    | 7.1   |

Calendar year 1962: Max 106 Min 0 Mean 4.49 Ac-ft 3,250

Water year 1962-63: Max 37 Min 0 Mean 0.38 Ac-ft 276

Peak discharge (base, 130 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.



## SANTA ANA RIVER BASIN

131

11-555. Plunge Creek near East Highlands, Calif.--Continued.

Combined discharge, in cubic feet per second, of Plunge Creek and diversions  
near East Highlands, Calif., water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.5  | 0.5   | 0.7  | 0.9  | 1.3   | 1.6  | 4.0   | 4.0  | 1.9   | 0.8  | 0.5  | 0.4   |
| 2     | .5   | .5    | .7   | .9   | 1.2   | 1.7  | 3.7   | 4.7  | 1.9   | .8   | .5   | .4    |
| 3     | .5   | .5    | .7   | .9   | 1.0   | 1.6  | 2.4   | 5.1  | 1.8   | .8   | .4   | .4    |
| 4     | .5   | .5    | .7   | .9   | 1.1   | 1.7  | 2.5   | 4.2  | 1.7   | .8   | .4   | .4    |
| 5     | .5   | .5    | .7   | .9   | 1.0   | 1.7  | 2.2   | 3.2  | 1.8   | .8   | .4   | .4    |
| 6     | .5   | .5    | .7   | .9   | 1.0   | 1.6  | 2.1   | 3.0  | 2.0   | .8   | .4   | .4    |
| 7     | .5   | .5    | .7   | .9   | 1.1   | 1.7  | 2.3   | 2.7  | 2.0   | .8   | .5   | .4    |
| 8     | .5   | .5    | .7   | .9   | 1.1   | 1.7  | 2.1   | 2.6  | 1.8   | .7   | .5   | .4    |
| 9     | .5   | .5    | .7   | .9   | 1.2   | 1.8  | 2.1   | 2.6  | 1.7   | .7   | .4   | .4    |
| 10    | .5   | .5    | .7   | 1.6  | 3.9   | 2.1  | 2.1   | 2.7  | 2.1   | .7   | .4   | .4    |
| 11    | .5   | .5    | .7   | 1.2  | 8.8   | 1.9  | 2.1   | 2.7  | 2.1   | .7   | .4   | .4    |
| 12    | .5   | .5    | .8   | 1.1  | 4.7   | 1.9  | 2.0   | 2.8  | 3.2   | .6   | .4   | .3    |
| 13    | .5   | .5    | .8   | 1.0  | 3.3   | 1.8  | 1.9   | 2.7  | 2.2   | .6   | .4   | .3    |
| 14    | .5   | .6    | .8   | 1.0  | 3.3   | 1.7  | 1.9   | 2.6  | 1.8   | .6   | .4   | .4    |
| 15    | .5   | .6    | .7   | 1.0  | 2.7   | 2.4  | 2.7   | 2.5  | 1.5   | .6   | .4   | .4    |
| 16    | .5   | .6    | .7   | 1.0  | 2.4   | 2.3  | 2.4   | 2.4  | 1.3   | .6   | .4   | .4    |
| 17    | .5   | .6    | .7   | 1.0  | 2.1   | 4.7  | 3.7   | 2.4  | 1.2   | .6   | .4   | .4    |
| 18    | .6   | .6    | .7   | 1.0  | 1.9   | 3.8  | 3.8   | 2.3  | 1.1   | .6   | .4   | 1.0   |
| 19    | .6   | .5    | .8   | 1.0  | 2.0   | 3.6  | 3.6   | 2.3  | 1.1   | .5   | .4   | 5.5   |
| 20    | .6   | .6    | .9   | 1.0  | 2.0   | 3.7  | 3.4   | 2.2  | 1.1   | .5   | .4   | 1.4   |
| 21    | .5   | .6    | .5   | 1.0  | 2.0   | 3.4  | 11    | 2.1  | 1.3   | .5   | .4   | .6    |
| 22    | .5   | .5    | .6   | 1.0  | 1.9   | 3.1  | 7.1   | 2.1  | 1.4   | .5   | .4   | .4    |
| 23    | .5   | .6    | 1.0  | 1.0  | 1.8   | 2.8  | 4.5   | 2.1  | 1.3   | .5   | .4   | .4    |
| 24    | .5   | .6    | 1.0  | .9   | 1.8   | 2.7  | 3.6   | 2.1  | 1.2   | .4   | .4   | .5    |
| 25    | .5   | .6    | .9   | .9   | 1.7   | 2.6  | 3.3   | 2.1  | 1.1   | .4   | .4   | .4    |
| 26    | .5   | .6    | .9   | .9   | 1.7   | 2.6  | 5.8   | 1.9  | 1.0   | .4   | .4   | .4    |
| 27    | .5   | .6    | .9   | .9   | 1.8   | 2.0  | 6.3   | 1.9  | 1.0   | .4   | .4   | .4    |
| 28    | .5   | .7    | .9   | 1.0  | 1.7   | 4.0  | 6.2   | 2.0  | 1.0   | .4   | .4   | .4    |
| 29    | .5   | .7    | .9   | 1.1  | ----- | 3.6  | 5.2   | 2.0  | 1.0   | .4   | .4   | .4    |
| 30    | .5   | .7    | .9   | 1.1  | ----- | 2.9  | 4.5   | 2.0  | .8    | .4   | .4   | .4    |
| 31    | .5   | ----- | .9   | 1.1  | ----- | 2.6  | ----- | 1.9  | ----- | .4   | .4   | ----- |
| Total | 15.8 | 16.8  | 24.0 | 30.9 | 107.4 | 77.3 | 110.5 | 81.9 | 46.4  | 18.3 | 12.8 | 18.8  |
| Mean  | 0.51 | 0.56  | 0.77 | 1.00 | 3.84  | 2.49 | 3.68  | 2.64 | 1.55  | 0.59 | 0.41 | 0.63  |
| Max   | 0.6  | 0.7   | 1.0  | 1.6  | .39   | 4.7  | 11    | 5.1  | 3.2   | 0.8  | 0.5  | 5.5   |
| Min   | 0.5  | 0.5   | 0.5  | 0.9  | 1.0   | 1.6  | 1.9   | 1.9  | 0.8   | 0.4  | 0.4  | 0.3   |
| Ac-ft | 31   | 33    | 48   | 61   | 213   | 153  | 219   | 162  | 92    | 36   | 25   | 37    |

Calendar year 1962: Max 106 Min 0.5 Mean 6.05 Ac-ft 4,380

Water year 1962-63: Max 39 Min 0.3 Mean 1.54 Ac-ft 1,110

Peak discharge (base, 130 cfs).--No peak above base.

## SANTA ANA RIVER BASIN

11-565. Little San Geronio Creek near Beaumont, Calif.

Location---Lat 34°01'45", long 116°56'40", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.1, T.2 S., R.1 W., on downstream side of left abutment of bridge on Oak Glen Road, 3.0 miles upstream from Wallace Creek and 7 miles north of Beaumont.

Drainage area---3.23 sq mi (revised).

Records available---October 1948 to September 1963.

Gage---Water-stage recorder and concrete control. Altitude of gage is 4,320 ft (from topographic map).

Average discharge---15 years, 0.07 cfs (51 acre-ft per year).

Extremes---Maximum discharge during year, 0.9 cfs Feb. 10 (gage height, 1.21 ft); no flow for most of year.

1948-63: Maximum discharge, 319 cfs Aug. 23, 1955 (gage height, 2.18 ft), from rating curve extended above 1 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks---Records good. Several small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 19..... 0.3  
20.....\* .1

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| September 1963.....     | 0.4      | 0.3     | 0       | 0.01 | 0.8                 |
| Calendar year 1962..... | -        | .6      | 0       | .005 | 3.4                 |
| Water year 1962-63..... | -        | .3      | 0       | .001 | .8                  |

Peak discharge (base, 10 cfs)---No peak above base.

\* Discharge measurement made on this day.

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

11-570. San Timoteo Creek near Redlands, Calif.

Location---Lat 34°01'59", long 117°12'29", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.5, T.2 S., R.3 W., on downstream side of right abutment of county highway bridge, 2.0 miles southwest of Redlands and 3.4 miles downstream from Yucaipa Creek.

Drainage area---119 sq mi (revised).

Records available---October 1926 to September 1963.

Gage---Water-stage recorder and concrete control. Altitude of gage is 1,280 ft (from topographic map). Prior to Oct. 30, 1934, at site 2 miles upstream at different datum.

Average discharge---37 years, 1.33 cfs (963 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes---Maximum discharge during year, 167 cfs Feb. 10 (gage height, 2.21 ft); no flow for most of year.

1926-63: Maximum discharge, 7,460 cfs Mar. 2, 1938, result of slope-area measurement of peak flow; no flow for several months in each year.

Remarks---Records fair. Low flow normally diverted above station for irrigation. At times small amounts of irrigation waste water passes station.

Discharge, in cubic feet per second, water year 1962 to September 1963

Feb. 10.....\*19  
Mar. 17..... 3.0

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 19       | 19      | 0       | 0.68 | 38                  |
| March.....              | 3.0      | 3.0     | 0       | .10  | 6.0                 |
| Calendar year 1962..... | -        | 74      | 0       | .44  | 320                 |
| Water year 1962-63..... | -        | 19      | 0       | .06  | 44                  |

Peak discharge (base, 50 cfs)---Feb. 10 (1400 hrs) 167 cfs (2.21 ft).

\* Discharge measurement made on this day.

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

11-575. San Timoteo Creek near Loma Linda, Calif.

Location.--Lat 34°04'03", long 117°16'42", in San Bernardino Grant, on right bank 100 ft downstream from Waterman Avenue bridge, 0.2 mile upstream from mouth, and 1.5 miles northwest of Loma Linda, San Bernardino County.

Drainage area.--125 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,010 ft (from topographic map). Prior to Apr. 10, 1958, at site 100 ft upstream at datum 4.51 ft (corrected) higher. Apr. 10, 1958, to June 12, 1961, at site 100 ft upstream at datum 3.51 ft (corrected) higher.

Average discharge.--9 years, 1.36 cfs (985 acre-ft per year).

Extremes.--Maximum discharge during year, 256 cfs Sept. 18 (gage height, 3.72 ft), from rating curve extended above 3 cfs on basis of slope-area measurement at gage height 4.37 ft; minimum daily, 0.3 cfs Nov. 24, Dec. 1, 29, 30.

1954-63: Maximum discharge, 1,050 cfs Apr. 1, 1958 (gage height, 8.74 ft, present datum), from rating curve extended above 400 cfs; minimum daily, 0.2 cfs at times in some years.

Remarks.--Records poor. Minor diversions above station by pumping. Loma Linda sewage disposal plant discharges into stream above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|-------|-------|------|------|-------|
| 1     | *1.0 | 0.8   | 0.3  | A0.4 | 1.1   | 0.8  | 0.8   | 0.5   | 0.7   | 0.5  | 0.7  | 0.7   |
| 2     | 1.0  | .9    | .4   | A.4  | .7    | A.7  | .7    | .7    | .7    | .7   | .7   | .7    |
| 3     | 1.2  | .5    | .5   | A.5  | .7    | A.7  | .8    | .8    | 1.0   | .6   | .6   | 1.0   |
| 4     | 1.7  | .5    | .7   | A.6  | .7    | A.7  | *.9   | .7    | 1.1   | .6   | .8   | 3.7   |
| 5     | 1.3  | .7    | 1.0  | A.6  | .7    | A.7  | .9    | .7    | 1.1   | .9   | .8   | *.6   |
| 6     | .7   | 1.5   | .8   | A.6  | .7    | A.7  | .6    | * 1.2 | 1.1   | .7   | .8   | .6    |
| 7     | 1.0  | .9    | .6   | A.6  | .7    | A.7  | .7    | 1.2   | 1.1   | .7   | .9   | .5    |
| 8     | 1.4  | .9    | .4   | *.7  | .7    | A.7  | .8    | 1.1   | .7    | .8   | .7   | 1.1   |
| 9     | 1.1  | .5    | .7   | .7   | 6.4   | 1.2  | .8    | 1.0   | 1.0   | 1.4  | .7   | 1.6   |
| 10    | 1.0  | .5    | .7   | 1.7  | *54   | .9   | .8    | .9    | 1.0   | *1.2 | .4   | 1.0   |
| 11    | .7   | .6    | .7   | 1.0  | *2.5  | *.9  | .8    | .7    | *2.6  | 1.2  | .6   | .7    |
| 12    | .5   | .7    | *.7  | .7   | 2.7   | .8   | .9    | .7    | 1.5   | 1.3  | *.8  | .9    |
| 13    | .4   | .7    | .7   | .8   | 3.2   | 1.1  | .8    | .7    | 1.7   | 1.0  | .7   | 1.0   |
| 14    | .6   | *.7   | .7   | .8   | 2.2   | 1.1  | 1.8   | .7    | 1.2   | .9   | 1.2  | .5    |
| 15    | *.5  | .7    | .4   | *.7  | 2.2   | 2.1  | 1.9   | .7    | .6    | 1.0  | 1.0  | .7    |
| 16    | .6   | .7    | .5   | .6   | 1.4   | 5.1  | 1.5   | .7    | .6    | 1.0  | .9   | .7    |
| 17    | .6   | .5    | .7   | .7   | 1.3   | 8.4  | *3.9  | .6    | .7    | 1.2  | .5   | *15   |
| 18    | .7   | .6    | .6   | .6   | 1.2   | *.5  | .7    | .5    | .5    | 1.1  | .7   | *28   |
| 19    | .6   | .7    | .7   | .6   | 1.3   | .5   | .7    | .7    | *.6   | 1.2  | .7   | 7.2   |
| 20    | .4   | 1.0   | 1.1  | .7   | A1.1  | .4   | .7    | .9    | .7    | 1.1  | .8   | A1.6  |
| 21    | .7   | 1.3   | .5   | .7   | A1.0  | .5   | .7    | 1.0   | .6    | 1.1  | 1.5  | A1.5  |
| 22    | .8   | .5    | .4   | .8   | A1.0  | .5   | *.7   | 1.0   | .5    | 1.4  | 1.3  | A1.4  |
| 23    | 1.0  | .4    | .5   | .7   | A1.0  | .4   | .6    | * 1.0 | .6    | *1.0 | 1.0  | A1.4  |
| 24    | .9   | .3    | .5   | .7   | A1.0  | .6   | .6    | 1.1   | .6    | .8   | .5   | A1.3  |
| 25    | .9   | .4    | .4   | .7   | *1.0  | .7   | .5    | .7    | .8    | .8   | .5   | A1.3  |
| 26    | .8   | .4    | .4   | .6   | .9    | *.7  | 1.4   | 1.3   | 1.0   | .8   | 1.0  | A1.2  |
| 27    | .5   | .4    | .4   | .7   | .9    | .7   | .4    | 1.2   | *1.0  | .5   | .9   | *1.1  |
| 28    | .7   | .7    | *.6  | .7   | .9    | 1.3  | .5    | 1.1   | .8    | 1.3  | .9   | .8    |
| 29    | .8   | *.9   | .3   | .7   | ----- | .7   | .5    | 1.1   | .5    | 1.2  | .9   | .7    |
| 30    | *.7  | .4    | .3   | *.7  | ----- | .6   | .5    | 1.0   | .6    | .7   | .7   | .6    |
| 31    | .7   | ----- | A.4  | 1.4  | ----- | .7   | ----- | 1.0   | ----- | .8   | .5   | ----- |
| TOTAL | 25.5 | 20.3  | 17.6 | 22.4 | 93.2  | 36.1 | 27.9  | 27.2  | 27.2  | 24.5 | 24.7 | 79.1  |
| MEAN  | 0.82 | 0.68  | 0.57 | 0.72 | 3.33  | 1.16 | 0.93  | 0.88  | 0.91  | 0.95 | 0.80 | 2.64  |
| MAX   | 1.7  | 1.5   | 1.1  | 1.7  | 54    | 8.4  | 3.9   | 1.3   | 2.6   | 1.4  | 1.5  | 28    |
| MIN   | 0.4  | 0.3   | 0.3  | 0.4  | 0.7   | 0.4  | 0.4   | 0.5   | 0.5   | 0.5  | 0.4  | 0.5   |
| AC-FT | 51   | 40    | 35   | 44   | 185   | 72   | 55    | 54    | 54    | 59   | 49   | 157   |

CALENDAR YEAR 1962 MAX 68 MIN 0.2 MEAN 1.41 AC-FT 1,020  
WATER YEAR 1962-63 MAX 54 MIN 0.3 MEAN 1.18 AC-FT 855

## Peak discharge (base, 50 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-10 | 0430 | 2.95        | 215       | 9-18 | 1700 | 3.72        | 256       |
| 3-16 | 2400 | 2.08        | 110       |      |      |             |           |

\* Discharge measurement made on this day.  
A No gage-height record.

## SANTA ANA RIVER BASIN

11-585. East Twin Creek near Arrowhead Springs, Calif.

Location.--Lat 34°10'45", long 117°15'53", in NW 1/4, NE 1/4, sec. 14, T.1 N., R.4 W., on right bank 100 ft upstream from Del Rosa Water Co.'s diversion dam, 0.5 mile south of Arrowhead Springs, and 1.0 mile downstream from Strawberry Creek.

Drainage area.--8.6 sq mi, approximately.

Records available.--December 1919 to September 1963. Prior to October 1952, published as Strawberry Creek near Arrowhead Springs.

Gage.--Water-stage recorder and broad-crested weir since September 1938. Altitude of gage is 1,590 ft (from topographic map).

Average discharge.--43 years (1920-63), 4.37 cfs (3,160 acre-ft per year); median of yearly mean discharges, 3.0 cfs (2,200 acre-ft per year).

Extremes.--Maximum discharge during year, 37 cfs Sept. 18 (gage height, 2.67 ft); minimum daily, 0.1 cfs Sept. 12, 15, 16. 1919-63: Maximum discharge, 3,360 cfs Mar. 2, 1938, based on rainfall-runoff studies; practically no flow at times in 1929, 1931-35.

Remarks.--Records good except those for Feb. 9-10 and those for period of no gage-height record, which are fair. One small diversion for domestic use above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 4-12, 17-26)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.3 | 0   | 1.7 | 2.2 |
| 1.4 | .2  | 1.9 | 4.8 |
| 1.5 | .6  | 2.1 | 8.6 |
| 1.6 | 1.2 | 2.5 | 24  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | * 0.4 | 0.5   | 0.6  | 0.8  | 1.6   | 1.1   | 1.2   | 1.6   | 1.4   | 0.5  | 0.3  | 0.3   |
| 2     | .4    | .5    | .6   | .8   | 1.2   | 1.1   | 1.2   | 1.6   | 1.4   | .5   | .3   | .2    |
| 3     | .4    | .5    | .6   | .8   | 1.0   | 1.2   | 1.1   | 1.7   | 1.2   | .5   | .3   | .2    |
| 4     | .4    | .6    | .6   | .8   | 1.0   | 1.2   | 1.0   | 1.8   | 1.1   | .5   | .3   | *.2   |
| 5     | .4    | .6    | .7   | .8   | 1.0   | 1.2   | 1.0   | 1.6   | *1.2  | .4   | .3   | .3    |
| 6     | .4    | .5    | .7   | .8   | 1.0   | 1.2   | 1.0   | 1.5   | 1.4   | .4   | .3   | .2    |
| 7     | .4    | .5    | .7   | .9   | 1.1   | 1.1   | 1.2   | 1.4   | 1.2   | .4   | *.3  | .2    |
| 8     | .5    | .5    | .7   | *.9  | 1.1   | 1.1   | 1.3   | 1.4   | 1.1   | .4   | .2   | .2    |
| 9     | .4    | .5    | .7   | 1.0  | 7.5   | 1.2   | 1.3   | 1.5   | 1.1   | .4   | .2   | .2    |
| 10    | .4    | .6    | .7   | 1.5  | 15    | 1.2   | 1.2   | 1.5   | 1.6   | .4   | .2   | .2    |
| 11    | .4    | .6    | .7   | 1.0  | 3.1   | 1.1   | 1.2   | 1.5   | 1.5   | .4   | .2   | .2    |
| 12    | .4    | .5    | *.7  | 1.0  | 2.8   | 1.1   | 1.2   | 1.5   | 1.5   | .4   | .2   | .1    |
| 13    | .4    | .5    | .7   | 1.0  | 2.1   | *.1.1 | 1.2   | 1.4   | 1.4   | .4   | .2   | .2    |
| 14    | .4    | .5    | .7   | 1.0  | 2.0   | 1.2   | 1.9   | *1.2  | 1.1   | .4   | .2   | .2    |
| 15    | .4    | *.5   | .7   | *.9  | 1.5   | 1.3   | 1.9   | 1.3   | .9    | .4   | .2   | .1    |
| 16    | *.4   | .5    | .7   | .9   | 1.3   | 1.6   | *1.5  | 1.2   | .8    | .4   | .2   | .1    |
| 17    | .4    | .5    | .7   | .9   | 1.2   | 3.4   | 2.3   | 1.2   | .7    | .4   | .2   | .7    |
| 18    | .5    | .4    | .7   | .9   | 1.2   | *.2.0 | 2.0   | 1.6   | .7    | .4   | .2   | *.12  |
| 19    | .6    | .4    | .7   | .9   | 1.2   | 1.8   | 1.8   | 1.5   | *.7   | *.4  | *.2  | 3.4   |
| 20    | .5    | .4    | .7   | .9   | 1.2   | 1.6   | 1.8   | 1.2   | .7    | .4   | .2   | 1.3   |
| 21    | .5    | .5    | .7   | .9   | 1.2   | 1.3   | a 7   | 1.2   | .8    | .4   | .2   | .9    |
| 22    | .4    | .6    | .7   | .9   | 1.2   | 1.2   | a 3   | 1.2   | 1.0   | .4   | .2   | .6    |
| 23    | .4    | .6    | .8   | .8   | 1.4   | 1.6   | a 2   | 1.2   | 1.0   | *.4  | .2   | .5    |
| 24    | .5    | .6    | .8   | .7   | 1.3   | 1.4   | a 2   | 1.1   | .8    | .4   | .2   | .4    |
| 25    | .5    | .6    | .8   | .7   | 1.2   | 1.2   | a 2   | 1.2   | .7    | .4   | .2   | .4    |
| 26    | .5    | .6    | *.7  | .8   | *.1.2 | 1.2   | a 4   | 1.3   | .6    | .3   | .2   | .4    |
| 27    | .4    | *.6   | .7   | .8   | 1.2   | 1.2   | a 2.5 | 1.4   | .6    | .4   | .2   | .3    |
| 28    | .4    | .6    | .7   | .9   | 1.2   | 2.0   | a 2   | 1.4   | *.6   | .4   | .2   | .4    |
| 29    | .4    | .6    | .7   | *.9  | ----- | *.1.6 | *.1.8 | *.1.4 | .5    | .4   | .3   | .3    |
| 30    | .4    | .6    | .7   | .9   | ----- | 1.5   | 1.6   | 1.4   | .5    | .4   | .3   | .3    |
| 31    | *.5   | ----- | .7   | 1.3  | ----- | 1.2   | ----- | 1.4   | ----- | .4   | .3   | ----- |
| Total | 13.4  | 16.0  | 21.6 | 28.1 | 59.0  | 43.2  | 56.2  | 43.4  | 29.8  | 12.7 | 7.2  | 25.0  |
| Mean  | 0.43  | 0.53  | 0.70 | 0.91 | 2.11  | 1.39  | 1.87  | 1.40  | 0.99  | 0.41 | 0.23 | 0.83  |
| Max   | 0.6   | 0.6   | 0.8  | 1.5  | 15    | 3.4   | 7     | 1.8   | 1.6   | 0.5  | 0.3  | 12    |
| Min   | 0.4   | 0.4   | 0.6  | 0.7  | 1.0   | 1.1   | 1.0   | 1.1   | 0.5   | 0.3  | 0.2  | 0.1   |
| Ac-ft | 27    | 32    | 43   | 56   | 117   | 86    | 111   | 86    | 59    | 25   | 14   | 50    |

Calendar year 1962: Max 53 Min 0.3 Mean 2.36 Ac-ft 1,710  
Water year 1962-63: Max 15 Min 0.1 Mean 0.97 Ac-ft 706

Peak discharge (base, 40 cfs).--No peak above base.

\* Discharge measurement made on this day.

a No gage-height record.

11-590. Waterman Canyon Creek near Arrowhead Springs, Calif.

Location.--Lat 34°11'35", long 117°16'25", in NE 1/4 NW 1/4 sec. 11, T. 1 N., R. 4 W., on left bank 0.8 mile northwest of Arrowhead Springs and 1.3 miles north of San Bernardino National Forest boundary.

Drainage area.--4.55 sq mi.

Records available.--November 1911 to October 1914 (published as "near San Bernardino"), December 1919 to September 1963.

Gage.--Water-stage recorder and broad-crested weir since September 1938. Altitude of gage is 2,050 ft (from topographic map). Prior to December 1919, staff gage at site 300 ft downstream at different datum.

Average discharge.--45 years (1912-14, 1920-63), 2.51 cfs (1,820 acre-ft per year); median of yearly mean discharges, 1.7 cfs (1,200 acre-ft per year).

Extremes.--Maximum discharge during year, 128 cfs Sept. 18 (gage height, 3.18 ft); no flow Oct. 1 to Nov. 2, July 14 to Sept. 17. 1920-63: Maximum discharge, 2,350 cfs Mar. 2, 1938, based on rainfall-runoff studies; no flow at times in some summers.

Remarks.--Records good. Discharge measurements or observations of no flow generally made twice a month. One small diversion for domestic use above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.5 | 0   | 2.0 | 3.5 |
| 1.6 | .2  | 2.1 | 5.2 |
| 1.7 | .6  | 2.2 | 7.6 |
| 1.8 | 1.3 | 2.4 | 16  |
| 1.9 | 2.2 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      | 0     | 0.2  | 0.3  | 0.7   | 0.6  | 0.6   | 1.0  | 0.6   | 0.2  |      | 0     |
| 2     |      | 0     | .2   | .3   | .6    | .6   | .6    | .9   | .5    | .1   |      | 0     |
| 3     |      | .1    | .2   | .4   | .5    | .6   | .6    | .9   | .5    | .1   |      | 0     |
| 4     |      | .1    | .2   | .4   | .5    | .6   | .5    | .9   | .5    | .1   |      | 0     |
| 5     |      | .1    | .2   | .4   | .5    | .6   | .5    | .7   | .6    | .1   |      | 0     |
| 6     |      | .1    | .2   | .4   | .5    | .6   | .5    | .7   | .7    | .1   |      | 0     |
| 7     |      | .1    | .2   | .4   | .5    | .6   | .7    | .6   | .6    | .2   |      | 0     |
| 8     |      | .1    | .3   | .4   | .5    | .6   | .7    | .6   | .5    | .1   |      | 0     |
| 9     |      | .1    | .3   | .4   | 4.6   | .7   | .7    | .6   | .5    | .1   |      | 0     |
| 10    |      | .1    | .3   | .6   | 7.0   | .7   | .7    | .6   | .9    | .1   |      | 0     |
| 11    |      | .1    | .3   | .5   | 1.8   | .7   | .7    | .6   | .7    | .1   |      | 0     |
| 12    |      | .1    | .3   | .5   | 1.2   | .7   | .6    | .5   | .7    | .1   |      | 0     |
| 13    |      | .2    | .3   | .5   | .9    | .7   | .6    | .5   | .7    | .1   |      | 0     |
| 14    |      | .3    | .3   | .5   | .9    | .7   | 1.5   | .6   | .6    | 0    |      | 0     |
| 15    |      | .3    | .3   | .5   | .8    | .7   | 1.1   | .6   | .5    | 0    |      | 0     |
| 16    |      | .2    | .3   | .4   | .7    | 1.0  | .9    | .5   | .4    | 0    |      | 0     |
| 17    |      | .2    | .3   | .4   | .7    | 2.1  | 1.4   | .5   | .4    | 0    |      | 0     |
| 18    |      | .2    | .3   | .4   | .6    | 1.2  | 1.0   | .6   | .4    | 0    |      | 15    |
| 19    |      | .3    | .3   | .4   | .6    | .9   | .9    | .6   | .3    | 0    |      | 1.5   |
| 20    |      | .2    | .3   | .4   | .6    | .8   | .9    | .6   | .3    | 0    |      | .4    |
| 21    |      | .2    | .3   | .4   | .6    | .7   | 4.0   | .7   | .5    | 0    |      | .4    |
| 22    |      | .2    | .3   | .4   | .6    | .7   | 1.5   | .7   | .5    | 0    |      | .3    |
| 23    |      | .3    | .3   | .4   | .6    | .9   | 1.2   | .7   | .5    | 0    |      | .3    |
| 24    |      | .3    | .3   | .4   | .6    | .8   | 1.2   | .7   | .4    | 0    |      | .3    |
| 25    |      | .3    | .3   | .4   | .6    | .7   | 1.0   | .7   | .3    | 0    |      | .3    |
| 26    |      | .2    | .3   | .4   | .6    | .7   | 2.7   | .7   | .3    | 0    |      | .3    |
| 27    |      | .2    | .3   | .4   | .6    | .7   | 1.6   | .7   | .3    | 0    |      | .3    |
| 28    |      | .2    | .3   | .4   | .6    | 1.2  | 1.3   | .7   | .3    | 0    |      | .3    |
| 29    |      | .2    | .3   | .5   | ----- | .7   | 1.1   | .7   | .2    | 0    |      | .3    |
| 30    |      | .2    | .3   | .5   | ----- | .6   | 1.0   | .7   | .2    | 0    |      | .3    |
| 31    |      | ----- | .3   | .5   | ----- | .6   | ----- | .6   | ----- | 0    |      | ----- |
| Total | 0    | 5.2   | 8.6  | 13.2 | 29.5  | 24.0 | 32.3  | 20.7 | 14.4  | 1.5  | 0    | 20.0  |
| Mean  | 0    | 0.17  | 0.28 | 0.43 | 1.05  | 0.77 | 1.08  | 0.67 | 0.48  | 0.05 | 0    | 0.67  |
| Max   | 0    | 0.3   | 0.3  | 0.6  | 7.0   | 2.1  | 4.0   | 1.0  | 0.9   | 0.2  | 0    | 15    |
| Min   | 0    | 0     | 0.2  | 0.3  | 0.5   | 0.6  | 0.5   | 0.5  | 0.2   | 0    | 0    | 0     |
| Ac-ft | 0    | 10    | 17   | 26   | 59    | 48   | 64    | 41   | 29    | 3.0  | 0    | 40    |

Calendar year 1962: Max 24 Min 0 Mean 1.32 Ac-ft 957  
 Water year 1962-63: Max 15 Min 0 Mean 0.46 Ac-ft 337

Peak discharge (base, 35 cfs)--Sept. 18 (0700 hrs) 128 cfs (3.18 ft).

Note.--No gage-height record Sept. 20-30.

## SANTA ANA RIVER BASIN

11-600. City Creek near Highland, Calif.

Location.--Lat 34°08'38", long 117°11'16", in SE 1/4 NW 1/4 sec.27, T.1 N., R.3 W., on right bank 0.6 mile upstream from Highland Avenue and 1.5 miles northeast of Highland.

Drainage area.--19.5 sq mi (revised).

Records available.--October 1919 to September 1963; combined records of creek and canal, June 1924 to September 1963.

Gage.--Water-stage recorder on creek; water-stage recorder on canal. Altitude of gage is 1,580 ft (from topographic map). Prior to Mar. 1, 1939, at site a quarter of a mile downstream at different datum.

Average discharge (creek only).--44 years, 7.78 cfs (5,630 acre-ft per year); median of yearly mean discharges, 4.9 cfs (3,500 acre-ft per year).

(combined).--39 years (1924-63), 9.32 cfs (6,750 acre-ft per year); median of yearly mean discharges, 6.6 cfs (4,800 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 163 cfs Feb. 10 (gage height, 3.06 ft); no flow during several months.

1919-63: Maximum discharge, 6,900 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for several months in some years.

(combined).--Maximum discharge during year, 163 cfs Feb. 10; no flow Aug. 20.

1924-63: Maximum discharge, 6,900 cfs Mar. 2, 1938; no flow at times in some years.

Remarks.--Records good. No regulation above station. City Creek Water Co.'s canal has diverted above station for irrigation throughout period of record.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | *0   | 0     | 0    | 0.1  | 0.1   | 3.0  | 5.4   | *1.0 | 0.2   |      | 0    | 0     |
| 2     | 0    | 0     | 0    | 0.1  | 0.1   | 1.3  | 4.8   | 0.3  | 0.1   |      | 0    | 0     |
| 3     | 0    | 0     | 0    | 0.1  | 0.2   | 0.8  | 1.6   | 0.3  | 0.1   |      | 0    | 0     |
| 4     | 0    | 0     | 0    | 0.1  | 0.2   | 0.2  | *.2   | 1.2  | 0.1   |      | 0    | *0    |
| 5     | 0    | 0     | 0    | 0.3  | 0.1   | 0.2  | 0.2   | 0.3  | *.1   |      | 0    | 0     |
| 6     | 0    | 0     | 0    | 0.5  | *.1   | 0.2  | 0.3   | 0.2  | 0.1   |      | 0    | 0     |
| 7     | 0    | 0     | 0    | 0.1  | 0.1   | 0.2  | 0.9   | 0.2  | 0.1   |      | *0   | 0     |
| 8     | 0    | 0     | 0    | *0   | 0.1   | 0.2  | 1.6   | 0.3  | 0.1   |      | 0    | 0     |
| 9     | 0    | 0     | 0    | 0    | 19    | 0.2  | 1.0   | 0.4  | 0.1   | (*)  | 0    | 0     |
| 10    | 0    | 0     | 0    | 0.9  | 75    | 0.2  | 0.4   | 0.4  | 0.1   |      | 0    | 0     |
| 11    | 0    | 0     | 0    | 0.1  | 15    | 0.2  | 0.3   | 0.4  | 0.1   |      | 0    | 0     |
| 12    | 0    | 0     | *.1  | 0.1  | *8.5  | 0.2  | 0.3   | 0.6  | 0.1   |      | 0    | 0     |
| 13    | 0    | 0     | 0.1  | 0.1  | 6.1   | *.2  | 0.3   | 0.7  | 0.1   |      | 0    | 0     |
| 14    | 0    | 0     | 0.1  | 0.1  | 5.7   | 0.2  | 0.3   | *.4  | 0.1   |      | 0    | 0     |
| 15    | 0    | *0    | 0.1  | 0.1  | 4.8   | 0.3  | 0.5   | 0.4  | 0.1   |      | 0    | 0     |
| 16    | *0   | 0     | 0.1  | 0.1  | 4.2   | 0.3  | *.4   | 0.3  | 0.1   |      | 0    | 0     |
| 17    | 0.1  | 0     | 0.1  | 0.1  | 3.7   | 8.9  | 2.8   | 0.4  | 0.1   |      | 0    | 0     |
| 18    | 0.1  | 0     | 0.1  | 0.1  | 3.5   | *5.4 | 2.2   | 0.4  | *.1   |      | 0    | *8.9  |
| 19    | 0.1  | 0     | 0.1  | 0.1  | 3.2   | 5.7  | 0.6   | 0.4  | 0.1   |      | *0   | 11    |
| 20    | 0.1  | 0     | 0    | 0.1  | 3.2   | 5.4  | 0.6   | 0.4  | 0     |      | 0    | 4.0   |
| 21    | 0    | 0     | 0    | 0.2  | 3.0   | 5.1  | 14    | 0.4  | 0.1   |      | 0.1  | 2.1   |
| 22    | 0    | 0     | 0    | *.1  | 3.0   | 4.8  | 4.2   | 0.5  | 0.1   |      | 0    | 1.2   |
| 23    | 0    | 0     | 0    | 0.1  | 2.8   | 4.8  | 2.8   | 0.6  | 0     | (*)  | 0    | 0.9   |
| 24    | 0    | 0     | 0    | 0.1  | 3.0   | 4.5  | 2.2   | 0.6  | 0     |      | 0    | 0.8   |
| 25    | 0    | 0     | 0    | 0.1  | 3.0   | 4.2  | 1.7   | 0.6  | 0     |      | 0    | 0.7   |
| 26    | 0    | 0     | *0   | 0.1  | *3.0  | 4.2  | 7.4   | 0.6  | *0    |      | 0    | 0.5   |
| 27    | 0    | *0    | 0    | 0.1  | 3.0   | 4.0  | 5.3   | 0.3  | 0     |      | 0    | 0.1   |
| 28    | 0    | 0     | 0    | 0.1  | 3.0   | 5.7  | 2.4   | *.1  | 0     |      | 0    | 0.1   |
| 29    | *0   | 0.1   | 0    | 0.1  | ----- | 5.1  | 1.7   | 0.1  | 0     |      | 0    | 0.1   |
| 30    | 0    | 0     | 0    | 0.1  | ----- | 4.5  | 1.3   | 0.1  | 0     |      | 0    | 0.1   |
| 31    | 0    | ----- | 0    | 0.1  | ----- | 4.2  | ----- | 0.1  | ----- |      | 0    | ----- |
| TOTAL | 0.4  | 0.1   | 0.8  | 4.4  | 176.7 | 84.4 | 67.7  | 13.0 | 2.2   | 0    | 0.1  | 30.5  |
| MEAN  | 0.01 | 0     | 0.03 | 0.14 | 6.21  | 2.72 | 2.26  | 0.42 | 0.07  | 0    | 0    | 1.02  |
| MAX   | 0.1  | 0.1   | 0.1  | 0.9  | 75    | 8.9  | 14    | 1.2  | 0.2   | 0    | 0.1  | 11    |
| MIN   | 0    | 0     | 0    | 0    | 0.1   | 0.2  | 0.2   | 0.1  | 0     | 0    | 0    | 0     |
| AC-FT | 0.8  | 0.2   | 1.6  | 8.7  | 350   | 167  | 134   | 26   | 4.4   | 0    | 0.2  | 60    |

CALENDAR YEAR 1962 MAX 97 MIN 0 MEAN 5.25 AC-FT 3,800  
WATER YEAR 1962-63 MAX 75 MIN 0 MEAN 1.04 AC-FT 753

Peak discharge (base, 150 cfs).--Feb. 10 (0230 hrs) 163 cfs (3.06 ft).

\* Discharge measurement or observation of no flow made on this day.

## 11-600. City Creek near Highland, Calif.--Continued.

Combined discharge, in cubic feet per second, of City Creek and City Creek Water Co.'s canal  
near Highland, Calif., water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 0.7  | 0.9   | 1.8  | 2.0  | 3.9   | 3.0   | 5.4   | 5.8  | 2.6   | 0.9  | 0.2  | 0.1   |
| 2     | .7   | 1.0   | 1.8  | 2.1  | 2.9   | 2.7   | 4.8   | 5.1  | 2.4   | .8   | .2   | .1    |
| 3     | .7   | 1.1   | 1.9  | 2.2  | 2.6   | 3.2   | 3.9   | 4.9  | 2.2   | .7   | .2   | .1    |
| 4     | 1.0  | 1.1   | 1.9  | 2.2  | 2.4   | 2.9   | 3.3   | 4.8  | 2.2   | .7   | .2   | .3    |
| 5     | 1.3  | 1.2   | 1.8  | 2.3  | 2.3   | 2.9   | 3.0   | 4.2  | 2.2   | .7   | .2   | .4    |
| 6     | 1.3  | 1.1   | 1.8  | 2.4  | 2.3   | 2.7   | 2.9   | 3.7  | 2.6   | .7   | .2   | .3    |
| 7     | 1.3  | 1.1   | 1.9  | 2.1  | 2.1   | 2.9   | 3.0   | 3.5  | 2.4   | .7   | .5   | .2    |
| 8     | 1.1  | 1.1   | 1.9  | 2.0  | 2.1   | 2.9   | 3.0   | 3.5  | 2.1   | .7   | .8   | .1    |
| 9     | 1.0  | 1.1   | 1.9  | 2.2  | 2.1   | 3.4   | 3.1   | 3.5  | 2.0   | .6   | .5   | .1    |
| 10    | 1.0  | 1.2   | 1.9  | 5.6  | 7.5   | 3.4   | 3.2   | 3.4  | 2.3   | .6   | .3   | .1    |
| 11    | 1.0  | 1.3   | 1.9  | 3.3  | 1.5   | 3.0   | 3.0   | 3.3  | 2.7   | .5   | .3   | .1    |
| 12    | 1.0  | 1.2   | 2.0  | 2.8  | 8.5   | 3.0   | 2.9   | 3.2  | 3.1   | .5   | .2   | .1    |
| 13    | 1.0  | 1.3   | 2.0  | 2.4  | 6.1   | 2.9   | 2.7   | 3.0  | 2.5   | .4   | .2   | .1    |
| 14    | 1.1  | 1.6   | 2.0  | 2.5  | 5.7   | 2.8   | 3.3   | 2.7  | 2.1   | .4   | .1   | .1    |
| 15    | 1.4  | 1.6   | 2.0  | 2.4  | 4.8   | 4.0   | 4.1   | 2.7  | 1.7   | .3   | .1   | .1    |
| 16    | 1.3  | 1.6   | 2.0  | 2.4  | 4.2   | 3.8   | 3.6   | 2.4  | 1.5   | .3   | .1   | .1    |
| 17    | 1.3  | 1.5   | 2.0  | 2.4  | 3.7   | 8.9   | 6.1   | 2.5  | 1.5   | .3   | .1   | 1.0   |
| 18    | 1.7  | 1.5   | 2.0  | 2.4  | 3.5   | 5.4   | 5.1   | 2.5  | 1.5   | .3   | .1   | 1.1   |
| 19    | 1.8  | 1.4   | 2.0  | 2.4  | 3.2   | 5.7   | 4.5   | 2.5  | 1.5   | .2   | .1   | 1.1   |
| 20    | 1.5  | 1.4   | 1.9  | 2.4  | 3.2   | 5.4   | 4.4   | 2.4  | 1.4   | .2   | 0    | 4.0   |
| 21    | 1.1  | 1.4   | 1.9  | 2.4  | 3.0   | 5.1   | 2.0   | 2.4  | 1.7   | .2   | .1   | 2.1   |
| 22    | 1.0  | 1.4   | 1.9  | 2.3  | 3.0   | 4.8   | 9.7   | 2.5  | 2.0   | .2   | .1   | 1.5   |
| 23    | 1.0  | 1.6   | 1.9  | 2.3  | 2.9   | 4.8   | 7.7   | 2.7  | 1.9   | .1   | .1   | .9    |
| 24    | 1.1  | 1.6   | 1.9  | 2.3  | 3.1   | 4.5   | 6.6   | 2.7  | 1.6   | .1   | .1   | .8    |
| 25    | 1.1  | 1.7   | 2.0  | 2.4  | 3.0   | 4.2   | 5.6   | 2.5  | 1.4   | .1   | .1   | .7    |
| 26    | 1.0  | 1.6   | 1.9  | 2.4  | 3.0   | 4.2   | 1.1   | 2.5  | 1.3   | .1   | .1   | .5    |
| 27    | 1.0  | 1.6   | 2.0  | 2.4  | 3.0   | 4.0   | 9.5   | 2.5  | 1.2   | .1   | .1   | .7    |
| 28    | .9   | 1.7   | 2.0  | 2.4  | 3.0   | 5.7   | 8.7   | 2.6  | 1.1   | .1   | .1   | .8    |
| 29    | .9   | 1.9   | 1.9  | 2.4  | ----- | 5.1   | 7.1   | 2.8  | 1.0   | .1   | .1   | .7    |
| 30    | .9   | 1.9   | 1.9  | 2.4  | ----- | 4.5   | 6.1   | 2.7  | 1.0   | .1   | .1   | .7    |
| 31    | .9   | ----- | 1.9  | 3.2  | ----- | 4.2   | ----- | 2.6  | ----- | .1   | .1   | ----- |
| Total | 34.1 | 41.7  | 59.6 | 77.4 | 198.5 | 126.0 | 167.3 | 98.1 | 56.7  | 11.8 | 5.7  | 38.8  |
| Mean  | 1.10 | 1.39  | 1.92 | 2.50 | 7.09  | 4.06  | 5.58  | 3.16 | 1.89  | 0.38 | 0.18 | 1.29  |
| Max   | 1.8  | 1.9   | 2.0  | 5.6  | 7.5   | 8.9   | 20    | 5.8  | 3.1   | 0.9  | 0.8  | 11    |
| Min   | 0.7  | 0.9   | 1.8  | 2.0  | 2.1   | 2.7   | 2.7   | 2.4  | 1.0   | 0.1  | 0    | 0.1   |
| Ac-ft | 68   | 83    | 118  | 154  | 394   | 250   | 332   | 195  | 112   | 23   | 11   | 77    |

Calendar year 1962: Max 97 Min 0.2 Mean 6.95 Ac-ft 5,030  
Water year 1962-63: Max 75 Min 0 Mean 2.51 Ac-ft 1,820

Peak discharge (base, 150 cfs).--Feb. 10 (0230 hrs) 163 cfs.

## SANTA ANA RIVER BASIN

11-620. Lytle Creek near Fontana, Calif.

Location.--Lat 34°12'42", long 117°27'24", in NW<sup>1</sup>SE<sup>1</sup>SE<sup>1</sup> sec.36, T.2 N., R.6 W., on right bank at downstream side of highway bridge abutment, 0.7 mile upstream from right tributary and 8 miles north of Fontana.

Drainage area.--46.3 sq mi (revised).

Records available.--October 1918 to September 1963. Combined records of Lytle Creek and diversions, October 1898 to December 1899, October 1904 to September 1963 (published as "at mouth of canyon near Rialto" 1898-99, as "near San Bernardino" 1904-18, and as Lytle Creek and Fontana pipe line near Fontana 1919-31). Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder on creek; water-stage recorders and sharp-crested weirs on conduit and infiltration line. Altitude of gage is 2,380 ft (from topographic map). Prior to Mar. 22, 1938, at site 1 mile downstream at different datum.

Average discharge (creek only).--45 years, 10.2 cfs (7,380 acre-ft per year); median of yearly mean discharges, 1.8 cfs (1,300 acre-ft per year).  
(combined).--60 years, 41.1 cfs (29,760 acre-ft per year); median of yearly mean discharges, 34 cfs (24,600 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 122 cfs Feb. 10 (gage height, 4.30 ft); no flow for most of year.  
1918-63: Maximum discharge, 25,200 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow in parts of each year.  
(combined).--Maximum discharge during year, 125 cfs Feb. 10; minimum daily, 9.5 cfs Sept. 15.  
1898-99, 1904-63: Maximum discharge, 25,200 cfs Mar. 2, 1938; minimum daily, 6.5 cfs Nov. 23-25, 1950.

Remarks.--Records good except those for Sept. 17-21, which are poor. Southern California Edison Co.'s Lytle Creek conduit diverts 2.3 miles upstream for power development and Fontana Union Water Co. collects water from an infiltration line upstream for irrigation. For records of combined discharge of Lytle Creek and these two diversions, see following page.

Cooperation.--Records of flow through infiltration line furnished by Fontana Union Water Co.; water-stage recorder graph for the Lytle Creek conduit furnished by Southern California Edison Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr. | May | June | July | Aug. | Sept. |
|---|------|------|------|------|-------|------|------|-----|------|------|------|-------|
| 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   |      |      |      |      | 11    |      |      |     |      |      |      | 0     |
| 10  |      |      | (*)  |      | * 72  |      |      |     |      | (*)  |      | 0     |
| 11  |      |      |      |      | 19    |      |      |     |      |      |      | 0     |
| 12  |      |      |      |      | * 8.1 |      |      |     |      |      |      | 0     |
| 13  |      |      |      |      | 0     |      |      |     |      |      |      | * 0   |
| 14  |      |      |      |      | 0     |      |      |     |      |      |      | 0     |
| 15  |      |      |      |      | * 0   |      |      |     |      |      |      | 0     |
| 16  |      |      |      |      | 0     |      | (*)  |     |      |      |      | 0     |
| 17  |      |      |      |      | 0     |      |      |     |      |      |      | 1     |
| 18  |      |      |      |      | 0     | (*)  |      |     | (*)  |      |      | ** 50 |
| 19  |      | (*)  |      |      | 0     |      |      |     |      |      |      | 10    |
| 20  |      |      |      |      | 0     |      |      |     |      |      |      | ** 3  |
| 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     |
| 30  |      |      |      | (*)  | ----- |      |      |     |      |      |      | 0     |
| 31  |      |      |      |      | ----- |      |      |     |      |      |      | 0     |
| Total   | 0    | 0    | 0    | 0    | 110.1 | 0    | 0    | 0   | 0    | 0    | 0    | 64    |
| Mean  | 0    | 0    | 0    | 0    | 3.93  | 0    | 0    | 0   | 0    | 0    | 0    | 2.13  |
| Max   | 0    | 0    | 0    | 0    | 72    | 0    | 0    | 0   | 0    | 0    | 0    | 50    |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0   | 0    | 0    | 0    | 0     |
| Ac-ft   | 0    | 0    | 0    | 0    | 218   | 0    | 0    | 0   | 0    | 0    | 0    | 127   |
| Calendar year 1962: Max 175 Min 0 Mean 5.60 Ac-ft 4,060 |      |      |      |      |       |      |      |     |      |      |      |       |
| Water year 1962-63: Max 72 Min 0 Mean .48 Ac-ft 345     |      |      |      |      |       |      |      |     |      |      |      |       |

Peak discharge (base, 200 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

Note.--No gage-height record Apr. 17 to Sept. 30.



Combined discharge, in cubic feet per second, of Lytle Creek, Southern California Edison Co.'s Lytle Creek conduit, and Fontana Union Water Co.'s infiltration line, near Fontana, Calif., water year October 1962 to September 1963

[illegible]

11-630. Cajon Creek near Keenbrook, Calif.

Location.--Lat 34°16'03", long 117°27'30", in SE 1/4 sec. 12, T.2 N., R.6 W., on right bank 1,600 ft upstream from Lone Pine Creek and 1.2 miles north of Keenbrook.

Drainage area.--40.6 sq mi (revised).

Records available.--December 1919 to September 1963.

Gage.--Water-stage recorder (digital). Altitude of gage is 2,630 ft (from topographic map). Prior to Oct. 24, 1935, water-stage recorder at site 1,300 ft downstream at different datum.

Average discharge.--43 years (1920-63), 8.57 cfs (6,200 acre-ft per year); median of yearly mean discharges, 5.6 cfs (4,100 acre-ft per year).

Extremes.--Maximum discharge during year, 283 cfs Feb. 9 (gage height, 3.18 ft); minimum daily, 1.6 cfs Jan. 1.

1919-63: Maximum discharge, 14,500 cfs Mar. 2, 1938 (gage height, 19.3 ft), result of slope-area measurement of peak flow; minimum, 0.05 cfs June 25, 1920.

Remarks.--Records good below 10 cfs and poor above. Discharge measurements made twice a month. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR.  | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 1.9  | 2.2   | 2.2  | 1.6  | 2.0   | 2.5   | 2.7   | 2.5  | 2.0   | 2.2  | 2.0  | 2.0   |
| 2     | 1.9  | 2.2   | 2.2  | 1.7  | 2.0   | 2.5   | 2.7   | 2.3  | 2.0   | 2.0  | 2.0  | 2.0   |
| 3     | 2.0  | 2.2   | 2.2  | 1.7  | 1.9   | 2.5   | 2.5   | 2.3  | 2.0   | 2.0  | 2.0  | 2.0   |
| 4     | 2.2  | 2.2   | 2.0  | 1.7  | 1.9   | 2.5   | 2.5   | 2.3  | 2.0   | 2.0  | 2.0  | 2.0   |
| 5     | 2.2  | 2.2   | 2.0  | 1.7  | 1.9   | 2.5   | 2.5   | 2.3  | 2.2   | 2.0  | 2.0  | 1.9   |
| 6     | 2.2  | 2.2   | 2.0  | 1.7  | 1.9   | 2.5   | 2.3   | 2.3  | 2.2   | 2.0  | 2.0  | 1.9   |
| 7     | 2.3  | 2.0   | 2.0  | 1.9  | 1.9   | 2.5   | 2.3   | 2.3  | 2.0   | 2.0  | 2.0  | 1.9   |
| 8     | 2.3  | 2.0   | 2.0  | 1.9  | 2.0   | 2.5   | 2.5   | 2.3  | 2.2   | 1.9  | 2.0  | 1.9   |
| 9     | 2.2  | 2.0   | 2.0  | 1.9  | 62    | 2.5   | 2.5   | 2.3  | 2.0   | 1.9  | 2.0  | 1.9   |
| 10    | 2.2  | 2.0   | 2.0  | 2.0  | 12    | 2.5   | 2.3   | 2.3  | 2.2   | 1.9  | 2.0  | 1.9   |
| 11    | 2.2  | 2.0   | 2.0  | 2.0  | 3.7   | 2.5   | 2.3   | 2.3  | 2.0   | 1.9  | 2.0  | 1.9   |
| 12    | 2.2  | 2.0   | 2.0  | 2.0  | 3.3   | 2.5   | 2.2   | 2.3  | 2.0   | 1.9  | 2.0  | 1.9   |
| 13    | 2.2  | 2.0   | 2.0  | 2.0  | 3.1   | 2.3   | 2.2   | 2.3  | 2.2   | 1.9  | 1.9  | 2.0   |
| 14    | 2.2  | 2.0   | 2.0  | 2.0  | 3.1   | 2.3   | 2.5   | 2.3  | 2.2   | 1.9  | 1.9  | 2.0   |
| 15    | 2.0  | 2.0   | 2.0  | 2.0  | 2.9   | 2.5   | 2.5   | 2.3  | 2.0   | 1.9  | 2.0  | 2.0   |
| 16    | 2.0  | 2.0   | 2.0  | 2.0  | 2.9   | 2.9   | 2.5   | 2.2  | 2.0   | 1.9  | 1.9  | 2.2   |
| 17    | 2.0  | 2.0   | 2.0  | 2.0  | 2.9   | 4.9   | 2.7   | 2.2  | 2.0   | 1.9  | 1.9  | 8.7   |
| 18    | 2.2  | 2.0   | 1.9  | 2.0  | 2.7   | 3.1   | 2.5   | 2.2  | 2.0   | 1.9  | 1.9  | 13    |
| 19    | 2.2  | 2.0   | 1.9  | 2.0  | 2.7   | 2.7   | 2.5   | 2.2  | 2.0   | 1.9  | 1.9  | 11    |
| 20    | 2.0  | 2.0   | 1.9  | 2.0  | 2.7   | 2.5   | 2.7   | 2.2  | 2.2   | 1.9  | 1.9  | 3.5   |
| 21    | 2.0  | 2.0   | 1.9  | 2.0  | 2.7   | 2.5   | 3.1   | 2.2  | 2.3   | 1.9  | 1.9  | 3.1   |
| 22    | 2.0  | 2.0   | 1.9  | 2.0  | 2.5   | 2.5   | 2.7   | 2.2  | 2.3   | 1.9  | 1.9  | 2.7   |
| 23    | 2.0  | 2.2   | 1.9  | 2.0  | 2.5   | 2.7   | 2.5   | 2.2  | 2.3   | 1.9  | 2.0  | 2.5   |
| 24    | 2.2  | 2.2   | 1.9  | 2.0  | 2.7   | 2.7   | 2.5   | 2.2  | 2.2   | 1.9  | 2.0  | 2.3   |
| 25    | 2.2  | 2.2   | 1.7  | 2.0  | 2.5   | 2.5   | 2.5   | 2.0  | 2.0   | 1.9  | 1.9  | 2.3   |
| 26    | 2.0  | 2.2   | 1.7  | 2.0  | 2.7   | 2.5   | 8.0   | 2.0  | 2.2   | 1.9  | 1.9  | 2.2   |
| 27    | 2.0  | 2.2   | 1.7  | 2.0  | 2.5   | 2.5   | 2.5   | 2.0  | 2.2   | 1.9  | 1.9  | 2.3   |
| 28    | 2.0  | 2.2   | 1.7  | 2.0  | 2.5   | 19    | 2.5   | 2.0  | 2.2   | 1.9  | 1.9  | 2.2   |
| 29    | 2.0  | 2.2   | 1.7  | 1.9  | ----- | 4.6   | 2.3   | 2.0  | 2.2   | 1.9  | 1.9  | 2.2   |
| 30    | 2.0  | 2.2   | 1.7  | 1.9  | ----- | 3.7   | 2.3   | 2.0  | 2.2   | 1.9  | 1.9  | 2.2   |
| 31    | 2.0  | ----- | 1.7  | 2.2  | ----- | 3.3   | ----- | 2.0  | ----- | 2.0  | 2.0  | ----- |
| TOTAL | 65.0 | 62.8  | 59.8 | 59.8 | 140.1 | 101.7 | 80.3  | 68.5 | 63.5  | 59.9 | 60.5 | 91.6  |
| MEAN  | 2.10 | 2.09  | 1.93 | 1.93 | 5.00  | 3.28  | 2.68  | 2.21 | 2.12  | 1.93 | 1.95 | 3.05  |
| AC-FT | 129  | 125   | 119  | 119  | 278   | 202   | 159   | 136  | 126   | 119  | 120  | 182   |
| MAX   | 2.3  | 2.2   | 2.2  | 2.2  | 62    | 19    | 8.0   | 2.5  | 2.3   | 2.2  | 2.0  | 13    |
| MIN   | 1.9  | 2.0   | 1.7  | 1.6  | 1.9   | 2.3   | 2.2   | 2.0  | 2.0   | 1.9  | 1.9  | 1.9   |

CALENDAR YEAR 1962 MAX 1,540 MIN 1.5 MEAN 11.7 AC-FT 8,480  
 WATER YEAR 1962-63 MAX 62 MIN 1.6 MEAN 2.50 AC-FT 1,810

Peak discharge (base, 140 cfs).--Feb. 9 (2145 hrs) 283 cfs (3.18 ft).

11-635. Lone Pine Creek near Keenbrook, Calif.

Location.--Lat 34°15'59", long 117°27'47", in SE 1/4 sec. 12, T.2 N., R.6 W., on right bank 50 ft upstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 150 ft upstream from mouth, and 1.1 miles north of Keenbrook.

Drainage area.--15.1 sq mi (revised).

Records available.--December 1919 to September 1938, June 1949 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,605.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1946. Prior to Mar. 2, 1938, water-stage recorder (destroyed by flood) and Mar. 2 to Sept. 30, 1938, staff gage, at same site at datum 0.98 ft higher.

Average discharge.--32 years (1920-38, 1949-63), 1.18 cfs (854 acre-ft per year); median of yearly mean discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 104 cfs Feb. 9 (gage height, 2.90 ft); minimum daily, 0.1 cfs for many days.

1919-38, 1949-63: Maximum discharge, 6,180 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, 0.1 cfs at times in some years.

Remarks.--Records good except that for Feb. 9, which is poor. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 9 to Mar. 27, Aug. 5 to Sept. 30)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.1 | 0.1 | 1.5 | 4.4 |
| 1.2 | .5  | 1.6 | 6.8 |
| 1.3 | 1.3 | 1.7 | 9.8 |
| 1.4 | 2.6 |     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.2  | A0.1  | 0.2  | 0.2  | 0.2   | 0.2  | *0.2  | 0.2  | 0.2   | 0.1  | 0.1  | 0.2   |
| 2     | .2   | A.1   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .1   | .1   | .2    |
| 3     | *.2  | A.1   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .1   | .1   | .2    |
| 4     | .1   | A.1   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .1   | .1   | .2    |
| 5     | .1   | A.1   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .2   | *.1  | .2    |
| 6     | .1   | A.1   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .2   | .1   | .1    |
| 7     | .1   | A.1   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .2   | .1   | .1    |
| 8     | .1   | A.1   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .2   | .1   | .1    |
| 9     | .1   | A.1   | .2   | .2   | 9.0   | .2   | .2    | .2   | .2    | .2   | .1   | .1    |
| 10    | .1   | A.2   | *.2  | .2   | *.4   | .2   | .2    | .2   | *.2   | *.2  | .1   | .1    |
| 11    | .1   | A.2   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .1   | .1   | .1    |
| 12    | .1   | A.2   | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .1   | .1   | .1    |
| 13    | .1   | A.2   | .2   | .2   | .2    | *.2  | .2    | .2   | .2    | .1   | .1   | *.1   |
| 14    | .1   | *A.2  | .2   | *.2  | .2    | .2   | .2    | .2   | .1    | .1   | *.1  | .1    |
| 15    | *.1  | .2    | .2   | .2   | .2    | .2   | *.2   | *.2  | .1    | .1   | .1   | .2    |
| 16    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | .2   | .1    | .1   | .1   | .2    |
| 17    | .1   | .2    | .2   | .2   | .2    | .3   | .2    | .2   | .1    | .1   | .1   | .2    |
| 18    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | .2   | .1    | .1   | .2   | .3    |
| 19    | .1   | .2    | .2   | .2   | .2    | *.2  | .2    | .2   | .1    | .1   | .2   | .2    |
| 20    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | .2   | .1    | .1   | .2   | .2    |
| 21    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .1   | .2   | .1    |
| 22    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | .2   | .2    | *.1  | .2   | .1    |
| 23    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | .2   | .2    | .1   | .2   | .1    |
| 24    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | .2   | .1    | .1   | .2   | .1    |
| 25    | .1   | .2    | .2   | .2   | *.2   | .2   | .2    | .2   | *.1   | .1   | .2   | .1    |
| 26    | .1   | *.2   | .2   | .2   | .2    | .2   | .2    | .2   | .1    | .1   | .2   | *.1   |
| 27    | .1   | .2    | .2   | .2   | .2    | .2   | .2    | *.2  | .1    | .1   | *.2  | .1    |
| 28    | .1   | .2    | .2   | .2   | .2    | .4   | .2    | .2   | .1    | .1   | .2   | .1    |
| 29    | .1   | .2    | .2   | .2   | ----- | .2   | .2    | .2   | .1    | .1   | .2   | .1    |
| 30    | .1   | .2    | .2   | *.2  | ----- | .2   | *.2   | .2   | .1    | .1   | .2   | .1    |
| 31    | *.1  | ----- | *.2  | .2   | ----- | .2   | ----- | .2   | ----- | .1   | .2   | ----- |
| TOTAL | 3.4  | 5.1   | 6.2  | 6.2  | 14.6  | 6.5  | 6.0   | 6.2  | 4.6   | 3.7  | 4.5  | 4.2   |
| MEAN  | 0.11 | 0.17  | 0.20 | 0.20 | 0.52  | 0.21 | 0.20  | 0.20 | 0.15  | 0.12 | 0.15 | 0.14  |
| MAX   | 0.2  | 0.2   | 0.2  | 0.2  | 9.0   | 0.4  | 0.2   | 0.2  | 0.2   | 0.2  | 0.2  | 0.3   |
| MIN   | 0.1  | 0.1   | 0.2  | 0.2  | 0.2   | 0.2  | 0.2   | 0.2  | 0.1   | 0.1  | 0.1  | 0.1   |
| AC-FT | 6.7  | 10    | 12   | 12   | 29    | 13   | 12    | 12   | 9.1   | 7.3  | 8.9  | 8.3   |

CALENDAR YEAR 1962 MAX 36 MIN 0.1 MEAN 0.42 AC-FT 302  
WATER YEAR 1962-63 MAX 9.0 MIN 0.1 MEAN 0.20 AC-FT 140

Peak discharge (base, 80 cfs).--Feb. 9 (2100 hrs) 104 cfs (2.90 ft).

\* Discharge measurement made on this day.

A No gage-height record.

## SANTA ANA RIVER BASIN

11-636.8. Devil Canyon Creek near San Bernardino, Calif.

Location.--Lat 34°12'12", long 117°20'02", in Muscupiabe Grant, on right bank 1.0 mile downstream from confluence of East Fork and West Fork and 7.0 miles northwest of San Bernardino, San Bernardino County.

Drainage area.--6.16 sq mi.

Records available.--November 1911 to September 1912, October 1913 to September 1914, December 1919 to September 1963. Monthly figures only for January 1914, published in WSP 1315-B.

Gage.--Water-stage recorder and broad-crested weir since July 1925 (affected by debris in most years) on creek; flow meter on diversion. Altitude of gage is 1,900 ft (from topographic map). Prior to December 1919, staff gage at site 500 ft downstream at different datum.

Average discharge (creek only).--44 years (1913-14, 1920-63), 1.59 cfs (1,150 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

(combined).--30 years (1913-14, 1934-63), 3.26 cfs (2,360 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Extremes.--Maximum discharge during year, 11 cfs Feb. 10 (gage height, 1.77 ft); no flow for most of year.

1913-14, 1919-63: Maximum discharge, 3,320 cfs Mar. 2, 1938, by rainfall-runoff studies; no flow at times in most years.

Remarks.--Records good. City of San Bernardino diverts above station for municipal supply.

Cooperation.--Records of diversion furnished by city of San Bernardino.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.9 | 0   | 1.3 | 2.1 |
| 1.0 | .1  | 1.5 | 4.7 |
| 1.1 | .6  | 1.6 | 6.5 |
| 1.2 | 1.2 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|------|-----|------|------|------|-------|
| 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    |      |      |      |      | * 5.0 |      |      |     | .1   |      |      |       |
| 11    |      |      |      |      | .4    |      |      |     | .1   |      |      |       |
| 12    |      |      |      |      | 0     |      |      |     | .1   |      |      |       |
| 13    |      |      |      |      | 0     |      |      |     | .1   |      |      | (*)   |
| 14    |      |      |      |      | 0     |      |      |     | .1   |      |      |       |
| 15    |      |      |      |      | 0     |      |      |     | .1   |      |      |       |
| 16    |      |      |      |      | 0     |      |      |     | .1   |      |      |       |
| 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    |      |      |       |
| 30    |      |      |      |      |       |      |      |     | 0    |      |      |       |
| 31    |      |      |      |      |       |      |      |     | 0    |      |      |       |
| Total | 0    | 0    | 0    | 0    | 5.4   | 0    | 0    | 0   | 0.7  | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 0.19  | 0    | 0    | 0   | 0.02 | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 5.0   | 0    | 0    | 0   | 0.1  | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0   | 0    | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 11    | 0    | 0    | 0   | 1.4  | 0    | 0    | 0     |
| (†)   | 45   | 45   | 50   | 55   | 51    | 54   | 60   | 66  | 60   | 43   | 33   | 32    |
| (‡)   | 45   | 45   | 50   | 55   | 62    | 54   | 60   | 66  | 61   | 43   | 33   | 32    |

Calendar year 1962: Max 30 Min 0 Mean 0.66 Ac-ft 475 Mean ‡ 1.81 Ac-ft ‡ 1,310

Water year 1962-63: Max 5.0 Min 0 Mean 0.02 Ac-ft 12 Mean ‡ 0.84 Ac-ft ‡ 606

Peak discharge (base, 25 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

† Diversion, in acre-feet, above station for city of San Bernardino municipal supply.

‡ Adjusted for diversion, in acre-feet.



## SANTA ANA RIVER BASIN

11-660.5. Santa Ana River at Colton, Calif.

Location.--Lat 34°03'45", long 117°18'30", in San Bernardino Grant, on right bank 60 ft downstream from Southern Pacific Railroad bridge, 200 ft (revised) downstream from Warm Creek, and 1 mile southeast of Colton, San Bernardino County.

Drainage area.--722 sq mi.

Records available.--December 1961 to September 1963.

Gage.--Water-stage recorder (digital). Altitude of gage is 940 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,950 cfs Sept. 18 (gage height, 10.03 ft); minimum daily, 7.4 cfs Apr. 8.  
1961-63: Maximum discharge, that of Sept. 18, 1963; minimum daily, 7.2 cfs Mar. 1-4, Apr. 7, 1962.

Remarks.--Records good except those for periods of no gage-height record, indefinite stage-discharge relation, and Sept. 17-20, which are poor. Flow partly regulated by Big Bear Lake (see p. 124). Natural flow of stream affected by ground-water withdrawals or diversions for domestic use and irrigation above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | * 16  | 17    | a12  | 18   | 15    | 13    | 15    | 16    | 14    | 14    | 20    | 14    |
| 2     | 16    | 17    | a12  | 18   | 14    | 13    | 16    | 18    | 14    | *14   | 20    | 16    |
| 3     | 16    | 17    | a13  | 18   | 12    | 14    | 17    | 18    | 16    | 14    | 19    | 17    |
| 4     | 16    | 16    | a13  | 18   | 14    | 15    | *19   | 19    | 16    | 12    | 16    | 27    |
| 5     | 17    | 16    | a13  | 18   | 14    | *16   | 20    | 20    | 16    | 14    | 20    | * 19  |
| 6     | 17    | 13    | a14  | 17   | 14    | 18    | 16    | *24   | 16    | 14    | 19    | 19    |
| 7     | 18    | 12    | *a14 | 18   | 14    | 17    | 12    | 20    | 16    | 15    | 20    | 18    |
| 8     | * 25  | *12   | 14   | *18  | 14    | 19    | * 7.4 | 19    | 15    | 19    | 20    | 16    |
| 9     | 22    | 11    | 14   | 17   | 259   | 45    | 9.4   | 21    | 14    | 20    | 21    | 16    |
| 10    | 21    | 11    | 14   | 32   | *446  | 12    | 12    | 26    | 15    | *22   | 20    | a15   |
| 11    | 20    | 11    | 14   | 17   | *14   | *19   | 14    | 22    | *e20  | 21    | 19    | a15   |
| 12    | 20    | 12    | 15   | 17   | 14    | 18    | 14    | 29    | 9.0   | 20    | * 20  | a14   |
| 13    | 18    | 12    | 16   | 17   | 14    | 19    | 16    | *29   | 14    | 19    | 19    | * 14  |
| 14    | 15    | *11   | * 16 | 17   | 15    | 18    | 35    | 27    | 18    | 17    | 19    | 12    |
| 15    | * 18  | 11    | 15   | *14  | 15    | 20    | 25    | 31    | 16    | 19    | 20    | 11    |
| 16    | 14    | 11    | 15   | 14   | 14    | 37    | 19    | 31    | 14    | 19    | 20    | 13    |
| 17    | 13    | 11    | 17   | 13   | 14    | 144   | *91   | 28    | 17    | 19    | 17    | *264  |
| 18    | 13    | 10    | 17   | 13   | 14    | *16   | 12    | e30   | 16    | 19    | 15    | *331  |
| 19    | *15   | 11    | 18   | 12   | 14    | 16    | 17    | e30   | *18   | 19    | 14    | *24   |
| 20    | 15    | 12    | 18   | 12   | 14    | 18    | 19    | e28   | 18    | 18    | * 14  | 11    |
| 21    | 15    | 14    | 18   | 16   | 14    | 20    | 30    | e25   | 18    | 16    | 14    | a11   |
| 22    | 18    | 18    | 17   | 14   | 14    | 20    | *17   | e23   | 16    | 19    | 14    | a11   |
| 23    | 18    | *26   | 17   | 16   | 14    | 21    | 15    | *e20  | 16    | 18    | 14    | a12   |
| 24    | *19   | 27    | 18   | 14   | 13    | 22    | 15    | 19    | 17    | 17    | 13    | a12   |
| 25    | 19    | 22    | 16   | 14   | *14   | 22    | 14    | 14    | 17    | 16    | 13    | a12   |
| 26    | 19    | 20    | 17   | 13   | 14    | 22    | *50   | 14    | 17    | *17   | 16    | a13   |
| 27    | 19    | 17    | 17   | 13   | 14    | 22    | 13    | 14    | *13   | 17    | 16    | a13   |
| 28    | 18    | 14    | *18  | 14   | 13    | *42   | 13    | 15    | 14    | 16    | 16    | a13   |
| 29    | 19    | *12   | 18   | 14   | ----- | *14   | *15   | 16    | 14    | 20    | 16    | a14   |
| 30    | *18   | 12    | 17   | *14  | ----- | 13    | 18    | 15    | 13    | 20    | 14    | a14   |
| 31    | 16    | ----- | 18   | 15   | ----- | 14    | ----- | *16   | ----- | 20    | 14    | ----- |
| Total | 543   | 436   | 485  | 495  | 1,068 | 739   | 605.8 | 677   | 467   | 544   | 532   | 1,011 |
| Mean  | 17.5  | 14.5  | 15.6 | 16.0 | 38.1  | 23.8  | 20.2  | 21.8  | 15.6  | 17.5  | 17.2  | 33.7  |
| Max   | 25    | 27    | 18   | 32   | 446   | 144   | 91    | 31    | 20    | 22    | 20    | 331   |
| Min   | 13    | 10    | 12   | 12   | 12    | 12    | 7.4   | 14    | 13    | 12    | 13    | 11    |
| Ac-ft | 1,080 | 865   | 962  | 982  | 2,120 | 1,470 | 1,200 | 1,340 | 926   | 1,080 | 1,060 | 2,010 |

Calendar year 1962: Max 501 Min 7.2 Mean 22.9 Ac-ft 16,570

Water year 1962-63: Max 446 Min 7.4 Mean 20.8 Ac-ft 15,100

\* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

11-665. Santa Ana River at Riverside Narrows, near Arlington, Calif.

Location.--Lat 33°57'53", long 117°27'55", in SW 1/4 SW 1/4 sec. 25, T.2 S., R.6 W., on right bank at downstream side of bridge on Pedley Road, 1.8 miles downstream from Union Pacific Railroad bridge, 3.3 miles northwest of Arlington, and 12 miles upstream from Temescal Creek.

Drainage area.--858 sq mi.

Records available.--October 1927 to September 1963. Monthly discharge only for October 1927 to January 1929, published in WSP 1315-B.

Gage.--Water-stage recorder (digital). Datum of gage is 666.87 ft above mean sea level (levels by Riverside County engineer). Prior to Nov. 15, 1943, at site 1 1/4 miles upstream at different datum. During this period temporary stations were maintained at different sites and datums within a quarter of a mile of the permanent gage. Nov. 15, 1943, to Aug. 31, 1954, at datum 3.00 ft higher. Sept. 1, 1954, to Jan. 17, 1955, at datum 2.00 ft higher.

Extremes.--Maximum discharge during year, about 1,000 cfs Feb. 10 (gage height, 5.18 ft); minimum daily, 14 cfs Jan. 11, 12, July 28. 1927-63: Maximum discharge, 100,000 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, 13 cfs July 28-30, Aug. 10, 1962.

Remarks.--Records good except those above 50 cfs, which are poor. Flow partly regulated by Big Bear Lake (see p. 124). Natural flow of stream affected by ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 19    | 17    | 23    | 19    | 28    | 23    | 26    | 23    | 23    | 18    | * 18  | 17    |
| 2     | * 18  | 17    | 23    | 19    | 23    | 23    | 26    | 23    | 23    | 18    | 20    | 17    |
| 3     | 19    | 17    | 23    | 19    | 22    | 23    | 25    | 23    | 24    | 18    | 20    | 17    |
| 4     | 18    | 17    | 23    | 19    | 21    | 23    | 27    | 23    | 24    | 18    | 21    | 45    |
| 5     | 18    | 18    | 22    | 18    | 21    | 23    | 26    | 22    | 24    | 18    | 20    | 21    |
| 6     | 17    | 20    | 21    | 19    | 21    | 22    | 26    | 21    | 23    | 19    | 21    | 18    |
| 7     | 17    | 20    | 22    | 18    | 21    | 22    | 26    | 21    | 23    | 21    | 23    | 17    |
| 8     | 17    | 19    | 23    | 16    | 21    | 22    | 26    | 21    | 22    | 21    | 21    | 16    |
| 9     | 17    | 20    | 22    | 16    | 64    | 24    | 26    | 21    | 23    | 21    | 21    | 16    |
| 10    | 17    | 21    | 25    | 16    | 477   | 27    | 26    | 21    | 23    | 21    | 21    | 16    |
| 11    | 18    | 21    | 24    | 14    | 60    | 23    | 26    | 21    | 23    | 21    | 21    | 16    |
| 12    | 18    | 21    | 23    | 14    | * 37  | 23    | 26    | 22    | * 25  | 20    | 20    | 16    |
| 13    | 18    | 21    | 23    | 16    | 26    | 22    | 27    | 21    | 22    | 20    | 20    | 16    |
| 14    | 18    | 20    | 23    | 16    | 46    | 22    | 46    | 21    | 21    | 20    | 20    | 16    |
| 15    | 18    | 19    | 22    | 16    | 31    | 26    | 36    | 21    | 21    | * 20  | * 19  | 17    |
| 16    | * 19  | 20    | 22    | 16    | 28    | 24    | 33    | * 21  | 22    | 21    | 18    | * 17  |
| 17    | 21    | 20    | 21    | 16    | 26    | 151   | 94    | 21    | 20    | 21    | 17    | 150   |
| 18    | 21    | 20    | 25    | 18    | 25    | 42    | 38    | 22    | 18    | 22    | 17    | * 163 |
| 19    | 21    | 20    | 22    | 18    | 24    | * 28  | 31    | 22    | 17    | 22    | 17    | 173   |
| 20    | 20    | 21    | 21    | 20    | 23    | 27    | 29    | 22    | 17    | 23    | 17    | 35    |
| 21    | 20    | 22    | 21    | 21    | 23    | 27    | 30    | 22    | 17    | 23    | 18    | 24    |
| 22    | 20    | 21    | 21    | 21    | 23    | 26    | 26    | 22    | 17    | 23    | 18    | 22    |
| 23    | 18    | 21    | 21    | 22    | 23    | 26    | 24    | 22    | 17    | 24    | 17    | 24    |
| 24    | 18    | 21    | 21    | 22    | 23    | 26    | 23    | 22    | 18    | 24    | 17    | * 22  |
| 25    | 18    | 21    | 21    | 23    | 23    | 26    | 23    | 22    | 17    | 24    | 17    | 22    |
| 26    | 18    | 21    | 19    | 23    | 23    | 26    | 54    | 22    | * 17  | 21    | 17    | 21    |
| 27    | 18    | * 22  | * 21  | 23    | * 23  | * 26  | 27    | 22    | 18    | 16    | 17    | 21    |
| 28    | 17    | 23    | 21    | 23    | 23    | 45    | 24    | 23    | 18    | 14    | 17    | 20    |
| 29    | * 17  | 23    | 21    | 23    | ----- | 30    | 23    | 24    | 18    | 15    | 17    | 19    |
| 30    | 17    | 23    | 20    | * 22  | ----- | 27    | 23    | 24    | 18    | 16    | * 17  | 20    |
| 31    | 17    | ----- | 19    | 29    | ----- | 26    | ----- | * 24  | ----- | 17    | 17    | ----- |
| Total | 5 67  | 607   | 679   | 595   | 1 229 | 9 31  | 9 23  | 6 82  | 6 13  | 6 20  | 5 81  | 10 34 |
| Mean  | 18.3  | 20.2  | 21.9  | 19.2  | 43.9  | 30.0  | 30.8  | 22.0  | 20.4  | 20.0  | 18.7  | 34.5  |
| Max   | 21    | 23    | 25    | 29    | 477   | 151   | 94    | 24    | 25    | 24    | 23    | 173   |
| Min   | 17    | 17    | 19    | 14    | 21    | 22    | 23    | 21    | 17    | 14    | 17    | 16    |
| Ac-ft | 1,120 | 1,200 | 1,350 | 1,180 | 2,440 | 1,850 | 1,830 | 1,350 | 1,220 | 1,230 | 1,150 | 2,050 |

Calendar year 1962: Max 758 Min 13 Mean 31.4 Ac-ft 22,740  
 Water year 1962-63: Max 477 Min 14 Mean 24.8 Ac-ft 17,970

Peak discharge (base, 500 cfs).--Feb. 10 (1415 hrs) about 1,000 cfs (5.18 ft); Sept. 19 (0330 hrs) 710 cfs (4.68 ft).

\* Discharge measurement made on this day.

## SANTA ANA RIVER BASIN

11-670. Day Creek near Etiwanda, Calif.

Location.--Lat 34°11'05", long 117°32'20", in NW 1/4 sec. 8, T.1 N., R.6 W., on left bank 0.5 mile downstream from confluence of two main forks and 4 miles north of Etiwanda.

Drainage area.--4.58 sq mi.

Records available.--October 1927 to September 1963. Combined records of creek and diversion, October 1950 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and broad-crested weir since September 1938 (affected by debris at times); water-stage recorder and 1-ft Parshall flume on diversion. Altitude of gage is 2,870 ft (from topographic map). Prior to Jan. 7, 1929, at site 125 ft downstream at different datum. Jan. 7, 1929, to Mar. 2, 1938, at site 200 ft upstream at different datum (destroyed by flood). May 2 to Sept. 2, 1938, at site 200 ft downstream at different datum.

Average discharge (creek only).--36 years, 3.37 cfs (2,440 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

(combined).--13 years, 3.01 cfs (2,180 acre-ft per year); median of yearly mean discharges, 2.4 cfs (1,700 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 114 cfs Feb. 9 (gage height, 2.38 ft); minimum daily, 0.1 cfs July 10 to Sept. 16.

1927-63: Maximum discharge, 4,200 cfs Mar. 2, 1938, based on rainfall-runoff studies; no flow Oct. 5 to Nov. 1, 1950.

(combined).--Maximum discharge during year, 115 cfs Feb. 9; minimum daily, 0.3 cfs Sept. 2, 3, 12-14.

1950-63: Maximum discharge, 367 cfs Feb. 16, 1959; minimum daily, 0.3 cfs on several days in 1961 and 1963.

Remarks.--Records good. Etiwanda Water Co. has diverted water above station during entire period of record. For records of combined discharge of creek and Etiwanda Water Co.'s diversion, see following page. In addition, an infiltration gallery, unwatering the gravel in the bed of the stream at gaging station, produced 453 acre-ft during year.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 10-12, Sept. 20-30)

|     |     |     |     |     |    |
|-----|-----|-----|-----|-----|----|
| 0.3 | 0   | 0.7 | 1.9 | 1.3 | 11 |
| .4  | .2  | .8  | 2.8 | 1.5 | 17 |
| .5  | .6  | 1.0 | 5.2 | 1.7 | 26 |
| .6  | 1.2 | 1.2 | 8.8 |     |    |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR.  | APR. | MAY   | JUNE | JULY  | AUG. | SEPT. |
|-------|------|-------|------|------|-------|-------|------|-------|------|-------|------|-------|
| 1     | 0.4  | *0.5  | 0.4  | 0.3  | 0.8   | a 0.4 | 0.4  | 0.5   | 0.4  | 0.2   | 0.1  | 0.1   |
| 2     | .4   | .5    | .4   | .3   | 1.0   |       | .4   | *.5   | .4   | .2    | .1   | .1    |
| 3     | *.3  | .5    | .4   | .2   | 1.1   |       | .4   | .5    | .4   | .2    | .1   | .1    |
| 4     | .3   | .5    | .4   | .2   | *1.2  |       | .4   | .5    | .4   | .2    | .1   | .1    |
| 5     | .3   | .5    | .4   | .2   | .7    |       | .4   | .5    | .4   | .2    | .1   | .1    |
| 6     | .3   | .4    | .4   | .2   | .5    | a .3  | .4   | .5    | .4   | .2    | .1   | .1    |
| 7     | .3   | .4    | .4   | .2   | .5    |       | .4   | .5    | .4   | .2    | .1   | .1    |
| 8     | .3   | .4    | .5   | .2   | .4    |       | .5   | .5    | .4   | .2    | .1   | .1    |
| 9     | .3   | .3    | .5   | .2   | 21    |       | .6   | .5    | .4   | .2    | .1   | .1    |
| 10    | .3   | .3    | .5   | .2   | 13    |       | .6   | .5    | .4   | .1    | .1   | .1    |
| 11    | .3   | .2    | .5   | .3   | 5.5   | a .5  | .5   | .5    | .4   | .1    | .1   | .1    |
| 12    | .3   | .2    | .5   | .3   | 4.4   |       | .5   | .5    | .4   | .1    | .1   | .1    |
| 13    | .3   | .2    | .5   | .5   | *3.5  |       | .6   | .5    | .4   | .1    | .1   | .1    |
| 14    | .3   | .3    | .5   | .7   | 3.2   |       | .6   | .5    | .4   | .1    | .1   | .1    |
| 15    | .3   | .3    | .5   | .7   | 2.7   |       | .5   | .5    | .4   | .1    | .1   | .1    |
| 16    | .3   | .3    | .5   | .8   | 2.4   | a .4  | .5   | .5    | .4   | *.1   | *.1  | .1    |
| 17    | .4   | .3    | .4   | .8   | 2.3   |       | .5   | .5    | .4   | .1    | .1   | *.2   |
| 18    | .4   | .3    | .5   | .8   | 1.5   |       | .5   | .5    | .4   | .1    | .1   | 3.5   |
| 19    | *.4  | .3    | .5   | .7   | .8    |       | .5   | .5    | .4   | .1    | .1   | 6.7   |
| 20    | .5   | .3    | .4   | .7   | .6    |       | .8   | .5    | .3   | .1    | .1   | 1.4   |
| 21    | .5   | .3    | .2   | .7   | .5    | a .4  | 1.3  | .5    | .3   | .1    | .1   | .4    |
| 22    | .5   | .4    | .2   | .7   | .5    |       | .5   | .5    | .2   | .1    | .1   | .4    |
| 23    | .5   | .4    | .2   | .7   | .5    |       | .4   | .5    | .2   | .1    | .1   | .4    |
| 24    | .5   | .4    | .2   | .7   | .4    |       | .3   | .5    | .2   | .1    | .1   | .4    |
| 25    | .5   | .4    | .2   | .7   | .4    |       | .3   | .5    | *.2  | .1    | .1   | .4    |
| 26    | .5   | .4    | .2   | .7   | .5    | a .4  | .4   | .4    | .2   | .1    | .1   | .3    |
| 27    | .5   | .4    | .3   | .7   | .5    |       | .4   | .4    | .2   | .1    | .1   | .3    |
| 28    | .5   | .4    | .3   | .8   | *.4   |       | .4   | .4    | .2   | .1    | .1   | .2    |
| 29    | .5   | *.4   | .3   | .8   | ----- |       | .4   | .4    | *.4  | .2    | .1   | .2    |
| 30    | .5   | .4    | .3   | .8   | ----- |       | .3   | .5    | .4   | .2    | .1   | .2    |
| 31    | .5   | ----- | .3   | 1.0  | ----- |       | .3   | ----- | .4   | ----- | *.1  | ----- |
| TOTAL | 12.2 | 10.9  | 11.8 | 16.8 | 70.8  | 11.9  | 14.9 | 14.9  | 10.0 | 4.0   | 3.1  | 16.6  |
| MEAN  | 0.39 | 0.36  | 0.38 | 0.54 | 2.53  | 3.84  | 0.50 | 0.48  | 0.33 | 0.13  | 0.10 | 0.55  |
| MAX   | 0.5  | 0.5   | 0.5  | 1.0  | .21   | -     | 1.3  | 0.5   | 0.4  | 0.2   | 0.1  | 6.7   |
| MIN   | 0.3  | 0.2   | 0.2  | 0.2  | 0.4   | -     | 0.3  | 0.4   | 0.2  | 0.1   | 0.1  | 0.1   |
| AC-FT | 24   | 22    | 23   | 33   | 140   | 24    | 30   | 30    | 20   | 7.9   | 6.1  | 33    |

CALENDAR YEAR 1962: MAX 44 MIN 0.1 MEAN 1.67 AC-FT 1,210 CFS TOTAL 609.5

WATER YEAR 1962-63 MAX 21 MIN 0.1 MEAN 0.54 AC-FT 393 CFS TOTAL 197.9

Peak discharge (base, 25 cfs).--Feb. 9 (2230 hrs) 114 cfs (2.38 ft); Sept. 18 (2200 hrs) 56 cfs (2.06 ft)

\* Discharge measurement made on this day.

a No gage-height record.



## 11-670. Day Creek near Etiwanda, Calif.--Continued

Combined discharge, in cubic feet per second, of Day Creek and Etiwanda Water Co.'s diversion  
near Etiwanda, Calif., water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 1.3  | 1.3   | 1.4  | 1.5  | 1.2   | 1.9  | 2.3   | 2.6  | 1.8   | 1.2  | 0.9  | 0.5   |
| 2     | 1.3  | 1.4   | 1.5  | 1.5  | 1.4   | 1.9  | 2.2   | 2.6  | 1.7   | 1.2  | .9   | .3    |
| 3     | 1.2  | 1.4   | 1.5  | 1.3  | 1.5   | 1.9  | 2.0   | 2.6  | 1.7   | 1.2  | .9   | .3    |
| 4     | 1.4  | 1.5   | 1.5  | 1.3  | 2.2   | 1.9  | 1.9   | 2.6  | 1.7   | 1.1  | .8   | .6    |
| 5     | 1.4  | 1.5   | 1.4  | 1.3  | 2.3   | 1.9  | 1.9   | 2.5  | 1.8   | 1.1  | .8   | .6    |
| 6     | 1.4  | 1.3   | 1.4  | 1.3  | 1.9   | 1.8  | 1.8   | 2.3  | 1.9   | 1.1  | .8   | .5    |
| 7     | 1.4  | 1.3   | 1.4  | 1.3  | 1.8   | 1.8  | 1.8   | 2.2  | 1.7   | 1.1  | .9   | .4    |
| 8     | 1.3  | 1.3   | 1.5  | 1.3  | 1.7   | 1.8  | 1.9   | 2.1  | 1.7   | 1.0  | .9   | .4    |
| 9     | 1.2  | 1.3   | 1.5  | 1.3  | 2.2   | 1.8  | 2.0   | 2.1  | 1.7   | 1.0  | .8   | .4    |
| 10    | 1.2  | 1.3   | 1.5  | 1.4  | 1.3   | 1.8  | 2.0   | 2.1  | 1.7   | .9   | .8   | .4    |
| 11    | 1.2  | 1.2   | 1.5  | 1.5  | 5.5   | 1.8  | 1.8   | 2.1  | 1.7   | .9   | .8   | .4    |
| 12    | 1.2  | 1.2   | 1.5  | 1.4  | 4.4   | 1.7  | 1.8   | 2.0  | 1.7   | .9   | .7   | .3    |
| 13    | 1.2  | 1.2   | 1.5  | 1.3  | 3.6   | 1.7  | 1.8   | 2.0  | 1.7   | .9   | .7   | .3    |
| 14    | 1.5  | 1.4   | 1.5  | 1.4  | 3.4   | 1.7  | 2.2   | 2.0  | 1.7   | .8   | .7   | .3    |
| 15    | 1.4  | 1.4   | 1.5  | 1.4  | 2.9   | 1.8  | 2.0   | 1.9  | 1.5   | .8   | .7   | .4    |
| 16    | 1.4  | 1.4   | 1.5  | 1.5  | 2.6   | 1.9  | 1.9   | 1.8  | 1.5   | .8   | .7   | .4    |
| 17    | 1.4  | 1.4   | 1.4  | 1.5  | 2.5   | 2.5  | 2.1   | 1.8  | 1.4   | .8   | .7   | 1.1   |
| 18    | 1.5  | 1.4   | 1.5  | 1.5  | 3.0   | 2.3  | 2.1   | 1.7  | 1.4   | .8   | .6   | 4.2   |
| 19    | 1.4  | 1.3   | 1.5  | 1.4  | 3.0   | 2.5  | 2.0   | 1.7  | 1.4   | .8   | .6   | 6.7   |
| 20    | 1.5  | 1.3   | 1.4  | 1.3  | 2.7   | 2.5  | 3.1   | 1.6  | 1.4   | .8   | .5   | 2.1   |
| 21    | 1.4  | 1.3   | 1.2  | 1.3  | 2.4   | 2.4  | 3.7   | 1.7  | 1.5   | .8   | .6   | 1.6   |
| 22    | 1.4  | 1.4   | 1.2  | 1.3  | 2.3   | 2.3  | 2.5   | 1.7  | 1.4   | .8   | .6   | 1.5   |
| 23    | 1.4  | 1.4   | 1.2  | 1.3  | 2.2   | 2.4  | 2.4   | 1.7  | 1.4   | .8   | .6   | 1.4   |
| 24    | 1.4  | 1.4   | 1.3  | 1.3  | 2.0   | 2.2  | 2.4   | 1.7  | 1.3   | .8   | .5   | 1.3   |
| 25    | 1.4  | 1.4   | 1.3  | 1.3  | 2.0   | 2.0  | 2.3   | 1.8  | 1.2   | .8   | .5   | 1.2   |
| 26    | 1.4  | 1.4   | 1.3  | 1.2  | 2.0   | 2.0  | 3.1   | 1.6  | 1.2   | .8   | .5   | 1.1   |
| 27    | 1.4  | 1.4   | 1.4  | 1.2  | 2.0   | 1.9  | 2.7   | 1.8  | 1.3   | .8   | .5   | 1.0   |
| 28    | 1.4  | 1.4   | 1.4  | 1.3  | 2.0   | 2.7  | 2.7   | 1.8  | 1.3   | .9   | .4   | .9    |
| 29    | 1.4  | 1.4   | 1.4  | 1.3  | ----- | 2.4  | 2.6   | 1.9  | 1.2   | .9   | .4   | .8    |
| 30    | 1.4  | 1.4   | 1.4  | 1.3  | ----- | 2.2  | 2.7   | 1.9  | 1.2   | .9   | .4   | .8    |
| 31    | 1.4  | ----- | 1.4  | 1.7  | ----- | 2.2  | ----- | 1.9  | ----- | .9   | .4   | ----- |
| Total | 42.2 | 40.7  | 43.9 | 42.2 | 99.5  | 63.6 | 67.7  | 62.0 | 45.8  | 28.4 | 20.6 | 32.2  |
| Mean  | 1.36 | 1.36  | 1.42 | 1.36 | 3.55  | 2.05 | 2.26  | 2.00 | 1.53  | 0.92 | 0.66 | 1.07  |
| Max   | 1.5  | 1.5   | 1.5  | 1.7  | 22    | 2.7  | 3.7   | 2.6  | 1.9   | 1.2  | 0.9  | 6.7   |
| Min   | 1.2  | 1.2   | 1.2  | 1.2  | 1.2   | 1.7  | 1.8   | 1.6  | 1.2   | 0.8  | 0.4  | 0.3   |
| Ac-ft | 84   | 81    | 87   | 84   | 197   | 126  | 134   | 123  | 91    | 56   | 41   | 64    |

Calendar year 1962: Max 44 Min 0.9 Mean 2.93 Ac-ft 2,120

Water year 1962-63: Max 22 Min 0.3 Mean 1.61 Ac-ft 1,170

Peak discharge (base, 25 cfs).--Feb. 9, 115 cfs; Sept. 18, 56 cfs.

11-680. Santa Ana River at Auburndale Bridge, near Corona, Calif.

Location.--Lat 33°55'25", long 117°35'50", in La Sierra (Yorba) Grant, on right bank just downstream from Auburndale Bridge on River Road, 1.7 miles upstream from Temescal Creek, and 3.8 miles northwest of Corona, Riverside County.

Drainage area.--1,003 sq mi (revised).

Records available.--May 1930 to November 1963 (irrigation seasons only).

Gage.--Water-stage recorder. Datum of gage is 501.36 ft above mean sea level, datum of 1929 (levels by Orange County Flood Control District). Prior to May 1946, at various sites within 1,000 ft of bridge and at different datums. May 1946 to Sept. 12, 1961, at site 100 ft upstream at same datum.

Remarks.--Records fair. Flow partly regulated by Big Bear Lake (see p. 124). The natural flow is affected by ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Water diverted into Durkee ditch, a quarter of a mile above station, bypasses station; discharge measurements of flow in ditch are given below.

Cooperation.--Eighteen discharge measurements furnished by Orange County Flood Control District.

Discharge measurements, in cubic feet per second, April to December 1963

| Date    | Discharge | Date     | Discharge | Date     | Discharge |
|---------|-----------|----------|-----------|----------|-----------|
| Apr. 28 | 3.06      | July 15  | 2.11      | Sept. 24 | 2.42      |
| May 16  | 2.53      | Aug. 1   | 1.89      | Oct. 3   | 2.65      |
| 28      | 2.67      | 15       | 1.78      | 29       | 2.61      |
| June 12 | 2.34      | 30       | 1.62      | Nov. 12  | 3.04      |
| 26      | 2.79      | Sept. 16 | 2.16      | Dec. 2   | 3.54      |

Discharge, in cubic feet per second, May to November 1963

| Day                 | Jan. | Feb. | Mar. | Apr. | May   | June  | July  | Aug.   | Sept. | Oct.  | Nov.  | Dec. |
|---------------------|------|------|------|------|-------|-------|-------|--------|-------|-------|-------|------|
| 1                   |      |      | † 41 |      | * 42  | 25    | 16    | * 18   | 21    | 35    | 28    |      |
| 2                   |      |      |      |      | 42    | 35    | 18    | 21     | 22    | 22    | 29    | † 33 |
| 3                   |      |      |      |      | * 43  | 31    | 16    | 21     | 23    | * 24  | 29    |      |
| 4                   | † 37 |      |      |      | 48    | 34    | 16    | 16     | 31    | 19    | 29    |      |
| 5                   |      |      |      | † 47 | 42    | 29    | 18    | 16     | 46    | 16    | 29    |      |
| 6                   |      |      |      |      | 40    | 29    | 25    | 19     | 43    | 14    | 30    |      |
| 7                   |      |      |      |      | 38    | 29    | 25    | 22     | 32    | 14    | * 34  |      |
| 8                   |      | † 37 |      |      | 35    | 30    | 25    | 24     | 27    | 16    | 34    |      |
| 9                   |      |      |      |      | 34    | 31    | 24    | 24     | 21    | 31    | 32    |      |
| 10                  |      |      |      |      | 37    | 28    | 23    | 23     | 26    | 32    | 30    |      |
| 11                  |      |      |      |      | 35    | 35    | 24    | 22     | 29    | * 27  | 25    |      |
| 12                  |      |      |      |      | 36    | * 36  | * 23  | 21     | 24    | 12    | * 25  |      |
| 13                  |      |      |      |      | 36    | 32    | 19    | 22     | * 21  | 16    | 27    |      |
| 14                  |      |      |      |      | 40    | * 29  | 18    | 19     | 20    | 23    | 28    |      |
| 15                  |      |      |      |      | 37    | 29    | * 18  | * 18   | 20    | 28    | 34    |      |
| 16                  |      |      |      |      | * 34  | 26    | 17    | 20     | * 22  | 46    | 66    |      |
| 17                  |      |      |      |      | * 34  | 28    | 17    | 23     | 65    | 43    | 49    |      |
| 18                  |      |      |      |      | 32    | 25    | 15    | 16     | 277   | 41    | 42    |      |
| 19                  |      |      |      |      | 31    | 26    | 14    | 14     | 306   | 26    | 41    |      |
| 20                  |      |      |      |      | 29    | 25    | 16    | 18     | 146   | 31    | 262   |      |
| 21                  |      |      |      |      | 29    | 32    | 16    | 18     | 100   | 32    | 165   |      |
| 22                  |      |      |      |      | 29    | 35    | 16    | 16     | 77    | 34    | 84    |      |
| 23                  |      |      |      |      | 32    | 31    | 17    | 17     | 64    | 35    | 49    |      |
| 24                  |      |      |      |      | 29    | 27    | 17    | 19     | * 52  | 30    | 45    |      |
| 25                  |      |      |      |      | 28    | 25    | 17    | 16     | 45    | * 30  | 39    |      |
| 26                  |      |      |      |      | 30    | * 23  | * 20  | 16     | 36    | 31    | * 50  |      |
| 27                  |      |      |      |      | 31    | 24    | 21    | 14     | * 34  | 31    | 54    | † 31 |
| 28                  |      |      |      |      | * 34  | * 24  | 19    | 16     | 24    | 29    | 50    |      |
| 29                  |      |      |      |      | 34    | 19    | 19    | 17     | 26    | * 30  | 42    |      |
| 30                  |      |      |      |      | 32    | 16    | 19    | * 21   | 35    | 30    | 36    |      |
| 31                  |      |      |      |      | 29    |       | 20    | 20     |       | 29    |       |      |
| Total               |      |      |      |      | 1,082 | 848   | 588   | 587    | 1,715 | 859   | 1,517 |      |
| Mean                |      |      |      |      | 34.9  | 28.3  | 19.0  | 18.9   | 57.2  | 27.7  | 50.6  |      |
| Max                 |      |      |      |      | 48    | 36    | 25    | 24     | 306   | 46    | 262   |      |
| Min                 |      |      |      |      | 28    | 16    | 14    | 14     | 20    | 12    | 25    |      |
| Ac-ft               |      |      |      |      | 2,150 | 1,680 | 1,170 | 1,160  | 3,400 | 1,700 | 3,010 |      |
| Calendar year 1962: | Max  |      | Min  |      | Mean  |       | Ac-ft |        |       |       |       |      |
| Irrigation season:  | Max  | 306  | Min  | 12   | Mean  | -     | Ac-ft | 14,270 |       |       |       |      |

\* Discharge measurement made on this day.

† Result of discharge measurement.

11-685. Cucamonga Creek near Upland, Calif.

Location.--Lat 34°10'26", long 117°37'51", in SW 1/4 sec. 17, T.1 N., R.7 W., on right bank 0.5 mile downstream from unnamed tributary on left and 5.3 miles north of Upland.

Drainage area.--10.1 sq mi.

Records available.--October 1927 to September 1963. Monthly discharge only for October to December 1928, published in WSP 1315-B.

Gage.--Water-stage recorder (digital) and broad-crested weir since December 1938. Altitude of gage is 2,360 ft (from topographic map). Prior to Jan. 17, 1935, and Apr. 15, 1935, to Nov. 11, 1936, at site 2,500 ft downstream at different datums. Jan. 18 to Apr. 14, 1935, at site 1,200 ft downstream at different datum. Nov. 12, 1936, to Dec. 13, 1938, at site 300 ft downstream at different datum.

Average discharge.--36 years, 6.92 cfs (5,010 acre-ft per year); median of yearly mean discharges, 4.7 cfs (3,400 acre-ft per year).

Extremes.--Maximum discharge during year, 139 cfs Feb. 9 (gage height, 3.28 ft); minimum daily, 0.8 cfs July 25, 31, Aug. 13, 14. 1927-63: Maximum discharge, 10,300 cfs Mar. 2, 1938, based on rainfall-runoff study; minimum daily, 0.3 cfs Oct. 5, 6, 1962.

Remarks.--Records fair. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC. | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 1.8   | * 1.5 | 2.1  | 1.8   | 2.5   | 2.7   | 3.9   | 3.6   | 2.5   | 1.7   | 1.0   | 1.1   |
| 2     | 1.4   | 1.6   | 2.3  | 1.8   | 2.3   | 2.7   | 3.6   | * 3.6 | 2.5   | 1.7   | 1.1   | 1.1   |
| 3     | * 1.4 | 1.8   | 2.0  | * 1.8 | 2.1   | 2.9   | 2.3   | 3.6   | 2.5   | 1.5   | 1.1   | 1.0   |
| 4     | 1.6   | 1.8   | 2.0  | 1.8   | 2.1   | 2.9   | 2.1   | 3.5   | 2.3   | 1.5   | 1.0   | 1.4   |
| 5     | 1.8   | 1.8   | 2.0  | 1.8   | 2.1   | 2.9   | 2.1   | 3.3   | 2.7   | 1.5   | 1.0   | 1.4   |
| 6     | 1.6   | 1.8   | 2.0  | 1.8   | 2.1   | 2.9   | 2.1   | 2.9   | 2.7   | 1.5   | 1.0   | 1.4   |
| 7     | 1.5   | 1.6   | 2.0  | 1.6   | 2.1   | 2.7   | 2.1   | 2.7   | 2.5   | 1.5   | 1.2   | 1.1   |
| 8     | 1.5   | 1.6   | 2.0  | 1.6   | 2.3   | 2.7   | 2.1   | 2.7   | 2.7   | 1.4   | 1.4   | 1.0   |
| 9     | 1.2   | 1.6   | 2.0  | 2.0   | 1.6   | 3.1   | 2.0   | 2.7   | 2.7   | 1.4   | 1.4   | .9    |
| 10    | 1.2   | 1.6   | 2.0  | 2.3   | 1.4   | 3.1   | 2.0   | 2.9   | 3.1   | 1.2   | 1.2   | .9    |
| 11    | 1.2   | 1.6   | 2.0  | 2.1   | 8.0   | 2.7   | 2.1   | 3.1   | 3.1   | 1.1   | 1.1   | .9    |
| 12    | 1.2   | 1.6   | 2.0  | 2.0   | 5.1   | 2.7   | 2.0   | 2.9   | 3.1   | 1.1   | .9    | .9    |
| 13    | 1.2   | 1.6   | 2.0  | 1.8   | * 4.6 | 2.5   | 1.8   | 2.9   | 3.1   | 1.1   | .8    | .9    |
| 14    | 1.5   | 1.6   | 2.0  | 1.8   | 4.9   | 2.5   | 2.5   | 2.7   | 2.9   | 1.0   | .8    | .9    |
| 15    | 1.5   | 1.8   | 2.0  | 1.8   | 3.6   | 2.7   | 2.3   | 2.7   | 2.5   | 1.0   | .9    | 1.0   |
| 16    | 1.4   | 1.8   | 2.0  | 1.8   | 3.1   | 3.4   | 2.0   | 2.3   | 2.1   | * 1.0 | * .9  | 1.1   |
| 17    | 1.4   | 1.8   | 2.0  | 1.8   | 2.7   | 4.6   | 2.3   | 2.3   | 2.1   | 1.1   | 1.0   | 2.7   |
| 18    | 1.5   | 1.6   | 2.0  | 1.8   | 2.5   | 3.9   | 2.1   | 2.3   | 2.1   | 1.0   | 1.0   | 6.6   |
| 19    | * 1.5 | 1.6   | 2.0  | 1.8   | 2.3   | 3.6   | 2.0   | 2.3   | 2.1   | .9    | 1.0   | 12    |
| 20    | 1.5   | 1.5   | 2.0  | 1.8   | 2.1   | 3.4   | 2.9   | 2.3   | 2.0   | 1.0   | .9    | 4.9   |
| 21    | 1.5   | 1.5   | 2.0  | 1.8   | 2.1   | 3.1   | 5.9   | 2.3   | 2.3   | .9    | .9    | 3.4   |
| 22    | 1.5   | 1.5   | 2.0  | 1.8   | 2.1   | 2.7   | 3.4   | 2.5   | 2.5   | 1.0   | 1.0   | 2.5   |
| 23    | 1.5   | 1.5   | 2.0  | 1.8   | 3.1   | 2.9   | 3.1   | 2.7   | 2.5   | .9    | 1.1   | 2.0   |
| 24    | 1.5   | 1.6   | 2.0  | 1.8   | 4.6   | 2.7   | 2.9   | 2.7   | 2.1   | .9    | 1.1   | 1.8   |
| 25    | 1.5   | 1.8   | 2.0  | 1.8   | 3.9   | 2.5   | 2.7   | 2.5   | * 1.8 | .8    | 1.0   | 1.4   |
| 26    | 1.5   | * 1.8 | 2.0  | 1.8   | 3.6   | 2.1   | 5.1   | 2.5   | 1.8   | .9    | 1.0   | 1.2   |
| 27    | 1.5   | 1.8   | 2.0  | 1.8   | 3.1   | 2.1   | 4.6   | 2.7   | 1.8   | .9    | .9    | 1.1   |
| 28    | 1.5   | 2.0   | 1.8  | 1.8   | * 2.9 | * 4.1 | 4.4   | 2.7   | 1.8   | .9    | * 1.2 | 1.0   |
| 29    | 1.5   | 2.1   | 1.8  | 1.8   | ----- | 3.4   | 3.6   | * 2.7 | 1.7   | .9    | 1.0   | 1.0   |
| 30    | 1.5   | 2.0   | 2.0  | * 1.8 | ----- | 3.1   | 3.6   | 2.7   | 1.7   | .9    | 1.0   | 1.0   |
| 31    | 1.5   | ----- | 2.0  | 2.5   | ----- | 3.1   | ----- | 2.7   | ----- | * .8  | 1.1   | ----- |
| TOTAL | 45.4  | 50.8  | 62.0 | 57.3  | 111.9 | 92.4  | 85.6  | 86.0  | 71.3  | 35.0  | 32.0  | 59.6  |
| MEAN  | 1.47  | 1.69  | 2.00 | 1.85  | 4.00  | 2.98  | 2.85  | 2.77  | 2.38  | 1.13  | 1.03  | 1.99  |
| AC-FT | 90    | 101   | 123  | 114   | 222   | 183   | 170   | 171   | 141   | 69    | 63    | 118   |
| MAX   | 1.8   | 2.1   | 2.3  | 2.5   | 16    | 4.6   | 5.9   | 3.6   | 3.1   | 1.7   | 1.4   | 12    |
| MIN   | 1.2   | 1.5   | 1.8  | 1.6   | 2.1   | 2.1   | 1.8   | 2.3   | 1.7   | 0.8   | 0.8   | 0.9   |

CALENDAR YEAR 1962 MAX 68 MIN 1.2 MEAN 5.02 AC-FT 3,640  
 WATER YEAR 1962-63 MAX 16 MIN .8 MEAN 2.16 AC-FT 1,560

Peak discharge (base, 80 cfs).--Feb. 9 (2215 hrs) 139 cfs (3.28 ft).

\* Discharge measurement made on this day.

## SANTA ANA RIVER BASIN

11-690. Lake Hemet near Idyllwild, Calif.

Location.--Lat 33°39'55", long 116°42'20", in NE¼ sec.7, T.6 S., R.3 E., on upstream face near right end of dam on South Fork San Jacinto River, 5 miles southeast of Idyllwild and 6.5 miles upstream from mouth.

Drainage area.--66 sq mi, approximately.

Records available.--October 1961 to September 1963.

Gage.--Staff gage read once daily. Datum of gage is 4,201.5 ft above mean sea level (levels by Lake Hemet Municipal Water District).

Extremes.--Maximum contents observed during the year, 1,151 acre-ft June 19 (elevation, 4,283.8 ft); minimum, 264 acre-ft Nov. 19 (elevation, 4,266.9 ft).

1961-63: Maximum contents, 2,025 acre-ft June 18, 1962 (elevation 4,292.5 ft); minimum, 264 acre-ft Nov. 19, 1962, Nov. 19, 1963 (elevation, 4,266.9 ft).

Remarks.--Lake is formed by single-arch dam. Dam was completed to a height of 110 ft in 1893; raised to 122.5 ft in 1895, and to 135 ft in 1923. Area-capacity rating, dated February 1932 (furnished by Lake Hemet Water Co.). Lowest sluice gate silted (elevation, 4,222.6 ft). Capacity below spillway level (elevation, 4,333.0 ft), 11,882 acre-ft. Water is released from lake to South Fork San Jacinto River for domestic use and irrigation in the Hemet-San Jacinto Valley.

Cooperation.--Elevations furnished by Lake Hemet Municipal Water District.

Month-end elevation and contents, water year October 1962 to September 1963

| Date                    | Elevation<br>(feet)† | Contents<br>(acre-feet) | Change in contents<br>(acre-feet) |
|-------------------------|----------------------|-------------------------|-----------------------------------|
| Sept. 30.....           | 4,275.08             | 590                     | -                                 |
| Oct. 31.....            | 4,270.00             | 369                     | -221                              |
| Nov. 30.....            | 4,267.58             | 284                     | -85                               |
| Dec. 31.....            | 4,270.33             | 382                     | +98                               |
| Calendar year 1962..... | -                    | -                       | -277                              |
| Jan. 31.....            | 4,273.92             | 535                     | +153                              |
| Feb. 28.....            | 4,277.58             | 723                     | +188                              |
| Mar. 31.....            | 4,280.50             | 907                     | +184                              |
| Apr. 30.....            | 4,282.25             | 1,034                   | +127                              |
| May 31.....             | 4,283.17             | 1,104                   | +70                               |
| June 30.....            | 4,282.75             | 1,072                   | -32                               |
| July 31.....            | 4,279.50             | 840                     | -232                              |
| Aug. 31.....            | 4,274.25             | 550                     | -290                              |
| Sept. 30.....           | 4,272.42             | 467                     | -83                               |
| Water year 1962-63..... | -                    | -                       | -123                              |

† Elevation at 0800 hours.

11-693. South Fork San Jacinto River tributary near Valle Vista, Calif.

Location.--Lat 33°43'20", long 116°48'00", in W½ sec.20, T.5 S., R.2 E., 6 ft upstream from private-road culvert, 0.3 mile above mouth and 5.6 miles southeast of Valle Vista.

Drainage area.--2.20 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder, tipping-bucket rain gage and 4-ft corrugated-pipe culvert control. Altitude of gage is 2,320 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.8 cfs Sept. 18 (gage height, 3.24 ft, from crest-stage gage), on basis of field estimate of peak flow; no flow all year including maximum day, which was less than 0.05 cfs.

1961-63: Maximum discharge observed, 5.6 cfs Aug. 22, 1961 (gage height, 3.8 ft, from floodmarks), by indirect measurement of peak flow through culvert; no flow for most of each year.

Remarks.--No flow since Mar. 12, 1962. No regulation or diversion above station.

Monthly precipitation, water year October 1962 to September 1963

| Month                   | Precipitation<br>(inches) |
|-------------------------|---------------------------|
| October.....            | 0.5                       |
| November.....           | 0                         |
| December.....           | .2                        |
| Calendar year 1962..... | 10.4                      |
| January.....            | .6                        |
| February.....           | 3.2                       |
| March.....              | 2.1                       |
| April.....              | 2.2                       |
| May.....                | 0                         |
| June.....               | .4                        |
| July.....               | 0                         |
| August.....             | .1                        |
| September.....          | 3.7                       |
| Water year 1962-63..... | 13.0                      |

11-695. San Jacinto River near San Jacinto, Calif.

Location.--Lat 33°44'15", long 116°49'35", in SW 1/4 sec. 13, T.5 S., R.1 E., on downstream side of right pier of bridge on State Highway 74, 1 mile downstream from North Fork, and 8.2 miles southeast of San Jacinto.

Drainage area.--141 sq mi (revised).

Records available.--October 1920 to February 1927, March 1927 to September 1963; combined records of river and diversions, October 1948 to September 1963. Monthly discharge only for October 1920 and July to September 1926, published in WSP 1315-B.

Gage.--Water-stage recorder on river; water-stage recorders on canals; staff gage on pipeline. Datum of gage is 1,982.75 ft above mean sea level (Corps of Engineers bench mark). Prior to Feb. 15, 1927, water-stage recorder at site about 150 ft upstream at different datum. Feb. 15, 1927, to December 1929, staff gage at same site at different datum. December 1929 to Feb. 6, 1937, water-stage recorder at same site at different datum. Feb. 7, 1937, to Jan. 23, 1948, staff gage at same site at various datums.

Average discharge (river only).--42 years (1920-26, 1927-63), 17.1 cfs (12,380 acre-ft per year); median of yearly mean discharges, 6.0 cfs (4,300 acre-ft per year).

(combined).--15 years (1948-63), 14.5 cfs (10,500 acre-ft per year); median of yearly mean discharges, 8.2 cfs (5,900 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 160 cfs Feb. 10 (gage height, 4.33 ft); no flow for most of year.

1920-63: Maximum discharge, 45,000 cfs Feb. 16, 1927, on basis of slope-area measurement of peak flow; no flow for several months in each year.

(combined).--Maximum discharge during year, 166 cfs Feb. 10; minimum daily, 0.2 cfs Sept. 30.

1948-63: Maximum discharge, 1,780 cfs Mar. 22, 1958; no flow at times in 1951, 1952, and 1957.

Remarks.--Records good. Flow partly regulated by Lake Hemet (see p. 150). Lake Hemet Municipal Water District's upper and lower canals divert water above station for irrigation. Fairview Land and Water Co.'s pipeline diverts water above station for domestic use. For records of combined daily discharge of San Jacinto River and diversions, see following page. Diversion above station began prior to 1920.

Cooperation.--Daily discharge of Fairview Land and Water Co.'s pipeline furnished by Lake Hemet Municipal Water District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.   | Nov. | Dec.  | Jan. | Feb.      | Mar.  | Apr.        | May  | June | July | Aug. | Sept. |
|---------------------|--------|------|-------|------|-----------|-------|-------------|------|------|------|------|-------|
| 1                   |        |      |       |      | 0         | 0     | 0.6         | 1.7  |      | (*)  |      | 0     |
| 2                   | (*)    |      |       |      | 0         | 0     | .4          | .4   | (*)  |      |      | 0     |
| 3                   |        |      |       |      | 0         | 0     | .2          | .3   |      |      |      | 0     |
| 4                   |        |      |       |      | 0         | 0     | .2          | .2   |      |      |      | 0     |
| 5                   |        |      |       |      | 0         | 0     | .2          | .1   |      |      |      | 0     |
| 6                   |        |      |       |      | 0         | 0     | .1          | * 0  |      |      |      | 0     |
| 7                   |        |      |       | (*)  | * 0       | 0     | .2          | 0    |      |      |      | 0     |
| 8                   |        |      |       |      | 0         | 0     | * .2        | 0    |      |      |      | 0     |
| 9                   |        |      |       |      | 0         | 0     | .2          | 0    |      |      |      | 0     |
| 10                  |        |      |       |      | 28        | 0     | .2          | 0    |      |      |      | 0     |
| 11                  |        |      |       |      | * 10      | * 0   | .2          | 0    |      |      |      | 0     |
| 12                  |        |      | (*)   |      | 4.0       | 0     | .2          | 0    |      |      |      | 0     |
| 13                  |        |      |       |      | 1.5       | 0     | .2          | 0    |      |      | (*)  | 0     |
| 14                  |        |      |       |      | 1.2       | 0     | .2          | 0    |      |      |      | 0     |
| 15                  | (*)    |      |       |      | 1.4       | 0     | .2          | 0    |      |      |      | 0     |
| 16                  |        |      |       |      | .5        | 0     | .2          | 0    |      |      |      | 0     |
| 17                  |        |      |       |      | .1        | 1.0   | .4          | 0    |      |      |      | 0     |
| 18                  |        |      |       |      | .1        | .1    | .3          | 0    |      | (*)  |      | 11    |
| 19                  |        |      |       |      | 0         | .1    | .3          | 0    |      |      |      | * .2  |
| 20                  |        |      |       |      | 0         | .1    | .3          | 0    | (*)  |      |      | 0     |
| 21                  |        |      |       |      | 0         | .3    | 1.2         | 0    |      |      |      | 0     |
| 22                  |        |      |       | (*)  | 0         | .3    | * 1.5       | * 0  |      |      |      | 0     |
| 23                  |        | (*)  |       |      | 0         | .3    | .3          | 0    |      |      |      | 0     |
| 24                  |        |      |       |      | 0         | .3    | .2          | 0    |      |      |      | 0     |
| 25                  |        |      |       |      | * 0       | .2    | .2          | 0    |      |      |      | 0     |
| 26                  |        |      |       |      | 0         | * .2  | 4.0         | 0    |      | (*)  |      | 0     |
| 27                  |        |      | (*)   |      | 0         | .2    | 6.0         | 0    |      |      |      | 0     |
| 28                  |        |      |       |      | 0         | .2    | 1.4         | 0    |      |      |      | 0     |
| 29                  |        |      |       |      | -----     | 6.8   | 17          | 0    |      |      |      | 0     |
| 30                  | (*)    |      |       |      | -----     | 3.0   | 9.1         | 0    |      | (*)  |      | 0     |
| 31                  |        |      |       |      | -----     | 1.2   | -----       | 0    |      |      |      | ----- |
| Total               | 0      | 0    | 0     | 0    | 4 6.8     | 1 4.3 | 58.5        | 2.7  | 0    | 0    | 0    | 11.2  |
| Mean                | 0      | 0    | 0     | 0    | 1.67      | 0.46  | 1.95        | 0.09 | 0    | 0    | 0    | 0.37  |
| Max                 | 0      | 0    | 0     | 0    | 28        | 6.8   | 17          | 1.7  | 0    | 0    | 0    | 11    |
| Min                 | 0      | 0    | 0     | 0    | 0         | 0     | 0.1         | 0    | 0    | 0    | 0    | 0     |
| Ac-ft               | 0      | 0    | 0     | 0    | 93        | 28    | 116         | 5.4  | 0    | 0    | 0    | 22    |
| Calendar year 1962: | Max 48 |      | Min 0 |      | Mean 3.41 |       | Ac-ft 2,470 |      |      |      |      |       |
| Water year 1962-63: | Max 28 |      | Min 0 |      | Mean 0.37 |       | Ac-ft 264   |      |      |      |      |       |

Peak discharge (base, 100 cfs).--Feb. 10 (1130 hrs) 160 cfs (4.33 ft); Sept. 18 (1230 hrs) 128 cfs (4.17 ft).

\* Discharge measurement or observation of no flow made on this day.

## SANTA ANA RIVER BASIN

11-695. San Jacinto River near San Jacinto, Calif.--Continued.

Combined discharge, in cubic feet per second, of San Jacinto River, Lake Hemet Water Co.'s upper and lower canals, and Fairview Land and Water Co.'s pipeline, near San Jacinto, Calif., water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 4.6   | 3.1   | 1.4  | 1.3  | 2.0   | 1.8   | 5.0   | 18    | 2.2   | 2.5  | 2.7  | 3.2   |
| 2     | 4.6   | 3.3   | 1.4  | 1.3  | 2.2   | 1.8   | 4.9   | 16    | 1.9   | 2.5  | 2.7  | 3.2   |
| 3     | 4.6   | 3.3   | 1.4  | 1.3  | 1.6   | 2.0   | 4.4   | 14    | 1.7   | 2.5  | 2.7  | 3.2   |
| 4     | 5.1   | 3.4   | 1.4  | 1.3  | 1.4   | 2.0   | 4.1   | 12    | 1.6   | 2.5  | 2.7  | 4.2   |
| 5     | 5.1   | 3.5   | 1.4  | 1.2  | 1.2   | 1.8   | 3.8   | 11    | 1.6   | 2.6  | 2.7  | 3.5   |
| 6     | 5.1   | 3.5   | 1.4  | 1.2  | 1.1   | 1.7   | 3.6   | 9.2   | 1.8   | 2.7  | 3.1  | 3.1   |
| 7     | 4.9   | 3.5   | 1.4  | 1.1  | 1.0   | 1.6   | 3.7   | 7.6   | 1.9   | 2.9  | 3.7  | 3.0   |
| 8     | 4.5   | 3.5   | 1.4  | 1.0  | 1.0   | 1.6   | 3.7   | 7.4   | 1.9   | 2.9  | 3.7  | 3.0   |
| 9     | 3.8   | 3.5   | 1.4  | .8   | 1.2   | 1.7   | 3.7   | 7.2   | 1.8   | 2.6  | 3.1  | 2.8   |
| 10    | 3.8   | 3.5   | 1.4  | 1.4  | 3.3   | 2.2   | 3.6   | 7.0   | 1.8   | 2.4  | 3.0  | 2.7   |
| 11    | 3.7   | 3.5   | 1.3  | 1.5  | 1.5   | 2.2   | 3.3   | 6.6   | 1.8   | 2.4  | 2.9  | 2.7   |
| 12    | 3.7   | 3.5   | 1.3  | 1.2  | 8.3   | 2.1   | 2.9   | 6.1   | 1.9   | 2.5  | 2.6  | 2.5   |
| 13    | 3.5   | 3.5   | 1.2  | 1.0  | 4.7   | 1.8   | 2.8   | 5.5   | 1.8   | 2.5  | 2.4  | 2.5   |
| 14    | 3.8   | 3.5   | 1.0  | 1.0  | 4.0   | 1.8   | 3.2   | 5.2   | 1.7   | 2.2  | 2.4  | 2.5   |
| 15    | 3.9   | 3.5   | 1.0  | 1.0  | 4.1   | 2.1   | 4.6   | 4.7   | 1.5   | 2.2  | 2.6  | 2.7   |
| 16    | 3.9   | 3.5   | 1.0  | 1.0  | 3.9   | 2.5   | 4.1   | 4.4   | 1.2   | 2.2  | 3.0  | 3.0   |
| 17    | 3.8   | 3.5   | 1.1  | 1.0  | 3.8   | 5.6   | 5.9   | 4.0   | 1.0   | 2.2  | 3.0  | 5.3   |
| 18    | 4.4   | 3.5   | 1.4  | 1.0  | 3.3   | 3.8   | 6.0   | 4.0   | .9    | 2.0  | 3.1  | 2.0   |
| 19    | 4.2   | 3.3   | 1.6  | 1.0  | 3.0   | 4.0   | 6.4   | 3.9   | .9    | 1.7  | 3.1  | 4.8   |
| 20    | 2.2   | 2.1   | 1.9  | .9   | 2.7   | 3.7   | 6.8   | 3.5   | .8    | 1.7  | 3.1  | 3.1   |
| 21    | 1.5   | 1.9   | 1.8  | .9   | 2.6   | 3.6   | 8.2   | 3.2   | .8    | 1.7  | 3.1  | 1.6   |
| 22    | 1.3   | 1.6   | 1.3  | .9   | 2.5   | 3.6   | 8.5   | 3.0   | .8    | 1.7  | 3.1  | 1.1   |
| 23    | 2.9   | 1.5   | 1.2  | .9   | 2.4   | 3.7   | 7.8   | 3.0   | .8    | 1.5  | 3.1  | .8    |
| 24    | 3.3   | 1.5   | 1.1  | .6   | 2.2   | 3.6   | 7.7   | 2.8   | 1.2   | 1.4  | 3.0  | .7    |
| 25    | 3.3   | 1.5   | 1.3  | .5   | 2.1   | 3.3   | 7.7   | 2.7   | 1.4   | 1.4  | 3.1  | .5    |
| 26    | 3.3   | 1.4   | 1.3  | .5   | 2.0   | 3.0   | 1.3   | 2.7   | 1.7   | 1.4  | 2.8  | .4    |
| 27    | 3.3   | 1.4   | 1.3  | .5   | 2.0   | 3.0   | 1.5   | 2.6   | 2.1   | 1.6  | 2.8  | .3    |
| 28    | 3.3   | 1.5   | 1.3  | .7   | 2.0   | 4.7   | 2.1   | 2.6   | 2.6   | 1.6  | 2.8  | .3    |
| 29    | 3.3   | 1.5   | 1.3  | .8   | ----- | 1.3   | 2.4   | 2.6   | 2.6   | 1.5  | 3.0  | .3    |
| 30    | 3.3   | 1.5   | 1.3  | .8   | ----- | 8.1   | 2.3   | 2.3   | 2.6   | 1.5  | 3.0  | .2    |
| 31    | 3.1   | ----- | 1.3  | .9   | ----- | 5.7   | ----- | 2.2   | ----- | 2.1  | 3.2  | ----- |
| Total | 115.7 | 82.8  | 41.3 | 30.5 | 116.3 | 103.1 | 222.6 | 187.0 | 48.3  | 65.1 | 91.3 | 87.2  |
| Mean  | 3.73  | 2.76  | 1.33 | 0.98 | 4.15  | 3.33  | 7.42  | 6.03  | 1.61  | 2.10 | 2.95 | 2.91  |
| Max   | 5.1   | 3.5   | 1.9  | 1.5  | 33    | 13    | 24    | 18    | 2.6   | 2.9  | 3.7  | 20    |
| Min   | 1.3   | 1.4   | 1.0  | 0.5  | 1.0   | 1.6   | 2.8   | 2.2   | 0.8   | 1.4  | 2.4  | 0.2   |
| Ac-ft | 229   | 164   | 82   | 60   | 231   | 204   | 442   | 371   | 96    | 129  | 181  | 173   |

Calendar year 1962: Max 51 Min 0.6 Mean 9.67 Ac-ft 7,000

Water year 1962-63: Max 33 Min 0.2 Mean 3.26 Ac-ft 2,360

Peak discharge (base, 100 cfs).---Feb. 10 (1130 hrs) 166 cfs; Sept. 18 (1230 hrs) 136 cfs.

## 11-700. Bautista Creek near Hemet, Calif

Location.--Lat 33°41'40", long 116°51'00", in NE<sup>1</sup>NE<sup>1</sup>SW<sup>1</sup> sec.35, T.5 S., R.1 E., on left bank a quarter of a mile upstream from unnamed tributary, 6 miles upstream from mouth, and 8 miles southeast of Hemet.

Drainage area.--39.4 sq mi.

Records available.--October 1947 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,250 ft (from topographic map).

Average discharge.--16 years, 0.55 cfs (398 acre-ft per year); median of yearly mean discharges, 0.01 cfs (7 acre-ft per year).

Extremes.--Maximum discharge during year, 5.0 cfs Sept. 18 (gage height, 2.58 ft); no flow most of year.

1947-63: Maximum discharge, 1,440 cfs Apr. 3, 1958 (gage height, 4.65 ft); no flow for most of each year.

Remarks.--Records poor. One diversion above station for irrigation of about 15 acres.

Discharge, in cubic feet per second, water year October 1962 to September 1963

Sept. 17.....0.2

18......7

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| September 1963.....     | 0.9      | 0.7     | 0       | 0.03 | 1.8                 |
| Calendar year 1962..... | -        | 1.6     | 0       | .01  | 11                  |
| Water year 1962-63..... | -        | .7      | 0       | .002 | 1.8                 |

Peak discharge (base, 20 cfs).--No peak above base.

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

## 11-705. San Jacinto River near Elsinore, Calif.

Location.--Lat 33°39'51", long 117°17'35", in SE<sup>1</sup>SE<sup>1</sup>NE<sup>1</sup> sec.9, T.6 S., R.4 W., on right bank 2 miles east of Elsinore and 2.1 miles downstream from Railroad Canyon Dam.

Drainage area.--717 sq mi.

Records available.--January 1916 to September 1963. Monthly figures 1927-50, adjusted for diversion, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 1,270 ft (from topographic map). Prior to Feb. 13, 1916, staff gage at site 0.75 mile downstream at different datum. Feb. 13, 1916, to Oct. 27, 1921, staff gage at present site at different datum.

Average discharge (creek only).--36 years (1927-63), 9.30 cfs (6,730 acre-ft per year); median of yearly mean discharges, 0.1 cfs (72 acre-ft per year), since construction of Railroad Canyon Reservoir.

(combined).--36 years (1927-63), 11.4 cfs (8,250 acre-ft per year); median of yearly mean discharges, 1.1 cfs (800 acre-ft per year), since construction of Railroad Canyon Reservoir.

Extremes.--No flow during year.

1916-63: Maximum discharge, 16,000 cfs Feb. 17, 1927 (gage height, 11.8 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow for several months in most years.

Remarks.--No flow since Mar. 24, 1962. Flow partly regulated by Lake Hemet (see p. 150) and regulated since 1928 by Railroad Canyon Reservoir (capacity, 12,000 acre-ft) 2.1 miles above station. Diversion for irrigation and domestic use above Railroad Canyon Reservoir. Temescal Water Co. diverts from Railroad Canyon Reservoir for irrigation below station in vicinity of Corona. Adjusted runoff given below includes diversion.

| Month                   | Cfs-days | Maximum | Minimum | Mean     |          | Runoff, in acre-feet |          |
|-------------------------|----------|---------|---------|----------|----------|----------------------|----------|
|                         |          |         |         | Observed | Adjusted | Observed             | Adjusted |
| March 1963.....         | 0        | 0       | 0       | 0        | 2.73     | 0                    | 168      |
| April.....              | 0        | 0       | 0       | 0        | 1.51     | 0                    | 90       |
| May.....                | 0        | 0       | 0       | 0        | .34      | 0                    | 21       |
| Calendar year 1962..... | -        | .2      | 0       | .006     | .006     | 4.4                  | 4.4      |
| Water year 1962-63..... | -        | 0       | 0       | 0        | .39      | 0                    | 279      |

Note.--Diversion occurred only in months listed above.

11-710. Elsinore Lake at Elsinore, Calif.

Location.--Lat 33°40'35", long 117°22'05", in La Laguna Grant, on northwest shore at Elsinore, Riverside County.

Drainage area.--768 sq mi.

Records available.--December 1915 to September 1963.

Gage.--Staff gage read occasionally. Datum of gage is 1,230.2 ft above mean sea level. Gage heights have been reduced to elevations above mean sea level. Prior to Feb. 13, 1951, staff gage at numerous sites on northeast shore at various datums.

Extremes.--Lake dry all year, on basis of hydrographer's notes.

1915-63: Maximum elevation observed, 1,265.6 ft Mar. 20-25, 1916, during period of overflow; maximum observed since cessation of overflow in June 1917, 1,259.8 ft May 6, 11-20, 1922; lake dry during parts of water years 1951, 1954-59, and all of 1960-63.

Remarks.--Lake dry since May 1959. Elsinore Lake overflows into Temescal Creek, which is its outlet, only during and after years of unusually heavy rainfall. Elevation at which lake is dry, about 1,223.0 ft. There has been no outflow since June 30, 1917. History of lake prior to 1916 is published in WSP 441. Summary of high stages that have occurred from 1916 to 1942 is contained in WSP 961. Flow partly regulated by Lake Hemet (see p. 150) and regulated since 1928 by Railroad Canyon Reservoir (capacity, 12,000 acre-ft).

| Elevation, in feet, water year October 1962 to September 1963 |           |         |           |
|---|-----------|---------|-----------|
| Date  | Elevation | Date    | Elevation |
| Nov. 13   | Dry       | Mar. 22 | *Dry      |
| Dec. 28   | Dry       | June 26 | Dry       |
| Jan. 17   | Dry       | July 15 | Dry       |
| Mar. 6  | Dry       | Aug. 14 | Dry       |

\* Less than 1 acre-ft of water observed in center of lake.



11-720. Temescal Creek near Corona, Calif.

Location.--Lat 33°50'29", long 117°30'37", in El Sobrante de San Jacinto Grant, on left bank 0.2 mile downstream from unnamed tributary and 3.8 miles southeast of Corona, Riverside County.

Drainage area.--164 sq mi, revised, (not including 768 sq mi above Elsinore Lake).

Records available.--October 1927 to September 1963. Monthly discharge only for the period October 1927 to January 1929, published in WSP 1315-B.

Gage.--Water-stage recorder and incomplete masonry-dam control (ineffective due to sand fill). Altitude of gage is 730 ft (from topographic map). Prior to Feb. 11, 1943, at datum 6.00 ft higher.

Average discharge.--36 years, 2.97 cfs (2,150 acre-ft per year); median of yearly mean discharges, 0.05 cfs (36 acre-ft per year).

Extremes.--Maximum discharge during year, 76 cfs Feb. 10 (gage height, 7.80 ft); no flow for most of year.

1927-63: Maximum discharge, 14,900 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in most years.

Remarks.--Records poor. Many diversions for irrigation. Flow regulated by Elsinore Lake and several storage reservoirs. No water wasted from Lake Mathews during year.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept.  |
|-------|-------|-------|------|------|-------|------|-------|------|-------|------|------|--------|
| 1     | 0     | 0     | 0    | 0.1  | 0.1   | 0    |       |      |       |      | (*)  | 0      |
| 2     | *0    | 0     | 0    | .1   | .1    | 0    |       |      |       |      |      | 0      |
| 3     | 0     | 0     | 0    | .1   | .1    | 0    |       |      |       |      |      | *0     |
| 4     | 0     | 0     | 0    | .1   | 0     | 0    |       |      |       |      |      | 0      |
| 5     | 0     | 0     | 0    | .1   | 0     | 0    |       |      |       |      |      | 0      |
| 6     | 0     | 0     | 0    | .1   | 0     | 0    |       |      |       |      |      | 0      |
| 7     | 0     | 0     | 0    | .1   | 0     | .1   |       |      |       |      |      | 0      |
| 8     | .1    | 0     | 0    | .1   | 0     | .1   |       |      |       |      |      | 0      |
| 9     | .1    | 0     | 0    | .1   | 2.1   | .1   |       |      |       |      |      | 0      |
| 10    | 0     | 0     | 0    | .1   | 8.4   | 0    |       |      |       |      |      | 0      |
| 11    | 0     | 0     | 0    | 0    | .6    | 0    |       |      |       |      |      | 0      |
| 12    | 0     | .1    | 0    | 0    | *.1   | 0    |       |      |       |      |      | 0      |
| 13    | 0     | .1    | 0    | 0    | .1    | 0    |       |      |       |      |      | 0      |
| 14    | 0     | 0     | 0    | 0    | .1    | 0    |       |      |       |      |      | 0      |
| 15    | 0     | 0     | .1   | 0    | 0     | 0    |       |      |       |      |      | 0      |
| 16    | 0     | 0     | 0    | 0    | 0     | .7   |       |      |       |      |      | 0      |
| 17    | *0    | 0     | 0    | 0    | 0     | 1.2  |       |      |       |      |      | 1.0    |
| 18    | 0     | 0     | 0    | 0    | 0     | 0    |       |      |       |      |      | ** 4.8 |
| 19    | 0     | .1    | 0    | .1   | 0     | *0   |       |      |       |      |      | .6     |
| 20    | 0     | 0     | 0    | .1   | 0     | 0    |       |      |       |      |      | .1     |
| 21    | 0     | 0     | 0    | 0    | 0     | 0    |       |      |       |      |      | 0      |
| 22    | 0     | 0     | .1   | 0    | 0     | 0    |       |      |       |      |      | 0      |
| 23    | 0     | 0     | .1   | 0    | 0     | 0    |       |      |       |      |      | 0      |
| 24    | 0     | 0     | 0    | 0    | 0     | 0    |       |      |       |      |      | 0      |
| 25    | 0     | .1    | 0    | 0    | 0     | 0    |       |      |       |      |      | *0     |
| 26    | 0     | .1    | 0    | 0    | 0     | 0    |       |      | (*)   |      |      | 0      |
| 27    | 0     | *0    | *0   | 0    | **0   | *0   |       |      |       |      |      | 0      |
| 28    | 0     | 0     | 0    | **0  | 0     | .3   | (*)   | (*)  |       |      |      | 0      |
| 29    | *0    | 0     | 0    | 0    | ----- | 0    |       |      |       |      |      | 0      |
| 30    | 0     | .1    | 0    | 0    | ----- | 0    |       |      |       |      |      | 0      |
| 31    | 0     | ----- | .1   | .1   | ----- | 0    | ----- | (**) | ----- |      |      | -----  |
| Total | 0.2   | 0.6   | 0.4  | 1.3  | 11.7  | 2.5  | 0     | 0    | 0     | 0    | 0    | 6.5    |
| Mean  | 0.006 | 0.02  | 0.01 | 0.04 | 0.42  | 0.08 | 0     | 0    | 0     | 0    | 0    | 0.22   |
| Max   | 0.1   | 0.1   | 0.1  | 0.1  | 8.4   | 1.2  | 0     | 0    | 0     | 0    | 0    | 4.8    |
| Min   | 0     | 0     | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    | 0    | 0      |
| Ac-ft | 0.4   | 1.2   | 0.8  | 2.6  | 23    | 5.0  | 0     | 0    | 0     | 0    | 0    | 13     |

Calendar year 1962: Max 5.8 Min 0 Mean 0.11 Ac-ft 79  
 Water year 1962-63: Max 8.4 Min 0 Mean 0.06 Ac-ft 46

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

## SANTA ANA RIVER BASIN

11-730. San Antonio Creek near Claremont, Calif.

Location.--Lat 34°12'58", long 117°40'04", in SE 1/4 SW 1/4 sec. 36, T.2 N., R.8 W., on right bank 0.5 mile upstream from Southern California Edison Co.'s Sierra powerplant and 8.8 miles northeast of Claremont.

Drainage area.--16.9 sq mi.

Records available.--January 1917 to September 1963; combined records of creek and conduit, March 1901 to December 1916 (fragmentary, published as "near Upland"), January 1917 to September 1963.

Gage.--Water-stage recorder and broad-crested weir since January 1939 on creek; water-stage recorder and 10-ft sharp-crested weir on conduit; water-stage recorder and combination rectangular-V-notch weir on river pickup. Altitude of gage is 3,400 ft (from topographic map). Prior to Aug. 24, 1907, staff gage at site 0.5 mile upstream, just above intake to Sierra powerplant, at different datum. Aug. 24, 1907, to Jan. 24, 1917, hook gage and rectangular weir in powerplant tailrace 0.5 mile downstream at different datum; flow in natural channel estimated. Jan. 25, 1917, to Jan. 9, 1939, water-stage recorder at site 50 ft downstream at different datum.

Average discharge (creek only).--46 years (1917-63), 8.67 cfs (6,280 acre-ft per year); median of yearly mean discharges, 2.3 cfs (1,700 acre-ft per year).

(combined).--58 years (1901-2, 1903-4, 1905-9, 1910-15, 1916-63), 21.5 cfs (15,570 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 36 cfs Feb. 9 (gage height, 2.01 ft); minimum daily, 0.2 cfs July 3-6, July 14 to Aug. 16.

1917-63: Maximum discharge, 21,400 cfs Mar. 2, 1938, on basis of slope-area measurement and rainfall-runoff studies; no flow Aug. 24-27, 31, Sept. 1, Oct. 17-21, 1951.

(combined).--Maximum discharge during year, 42 cfs Feb. 9; minimum daily, 4.7 cfs Aug. 16.

1917-63: Maximum discharge, 21,400 cfs Mar. 2, 1938; minimum daily, 0.3 cfs Dec. 8-19, 1954.

Remarks.--Records good. For records of combined discharge of San Antonio Creek and Southern California Edison Co.'s Sierra conduit, which diverts above station, see following page.

Cooperation.--Twenty-five discharge measurements furnished by Los Angeles County Flood Control District. Gage-height record for conduit furnished by Southern California Edison Co.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.0 | 0.1 | 1.4 | 3.9 |
| 1.1 | .4  | 1.5 | 6.3 |
| 1.2 | 1.1 | 1.6 | 9.8 |
| 1.3 | 2.1 |     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.5  | *0.6  | 6.3  | 0.6  | 0.5   | 0.6  | 0.8   | 2.1  | 0.6   | 0.3  | *0.2 | 0.3   |
| 2     | .5   | .6    | .6   | .6   | .4    | .6   | .8    | *3.2 | .5    | .3   | .2   | .3    |
| 3     | *.5  | .6    | .5   | *.6  | .4    | .6   | .8    | 3.0  | .5    | .2   | .2   | .4    |
| 4     | .6   | .6    | .4   | *.6  | .4    | .5   | *.8   | 1.5  | .5    | .2   | .2   | .4    |
| 5     | .6   | .5    | *.4  | .6   | .4    | .5   | .7    | 1.0  | .4    | .2   | .2   | .4    |
| 6     | .6   | .6    | .4   | .6   | .4    | .4   | .7    | .9   | *.5   | .2   | .2   | .3    |
| 7     | .6   | *.6   | .4   | .6   | *.4   | *.4  | .7    | .9   | .5    | .3   | .2   | .3    |
| 8     | .5   | .6    | .4   | .6   | .4    | .4   | .7    | .9   | .5    | .3   | .2   | .3    |
| 9     | .5   | .6    | .4   | .6   | 8.2   | .4   | .7    | *.8  | .4    | .3   | .2   | .3    |
| 10    | .5   | .6    | .4   | .7   | 6.1   | .4   | .7    | .8   | .4    | .3   | .2   | .3    |
| 11    | *.5  | .6    | .4   | .7   | 1.4   | .4   | .7    | .8   | .4    | .3   | .2   | .3    |
| 12    | .5   | .6    | .5   | .7   | 1.3   | .4   | .6    | .7   | .4    | .3   | .2   | .3    |
| 13    | .5   | .6    | .5   | .5   | *1.0  | .5   | .6    | .7   | .4    | .3   | .2   | .3    |
| 14    | .5   | .6    | .5   | .5   | 1.0   | .6   | .7    | .6   | .4    | .2   | .2   | .3    |
| 15    | .6   | .6    | .5   | .4   | .9    | .6   | .7    | .6   | .4    | *.2  | .2   | .3    |
| 16    | .6   | .7    | .5   | .4   | .9    | .6   | .7    | .6   | .4    | .2   | .2   | .3    |
| 17    | .6   | .6    | .5   | *.4  | .8    | .8   | *.7   | .6   | .4    | .2   | .4   | .4    |
| 18    | *.6  | .6    | .5   | .4   | .8    | .8   | .7    | .6   | .4    | *.2  | .3   | *.5   |
| 19    | .6   | .6    | .5   | .4   | .8    | .8   | .7    | .6   | .4    | .2   | .3   | .9    |
| 20    | .6   | .6    | *.5  | .4   | .8    | .7   | 1.0   | .4   | *.4   | .2   | .3   | 1.0   |
| 21    | .6   | .5    | .5   | .4   | *.8   | *.7  | 1.2   | .5   | .4    | .2   | .3   | .8    |
| 22    | .6   | .5    | .5   | .4   | .7    | .7   | 1.0   | .5   | .5    | .2   | .3   | .7    |
| 23    | .6   | *.5   | .4   | .4   | .7    | .7   | 1.0   | *.5  | .4    | .2   | .3   | .5    |
| 24    | *.6  | .5    | .4   | .4   | .7    | .7   | .9    | .5   | .4    | .2   | .3   | .5    |
| 25    | .6   | .5    | .4   | .4   | .6    | .6   | .8    | .5   | *.4   | .2   | .3   | .4    |
| 26    | .6   | *.5   | .4   | .4   | .6    | .6   | 1.1   | .5   | .4    | .2   | .3   | .4    |
| 27    | .6   | .5    | .4   | .4   | .6    | .6   | 1.0   | .6   | .4    | .2   | .3   | .4    |
| 28    | .6   | .5    | .4   | .4   | *.6   | *.9  | 1.0   | .6   | .4    | .2   | .3   | .3    |
| 29    | .5   | .6    | .4   | .4   | ----- | .9   | 1.0   | *.6  | .3    | .2   | *.3  | .3    |
| 30    | .5   | 1.6   | .5   | *.4  | ----- | .9   | 1.0   | .6   | .3    | .2   | *.3  | .3    |
| 31    | .5   | ----- | .5   | *.4  | ----- | .9   | ----- | .6   | ----- | *.2  | .3   | ----- |
| TOTAL | 17.3 | 18.4  | 19.7 | 15.3 | 32.6  | 19.2 | 24.5  | 27.3 | 12.7  | 7.1  | 7.8  | 12.5  |
| MEAN  | 0.56 | 0.61  | 0.64 | 0.49 | 1.16  | 0.62 | 0.82  | 0.88 | 0.42  | 0.23 | 0.25 | 0.42  |
| MAX   | 0.6  | 1.6   | 6.3  | 0.7  | 8.2   | 0.9  | 1.2   | 3.2  | 0.6   | 0.3  | 0.4  | 1.0   |
| MIN   | 0.5  | 0.5   | 0.4  | 0.4  | 0.4   | 0.4  | 0.6   | 0.4  | 0.3   | 0.2  | 0.2  | 0.3   |
| AC-FT | 24   | 26    | 39   | 30   | 65    | 38   | 49    | 54   | 25    | 14   | 15   | 25    |

Calendar year 1962: Max 11.1 Min 0.4 Mean 3.97 Ac-ft 2,880  
 Water year 1962-63: Max 8.2 Min 0.2 Mean 0.59 Ac-ft 424

Peak discharge (base, 50 cfs).--No peak above base.

\* Discharge measurement made on this day.

11-730. San Antonio Creek near Claremont, Calif.--Continued.

Combined discharge, in cubic feet per second, of San Antonio Creek and Southern California Edison Co.'s  
Sierra conduit near Claremont, Calif., water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 8.0   | 7.5   | 8.4   | 6.6   | 6.5   | 7.9   | 7.7   | 6.3   | 8.2   | 7.2   | 5.9   | 5.0   |
| 2     | 8.0   | 7.5   | 7.3   | 6.6   | 6.4   | 7.9   | 7.7   | 7.0   | 8.5   | 7.2   | 5.6   | 5.0   |
| 3     | 8.0   | 7.5   | 7.0   | 6.6   | 6.1   | 7.9   | 7.7   | 7.2   | 8.5   | 7.1   | 5.6   | 5.1   |
| 4     | 8.1   | 7.5   | 7.0   | 6.6   | 6.1   | 7.8   | 7.5   | 8.6   | 8.5   | 6.8   | 5.6   | 5.6   |
| 5     | 8.1   | 7.5   | 7.0   | 6.6   | 6.1   | 7.8   | 7.4   | 8.6   | 8.4   | 6.5   | 5.6   | 5.3   |
| 6     | 8.1   | 7.5   | 7.0   | 6.6   | 6.1   | 7.5   | 7.4   | 8.3   | 8.4   | 6.5   | 5.6   | 5.0   |
| 7     | 8.1   | 7.5   | 7.0   | 6.6   | 6.1   | 7.8   | 7.4   | 8.4   | 8.1   | 6.6   | 5.6   | 5.0   |
| 8     | 7.7   | 7.5   | 7.0   | 6.6   | 6.1   | 7.8   | 7.4   | 8.4   | 8.2   | 6.6   | 5.4   | 5.0   |
| 9     | 7.7   | 7.5   | 7.0   | 6.6   | 14    | 8.1   | 7.4   | 8.3   | 8.1   | 6.6   | 5.4   | 4.8   |
| 10    | 7.7   | 7.2   | 6.7   | 6.7   | 15    | 7.8   | 7.5   | 8.3   | 8.1   | 6.6   | 5.4   | 4.8   |
| 11    | 7.7   | 7.2   | 6.7   | 6.7   | 8.7   | 7.8   | 7.5   | 8.3   | 8.1   | 6.6   | 5.1   | 4.8   |
| 12    | 7.7   | 7.2   | 6.5   | 6.7   | 8.6   | 7.7   | 7.7   | 8.2   | 8.1   | 6.6   | 5.1   | 4.8   |
| 13    | 7.7   | 7.2   | 6.5   | 6.5   | 8.5   | 7.9   | 7.7   | 8.2   | 7.8   | 6.6   | 4.9   | 4.8   |
| 14    | 7.7   | 7.2   | 6.5   | 6.5   | 8.4   | 8.0   | 8.1   | 8.1   | 7.8   | 6.5   | 4.9   | 4.8   |
| 15    | 7.8   | 7.2   | 6.5   | 6.4   | 8.2   | 8.0   | 7.7   | 8.2   | 7.5   | 6.5   | 4.9   | 4.8   |
| 16    | 7.8   | 7.3   | 6.5   | 6.4   | 8.0   | 8.2   | 7.7   | 7.9   | 7.2   | 6.5   | 4.7   | 4.8   |
| 17    | 7.8   | 7.2   | 6.5   | 6.4   | 7.7   | 8.0   | 7.7   | 8.2   | 7.5   | 6.2   | 5.1   | 5.6   |
| 18    | 8.1   | 7.2   | 6.5   | 6.4   | 7.8   | 8.3   | 7.7   | 8.2   | 7.6   | 6.2   | 5.0   | 6.2   |
| 19    | 7.8   | 7.2   | 6.5   | 6.4   | 7.6   | 8.3   | 7.7   | 8.2   | 7.6   | 6.2   | 5.0   | 6.9   |
| 20    | 7.8   | 7.2   | 6.5   | 6.4   | 7.6   | 8.2   | 8.2   | 8.0   | 7.6   | 6.2   | 5.0   | 5.9   |
| 21    | 7.8   | 7.1   | 6.5   | 6.4   | 7.6   | 7.9   | 9.0   | 8.1   | 7.6   | 5.9   | 5.0   | 5.7   |
| 22    | 7.8   | 7.1   | 6.5   | 6.4   | 7.9   | 8.0   | 8.3   | 8.4   | 7.6   | 5.9   | 5.0   | 5.6   |
| 23    | 7.8   | 7.1   | 6.4   | 6.4   | 7.9   | 7.9   | 8.4   | 8.4   | 7.5   | 5.9   | 5.0   | 5.4   |
| 24    | 7.8   | 7.1   | 6.4   | 6.4   | 8.0   | 8.0   | 8.3   | 8.4   | 7.5   | 5.9   | 5.0   | 5.2   |
| 25    | 7.5   | 7.1   | 6.4   | 6.4   | 7.9   | 8.0   | 8.2   | 8.4   | 7.3   | 5.9   | 5.0   | 5.1   |
| 26    | 7.5   | 7.1   | 6.4   | 6.4   | 7.9   | 7.8   | 9.1   | 8.4   | 7.3   | 5.9   | 5.0   | 5.1   |
| 27    | 7.5   | 7.1   | 6.4   | 6.4   | 7.9   | 7.7   | 8.5   | 8.5   | 7.3   | 5.9   | 5.0   | 5.1   |
| 28    | 7.5   | 7.2   | 6.4   | 6.4   | 7.9   | 8.3   | 8.2   | 8.5   | 7.3   | 5.9   | 5.0   | 5.0   |
| 29    | 7.4   | 7.2   | 6.4   | 6.1   | ----- | 8.0   | 8.3   | 8.5   | 7.2   | 5.9   | 5.0   | 5.0   |
| 30    | 7.4   | 6.2   | 6.5   | 6.1   | ----- | 7.7   | 8.3   | 8.5   | 7.2   | 5.9   | 5.0   | 5.0   |
| 31    | 7.4   | ----- | 6.5   | 6.7   | ----- | 7.8   | ----- | 8.5   | ----- | 5.9   | 5.0   | ----- |
| Total | 240.8 | 217.1 | 207.4 | 201.0 | 222.6 | 245.9 | 237.4 | 253.5 | 233.6 | 196.7 | 160.4 | 156.2 |
| Mean  | 7.77  | 7.24  | 6.69  | 6.48  | 7.95  | 7.93  | 7.91  | 8.18  | 7.79  | 6.35  | 5.17  | 5.21  |
| Max   | 8.1   | 7.5   | 8.4   | 6.7   | 15    | 8.3   | 9.1   | 8.6   | 8.5   | 7.2   | 5.9   | 6.9   |
| Min   | 7.4   | 6.2   | 6.4   | 6.1   | 6.1   | 7.7   | 7.4   | 6.3   | 7.2   | 5.9   | 4.7   | 4.8   |
| Ac-ft | 478   | 431   | 411   | 399   | 442   | 488   | 471   | 503   | 463   | 390   | 318   | 310   |

Calendar year 1962: Max 119 Min 4.8 Mean 17.0 Ac-ft 12,330  
 Water year 1962-63: Max 15 Min 4.7 Mean 7.05 Ac-ft 5,100

Peak discharge (base, 50 cfs).--No peak above base.

## SANTA ANA RIVER BASIN

11-740. Santa Ana River below Prado Dam, Calif.

Location.--Lat 33°53'00", long 117°38'40", in La Sierra Grant, on left bank of outlet channel, 2,500 ft downstream from axis of Prado Dam and 4.5 miles west of Corona, Riverside County.

Drainage area.--1,486 sq mi, revised, (not including 768 sq mi above Elsinore Lake).

Records available.--May 1930 to November 1939 (irrigation seasons only), March 1940 to September 1963. Published as "at Santa Fe Railroad Bridge, near Prado" May 1930 to November 1931, as "at Atchison, Topeka, & 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 above mean sea level (Corps of Engineers Survey). Prior to Mar. 18, 1940, water-stage recorder at about same site at various datums.

Extremes.--Maximum discharge during year, 572 cfs Feb. 11 (gage height, 3.67 ft); minimum daily, 14 cfs Oct. 1.  
1940-63: Maximum discharge, 2,260 cfs Dec. 24, 1940 (gage height, 3.20 ft); minimum daily, 12 cfs for some days in 1960.

Remarks.--Records good. Discharge measurements generally made three or more times a month. Flow regulated since 1944 by Prado Reservoir (capacity, 222,800 acre-ft) and Big Bear Lake (see p. 124). Natural flow of stream affected by extensive ground-water withdrawals, diversion for irrigation, and return flow from irrigated areas. Santa Ana River Development Co. pumps water from wells in Prado Reservoir into conduit which passes through dam and is released to river immediately downstream from gage. No water pumped in 1963.

Cooperation.--Nineteen discharge measurements furnished by Orange County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 12, Mar. 19-28)

|     |     |
|-----|-----|
| 1.9 | 14  |
| 2.1 | 40  |
| 2.3 | 85  |
| 2.6 | 175 |
| 3.0 | 315 |
| 3.7 | 585 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July  | Aug.  | Sept.   |
|-------|-------|---------|---------|---------|---------|---------|---------|---------|---------|-------|-------|---------|
| 1     | 14    | 30      | 35      | 42      | 70      | 56      | 50      | 60      | 44      | 18    | 20    | 23      |
| 2     | 15    | 30      | 37      | 44      | 60      | 60      | 50      | 56      | 44      | 19    | 20    | 21      |
| 3     | 15    | 31      | 38      | 44      | 56      | 60      | 50      | 56      | 38      | 23    | 21    | 22      |
| 4     | 15    | 32      | 37      | 46      | 50      | 60      | 56      | 60      | 42      | 25    | 18    | 28      |
| 5     | 15    | 32      | 37      | 48      | 50      | 60      | 60      | 58      | 38      | 25    | 17    | 42      |
| 6     | 20    | 32      | 37      | 50      | 50      | 58      | 58      | 52      | 40      | 27    | 20    | 40      |
| 7     | 18    | 35      | 37      | 50      | 50      | 60      | 60      | 52      | 38      | 27    | 23    | 32      |
| 8     | 18    | 35      | 35      | 50      | 52      | 60      | 60      | 52      | 40      | 26    | 25    | 28      |
| 9     | 18    | 35      | 37      | 50      | 68      | 60      | 60      | 52      | 40      | 25    | 23    | 23      |
| 10    | 18    | 35      | 38      | 50      | 453     | 72      | 60      | 52      | 40      | 26    | 22    | 25      |
| 11    | 21    | 35      | 38      | 50      | 542     | 62      | 60      | 50      | 40      | 27    | 23    | 26      |
| 12    | 22    | 35      | 40      | 48      | 161     | 62      | 58      | 50      | 40      | 26    | 23    | 22      |
| 13    | 23    | 32      | 40      | 48      | 80      | 60      | 58      | 46      | 37      | 23    | 25    | 22      |
| 14    | 23    | 34      | 40      | 48      | 90      | 58      | 58      | 42      | 34      | 23    | 25    | 21      |
| 15    | 25    | 34      | 40      | 46      | 100     | 60      | 80      | 42      | 34      | 22    | 22    | 21      |
| 16    | 23    | 34      | 40      | 44      | 90      | 62      | 62      | 42      | 34      | 20    | 18    | 21      |
| 17    | 25    | 34      | 42      | 44      | 80      | 318     | 103     | 42      | 34      | 18    | 20    | 38      |
| 18    | 27    | 34      | 42      | 48      | 70      | 197     | 96      | 42      | 28      | 18    | 17    | 155     |
| 19    | 28    | 32      | 44      | 46      | 70      | 85      | 62      | 42      | 28      | 17    | 16    | 335     |
| 20    | 27    | 35      | 40      | 48      | 65      | 68      | 62      | 40      | 30      | 17    | 17    | 154     |
| 21    | 27    | 40      | 38      | 52      | 65      | 62      | 65      | 40      | 34      | 18    | 22    | 88      |
| 22    | 27    | 37      | 40      | 54      | 62      | 58      | 60      | 38      | 38      | 19    | 21    | 72      |
| 23    | 28    | 32      | 40      | 54      | 60      | 58      | 56      | 42      | 37      | 22    | 22    | 60      |
| 24    | 28    | 30      | 40      | 52      | 58      | 56      | 58      | 38      | 34      | 18    | 23    | 58      |
| 25    | 30    | 28      | 42      | 54      | 58      | 50      | 58      | 37      | 31      | 18    | 22    | 54      |
| 26    | 30    | 30      | 42      | 58      | 58      | 50      | 98      | 37      | 31      | 19    | 20    | 50      |
| 27    | 30    | 32      | 42      | 56      | 56      | 46      | 110     | 35      | 32      | 18    | 18    | 44      |
| 28    | 30    | 35      | 42      | 56      | 52      | 80      | 68      | 38      | 32      | 18    | 20    | 35      |
| 29    | 28    | 37      | 42      | 50      | 97      | 60      | 60      | 42      | 25      | 17    | 21    | 37      |
| 30    | 28    | 37      | 42      | 48      | -----   | 58      | 60      | 44      | 17      | 18    | 22    | 40      |
| 31    | 28    | -----   | 42      | 46      | -----   | 54      | -----   | 44      | -----   | 18    | 25    | -----   |
| Total | 7 24  | 1 0 0 4 | 1 2 2 6 | 1 5 2 4 | 2 7 7 6 | 2 3 0 7 | 1 9 5 6 | 1 4 2 3 | 1 0 5 4 | 6 5 5 | 6 5 1 | 1 6 3 7 |
| Mean  | 23.4  | 33.5    | 39.5    | 49.2    | 99.1    | 74.4    | 65.2    | 45.9    | 35.1    | 21.1  | 21.0  | 54.6    |
| Max   | 30    | 40      | 44      | 58      | 542     | 318     | 110     | 60      | 44      | 27    | 25    | 335     |
| Min   | 14    | 28      | 35      | 42      | 50      | 46      | 50      | 35      | 17      | 17    | 16    | 21      |
| Ac-ft | 1,440 | 1,990   | 2,430   | 3,020   | 5,510   | 4,580   | 3,880   | 2,820   | 2,090   | 1,300 | 1,290 | 3,250   |

Calendar year 1962: Max 624 Min 14 Mean 53.8 Ac-ft 38,930  
Water year 1962-63: Max 542 Min 14 Mean 46.4 Ac-ft 33,600

Note.---No gage-height record Feb. 13-19.

## SANTA ANA RIVER BASIN

159

11-757.2. Carbon Creek below Carbon Canyon Dam, Calif.

Location.--Lat 33°54'50", long 117°50'30", in SW <sup>1</sup>/<sub>4</sub> sec. 17, T.3 S., R.9 W., on right wall of outlet channel, 250 ft downstream from toe of Carbon Canyon Dam and 2.4 miles northwest of Yorba Linda.

Drainage area.--18.8 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 398.29 ft above mean sea level, datum of 1958 (Corps of Engineers bench mark).

Extremes.--Maximum discharge during year, 16 cfs Apr. 26 (gage height, 0.41 ft); no flow for most of year.  
1961-63: Maximum discharge, 81 cfs Feb. 13, 1962 (gage height, 0.89 ft); no flow for most of each year.

Remarks.--Records good. Flow regulated by Carbon Canyon flood-control reservoir (capacity, 7,030 acre-ft).

Discharge, in cubic feet per second, water year October 1962 to September 1963

|              |     |              |     |              |      |
|--------------|-----|--------------|-----|--------------|------|
| Feb. 14..... | 4.8 | Mar. 22..... | 0.2 | Mar. 29..... | *0.2 |
| 15.....      | .4  | 23.....      | .2  | 30.....      | .2   |
| Mar. 17..... | .9  | 24.....      | .2  | 31.....      | .2   |
| 18.....      | .5  | 25.....      | .2  | Apr. 1.....  | .3   |
| 19.....*     | .3  | 26.....      | .2  | 2.....       | .7   |
| 20.....      | .3  | 27.....      | .2  | 3.....       | .2   |
| 21.....      | .2  | 28.....      | .2  | 26.....      | *1.0 |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| February 1963.....      | 5.2      | 4.8     | 0       | 0.19 | 10                     |
| March.....              | 6.7      | 2.0     | 0       | .22  | 13                     |
| April.....              | 2.2      | 1.0     | 0       | .07  | 4.4                    |
| Calendar year 1962..... | -        | 44      | 0       | .31  | 226                    |
| Water year 1962-63..... | -        | 4.8     | 0       | .04  | 27                     |

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

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

## SANTA ANA RIVER BASIN

11-758. Santiago Creek at Modjeska, Calif.

Location.--Lat 33°42'32", long 117°38'05", in SE 1/4 NW 1/4 sec. 29, T.5 S., R.7 W., on right bank at Santiago Canyon road bridge, 0.3 mile west of Modjeska and 0.4 mile downstream from Harding Creek.

Drainage area.--12.5 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 1,258.77 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 30 cfs Feb. 10 (gage height, 2.36 ft, from high-water mark in stilling well); no flow Oct. 1 to Feb. 8, June 27 to Sept. 30.  
1961-63: Maximum discharge, 302 cfs Feb. 11, 1962 (gage height, 3.53 ft); no flow for several months in each year.

Remarks.--Records good. No diversion. Slight regulation by Modjeska Reservoir on Harding Creek.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 10-15)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.3 | 0   | 1.7 | 3.1 |
| 1.4 | .2  | 1.8 | 5.6 |
| 1.5 | .5  | 1.9 | 8.8 |
| 1.6 | 1.4 | 2.1 | 18  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     |      |       |      |      | * 0   | 0.2   | 0.6   | 0.7  | 0.2   |      | (*)  |       |
| 2     |      | (*)   |      |      | 0     | .2    | .5    | .7   | .2    |      |      |       |
| 3     |      |       |      |      | 0     | .2    | .5    | .7   | .2    |      |      |       |
| 4     | (*)  |       |      | (*)  | 0     | .2    | .4    | .7   | .2    |      |      |       |
| 5     |      |       |      |      | 0     | .2    | .4    | .6   | .2    |      |      |       |
| 6     |      |       |      |      | 0     | .2    | .4    | .6   | .2    |      |      |       |
| 7     |      |       |      |      | 0     | .2    | .4    | .6   | .3    |      |      |       |
| 8     |      |       |      |      | 0     | .2    | .5    | .5   | .3    |      |      |       |
| 9     |      |       |      |      | 1.5   | .2    | .5    | .5   | .3    |      |      |       |
| 10    |      |       |      |      | * 15  | .2    | .5    | .4   | .3    |      |      |       |
| 11    |      |       |      |      | 1.2   | .2    | .4    | .4   | .3    |      |      |       |
| 12    |      |       |      |      | .5    | .2    | .4    | .4   | .3    |      |      |       |
| 13    |      |       |      |      | .4    | .3    | .4    | .4   | .3    |      |      |       |
| 14    |      |       |      |      | .4    | .3    | .4    | .4   | .2    |      |      |       |
| 15    | (*)  |       |      |      | .4    | .3    | .4    | .3   | .2    |      |      |       |
| 16    |      |       |      |      | .4    | .7    | .5    | .3   | .2    |      |      |       |
| 17    |      |       |      |      | .4    | 2.4   | .8    | .3   | .2    |      |      |       |
| 18    |      |       |      |      | .4    | * 1.1 | .8    | .3   | .2    |      |      |       |
| 19    |      |       |      |      | .4    | .7    | .7    | .3   | .2    |      |      |       |
| 20    |      |       |      |      | .3    | .6    | .6    | .3   | .2    |      |      |       |
| 21    |      |       |      |      | .3    | .6    | 1.0   | .3   | .2    |      |      |       |
| 22    |      |       |      |      | .3    | .6    | .8    | .2   | .2    |      |      |       |
| 23    |      |       |      |      | .3    | .6    | .6    | .2   | .1    |      |      |       |
| 24    |      |       |      |      | .3    | .7    | .6    | .2   | .1    |      |      |       |
| 25    |      |       |      |      | .3    | .7    | .6    | .2   | .1    |      |      |       |
| 26    |      |       |      |      | * .3  | .7    | 1.5   | .2   | .1    |      |      |       |
| 27    |      |       |      |      | .3    | .6    | 1.5   | .2   | * 0   |      | (*)  |       |
| 28    |      |       |      |      | .3    | .8    | 1.1   | * .2 | 0     |      |      |       |
| 29    |      |       |      |      | ----- | * .7  | * .8  | .2   | 0     |      |      |       |
| 30    |      | (*)   |      |      | ----- | .6    | .7    | .2   | 0     |      |      |       |
| 31    |      | ----- |      |      | ----- | .6    | ----- | .2   | ----- |      |      |       |
| Total | 0    | 0     | 0    | 0    | 23.7  | 16.0  | 19.3  | 11.7 | 5.5   | 0    | 0    | 0     |
| Mean  | 0    | 0     | 0    | 0    | 0.85  | 0.52  | 0.64  | 0.38 | 0.18  | 0    | 0    | 0     |
| Max   | 0    | 0     | 0    | 0    | 15    | 2.4   | 1.5   | 0.7  | 0.3   | 0    | 0    | 0     |
| Min   | 0    | 0     | 0    | 0    | 0     | 0.2   | 0.4   | 0.2  | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0     | 0    | 0    | 47    | 32    | 38    | 23   | 11    | 0    | 0    | 0     |

Calendar year 1962: Max 152 Min 0 Mean 5.03 Ac-ft 3,650

Water year 1962-63: Max 15 Min 0 Mean 0.21 Ac-ft 151

Peak discharge (base, 100 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

176.2

11-770. Santiago Creek near Villa Park, Calif.

Location.--Lat 33°49'22", long 117°46'33", in NE  $\frac{1}{4}$  NW  $\frac{1}{4}$  sec.13, T.4 S., R.9 W., on right bank 1.4 miles downstream from Weir Canyon and 2.7 miles northeast of Villa Park.

Drainage area.--83.8 sq mi.

Records available.--June 1920 to September 1963 (discontinued).

Gage.--Water-stage recorder and since 1960, oiled roadway control. Altitude of gage is 430 ft (from topographic map).

Extremes.--Maximum discharge during year, 4.6 cfs Mar. 3 (gage height, 3.17 ft); no flow for most of year.

1920-63: Maximum discharge, 11,000 cfs Feb. 16, 1927 (gage height, 8.4 ft), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; maximum gage height, 9.40 ft Jan. 16, 1952; no flow for several months in each year.

Remarks.--Records fair. Flow regulated by Santiago Reservoir since December 1931. Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Districts.

Cooperation.--One discharge measurement furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|             |     |             |     |              |     |
|-------------|-----|-------------|-----|--------------|-----|
| Feb. 9..... | 0.2 | Mar. 7..... | 0.1 | Apr. 9.....  | 0.2 |
| 10.....*    | .2  | 17.....     | .1  | 15.....      | .1  |
| 25.....     | .1  | 18.....     | .1  | 16.....      | .1  |
| Mar. 3..... | 1.3 | 19.....     | .1  | 17.....      | .1  |
| 4.....      | .2  | 20.....     | .1  | 18.....      | .1  |
| 5.....      | .1  | 23.....     | .1  | Sept.20..... | .1  |
| 6.....      | .1  | Apr. 8..... | .1  |              |     |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 0.5      | 0.2     | 0       | 0.02 | 1.0                 |
| March.....              | 2.4      | 1.3     | 0       | .08  | 4.8                 |
| April.....              | .7       | .2      | 0       | .02  | 1.4                 |
| September.....          | .1       | .1      | 0       | .003 | .2                  |
| Calendar year 1962..... | -        | 11      | 0       | .35  | 251                 |
| Water year 1962-63..... | -        | 1.3     | 0       | .01  | 7.4                 |

\* Discharge measurement made on this day.

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

11-775. Santiago Creek at Santa Ana, Calif.

Location.--Lat 33°46'09", long 117°52'54", in NE  $\frac{1}{4}$  SW  $\frac{1}{4}$  sec.1, T.5 S., R.10 W., on left bank at end of Baker Street, Santa Ana, 2,400 ft upstream from mouth.

Drainage area.--96.6 sq mi.

Records available.--October 1928 to September 1963. Monthly discharge only October to December 1928, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 110 ft (from topographic map). Prior to June 22, 1948, at datum 0.96 ft higher.

Average discharge.--35 years, 4.38 cfs (3,170 acre-ft per year); median of yearly mean discharges, 0.7 cfs (510 acre-ft per year).

Extremes.--Maximum discharge during year, 241 cfs Feb. 10 (gage height, 3.40 ft, from high-water mark in stilling well); no flow for most of year.

1928-63: Maximum discharge, 4,400 cfs Mar. 2, 1938 (gage height, 8.36 ft, present datum), from rating curve extended above 1,200 cfs; maximum gage height, 9.85 ft Jan. 16, 1952; no flow for most of each year.

Remarks.--Records poor. Flow regulated by Santiago Reservoir. Diversions above station by Irvine Co. and Serrano and Carpenter Irrigation Districts. In each winter season, some water originally diverted from Santa Ana River by Santa Ana Valley Irrigation Co.'s canal is occasionally wasted into Santiago Creek 3 miles above station.

Cooperation.--Two discharge measurements furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|             |     |              |     |              |     |
|-------------|-----|--------------|-----|--------------|-----|
| Feb. 9..... | a10 | Mar. 16..... | 7.9 | Apr. 26..... | 1.2 |
| 10.....*    | a75 | 17.....      | 1.8 | Sept.17..... | 13  |
| 14.....     | 3.2 | 28.....*     | 6.4 | 18.....      | 2.6 |
|             |     | Apr. 17..... | 1.0 | 19.....      | 1.0 |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 88.2     | 75      | 0       | 3.15 | 175                 |
| March.....              | 16.1     | 7.9     | 0       | .52  | 32                  |
| April.....              | 2.2      | 1.2     | 0       | .07  | 4.4                 |
| September.....          | 16.6     | 13      | 0       | .55  | 33                  |
| Calendar year 1962..... | -        | 42      | 0       | .48  | 350                 |
| Water year 1962-63..... | -        | 75      | 0       | .34  | 244                 |

\* Discharge measurement made on this day.

a No gage-height record.

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

## SANTA ANA RIVER BASIN

11-780. Santa Ana River at Santa Ana, Calif.

Location.--Lat 33°44'56", long 117°54'30", in NW 1/4 Sec. 10, T.5 S., R.10 W., on center pier of Fifth Street Bridge in Santa Ana, 1.8 miles downstream from Santiago Creek.

Drainage area.--1,685 sq mi, revised, (not including 768 sq mi above Elsinore Lake).

Records available.--January 1923 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 71.20 ft 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 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 higher.

Average discharge.--17 years (1923-40), 23.4 cfs (16,940 acre-ft per year); median of yearly mean discharges, 3.1 cfs (2,200 acre-ft per year); 23 years (1940-63), 13.6 cfs (9,850 acre-ft per year); median of yearly mean discharges, 1.5 cfs (1,100 acre-ft per year).

Extremes.--Maximum discharge during year, caused by failure of series of percolation basins, 4,720 cfs Mar. 18 (gage height, 5.44 ft), from rating curve extended above 260 cfs on basis of slope-area measurement of peak flow; no flow for most of year.  
1923-63: Maximum discharge, 46,300 cfs Mar. 3, 1938 (gage height, 10.20 ft, former site and datum), on basis of slope-area measurement of peak flow; no flow during several months each year.

Remarks.--Records poor. Natural flow affected by ground-water withdrawals, diversions, importation from Metropolitan Water District, municipal use, return flow from irrigation, Prado flood-control reservoir (capacity, 222,800 acre-ft) since 1944, Big Bear Lake (see p. 124), four small storage reservoirs (combined capacities, 50,000 acre-ft), and three small flood-control reservoirs (combined capacities, 20,000 acre-ft). At times there are small amounts of return irrigation water from Santa Ana Valley Irrigation Co.'s drain 1,500 ft upstream.

Cooperation.--Two discharge measurements furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June | July | Aug. | Sept. |
|-------------------------|------|-------|------|------|-------|-------|-------|------|------|------|------|-------|
| 1                       |      | (*)   |      | 0    | *1.9  | 0     | 0     | 0    |      |      | (*)  |       |
| 2                       |      |       |      | 0    | 0     | 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     | 1.4   | 0    |      |      |      |       |
| 9                       |      |       |      | 0    | 61    | 0     | 0     | 0    |      |      |      |       |
| 10                      |      |       |      | 0    | *109  | 0     | 0     | 0    |      |      |      |       |
| 11                      |      |       |      | 0    | *113  | 0     | 0     | 0    |      |      | (*)  |       |
| 12                      |      |       |      | 0    | 92    | 0     | 0     | 0    |      |      |      |       |
| 13                      |      |       |      | 0    | *1.7  | 0     | 0     | 0    |      |      |      |       |
| 14                      |      |       |      | 0    | 7.6   | 0     | .1    | 0    |      |      |      |       |
| 15                      |      |       |      | 0    | .1    | 1.1   | 0     | 0    |      |      |      |       |
| 16                      |      |       |      | 0    | 0     | 11    | *0    | 0    |      |      |      |       |
| 17                      |      |       |      | 0    | 0     | 4.0   | 1.0   | 0    |      |      |      |       |
| 18                      |      |       |      | 0    | 0     | *190  | .5    | 0    |      |      |      |       |
| 19                      |      |       |      | 0    | 0     | ** .5 | .2    | 0    |      |      |      |       |
| 20                      |      |       |      | 0    | 0     | 0     | .2    | 0    |      |      | (*)  |       |
| 21                      |      |       |      | 0    | 0     | 0     | .4    | .3   |      |      |      |       |
| 22                      |      |       |      | 0    | 0     | *0    | 0     | 0    |      |      |      |       |
| 23                      |      |       |      | 0    | 0     | 0     | 0     | 0    |      |      |      |       |
| 24                      |      |       |      | 0    | 0     | 0     | 0     | 0    |      |      |      |       |
| 25                      |      |       |      | 0    | 1.5   | 0     | 0     | 0    |      |      | (*)  |       |
| 26                      |      |       |      | 0    | *5.0  | 0     | 1.6   | 0    |      |      |      |       |
| 27                      |      |       |      | 0    | 3.2   | 0     | 0     | *0   |      |      | (*)  |       |
| 28                      |      |       |      | *0   | 0     | 10    | 0     | 0    |      |      |      |       |
| 29                      |      |       |      | 0    | ----- | ** .1 | 0     | 0    |      |      |      |       |
| 30                      |      | (*)   |      | 0    | ----- | 0     | *0    | 0    |      |      |      |       |
| 31                      |      | ----- |      | 3.0  | ----- | 0     | ----- | 0    |      |      |      |       |
| Total                   | 0    | 0     | 0    | 3.0  | 396.0 | 216.7 | 5.4   | 0.3  | 0    | 0    | 0    | 0     |
| Mean                    | 0    | 0     | 0    | 0.10 | 14.1  | 6.99  | 0.18  | 0.01 | 0    | 0    | 0    | 0     |
| Max                     | 0    | 0     | 0    | 3.0  | 113   | 190   | 1.6   | 0.3  | 0    | 0    | 0    | 0     |
| Min                     | 0    | 0     | 0    | 0    | 0     | 0     | 0     | 0    | 0    | 0    | 0    | 0     |
| Ac-ft                   | 0    | 0     | 0    | 6.0  | 785   | 430   | 11    | 0.6  | 0    | 0    | 0    | 0     |
| Calendar year 1962: Max | 300  | Min   | 0    | Mean | 5.45  | Ac-ft | 3,950 |      |      |      |      |       |
| Water year 1962-63: Max | 190  | Min   | 0    | Mean | 1.70  | Ac-ft | 1,230 |      |      |      |      |       |

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.



11-805. East Fork San Gabriel River near Camp Bonita, Calif.

Location.--Lat 34°14'08", long 117°48'16", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.27, T.2 N., R.9 W., on right bank 1,600 ft upstream from mouth of Graveyard Canyon, 2.5 miles upstream from confluence with West Fork, and 2.5 miles west of Camp Bonita.

Drainage area.--88.2 sq mi.

Records available.--December 1932 to September 1963. Prior to 1940, published as San Gabriel River near Camp Bonita.

Gage.--Water-stage recorder. Datum of gage is 1,567.04 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Dec. 10, 1938, at site 0.6 mile downstream at different datum.

Average discharge.--30 years (1933-63), 65.6 cfs (47,490 acre-ft per year); median of yearly mean discharges, 41 cfs (29,700 acre-ft per year).

Extremes.--Maximum discharge during year, 607 cfs Feb. 9 (gage height, 10.04 ft); minimum daily, 4.7 cfs Sept. 12, 13.  
1932-63: Maximum discharge, 46,000 cfs Mar. 2, 1938, from rating curve extended above 21,300 cfs (computed by Geological Survey); minimum, 1.5 cfs Oct. 1, 1934.

Remarks.--Discharge measurements made one or more times a week. No regulation or diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 15   | 15    | 15   | 15   | 17    | 20    | 26    | 36    | 21    | 12    | 6.7   | 5.9   |
| 2     | 15   | 15    | 15   | 15   | 16    | 20    | 25    | 36    | 20    | 12    | 7.2   | 5.4   |
| 3     | 16   | 14    | 15   | 15   | 16    | 20    | 24    | 36    | 20    | 12    | 6.7   | 5.4   |
| 4     | 17   | 14    | 15   | 15   | 15    | 20    | 24    | 35    | 19    | 12    | 6.3   | 6.3   |
| 5     | 17   | 14    | 15   | 15   | 15    | 20    | 23    | 33    | 20    | 11    | 6.3   | 7.2   |
| 6     | 17   | 14    | 15   | 14   | 15    | 20    | 22    | 32    | 21    | 11    | 6.3   | 6.3   |
| 7     | 17   | 14    | 15   | 14   | 14    | 20    | 22    | 32    | 20    | 11    | 6.3   | 5.9   |
| 8     | 16   | 14    | 15   | 14   | 14    | 20    | 23    | 31    | 20    | 11    | 7.6   | 5.4   |
| 9     | 15   | 14    | 15   | 15   | 112   | 20    | 23    | 31    | 20    | 10    | 7.6   | 5.4   |
| 10    | 15   | 14    | 14   | 15   | 186   | 20    | 23    | 31    | 20    | 10    | 7.6   | 5.4   |
| 11    | 15   | 14    | 14   | 15   | 61    | 19    | 23    | 30    | 20    | 10    | 7.2   | 5.0   |
| 12    | 15   | 14    | 14   | 15   | 46    | 19    | 21    | 29    | 20    | 9.9   | 6.3   | 4.7   |
| 13    | 15   | 14    | 14   | 15   | 38    | 20    | 20    | 28    | 18    | 9.3   | 6.3   | 4.7   |
| 14    | 16   | 15    | 14   | 15   | 36    | 20    | 22    | 27    | 17    | 8.9   | 5.9   | 5.0   |
| 15    | 17   | 15    | 14   | 14   | 33    | 20    | 25    | 27    | 16    | 8.9   | 5.4   | 5.4   |
| 16    | 16   | 15    | 14   | 14   | 31    | 23    | 25    | 26    | 15    | 8.9   | 6.7   | 5.9   |
| 17    | 16   | 15    | 14   | 14   | 29    | 28    | 25    | 24    | 14    | 8.4   | 6.7   | 9.4   |
| 18    | 18   | 15    | 14   | 14   | 28    | 23    | 25    | 24    | 14    | 8.0   | 6.7   | 20    |
| 19    | 18   | 14    | 14   | 14   | 26    | 22    | 24    | 23    | 15    | 8.0   | 6.7   | 5.6   |
| 20    | 17   | 14    | 14   | 14   | 25    | 21    | 26    | 22    | 15    | 8.0   | 6.7   | 30    |
| 21    | 16   | 14    | 15   | 14   | 24    | 21    | 35    | 23    | 16    | 7.2   | 6.3   | 23    |
| 22    | 15   | 14    | 15   | 14   | 23    | 21    | 26    | 24    | 17    | 7.5   | 6.3   | 19    |
| 23    | 15   | 14    | 15   | 14   | 22    | 22    | 25    | 24    | 16    | 7.6   | 6.3   | 18    |
| 24    | 15   | 14    | 15   | 13   | 22    | 22    | 25    | 23    | 15    | 7.2   | 6.3   | 16    |
| 25    | 15   | 14    | 15   | 13   | 21    | 21    | 26    | 23    | 14    | 7.2   | 5.9   | 15    |
| 26    | 15   | 14    | 15   | 14   | 21    | 20    | 40    | 23    | 14    | 6.7   | 5.9   | 13    |
| 27    | 14   | 14    | 15   | 14   | 20    | 20    | 33    | 23    | 14    | 6.3   | 5.4   | 12    |
| 28    | 14   | 14    | 15   | 14   | 20    | 30    | 32    | 23    | 14    | 5.9   | 5.4   | 12    |
| 29    | 14   | 14    | 15   | 14   | ----- | 27    | 33    | 22    | 14    | 5.9   | 5.4   | 12    |
| 30    | 14   | 14    | 15   | 14   | ----- | 26    | 34    | 22    | 12    | 6.3   | 5.9   | 11    |
| 31    | 14   | ----- | 15   | 16   | ----- | 26    | ----- | 22    | ----- | 6.3   | 5.9   | ----- |
| Total | 484  | 427   | 454  | 445  | 946   | 671   | 780   | 845   | 511   | 274.4 | 198.2 | 355.7 |
| Mean  | 15.6 | 14.2  | 14.6 | 14.4 | 33.8  | 21.6  | 26.0  | 27.3  | 17.0  | 8.85  | 6.39  | 11.9  |
| Max   | 18   | 15    | 15   | 16   | 186   | 28    | 40    | 36    | 21    | 12    | 7.6   | 5.6   |
| Min   | 14   | 14    | 14   | 13   | 14    | 19    | 21    | 22    | 12    | 5.9   | 5.4   | 4.7   |
| Ac-ft | 960  | 847   | 900  | 883  | 1,880 | 1,330 | 1,550 | 1,680 | 1,010 | 544   | 393   | 706   |

Calendar year 1962: Max 1,760 Min 14 Mean 72.7 Ac-ft 52,620  
Water year 1962-63: Max 186 Min 4.7 Mean 17.5 Ac-ft 12,680

## SAN GABRIEL RIVER BASIN

11-820. West Fork San Gabriel River at Camp Rincon, Calif.

Location.--Lat 34°14'30", long 117°51'50", in SE $\frac{1}{4}$  sec.19, T.2 N., R.9 W., on right bank 0.2 mile upstream from Camp Rincon, 0.5 mile downstream from North Fork, and 6 miles downstream from Cogswell Dam.

Drainage area.--102 sq mi.

Records available.--October 1927 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 1,474.94 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Nov. 19, 1930, at site  $1\frac{1}{2}$  miles downstream at different datum. Aug. 27, 1938, to July 3, 1941, at datum 6.41 ft higher.

Average discharge.--36 years, 61.0 cfs (44,160 acre-ft per year); median of yearly mean discharges, 33 cfs (23,900 acre-ft per year).

Extremes.--Maximum discharge during year, 2,010 cfs Feb. 9 (gage height, 10.81 ft); minimum daily, 2.5 cfs Sept. 10-11.  
1927-63: Maximum discharge, 34,000 cfs (estimated) Mar. 2, 1938; no flow at times in 1928-29.

Remarks.--Discharge measurements made twice a week. Flood regulated by Cogswell flood-control reservoir (capacity, 10,630 acre-ft). No diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.   | Nov.  | Dec.  | Jan. | Feb.  | Mar.  | Apr.  | May    | June  | July  | Aug.  | Sept. |
|---------------------|--------|-------|-------|------|-------|-------|-------|--------|-------|-------|-------|-------|
| 1                   | 4.9    | 8.4   | 9.8   | 12   | 17    | 15    | 19    | 20     | 30    | 23    | 4.7   | 3.3   |
| 2                   | 5.0    | 8.4   | 10    | 12   | 15    | 15    | 18    | 20     | 30    | 23    | 4.7   | 3.3   |
| 3                   | 5.1    | 8.4   | 9.8   | 12   | 14    | 14    | 18    | 20     | 30    | 22    | 4.4   | 3.1   |
| 4                   | 5.1    | 8.4   | 9.8   | 12   | 13    | 14    | 17    | 19     | 30    | 21    | 4.1   | 5.2   |
| 5                   | 5.2    | 8.7   | 9.8   | 12   | 12    | 14    | 17    | 18     | 31    | 22    | 3.8   | 5.6   |
| 6                   | 5.6    | 8.7   | 9.8   | 11   | 12    | 15    | 16    | 17     | 32    | 22    | 4.1   | 3.8   |
| 7                   | 5.6    | 8.7   | 9.8   | 11   | 11    | 15    | 17    | 17     | 31    | 22    | 4.4   | 3.5   |
| 8                   | 5.6    | 8.7   | 9.8   | 11   | 11    | 14    | 17    | 16     | 31    | 22    | 4.4   | 2.9   |
| 9                   | 5.6    | 8.7   | 9.5   | 11   | 27.6  | 14    | 17    | 16     | 30    | 21    | 4.1   | 2.7   |
| 10                  | 5.6    | 9.1   | 9.5   | 12   | 27.3  | 14    | 17    | 16     | 30    | 21    | 3.8   | 2.5   |
| 11                  | 5.5    | 9.1   | 9.5   | 12   | 7.1   | 14    | 16    | 16     | 30    | 20    | 3.8   | 2.5   |
| 12                  | 5.5    | 9.5   | 9.8   | 12   | 4.5   | 14    | 16    | 16     | 30    | 20    | 3.5   | 2.7   |
| 13                  | 5.3    | 9.8   | 9.8   | 12   | 3.4   | 14    | 15    | 19     | 29    | 20    | 3.3   | 2.9   |
| 14                  | 5.3    | 10    | 9.8   | 12   | 3.0   | 14    | 18    | 30     | 28    | 20    | 3.1   | 2.7   |
| 15                  | 5.2    | 10    | 9.8   | 12   | 2.7   | 15    | 18    | 30     | 27    | 18    | 3.1   | 2.9   |
| 16                  | 4.7    | 10    | 10    | 12   | 2.5   | 17    | 16    | 29     | 25    | 21    | 3.1   | 3.1   |
| 17                  | 5.0    | 9.8   | 11    | 12   | 2.3   | 26    | 16    | 29     | 25    | 21    | 3.1   | 5.6   |
| 18                  | 4.9    | 9.8   | 11    | 12   | 2.1   | 21    | 16    | 29     | 25    | 21    | 3.1   | 1.6   |
| 19                  | 4.8    | 9.5   | 11    | 12   | 2.1   | 20    | 16    | 29     | 25    | 21    | 2.9   | 5.4   |
| 20                  | 4.7    | 9.5   | 10    | 11   | 2.1   | 18    | 18    | 29     | 25    | 21    | 2.9   | 2.0   |
| 21                  | 4.7    | 9.5   | 10    | 11   | 2.0   | 18    | 28    | 29     | 25    | 21    | 3.1   | 1.4   |
| 22                  | 4.4    | 9.5   | 10    | 11   | 2.0   | 17    | 21    | 29     | 25    | 22    | 3.5   | 1.1   |
| 23                  | 1.5    | 9.8   | 10    | 11   | 1.8   | 19    | 19    | 29     | 25    | 21    | 3.8   | 8.4   |
| 24                  | 9.5    | 9.8   | 11    | 11   | 1.7   | 17    | 18    | 29     | 25    | 21    | 3.8   | 7.6   |
| 25                  | 8.7    | 10    | 11    | 11   | 1.7   | 16    | 18    | 28     | 25    | 21    | 3.5   | 7.2   |
| 26                  | 8.7    | 9.8   | 11    | 11   | 1.6   | 16    | 32    | 27     | 24    | 21    | 3.5   | 6.5   |
| 27                  | 8.7    | 9.8   | 11    | 11   | 1.6   | 15    | 25    | 27     | 23    | 20    | 3.3   | 6.2   |
| 28                  | 8.7    | 9.8   | 11    | 11   | 1.6   | 27    | 24    | 29     | 23    | 20    | 3.1   | 5.9   |
| 29                  | 8.7    | 10    | 11    | 11   | ----- | 2.4   | 21    | 32     | 23    | 18    | 3.1   | 5.3   |
| 30                  | 8.7    | 9.8   | 11    | 12   | ----- | 2.1   | 20    | 31     | 23    | 7.5   | 3.3   | 5.0   |
| 31                  | 8.4    | ----- | 11    | 16   | ----- | 2.0   | ----- | 31     | ----- | 5.1   | 3.3   | ----- |
| Total               | 1218.1 | 281.0 | 317.3 | 362  | 1112  | 527   | 564   | 756    | 815   | 619.6 | 111.7 | 225.4 |
| Mean                | 39.3   | 9.37  | 10.2  | 11.7 | 39.7  | 17.0  | 18.8  | 24.4   | 27.2  | 20.0  | 3.60  | 7.51  |
| Max                 | 56     | 10    | 11    | 16   | 276   | 27    | 32    | 32     | 32    | 23    | 4.7   | 54    |
| Min                 | 8.4    | 8.4   | 9.5   | 11   | 11    | 14    | 15    | 16     | 23    | 5.1   | 2.9   | 2.5   |
| Ac-ft               | 2,420  | 557   | 629   | 718  | 2,210 | 1,050 | 1,120 | 1,500  | 1,620 | 1,230 | 222   | 447   |
| Calendar year 1962: | Max    | 3,800 | Min   | 8.4  | Mean  | 84.9  | Ac-ft | 61,480 |       |       |       |       |
| Water year 1962-63: | Max    | 276   | Min   | 2.5  | Mean  | 18.9  | Ac-ft | 13,720 |       |       |       |       |

## SAN GABRIEL RIVER BASIN

165

11-835. San Gabriel River near Azusa, Calif.

Location.--Lat 34°10'11", long 117°53'16", in SW 1/4 SW 1/4 sec. 13, T.1 N., R.10 W., on right bank 1.1 miles downstream from Morris Dam and 2.7 miles northeast of Azusa.

Drainage area.--211 sq mi.

Records available.--May to November 1894, September 1895 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 867.59 ft above mean sea level (from Los Angeles County Flood Control District bench mark). Prior to August 1917, staff gages and August 1917 to Sept. 30, 1937, water-stage recorders at several sites from 1½ to 2 miles downstream at different datum. Oct. 1, 1937, to Feb. 21, 1938, water-stage recorder at site half a mile downstream at different datum. Feb. 22, 1938, to Feb. 7, 1939, water-stage recorder at site a quarter of a mile upstream at different datum. Datum lowered 4.35 ft May 9, 1950.

Average discharge.--68 years (1895-1963), 147 cfs (106,400 acre-ft per year), adjusted for diversions, importations, regulation, and evaporation, in Cogswell, San Gabriel and Morris Reservoirs; median of yearly mean adjusted discharges, 99 cfs (71,700 acre-ft per year).

Extremes.--Maximum discharge during year, 45 cfs Sept. 4 (gage height, 4.79 ft); no flow for most of year.

1894, 1895-1963: Maximum discharge, 65,700 cfs Mar. 2, 1938, by computation of peak flow over Morris Dam; no flow for several months in most years.

Remarks.--Records fair. Flow regulated by Cogswell and San Gabriel flood-control reservoirs (combined capacity, 54,500 acre-ft) and by Morris Reservoir (capacity, 35,000 acre-ft). Azusa Canal diverts above high-water level of Morris Reservoir or from San Gabriel Reservoir about 5 miles above station. No Colorado River water was released into San Gabriel River below Morris Dam and above station during the water year. The Metropolitan Water District of Southern California furnished records of adjusted runoff for San Gabriel River computed on basis of flow in river above Morris Reservoir plus Azusa canal, adjusted for storage and evaporation in Cogswell, San Gabriel, and Morris Reservoirs, as shown in table below. These figures of runoff are equivalent to combined records of San Gabriel River and Southern California Edison Co.'s canal as published from 1894 to 1933.

| Month                   | Adjusted runoff<br>(acre-feet) | Month                   | Adjusted runoff<br>(acre-feet) |
|-------------------------|--------------------------------|-------------------------|--------------------------------|
| October.....            | 1,590                          | April.....              | 3,030                          |
| November.....           | 1,520                          | May.....                | 2,670                          |
| December.....           | 1,600                          | June.....               | 1,660                          |
| Calendar year 1962..... | 119,000                        | July.....               | 791                            |
| January.....            | 1,640                          | August.....             | 575                            |
| February.....           | 5,490                          | September.....          | 1,200                          |
| March.....              | 2,790                          | Water year 1962-63..... | 24,556                         |

Cooperation.--Three discharge measurements furnished by Los Angeles County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar.  | Apr. | May | June | July | Aug. | Sept. |
|-------|------|------|------|------|-------|-------|------|-----|------|------|------|-------|
| 1     |      | (*)  |      |      | 0     | 16    |      | (*) |      |      |      | 0     |
| 2     | (*)  |      |      |      | 0     | 16    |      |     |      |      |      | 0     |
| 3     |      |      |      |      | 0     | 16    |      |     |      |      |      | 0     |
| 4     |      |      |      |      | 0     | * 16  |      |     |      |      |      | 16    |
| 5     |      |      |      |      | 0     | 16    |      |     |      |      |      | 1.4   |
| 6     |      |      |      |      | 0     | 16    |      |     |      |      |      | * 12  |
| 7     |      |      |      | (*)  | 0     | * 16  |      |     |      |      |      | 0     |
| 8     |      |      |      |      | 0     | 8.8   |      |     |      |      |      | 0     |
| 9     |      |      |      |      | 1.4   | 1.2   |      | (*) |      |      |      | 0     |
| 10    |      |      |      |      | 6.4   | 0     |      |     |      |      |      | 0     |
| 11    |      |      |      |      | 1.2   | 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     | 4    |     |      |      |      | 0     |
| 18    |      |      |      |      | 0     | 0     |      |     |      |      |      | 0     |
| 19    |      |      |      |      | 0     | 0     |      |     |      |      |      | 0     |
| 20    |      |      |      |      | * 21  | 0     |      |     |      |      |      | 0     |
| 21    |      |      |      |      | * 27  | 0     |      |     |      |      |      | 0     |
| 22    |      |      |      |      | 18    | 0     |      |     |      |      |      | 0     |
| 23    |      |      |      |      | 20    | 0     |      |     |      |      |      | 0     |
| 24    |      |      |      |      | 20    | 0     |      |     |      |      |      | 0     |
| 25    |      |      |      |      | 18    | * 0   |      |     |      |      |      | 15    |
| 26    |      |      |      |      | 16    | 0     |      |     | (*)  |      |      | 11    |
| 27    |      |      |      |      | 16    | 0     |      | (*) |      |      |      | 0     |
| 28    |      | (*)  |      |      | * 16  | 0     |      |     |      |      |      | 0     |
| 29    |      |      |      | (*)  | 0     | 0     |      |     |      |      | (*)  | 0     |
| 30    |      |      |      |      | 0     | 0     |      |     |      | (*)  |      | 0     |
| 31    |      |      |      |      | 0     | 0     |      |     |      |      |      | 0     |
| Total | 0    | 0    | 0    | 0    | 181.0 | 122.4 | 0    | 0   | 0    | 0    | 0    | 55.4  |
| Mean  | 0    | 0    | 0    | 0    | 6.46  | 3.95  | 0    | 0   | 0    | 0    | 0    | 1.85  |
| Max   | 0    | 0    | 0    | 0    | 27    | 16    | 0    | 0   | 0    | 0    | 0    | 16    |
| Min   | 0    | 0    | 0    | 0    | 0     | 0     | 0    | 0   | 0    | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 359   | 243   | 0    | 0   | 0    | 0    | 0    | 110   |

Calendar year 1962: Max 1,520 Min 0 Mean 101 Ac-ft 73,060

Water year 1962-63: Max 27 Min 0 Mean 0.98 Ac-ft 712

\* Discharge measurement or observation of no flow made on this day.

11-845. Fish Creek near Duarte, Calif.

Location.--Lat 34°10'00", long 117°55'25", in SW 1/4 sec. 15, T.1 N., R.10 W., on left bank 0.8 mile upstream from mouth of canyon and 3 miles northeast of Duarte.

Drainage area.--6.5 sq mi, approximately.

Records available.--July to September 1916, July 1917 to September 1963.

Gage.--Water-stage recorder and broad-crested weir since July 1917, restored in December 1938. Altitude of gage is 1,000 ft (from topographic map). Prior to July 28, 1917, staff gage at same site at different datum. July 28, 1917, to Mar. 2, 1938, water-stage recorder at same site at different datum (destroyed by flood of Mar. 2, 1938). Mar. 3 to Dec. 7, 1938, staff gage at same site at different datum. Dec. 7, 1938, to Oct. 3, 1951, water-stage recorder at same site at datum 1 ft higher.

Average discharge.--46 years (1917-63), 3.79 cfs (2,740 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Extremes.--Maximum discharge during year, 346 cfs Feb. 9 (gage height, 4.23 ft); no flow Sept. 11-14.

1916-63: Maximum discharge, 2,100 cfs Mar. 2, 1938, and Jan. 23, 1943; maximum gage height, about 14.5 ft Feb. 11, 16, 1959 (from debris wave); no flow at times in some years.

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

Cooperation.--Eleven discharge measurements furnished by Los Angeles County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.5  | 0.5   | 0.7  | 0.7  | 1.2   | 1.3   | 1.0   | 1.7   | 1.3   | 0.6  | 0.2  | 0.1   |
| 2     | .5   | .5    | .7   | .7   | .9    | 1.3   | .9    | 1.7   | 1.3   | .6   | .2   | .1    |
| 3     | * .6 | .5    | .7   | .7   | .8    | 1.3   | .9    | 1.7   | 1.3   | .6   | .2   | .1    |
| 4     | .8   | .6    | .7   | .8   | .7    | 1.3   | .9    | 1.7   | 1.2   | .6   | .2   | .5    |
| 5     | .8   | .6    | .7   | .8   | .7    | 1.2   | .8    | 1.6   | 1.2   | .6   | .2   | .4    |
| 6     | .8   | .6    | .7   | .7   | .7    | 1.2   | .8    | 1.5   | 1.2   | .6   | .2   | .2    |
| 7     | .8   | .6    | .6   | * .7 | * .6  | 1.2   | .9    | 1.4   | 1.2   | .6   | .2   | .2    |
| 8     | .7   | * .5  | .6   | .7   | .6    | 1.2   | 1.0   | * 1.4 | 1.0   | .6   | .2   | .1    |
| 9     | .7   | .5    | .6   | .9   | 58    | 1.2   | 1.0   | 1.3   | 1.0   | .6   | .2   | .1    |
| 10    | .6   | .6    | .6   | 1.5  | * 71  | 1.2   | 1.1   | 1.3   | 1.1   | .6   | .2   | .1    |
| 11    | * .6 | .6    | .6   | .9   | 2.6   | 1.2   | * 1.3 | 1.2   | 1.2   | .5   | .2   | 0     |
| 12    | .6   | .5    | .7   | .8   | * 3.0 | 1.2   | 1.3   | 1.1   | 1.2   | .5   | .2   | 0     |
| 13    | .6   | .6    | .7   | .8   | 4.6   | 1.2   | 1.3   | 1.1   | * 1.0 | .5   | * .2 | 0     |
| 14    | .8   | .7    | .7   | .8   | 5.1   | * 1.2 | 1.8   | 1.0   | 1.0   | .5   | * .2 | 0     |
| 15    | .8   | .7    | .7   | .8   | 4.9   | 1.2   | 2.2   | .9    | .9    | .5   | .2   | .1    |
| 16    | .8   | .7    | .7   | .8   | 4.1   | 2.9   | 1.3   | * .9  | .9    | .5   | .2   | .1    |
| 17    | .8   | .7    | .7   | * .8 | 4.1   | 3.8   | 1.4   | .9    | .9    | * .5 | .2   | .6    |
| 18    | .8   | .7    | .8   | .8   | 2.1   | * 2.9 | * 1.3 | .9    | .9    | .4   | .2   | * 2.2 |
| 19    | .8   | .7    | .8   | .8   | 1.7   | 2.3   | 1.3   | .9    | .9    | .4   | .2   | 2.0   |
| 20    | .7   | .7    | .8   | .8   | 2.3   | 2.1   | 2.3   | 1.0   | * .9  | .4   | .1   | .9    |
| 21    | .7   | .7    | .7   | .8   | 1.7   | 1.8   | 5.3   | 1.0   | 1.0   | .4   | .1   | .7    |
| 22    | .6   | .7    | .7   | .8   | 1.7   | 1.6   | 2.1   | 1.0   | 1.0   | .4   | .1   | .5    |
| 23    | .6   | .7    | .8   | .8   | 1.6   | 1.8   | 1.8   | 1.0   | .9    | .4   | .2   | .5    |
| 24    | * .6 | .7    | .8   | .8   | 1.6   | 1.4   | 1.5   | 1.0   | .8    | .3   | .2   | .5    |
| 25    | .6   | .7    | .8   | .8   | 1.5   | 1.3   | 1.2   | 1.1   | .7    | .3   | .1   | .4    |
| 26    | .6   | .7    | .8   | .8   | 1.4   | 1.3   | 4.3   | 1.2   | * .7  | .3   | .1   | .3    |
| 27    | .6   | .7    | .8   | .8   | * 1.4 | * 1.2 | 2.5   | 1.2   | .7    | .3   | .1   | .2    |
| 28    | .5   | * .7  | .8   | .8   | 1.3   | 2.0   | 2.2   | * 1.2 | .7    | .3   | .1   | .2    |
| 29    | .5   | .7    | .8   | * .8 | ----- | 1.4   | 1.8   | 1.2   | .6    | .3   | * .1 | .2    |
| 30    | .5   | .7    | .8   | .8   | ----- | 1.2   | 1.7   | 1.2   | .6    | * .2 | .1   | .2    |
| 31    | * .5 | ----- | .7   | 1.5  | ----- | 1.0   | ----- | 1.3   | ----- | .2   | .1   | ----- |
| Total | 20.4 | 19.1  | 22.3 | 25.8 | 181.9 | 48.4  | 49.2  | 37.6  | 29.3  | 14.1 | 5.2  | 11.5  |
| Mean  | 0.66 | 0.64  | 0.72 | 0.83 | 6.50  | 1.56  | 1.64  | 1.21  | 0.98  | 0.45 | 0.17 | 0.38  |
| Max   | 0.8  | 0.7   | 0.8  | 1.5  | 71    | 3.8   | 5.3   | 1.7   | 1.3   | 0.6  | 0.2  | 2.2   |
| Min   | 0.5  | 0.5   | 0.6  | 0.7  | 0.6   | 1.0   | 0.8   | 0.9   | 0.6   | 0.2  | 0.1  | 0     |
| Ac-ft | 40   | 38    | 44   | 51   | 361   | 96    | 98    | 75    | 58    | 28   | 10   | 23    |

Calendar year 1962: Max 472 Min 0.3 Mean 5.92 Ac-ft 4,290

Water year 1962-63: Max 71 Min 0 Mean 1.27 Ac-ft 922

Peak discharge (base, 60 cfs).--Feb. 9 (2230 hrs) 346 cfs (4.23 ft).

\* Discharge measurement made on this day.

Location.--Lat 34°06'44", long 117°58'07", in SE 1/4 sec.6, T.1 S., R.10 W., on left bank at stilling basin of outlet of Santa Fe flood-control dam, 500 ft downstream from axis of dam, and 1.7 miles north of Baldwin Park.

Records available.--October 1942 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 400.00 ft above mean sea level (levels by Corps of Engineers).

Extremes.--No flow during year.

1942-63: Maximum discharge, 8,000 cfs Jan. 23, 1943; no flow for several months of each year.

Remarks.--No flow since Aug. 16, 1962. Flow regulated by Cogswell and San Gabriel flood-control reservoirs (combined capacity, 54,500 acre-ft.), Morris Reservoir (capacity, 35,000 acre-ft.), Santa Fe flood-control reservoir (capacity, 36,800 acre-ft.), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft.). Diversions above station for irrigation, power development, and ground-water replenishment. The Los Angeles County Flood Control District reported no water diverted to headwaters of Rio Hondo during year. Figures for calendar year 1962 are as follows: maximum daily discharge, 466 cfs; minimum, zero; mean, 46.2 cfs; runoff, 33,450 acre-ft.

11-863. San Dimas Creek below San Dimas Dam, Calif.

Location.--Lat 34°09'10", long 117°46'18", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.24, T.1 N., R.9 W., on left bank 1,000 ft downstream from San Dimas Dam and 3.7 miles northeast of San Dimas.

Drainage area.--16.2 sq mi.

Records available.--October 1951 to September 1963. 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 above mean sea level (levels by Los Angeles County Flood Control District).

Extremes.--Maximum discharge during year, 404 cfs Feb. 9 (gage height, 1.88 ft); no flow Nov. 18-22.

1951-63: Maximum discharge, that of Feb. 9, 1963; no flow for part of each year.

Remarks.--Discharge measurements generally made once a week. Flow regulated by San Dimas flood-control reservoir (capacity, 1,042 acre-ft) and at times by old water tunnel 150 ft upstream.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |       |       |      |      |       |      |       |       |       |      |      |       |
|--|-------|-------|------|------|-------|------|-------|-------|-------|------|------|-------|
| Day  | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May   | June  | July | Aug. | Sept. |
| 1  | 1.4   | 0.1   | 0.1  | 0.1  | 0.1   | 0.1  | 0.1   | 0.2   | 0.3   | 0.3  | 0.2  | 2.7   |
| 2  | 3.3   | .1    | .1   | .1   | .1    | .1   | .1    | .1    | .3    | .3   | .2   | 2.7   |
| 3  | 18    | .1    | .1   | .1   | .1    | .1   | .1    | .1    | .3    | .2   | .2   | 2.7   |
| 4  | 2.6   | .1    | .1   | .1   | .1    | .1   | .1    | .1    | .3    | .2   | .2   | 2.7   |
| 5  | 2.7   | .1    | .1   | .1   | .1    | .1   | .1    | .2    | .3    | .1   | .2   | 2.6   |
| 6  | 3.3   | .1    | .1   | .1   | .1    | .1   | .1    | .2    | .2    | .3   | .2   | 2.6   |
| 7  | 3.5   | .1    | .1   | .1   | .1    | .1   | .1    | .2    | .2    | .3   | .2   | 2.6   |
| 8  | 3.3   | .1    | .1   | .1   | .1    | .1   | .1    | .2    | .2    | .3   | .1   | 2.6   |
| 9  | 3.5   | .1    | .1   | .1   | 59    | .1   | .1    | .4    | .2    | .3   | .1   | 2.6   |
| 10   | 3.6   | .1    | .1   | .1   | 83    | .1   | .1    | .3    | .2    | .3   | .1   | 2.7   |
| 11   | 3.6   | .1    | .1   | .1   | .3    | .1   | .1    | .3    | .3    | .3   | .1   | 2.7   |
| 12   | 3.6   | .1    | .1   | .1   | .2    | .1   | .1    | .3    | .3    | .3   | .1   | 2.7   |
| 13   | 3.6   | .1    | .1   | .1   | .2    | .1   | .1    | .5    | .3    | .3   | .1   | 2.7   |
| 14   | 3.6   | .1    | .1   | .1   | .2    | .1   | 9.8   | .3    | .3    | .3   | .1   | 2.9   |
| 15   | 3.5   | .1    | .1   | .1   | .2    | .1   | 7.0   | .5    | .3    | 2.4  | .1   | 2.9   |
| 16   | 3.5   | .1    | .1   | .1   | .1    | .1   | .3    | .5    | .3    | 3.5  | .1   | 2.9   |
| 17   | 3.5   | .1    | .1   | .1   | .1    | .1   | .3    | .4    | .3    | 1.3  | .1   | 3.1   |
| 18   | 3.5   | 0     | .1   | .1   | .1    | .1   | .3    | .3    | .3    | .2   | .1   | 2.3   |
| 19   | 3.5   | 0     | .1   | .1   | .1    | .1   | .3    | .2    | .3    | .2   | 1.6  | .2    |
| 20   | 3.5   | 0     | .1   | .1   | .1    | .1   | .3    | .2    | .2    | .2   | 2.6  | .2    |
| 21   | 3.5   | 0     | .1   | .1   | .1    | 35   | .3    | .1    | .3    | .2   | .2   | .2    |
| 22   | 3.5   | 0     | .1   | .1   | .1    | 34   | .3    | .1    | .3    | .2   | 2.4  | .2    |
| 23   | 3.5   | .1    | .1   | .1   | .1    | .2   | .2    | .1    | .3    | .2   | 2.4  | .2    |
| 24   | 3.5   | .1    | .1   | .1   | .1    | .2   | .2    | .2    | .2    | .2   | 2.6  | .2    |
| 25   | 3.6   | .1    | .1   | .1   | .1    | .1   | .2    | .2    | .2    | .2   | 2.6  | .2    |
| 26   | 3.6   | .1    | .1   | .1   | .1    | .1   | 32    | .3    | .2    | .2   | 2.6  | .2    |
| 27   | 3.6   | .1    | .1   | .1   | .1    | .1   | .7    | .3    | .2    | .2   | 2.6  | .2    |
| 28   | 3.6   | .1    | .1   | .1   | .1    | 14   | .2    | .1    | .2    | .2   | 2.7  | .2    |
| 29   | 3.6   | .1    | .1   | .1   | .1    | .3   | .1    | .3    | .2    | .2   | 2.7  | .2    |
| 30   | 3.6   | .1    | .1   | .1   | .1    | .2   | .1    | .1    | .2    | .3   | 2.7  | .2    |
| 31   | 2.8   | ----- | .1   | .1   | .1    | .1   | ----- | .2    | ----- | .2   | 2.7  | ----- |
| Total  | 148.7 | 2.5   | 3.1  | 3.1  | 145.2 | 86.3 | 53.9  | 7.7   | 7.7   | 14.1 | 35.3 | 51.1  |
| Mean   | 4.80  | 0.08  | 0.10 | 0.10 | 5.19  | 2.78 | 1.80  | 0.25  | 0.26  | 0.45 | 1.14 | 1.70  |
| Max  | 33    | 0.1   | 0.1  | 0.1  | 83    | 35   | 32    | 0.5   | 0.3   | 3.5  | 2.7  | 3.1   |
| Min  | 1.4   | 0     | 0.1  | 0.1  | 0.1   | 0.1  | 0.1   | 0.1   | 0.2   | 0.2  | 0.1  | 0.2   |
| Ac-ft  | 295   | 5.0   | 6.1  | 6.1  | 288   | 171  | 107   | 15    | 15    | 28   | 70   | 101   |
| Calendar year 1962:  | Max   | 136   | Min  | 0    | Mean  | 3.45 | Ac-ft | 2,490 |       |      |      |       |
| Water year 1962-63:  | Max   | 83    | Min  | 0    | Mean  | 1.53 | Ac-ft | 1,110 |       |      |      |       |

## SAN GABRIEL RIVER BASIN

11-865. Little Dalton Creek near Glendora, Calif.

Location.--Lat 34°10'03", long 117°50'15", in NE 1/4 sec. 17, T.1 N., R.9 W., on left bank 0.2 mile upstream from Angeles National Forest boundary and 2.6 miles northeast of Glendora.

Drainage area.--2.7 sq mi, approximately.

Records available.--December 1938 to September 1963. January 1929 to November 1938, at site 0.8 mile downstream; records not equivalent because diversion was not included.

Gage.--Water-stage recorder. Datum of gage is 1,334.38 ft above mean sea level (levels by Los Angeles County Flood Control District).

Average discharge.--25 years, 0.64 cfs (463 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 122 cfs Feb. 9 (gage height, 2.82 ft); no flow for most of year.

1938-63: Maximum discharge, 1,700 cfs Nov. 20, 1961 (gage height, 5.24 ft); no flow at times in each year.

Flood of Mar. 2, 1938, 960 cfs (estimated). Flood of February 1914, 1,020 cfs, result of slope-area measurement.

Remarks.--Discharge measurements made once a week during periods of flow. No regulation above station. Prior to December 1938, diversion by Glendora Irrigating Company then in use.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct. | Nov. | Dec.  | Jan.  | Feb.      | Mar. | Apr.      | May | June | July | Aug. | Sept. |
|-------------------------|------|------|-------|-------|-----------|------|-----------|-----|------|------|------|-------|
| 1                       |      |      |       | 0     | 0.1       | 0.2  | 0         |     |      |      |      | 0     |
| 2                       |      |      |       | 0     | 0         | .1   | 0         |     |      |      |      | 0     |
| 3                       |      |      |       | 0     | 0         | .1   | 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     | 15        | .1   | 0         |     |      |      |      | 0     |
| 10                      |      |      |       | .1    | 14        | .1   | 0         |     |      |      |      | 0     |
| 11                      |      |      |       | 0     | 4.4       | 0    | 0         |     |      |      |      | 0     |
| 12                      |      |      |       | 0     | .9        | 0    | 0         |     |      |      |      | 0     |
| 13                      |      |      |       | 0     | .6        | 0    | 0         |     |      |      |      | 0     |
| 14                      |      |      |       | 0     | .9        | 0    | 0         |     |      |      |      | 0     |
| 15                      |      |      |       | 0     | .3        | 1.4  | .2        |     |      |      |      | 0     |
| 16                      |      |      |       | 0     | .3        | 2.7  | .1        |     |      |      |      | 0     |
| 17                      |      |      |       | 0     | .3        | .9   | .2        |     |      |      |      | 0     |
| 18                      |      |      |       | 0     | .2        | .4   | 0         |     |      |      |      | .1    |
| 19                      |      |      |       | 0     | .2        | .3   | 0         |     |      |      |      | 0     |
| 20                      |      |      |       | 0     | .2        | .1   | .2        |     |      |      |      | 0     |
| 21                      |      |      |       | 0     | .2        | 0    | .6        |     |      |      |      | 0     |
| 22                      |      |      |       | 0     | .2        | 0    | .4        |     |      |      |      | 0     |
| 23                      |      |      |       | 0     | .1        | .2   | .3        |     |      |      |      | 0     |
| 24                      |      |      |       | 0     | .2        | .1   | .1        |     |      |      |      | 0     |
| 25                      |      |      |       | 0     | .2        | .1   | 0         |     |      |      |      | 0     |
| 26                      |      |      |       | 0     | .2        | .1   | 1.1       |     |      |      |      | 0     |
| 27                      |      |      |       | 0     | .2        | 0    | .2        |     |      |      |      | 0     |
| 28                      |      |      |       | 0     | .1        | 0    | .1        |     |      |      |      | 0     |
| 29                      |      |      |       | 0     | -----     | .4   | .1        |     |      |      |      | 0     |
| 30                      |      |      |       | 0     | -----     | .1   | .1        |     |      |      |      | 0     |
| 31                      |      |      |       | 0     | -----     | 0    | 0         |     |      |      |      | 0     |
| Total                   | 0    | 0    | 0     | 0.2   | 38.8      | 7.4  | 3.6       | 0   | 0    | 0    | 0    | 0.1   |
| Mean                    | 0    | 0    | 0     | 0.006 | 1.39      | 0.24 | 0.12      | 0   | 0    | 0    | 0    | 0.003 |
| Max                     | 0    | 0    | 0     | 0.1   | 15        | 2.7  | 1.1       | 0   | 0    | 0    | 0    | 0.1   |
| Min                     | 0    | 0    | 0     | 0     | 0         | 0    | 0         | 0   | 0    | 0    | 0    | 0     |
| Ac-ft                   | 0    | 0    | 0     | 0.4   | 77        | 15   | 7.1       | 0   | 0    | 0    | 0    | 0.2   |
| Calendar year 1962: Max | 50   |      | Min 0 |       | Mean 1.08 |      | Ac-ft 779 |     |      |      |      |       |
| Water year 1962-63: Max | 15   |      | Min 0 |       | Mean 0.14 |      | Ac-ft 100 |     |      |      |      |       |

## SAN GABRIEL RIVER BASIN

169

11-870. San Jose Creek near Whittier, Calif.

Location---Lat 34°01'25", long 118°02'05", in Paso de Bartolo Grant, on downstream side of Workman Mill Road Bridge, 3 miles north of Whittier, Los Angeles County.

Drainage area---85.2 sq mi.

Records available---January 1929 to September 1963.

Gage---Water-stage recorder on creek; water-stage recorder on flood channel. Datum of gage is 214.85 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Sept. 27, 1937, at datum 2.0 ft higher. Since Sept. 13, 1955, supplementary water-stage recorder on San Jose flood channel 1½ miles upstream.

Average discharge---34 years, 8.62 cfs (6,240 acre-ft per year); median of yearly mean discharges, 5.7 cfs (4,100 acre-ft per year).

Extremes---Maximum discharge during year, 1,960 cfs Mar. 16; minimum daily, 0.1 cfs July 15-23.  
1929-63: Maximum discharge, 13,100 cfs Jan. 1, 1934; no flow at times.

Remarks---Discharge measurements made once a week. One small diversion for ground-water recharge. San Jose flood channel 1½ miles upstream diverts all flows in excess of 200 cfs from San Jose Creek to San Gabriel River above Whittier Narrows Reservoir.

Records published herein represent combined flow of San Jose Creek and San Jose flood channel.

Cooperation---Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.   | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|--------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.5  | 0.5   | 0.5  | 1.0  | 2.4    | 0.2   | 8.0   | 4.3   | 3.5   | 1.3  | 0.8  | 0.5   |
| 2     | .5   | .7    | .4   | .9   | 3.6    | .7    | 5.8   | 4.7   | 4.5   | 1.1  | .6   | .5    |
| 3     | .5   | .7    | .5   | .6   | 1.9    | .2    | 4.1   | 4.4   | 5.0   | .7   | .6   | .5    |
| 4     | .5   | .7    | .4   | .4   | 1.9    | .2    | 4.7   | 4.4   | 4.3   | .9   | .5   | 1.4   |
| 5     | .5   | .8    | .4   | .4   | 2.2    | 3.5   | 3.6   | 3.9   | 4.2   | .5   | .5   | 2.4   |
| 6     | .6   | 1.4   | .4   | .7   | 1.9    | .2    | 4.1   | 4.1   | 2.2   | 1.0  | .6   | 1.0   |
| 7     | .7   | 1.1   | .5   | 1.2  | 1.9    | 5.0   | 3.9   | 4.4   | 2.2   | .5   | .7   | .8    |
| 8     | .7   | .8    | .7   | .7   | 1.9    | 5.3   | 4.4   | 4.4   | 2.5   | 1.1  | .6   | .7    |
| 9     | .5   | .8    | .7   | .6   | 4 02   | 9.5   | 5.3   | 3.9   | 2.4   | 1.1  | .7   | .5    |
| 10    | .4   | 1.0   | .6   | 13   | 5 84   | 9.9   | 5.3   | 3.9   | 2.6   | 1.0  | .5   | .6    |
| 11    | .5   | 1.2   | .6   | 2.0  | 8.1    | 5.7   | 4.4   | 4.0   | 3.6   | .5   | .2   | .7    |
| 12    | .6   | .9    | .7   | 1.9  | 2.6    | 4.1   | 4.7   | 4.0   | 2.9   | 1.1  | .7   | .7    |
| 13    | .7   | .8    | .4   | 2.0  | 2.0    | .7    | 5.3   | 4.2   | 2.2   | .8   | .9   | .6    |
| 14    | .7   | 1.1   | .4   | 2.4  | 36     | .3    | 51    | 4.2   | 2.1   | .4   | .8   | .7    |
| 15    | .6   | 1.3   | .4   | 2.0  | 3.0    | .8    | 17    | 4.2   | 2.0   | .1   | .8   | .5    |
| 16    | .5   | .8    | .4   | 2.0  | 4.4    | 195   | 4.4   | 4.0   | 2.0   | .1   | .7   | .5    |
| 17    | .4   | .8    | .4   | .8   | 4.4    | 188   | 34    | 4.4   | 2.0   | .1   | .8   | 90    |
| 18    | .3   | .7    | .4   | .6   | 4.3    | 21    | 8.4   | 4.6   | 1.4   | .1   | .8   | 100   |
| 19    | .4   | .5    | .4   | .8   | 5.6    | 4.7   | 8.0   | 4.2   | 1.7   | .1   | .9   | 194   |
| 20    | .4   | .4    | .4   | 1.9  | 5.0    | 1.4   | 12    | 4.0   | 1.0   | .1   | .7   | 3.6   |
| 21    | .5   | .5    | .4   | 2.1  | 4.7    | .7    | 32    | 4.6   | 1.4   | .1   | .7   | 2.3   |
| 22    | .5   | .4    | .5   | 1.4  | 4.9    | .4    | 8.8   | 4.5   | 2.0   | .1   | .7   | 2.1   |
| 23    | .5   | .5    | .5   | 1.8  | 4.3    | 7.6   | 8.8   | 4.6   | 1.3   | .1   | .7   | 2.0   |
| 24    | .5   | .5    | .5   | 1.6  | 3.8    | .4    | 5.0   | 4.3   | .8    | .2   | .4   | 3.1   |
| 25    | .5   | .5    | .8   | 3.4  | 3.5    | .4    | 9.5   | 5.3   | 1.4   | .3   | .4   | 3.4   |
| 26    | .5   | .5    | .8   | 2.5  | 5.0    | 2.7   | 118   | 3.0   | 1.2   | .6   | .6   | .5    |
| 27    | .5   | .4    | .7   | 2.3  | 3.6    | 3.9   | 6.6   | 3.0   | 1.6   | 1.0  | .5   | .8    |
| 28    | .5   | .4    | .7   | 2.2  | .2     | 61    | 5.0   | 4.2   | 1.4   | 1.0  | .5   | 2.7   |
| 29    | .5   | .4    | .7   | 2.2  | -----  | 6.7   | 5.3   | 3.2   | .7    | .7   | .5   | 2.3   |
| 30    | .4   | .5    | .8   | 2.7  | -----  | 5.1   | 5.0   | 3.6   | 1.3   | .5   | .6   | 1.6   |
| 31    | .4   | ----- | 1.0  | 30   | -----  | 5.4   | ----- | 4.8   | ----- | .9   | .5   | ----- |
| Total | 15.8 | 21.6  | 17.0 | 88.1 | 1130.7 | 550.7 | 402.4 | 129.3 | 67.4  | 18.1 | 19.5 | 455.2 |
| Mean  | 0.51 | 0.72  | 0.55 | 2.84 | 40.4   | 17.8  | 13.4  | 4.17  | 2.25  | 0.58 | 0.63 | 15.2  |
| Max   | 0.7  | 1.4   | 1.0  | 30   | 584    | 195   | 118   | 5.3   | 5.0   | 1.3  | 0.9  | 194   |
| Min   | 0.3  | 0.4   | 0.4  | 0.4  | 0.2    | 0.2   | 3.6   | 3.0   | 0.7   | 0.1  | 0.2  | 0.5   |
| Ac-ft | 31   | 43    | 34   | 175  | 2,240  | 1,090 | 798   | 256   | 134   | 36   | 39   | 903   |

Calendar year 1962: Max 1,340 Min 0.2 Mean 16.0 Ac-ft 11,610  
Water year 1962-63: Max 584 Min 0.1 Mean 7.99 Ac-ft 5,780

## SAN GABRIEL RIVER BASIN

11-875. San Gabriel River at Pico, Calif.

Location.--Lat 34°00'25", long 118°04'05", in Paso de Bartolo Grant, in downstream end of mid-span pier of Beverly Boulevard bridge, 0.7 mile downstream from San Jose Creek, and 0.8 mile northeast of Pico, Los Angeles County.

Drainage area.--206 sq mi (excluding area above Santa Fe Dam).

Records available.--October 1928 to September 1963. Since 1954, Colorado River water released to San Gabriel River above station. Records since 1954 not equivalent.

Gage.--Water-stage recorder. Altitude of gage is 180 ft (from topographic map). Prior to Feb. 4, 1937, at site 0.8 mile downstream at different datum. Feb. 4, 1937, to Nov. 14, 1947, at site 1,200 ft downstream at different datum. Nov. 15, 1947, to Mar. 5, 1952, at site 1,000 ft downstream at different datum.

Extremes.--Maximum discharge during year, 4,320 cfs Mar. 16 (gage height, 9.13 ft); no flow for several months.  
1928-63: Maximum discharge, 22,700 cfs Mar. 2, 1938; no flow for periods each year.

Remarks.--Flow regulated by Cogswell and San Gabriel flood-control reservoirs (combined capacity, 54,500 acre-ft), Morris Reservoir (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir since October 1942 (capacity, 36,800 acre-ft), Whittier Narrows flood-control reservoir since January 1956 (capacity, 36,160 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Diversions for irrigation, power development, and ground-water replenishment. Colorado River water is released to San Gabriel River at sites 4.7 and 6.7 miles upstream for ground-water replenishment in the San Gabriel River. During the year, 9,110 acre-ft was diverted from the San Gabriel River below Santa Fe Dam and above Whittier Narrows Dam to Rio Hondo. Diverted water reported in the 1962 Basic Data release was in error. The corrected figure is 31,810 acre-ft.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.      | Nov.    | Dec.    | Jan.    | Feb.    | Mar.      | Apr.    | May          | June | July | Aug. | Sept. |
|---------------------|-----------|---------|---------|---------|---------|-----------|---------|--------------|------|------|------|-------|
| 1                   | 121       | 0       | 2.0     | 3.5     | 4.4     | 3.8       | 123     |              |      |      |      | 0     |
| 2                   | 149       | 0       | 0       | 1.7     | 4.2     | 3.0       | 130     | 3.0          |      |      |      | 0     |
| 3                   | 135       | 0       | 9.6     | .7      | 2.2     | 3.0       | 116     | 2.5          |      |      |      | 0     |
| 4                   | 125       | 0       | 8.4     | 2.4     | 13      | 3.3       | 110     | 2.0          |      |      |      | 0     |
| 5                   | 135       | 9.5     | 98      | 139     | 125     | 3.3       | 109     | 1.5          |      |      |      | 0     |
| 6                   | 125       | 87      | 95      | 154     | 130     | 2.8       | 108     | 1.0          |      |      |      | 0     |
| 7                   | 121       | 98      | 91      | 149     | 130     | 2.2       | 107     | .5           |      |      |      | 0     |
| 8                   | 130       | 110     | 72      | 154     | 139     | 2.2       | 106     | .1           |      |      |      | 0     |
| 9                   | 139       | 110     | 0       | 159     | 942     | 38        | 105     | 0            |      |      |      | 0     |
| 10                  | 139       | 114     | 0       | 173     | 1080    | 70        | 104     | 0            |      |      |      | 0     |
| 11                  | 135       | 110     | 0       | 105     | 14      | 65        | 103     | 0            |      |      |      | 0     |
| 12                  | 125       | 110     | 15      | 3.2     | 38      | 60        | 63      | 0            |      |      |      | 0     |
| 13                  | 41        | 102     | 135     | 1.7     | 137     | 59        | 6.0     | 0            |      |      |      | 0     |
| 14                  | 2.0       | 95      | 135     | .3      | 157     | 58        | 32      | 0            |      |      |      | 0     |
| 15                  | 1.5       | 130     | 121     | 0       | 171     | 50        | 25      | 0            |      |      |      | 0     |
| 16                  | 3.1       | 139     | 121     | 15      | 159     | 265       | 7.0     | 0            |      |      |      | 0     |
| 17                  | 121       | 130     | 93      | 121     | 152     | 386       | 23      | 0            |      |      |      | 87    |
| 18                  | 144       | 125     | 19      | 139     | 152     | 31        | 6.0     | 0            |      |      |      | 80    |
| 19                  | 149       | 125     | 135     | 144     | 148     | 119       | 4.0     | 0            |      |      |      | 237   |
| 20                  | 149       | 74      | 139     | 144     | 141     | 133       | 4.0     | 0            |      |      |      | 0     |
| 21                  | 149       | 1.0     | 139     | 144     | 148     | 137       | 62      | 0            |      |      |      | 0     |
| 22                  | 149       | 0       | 98      | 125     | 144     | 119       | 6.0     | 0            |      |      |      | 0     |
| 23                  | 144       | 0       | 106     | 135     | 144     | 123       | 4.5     | 0            |      |      |      | 20    |
| 24                  | 139       | 12      | 114     | 139     | 144     | 137       | 3.5     | 0            |      |      |      | 167   |
| 25                  | 135       | 121     | 114     | 135     | 137     | 144       | 2.5     | 0            |      |      |      | 175   |
| 26                  | 125       | 130     | 110     | 121     | 130     | 126       | 175     | 0            |      |      |      | 127   |
| 27                  | 121       | 144     | 95      | 125     | 112     | 137       | 7.0     | 0            |      |      |      | 0     |
| 28                  | 117       | 144     | 91      | 125     | 5.5     | 188       | 4.0     | 0            |      |      |      | 0     |
| 29                  | 125       | 144     | 98      | 78      |         | 7.0       | 3.0     | 0            |      |      |      | 0     |
| 30                  | 125       | 104     | 98      | 2.2     |         |           | 3.0     | 0            |      |      |      | 0     |
| 31                  | 80        |         | 85      | 15      |         | 123       |         | 0            |      |      |      |       |
| Total               | 3,598.6   | 2,468.5 | 2,512.6 | 2,775.3 | 4,842.9 | 2,620.6   | 1,661.5 | 13.6         | 0    | 0    | 0    | 893   |
| Mean                | 116       | 82.3    | 81.1    | 89.5    | 173     | 84.5      | 55.4    | 0.44         | 0    | 0    | 0    | 29.8  |
| Max                 | 149       | 144     | 139     | 173     | 1,080   | 386       | 175     | 3.0          | 0    | 0    | 0    | 237   |
| Min                 | 1.5       | 0       | 0       | 0       | 2.2     | 2.2       | 2.5     | 0            | 0    | 0    | 0    | 0     |
| Ac-ft               | 7,140     | 4,900   | 4,980   | 5,500   | 9,610   | 5,200     | 3,300   | 27           | 0    | 0    | 0    | 1,770 |
| Ac-ft†              | 14,410    | 8,610   | 7,890   | 9,490   | 7,890   | 6,250     | 3,490   | 0            | 0    | 0    | 0    | 1,820 |
| Calendar year 1962: | Max 2,840 |         |         | Min 0   |         | Mean 132  |         | Ac-ft 95,390 |      |      |      |       |
| Water year 1962-63: | Max 1,080 |         |         | Min 0   |         | Mean 58.6 |         | Ac-ft 42,430 |      |      |      |       |

† Colorado River water released to San Gabriel River for ground-water recharge, at sites 4.7 and 6.7 miles upstream.



# SAN GABRIEL RIVER BASIN

171

11-880. San Gabriel River at Spring Street, near Los Alamitos, Calif.

Location.--Lat 33°48'38", long 118°05'24", in NE 1/4 NE 1/4 SW 1/4 sec. 24, T.4 S., R.12 W., on downstream side of Spring Street bridge, 1.2 miles upstream from Coyote Creek, and 1.2 miles northwest of Los Alamitos.

Drainage area.--216 sq mi (excluding area above Santa Fe Dam).

Records available.--October 1927 to September 1951, October 1952 to September 1963. Monthly discharge only for October 1927 to September 1936, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 12.25 ft above mean sea level, datum of 1929, supplementary adjustment of 1934. Prior to October 1952, at datum 4.44 ft higher.

Average discharge.--35 years, 22.9 cfs (16,580 acre-ft per year); median of yearly mean discharges, 2.4 cfs (1,700 acre-ft per year).

Extremes.--Maximum discharge during year, 4,120 cfs Mar. 17 (gage height, 6.56 ft); no flow for most of year. 1936-51, 1952-63: Maximum discharge, 27,000 cfs (estimated) Mar. 2, 1938; no flow for several months in each year.

Remarks.--Flow regulated by San Gabriel and Cogswell flood-control reservoirs (combined capacity, 54,500 acre-ft), Morris Reservoir (capacity, 35,000 acre-ft), Santa Fe flood-control reservoir since October 1942 (capacity, 36,800 acre-ft), Whittier Narrows flood-control reservoir since January 1956 (capacity, 36,160 acre-ft), and several small flood-control reservoirs (combined capacity, 19,100 acre-ft). Many diversions for irrigation, power development, and ground-water replenishment. "Average discharge" represents flow to ocean during period of record, regardless of upstream development. The Los Angeles County Flood Control District diverted 9,110 acre-ft from San Gabriel River below Santa Fe Dam and above Whittier Narrows Dam to Rio Hondo during year. Diverted water reported in the 1962 Basic Data release was in error. The corrected figure is 31,810 acre-ft.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|             |        |              |       |               |      |
|-------------|--------|--------------|-------|---------------|------|
| Feb. 9..... | 398    | Feb. 15..... | 0.4   | Mar. 28.....  | *111 |
| 10.....     | *1,530 | Mar. 16..... | 5.8   | 29.....       | * 16 |
| 11.....     | * 19   | 17.....      | *625  | Apr. 26.....  | * 12 |
| 12.....     | .1     | 18.....      | * 4.1 | 27.....       | .1   |
| 14.....     | 3.5    | 23.....      | .8    | Sept. 19..... | 1.0  |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 1,951.0  | 1,530   | 0       | 69.7 | 3,870               |
| March.....              | 762.7    | 625     | 0       | 24.6 | 1,510               |
| April.....              | 12.1     | 12      | 0       | .40  | 24                  |
| September.....          | 1.0      | 1.0     | 0       | .03  | 2.0                 |
| Calendar year 1962..... | -        | 2,940   | 0       | 28.2 | 20,450              |
| Water year 1962-63..... | -        | 1,530   | 0       | 7.47 | 5,410               |

\* Discharge measurement made on this day.

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

## SAN GABRIEL RIVER BASIN

11-885. Brea Creek below Brea Dam, near Fullerton, Calif.

Location.--Lat 33°53'16", long 117°55'32", in NE 1/4 sec. 28, T.3 S., R.10 W., on right bank 0.2 mile downstream from Brea Dam and 1 mile north of Fullerton.

Drainage area.--23.4 sq mi.

Records available.--January 1942 to September 1963.

Gage.--Water-stage recorder and V-notch sharp-crested weir since October 1946. Datum of gage is 197.70 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--21 years, 0.65 cfs (471 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 257 cfs Feb. 10 (gage height, 3.16 ft); no flow for most of year.  
1942-63: Maximum discharge, 655 cfs Feb. 29, 1944 (gage height, 5.10 ft); no flow for parts of most years.

Remarks.--Records fair. Flow regulated by Brea flood-control reservoir (capacity, 4,100 acre-ft).

Discharge, in cubic feet per second, water year October 1962 to September 1963

|              |     |              |     |              |     |
|--------------|-----|--------------|-----|--------------|-----|
| Jan. 31..... | 0.1 | Mar. 18..... | 0.4 | Apr. 20..... | 0.2 |
| Feb. 9.....  | 17  | 19.....      | .9  | 21.....      | .1  |
| 10.....      | 85  | 20.....      | .4  | 25.....      | .6  |
| 11.....      | .8  | 23.....      | .3  | 26.....      | 6.5 |
| 14.....*     | 3.1 | 28.....      | 4.6 | 27.....      | .2  |
| 15.....      | .1  | 29.....*     | .1  | Sept. 4..... | .1  |
| 25.....      | .2  | Apr. 14..... | .4  | 17.....      | .6  |
| Mar. 16..... | 10  | 15.....      | .1  | 18.....      | 2.1 |
| 17.....      | 9.3 | 17.....      | 3.2 | 19.....      | 1.1 |

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|-------|------------------------|
| January 1963.....       | 0.1      | 0.1     | 0       | 0.003 | 0.2                    |
| February.....           | 106.2    | 85      | 0       | 3.79  | 211                    |
| March.....              | 26.0     | 10      | 0       | .84   | 52                     |
| April.....              | 11.3     | 6.5     | 0       | .38   | 22                     |
| September.....          | 3.9      | 2.1     | 0       | .13   | 7.7                    |
| Calendar year 1962..... | -        | 76      | 0       | .92   | 669                    |
| Water year 1962-63..... | -        | 85      | 0       | .40   | 293                    |

\* Discharge measurement made on this day.

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

## SAN GABRIEL RIVER BASIN

173

11-890. Brea Creek at Fullerton, Calif.

Location.--Lat 33°52'25", long 117°55'30", in SE 1/4 sec. 28, T.3 S., R.10 W., between Malden Avenue and Spadra Road at Fullerton.

Drainage area.--26.2 sq mi.

Records available.--October 1930 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map). From Oct. 1, 1930, to Sept. 30, 1935, at site a quarter of a mile upstream at different datum. Oct. 1, 1935, to Jan. 19, 1940, at site a quarter of a mile downstream at different datum.

Average discharge.--33 years, 1.10 cfs (796 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 192 cfs Feb. 10 (gage height, 0.90 ft); no flow for most of year.  
1930-63: Maximum discharge, 3,700 cfs Mar. 14, 1941 (gage height, 5.45 ft); no flow for most of each year.

Remarks.--Flow regulated by Brea flood-control reservoir since January 1942 (capacity, 4,100 acre-ft).

Cooperation.--Records furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct. | Nov.  | Dec. | Jan.  | Feb.      | Mar.      | Apr.  | May | June | July | Aug. | Sept. |
|-------------------------|------|-------|------|-------|-----------|-----------|-------|-----|------|------|------|-------|
| 1                       | 0    | 0     | 0    | 0     | 0.8       | 0         | 0     |     | 0.1  |      |      |       |
| 2                       | 0    | 0     | 0    | 0     | .6        | 0         | 0     |     | 0    |      |      |       |
| 3                       | .2   | 0     | 0    | 0     | .2        | 0         | 0     |     | 0    |      |      |       |
| 4                       | 0    | 0     | 0    | 0     | .3        | 0         | 0     |     | 0    |      |      |       |
| 5                       | 0    | 0     | 0    | 0     | .4        | 0         | 0     |     | 0    |      |      |       |
| 6                       | 0    | 0     | 0    | 0     | 0         | 0         | 0     |     | 0    |      |      |       |
| 7                       | 0    | 0     | 0    | 0     | 0         | 0         | 0     |     | 0    |      |      |       |
| 8                       | 0    | 0     | 0    | 0     | 0         | 0         | .1    |     | 0    |      |      |       |
| 9                       | 0    | 0     | 0    | 0     | 3.1       | 0         | 0     |     | 0    |      |      |       |
| 10                      | 0    | 0     | 0    | 0     | 8.1       | 0         | 0     |     | 0    |      |      |       |
| 11                      | 0    | 0     | 0    | 0     | 1.6       | 0         | 0     |     | .2   |      |      |       |
| 12                      | 0    | 0     | 0    | 0     | .3        | 0         | 0     |     | 0    |      |      |       |
| 13                      | 0    | 0     | 0    | 0     | .5        | 0         | 0     |     | 0    |      |      |       |
| 14                      | 0    | 0     | .4   | .2    | 7.3       | 0         | .6    |     | 0    |      |      |       |
| 15                      | 0    | 0     | .6   | 0     | .5        | .4        | .1    |     | 0    |      |      |       |
| 16                      | 0    | 0     | .2   | 0     | .3        | 1.2       | 0     |     | 0    |      |      |       |
| 17                      | 0    | 0     | 0    | 0     | 0         | 1.5       | 2.8   |     | 0    |      |      |       |
| 18                      | .2   | 0     | 0    | 0     | 0         | .2        | 0     |     | 0    |      |      |       |
| 19                      | 0    | 0     | 0    | 0     | 0         | 1.0       | 0     |     | 0    |      |      |       |
| 20                      | 0    | 0     | 0    | 0     | 0         | .7        | .2    |     | 0    |      |      |       |
| 21                      | 0    | 0     | 0    | 0     | 0         | .5        | .3    |     | 0    |      |      |       |
| 22                      | 0    | 0     | 0    | 0     | 0         | 0         | 0     |     | 0    |      |      |       |
| 23                      | 0    | 0     | 0    | 0     | 0         | .6        | 0     |     | 0    |      |      |       |
| 24                      | 0    | 0     | 0    | 0     | 0         | .2        | 0     |     | 0    |      |      |       |
| 25                      | 0    | 0     | 0    | 0     | 0         | 0         | .2    |     | 0    |      |      |       |
| 26                      | 0    | 0     | 0    | 0     | 0         | 0         | 1.1   |     | 0    |      |      |       |
| 27                      | 0    | 0     | 0    | 0     | 0         | 0         | .2    |     | 0    |      |      |       |
| 28                      | 0    | .2    | 0    | .4    | 0         | 7.3       | 0     |     | 0    |      |      |       |
| 29                      | 0    | .5    | 0    | 1.0   | -----     | .5        | 0     |     | 0    |      |      |       |
| 30                      | 0    | 0     | 0    | .1    | -----     | .4        | 0     |     | 0    |      |      |       |
| 31                      | 0    | ----- | 0    | .6    | -----     | 0         | ----- |     | 0    |      |      |       |
| Total                   | 0.4  | 0.7   | 1.2  | 2.3   | 124.8     | 38.8      | 15.5  | 0   | 0.3  | 0    | 0    | 0     |
| Mean                    | 0.01 | 0.02  | 0.04 | 0.07  | 4.46      | 1.25      | 0.52  | 0   | 0.01 | 0    | 0    | 0     |
| Max                     | 0.2  | 0.5   | 0.6  | 1.0   | 81        | 15        | 11    | 0   | 0.2  | 0    | 0    | 0     |
| Min                     | 0    | 0     | 0    | 0     | 0         | 0         | 0     | 0   | 0    | 0    | 0    | 0     |
| Ac-ft                   | 0.8  | 1.4   | 2.4  | 4.6   | 248       | 77        | 31    | 0   | 0.6  | 0    | 0    | 0     |
| Calendar year 1962: Max | 99   |       |      | Min 0 | Mean 1.19 | Ac-ft 862 |       |     |      |      |      |       |
| Water year 1962-63: Max | 81   |       |      | Min 0 | Mean 0.50 | Ac-ft 366 |       |     |      |      |      |       |

## SAN GABRIEL RIVER BASIN

11-895. Fullerton Creek below Fullerton Dam, near Brea, Calif.

Location.--Lat 33°53'45", long 117°53'07", in NE¼NW¼SW¼ sec.24, T.3 S., R.10 W., on left bank of outlet channel of Fullerton Dam, 1.6 miles southeast of Brea.

Drainage area.--3.24 sq mi.

Records available.--October 1941 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 250 ft (from topographic map). V-notch sharp-crested weir used Oct. 25, 1946, to Feb. 2, 1956.

Average discharge.--13 years (1941-54), 0.19 cfs (138 acre-ft per year); median of yearly mean discharges, 0.02 cfs (14 acre-ft per year); 9 years (1954-63), 0.50 cfs (362 acre-ft per year).

Extremes.--Maximum discharge during year, 23 cfs Feb. 10 (gage height, 0.86 ft); no flow for most of year.  
1941-63: Maximum discharge, 298 cfs Mar. 16, 1943 (gage height, 3.80 ft); no flow at times each year.

Remarks.--Records good below 2 cfs and fair above. Flow regulated by Fullerton flood-control reservoir (capacity, 706 acre-ft), re-survey of 1962. Small tributary formerly entering below station diverted into reservoir since December 1954.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|              |     |              |     |               |     |
|--------------|-----|--------------|-----|---------------|-----|
| Feb. 9.....  | 3.1 | Mar. 17..... | 2.7 | Apr. 26.....  | 0.6 |
| 10.....      | 22  | 28.....      | 1.0 | Sept. 17..... | .2  |
| 11.....      | 5.2 | Apr. 17..... | .3  | 18.....       | .1  |
| 14.....      | 1.9 | 21.....      | .1  | 19.....       | .1  |
| Mar. 16..... | 2.0 |              |     |               |     |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff, in<br>acre-feet |
|-------------------------|----------|---------|---------|------|-------------------------|
| February 1963.....      | 32.2     | 22      | 0       | 1.15 | 64                      |
| March.....              | 5.7      | 2.7     | 0       | .18  | 11                      |
| April.....              | 1.0      | .6      | 0       | .03  | 2.0                     |
| September.....          | .4       | .2      | 0       | .01  | .8                      |
| Calendar year 1962..... | -        | 23      | 0       | .41  | 297                     |
| Water year 1962-63..... | -        | 22      | 0       | .11  | 78                      |

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

## SAN GABRIEL RIVER BASIN

175

11-900. Fullerton Creek at Fullerton, Calif.

Location.--Lat 33°52'22", long 117°54'22", in NE¼NE¼NE¼ sec.34, T.3 S., R.10 W., on Raymond Avenue Bridge at Fullerton.

Drainage area.--6.2 sq mi, approximately.

Records available.--October 1935 to September 1963. Monthly discharge only for October 1935 to September 1939, published in WSP 1315-B and 1735.

Gage.--Water-stage recorder. Altitude of gage is 170 ft (from topographic map).

Average discharge.--28 years, 0.56 cfs (405 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 226 cfs Feb. 9 (gage height, 2.37 ft); no flow for many days.

1935-63: Maximum discharge, 1,600 cfs Mar. 14, 1941 (gage height, 10.05 ft); no flow at times in each year.

Remarks.--Discharge measurements or observations of no flow made once a week. Local irrigation company occasionally wastes water to creek during summer months. Flow regulated since October 1941 by Fullerton flood-control reservoir (capacity, 743 acre-ft).

Cooperation.--Records furnished by Orange County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0    | 0     | 0.1  | 0.2  | 0.4   | a 0  | 0     | 0.1  | 0.1   | 0.1  | 0.1  | 0.1   |
| 2     | 0    | .1    | .1   | .1   | 0     | a 0  | 0     | .1   | .1    | .1   | .1   | .1    |
| 3     | 0    | 0     | .1   | .1   | 0     | a 0  | .1    | .1   | .1    | .1   | .2   | .1    |
| 4     | 0    | 0     | .1   | .1   | 0     | a 0  | .1    | .1   | .1    | .1   | .1   | 2.6   |
| 5     | 0    | 0     | .1   | .1   | .1    | 0    | .1    | .1   | .1    | .1   | .1   | .1    |
| 6     | .2   | 0     | .1   | .1   | .1    | .1   | .1    | .1   | .1    | .1   | .1   | .1    |
| 7     | 0    | 0     | .1   | .1   | 0     | .1   | .1    | .1   | .1    | .1   | .2   | .1    |
| 8     | .1   | .1    | .1   | .1   | .1    | .1   | .2    | .1   | .1    | .1   | .1   | .1    |
| 9     | .1   | 0     | .1   | .1   | 2.3   | .1   | 0     | 0    | .1    | .1   | .1   | .1    |
| 10    | .1   | .1    | 0    | .1   | 3.7   | .1   | .1    | .1   | .1    | .1   | .1   | .1    |
| 11    | .1   | .1    | .1   | .1   | 3.8   | .1   | .1    | .1   | .2    | .1   | .1   | .1    |
| 12    | .1   | .1    | 0    | .1   | .1    | 0    | .1    | .1   | a .2  | .1   | .2   | .2    |
| 13    | .1   | 0     | 0    | .1   | .2    | .1   | .1    | 0    | a .2  | .1   | .2   | .1    |
| 14    | .1   | .1    | .1   | .1   | 4.4   | 0    | .5    | .1   | a .2  | .1   | .1   | .1    |
| 15    | 0    | 0     | .1   | 0    | .2    | .5   | .1    | .1   | a .2  | .1   | .2   | .1    |
| 16    | 0    | 0     | .1   | .1   | .1    | 5.7  | 0     | a .1 | a .2  | .1   | .2   | .1    |
| 17    | 0    | .1    | 0    | .1   | .1    | 2.6  | .8    | a .1 | a .2  | .1   | .3   | 4.3   |
| 18    | .2   | .1    | 0    | .1   | 0     | 0    | 0     | a .1 | .2    | .1   | .2   | 3.1   |
| 19    | 0    | .1    | a 0  | .1   | 0     | 0    | 0     | a .1 | .2    | .1   | .6   | .3    |
| 20    | .1   | 0     | a .1 | .1   | 0     | 0    | .2    | a .1 | .2    | .1   | .2   | .1    |
| 21    | .1   | .1    | a .1 | .1   | 0     | 0    | .2    | .1   | .2    | .1   | .2   | 0     |
| 22    | .1   | .1    | .1   | .1   | 0     | 0    | 0     | .1   | .2    | .2   | .2   | 0     |
| 23    | 0    | 0     | .1   | .1   | 0     | .2   | .1    | .1   | .2    | .1   | .1   | 0     |
| 24    | .2   | .1    | .1   | .1   | .1    | 0    | .1    | 0    | .1    | .1   | .1   | 0     |
| 25    | .1   | .1    | .1   | 0    | .1    | 0    | 0     | .2   | .1    | .1   | .1   | .1    |
| 26    | 0    | .1    | .1   | .1   | .1    | 0    | 4.6   | .1   | .1    | .1   | .1   | .1    |
| 27    | 0    | .1    | .2   | .1   | 0     | 0    | .2    | .1   | .1    | .1   | .1   | .1    |
| 28    | .1   | 0     | .2   | .1   | a 0   | 2.7  | .1    | .1   | .1    | .1   | .1   | .1    |
| 29    | .1   | 0     | .2   | .1   | ----- | .1   | .1    | .1   | .1    | .1   | .1   | .1    |
| 30    | .1   | 0     | .2   | 0    | ----- | 0    | .1    | .1   | .1    | .1   | .1   | .1    |
| 31    | 0    | ----- | .2   | .9   | ----- | 0    | ----- | 0    | ----- | .1   | .1   | ----- |
| Total | 2.0  | 1.5   | 3.0  | 3.7  | 69.9  | 12.5 | 8.2   | 2.8  | 4.3   | 3.2  | 4.8  | 12.6  |
| Mean  | 0.06 | 0.05  | 0.10 | 0.12 | 2.50  | 0.40 | 0.27  | 0.09 | 0.14  | 0.10 | 0.15 | 0.42  |
| Max   | 0.2  | 0.1   | 0.2  | 0.9  | 37    | 5.7  | 4.6   | 0.2  | 0.2   | 0.2  | 0.6  | 4.3   |
| Min   | 0    | 0     | 0    | 0    | 0     | 0    | 0     | 0    | 0.1   | 0.1  | 0.1  | 0     |
| Ac-ft | 4.0  | 3.0   | 6.0  | 7.3  | 139   | 25   | 16    | 5.6  | 8.5   | 6.3  | 9.5  | 25    |

Calendar year 1962: Max 28 Min 0 Mean 0.59 Ac-ft 428  
 Water year 1962-63: Max 37 Min 0 Mean 0.35 Ac-ft 255

a No gage-height record.

## SAN GABRIEL RIVER BASIN

11-905. Coyote Creek near Artesia, Calif.

Location.--Lat 33°50'20", long 118°03'34", in NE 1/4 SW 1/4 sec. 8, T.4 S., R.11 W., on downstream side of Centralia Road Bridge, 2 miles southeast of Artesia, and 3.7 miles upstream from mouth.

Drainage area.--122 sq mi (revised).

Records available.--February 1930 to September 1963. Prior to October 1940, monthly figures only, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 20.2 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Feb. 9, 1956, at several sites about half a mile upstream at different datums.

Average discharge.--33 years (1930-63), 9.03 cfs (6,540 acre-ft per year); median of yearly mean discharges, 4.7 cfs (3,400 acre-ft per year).

Extremes.--Maximum discharge during year, 4,640 cfs Feb. 10 (gage height, 11.98 ft); minimum daily, 0.2 cfs Aug. 27 to Sept. 3. 1930-63: Maximum discharge, 7,360 cfs Jan. 18, 1952 (gage height, 14.30 ft, site and datum then in use); no flow at times in most years.

Remarks.--Discharge measurements made once a week. Flow regulated by Brea flood-control reservoir since March 1942 (capacity, 4,100 acre-ft) and Fullerton flood-control reservoir since May 1941 (capacity, 706 acre-ft). No diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.    | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|---------|-------|-------|------|-------|------|------|-------|
| 1     | 0.6  | 1.3   | 1.0  | 1.1  | 4.7     | 1.1   | 1.5   | 1.6  | 1.3   | 0.8  | 0.7  | 0.2   |
| 2     | .6   | 1.5   | 1.1  | 1.1  | 7.7     | 1.7   | 1.8   | 1.3  | 1.1   | .8   | .7   | .2    |
| 3     | .7   | 1.6   | 1.1  | 1.0  | 3.4     | .8    | 1.1   | 2.9  | 1.3   | .9   | .7   | .2    |
| 4     | .4   | 1.3   | 1.0  | 1.3  | 3.3     | .8    | 1.0   | 2.0  | 1.3   | .9   | .8   | 4.0   |
| 5     | .6   | 1.0   | 1.1  | 1.3  | 3.0     | 1.3   | .9    | 1.1  | 1.2   | .9   | .8   | 6.0   |
| 6     | .7   | 1.2   | 1.1  | 1.3  | 2.9     | 1.6   | .7    | 1.0  | 1.1   | .9   | .9   | 5.0   |
| 7     | .4   | 1.3   | 1.1  | 1.3  | 3.0     | 1.5   | .7    | .8   | 1.0   | .9   | .9   | 4.0   |
| 8     | .4   | 1.0   | 1.3  | 1.4  | 2.7     | .7    | 1.6   | 1.2  | .9    | .8   | .9   | 3.0   |
| 9     | .5   | 1.1   | 1.3  | 1.5  | 2.09    | .8    | 1.1   | 1.1  | .9    | .8   | .9   | 2.0   |
| 10    | .6   | 1.1   | 1.4  | 2.1  | 1.790   | 1.1   | .9    | 1.2  | 1.0   | .8   | .8   | 1.0   |
| 11    | .7   | 1.1   | 1.4  | 1.5  | 4.8     | 1.2   | .8    | 1.9  | 1.8   | .8   | .7   | .6    |
| 12    | .7   | 1.1   | 1.3  | 1.1  | 1.0     | 1.4   | .6    | 1.5  | 1.7   | .8   | .6   | .6    |
| 13    | .8   | 1.1   | 1.4  | .8   | 4.2     | 1.5   | .6    | 1.3  | .8    | .7   | .5   | .5    |
| 14    | .8   | 1.1   | 1.3  | .9   | 1.42    | 1.2   | 2.5   | 1.4  | .7    | .6   | .4   | .5    |
| 15    | .8   | 1.2   | 1.4  | 1.1  | 9.9     | 2.1   | 8.3   | 1.3  | .6    | .5   | .4   | .4    |
| 16    | .9   | 1.1   | 1.4  | 1.1  | 2.7     | 1.1   | 1.5   | 1.0  | .6    | .4   | .4   | .3    |
| 17    | 1.1  | 1.1   | 1.1  | 1.0  | 2.6     | 1.22  | 5.6   | 1.3  | 1.0   | .3   | .4   | 2.54  |
| 18    | 1.5  | 1.1   | 1.4  | .8   | 2.4     | 1.5   | 8.0   | .9   | .9    | .3   | .4   | 7.0   |
| 19    | 1.3  | 1.0   | 1.0  | 1.0  | 2.3     | 3.8   | 3.5   | 2.7  | .6    | .4   | .4   | 2.1   |
| 20    | 1.0  | 1.0   | .8   | 1.1  | 2.2     | 2.5   | 2.6   | 1.9  | .8    | .5   | .4   | 1.3   |
| 21    | .7   | .9    | .8   | 1.1  | 2.0     | 1.9   | 2.1   | 1.5  | .7    | .6   | .4   | 7.0   |
| 22    | .7   | 1.0   | .8   | 1.3  | 1.8     | 1.7   | 1.6   | 2.2  | .5    | .7   | .4   | 6.5   |
| 23    | .7   | .7    | .9   | 1.6  | 1.7     | 3.6   | 1.1   | .7   | .6    | .8   | .4   | 6.0   |
| 24    | .7   | .7    | .8   | 1.6  | 1.6     | 2.4   | .8    | .9   | .4    | .9   | .4   | 5.5   |
| 25    | .5   | .8    | .8   | 1.8  | 1.4     | 1.4   | 1.0   | .7   | .6    | 1.0  | .3   | 5.0   |
| 26    | .4   | .9    | .6   | 1.8  | 1.4     | 1.4   | 2.67  | .8   | 1.1   | 1.0  | .3   | 4.9   |
| 27    | .7   | .9    | .6   | 1.9  | 1.3     | 1.3   | 3.8   | .8   | 1.1   | .9   | .2   | 4.5   |
| 28    | 1.0  | .8    | .6   | 1.8  | 1.1     | 1.73  | 1.7   | .9   | 1.1   | .9   | .2   | 3.5   |
| 29    | 1.0  | .9    | .8   | 1.7  | -----   | 5.6   | 1.7   | 1.4  | 1.1   | .8   | .2   | 2.5   |
| 30    | 1.1  | 1.0   | .8   | 1.8  | -----   | 2.4   | 1.4   | 1.2  | 1.5   | .8   | .2   | 1.5   |
| 31    | 1.1  | ----- | .8   | 1.6  | -----   | 1.9   | ----- | 1.2  | ----- | .7   | .2   | ----- |
| Total | 23.7 | 31.9  | 32.3 | 56.2 | 2.310.6 | 421.0 | 419.3 | 42.8 | 45.5  | 22.9 | 15.9 | 469.4 |
| Mean  | 0.76 | 1.06  | 1.04 | 1.81 | 82.5    | 13.6  | 14.0  | 1.38 | 1.52  | 0.74 | 0.51 | 15.6  |
| Max   | 1.5  | 1.6   | 1.4  | 1.6  | 1,790   | 173   | 267   | 2.9  | 1.8   | 1.0  | 0.9  | 254   |
| Min   | 0.4  | 0.7   | 0.6  | 0.8  | 1.1     | 0.7   | 0.6   | 0.7  | 0.4   | 0.3  | 0.2  | 0.2   |
| Ac-ft | 47   | 63    | 64   | 111  | 4,580   | 835   | 832   | 85   | 90    | 45   | 32   | 931   |

Calendar year 1962: Max 2,700 Min 0.4 Mean 28.4 Ac-ft 20,550  
 Water year 1962-63: Max 1,790 Min 0.2 Mean 10.7 Ac-ft 7,720

Note.--No gage-height record July 2 to Sept. 30.

11-924.5. Los Angeles River at Sepulveda Dam, Calif.

Location.--Lat 34°09'42", long 118°27'57", in Ex Mission de San Fernando Grant, on right bank of outlet channel of Sepulveda Dam, 200 ft upstream from Sepulveda Boulevard in city of Los Angeles, and 1.85 miles southwest of Van Nuys, Los Angeles County.

Drainage area.--158 sq mi (revised).

Records available.--January 1929 to February 1938, May 1938 to September 1963. Monthly discharge only for January 1929 to September 1940 and May 1943 to September 1950, published in WSP 1315-B. Records for May 1943 to September 1950, published in WSP 981, 1011, 1041, 1061, 1091, 1121, 1151, and 1181, have been found to be unreliable and should not be used. Equivalent daily discharge, published as "below Sepulveda Dam," 1943-45, and as "below Sepulveda Boulevard" (in reports of Los Angeles County Flood Control District), 1946-50, supersede the discredited records.

Gage.--Water-stage recorder. Altitude of gage is 670 ft (from topographic map). Prior to Aug. 23, 1941, at site 1 mile downstream at different datum; Aug. 23, 1941, to Sept. 30, 1950, at site 900 ft downstream at different datum; Oct. 1, 1950, to Aug. 29, 1953, at site 800 ft upstream at datum 5.99 ft higher.

Average discharge.--33 years (1929-37, 1938-63), 22.1 cfs (16,000 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

Extremes.--Maximum discharge during year, 7,820 cfs Feb. 9 (gage height, 7.07 ft); minimum daily, 2.0 cfs Feb. 6. 1929-37, 1938-63: Maximum discharge, 13,400 cfs Feb. 12, 1962 (gage height, 10.00 ft); no flow Sept. 19, 20, 1930. Flood of Mar. 2, 1938, amounted to 12,000 cfs (estimated).

Remarks.--Records good. Flow regulated since December 1941 by Sepulveda flood-control reservoir (capacity, 17,400 acre-ft). Some diversion above station. City of Los Angeles at times discharges imported Owens River water into Los Angeles River from upstream distributing reservoirs.

Cooperation.--Twenty-three discharge measurements furnished by Los Angeles County Flood Control District. Records of released water from reservoirs furnished by city of Los Angeles.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 2-11, 23-28, Aug. 5 to Sept. 4)

|      |     |     |     |     |       |
|------|-----|-----|-----|-----|-------|
| 0.18 | 2.0 | 0.5 | 32  | 1.0 | 176   |
| .2   | 2.8 | .6  | 50  | 1.5 | 440   |
| .3   | 8.9 | .7  | 72  | 2.0 | 800   |
| .4   | 19  | .8  | 104 | 3.0 | 1,770 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.   | Feb.   | Mar.   | Apr.  | May   | June  | July  | Aug.  | Sept.  |
|-------|-------|-------|-------|--------|--------|--------|-------|-------|-------|-------|-------|--------|
| 1     | 6.0   | 8.1   | 7.4   | 7.4    | 1 15   | 6.0    | 7.4   | 9.7   | 8.1   | 8.1   | 42    | 28     |
| 2     | 5.4   | 8.9   | 8.1   | 7.4    | 8.9    | 6.0    | 8.1   | 8.9   | 8.9   | 8.1   | 39    | 26     |
| 3     | 5.4   | 8.9   | 8.1   | 7.4    | 3.7    | 6.0    | 10    | 8.9   | 9.7   | *     | 37    | 25     |
| 4     | *6.0  | 8.9   | 8.1   | 8.1    | *3.2   | 6.0    | *8.1  | 6.0   | 10    | 8.1   | 32    | 71     |
| 5     | 5.4   | 8.9   | 7.4   | 8.9    | 2.4    | 6.0    | 8.1   | 5.4   | 10    | 7.4   | 31    | * 31   |
| 6     | 5.4   | 8.9   | 8.9   | 8.9    | 2.0    | 6.0    | 8.9   | 6.7   | * 10  | 7.4   | 30    | 31     |
| 7     | 8.9   | 8.9   | 9.7   | 8.9    | *6.0   | *6.0   | 9.7   | 9.7   | 10    | 8.1   | 30    | 31     |
| 8     | 8.9   | *9.7  | 8.9   | 8.9    | 7.4    | 6.7    | 18    | 10    | 10    | 8.9   | * 25  | 31     |
| 9     | 8.9   | 9.7   | 8.9   | 9.7    | 1,680  | 25     | 7.4   | * 9.7 | 7.4   | 9.7   | 28    | 17     |
| 10    | 8.9   | 9.7   | 8.9   | * 7.4  | * 7 59 | 12     | 8.9   | 8.9   | 6.0   | 10    | 30    | 7.2    |
| 11    | *6.7  | 9.7   | 6.7   | 7.4    | 50     | 6.7    | *8.9  | 8.9   | 16    | 12    | 31    | 32     |
| 12    | 7.4   | 9.7   | *6.7  | 6.7    | 6.7    | 6.7    | 9.7   | 8.9   | 14    | 12    | 30    | 34     |
| 13    | 6.7   | 8.9   | 7.4   | 6.7    | 12     | 6.7    | 9.7   | 8.9   | *8.9  | 16    | 31    | * 32   |
| 14    | 2.9   | 8.9   | 7.4   | 7.4    | 73     | 6.7    | 116   | 6.7   | 8.9   | 32    | * 30  | 32     |
| 15    | *6.0  | 8.9   | 7.4   | 8.1    | 8.9    | 6.7    | * 12  | * 5.8 | 9.7   | 31    | 28    | 32     |
| 16    | 2.4   | 8.9   | 7.4   | * 8.1  | 10     | 885    | 4.2   | 9.7   | 9.7   | 37    | 26    | 32     |
| 17    | 2.4   | 8.1   | 7.4   | 8.1    | 12     | 251    | 10    | 9.7   | 9.7   | 29    | 26    | * 31   |
| 18    | 2.4   | 8.1   | 7.4   | 8.1    | 8.9    | 14     | *8.9  | 9.7   | 10    | * 8.9 | 25    | 36     |
| 19    | 2.4   | 8.1   | 8.9   | 7.4    | 8.9    | 9.7    | 9.7   | 9.7   | 10    | 35    | 25    | 102    |
| 20    | 2.4   | 8.1   | * 6.7 | 7.4    | 8.9    | 8.9    | 18    | 9.7   | * 10  | 42    | 26    | 32     |
| 21    | 2.8   | *8.1  | 8.1   | 8.1    | *8.9   | 8.9    | 60    | 9.7   | 8.9   | 42    | 26    | 30     |
| 22    | 2.8   | 8.1   | 10    | 7.4    | 8.9    | 10     | 9.7   | 9.7   | 8.9   | 44    | 26    | 30     |
| 23    | 3.2   | 8.9   | 8.9   | 7.4    | 8.9    | 42     | 12    | * 9.7 | 8.9   | 44    | 26    | 31     |
| 24    | 8.9   | 8.9   | 8.1   | * 7.4  | 8.9    | 8.1    | 12    | 9.7   | 8.9   | 46    | 28    | 34     |
| 25    | *8.9  | 8.9   | 8.1   | 8.9    | 8.9    | 8.1    | 19    | 9.7   | 8.1   | * 48  | 28    | 36     |
| 26    | 10    | 8.9   | 7.4   | 8.1    | 8.9    | *8.9   | 377   | 8.9   | 8.1   | 48    | 30    | 34     |
| 27    | 8.1   | 8.1   | 7.4   | 8.1    | 8.9    | 12     | 8.9   | 8.9   | 8.1   | 48    | 31    | 34     |
| 28    | 8.1   | 8.1   | * 7.4 | 7.4    | *7.4   | 506    | 8.1   | 8.9   | * 9.4 | 48    | * 31  | 34     |
| 29    | 7.4   | *7.4  | 8.1   | 7.4    | 8.1    | 8.1    | *7.4  | * 8.9 | 8.9   | 48    | 31    | 31     |
| 30    | *7.4  | 7.4   | 8.1   | 8.1    | -----  | 8.9    | 5.4   | 8.9   | 7.4   | 44    | 31    | 28     |
| 31    | 7.4   | ----- | 7.4   | * 2 32 | -----  | 7.4    | ----- | 8.9   | ----- | * 44  | 30    | -----  |
| Total | 212.0 | 260.8 | 246.8 | 468.7  | 2856.6 | 1916.2 | 821.2 | 273.5 | 282.6 | 842.8 | 92.0  | 1015.2 |
| Mean  | 6.84  | 8.69  | 7.96  | 15.1   | 102    | 61.8   | 27.4  | 8.82  | 9.42  | 27.2  | 29.7  | 33.8   |
| Max   | 29    | 9.7   | 10    | 232    | 1,680  | 885    | 377   | 10    | 16    | 48    | 42    | 102    |
| Min   | 5.4   | 7.4   | 6.7   | 6.7    | 2.0    | 6.0    | 4.2   | 5.4   | 6.0   | 7.4   | 25    | 7.2    |
| Ac-ft | 420   | 517   | 490   | 930    | 5,670  | 3,800  | 1,630 | 542   | 561   | 1,670 | 1,820 | 2,010  |
| (ft)  | 0     | 0     | 0     | 0      | 0      | 0      | 0     | 0     | 0     | 855   | 1,530 | 1,320  |

Calendar year 1962: Max 6,080 Min 2.4 Mean 66.9 Ac-ft 48,470

Water year 1962-63: Max 1,680 Min 2.0 Mean 27.7 Ac-ft 20,060

Ac-ft † 4,160

Ac-ft † 3,700

\* Discharge measurement made on this day.

† Water, in acre-feet, released from city of Los Angeles distributing reservoirs. This is included in flow that passes station.

## LOS ANGELES RIVER BASIN

11-930. Pacoima Creek near San Fernando, Calif.

Location.--Lat 34°20'02", long 118°23'55", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.24, T.3 N., R.15 W., on right bank 500 ft downstream from Pacoima Dam, a third of a mile upstream from mouth of canyon, and 4 miles northeast of San Fernando.

Drainage area.--28.5 sq mi (revised).

Records available.--March to July 1916 (fragmentary), December 1916 to September 1963.

Gage.--Water-stage recorder and flume or weir control since June 1937. Altitude of gage is 1,650 ft (from topographic map). Prior to September 1929, at site 0.5 mile downstream at different datum. September 1929 to Mar. 23, 1933, records based on outflow from Pacoima Dam. Mar. 24, 1933, to Feb. 1, 1935, at site 450 ft downstream at different datum.

Average discharge.--46 years (1917-63), 8.51 cfs (6,160 acre-ft per year); median of yearly mean discharges, 4.1 cfs (3,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23 cfs Sept. 25 (gage height, 0.40 ft); no flow for most of year.  
1916-63: Maximum discharge, 2,440 cfs Mar. 3, 1938; no flow for several months in most years.

Remarks.--Flow regulated since February 1929 by Pacoima flood-control reservoir (capacity, 4,710 acre-ft). Flow passing over Pacoima Dam spillway enters creek below station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|                   |                   |                    |
|-------------------|-------------------|--------------------|
| Sept. 11.....*3.8 | Sept. 17..... 2.9 | Sept. 23.....* 1.4 |
| 12..... 4.8       | 18.....* .3       | 24..... 11         |
| 13..... 3.0       | 19..... .3        | 25.....*16         |
| 14..... 4.0       | 20..... .2        | 26..... 20         |
| 15..... 4.0       | 21..... .2        | 27.....*19         |
| 16..... 4.0       | 22..... .2        | 28..... 1.6        |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| September 1963.....     | 96.7     | 20      | 0       | 3.22 | 192                 |
| Calendar year 1962..... | -        | 160     | 0       | 8.75 | 6,340               |
| Water year 1962-63..... | -        | 20      | 0       | .26  | 192                 |

\* Discharge measurement made on this day.

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



## LOS ANGELES RIVER BASIN

179

11-940. Tujunga Creek below Mill Creek, near Colby Ranch, Calif.

Location.--Lat 34°18'33", long 118°08'40", on left bank 500 ft downstream from Mill Creek and 2 miles west of Colby Ranch, Los Angeles County.

Drainage area.--64.9 sq mi.

Records available.--January 1948 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,650 ft (from topographic map).

Average discharge.--15 years, 6.39 cfs (4,630 acre-ft per year); median of yearly mean discharges, 2.4 cfs (1,700 acre-ft per year).

Extremes.--Maximum discharge during year, 292 cfs Feb. 9 (gage height, 6.87 ft); no flow July 13 to Sept. 16, Sept. 25-30.

1948-63: Maximum discharge, 2,860 cfs Feb. 11, 1962 (gage height, 10.90 ft); no flow at times in most years.

Maximum discharge known since November 1930, 14,800 cfs Jan. 23, 1943.

Remarks.--Discharge measurements generally made once a week. No regulation or diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.1  | 0.4   | 0.7  | 1.0  | 1.7   | 2.0  | 3.4   | 3.2  | 1.5   | 0.2  |      | 0     |
| 2     | .1   | .4    | .7   | 1.0  | 1.4   | 2.0  | 3.2   | 3.2  | 1.5   | .2   |      | 0     |
| 3     | .1   | .4    | .7   | 1.0  | 1.3   | 2.0  | 3.0   | 3.1  | 1.5   | .1   |      | 0     |
| 4     | .2   | .4    | .7   | 1.0  | 1.2   | 2.0  | 3.0   | 2.8  | 1.4   | .1   |      | 0     |
| 5     | .2   | .4    | .7   | 1.0  | 1.2   | 2.0  | 2.8   | 2.6  | 1.4   | .1   |      | 0     |
| 6     | .2   | .4    | .7   | 1.0  | 1.2   | 2.0  | 2.8   | 2.5  | 1.5   | .1   |      | 0     |
| 7     | .2   | .4    | .7   | 1.0  | 1.2   | 2.0  | 2.8   | 2.5  | 1.6   | .1   |      | 0     |
| 8     | .2   | .4    | .7   | 1.0  | 1.2   | 2.0  | 2.8   | 2.5  | 1.5   | .1   |      | 0     |
| 9     | .3   | .4    | .7   | 1.0  | 4.5   | 2.0  | 2.8   | 2.4  | 1.4   | .1   |      | 0     |
| 10    | .3   | .6    | .7   | 1.0  | 9.5   | 2.0  | 2.7   | 2.4  | 1.4   | .1   |      | 0     |
| 11    | .3   | .6    | .7   | 1.0  | 1.6   | 2.0  | 2.7   | 2.4  | 1.6   | .1   |      | 0     |
| 12    | .3   | .6    | .7   | 1.0  | 7.3   | 2.0  | 2.7   | 2.2  | 2.1   | .1   |      | 0     |
| 13    | .3   | .6    | .7   | 1.0  | 5.5   | 2.0  | 2.6   | 2.2  | 1.6   | 0    |      | 0     |
| 14    | .4   | .6    | .8   | 1.0  | 5.9   | 2.0  | 3.2   | 2.2  | 1.6   | 0    |      | 0     |
| 15    | .4   | .6    | .8   | 1.0  | 3.1   | 2.1  | 3.6   | 2.1  | 1.2   | 0    |      | 0     |
| 16    | .4   | .4    | .8   | 1.0  | 2.4   | 2.6  | 3.1   | 2.0  | .8    | 0    |      | 0     |
| 17    | .3   | .4    | .8   | 1.0  | 2.0   | 4.3  | 3.1   | 1.9  | .7    | 0    |      | .1    |
| 18    | .4   | .6    | .8   | 1.0  | 1.9   | 3.7  | 3.0   | 1.9  | .6    | 0    |      | .2    |
| 19    | .6   | .6    | .8   | 1.0  | 1.9   | 3.8  | 3.0   | 1.9  | .4    | 0    |      | .3    |
| 20    | .4   | .6    | .8   | 1.0  | 1.9   | 3.6  | 3.5   | 1.8  | .4    | 0    |      | .2    |
| 21    | .4   | .6    | .9   | 1.0  | 1.8   | 3.4  | 5.3   | 1.8  | .4    | 0    |      | .2    |
| 22    | .3   | .6    | .9   | 1.0  | 1.8   | 3.4  | 3.4   | 1.8  | .4    | 0    |      | .1    |
| 23    | .3   | .7    | .9   | 1.0  | 1.8   | 3.7  | 3.1   | 1.8  | .6    | 0    |      | .1    |
| 24    | .4   | .7    | .9   | 1.0  | 1.9   | 3.6  | 3.0   | 1.7  | .6    | 0    |      | .1    |
| 25    | .4   | .7    | .9   | 1.0  | 1.9   | 3.2  | 3.0   | 1.6  | .4    | 0    |      | 0     |
| 26    | .4   | .7    | .9   | 1.0  | 2.0   | 3.1  | 5.1   | 1.6  | .4    | 0    |      | 0     |
| 27    | .4   | .7    | .9   | 1.0  | 2.0   | 3.1  | 4.3   | 1.6  | .3    | 0    |      | 0     |
| 28    | .4   | .7    | .9   | 1.0  | 2.0   | 9.1  | 4.5   | 1.7  | .3    | 0    |      | 0     |
| 29    | .4   | .7    | .9   | 1.0  | ----- | 6.6  | 3.8   | 1.7  | .2    | 0    |      | 0     |
| 30    | .4   | .7    | 1.0  | 1.0  | ----- | 4.5  | 3.6   | 1.6  | .2    | 0    |      | 0     |
| 31    | .4   | ----- | 1.0  | 1.6  | ----- | 3.6  | ----- | 1.6  | ----- | 0    |      | ----- |
| Total | 9.9  | 16.6  | 24.8 | 31.6 | 213.5 | 95.4 | 98.9  | 66.3 | 29.7  | 1.4  | 0    | 1.3   |
| Mean  | 0.32 | 0.55  | 0.80 | 1.02 | 7.62  | 3.08 | 3.30  | 2.14 | 0.99  | 0.05 | 0    | 0.04  |
| Max   | 0.6  | 0.7   | 1.0  | 1.6  | 95    | 9.1  | 5.3   | 3.2  | 2.1   | 0.2  | 0    | 0.3   |
| Min   | 0.1  | 0.4   | 0.7  | 1.0  | 1.2   | 2.0  | 2.6   | 1.6  | 0.2   | 0    | 0    | 0     |
| Ac-ft | 20   | 33    | 49   | 63   | 423   | 189  | 196   | 132  | 59    | 2.8  | 0    | 2.6   |

Calendar year 1962: Max 1,720 Min 0 Mean 15.4 Ac-ft 11,180

Water year 1962-63: Max 95 Min 0 Mean 1.61 Ac-ft 1,170

## LOS ANGELES RIVER BASIN

11-955. Tujunga Creek near Sunland, Calif.

Location.--Lat 34°18'02", long 118°16'02", near center of SW $\frac{1}{4}$  sec. 32, T.3 N., R.13 W., on left bank 1,000 ft upstream from Gold Canyon, 2 miles upstream from mouth of canyon, and 4 miles northeast of Sunland.

Drainage area.--106 sq mi.

Records available.--October 1916 to September 1963.

Gage---Water-stage recorder. Datum of gage is 1,571.80 ft above mean sea level (levels by Los Angeles County Flood Control District).  
Prior to Oct. 1, 1932, at site 1,000 ft upstream at different datum.

Average discharge.--46 years, 25.9 cfs (18,750 acre-ft per year); median of yearly mean discharges, 13 cfs (9,400 acre-ft per year).

Extremes.--Maximum discharge during year, 412 cfs Feb. 9 (gage height, 12.42 ft); minimum daily, 0.6 cfs Oct. 27 to Nov. 2. 1916-63: Maximum discharge, 50,000 cfs (estimated) Mar. 2, 1938; minimum, 0.1 cfs at times during summers of 1919, 1924, 1928-31, 1960.

Remarks.--Discharge measurements made one or more times a week. Flow regulated since July 1931 by Big Tujunga flood-control reservoir (capacity, 4,240 acre-ft). Several small diversions above station for irrigation.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May    | June  | July  | Aug.  | Sept. |
|-------------------------|-------|-------|------|------|-------|------|-------|--------|-------|-------|-------|-------|
| 1                       | 1.9   | 0.6   | 0.7  | 0.9  | 1.2   | 2.0  | 2.0   | 2.9    | 3.8   | 3.8   | 4.7   | 4.7   |
| 2                       | 1.9   | .6    | .7   | .9   | 1.2   | 2.0  | 2.0   | 3.2    | 4.1   | 3.5   | 4.7   | 4.7   |
| 3                       | 2.2   | .7    | .7   | .9   | 1.2   | 2.0  | 2.0   | 3.2    | 3.8   | 3.5   | 4.7   | 4.4   |
| 4                       | 2.4   | .7    | .7   | 1.2  | 1.2   | 2.0  | 2.0   | 3.2    | 3.8   | 3.5   | 4.7   | 5.0   |
| 5                       | 2.4   | .7    | .7   | 1.2  | 1.2   | 2.0  | 1.8   | 2.6    | 4.1   | 3.5   | 4.7   | 6.0   |
| 6                       | 2.4   | .7    | .7   | 1.2  | 1.2   | 2.0  | 1.8   | 2.3    | 4.1   | 3.5   | 4.7   | 6.0   |
| 7                       | 2.4   | .7    | .7   | 1.2  | 1.2   | 2.0  | 2.0   | 2.3    | 4.1   | 3.5   | 4.7   | 5.5   |
| 8                       | 2.2   | .7    | .7   | 1.2  | 1.2   | 2.0  | 2.3   | 2.3    | 3.8   | 3.5   | 4.7   | 5.0   |
| 9                       | 2.2   | .7    | .7   | 1.2  | .80   | 2.0  | 2.3   | 2.3    | 3.8   | 3.5   | 4.7   | 5.0   |
| 10                      | 2.2   | .9    | .7   | 1.2  | .94   | 2.0  | 2.3   | 2.3    | 4.4   | 3.2   | 4.4   | 5.0   |
| 11                      | 2.2   | .9    | .7   | 1.2  | 1.5   | 2.0  | 2.3   | 2.0    | 5.5   | 2.6   | 4.4   | 5.0   |
| 12                      | 1.7   | .9    | .7   | 1.2  | .80   | 2.0  | 2.0   | 1.8    | 5.5   | 2.6   | 3.5   | 5.5   |
| 13                      | .7    | .9    | .7   | 1.2  | 6.5   | 2.0  | 2.0   | 1.8    | 5.0   | 2.6   | 4.7   | 5.0   |
| 14                      | .9    | .9    | .7   | 1.2  | 7.0   | 2.0  | 2.6   | 1.8    | 4.7   | 3.2   | 4.7   | 5.0   |
| 15                      | .9    | .9    | .7   | 1.2  | 3.2   | 2.0  | 2.9   | 1.8    | 4.4   | 3.2   | 4.7   | 5.5   |
| 16                      | .9    | .9    | .7   | 1.2  | 2.9   | 5.8  | 2.6   | 1.8    | 4.1   | 3.2   | 4.7   | 6.5   |
| 17                      | .9    | .7    | .9   | 1.2  | 2.9   | 9.6  | 2.3   | 1.8    | 4.4   | 3.2   | 4.7   | 7.5   |
| 18                      | 1.4   | .7    | .9   | 1.2  | 2.9   | 5.0  | 2.3   | 1.8    | 4.4   | 3.2   | 5.0   | 10    |
| 19                      | 1.4   | .9    | .9   | 1.2  | 2.9   | 4.1  | 2.3   | 1.8    | 4.4   | 2.6   | 4.7   | 9.0   |
| 20                      | 1.4   | .9    | .9   | 1.2  | 2.9   | 3.5  | 2.9   | 1.8    | 4.4   | 2.6   | 4.7   | 7.5   |
| 21                      | .9    | .9    | .9   | 1.2  | 2.9   | 3.5  | 5.7   | 1.8    | 4.4   | 2.6   | 4.7   | 6.5   |
| 22                      | .9    | .9    | .9   | .9   | 2.6   | 3.5  | 2.9   | 2.0    | 4.4   | 2.6   | 4.7   | 6.0   |
| 23                      | .9    | .9    | .9   | .9   | 2.3   | 4.1  | 2.6   | 2.3    | 4.7   | 2.6   | 4.7   | 5.5   |
| 24                      | .9    | .7    | .9   | .9   | 2.3   | 3.8  | 2.6   | 3.5    | 4.4   | 3.8   | 4.4   | 5.5   |
| 25                      | .9    | .7    | .9   | .9   | 2.6   | 3.5  | 2.6   | 3.5    | 4.1   | 4.1   | 4.4   | 5.5   |
| 26                      | .7    | .7    | .9   | .9   | 2.3   | 2.9  | 9.2   | 4.4    | 4.1   | 4.1   | 4.4   | 5.5   |
| 27                      | .6    | .7    | .9   | .9   | 2.3   | 2.6  | 4.7   | 4.7    | 4.1   | 4.1   | 4.4   | 5.5   |
| 28                      | .6    | .7    | .9   | .9   | 2.3   | 3.5  | 3.5   | 4.7    | 4.1   | 4.1   | 4.4   | 5.5   |
| 29                      | .6    | .7    | .9   | .9   | ----- | 2.9  | 2.9   | 4.7    | 3.8   | 4.1   | 4.4   | 5.5   |
| 30                      | .6    | .7    | .9   | .9   | ----- | 2.3  | 2.9   | 4.7    | 3.8   | 4.4   | 4.7   | 6.0   |
| 31                      | .6    | ----- | .9   | 1.2  | ----- | 2.0  | ----- | 5.0    | ----- | 4.4   | 4.7   | ----- |
| Total                   | 42.8  | 23.2  | 24.7 | 33.6 | 257.4 | 92.6 | 84.3  | 86.1   | 128.5 | 104.9 | 142.4 | 174.8 |
| Mean                    | 1.38  | 0.77  | 0.80 | 1.08 | 9.19  | 2.99 | 2.81  | 2.78   | 4.28  | 3.38  | 4.59  | 5.83  |
| Max                     | 2.4   | 0.9   | 0.9  | 1.2  | .94   | 9.6  | 9.2   | 5.0    | 5.5   | 4.4   | 5.0   | 10    |
| Min                     | 0.6   | 0.6   | 0.7  | 0.9  | 1.2   | 2.0  | 1.8   | 1.8    | 3.8   | 2.6   | 3.5   | 4.4   |
| Ac-ft                   | 85    | 46    | 49   | 67   | 511   | 184  | 167   | 171    | 255   | 208   | 282   | 347   |
| Calendar year 1962: Max | 1,850 |       | Min  | 0.6  | Mean  | 29.5 | Ac-ft | 21,380 |       |       |       |       |
| Water year 1962-63: Max | 94    |       | Min  | 0.6  | Mean  | 3.27 | Ac-ft | 2,370  |       |       |       |       |

## LOS ANGELES RIVER BASIN

181

11-965. Little Tujunga Creek near San Fernando, Calif.

Location.--Lat 34°16'30", long 118°22'20", in Tujunga Grant, on downstream side of Foothill Boulevard Bridge, 4 miles east of San Fernando, Los Angeles County.

Drainage area.--21.1 sq mi (revised).

Records available.--October 1928 to September 1963. Monthly discharge for April 1931, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control since May 1940. Datum of gage is 1,067.89 ft above mean sea level (levels by Los Angeles County Flood Control District).

Average discharge.--35 years, 2.30 cfs (1,670 acre-ft per year); median of yearly mean discharges, 0.6 cfs (430 acre-ft per year).

Extremes.--Maximum discharge during year, 52 cfs Feb. 10 (gage height, 3.59 ft); no flow for most of year.  
1928-63: Maximum discharge, 8,500 cfs (estimated) Mar. 2, 1938; no flow for several months each year.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|               |     |              |     |
|---------------|-----|--------------|-----|
| Feb. 9.....*  | 7.6 | Mar. 28..... | 0.1 |
| 10.....*      | 9.8 | Apr. 20..... | .2  |
| Mar. 16.....* | 2.2 | 21.....      | .4  |
| 17.....       | .6  | 26.....      | 1.6 |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| February 1963.....      | 17.4     | 9.8     | 0       | 0.62 | 35                     |
| March.....              | 2.9      | 2.2     | 0       | .09  | 5.8                    |
| April.....              | 2.2      | 1.6     | 0       | .07  | 4.4                    |
| Calendar year 1962..... | -        | 365     | 0       | 3.22 | 2,330                  |
| Water year 1962-63..... | -        | 9.8     | 0       | .06  | 45                     |

\* Discharge measurement made on this day.

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

11-970. Tujunga Creek below Hansen Dam, Calif.

Location.--Lat 34°15'10", long 118°23'20", in Ex Mission San Fernando Grant, in city of Los Angeles, on left bank of outlet channel of Hansen Dam, 0.1 mile upstream from Glen Oaks Boulevard, and 3 miles southeast of San Fernando, Los Angeles County.

Drainage area.--150 sq mi (revised).

Records available.--May 1932 to February 1938, August 1940 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 943.32 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 25, 1944, at site 0.1 mile downstream at different datum. Aug. 25, 1944, to Sept. 30, 1951, at site 0.3 mile upstream at different datum. Oct. 1, 1951, to Sept. 30, 1953, at present site at datum 1.00 ft higher.

Extremes.--No flow during year.

1940-63: Maximum discharge, 3,130 cfs Feb. 12, 1962 (gage height, 3.86 ft); no flow for parts of each year.  
Maximum discharge known since May 1932, 54,000 cfs (estimated) Mar. 2, 1938.

Remarks.--No flow since May 9, 1962. Flow regulated since July 1931 by Big Tujunga flood-control reservoir (capacity, 4,240 acre-ft) and since September 1940 by Hansen flood-control reservoir (capacity, 33,373 acre-ft, revised). Several small diversions for domestic use and irrigation. Water reported herein is that which passed Hansen Dam. No water diverted from outlet channel upstream from gage to spreading grounds during year. Figures for calendar year 1962 are as follows: maximum daily discharge, 1,600 cfs; minimum, zero; mean, 6.54 cfs; runoff, 4,740 acre-ft; adjusted mean, 23.9 cfs; adjusted runoff, 17,310 acre-ft.

## LOS ANGELES RIVER BASIN

11-975. Los Angeles River at Los Angeles, Calif.

Location.--Lat  $34^{\circ}04'55''$ , long  $118^{\circ}13'35''$ , on right bank near Figueroa Street, Los Angeles, 800 ft upstream from Arroyo Seco.

Drainage area.--514 sq mi (revised).

Records available.--October 1929 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 292.58 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to May 26, 1938, at site 150 ft downstream at different datum. May 26, 1938, to Dec. 8, 1939, at site 350 ft downstream at different datum.

Average discharge.--34 years, 57.0 cfs (41,270 acre-ft per year); median of yearly mean discharges, 32 cfs (23,200 acre-ft per year).

Extremes.--Maximum discharge during year, 18,070 cfs Feb. 9 (gage height, 7.06 ft); no flow for many days.

1929-63: Maximum discharge, 67,000 cfs Mar. 2, 1938; no flow at times in some years.

Remarks.--Discharge measurements generally made two or more times a month. 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) and several small flood-control reservoirs. City of Los Angeles at times 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 miles upstream. Many diversions above station for domestic use and irrigation.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |      |       |      |       |         |         |        |        |       |      |       |       |
|--|------|-------|------|-------|---------|---------|--------|--------|-------|------|-------|-------|
| Day  | Oct. | Nov.  | Dec. | Jan.  | Feb.    | Mar.    | Apr.   | May    | June  | July | Aug.  | Sept. |
| 1  | 0.1  | 0.1   | 0.1  | 0     | 219     | 0       | 0.2    | 0.1    | 0.1   | 0.1  | 0     | 0     |
| 2  | .1   | .1    | .1   | 0     | 11      | 0       | .2     | .1     | .1    | .1   | 0     | 0     |
| 3  | .1   | .1    | .1   | 0     | 2       | 0       | .2     | .1     | .1    | .1   | 0     | 0     |
| 4  | .1   | .1    | .1   | 0     | .1      | 0       | .1     | .1     | .1    | .1   | 0     | 77    |
| 5  | .1   | .1    | .1   | 0     | 0       | 0       | .1     | .1     | .1    | .1   | 0     | 42    |
| 6  | .1   | .1    | .1   | 0     | 0       | 0       | .1     | .1     | .1    | .1   | 0     | .7    |
| 7  | .1   | .1    | .1   | 0     | 0       | 0       | .1     | .1     | .1    | .1   | 0     | .1    |
| 8  | .1   | .1    | .1   | 0     | 0       | 0       | 13     | .1     | .1    | .1   | 0     | .1    |
| 9  | .1   | .1    | .1   | 0     | 3,750   | 17      | .4     | .1     | .1    | .1   | 0     | .1    |
| 10   | .1   | .1    | .1   | 0     | 1,460   | 11      | .2     | .1     | .1    | .1   | 0     | 0     |
| 11   | .1   | .1    | .1   | 0     | 132     | .2      | .1     | .1     | 34    | .1   | 0     | 0     |
| 12   | .1   | .1    | .1   | 0     | 6.7     | .1      | .1     | .1     | 7.9   | .1   | 0     | .2    |
| 13   | .1   | .1    | .1   | 0     | 1.6     | 0       | .1     | .1     | .2    | .1   | 0     | .1    |
| 14   | .9   | .1    | .1   | 0     | 354     | 0       | 400    | .1     | .1    | .1   | 0     | .1    |
| 15   | .1   | .1    | .1   | 0     | 82      | 5.5     | 44     | .1     | .1    | .1   | 0     | .1    |
| 16   | .1   | .1    | .1   | 0     | .5      | 1,460   | 1.0    | .1     | .1    | .1   | 0     | .1    |
| 17   | .1   | .1    | .1   | 0     | .1      | 636     | .4     | .1     | .1    | .1   | 0     | 98    |
| 18   | .1   | .1    | .1   | .1    | 0       | 53      | .4     | .1     | .1    | .1   | 0     | 130   |
| 19   | .1   | .1    | .1   | 0     | 0       | 2.2     | .2     | .1     | .1    | .1   | 0     | 119   |
| 20   | .1   | .1    | .1   | 0     | 0       | .6      | 11     | .1     | .1    | .1   | 0     | 33    |
| 21   | .1   | .1    | .1   | 0     | 0       | .3      | 124    | .1     | .1    | 0    | 0     | 3.8   |
| 22   | .1   | .1    | .1   | 0     | 0       | .3      | 1.9    | .1     | .1    | 0    | 0     | .3    |
| 23   | .1   | .1    | .1   | 0     | 0       | 230     | .4     | .1     | .1    | 0    | 0     | .2    |
| 24   | .1   | .1    | .1   | 0     | 0       | 3.4     | .1     | .1     | .1    | 0    | 0     | .2    |
| 25   | .1   | .1    | .1   | 0     | 0       | .5      | 1.4    | .1     | .1    | 0    | 0     | .2    |
| 26   | .1   | .1    | 0    | 0     | 0       | .4      | 888    | .1     | .1    | 0    | 0     | .1    |
| 27   | .1   | .1    | 0    | 0     | 0       | .3      | 22     | .1     | .1    | 0    | 0     | .1    |
| 28   | .1   | .1    | 0    | 0     | 0       | 1,040   | .8     | .1     | .1    | 0    | .2    | .1    |
| 29   | .1   | .1    | 0    | 0     | -----   | 29      | .2     | .1     | .1    | 0    | 0     | .1    |
| 30   | .1   | .1    | 0    | 0     | -----   | .6      | .1     | .1     | .1    | 0    | 0     | .1    |
| 31   | .1   | ----- | 0    | 306   | -----   | .2      | .1     | .1     | ----- | 0    | ----- | ----- |
| Total  | 3.9  | 3.0   | 2.5  | 306.1 | 5,943.4 | 3,490.6 | 1510.8 | 3.1    | 44.8  | 2.0  | 0.2   | 505.8 |
| Mean   | 0.13 | 0.10  | 0.08 | 9.87  | 212     | 113     | 50.4   | 0.10   | 1.49  | 0.06 | 0.006 | 16.9  |
| Max  | 0.9  | 0.1   | 0.1  | 306   | 3,750   | 1,460   | 888    | 0.1    | 34    | 0.1  | 0.2   | 130   |
| Min  | 0.1  | 0.1   | 0    | 0     | 0       | 0       | 0.1    | 0.1    | 0.1   | 0    | 0     | 0     |
| Ac-ft  | 7.7  | 6.0   | 5.0  | 607   | 11,790  | 6,920   | 3,000  | 6.1    | 89    | 4.0  | 0.4   | 1,000 |
| Calendar year 1962:  | Max  | 8,510 | Min  | 0     | Mean    | 106     | Ac-ft  | 76,620 |       |      |       |       |
| Water year 1962-63:  | Max  | 3,750 | Min  | 0     | Mean    | 32.4    | Ac-ft  | 23,440 |       |      |       |       |

11-980. Arroyo Seco near Pasadena, Calif.

Location.--Lat 34°13'20", long 118°10'36", near north line of sec.31, T.2 N., R.12 W., on right bank 1.5 miles upstream from Millard Canyon and 5.5 miles northwest of Pasadena.

Drainage area.--16.0 sq mi (revised).

Records available.--December 1910 to September 1963.

Gage.--Water-stage recorder and broad-crested weir since November 1938. Datum of gage is 1,397.88 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1916, staff gage at different datum. Oct. 1, 1916, to Oct. 19, 1945, water-stage recorder at datum 4.00 ft lower.

Average discharge.--49 years (1913-15, 1916-63), 8.56 cfs (6,200 acre-ft per year); median of yearly mean discharges, 4.5 cfs (3,300 acre-ft per year).

Extremes.--Maximum discharge during year, 464 cfs Feb. 9 (gage height, 3.75 ft); minimum daily, 0.1 cfs Sept. 10-13. 1910-63: Maximum discharge, 8,620 cfs Mar. 2, 1938 (gage height, 9.42 ft, present datum), from slope-area measurements of peak flow; no flow at times in some years.

Remarks.--Records good except those for periods of no gage-height record and indefinite stage-discharge relation, which are poor. Minor regulation by debris dam 1.5 miles upstream.

Cooperation.--Twenty-one discharge measurements furnished by Los Angeles County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 27-29, Feb. 10, 11, 14, 23-26, Apr. 29, 30, June 7-11)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.5 | 0   | 1.2 | 17  |
| .6  | .7  | 1.6 | 34  |
| .7  | 2.5 | 2.0 | 61  |
| .9  | 7.6 | 2.5 | 113 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.   | Mar.   | Apr.   | May    | June  | July | Aug. | Sept. |
|-------|-------|-------|-------|-------|--------|--------|--------|--------|-------|------|------|-------|
| 1     | * 0.6 | 0.7   | 0.8   | * 1.3 | 1.9    | 2.3    | e 5    | 5.0    | 2.3   | 1.0  | 0.6  | 0.3   |
| 2     | .8    | .8    | .8    | * 1.3 | 1.9    | 2.3    | e 5    | 5.0    | 2.3   | 1.0  | .5   | .3    |
| 3     | .8    | .8    | .8    | 1.3   | 1.9    | 2.3    | e 4.5  | 5.0    | 2.3   | 1.0  | .5   | .2    |
| 4     | 1.0   | 1.0   | .8    | 1.3   | 1.7    | 2.1    | e 4    | 5.2    | 2.3   | 1.0  | .4   | .7    |
| 5     | .8    | 1.0   | 1.0   | 1.3   | 1.5    | 2.1    | e 4    | 4.7    | 2.3   | 1.0  | .5   | .4    |
| 6     | .8    | 1.0   | 1.0   | 1.3   | * 1.5  | * 2.1  | e 3.5  | 4.4    | 2.3   | 1.0  | .5   | .4    |
| 7     | 1.0   | * 1.0 | 1.0   | 1.3   | 1.5    | 2.1    | e 3.5  | 4.2    | 2.3   | 1.0  | .5   | .4    |
| 8     | 1.0   | 1.0   | 1.0   | 1.3   | 1.5    | 2.1    | e 3    | * 4.0  | 2.5   | 1.0  | * .5 | .3    |
| 9     | 1.0   | 1.0   | 1.0   | * 1.3 | 91     | 2.3    | e 3    | 4.0    | 3.0   | 1.0  | .5   | .2    |
| 10    | * 1.0 | 1.0   | 1.0   | 1.3   | * 98   | 2.1    | * 2.7  | 4.0    | 7.0   | 1.0  | .5   | .1    |
| 11    | 1.0   | 1.0   | 1.0   | 1.3   | 3.0    | 2.1    | 2.7    | 4.2    | 7.6   | 1.0  | .5   | * .1  |
| 12    | 1.0   | 1.0   | * 1.0 | 1.3   | a 8    | 2.1    | 2.7    | 4.0    | 3.4   | .8   | .5   | .1    |
| 13    | 1.1   | .8    | 1.0   | 1.1   | a 5    | * 1.9  | 2.5    | 3.7    | * 2.5 | .8   | .4   | .1    |
| 14    | 1.1   | .8    | 1.0   | 1.1   | 1.5    | 1.9    | 4.7    | 3.4    | 2.1   | .8   | * .4 | .2    |
| 15    | * 1.1 | .8    | 1.0   | 1.1   | a 7    | 2.3    | * 3.4  | * 3.0  | 1.9   | .8   | .4   | .2    |
| 16    | 1.1   | .8    | 1.0   | * 1.1 | a 6    | 1.0    | 2.3    | 2.5    | 1.7   | .8   | .4   | * .3  |
| 17    | 1.1   | .7    | 1.0   | 1.1   | a 5    | 1.3    | * 2.1  | 2.5    | 1.5   | .8   | .4   | .6    |
| 18    | 1.1   | .6    | 1.0   | 1.1   | a 5    | * 5.2  | 1.9    | 2.5    | 1.5   | * .8 | .4   | 1.0   |
| 19    | 1.1   | .6    | 1.0   | 1.1   | a 4    | 4.2    | 2.1    | 2.3    | * 1.5 | .8   | .4   | .8    |
| 20    | 1.1   | .7    | 1.0   | 1.1   | a 4    | * 3.7  | 4.9    | 2.3    | 1.5   | .8   | .4   | .7    |
| 21    | 1.1   | .7    | 1.0   | 1.0   | a 3    | 3.0    | 1.3    | 2.3    | 1.5   | .8   | .4   | .7    |
| 22    | 1.1   | .7    | 1.0   | 1.0   | a 3    | 3.0    | 4.2    | 2.3    | 1.7   | .7   | .4   | .8    |
| 23    | 1.1   | * .8  | 1.0   | * 1.0 | 3.0    | 5.8    | 3.0    | 2.3    | 1.7   | .7   | .4   | .8    |
| 24    | 1.1   | .8    | 1.0   | 1.1   | 3.0    | 3.4    | 2.7    | 2.3    | 1.7   | .7   | .4   | .7    |
| 25    | * 1.1 | 1.0   | 1.0   | 1.1   | 3.0    | 3.0    | 3.0    | 2.3    | 1.5   | .6   | .4   | * .7  |
| 26    | 1.1   | 1.0   | 1.0   | 1.1   | * 3.0  | 2.5    | 2.0    | 2.1    | 1.3   | .6   | .4   | .6    |
| 27    | 1.1   | 1.0   | 1.0   | 1.0   | 2.5    | * 2.5  | 8.5    | 2.1    | * 1.3 | .6   | .4   | .5    |
| 28    | 1.0   | 1.0   | * 1.0 | 1.0   | 2.3    | 9.5    | 6.0    | 2.1    | 1.1   | .5   | * .3 | .5    |
| 29    | .8    | * .8  | 1.1   | * 1.0 | -----  | 6.6    | 5.2    | * 2.3  | 1.0   | .5   | .3   | .5    |
| 30    | * .8  | .8    | 1.1   | 1.0   | -----  | 5.4    | * 4.7  | 2.3    | 1.0   | * .5 | .3   | .6    |
| 31    | .7    | ----- | 1.1   | 1.9   | -----  | 5.2    | -----  | 2.3    | ----- | .5   | .3   | ----- |
| Total | 30.4  | 25.7  | 30.5  | 36.6  | 31 4.2 | 11 8.1 | 13 7.8 | 10 0.6 | 67.6  | 24.9 | 13.2 | 13.8  |
| Mean  | 0.98  | 0.86  | 0.98  | 1.18  | 11.2   | 3.81   | 4.59   | 3.25   | 2.25  | 0.80 | 0.43 | 0.46  |
| Max   | 1.1   | 1.0   | 1.1   | 1.9   | 98     | 13     | 20     | 5.2    | 7.6   | 1.0  | 0.6  | 1.0   |
| Min   | 0.6   | 0.6   | 0.8   | 1.0   | 1.5    | 1.9    | 1.9    | 2.1    | 1.0   | 0.5  | 0.3  | 0.1   |
| Ac-ft | 60    | 51    | 60    | 73    | 623    | 234    | 273    | 200    | 134   | 49   | 26   | 27    |

Calendar year 1962: Max 670 Min 0.5 Mean 9.00 Ac-ft 6,520  
Water year 1962-63: Max 98 Min 0.1 Mean 2.50 Ac-ft 1,810

Peak discharge (base, 150 cfs).--Feb. 9 (2000 hrs) 464 cfs (3.75 ft).

\* Discharge measurement made on this day.  
a No gage-height record.  
e Stage-discharge relation indefinite.

## LOS ANGELES RIVER BASIN

11-985. Los Angeles River near Downey, Calif.

Location.--Lat 33°56'57", long 118°10'24", in San Antonio Grant, on right bank 400 ft downstream from Firestone Boulevard Bridge, 1 mile upstream from Rio Hondo, and 2.5 miles west of Downey, Los Angeles County.

Drainage area.--599 sq mi (revised).

Records available.--March 1928 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 96.12 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Apr. 11, 1938, at site 1,600 ft downstream at different datum. Apr. 11, 1938, to Nov. 3, 1949, at site 400 ft upstream at datum 0.96 ft lower, and Nov. 4, 1949, to Dec. 11, 1956, at site 400 ft upstream at datum 2.25 ft higher.

Average discharge.--35 years, 94.1 cfs (68,130 acre-ft per year); median of yearly mean discharges, 56 cfs (40,500 acre-ft per year).

Extremes.--Maximum discharge during year, 19,340 cfs Feb. 9 (gage height, 5.93 ft); minimum daily, 4.3 cfs Feb. 23. 1928-63: Maximum discharge, 79,700 cfs Mar. 2, 1938, on basis of slope-area measurements; no flow for parts of some years.

Remarks.--Discharge measurements made once a week. Flow regulated since July 1941 by Hansen flood-control reservoir and since December 1941 by Sepulveda flood-control reservoir (combined capacity, 49,400 acre-ft), 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.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.    | Mar.    | Apr.   | May   | June  | July  | Aug.  | Sept.  |
|-------|-------|-------|-------|-------|---------|---------|--------|-------|-------|-------|-------|--------|
| 1     | 8.0   | 9.5   | 10    | a 4.4 | a 2 66  | 10      | 9.0    | 10    | 8.5   | 8.0   | 13    | 5.8    |
| 2     | 8.5   | 9.5   | 10    | a 4.4 | a 30    | 9.0     | 9.5    | a 11  | 9.0   | 8.0   | 10    | 5.5    |
| 3     | 9.0   | 8.0   | 13    | a 6.9 | a 12    | 9.5     | 9.5    | a 9.6 | 10    | 8.0   | 7.5   | 8.0    |
| 4     | 9.0   | 6.7   | 18    | a 7.4 | a 9.8   | 10      | 7.5    | a 9.1 | 9.0   | 6.7   | 7.0   | 200    |
| 5     | 9.0   | 8.0   | a 12  | a 7.4 | a 12    | 9.0     | 9.5    | a 8.1 | 9.0   | 7.0   | 8.5   | 96     |
| 6     | 9.5   | 8.0   | a 10  | a 7.3 | a 12    | 12      | 9.5    | a 9.5 | 9.0   | 8.0   | 9.5   | 11     |
| 7     | 8.0   | 7.0   | a 10  | a 8.8 | a 12    | 15      | 10     | a 12  | 8.5   | 8.5   | 9.5   | 6.1    |
| 8     | 9.5   | 6.7   | a 7.4 | a 7.4 | a 12    | 17      | 31     | a 11  | 8.5   | 9.5   | 9.0   | 5.2    |
| 9     | 10    | 8.0   | a 6.8 | a 12  | 40 80   | 37      | 13     | a 13  | 8.5   | 10    | 8.0   | 5.2    |
| 10    | 11    | 6.7   | a 8.8 | a 15  | 24 10   | 42      | 11     | a 8.4 | 12    | 9.0   | 7.0   | 5.2    |
| 11    | 11    | 6.1   | a 9.2 | a 9.2 | a 138   | 8.5     | 10     | a 6.2 | 91    | 10    | 7.5   | 5.5    |
| 12    | 13    | 6.4   | a 11  | a 7.4 | a 40    | 8.5     | 12     | a 7.4 | 15    | 9.5   | 9.5   | 17     |
| 13    | 10    | 8.5   | a 11  | a 6.8 | a 20    | 9.0     | 10     | a 8.2 | 9.0   | 7.0   | 11    | 6.4    |
| 14    | 28    | 9.0   | a 8.4 | a 9.3 | 546     | 8.0     | 685    | a 8.6 | 9.0   | 7.0   | 10    | 5.8    |
| 15    | 9.0   | 8.5   | a 8.4 | a 10  | a 45    | 38      | 145    | a 7.9 | 9.0   | 8.0   | 10    | 6.1    |
| 16    | 9.0   | 6.7   | a 12  | a 12  | a 13    | 20 30   | a 13   | a 7.9 | 8.5   | 9.0   | 10    | 7.0    |
| 17    | 9.5   | 5.8   | a 12  | a 11  | a 9.8   | 14 40   | a 28   | a 6.2 | 10    | 8.0   | 7.0   | 331    |
| 18    | 12    | 6.7   | a 12  | a 12  | a 7.8   | 177     | a 12   | a 5.1 | 10    | 8.5   | 9.0   | 300    |
| 19    | 10    | 9.0   | a 12  | a 7.4 | a 6.8   | a 20    | a 10   | a 5.7 | 9.0   | 9.5   | 10    | 296    |
| 20    | 8.5   | 10    | a 12  | a 7.3 | a 6.8   | a 16    | 105    | a 7.6 | 10    | 9.0   | 11    | 85     |
| 21    | 7.5   | 12    | a 12  | a 9.8 | a 8.3   | a 12    | 290    | a 8.0 | 11    | 7.5   | 10    | 12     |
| 22    | 9.5   | 9.0   | a 11  | a 12  | a 5.8   | a 10    | a 14   | a 8.5 | 12    | 7.0   | 10    | 6.7    |
| 23    | 9.5   | 10    | a 8.8 | a 12  | a 4.3   | 445     | a 15   | a 8.0 | 12    | 8.0   | 10    | 6.7    |
| 24    | 9.0   | 10    | a 7.3 | a 10  | a 5.3   | a 40    | a 15   | a 9.0 | 15    | 8.5   | 8.0   | 6.7    |
| 25    | 9.0   | 10    | a 4.9 | a 9.2 | a 7.3   | a 20    | a 13   | a 8.5 | 14    | 9.5   | 7.5   | 6.4    |
| 26    | 9.0   | 12    | a 5.9 | a 10  | a 8.4   | a 10    | 11 90  | a 11  | 14    | 9.5   | 9.0   | 7.0    |
| 27    | 6.4   | 12    | a 6.9 | a 9.8 | a 8.9   | a 7.1   | 68     | a 12  | 14    | 7.0   | 9.0   | 7.0    |
| 28    | 7.0   | 12    | a 7.9 | a 9.8 | a 9.4   | 12 50   | 10     | 10    | 12    | 7.0   | 8.5   | 6.4    |
| 29    | 8.0   | 12    | a 7.9 | a 10  | -----   | 56      | 9.0    | 9.5   | 11    | 8.5   | 8.5   | 6.1    |
| 30    | 10    | 12    | a 7.8 | a 10  | -----   | 9.5     | 9.0    | 8.0   | 10    | 9.5   | 8.0   | 6.4    |
| 31    | 9.5   | ----- | a 6.8 | a 353 | -----   | 8.0     | -----  | 8.5   | ----- | 14    | 5.8   | -----  |
| Total | 305.9 | 265.8 | 301.2 | 629.0 | 774 6.7 | 579 3.1 | 2782.5 | 273.5 | 397.5 | 264.2 | 278.3 | 1479.2 |
| Mean  | 9.87  | 8.86  | 9.72  | 20.3  | 277     | 187     | 92.8   | 8.82  | 13.2  | 8.52  | 8.98  | 49.3   |
| Max   | 28    | 12    | 18    | 353   | 4,080   | 2,030   | 1,190  | 13    | 91    | 14    | 13    | 331    |
| Min   | 6.4   | 5.8   | 4.9   | 4.4   | 4.3     | 7.1     | 7.5    | 5.1   | 8.5   | 6.7   | 5.8   | 5.2    |
| Ac-ft | 607   | 527   | 597   | 1,250 | 15,370  | 11,490  | 5,520  | 542   | 788   | 524   | 552   | 2,930  |

Calendar year 1962: Max 9,630 Min 4.9 Mean 152 Ac-ft 110,000  
 Water year 1962-63: Max 4,080 Min 4.3 Mean 56.2 Ac-ft 40,700

a No gage-height record.

11-1000. Santa Anita Creek near Sierra Madre, Calif.

Location.--Lat 34°11'30", long 118°00'59", in SW 1/4 NE 1/4 sec.10, T.1 N., R.11 W., on right bank at head of Hermits Falls, 0.9 mile upstream from Big Santa Anita Dam, and 3 miles northeast of Sierra Madre.

Drainage area.--9.71 sq mi (revised).

Records available.--July 1916 to September 1963.

Gage.--Water-stage recorder (digital). Datum of gage is 1,475.3 ft above mean sea level (levels by U.S. Forest Service). Prior to Mar. 2, 1938, at same site at datum 0.4 ft lower (destroyed by flood). Mar. 18 to Sept. 27, 1938, at same site at datum 0.7 ft higher.

Average discharge.--47 years, 5.60 cfs (4,050 acre-ft per year); median of yearly mean discharges, 3.5 cfs (2,500 acre-ft per year).

Extremes.--Maximum discharge during year, 590 cfs Feb. 9 (gage height, 4.90 ft); minimum daily, 0.6 cfs Aug. 28.

1916-63: Maximum discharge, about 5,200 cfs Mar. 2, 1938, based on inflow to Big Santa Anita flood-control reservoir; practically no flow Aug. 18 to Sept. 14, 1929.

Remarks.--Records good. Debris dams above station built in December 1959 cause little or no regulation.

Cooperation.--Ten discharge measurements furnished by Los Angeles County Flood Control District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug. | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 1     | 1.5   | 1.5   | 1.6   | 1.4   | 3.1   | * 2.5 | 2.3   | 3.3   | 2.3   | 1.9   | 1.0  | 0.7   |
| 2     | 1.5   | 1.5   | 1.5   | 1.4   | 2.3   | 2.5   | 2.2   | 3.2   | 2.3   | 2.1   | 1.0  | .7    |
| 3     | * 1.4 | 1.5   | 1.5   | 1.5   | 1.9   | 2.3   | 2.1   | 3.3   | 2.3   | 2.1   | 1.0  | .8    |
| 4     | 1.7   | 1.6   | 1.5   | 1.5   | 1.8   | 2.3   | 2.0   | 3.1   | 2.3   | 1.9   | 1.0  | 1.6   |
| 5     | 1.9   | 1.6   | 1.4   | 1.5   | 1.7   | 2.3   | 1.9   | 2.9   | 2.5   | 1.9   | 1.0  | 1.2   |
| 6     | 1.7   | 1.6   | 1.4   | 1.5   | * 1.6 | 2.2   | 1.8   | 2.8   | 2.6   | 1.9   | 1.0  | 1.0   |
| 7     | 1.6   | * 1.6 | 1.4   | 1.5   | 1.6   | 2.2   | 1.9   | * 3.0 | 2.8   | 1.8   | 1.0  | .8    |
| 8     | 1.6   | 1.5   | 1.4   | * 1.5 | 1.6   | 2.2   | 2.2   | 3.0   | 2.8   | 1.6   | 1.0  | .8    |
| 9     | 1.6   | 1.4   | 1.4   | * 1.6 | 8.4   | 2.3   | 2.1   | 2.8   | 2.6   | 1.6   | 1.0  | .7    |
| 10    | 1.5   | 1.4   | 1.4   | 1.9   | 5.4   | 2.3   | 2.0   | 2.8   | 2.8   | 1.5   | .9   | .7    |
| 11    | * 1.6 | 1.4   | 1.4   | 1.7   | 1.5   | 2.3   | 2.0   | 2.5   | 3.1   | 1.4   | .9   | .7    |
| 12    | 1.6   | 1.4   | * 1.5 | 1.6   | * 7.1 | 2.3   | 1.9   | 2.5   | 3.1   | 1.4   | .9   | .7    |
| 13    | 1.6   | 1.4   | 1.5   | 1.6   | 5.7   | * 2.2 | 1.8   | 2.5   | 3.1   | 1.3   | * .8 | .7    |
| 14    | 1.7   | 1.5   | 1.5   | 1.6   | 5.9   | 2.2   | 2.9   | 2.5   | 3.1   | 1.2   | * .8 | .7    |
| 15    | 1.9   | 1.7   | 1.4   | 1.6   | 4.6   | 2.8   | 2.7   | 2.5   | 2.8   | 1.1   | .8   | .7    |
| 16    | 1.9   | 1.6   | 1.4   | 1.6   | 4.0   | 6.4   | 2.2   | 2.5   | 2.8   | 1.2   | .8   | .7    |
| 17    | 1.8   | 1.5   | 1.4   | 1.5   | 3.8   | 4.6   | * 2.1 | 2.3   | 2.6   | 1.1   | .8   | 1.4   |
| 18    | 1.9   | 1.5   | 1.5   | 1.5   | 3.6   | * 3.3 | 2.1   | 2.3   | 2.5   | * 1.0 | .8   | 2.1   |
| 19    | 1.9   | 1.5   | 1.6   | 1.5   | 3.4   | 3.1   | 2.1   | 2.2   | 2.6   | .9    | .8   | 3.3   |
| 20    | 1.9   | 1.5   | 1.6   | 1.5   | 3.3   | 2.8   | 2.3   | 2.2   | 2.6   | .9    | .7   | 1.9   |
| 21    | 1.8   | 1.5   | 1.5   | 1.5   | 3.1   | 2.5   | 6.8   | 2.2   | 2.8   | .9    | .7   | 1.5   |
| 22    | 1.7   | 1.4   | 1.4   | 1.5   | 3.1   | 2.2   | 3.5   | 2.2   | 2.8   | .9    | .8   | 1.3   |
| 23    | 1.7   | * 1.5 | 1.4   | * 1.5 | 3.1   | 2.9   | 2.9   | 2.2   | 2.8   | .9    | .8   | 1.2   |
| 24    | 1.7   | 1.4   | 1.5   | 1.5   | 2.9   | 2.3   | 2.7   | 2.2   | 2.6   | .8    | .8   | 1.2   |
| 25    | 1.7   | 1.5   | 1.5   | 1.5   | 2.9   | 2.2   | 2.7   | 2.2   | 2.6   | .8    | .7   | 1.1   |
| 26    | 1.7   | 1.6   | 1.5   | 1.5   | 2.8   | 2.1   | 6.2   | 2.2   | 2.6   | .9    | .7   | 1.1   |
| 27    | 1.6   | 1.6   | 1.5   | 1.5   | 2.8   | * 2.1 | 4.5   | 2.2   | * 2.5 | .9    | .7   | 1.1   |
| 28    | 1.6   | * 1.7 | 1.5   | 1.5   | 2.6   | 4.1   | 3.8   | * 2.2 | 2.2   | .8    | .6   | .9    |
| 29    | 1.6   | 1.7   | 1.4   | 1.5   | ----- | 2.7   | 3.5   | 2.2   | 2.1   | .8    | * .7 | .9    |
| 30    | 1.5   | 1.6   | 1.4   | 1.5   | ----- | 2.4   | 3.3   | 2.2   | 2.1   | .7    | .7   | 1.0   |
| 31    | * 1.5 | ----- | 1.4   | * 2.8 | ----- | 2.3   | ----- | 2.2   | ----- | * 1.0 | .7   | ----- |
| Total | 51.9  | 45.7  | 45.3  | 48.8  | 233.3 | 82.9  | 82.5  | 78.4  | 78.7  | 39.5  | 25.9 | 33.2  |
| Mean  | 1.67  | 1.52  | 1.46  | 1.57  | 8.33  | 2.67  | 2.75  | 2.53  | 2.62  | 1.27  | 0.84 | 1.11  |
| Max   | 1.9   | 1.7   | 1.6   | 2.8   | 8.4   | 6.4   | 6.8   | 3.3   | 3.1   | 2.1   | 1.0  | 3.3   |
| Min   | 1.4   | 1.4   | 1.4   | 1.4   | 1.6   | 2.1   | 1.8   | 2.2   | 2.1   | 0.8   | 0.6  | 0.7   |
| Ac-ft | 103   | 90    | 89    | 96    | 463   | 164   | 164   | 156   | 156   | 78    | 51   | 65    |

Calendar year 1962: Max 773 Min 1.3 Mean 8.78 Ac-ft 6,360  
 Water year 1962-63: Max 84 Min 0.6 Mean 2.32 Ac-ft 1,680

Peak discharge (base, 40 cfs).--Feb. 9 (2115 hrs) 590 cfs (4.90 ft).

\* Discharge measurement made on this day.





## 11-1012.5. Rio Hondo above Whittier Narrows Dam, Calif.

Location.--Lat 34°03'30", long 118°04'15", in Portrero Grande Grant, on right bank 0.3 mile downstream from Garvey Avenue, 0.4 mile downstream from Rubio Wash, and 2.2 miles west of El Monte, Los Angeles County.

Drainage area.--91.2 sq mi.

Records available.--February 1956 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 220 ft (from topographic map).

Average discharge.--7 years (1957-63), 22.9 cfs (16,580 acre-ft per year).

Extremes.--Maximum discharge during year, 4,400 cfs Feb. 9 (gage height, 3.65 ft); minimum daily, 0.1 cfs Jan. 13, 14, 20, May 6. 1956-63: Maximum discharge, 8,150 cfs Jan. 6, 1959 (gage height, 4.90 ft, from floodmark); no flow on many days in most years.

Remarks.--Records good. Discharge measurements made two or more times a month. Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs (combined capacity, 1,700 acre-ft), 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.

Cooperation.--Thirty-three discharge measurements furnished by the Los Angeles County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|      |     |     |       |
|------|-----|-----|-------|
| 1.05 | 0.1 | 1.8 | 27    |
| 1.1  | .4  | 1.9 | 57    |
| 1.2  | 1.6 | 2.0 | 107   |
| 1.3  | 3.4 | 2.1 | 220   |
| 1.5  | 8.2 | 2.2 | 420   |
| 1.6  | 11  | 2.3 | 750   |
| 1.7  | 15  | 2.5 | 1,450 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.    | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|-------|---------|-------|-------|------|-------|------|------|-------|
| 1     | 1.6  | 1.8   | 0.8  | 0.4   | 9.2     | 4.0   | 1.3   | 2.3  | 0.6   | 1.0  | 2.1  | 1.0   |
| 2     | 1.9  | 1.0   | .7   | .5    | .9      | 3.2   | .8    | 1.0  | .5    | 1.4  | 1.8  | 1.3   |
| 3     | 2.4  | .9    | .7   | .5    | .5      | .2    | .8    | .7   | 1.9   | 1.3  | 1.8  | 3.0   |
| 4     | 6.0  | a 1   | .8   | .6    | 1.0     | 3.5   | 1.0   | .6   | .6    | .5   | 1.2  | 56    |
| 5     | 1.6  | a 1   | .9   | .6    | 1.3     | 3.3   | 1.0   | .2   | .7    | 1.2  | 1.3  | 3.0   |
| 6     | 1.2  | a 1   | 1.2  | .3    | .9      | .6    | .5    | .1   | .9    | .5   | 2.1  | 2.6   |
| 7     | .9   | 1.6   | 1.2  | .4    | .9      | .4    | .4    | .2   | .7    | .5   | 2.3  | 2.1   |
| 8     | 1.3  | 2.1   | .7   | 1.2   | .8      | .4    | 3.4   | .2   | .5    | 1.6  | 3.0  | 2.1   |
| 9     | 1.4  | 1.8   | .6   | .9    | 1.0 8.0 | 1.8   | .5    | .2   | .5    | 2.1  | 1.9  | 2.4   |
| 10    | 1.8  | 1.3   | .7   | 1.8   | 3.4     | .3    | 1.5   | .2   | 5.7   | 2.1  | 1.9  | 2.1   |
| 11    | 1.6  | 1.2   | .6   | .5    | 3.4     | .7    | .9    | .2   | 1.7   | 2.4  | 2.1  | 2.1   |
| 12    | 1.6  | 1.0   | 1.0  | .4    | 1.6     | 1.3   | 1.8   | .2   | a 2   | 4.6  | 2.3  | 3.1   |
| 13    | 1.0  | 1.6   | 1.2  | .1    | 5.2     | .7    | 2.5   | .2   | 1.8   | 4.6  | 3.0  | 2.4   |
| 14    | 6.8  | 1.6   | .7   | .1    | 1.7 9   | .5    | 2.0 4 | .8   | .8    | 4.6  | 2.8  | 2.6   |
| 15    | .7   | .8    | .6   | .6    | 2.4     | 2.0   | 1.3   | .8   | .4    | 6.6  | 2.4  | 2.4   |
| 16    | .7   | .8    | .7   | .4    | 1.3     | 4.7 6 | .9    | .9   | .5    | 7.1  | 2.4  | 2.6   |
| 17    | .7   | .7    | 1.2  | .2    | .4      | 1.6   | 7.8   | 1.2  | .9    | 6.6  | 2.1  | 92    |
| 18    | 2.9  | .7    | .7   | .3    | .6      | 1.9   | .6    | .7   | 1.4   | 6.3  | 2.1  | 1.6   |
| 19    | a 1  | .7    | .9   | .2    | .6      | .3    | .7    | .6   | 1.2   | 6.1  | 2.3  | 3.7   |
| 20    | a 1  | 1.4   | 1.3  | .1    | .6      | .5    | 9.5   | .7   | 1.0   | 4.9  | 2.3  | 1.9   |
| 21    | a 1  | .9    | 1.0  | .8    | .5      | .5    | 3.6   | 1.0  | .9    | 1.6  | 2.4  | 1.8   |
| 22    | a 1  | .8    | .5   | .3    | .6      | .4    | .2    | 1.2  | .6    | 3.8  | 2.8  | .7    |
| 23    | a 1  | .8    | .5   | .5    | .2      | 8.6   | .3    | 1.6  | .4    | 3.0  | 3.0  | 1.3   |
| 24    | a 1  | .8    | .6   | .7    | .2      | .2    | .6    | 1.2  | 1.0   | 1.9  | a 3  | 1.6   |
| 25    | a .5 | .8    | .4   | .6    | .6      | .6    | .8    | .5   | 1.2   | 2.3  | a 3  | 1.6   |
| 26    | a .5 | .9    | .2   | .4    | .6      | 1.1   | 2.5 2 | .3   | 1.2   | 1.6  | a 3  | 1.4   |
| 27    | a .5 | .7    | .6   | .4    | 1.0     | .5    | .9    | .6   | .9    | 1.2  | 4.0  | 1.4   |
| 28    | a .5 | .8    | 1.2  | .3    | 3.2     | 1.0 8 | .3    | .7   | 1.0   | .6   | 3.4  | 1.4   |
| 29    | a .5 | .7    | .3   | .4    | -----   | .9    | 1.4   | .8   | .5    | .8   | 2.4  | 1.2   |
| 30    | a .5 | .9    | .3   | .6    | -----   | .3    | 1.8   | .9   | .3    | 1.0  | 2.6  | 1.0   |
| 31    | 1.4  | ----- | .5   | 1.1 0 | -----   | .4    | ----- | .6   | ----- | 1.4  | 1.3  | ----- |
| Total | 46.5 | 32.1  | 23.3 | 125.1 | 161.5   | 657.1 | 632.7 | 21.4 | 47.6  | 85.2 | 74.1 | 351.1 |
| Mean  | 1.50 | 1.07  | 0.75 | 4.04  | 57.6    | 21.2  | 21.1  | 0.69 | 1.59  | 2.75 | 2.39 | 11.7  |
| Max   | 6.8  | 2.1   | 1.3  | 1.0   | 1,080   | 476   | 252   | 2.3  | 1.7   | 7.1  | 4.0  | 116   |
| Min   | 0.5  | 0.7   | 0.2  | 0.1   | 0.2     | 0.2   | 0.2   | 0.1  | 0.3   | 0.5  | 1.2  | 0.7   |
| Ac-ft | 92   | 64    | 46   | 248   | 3,200   | 1,300 | 1,250 | 42   | 94    | 169  | 147  | 696   |

Calendar year 1962: Max 2,470 Min 0.1 Mean 46.1 Ac-ft 33,340  
 Water year 1962-63: Max 1,080 Min 0.1 Mean 10.2 Ac-ft 7,350

a No gage-height record.

## LOS ANGELES RIVER BASIN

11-1015. Rio Hondo near Montebello, Calif.

Location.--Lat 34°02'00", long 118°04'40", in Potrero Grande Grant, on right bank 900 ft upstream from Mission Bridge and 2 miles northeast of Montebello, Los Angeles County.

Drainage area.--116 sq mi, revised (excluding area above Santa Fe Dam).

Records available.--October 1928 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 190.77 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 23, 1956, at datum 3.86 ft higher. Oct. 23, 1956, to Sept. 17, 1962, at site 67 ft upstream at datum 2.06 ft higher.

Average discharge.--29 years (1928-57), 51.5 cfs (37,280 acre-ft per year); median of yearly mean discharges, 36 cfs (26,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,900 cfs Mar. 16 (gage height, 8.80 ft); minimum daily, 1.0 cfs June 16, Aug. 4-5, Sept. 1, 2, 22, 23.

1928-63: Maximum discharge, 28,000 cfs Mar. 2, 1938 (gage height, 16.69 ft, present datum), from rating curve extended above 9,000 cfs on basis of slope-area measurement and runoff from contributing stream; minimum, 0.3 cfs Dec. 1, 1933 (gage height, 5.17 ft, present datum).

Remarks.--Discharge measurements made once a week. Flow regulated by Big Santa Anita, Sawpit, and Eaton flood-control reservoirs (combined capacity, 1,700 acre-ft) 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, at times imported Colorado River water has been released to Rio Hondo 1.6 miles above station for ground-water recharge.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.    | Jan.  | Feb.    | Mar.    | Apr.    | May   | June  | July  | Aug. | Sept. |
|-------|---------|-------|---------|-------|---------|---------|---------|-------|-------|-------|------|-------|
| 1     | 55      | 5.4   | 193     | 13    | 41      | 157     | 170     | 5.2   | 3.6   | 3.6   | 3.1  | 1.0   |
| 2     | 70      | 5.0   | 175     | 13    | 9.0     | 141     | 168     | 3.6   | 2.1   | 7.0   | 3.1  | 1.0   |
| 3     | 97      | 9.4   | 107     | 12    | 12      | 153     | 170     | 3.6   | 4.7   | 5.2   | 2.6  | 3.6   |
| 4     | 146     | 14    | 34      | 22    | 12      | 166     | 170     | 2.1   | 2.6   | 3.1   | 1.0  | 108   |
| 5     | 161     | 20    | 31      | 3.2   | 4.1     | 105     | 170     | 1.6   | 2.1   | 2.6   | 1.0  | 8.8   |
| 6     | 151     | 3.5   | 32      | 2.6   | 3.8     | 22      | 168     | 2.1   | 3.6   | 3.1   | 1.6  | 5.2   |
| 7     | 143     | 3.5   | 33      | 2.6   | 3.8     | 18      | 168     | 3.6   | 2.6   | 2.6   | 2.6  | 4.7   |
| 8     | 126     | 4.4   | 53      | 3.2   | 4.1     | 27      | 175     | 5.8   | 2.1   | 3.6   | 3.6  | 4.7   |
| 9     | 88      | 3.8   | 16      | 3.6   | 1.170   | 6.0     | 166     | 4.7   | 1.6   | 8.2   | 3.6  | 3.1   |
| 10    | 78      | 3.8   | 17      | 17    | 352     | 5.2     | 161     | 5.8   | 11    | 6.4   | 4.2  | 2.6   |
| 11    | 93      | 3.5   | 16      | 31    | 97      | 4.2     | 159     | 4.2   | 36    | 7.0   | 3.1  | 2.1   |
| 12    | 75      | 3.5   | 39      | 15    | 156     | 4.7     | 100     | 2.6   | 3.0   | 7.6   | 3.6  | 7.6   |
| 13    | 57      | 3.5   | 34      | 12    | 71      | 4.2     | 15      | 2.6   | 9.7   | 7.6   | 4.2  | 3.1   |
| 14    | 22      | 4.4   | 31      | 14    | 332     | 3.6     | 196     | 3.6   | 1.6   | 5.8   | 3.6  | 2.1   |
| 15    | 7.6     | 3.5   | 29      | 12    | 65      | 48      | 123     | 5.8   | 1.6   | 7.0   | 4.7  | 2.1   |
| 16    | 55      | 3.2   | 31      | 22    | 61      | 547     | 200     | 5.2   | 1.0   | 8.2   | 3.6  | 1.6   |
| 17    | 98      | 3.5   | 25      | 3.5   | 60      | 66      | 210     | 5.2   | 2.1   | 8.2   | 3.1  | 177   |
| 18    | 117     | 3.5   | 33      | 3.5   | 60      | 43      | 117     | 4.2   | 3.6   | 8.2   | 2.6  | 122   |
| 19    | 112     | 3.2   | 39      | 3.5   | 59      | 48      | 4.2     | 2.1   | 3.6   | 8.2   | 3.1  | 110   |
| 20    | 84      | 4.2   | 39      | 3.2   | 84      | 49      | 67      | 3.1   | 3.6   | 7.0   | 4.7  | 4.2   |
| 21    | 78      | 4.1   | 27      | 3.5   | 137     | 60      | 68      | 4.2   | 3.6   | 4.2   | 3.6  | 3.6   |
| 22    | 75      | 10    | 3.4     | 3.8   | 126     | 67      | 4.2     | 4.2   | 2.6   | 5.8   | 4.2  | 1.0   |
| 23    | 86      | 18    | 3.4     | 3.8   | 117     | 104     | 3.6     | 4.2   | 1.0   | 8.2   | 3.6  | 1.0   |
| 24    | 86      | 38    | 3.3     | 3.5   | 124     | 67      | 4.2     | 4.7   | 2.1   | 4.7   | 3.1  | 2.6   |
| 25    | 86      | 3.5   | 3.3     | 3.2   | 128     | 64      | 5.7     | 4.2   | 4.2   | 4.7   | 1.6  | 2.6   |
| 26    | 87      | 3.5   | 3.2     | 4.1   | 124     | 65      | 279     | 4.2   | 3.1   | 4.2   | 2.1  | 14    |
| 27    | 80      | 3.5   | 3.2     | 3.5   | 139     | 95      | 4.7     | 4.0   | 3.1   | 4.2   | 3.1  | 7.0   |
| 28    | 72      | 3.5   | 4.4     | 3.2   | 164     | 242     | 3.1     | 3.8   | 3.6   | 2.6   | 3.6  | 5.8   |
| 29    | 75      | 3.5   | 3.2     | 15    | -----   | 14      | 3.6     | 3.6   | 3.1   | 3.6   | 2.6  | 4.2   |
| 30    | 76      | 94    | 2.9     | 11    | -----   | 76      | -----   | 5.8   | ----- | 4.2   | 3.1  | 3.1   |
| 31    | 59      | ----- | 34      | 143   | -----   | 153     | -----   | 3.6   | ----- | 3.6   | 3.1  | ----- |
| Total | 2,695.6 | 328.2 | 1,098.3 | 409.5 | 3,715.8 | 2,624.9 | 3,258.0 | 123.2 | 129.8 | 170.2 | 96.4 | 619.4 |
| Mean  | 87.0    | 10.9  | 35.4    | 13.2  | 133     | 84.7    | 109     | 3.97  | 4.33  | 5.49  | 3.11 | 20.6  |
| Max   | 161     | 94    | 193     | 143   | 1,170   | 547     | 279     | 5.8   | 36    | 8.2   | 4.7  | 177   |
| Min   | 7.6     | 3.2   | 2.9     | 2.6   | 3.8     | 3.6     | 3.1     | 1.6   | 1.0   | 2.6   | 1.0  | 1.0   |
| Ac-ft | 5,350   | 651   | 2,180   | 812   | 7,370   | 5,210   | 6,460   | 244   | 257   | 338   | 191  | 1,230 |
| (†)   | 5,140   | 440   | 1,940   | 341   | 3,630   | 3,610   | 5,220   | 0     | 0     | 0     | 0    | 19    |

Calendar year 1962: Max 1,800 Min 3.2 Mean 123 Ac-ft 89,130 Ac-ft† 60,125  
 Water year 1962-63: Max 1,170 Min 1.0 Mean 41.8 Ac-ft 30,290 Ac-ft† 20,340

† Colorado River water, in acre-feet, released to Rio Hondo via Alhambra Wash 1.6 miles upstream for ground-water recharge in Rio Hondo basin.

11-1020. Mission Creek near Montebello, Calif.

Location---Lat 34°01'45", long 118°04'07", in La Merced Grant, on upstream side of right abutment of San Gabriel Boulevard Bridge, 2 miles northeast of Montebello, Los Angeles County.

Drainage area---4.16 sq mi (revised).

Records available---October 1929 to September 1963. Yearly estimate for 1938, published in WSP 1315-B. Prior to October 1944, published as Rio Hondo Slough near Montebello.

Gage---Water-stage recorder. Altitude of gage is 195 ft (from topographic map). Prior to Nov. 3, 1938, at datum 6.30 ft higher.

Average discharge---34 years, 13.4 cfs (9,700 acre-ft per year); median of yearly mean discharges, 14 cfs (10,100 acre-ft per year).

Extremes---Maximum discharge during year, 16 cfs Feb. 9 (gage height, 7.34 ft); no flow June 24 to Sept. 30. 1929-63: Maximum discharge not determined, occurred Mar. 2, 1938; no flow at times in 1957, 1961-63.

Remarks---Discharge measurements made weekly during periods of flow. Flow is almost entirely from ground-water seepage. Flow partially regulated above station by outflow from Legg Lake.

Cooperation---Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 1.0  | 1.7   | 1.9  | 1.9  | 1.5   | 1.8  | 1.8   | 1.2  | 0.3   |      |      |       |
| 2     | 1.1  | 1.6   | 2.0  | 2.0  | 1.6   | 1.8  | 1.8   | 1.2  | .3    |      |      |       |
| 3     | 1.0  | 1.6   | 2.1  | 2.0  | 1.6   | 1.8  | 1.8   | 1.2  | .3    |      |      |       |
| 4     | 1.2  | 1.8   | 2.1  | 2.0  | 1.6   | 1.9  | 1.8   | 1.2  | .2    |      |      |       |
| 5     | 1.2  | 1.8   | 2.1  | 1.9  | 1.6   | 1.8  | 1.8   | 1.2  | .2    |      |      |       |
| 6     | 1.3  | 1.7   | 1.9  | 1.8  | 1.7   | 1.6  | 1.8   | 1.2  | .1    |      |      |       |
| 7     | 1.4  | 1.7   | 2.0  | 1.7  | 1.8   | 1.6  | 1.8   | 1.1  | .2    |      |      |       |
| 8     | 1.4  | 1.6   | 2.0  | 1.7  | 1.8   | 1.5  | 1.8   | 1.1  | .2    |      |      |       |
| 9     | 1.4  | 1.6   | 2.1  | 1.6  | 3.5   | 1.5  | 1.8   | 1.0  | .2    |      |      |       |
| 10    | 1.4  | 1.6   | 2.1  | 1.6  | 2.5   | 1.5  | 1.9   | 1.0  | .2    |      |      |       |
| 11    | 1.4  | 1.7   | 2.0  | 1.6  | 1.8   | 1.5  | 1.8   | 1.0  | .2    |      |      |       |
| 12    | 1.4  | 1.8   | 1.9  | 1.7  | 1.8   | 1.5  | 1.7   | 1.0  | .2    |      |      |       |
| 13    | 1.6  | 1.8   | 2.0  | 1.8  | 1.8   | 1.3  | 1.5   | 1.0  | .2    |      |      |       |
| 14    | 1.5  | 1.7   | 2.0  | 1.7  | 2.1   | 1.3  | 1.5   | .9   | .2    |      |      |       |
| 15    | 1.5  | 1.6   | 1.9  | 1.6  | 2.1   | 1.3  | 1.6   | .9   | .2    |      |      |       |
| 16    | 1.6  | 1.6   | 2.0  | 1.6  | 2.1   | 1.7  | 1.5   | .9   | .2    |      |      |       |
| 17    | 1.6  | 1.6   | 1.9  | 1.6  | 2.0   | 2.2  | 1.5   | 1.1  | .1    |      |      |       |
| 18    | 1.8  | 1.6   | 2.0  | 1.6  | 2.1   | 1.9  | 1.5   | 1.1  | .1    |      |      |       |
| 19    | 1.7  | 1.6   | 2.0  | 1.6  | 2.0   | 1.9  | 1.5   | 1.2  | .1    |      |      |       |
| 20    | 1.7  | 1.6   | 2.0  | 1.6  | 2.0   | 1.9  | 1.5   | 1.2  | .1    |      |      |       |
| 21    | 1.7  | 1.5   | 2.0  | 1.6  | 2.1   | 1.9  | 1.5   | 1.1  | .1    |      |      |       |
| 22    | 1.7  | 1.5   | 1.9  | 1.6  | 2.0   | 1.9  | 1.5   | 1.0  | .1    |      |      |       |
| 23    | 1.7  | 1.6   | 1.8  | 1.6  | 2.2   | 2.0  | 1.5   | .9   | .1    |      |      |       |
| 24    | 1.7  | 1.6   | 1.8  | 1.6  | 2.1   | 2.0  | 1.4   | .4   | 0     |      |      |       |
| 25    | 1.7  | 1.7   | 1.8  | 1.6  | 2.0   | 2.1  | 1.4   | .3   | 0     |      |      |       |
| 26    | 1.7  | 1.6   | 1.8  | 1.6  | 1.8   | 2.1  | 1.4   | .3   | 0     |      |      |       |
| 27    | 1.7  | 1.6   | 1.8  | 1.5  | 1.8   | 2.1  | 1.4   | .3   | 0     |      |      |       |
| 28    | 1.8  | 1.6   | 1.8  | 1.4  | 1.8   | 2.2  | 1.4   | .3   | 0     |      |      |       |
| 29    | 2.0  | 1.6   | 1.8  | 1.3  | ----- | 1.9  | 1.4   | .3   | 0     |      |      |       |
| 30    | 1.9  | 1.8   | 1.8  | 1.2  | ----- | 1.8  | 1.3   | .3   | 0     |      |      |       |
| 31    | 2.0  | ----- | 1.9  | 1.2  | ----- | 1.8  | ----- | .3   | ----- |      |      |       |
| Total | 47.8 | 49.4  | 60.2 | 50.8 | 54.8  | 55.1 | 47.9  | 27.2 | 4.1   | 0    | 0    | 0     |
| Mean  | 1.54 | 1.65  | 1.94 | 1.64 | 1.96  | 1.78 | 1.60  | 0.88 | 0.14  | 0    | 0    | 0     |
| Max   | 2.0  | 1.8   | 2.1  | 2.0  | 3.5   | 2.2  | 1.9   | 1.2  | 0.3   | 0    | 0    | 0     |
| Min   | 1.0  | 1.5   | 1.8  | 1.2  | 1.5   | 1.3  | 1.3   | 0.3  | 0     | 0    | 0    | 0     |
| Ac-ft | 95   | 98    | 119  | 101  | 109   | 109  | 95    | 54   | 8.1   | 0    | 0    | 0     |

Calendar year 1962: Max 12 Min 0.1 Mean 1.63 Ac-ft 1,180  
 Water year 1962-63: Max 3.5 Min 0 Mean 1.09 Ac-ft 788

Note---No gage-height record May 8-15.

11-1022.5. Mission Creek below Whittier Narrows Dam, Calif.

Location--Lat 34°01'15", long 118°04'15", near north boundary of Paso de Bartolo Grant, on left bank about 500 ft downstream from axis of Whittier Narrows Dam, and 1.4 miles north of Pico, Los Angeles County.

Records available--December 1955 to September 1963.

Gage--Water-stage recorder and 4-ft Parshall flume. Datum of gage is 187.1 ft above mean sea level (Corps of Engineers Survey).

Extremes--Maximum discharge during year, 11 cfs Feb. 9 (gage height, 0.77 ft); no flow May 27 to Sept. 30.  
1955-63: Maximum daily discharge, 18 cfs Jan. 6, 1959; no flow for many days in most years.

Remarks--Records fair. Discharge measurements generally made once a week during period of flow. Flow is almost entirely from ground-water seepage. At times flow regulated above station by Whittier Narrows Dam.

Cooperation--Thirty-three discharge measurements furnished by Los Angeles County Flood Control District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 13-15)

|    |     |
|----|-----|
| 0  | 0   |
| .1 | .5  |
| .2 | 1.3 |
| .4 | 3.8 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|------|------|------|-------|
| 1     | 0.3  | 0.7   | 0.7  | 1.0  | 0.6   | 1.1  | 1.3   | 0.7  |      |      |      |       |
| 2     | .4   | .6    | .8   | 1.0  | .6    | 1.1  | 1.4   | .7   |      |      |      |       |
| 3     | .4   | .6    | .8   | 1.0  | .6    | 1.1  | 1.4   | .6   |      |      |      |       |
| 4     | .5   | .7    | .8   | 1.0  | .6    | 1.1  | 1.4   | .6   |      |      |      |       |
| 5     | .5   | .7    | .8   | 1.0  | .6    | 1.1  | 1.3   | .6   |      |      |      |       |
| 6     | .5   | .7    | .8   | .9   | .6    | 1.0  | 1.3   | .6   |      |      |      |       |
| 7     | .6   | .7    | .7   | .8   | .6    | .9   | 1.2   | .6   |      |      |      |       |
| 8     | .6   | .7    | .8   | .6   | .6    | 1.0  | 1.1   | .6   |      |      |      |       |
| 9     | .5   | .7    | .8   | .6   | 2.3   | 1.1  | 1.1   | .6   |      |      |      |       |
| 10    | .5   | .7    | .9   | .6   | 3.1   | 1.1  | 1.1   | .5   |      |      |      |       |
| 11    | .5   | .7    | .9   | .6   | 1.4   | 1.2  | 1.0   | .5   |      |      |      |       |
| 12    | .5   | .7    | .9   | .6   | 1.4   | 1.2  | .9    | .4   |      |      |      |       |
| 13    | .5   | .7    | .9   | .5   | 1.3   | 1.2  | .8    | .4   |      |      |      |       |
| 14    | .5   | .7    | .9   | .5   | 1.4   | 1.2  | .8    | .4   |      |      |      |       |
| 15    | .5   | .7    | .9   | .4   | 1.4   | 1.2  | .8    | .4   |      |      |      |       |
| 16    | .5   | .7    | .9   | .4   | 1.3   | 1.6  | .9    | .4   |      |      |      |       |
| 17    | .6   | .7    | .9   | .4   | 1.2   | 2.3  | 1.0   | .5   |      |      |      |       |
| 18    | .7   | .7    | .9   | .4   | 1.2   | 1.7  | 1.0   | .5   |      |      |      |       |
| 19    | .7   | .7    | .9   | .4   | 1.2   | 1.6  | .8    | .5   |      |      |      |       |
| 20    | .7   | .7    | .9   | .4   | 1.2   | 1.4  | .7    | .5   |      |      |      |       |
| 21    | .7   | .7    | .9   | .4   | 1.2   | 1.3  | .9    | .5   |      |      |      |       |
| 22    | .7   | .7    | .9   | .4   | 1.2   | 1.3  | .9    | .5   |      |      |      |       |
| 23    | .8   | .7    | .9   | .4   | 1.2   | 1.4  | .8    | .4   |      |      |      |       |
| 24    | .8   | .7    | .9   | .5   | 1.1   | 1.2  | .8    | .2   |      |      |      |       |
| 25    | .8   | .7    | 1.0  | .5   | 1.1   | 1.2  | .8    | .1   |      |      |      |       |
| 26    | .9   | .7    | 1.0  | .5   | 1.1   | 1.2  | 1.0   | .1   |      |      |      |       |
| 27    | .8   | .7    | 1.0  | .5   | 1.1   | 1.2  | 1.0   | 0    |      |      |      |       |
| 28    | .7   | .7    | 1.0  | .5   | 1.1   | 1.4  | .9    | 0    |      |      |      |       |
| 29    | .7   | .7    | 1.0  | .5   | ----- | 1.3  | .9    | 0    |      |      |      |       |
| 30    | .7   | .7    | 1.0  | .5   | ----- | 1.2  | .7    | 0    |      |      |      |       |
| 31    | .7   | ----- | 1.0  | .6   | ----- | 1.3  | ----- | 0    |      |      |      |       |
| Total | 18.7 | 20.8  | 27.5 | 18.4 | 32.3  | 39.2 | 30.0  | 12.4 | 0    | 0    | 0    | 0     |
| Mean  | 0.60 | 0.69  | 0.89 | 0.59 | 1.15  | 1.26 | 1.00  | 0.40 | 0    | 0    | 0    | 0     |
| Max   | 0.9  | 0.7   | 1.0  | 1.0  | 3.1   | 2.3  | 1.4   | 0.7  | 0    | 0    | 0    | 0     |
| Min   | 0.3  | 0.6   | 0.7  | 0.4  | 0.6   | 0.9  | 0.7   | 0    | 0    | 0    | 0    | 0     |
| Ac-ft | 37   | 41    | 55   | 36   | 64    | 78   | 60    | 25   | 0    | 0    | 0    | 0     |

Calendar year 1962: Max 7.2 Min 0 Mean 1.84 Ac-ft 1,330  
Water year 1962-63: Max 3.1 Min 0 Mean 0.55 Ac-ft 396

## LOS ANGELES RIVER BASIN

191

11-1025. Rio Hondo near Downey, Calif.

Location.--Lat 33°56'46", long 118°09'44", in San Antonio Grant, on left bank 700 ft upstream from Stewart and Gray Road Bridge, 0.6 mile upstream from mouth, and 1.5 miles west of Downey, Los Angeles County.

Drainage area.--143 sq mi, revised (excluding area above Santa Fe Dam).

Records available.--March 1928 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 91.4 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 31, 1951, at site 700 ft downstream at datum 1.5 ft lower.

Average discharge.--35 years, 24.3 cfs (17,590 acre-ft per year); median of yearly mean discharges, 9.7 cfs (7,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,240 cfs Feb. 9 (gage height, 3.98 ft); no flow for most of year.

1928-63: Maximum discharge, 24,400 cfs Mar. 3, 1938 (gage height, 12.0 ft, present datum), from rating curve extended above 10,000 cfs on basis of slope-area measurement; no flow for part of each year.

Remarks.--Flow regulated since January 1956 by Whittier Narrows flood-control reservoir (capacity, 36,160 acre-ft). There are several small flood-control reservoirs (combined capacity, 1,700 acre-ft) and several small 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.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July  | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|-------|------|-------|
| 1     | 0    |       | 0    | 0    | * 11  | 0     | 0.1   | 0.3  | 0.3   | 0     | 0    | 0     |
| 2     | 0    |       | 0    | 0    | .4    | 0     | 0     | * .3 | .5    | 0     | 0    | 0     |
| 3     | 0    |       | 1.2  | 0    | .1    | 0     | 0     | .2   | .5    | 0     | 0    | 0     |
| 4     | 0    |       | .4   | 0    | 0     | 0     | 0     | .2   | .5    | 0     | 0    | 20    |
| 5     | 0    |       | .3   | 0    | 0     | 0     | 0     | .2   | .5    | 0     | 0    | * .3  |
| 6     | 2.4  |       | * .4 | 0    | 0     | 0     | 0     | .2   | * .4  | 0     | 0    | 0     |
| 7     | 0    |       | .5   | 0    | 0     | 0     | 0     | 0    | .4    | 0     | 0    | 0     |
| 8     | 0    |       | 0    | 0    | 0     | 0     | .6    | 0    | .5    | 0     | * 0  | 0     |
| 9     | 0    |       | 0    | 0    | 620   | .1    | .1    | 0    | .5    | * 0   | 0    | 0     |
| 10    | 0    |       | 0    | 0    | 210   | .1    | 0     | 0    | .5    | .2    | 0    | 0     |
| 11    | 0    |       | 0    | 0    | 12    | 0     | 0     | 0    | 13    | 0     | 0    | 0     |
| 12    | 0    |       | 0    | 0    | 2.0   | 0     | 0     | 0    | .6    | 0     | .1   | 0     |
| 13    | 0    |       | 0    | 0    | 3.0   | .1    | 0     | 0    | .1    | 0     | .2   | * 0   |
| 14    | .1   |       | 0    | 0    | * 38  | .3    | 33    | 0    | 0     | 0     | .3   | 0     |
| 15    | .4   |       | 0    | 0    | 0     | 8.6   | * 3.4 | 0    | 0     | 0     | 0    | 0     |
| 16    | 0    |       | 0    | 0    | .1    | * 259 | 0     | 0    | 0     | 0     | 0    | 0     |
| 17    | 0    |       | 0    | * 0  | 0     | 48    | .4    | 0    | 0     | 0     | 0    | * 84  |
| 18    | * .5 |       | 0    | 0    | 0     | .2    | 0     | 0    | 0     | * 0   | 0    | * 1.6 |
| 19    | .2   |       | 0    | 0    | 0     | 0     | 0     | 0    | 0     | 0     | 0    | 20    |
| 20    | 0    |       | 0    | 0    | 0     | 0     | 9.4   | 0    | 0     | 0     | 0    | .4    |
| 21    | 0    |       | 0    | 0    | 0     | 0     | * 14  | 0    | 0     | 0     | 0    | 0     |
| 22    | 0    |       | 0    | 0    | 0     | 0     | 0     | 0    | 0     | 0     | 0    | 0     |
| 23    | 0    |       | 0    | 0    | 0     | * 30  | 0     | 0    | 0     | 0     | 0    | 0     |
| 24    | 0    |       | 0    | 0    | 0     | .2    | 0     | 0    | 0     | 0     | 0    | 0     |
| 25    | 0    |       | 0    | 0    | 0     | 0     | .1    | 0    | 0     | 0     | 0    | 0     |
| 26    | 0    |       | 0    | 0    | 0     | 0     | * 93  | 0    | 0     | 0     | 0    | 0     |
| 27    | 0    |       | 0    | 0    | 0     | 0     | .2    | 0    | 0     | 0     | 0    | 0     |
| 28    | 0    |       | 0    | 0    | 0     | * 71  | .1    | 0    | 0     | 0     | 0    | 0     |
| 29    | 0    |       | 0    | 0    | ----- | .3    | .1    | 0    | 0     | 0     | 0    | 0     |
| 30    | 0    |       | 0    | 0    | ----- | .2    | .2    | .2   | 0     | 0     | 0    | 0     |
| 31    | .2   | ----- | 0    | 32   | ----- | .2    | ----- | .3   | ----- | 0     | 0    | ----- |
| Total | 3.8  | 0     | 2.8  | 32   | 896.6 | 418.3 | 154.7 | 1.9  | 18.3  | 0.2   | 0.6  | 126.3 |
| Mean  | 0.12 | 0     | 0.09 | 1.03 | 32.0  | 13.5  | 5.16  | 0.06 | 0.61  | 0.006 | 0.02 | 4.21  |
| Max   | 2.4  | 0     | 1.2  | 32   | 620   | 259   | 93    | 0.3  | 13    | 0.2   | 0.3  | 84    |
| Min   | 0    | 0     | 0    | 0    | 0     | 0     | 0     | 0    | 0     | 0     | 0    | 0     |
| Ac-ft | 7.5  | 0     | 5.6  | 63   | 1,780 | 830   | 307   | 3.8  | 36    | 0.4   | 1.2  | 251   |

Calendar year 1962: Max 2,080 Min 0 Mean 29.5 Ac-ft 21,360  
 Water year 1962-63: Max 620 Min 0 Mean 4.54 Ac-ft 3,290

\* Discharge measurement or observation of no flow made on this day.  
 Note.--No gage-height record Feb. 16-20, June 13-20.

## LOS ANGELES RIVER BASIN

11-1030. Los Angeles River at Long Beach, Calif.

Location.--Lat 33°49'05", long 118°12'15", in Los Cerritos Grant, on right bank 5,000 ft upstream from Willow Street, 3.4 miles north of Long Beach, Los Angeles County, and 3.7 miles upstream from mouth.

Drainage area.--832 sq mi.

Records available.--December 1928 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 11.91 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to Oct. 31, 1931, at site 3 miles downstream at different datum. Oct. 31, 1931, to Jan. 19, 1956, at site 2 miles downstream at different datum.

Average discharge.--34 years (1929-63), 137 cfs (99,180 acre-ft per year); median of yearly mean discharges, 87 cfs (63,000 acre-ft per year).

Extremes.--Maximum discharge during year, 31,400 cfs Feb. 9 (gage height, 8.18 ft); minimum daily, 1.2 cfs Sept. 15. 1928-63: Maximum discharge, 99,000 cfs Mar. 2, 1938, on basis of records for stations upstream; no flow at times in 1929-30, 1934.

Remarks.--Discharge measurements made once a week. 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), 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.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.    | Nov.    | Dec.    | Jan.    | Feb.     | Mar.    | Apr.    | May     | June  | July    | Aug.    | Sept.   |
|---------------------|---------|---------|---------|---------|----------|---------|---------|---------|-------|---------|---------|---------|
| 1                   | 15      | 14      | 14      | 9.0     | 525      | 6.8     | 12      | 18      | 12    | 13      | 23      | 2.6     |
| 2                   | 17      | 14      | 11      | 9.0     | 171      | 6.8     | 19      | 9.5     | 11    | 16      | 17      | 2.0     |
| 3                   | 15      | 12      | 11      | 12      | 15       | 3.6     | 19      | 6.0     | 14    | 18      | 14      | 3.1     |
| 4                   | 13      | 9.5     | 15      | 12      | 12       | 3.8     | 12      | 5.7     | 13    | 13      | 13      | 289     |
| 5                   | 14      | 11      | 16      | 12      | 17       | 5.3     | 15      | 3.8     | 13    | 9.5     | 16      | 113     |
| 6                   | 15      | 15      | 15      | 10      | 17       | 5.3     | 12      | 7.2     | 12    | 12      | 23      | 18      |
| 7                   | 10      | 14      | 15      | 12      | 10       | 10      | 8.5     | 13      | 12    | 10      | 22      | 10      |
| 8                   | 9.0     | 12      | 12      | 12      | 4.1      | 10      | 42      | 12      | 12    | 12      | 19      | 6.8     |
| 9                   | 14      | 13      | 9.5     | 16      | 5.480    | 31      | 51      | 15      | 10    | 16      | 16      | 6.4     |
| 10                  | 12      | 12      | 12      | 20      | 3.300    | 59      | 23      | 11      | 12    | 16      | 14      | 4.5     |
| 11                  | 13      | 9.5     | 14      | 14      | 299      | 13      | 15      | 9.0     | 156   | 16      | 12      | 1.4     |
| 12                  | 16      | 10      | 15      | 12      | 71       | 13      | 16      | 8.5     | 42    | 17      | 12      | 6.0     |
| 13                  | 12      | 12      | 15      | 9.5     | 50       | 15      | 12      | 9.5     | 16    | 14      | 17      | 1.4     |
| 14                  | 11      | 14      | 13      | 12      | 703      | 14      | 707     | 12      | 12    | 12      | 16      | 1.8     |
| 15                  | 35      | 13      | 13      | 15      | 84       | 104     | 212     | 12      | 12    | 14      | 18      | 1.2     |
| 16                  | 11      | 12      | 15      | 16      | 17       | 2.250   | 26      | 12      | 12    | 18      | 19      | 1.8     |
| 17                  | 10      | 10      | 15      | 15      | 12       | 1.450   | 45      | 11      | 12    | 16      | 13      | 603     |
| 18                  | 13      | 9.5     | 16      | 16      | 10       | 125     | 17      | 9.0     | 16    | 16      | 12      | 365     |
| 19                  | 11      | 10      | 16      | 12      | 12       | a 50    | 15      | 7.6     | 16    | 19      | 14      | 339     |
| 20                  | 9.5     | 14      | 16      | 10      | 12       | a 35    | 12      | 9.5     | 15    | 16      | 19      | 94      |
| 21                  | 6.4     | 16      | 16      | 12      | 13       | 20      | 435     | 12      | 15    | 12      | 18      | 27      |
| 22                  | 7.2     | 13      | 14      | 16      | 10       | 19      | 27      | 12      | 17    | 12      | 19      | 19      |
| 23                  | 11      | 12      | 12      | 16      | 9.0      | 786     | 20      | 12      | 14    | 16      | 19      | 20      |
| 24                  | 12      | a 9     | 10      | 15      | 8.0      | a 100   | 19      | 13      | 18    | 19      | 15      | 10      |
| 25                  | 12      | a 9     | 9.5     | 14      | 10       | a 50    | 17      | 12      | 26    | 21      | 12      | 2.6     |
| 26                  | 12      | a 14    | 10      | 15      | 13       | a 20    | 1,700   | 13      | 21    | 21      | 14      | 7.2     |
| 27                  | 9.0     | a 14    | 12      | 12      | 7.6      | 16      | 76      | 15      | 23    | 19      | 14      | 12      |
| 28                  | 9.0     | a 14    | 12      | 12      | 7.2      | 1,740   | 17      | 19      | 21    | 16      | 15      | 10      |
| 29                  | 11      | a 15    | 12      | 15      | -----    | 58      | 18      | 17      | 19    | 13      | 12      | 8.0     |
| 30                  | 15      | 16      | 10      | 15      | -----    | 40      | 23      | 12      | 19    | 19      | 7.6     | 9.0     |
| 31                  | 15      | -----   | 9.5     | 443     | -----    | 20      | -----   | 10      | ----- | 22      | 4.1     | -----   |
| Total               | 3 951.1 | 3 722.5 | 4 055.5 | 8 405.5 | 10 898.9 | 7 079.6 | 3 642.5 | 3 488.3 | 6 207 | 4 833.5 | 4 787.7 | 2 007.4 |
| Mean                | 12.7    | 12.4    | 13.1    | 27.1    | 389      | 228     | 121     | 11.2    | 20.7  | 15.6    | 15.4    | 66.9    |
| Max                 | 35      | 16      | 16      | 443     | 5,480    | 2,250   | 1,700   | 19      | 156   | 22      | 23      | 603     |
| Min                 | 6.4     | 9.0     | 9.5     | 9.0     | 4.1      | 3.6     | 8.5     | 3.8     | 10    | 9.5     | 4.1     | 1.2     |
| Ac-ft               | 784     | 739     | 804     | 1,670   | 21,620   | 14,040  | 7,220   | 691     | 1,230 | 959     | 949     | 3,980   |
| Calendar year 1962: | Max     | 14,800  | Min     | 2.0     | Mean     | 220     | Ac-ft   | 159,100 |       |         |         |         |
| Water year 1962-63: | Max     | 5,480   | Min     | 1.2     | Mean     | 75.5    | Ac-ft   | 54,690  |       |         |         |         |

a No gage-height record.

Location.--Lat 33°59'48", long 118°24'07", in La Ballona Grant, on downstream side of Sawtelle Boulevard Bridge, 1.7 miles south of Culver City, Los Angeles County, and 4 miles upstream from mouth.

Drainage area--89.5 sq mi (revised), excludes that of Sepulveda Creek. Prior to January 1951, 111 sq mi, change due to tributary channel realignment.

Gage.--Water-stage recorder. Datum of gage is 11.06 ft above mean sea level (levels by Los Angeles County Flood Control District). Prior to May 14, 1936, at site 1 mile downstream at different datum. May 14, 1936, to Oct. 23, 1961, at datum 0.2 ft higher.

Extremes.--Maximum discharge during year, 12,100 cfs Mar. 16 (gage height, 9.44 ft); minimum daily, 3.2 cfs Dec. 23. 1928-63: Maximum discharge, 19,000 cfs Mar. 2, 1938 (gage height, 15.4 ft, present datum); no flow in parts of some years.

Remarks---Discharge measurements generally made once a week. Occasional discharge of imported Owens River water from several distribution reservoirs of the City of Los Angeles Department of Water and Power into the creek above station. Some small pumping diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |       |       |       |       |         |         |         |       |       |       |       |       |
|--|-------|-------|-------|-------|---------|---------|---------|-------|-------|-------|-------|-------|
| Day  | Oct.  | Nov.  | Dec.  | Jan.  | Feb.    | Mar.    | Apr.    | May   | June  | July  | Aug.  | Sept. |
| 1  | 10    | 14    | 6.7   | 5.3   | 11.4    | 8.1     | 9.5     | 8.1   | 9.5   | 7.4   | 10    | 7.4   |
| 2  | 14    | 13    | 5.3   | 8.1   | 9.5     | 7.4     | 8.1     | 7.4   | 8.1   | 9.5   | 14    | 8.1   |
| 3  | 10    | 10    | 7.4   | 14    | 7.4     | 5.3     | 8.8     | 7.4   | 10    | 12    | 10    | 8.8   |
| 4  | 9.5   | 9.5   | 8.1   | 6.8   | 8.1     | 8.1     | 9.5     | 6.7   | 8.1   | 7.4   | 8.8   | 168   |
| 5  | 13    | 13    | 9.5   | 8.7   | 6.7     | 10      | 8.1     | 7.4   | 9.5   | 9.5   | 14    | 8.8   |
| 6  | 8.8   | 9.5   | 9.5   | 6.7   | 6.7     | 10      | 8.1     | 12    | 9.5   | 8.8   | 13    | 7.4   |
| 7  | 8.8   | 12    | 12    | 8.1   | 7.4     | 8.8     | 9.5     | 13    | 10    | 8.1   | 13    | 6.7   |
| 8  | 10    | 10    | 8.1   | 8.8   | 7.4     | 9.5     | 28      | 12    | 10    | 12    | 37    | 4.6   |
| 9  | 12    | 12    | 8.1   | 9.5   | 1,940   | 116     | 7.4     | 13    | 8.8   | 12    | 13    | 6.0   |
| 10   | 12    | 8.8   | 12    | 15    | 688     | 6.0     | 10      | 10    | 12    | 10    | 10    | 5.3   |
| 11   | 12    | 7.4   | 12    | 8.8   | 17      | 6.0     | 10      | 13    | 33    | 10    | 10    | 6.7   |
| 12   | 12    | 7.4   | 10    | 6.7   | 10      | 7.4     | 13      | 8.1   | 9.5   | 12    | 10    | 12    |
| 13   | 12    | 8.8   | 8.8   | 6.0   | 20      | 13      | 9.5     | 9.5   | 9.5   | 12    | 10    | 8.8   |
| 14   | 37    | 8.8   | 9.5   | 8.8   | 100     | 19      | 330     | 10    | 8.8   | 10    | 10    | 5.3   |
| 15   | 8.8   | 8.8   | 8.8   | 8.1   | 8.8     | 43      | 44      | 7.4   | 7.4   | 16    | 10    | 5.3   |
| 16   | 8.8   | 8.8   | 7.4   | 7.4   | 8.1     | 1,330   | 8.1     | 10    | 6.0   | 15    | 10    | 7.4   |
| 17   | 8.8   | 6.0   | 9.5   | 8.8   | 8.1     | 128     | 12      | 8.8   | 9.5   | 18    | 12    | 222   |
| 18   | 8.8   | 6.0   | 7.4   | 9.5   | 9.5     | 6.0     | 10      | 7.4   | 8.8   | 12    | 10    | 98    |
| 19   | 8.8   | 6.7   | 6.0   | 7.4   | 10      | 4.6     | 8.8     | 6.0   | 12    | 9.5   | 13    | 86    |
| 20   | 8.1   | 17    | 7.4   | 7.4   | 12      | 5.3     | 136     | 9.5   | 12    | 8.1   | 12    | 7.4   |
| 21   | 7.4   | 15    | 6.7   | 7.4   | 8.8     | 4.6     | 66      | 9.5   | 12    | 7.4   | 12    | 6.0   |
| 22   | 10    | 9.5   | 4.6   | 8.8   | 8.8     | 40      | 6.7     | 9.5   | 13    | 12    | 9.5   | 6.0   |
| 23   | 12    | 9.5   | 3.2   | 9.5   | 8.8     | 244     | 7.4     | 12    | 10    | 14    | 6.7   | 7.4   |
| 24   | 9.5   | 7.4   | 6.7   | 9.5   | 9.5     | 6.0     | 7.4     | 10    | 16    | 12    | 6.0   | 8.8   |
| 25   | 9.5   | 4.6   | 11    | 10    | 13      | 8.1     | 59      | 8.8   | 16    | 12    | 6.0   | 10    |
| 26   | 10    | 9.5   | 6.7   | 10    | 10      | 8.8     | 440     | 7.4   | 13    | 13    | 9.5   | 15    |
| 27   | 10    | 12    | 8.1   | 7.4   | 8.8     | 9.5     | 6.7     | 8.8   | 12    | 10    | 9.5   | 17    |
| 28   | 7.4   | 13    | 10    | 8.8   | 8.8     | 754     | 5.3     | 8.1   | 9.5   | 8.8   | 10    | 18    |
| 29   | 10    | 8.1   | 8.1   | 10    | -----   | 9.5     | 7.4     | 9.5   | 8.8   | 13    | 10    | 16    |
| 30   | 13    | 7.4   | 9.5   | 12    | -----   | 5.3     | 9.5     | 8.8   | 5.3   | 10    | 12    | 18    |
| 31   | 17    | ----- | 7.4   | 316   | -----   | 5.3     | -----   | 12    | ----- | 10    | 7.4   | ----- |
| Total  | 349.0 | 293.5 | 255.5 | 579.3 | 3,075.2 | 2,846.6 | 1,303.8 | 291.1 | 327.6 | 341.5 | 348.4 | 812.2 |
| Mean   | 11.3  | 9.78  | 8.24  | 18.7  | 110     | 91.8    | 43.5    | 9.39  | 10.9  | 11.0  | 11.2  | 27.1  |
| Max  | 37    | 17    | 12    | 316   | 1,940   | 1,330   | 440     | 13    | 33    | 18    | 37    | 222   |
| Min  | 7.4   | 4.6   | 3.2   | 5.3   | 6.7     | 4.6     | 5.3     | 6.0   | 5.3   | 7.4   | 6.0   | 4.6   |
| Ac-ft  | 692   | 582   | 507   | 1,150 | 6,100   | 5,650   | 2,590   | 577   | 650   | 677   | 691   | 1,610 |
| Calendar year 1962: Max 3,490 Min 3.2 Mean 62.2 Ac-ft 45,060                   |       |       |       |       |         |         |         |       |       |       |       |       |
| Water year 1962-63: Max 1,940 Min 3.2 Mean 29.7 Ac-ft 21,480                   |       |       |       |       |         |         |         |       |       |       |       |       |

## TOPANGA CREEK BASIN

11-1040. Topanga Creek near Topanga Beach, Calif.

Location.--Lat 34°03'50", long 118°35'10", in Boca de Santa Monica Grant, on downstream side of right abutment of highway bridge, 1.7 miles north of Topanga Beach, Los Angeles County.

Drainage area.--18.0 sq mi (revised).

Records available.--January 1930 to September 1938, October 1939 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 265.60 ft 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 upstream at different datum.

Average discharge.--32 years, 5.01 cfs (3,630 acre-ft per year); median of yearly mean discharges, 1.7 cfs (1,200 acre-ft per year).

Extremes.--Maximum discharge during year, 569 cfs Feb. 9 (gage height, 5.11 ft); minimum daily, 0.02 cfs Sept. 29. 1930-38, 1939-63: Maximum discharge, 7,960 cfs Mar. 2, 1938; no flow at times in some years.

Remarks.--Discharge measurements made once a week. No regulation or diversion above station.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1                       | 0.07  | 0.07  | 0.07  | 0.07  | 0.6   | 0.1   | 0.4   | a 0.4 | 0.2   | 0.1   | 0.07  | 0.04  |
| 2                       | .07   | .07   | .07   | .07   | .2    | .1    | a .4  | .4    | .2    | .1    | .07   | .04   |
| 3                       | .07   | .1    | .05   | .07   | .2    | .1    | a .3  | .4    | .2    | .1    | .07   | .04   |
| 4                       | .07   | .1    | .05   | .07   | .2    | .1    | .3    | .4    | .2    | .1    | .07   | .1    |
| 5                       | .07   | .1    | .05   | .07   | .1    | .1    | .3    | .3    | .1    | .1    | .05   | .07   |
| 6                       | .07   | .1    | .05   | .07   | .1    | .1    | .2    | .3    | .1    | .07   | .05   | .07   |
| 7                       | .07   | .1    | .05   | .07   | .1    | .1    | .2    | .3    | .1    | .07   | .05   | .07   |
| 8                       | .07   | .1    | .07   | .07   | .1    | .1    | .3    | .3    | .1    | .07   | .07   | .05   |
| 9                       | .07   | .1    | .1    | .1    | 66    | .1    | .3    | .4    | .1    | .07   | .05   | .05   |
| 10                      | .07   | .1    | .1    | .1    | 23    | .2    | .2    | .3    | .1    | .07   | .05   | .04   |
| 11                      | .07   | .1    | .1    | .1    | 2.7   | .2    | .2    | .4    | .3    | .07   | .05   | .04   |
| 12                      | .07   | .1    | .1    | .1    | .7    | .2    | .2    | .2    | .3    | .07   | .05   | .04   |
| 13                      | .07   | .1    | .1    | .1    | .6    | .1    | .2    | .2    | .2    | .07   | .05   | .05   |
| 14                      | .2    | .1    | .1    | .1    | .6    | .1    | 1.4   | .2    | .2    | .07   | .05   | .05   |
| 15                      | .1    | .1    | .1    | .1    | a .4  | .2    | .6    | .2    | .1    | .1    | .05   | .04   |
| 16                      | .1    | .1    | .1    | .1    | a .4  | 40    | .4    | .2    | .1    | .1    | .04   | .04   |
| 17                      | .1    | .1    | .1    | .2    | a .3  | 6.5   | .3    | .2    | .1    | .1    | .04   | .05   |
| 18                      | .1    | .07   | .1    | .2    | a .3  | a 1.3 | .2    | .2    | .1    | .1    | .04   | .07   |
| 19                      | .1    | .05   | .1    | .2    | a .2  | a .8  | .2    | .3    | .1    | .1    | .04   | .7    |
| 20                      | .1    | .07   | .1    | .1    | a .2  | a .6  | .6    | .2    | .1    | .1    | .04   | .2    |
| 21                      | .1    | .07   | .1    | .07   | .2    | .3    | 1.8   | .2    | .1    | .07   | .04   | .1    |
| 22                      | .07   | .1    | .1    | .07   | .2    | .3    | .4    | .2    | .1    | .07   | .04   | .1    |
| 23                      | .07   | .1    | .1    | .05   | .2    | 1.0   | .2    | .2    | .1    | .07   | .04   | .07   |
| 24                      | .07   | .1    | .1    | .07   | .2    | .3    | .2    | .2    | .1    | .07   | .04   | .07   |
| 25                      | .07   | .1    | .1    | .07   | .1    | .2    | .6    | .2    | .1    | .07   | .04   | .07   |
| 26                      | .07   | .1    | .1    | .07   | .2    | .2    | 11    | .2    | .1    | .07   | .04   | .05   |
| 27                      | .05   | .1    | .1    | .07   | .2    | .2    | .7    | .2    | .1    | .07   | .04   | .04   |
| 28                      | .05   | .1    | .1    | .07   | 1     | 20    | .6    | .2    | .1    | .07   | .04   | .04   |
| 29                      | .04   | .1    | .1    | .1    | ----- | 2.0   | .5    | .2    | .1    | .07   | .04   | .02   |
| 30                      | .07   | .07   | .07   | .1    | ----- | .8    | a .4  | .2    | .1    | .07   | .04   | .04   |
| 31                      | .07   | ----- | .07   | .4    | ----- | .6    | ----- | .2    | ----- | .07   | .04   | ----- |
| Total                   | 2.44  | 2.77  | 2.70  | 3.20  | 98.4  | 77.0  | 23.6  | 8.0   | 4.0   | 2.50  | 1.49  | 2.45  |
| Mean                    | 0.079 | 0.092 | 0.087 | 0.103 | 3.51  | 2.48  | 0.79  | 0.26  | 0.13  | 0.081 | 0.048 | 0.082 |
| Max                     | 0.2   | 0.1   | 0.1   | 0.4   | 66    | 40    | 11    | 0.4   | 0.3   | 0.1   | 0.07  | 0.7   |
| Min                     | 0.04  | 0.05  | 0.05  | 0.05  | 0.1   | 0.1   | 0.2   | 0.2   | 0.1   | 0.07  | 0.04  | 0.02  |
| Ac-ft                   | 4.8   | 5.5   | 5.4   | 6.3   | 195   | 153   | 47    | 16    | 7.9   | 5.0   | 3.0   | 4.9   |
| Calendar year 1962: Max | 1,150 | Min   | 0.02  | Mean  | 10.2  | Ac-ft | 7,390 |       |       |       |       |       |
| Water year 1962-63: Max | 66    | Min   | 0.02  | Mean  | 0.626 | Ac-ft | 454   |       |       |       |       |       |

a No gage-height record.



Location.--Lat 34°04'38", long 118°42'03", in SW $\frac{1}{4}$  sec.18, T.1 S., R.17 W., on right bank 700 ft downstream from Cold Creek, 0.2 mile downstream from Crater Camp, and 6 miles southwest of Calabasas.

Records available.--January 1931 to September 1963.

Average discharge.--32 years, 17.8 cfs (12,890 acre-ft per year); median of yearly mean discharges, 6.0 cfs (4,300 acre-ft per year).

Extremes.--Maximum discharge during year, 104 cfs Mar. 16 (gage height, 3.15 ft); minimum daily, 0.03 cfs July 6.  
1931-63: Maximum discharge, 13,600 cfs Mar. 15, 1952 (gage height, 19.1 ft); no flow for periods in some years.

Remarks.--Discharge measurements made once a week. Flow regulated by many small recreational reservoirs.

Cooperation.--Records furnished by Los Angeles County Flood Control District and reviewed by Geological Survey.

| Day                 | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May    | June  | July  | Aug. | Sept. |
|---------------------|------|-------|------|------|-------|-------|-------|--------|-------|-------|------|-------|
| 1                   | 0.3  | 0.2   | 0.3  | 0.4  | 0.4   | 1.0   | 2.8   | 1.5    | 0.8   | 0.5   | 0.3  | 0.3   |
| 2                   | .2   | .2    | .3   | .4   | .4    | 1.0   | 2.4   | 1.5    | .8    | .5    | .3   | .3    |
| 3                   | .2   | .2    | .3   | .4   | .4    | 1.0   | 2.3   | 1.5    | .8    | .4    | .3   | .3    |
| 4                   | .2   | .2    | .3   | .4   | .4    | 1.0   | 2.1   | 1.5    | .8    | .4    | .3   | .3    |
| 5                   | .2   | .2    | .3   | .4   | .5    | 1.0   | 2.0   | 1.7    | .8    | .06   | .2   | .3    |
| 6                   | .2   | .2    | .3   | .4   | .5    | 1.0   | 2.0   | 1.7    | .8    | .03   | .2   | .3    |
| 7                   | .2   | .2    | .3   | .4   | .5    | .8    | 2.0   | 1.7    | .8    | .2    | .3   | .3    |
| 8                   | .2   | .2    | .4   | .4   | .5    | .8    | 1.8   | 1.7    | .8    | .2    | .6   | .2    |
| 9                   | .2   | .2    | .3   | .4   | 18    | .8    | 1.7   | 1.7    | .8    | .3    | .3   | .2    |
| 10                  | .2   | .3    | .3   | .4   | 24    | .8    | 1.7   | 1.5    | .8    | .4    | .3   | .2    |
| 11                  | .2   | .3    | .3   | .4   | 8.4   | .8    | 1.5   | 1.4    | 1.5   | .4    | .3   | .2    |
| 12                  | .2   | .2    | .4   | .3   | 4.0   | .8    | 1.5   | 1.4    | 1.0   | .4    | .2   | .2    |
| 13                  | .2   | .3    | .3   | .3   | 2.3   | .8    | 1.4   | 1.4    | .8    | .4    | .2   | .2    |
| 14                  | .3   | .3    | .3   | .3   | 2.1   | .8    | 1.8   | 1.4    | .8    | .4    | .2   | .2    |
| 15                  | .3   | .2    | .3   | .3   | 1.8   | .8    | 1.7   | 1.4    | .8    | .4    | .2   | .2    |
| 16                  | .2   | .2    | .3   | .4   | 1.7   | 16    | 1.5   | 1.4    | .8    | .4    | .2   | .06   |
| 17                  | .2   | .1    | .3   | .4   | 1.7   | 16    | 1.5   | 1.4    | .8    | .4    | .2   | .06   |
| 18                  | .2   | .1    | .3   | .4   | 1.4   | 3.7   | 1.4   | 1.4    | .8    | .4    | .2   | .06   |
| 19                  | .2   | .2    | .3   | .4   | 1.4   | 2.3   | 1.4   | 1.4    | .8    | .4    | .2   | .3    |
| 20                  | .2   | .2    | .3   | .4   | 1.4   | 1.8   | 1.9   | 1.0    | .8    | .3    | .2   | .2    |
| 21                  | .2   | .3    | .3   | .4   | 1.4   | 1.5   | 2.1   | 1.0    | .8    | .4    | .3   | .2    |
| 22                  | .1   | .4    | .3   | .4   | 1.2   | 1.7   | 1.5   | 1.0    | .6    | .3    | .3   | .2    |
| 23                  | .1   | .4    | .3   | .4   | 1.2   | 2.0   | 1.4   | 1.0    | .6    | .3    | .3   | .2    |
| 24                  | .1   | .4    | .3   | .4   | 1.0   | 1.5   | 1.4   | 1.0    | .6    | .3    | .4   | .3    |
| 25                  | .1   | .3    | .3   | .4   | 1.2   | 1.5   | 2.6   | 1.0    | .6    | .3    | .4   | .3    |
| 26                  | .1   | .3    | .3   | .4   | 1.0   | 1.5   | 7.2   | 1.0    | .6    | .3    | .4   | .2    |
| 27                  | .2   | .4    | .3   | .4   | 1.0   | 1.5   | 2.3   | 1.0    | .6    | .3    | .3   | .2    |
| 28                  | .2   | .4    | .3   | .4   | 1.0   | 11    | 1.8   | 1.0    | .6    | .3    | .3   | .2    |
| 29                  | .2   | .3    | .3   | .4   | ----- | 6.1   | 1.7   | 1.0    | .6    | .3    | .3   | .2    |
| 30                  | .2   | .3    | .3   | .4   | ----- | 4.2   | 1.5   | .8     | .6    | .3    | .3   | .2    |
| 31                  | .2   | ----- | .4   | .6   | ----- | 3.3   | ----- | .8     | ----- | .3    | .3   | ----- |
| Total               | 6.0  | 7.7   | 9.6  | 12.3 | 80.8  | 88.8  | 59.9  | 40.2   | 23.1  | 10.29 | 8.8  | 6.68  |
| Mean                | 0.19 | 0.26  | 0.31 | 0.40 | 2.89  | 2.86  | 2.00  | 1.30   | 0.77  | 0.332 | 0.28 | 0.223 |
| Max                 | 0.3  | 0.4   | 0.4  | 0.6  | .24   | .16   | 7.2   | 1.7    | 1.5   | 0.5   | 0.6  | 0.3   |
| Min                 | 0.1  | 0.1   | 0.3  | 0.3  | 0.4   | 0.8   | 1.4   | 0.8    | 0.6   | 0.03  | 0.2  | 0.06  |
| Ac-ft               | 12   | 15    | 19   | 24   | 160   | 176   | 119   | 80     | 46    | 20    | 17   | 13    |
| Calendar year 1962: | Max  | 3,920 | Min  | 0.1  | Mean  | 36.0  | Ac-ft | 26,080 |       |       |      |       |
| Water year 1962-63: | Max  | 24    | Min  | 0.03 | Mean  | 0.970 | Ac-ft | 701    |       |       |      |       |

## CALLEGUAS CREEK BASIN

11-1070. Honda Barranca near Somis, Calif.

Location.--Lat 34°16'08", long 119°02'56", in Las Posas Grant, on upstream side of left abutment of bridge on Price Road, 1,600 ft upstream from Arroyo Colorado, and 3.1 miles west of Somis, Ventura County.

Drainage area.--2.57 sq mi.

Records available.--June 1954 to September 1963 (discontinued).

Gage.--Water-stage recorder, crest-stage gage, tipping-bucket rain gage, and 10-ft box-culvert control. Altitude of gage is 350 ft (from topographic map).

Average discharge.--9 years, 0.13 cfs (94 acre-ft per year).

Extremes.--Maximum discharge during year, 63 cfs Feb. 9 (gage height, 3.20 ft; no flow for most of year.  
1954-63: Maximum discharge, 450 cfs Feb. 19, 1962 (gage height, 8.21 ft, from crest-stage gage), based on field estimate of peak flow; no flow for most of each year.

Remarks.--Records fair. No regulation or diversion above station. Minor flow in summer months is waste irrigation water.

Monthly precipitation, water year October 1962 to September 1963

| Month                   | Precipitation<br>(inches) |
|-------------------------|---------------------------|
| October.....            | 0                         |
| November.....           | 0                         |
| December.....           | .9                        |
| Calendar year 1962..... | 19.3                      |
| January.....            | 0                         |
| February.....           | 2.5                       |
| March.....              | 1.7                       |
| April.....              | 1.0                       |
| May.....                | .4                        |
| June.....               | .4                        |
| July.....               | 0                         |
| August.....             | 0                         |
| September.....          | .9                        |
| Water year 1962-63..... | 7.8                       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

|                 |                 |
|-----------------|-----------------|
| Jan. 10.....0.1 | Feb. 10.....2.6 |
| 11......1       | Mar. 16.....1.7 |
| 12......1       | 17......6       |
| Feb. 9.....6.8  | 28......3       |
|                 | Apr. 26......1  |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| January 1963.....       | 0.3      | 0.1     | 0       | 0.01 | 0.6                    |
| February.....           | 9.4      | 6.8     | 0       | .34  | 19                     |
| March.....              | 2.6      | 1.7     | 0       | .08  | 5.1                    |
| April.....              | .1       | .1      | 0       | .003 | .2                     |
| Calendar year 1962..... | -        | 110     | 0       | .61  | 444                    |
| Water year 1962-63..... | -        | 6.8     | 0       | .03  | 25                     |

Peak discharge (base, 15 cfs).--Feb. 9 (1845 hrs) 63 cfs (3.20 ft); Mar. 16 (2045 hrs) 19 cfs (2.41 ft).

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

11-1085. Santa Clara River at Los Angeles-Ventura County Line, Calif.

Location.--Lat 34°23'59", long 118°42'14", in San Francisco Grant, on downstream end of old diversion weir on right bank, 0.8 mile west of Los Angeles-Ventura County Line.

Drainage area.--640 sq mi.

Records available.--October 1952 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 794.93 ft above mean sea level, datum of 1929.

Average discharge.--11 years, 13.1 cfs (9,480 acre-ft per year); median of yearly mean discharges, 6.7 cfs (4,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,340 cfs Mar. 16 (gage height, 7.47 ft); minimum daily, 0.2 cfs Sept. 28-30.  
1952-63: Maximum discharge, 9,100 cfs Feb. 11, 1962 (gage height, 9.65 ft), from rating curve extended above 2,200 cfs on basis of slope-area measurement of peak flow; no flow at times in some years.

Remarks.--Records good except those above 10 cfs, which are fair. Discharge measurements generally made twice a week. Flow at station affected by pumping from wells along stream for irrigation.

Cooperation.--Gage-height record and 59 discharge measurements furnished by Ventura County Water Resources Division; 25 discharge measurements furnished by Los Angeles County Flood Control District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 9-12, Feb. 19 to Mar. 20, Mar. 28 to Apr. 19, Apr. 26-28)

Oct. 1 to Mar. 16

Mar. 17 to Sept. 30

|     |     |     |    |     |     |     |    |
|-----|-----|-----|----|-----|-----|-----|----|
| 4.5 | 0.4 | 4.9 | 15 | 4.0 | 0.2 | 4.6 | 16 |
| 4.6 | 1.4 | 5.0 | 25 | 4.1 | .7  | 4.8 | 32 |
| 4.7 | 3.7 | 5.2 | 54 | 4.2 | 1.8 | 5.0 | 55 |
| 4.8 | 8.1 | 5.4 | 98 | 4.3 | 3.6 | 5.2 | 90 |
|     |     |     |    | 4.4 | 6.4 |     |    |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 0.5  | 0.7   | 1.0  | 1.1  | 1.9   | 1.4   | 2.1   | 3.6  | 1.9   | 0.9  | 0.5  | 0.6   |
| 2     | .5   | .7    | 1.0  | 1.1  | 1.4   | 1.4   | 3.0   | 3.6  | 1.9   | .9   | .5   | .6    |
| 3     | .5   | .7    | 1.0  | 1.3  | 1.6   | 1.4   | 2.8   | 3.4  | 1.9   | .9   | .5   | .6    |
| 4     | .5   | .7    | .9   | 1.3  | 1.7   | 1.4   | 2.8   | 3.2  | 1.9   | .9   | .5   | .7    |
| 5     | .5   | .8    | .7   | 1.3  | 1.6   | 1.6   | 2.8   | 3.0  | 2.1   | 1.0  | .5   | .6    |
| 6     | .5   | .8    | .7   | 1.3  | 1.6   | 1.7   | 2.8   | 2.8  | 2.2   | 1.0  | .5   | .6    |
| 7     | .5   | .6    | .7   | 1.4  | 1.6   | 1.7   | 3.0   | 3.0  | 2.1   | .9   | .5   | .5    |
| 8     | .4   | .5    | .8   | 1.4  | 1.7   | 1.3   | 3.2   | 3.0  | 1.9   | .8   | .5   | .4    |
| 9     | .4   | .5    | .9   | 1.3  | 5.3   | 1.6   | 3.0   | 3.2  | 1.9   | .8   | .5   | .3    |
| 10    | .5   | .6    | .9   | 1.3  | 4.5   | 1.6   | 3.0   | 3.2  | 1.9   | .7   | .5   | .3    |
| 11    | .6   | .6    | 1.0  | 1.3  | 2.4   | 1.4   | 2.8   | 3.0  | 2.2   | .6   | .5   | .4    |
| 12    | .6   | .7    | 1.1  | 1.3  | 2.4   | 1.6   | 2.8   | 3.2  | 2.6   | .6   | .5   | .5    |
| 13    | .6   | 1.0   | 1.3  | 1.3  | 1.9   | 1.6   | 2.6   | 3.2  | 3.0   | .6   | .5   | .5    |
| 14    | 1.1  | 1.0   | 1.3  | 1.4  | 1.9   | 1.6   | 3.0   | 3.0  | 2.6   | .6   | .5   | .4    |
| 15    | .6   | 1.0   | 1.1  | 1.4  | 1.9   | 1.9   | 3.4   | 2.8  | 2.1   | .6   | .5   | .4    |
| 16    | .5   | .9    | 1.0  | 1.4  | 1.9   | 9.4   | 3.2   | 2.6  | 1.9   | .7   | .4   | .4    |
| 17    | .5   | .9    | 1.0  | 1.4  | 1.9   | 7.7   | 3.2   | 2.4  | 1.8   | .8   | .4   | .6    |
| 18    | .5   | 1.0   | 1.0  | 1.4  | 1.9   | 3.0   | 3.2   | 2.4  | 1.9   | .9   | .4   | .7    |
| 19    | .6   | 1.1   | 1.0  | 1.4  | 1.9   | 2.2   | 3.0   | 2.6  | 1.9   | .8   | .4   | 1.5   |
| 20    | .6   | 1.1   | 1.0  | 1.3  | 1.7   | 2.4   | 2.6   | 2.6  | 1.9   | .7   | .4   | .7    |
| 21    | .5   | .8    | 1.0  | 1.3  | 1.7   | 2.8   | 3.6   | 2.6  | 1.8   | .6   | .4   | .6    |
| 22    | .5   | .9    | 1.0  | 1.4  | 1.6   | 2.8   | 3.2   | 2.6  | 1.8   | .5   | .4   | .5    |
| 23    | .6   | 1.0   | 1.1  | 1.6  | 1.6   | 2.8   | 3.0   | 2.6  | 1.8   | .5   | .4   | .4    |
| 24    | .7   | 1.0   | 1.0  | 1.6  | 1.4   | 2.8   | 3.0   | 2.4  | 1.6   | .5   | .4   | .4    |
| 25    | .8   | 1.0   | 1.0  | 1.6  | 1.3   | 2.8   | 3.4   | 2.4  | 1.6   | .5   | .3   | .3    |
| 26    | .8   | 1.0   | 1.1  | 1.6  | 1.4   | 2.8   | 8.2   | 2.4  | 1.6   | .5   | .3   | .3    |
| 27    | .7   | 1.0   | 1.1  | 1.7  | 1.4   | 3.0   | 7.8   | 2.4  | 1.6   | .5   | .4   | .3    |
| 28    | .7   | 1.1   | 1.1  | 1.7  | 1.4   | 7.4   | 5.6   | 2.4  | 1.2   | .5   | .4   | .2    |
| 29    | .6   | 1.3   | 1.1  | 1.7  | ----- | 2.8   | 4.2   | 2.2  | 1.1   | .5   | .5   | .2    |
| 30    | .5   | 1.1   | 1.1  | 1.7  | ----- | 2.6   | 3.9   | 2.2  | 1.0   | .5   | .6   | .2    |
| 31    | .5   | ----- | 1.1  | 2.8  | ----- | 2.6   | ----- | 2.2  | ----- | .5   | .6   | ----- |
| Total | 17.9 | 26.1  | 31.1 | 45.1 | 142.7 | 303.6 | 178.0 | 86.2 | 56.7  | 21.3 | 14.2 | 14.7  |
| Mean  | 0.58 | 0.87  | 1.00 | 1.45 | 5.10  | 9.79  | 5.93  | 2.78 | 1.89  | 0.69 | 0.46 | 0.49  |
| Max   | 1.1  | 1.3   | 1.3  | 2.8  | 53    | 94    | 82    | 3.6  | 3.0   | 1.0  | 0.6  | 1.5   |
| Min   | 0.4  | 0.5   | 0.7  | 1.1  | 1.3   | 1.3   | 2.1   | 2.2  | 1.0   | 0.5  | 0.3  | 0.2   |
| Ac-ft | 36   | 52    | 62   | 89   | 283   | 602   | 353   | 171  | 112   | 42   | 28   | 29    |

Calendar year 1962: Max 5,470 Min 0.1 Mean 39.3 Ac-ft 28,460  
Water year 1962-63: Max 94 Min 0.2 Mean 2.57 Ac-ft 1,860

Peak discharge (base, 750 cfs).--Feb. 9 (2330 hrs) 718 cfs (6.90 ft); Mar. 16 (2330 hrs) 1,340 cfs (7.47 ft).

## SANTA CLARA RIVER BASIN

11-1096. Piru Creek above Lake Piru, Calif.

Location--Lat 34°31'40", long 118°45'21", in SE 1/4 sec. 10, T.5 N., R.18 W., on right bank at Blue Point, 1.0 mile downstream from Agua Blanca Creek, 4.6 miles upstream from Santa Felicia Dam, and 8.0 miles northeast of Piru.

Drainage area--371 sq mi.

Records available--October 1955 to September 1963.

Gage--Water-stage recorder. Datum of gage is 1,063.62 ft above mean sea level (levels by Ventura County Water Resources Division).

Average discharge--8 years, 39.5 cfs (28,600 acre-ft per year).

Extremes--Maximum discharge during year, 512 cfs Feb. 9 (gage height, 3.73 ft); no flow Aug. 26 to Sept. 15.

1955-63: Maximum discharge, 12,200 cfs Feb. 10, 1962 (gage height, 12.20 ft), from rating curve extended above 4,000 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

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

Cooperation--Fourteen discharge measurements furnished by the Ventura County Water Resources Division.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 23-28, June 24 to Sept. 30)

Oct. 1 to Feb. 8

Feb. 9 to Sept. 30

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 0.9 | 1.0 | 1.0 | 0   | 1.6 | 16  |
| 1.0 | 2.3 | 1.1 | .3  | 1.8 | 32  |
| 1.1 | 4.2 | 1.2 | 1.4 | 2.1 | 65  |
| 1.3 | 10  | 1.3 | 3.5 | 2.5 | 135 |
| 1.5 | 22  | 1.4 | 6.6 | 3.1 | 285 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 1.9   | 4.2   | 8.3   | 9.4   | 19    | 14    | 31    | 21    | 7.0   | 1.4  | 0.2  | 0     |
| 2     | 2.3   | 4.2   | 8.3   | 9.8   | 15    | 14    | 29    | 19    | 6.6   | 1.3  | .2   | 0     |
| 3     | 2.9   | 4.5   | 8.3   | 10    | 13    | 14    | 27    | 19    | 6.3   | 1.2  | .2   | 0     |
| 4     | 3.6   | 4.7   | 8.3   | 10    | * 13  | 14    | 26    | 18    | 6.0   | 1.2  | .2   | A0    |
| 5     | 3.8   | 5.0   | 8.3   | 10    | 11    | 14    | 25    | 17    | 6.0   | 1.1  | .2   | A0    |
| 6     | 3.8   | 5.0   | 8.3   | 10    | 11    | 14    | 24    | 16    | 6.6   | 1.1  | .2   | A0    |
| 7     | 3.8   | 5.0   | 8.3   | 10    | 10    | 14    | 23    | 15    | 6.6   | 1.1  | .2   | 0     |
| 8     | 3.6   | 5.0   | 8.3   | 10    | 10    | 14    | 21    | 15    | 6.6   | 1.1  | .2   | 0     |
| 9     | 3.6   | 5.0   | 8.3   | 10    | 123   | 13    | 19    | 16    | 6.3   | 1.1  | .2   | 0     |
| 10    | 3.8   | 5.2   | 8.3   | 11    | 261   | 13    | 17    | 15    | 6.3   | 1.0  | .2   | 0     |
| 11    | 4.0   | 5.2   | *8.3  | 11    | * 94  | *13   | 17    | 14    | 7.0   | 1.0  | .2   | 0     |
| 12    | 4.2   | 5.5   | 8.3   | 10    | 68    | 12    | 16    | 13    | 7.5   | 1.3  | *.2  | 0     |
| 13    | 4.2   | 5.8   | 8.3   | 8.3   | 57    | 12    | 15    | *12   | 7.9   | 1.1  | .2   | 0     |
| 14    | 5.0   | 6.0   | 8.7   | *7.5  | 46    | 11    | 17    | 12    | 7.5   | .9   | .2   | 0     |
| 15    | *5.0  | 6.3   | 8.7   | 7.2   | 40    | 11    | *21   | 11    | 6.6   | .6   | .2   | 0     |
| 16    | 5.0   | 6.3   | 9.0   | 7.5   | 34    | 16    | 18    | 10    | 5.7   | .6   | .1   | A.1   |
| 17    | 5.0   | 6.3   | 9.0   | 7.9   | 28    | 41    | 17    | 9.2   | *4.4  | .5   | .1   | A.1   |
| 18    | 5.2   | 6.5   | 9.0   | 8.7   | * 21  | 36    | 15    | 9.2   | 4.1   | .5   | .1   | A.1   |
| 19    | 5.5   | *6.8  | 9.0   | 8.7   | 19    | * 26  | 15    | 8.8   | 3.8   | .5   | .1   | A.1   |
| 20    | 5.5   | 6.8   | 9.0   | 8.3   | 18    | 21    | 16    | 8.4   | 3.5   | .4   | .1   | A 2.6 |
| 21    | 5.0   | 6.8   | 9.0   | 7.9   | 17    | 20    | 21    | 8.4   | 3.3   | .4   | .1   | A 2.2 |
| 22    | 4.7   | 6.8   | 9.0   | 7.9   | 15    | 20    | 15    | 8.4   | 3.3   | .4   | .1   | A 1.4 |
| 23    | 4.5   | 7.2   | 9.4   | 8.7   | 15    | 23    | 14    | 8.4   | 3.1   | .4   | .1   | *1.0  |
| 24    | 4.5   | 7.2   | 9.4   | 8.7   | 15    | 22    | 13    | 8.8   | 2.8   | .3   | .1   | .6    |
| 25    | 4.5   | 7.5   | 9.4   | 8.7   | 15    | 21    | 13    | 8.4   | 2.6   | .3   | .1   | .3    |
| 26    | 4.5   | 7.5   | *9.4  | 8.7   | 15    | 21    | 51    | 8.4   | *2.6  | .3   | 0    | A.3   |
| 27    | 4.5   | 7.5   | 9.0   | 8.7   | * 15  | *19   | 29    | 8.4   | 2.6   | .4   | 0    | A.3   |
| 28    | 4.2   | *7.9  | 8.7   | 8.7   | 14    | *70   | 26    | 8.8   | 2.4   | .6   | *0   | A.3   |
| 29    | *4.2  | 7.9   | 8.7   | *8.7  | ----- | 83    | *23   | *8.8  | 2.0   | .2   | 0    | A.2   |
| 30    | 4.2   | 7.9   | 8.7   | 9.8   | ----- | 50    | 21    | 7.9   | 1.6   | *.2  | 0    | *.2   |
| 31    | 4.2   | ----- | 9.0   | 20    | ----- | 38    | ----- | 7.5   | ----- | .2   | 0    | ----- |
| TOTAL | 130.7 | 183.5 | 270.0 | 291.8 | 1,032 | 724   | 635   | 370.8 | 148.6 | 22.6 | 4.0  | 9.8   |
| MEAN  | 4.22  | 6.12  | 8.71  | 9.41  | 36.9  | 23.4  | 21.2  | 12.0  | 4.95  | 0.73 | 0.13 | 0.33  |
| MAX   | 5.5   | 7.9   | 9.4   | 20    | 261   | 83    | 51    | 21    | 7.9   | 1.4  | 0.2  | 2.6   |
| MIN   | 1.9   | 4.2   | 8.3   | 7.2   | 10    | 11    | 13    | 7.5   | 1.6   | 0.2  | 0    | 0     |
| AC-FT | 259   | 364   | 536   | 579   | 2,050 | 1,440 | 1,260 | 735   | 295   | 45   | 7.9  | 19    |

CALENDAR YEAR 1962: MAX 9,250 MIN 1.7 MEAN 114 AC-FT 83,360  
WATER YEAR 1962-63 MAX 261 MIN 0 MEAN 10.5 AC-FT 7,590

Peak discharge (base, 800 cfs)--No peak above base.

\* Discharge measurement made on this day.  
a No gage-height record.

11-1097. Lake Piru near Piru, Calif.

Location.--Lat 34°27'52", long 118°44'57", in Temescal Grant, at Santa Felicia Dam on Piru Creek, on left bank 1,000 ft upstream from left end of dam, 0.5 mile downstream from Santa Felicia Canyon, and 4.2 miles northeast of Piru, Ventura County.

Drainage area.--424 sq mi.

Records available.--May 1955 to September 1963.

Gage.--Staff gage read once daily. Datum of gage is mean sea level (levels by United Water Conservation District). Prior to Jan. 27, 1956, reference point at intake tower at same datum.

Extremes.--Maximum contents observed during year, 26,121 acre-ft Mar. 18 (elevation, 974.90 ft); minimum contents, 12,648 acre-ft Sept. 30 (elevation, 950.25 ft).

1955-63: Maximum contents observed, 78,483 acre-ft May 19, 1958 (elevation, 1,035.30 ft); lake dry Oct. 25 to Nov. 20, 1961.

Remarks.--Lake is formed by earth-fill dam. Storage began May 20, 1955. Area and capacity ratings are based on surveys made in 1949 and 1956. Dead storage below two 24-inch sluice gates (elevation, 880.0 ft), 74 acre-ft, included in contents. Capacity below spillway level (elevation, 1,055.0 ft), 101,225 acre-ft. 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.

Month-end elevation and contents, water year October 1962 to September 1963

| Date                    | Elevation<br>(feet)† | Contents<br>(acre-feet) | Change in contents<br>(acre-feet) |
|-------------------------|----------------------|-------------------------|-----------------------------------|
| Sept. 30.....           | 974.20               | 25,655                  | -                                 |
| Oct. 31.....            | 973.15               | 24,963                  | -692                              |
| Nov. 30.....            | 972.55               | 24,572                  | -391                              |
| Dec. 31.....            | 972.15               | 24,312                  | -260                              |
| Calendar year 1962..... | -                    | -                       | +23,028                           |
| Jan. 31.....            | 971.90               | 24,150                  | -162                              |
| Feb. 28.....            | 974.70               | 25,988                  | +1,838                            |
| Mar. 31.....            | 966.85               | 21,011                  | -4,977                            |
| Apr. 30.....            | 954.35               | 14,438                  | -6,573                            |
| May 31.....             | 954.20               | 14,369                  | -69                               |
| June 30.....            | 953.55               | 14,075                  | -294                              |
| July 31.....            | 952.35               | 13,543                  | -532                              |
| Aug. 31.....            | 951.20               | 13,047                  | -496                              |
| Sept. 30.....           | 950.25               | 12,648                  | -399                              |
| Water year 1962-63..... | -                    | -                       | -13,007                           |

† Elevation at 0800 hours.

## SANTA CLARA RIVER BASIN

11-1098. Piru Creek below Santa Felicia Dam, Calif.

Location.--Lat 34°27'37", long 118°45'04, in Temescal Grant, on right bank 750 ft downstream from Santa Felicia Dam, 1 mile upstream from Lime Canyon, and 4 miles northeast of Piru, Ventura County.

Drainage area.--424 sq mi.

Records available.--October 1955 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 858.8 ft above mean sea level (levels by United Water Conservation District). Supplemental water-stage recorder at site  $1\frac{1}{2}$  miles downstream.

Extremes.--Maximum discharge during year, 380 cfs Apr. 15 (gage height, 3.35 ft); minimum daily, 0.2 cfs Feb. 10.  
1955-63: Maximum discharge, 544 cfs Aug. 18, 1958 (gage height, 3.66 ft); no flow at times in most years.

Remarks.--Records good. Flow regulated by Lake Piru (see preceding page).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.0 | 0   | 1.6 | 8.4 |
| 1.1 | .3  | 1.8 | 17  |
| 1.2 | .9  | 2.1 | 41  |
| 1.3 | 2.0 | 2.4 | 83  |
| 1.4 | 3.5 | 2.8 | 173 |
| 1.5 | 5.6 | 3.2 | 320 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY  | OCT. | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|--|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1  | 20   | 11    | 9.8   | A9.8  | 9.8   | 11    | 304   | 18    | 8.8   | 7.3   | 7.5   | 7.0   |
| 2  | 20   | 11    | 9.8   | A9.8  | 9.8   | 11    | 304   | 18    | 8.8   | 7.6   | 7.5   | 7.0   |
| 3  | 20   | 9.8   | 9.8   | A9.8  | 9.8   | 11    | 300   | 18    | 8.8   | 7.6   | 7.5   | 6.7   |
| 4  | 14   | 9.8   | 9.8   | A9.8  | 9.8   | 11    | 300   | 18    | 8.8   | 7.6   | 7.5   | 6.7   |
| 5  | 10   | 9.8   | 9.8   | A9.8  | 9.8   | 11    | 300   | 18    | 8.8   | 7.6   | 7.5   | 6.7   |
| 6  | 10   | 9.8   | 9.8   | A9.8  | 9.8   | 11    | 300   | 18    | 8.8   | 7.6   | 7.5   | 7.0   |
| 7  | 10   | 9.8   | 9.8   | A9.8  | 9.8   | 11    | 296   | 18    | 8.8   | 7.6   | 7.5   | 7.0   |
| 8  | 10   | 10    | 9.8   | A9.8  | 9.8   | 11    | 268   | 19    | 8.8   | 7.6   | 7.5   | 7.0   |
| 9  | 10   | 10    | 9.8   | A9.8  | 6.8   | 11    | 208   | 19    | 8.8   | 7.6   | 7.5   | 7.0   |
| 10   | 10   | 10    | 9.8   | A9.8  | .2    | 11    | 204   | 19    | 8.8   | 7.6   | 7.5   | 7.0   |
| 11   | 10   | 10    | 9.8   | A9.8  | 4.8   | 10    | 204   | 19    | 8.8   | 7.6   | 7.5   | 7.3   |
| 12   | 10   | 10    | 9.8   | A9.8  | 8.4   | 10    | 204   | 19    | 8.4   | 7.6   | 7.5   | 7.3   |
| 13   | 10   | 10    | 9.8   | A9.8  | 9.1   | 10    | 204   | 12    | 8.4   | 7.6   | 7.5   | 7.3   |
| 14   | 10   | 10    | 9.8   | A9.8  | 9.5   | 10    | 204   | 6.5   | 8.4   | 7.6   | 7.5   | 7.3   |
| 15   | 10   | 10    | 9.8   | A9.8  | 10    | 10    | *146  | 11    | 8.4   | 7.6   | 7.5   | 7.3   |
| 16   | 10   | 10    | 9.8   | A9.8  | 10    | 10    | 17    | 10    | 8.4   | 7.6   | 7.5   | 7.3   |
| 17   | 10   | 10    | 9.8   | A9.8  | 10    | 11    | 16    | 10    | 8.4   | 7.6   | 7.5   | 7.3   |
| 18   | 10   | 10    | 9.8   | A9.8  | 10    | 102   | 17    | 10    | 8.4   | 7.6   | 7.5   | 7.3   |
| 19   | 10   | 10    | 9.8   | A9.8  | 10    | 261   | 17    | 9.5   | 8.4   | 7.6   | 6.6   | 7.3   |
| 20   | 10   | 10    | 9.8   | A9.8  | 10    | 308   | 18    | 8.8   | 8.4   | 7.6   | 6.4   | 7.3   |
| 21   | 10   | 10    | 9.8   | A9.8  | 10    | 308   | 18    | 8.8   | 8.4   | 7.6   | 6.4   | 7.3   |
| 22   | 10   | 10    | 9.8   | A9.8  | 10    | 242   | 18    | 8.8   | 8.4   | 7.6   | 6.6   | 7.3   |
| 23   | 11   | 10    | 9.8   | A9.8  | 10    | 184   | 18    | 8.8   | 8.4   | 7.6   | 6.6   | 7.3   |
| 24   | 11   | 10    | 9.8   | A9.8  | 10    | 304   | 18    | 8.8   | 8.4   | 7.3   | 6.6   | 7.3   |
| 25   | 11   | 10    | 9.8   | A9.8  | 10    | 304   | 18    | 8.8   | 8.4   | 7.3   | 6.6   | 7.3   |
| 26   | 11   | 10    | *9.8  | A9.8  | 11    | 308   | 18    | 8.8   | *7.6  | 7.3   | 6.6   | 7.3   |
| 27   | 11   | 10    | 9.8   | A9.8  | *11   | *308  | 18    | 8.8   | 7.3   | 7.3   | 6.6   | 7.3   |
| 28   | 11   | *9.8  | 9.8   | A9.8  | 11    | 82    | 18    | 8.8   | 7.3   | 7.3   | *6.7  | 7.3   |
| 29   | *11  | 9.8   | A9.8  | *9.8  | ----- | 76    | *18   | *8.8  | 7.3   | 7.3   | 7.0   | 7.3   |
| 30   | 11   | 9.8   | A9.8  | 9.8   | ----- | 300   | 18    | 8.8   | 7.3   | 7.6   | 7.3   | 7.3   |
| 31   | 11   | ----- | A9.8  | 9.8   | ----- | 304   | ----- | 8.8   | ----- | 7.5   | 7.3   | ----- |
| TOTAL  | 353  | 300.4 | 303.8 | 303.8 | 260.2 | 3,572 | 4,011 | 395.6 | 251.2 | 233.4 | 222.3 | 215.1 |
| MEAN   | 11.4 | 10.0  | 9.80  | 9.80  | 9.29  | 115   | 134   | 12.8  | 8.37  | 7.53  | 7.17  | 7.17  |
| MAX  | 20   | 11    | 9.8   | 9.8   | 11    | 308   | 304   | 19    | 8.8   | 7.6   | 7.5   | 7.3   |
| MIN  | 10   | 9.8   | 9.8   | 9.8   | 0.2   | 10    | 16    | 6.5   | 7.3   | 7.3   | 6.4   | 6.7   |
| AC-FT  | 700  | 596   | 603   | 603   | 516   | 7,080 | 7,960 | 785   | 498   | 463   | 441   | 427   |
| CALENDAR YEAR 1962: MAX 280 MIN 6.4 MEAN 88.1 AC-FT 63,750 |      |       |       |       |       |       |       |       |       |       |       |       |
| WATER YEAR 1962-63 MAX 308 MIN 0.2 MEAN 28.6 AC-FT 20,670  |      |       |       |       |       |       |       |       |       |       |       |       |

\* Discharge measurement made on this day.

a No gage-height record.

11-1105. Hopper Creek near Piru, Calif.

Location.--Lat 34°24'03", long 118°49'32", in NE 1/4 Sec. 25, T.4 N., R.19 W., on downstream end of center pier of bridge on State Highway 126, 1 mile upstream from mouth and 2.1 miles southwest of Piru.

Drainage area.--23.6 sq mi.

Records available.--October 1930 to September 1932, October 1933 to September 1936, October 1937 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 590 ft (from topographic map).

Average discharge.--31 years, 4.72 cfs (3,420 acre-ft per year); median of yearly mean discharges, 2.0 cfs (1,400 acre-ft per year).

Extremes.--Maximum discharge during year, 470 cfs Feb. 9 (gage height, 4.15 ft), from rating curve extended above 100 cfs on basis of slope-area measurement at gage height 8.66 ft; no flow for many days.

1930-32, 1933-36, 1937-63: Maximum discharge, 8,000 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow for several months in most years.

Remarks.--Records good except those above 100 cfs, which are poor. Discharge measurements generally made once a week. No regulation; some pumping along stream for irrigation.

Cooperation.--Water-stage recorder graph, 48 discharge measurements, and 11 observations of no flow furnished by Ventura County Water Resources Division.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 5 to Nov. 15, Dec. 2 to Jan. 18)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.7 | 0   | 2.3 | 7.0 |
| 1.8 | .1  | 2.4 | 12  |
| 1.9 | .3  | 2.5 | 18  |
| 2.0 | .8  | 2.7 | 38  |
| 2.1 | 2.0 | 3.0 | 95  |
| 2.2 | 4.0 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|------|-------|------|------|------|------|-------|
| 1     | 0    | 0.1   | 0.4  | 0.4  | 4.2   | 0.4  | 0.9   | 0.8  | 0.1  |      |      | 0     |
| 2     | 0    | 2     | .4   | .4   | 1.4   | .4   | .8    | .8   | .1   |      |      | 0     |
| 3     | 0    | 2     | .3   | .4   | 1.0   | .4   | .8    | .7   | 0    |      |      | 0     |
| 4     | 0    | 2     | .3   | .4   | .8    | .4   | .6    | .7   | .1   |      |      | 0     |
| 5     | 0    | 2     | .3   | .3   | .8    | .4   | .5    | .5   | .1   |      |      | 0     |
| 6     | 0    | 2     | .3   | 2    | .7    | .4   | .5    | .4   | .2   |      |      | 0     |
| 7     | 0    | 2     | .3   | 2    | .7    | .4   | .8    | .4   | .1   |      |      | 0     |
| 8     | 0    | 2     | .2   | .2   | .7    | .4   | .8    | .2   | .1   |      |      | 0     |
| 9     | 0    | 2     | .2   | .3   | 91    | .4   | .6    | .5   | .1   |      |      | 0     |
| 10    | 0    | 2     | .2   | .3   | 51    | .5   | .6    | .4   | .1   |      |      | 0     |
| 11    | 0    | 2     | .2   | .3   | 5.3   | .4   | .5    | .3   | .4   |      |      | 0     |
| 12    | 0    | 2     | .3   | .3   | 2.0   | .4   | .4    | .2   | .3   |      |      | 0     |
| 13    | 0    | 2     | .3   | .3   | 1.1   | .4   | .4    | .1   | .2   |      |      | 0     |
| 14    | .2   | 2     | .3   | .3   | .8    | .4   | 1.8   | .1   | .1   |      |      | 0     |
| 15    | .2   | 2     | .3   | .3   | .6    | .4   | 1.6   | .1   | .1   |      |      | 0     |
| 16    | .1   | .3    | .3   | .3   | .5    | 7.3  | .8    | .1   | 0    |      |      | 0     |
| 17    | .1   | .3    | .3   | .3   | .4    | 6.6  | .8    | .1   | 0    |      |      | 0     |
| 18    | .1   | .3    | .3   | .3   | .4    | 2.4  | .8    | .2   | 0    |      |      | 0     |
| 19    | .1   | .3    | .3   | .3   | .4    | 4.0  | .7    | .3   | 0    |      |      | 13    |
| 20    | .1   | .3    | .3   | .3   | .4    | 1.8  | 1.4   | .2   | 0    |      |      | 1.2   |
| 21    | .1   | .3    | .3   | .3   | .4    | 1.3  | 9.7   | .1   | 0    |      |      | .3    |
| 22    | .1   | .3    | .3   | .3   | .4    | 1.0  | 2.3   | .1   | .1   |      |      | .1    |
| 23    | .1   | .4    | .3   | .3   | .4    | 1.3  | 1.4   | .1   | .1   |      |      | .1    |
| 24    | .1   | .3    | .3   | .3   | .4    | 1.1  | 1.0   | .2   | 0    |      |      | .1    |
| 25    | .2   | .3    | .3   | .3   | .4    | .8   | 1.2   | .1   | 0    |      |      | 0     |
| 26    | .2   | .4    | .3   | .3   | .4    | .7   | 19    | .1   | 0    |      |      | 0     |
| 27    | .2   | .4    | .3   | .4   | .4    | .6   | 4.2   | .2   | 0    |      |      | 0     |
| 28    | .1   | .4    | .4   | .4   | .4    | 25   | 2.0   | .2   | 0    |      |      | 0     |
| 29    | .1   | .4    | .4   | .4   | ----- | 4.0  | 1.4   | .1   | 0    |      |      | 0     |
| 30    | .1   | .4    | .4   | .6   | ----- | 2.1  | .9    | .1   | 0    |      |      | 0     |
| 31    | .1   | ----- | .4   | 7.5  | ----- | 1.6  | ----- | .1   | 0    |      |      | 0     |
| Total | 2.3  | 8.0   | 9.5  | 17.2 | 167.4 | 67.7 | 59.2  | 8.5  | 2.3  | 0    | 0    | 14.8  |
| Mean  | 0.07 | 0.27  | 0.31 | 0.55 | 6.00  | 2.18 | 1.97  | 0.27 | 0.07 | 0    | 0    | 0.49  |
| Max   | 0.2  | 0.4   | 0.4  | 7.5  | 91    | 25   | 19    | 0.8  | 0.4  | 0    | 0    | 13    |
| Min   | 0    | 0.1   | 0.2  | 0.2  | 0.4   | 0.4  | 0.4   | 0.1  | 0    | 0    | 0    | 0     |
| Ac-ft | 4.6  | 16    | 19   | 34   | 332   | 134  | 117   | 17   | 4.6  | 0    | 0    | 29    |

Calendar year 1962: Max 1,310 Min 0 Mean 11.0 Ac-ft 7,950  
Water year 1962-63: Max 91 Min 0 Mean 0.98 Ac-ft 707

Peak discharge (base, 90 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-9  | 1900 | 4.15        | 470       | 9-19 | 0900 | 3.01        | 110       |
| 3-28 | 0900 | 3.13        | 138       |      |      |             |           |

## SANTA CLARA RIVER BASIN

11-1115. Sespe Creek near Wheeler Springs, Calif.

Location.--Lat 34°34'40", long 119°15'25", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.30, T.6 N., R.22 W., on right bank at Sespe Gorge, 1.6 miles upstream from Tule Creek, 5 miles upstream from Cold Springs damsite, and 5 miles northeast of Wheeler Springs.

Drainage area.--51.2 sq mi.

Records available.--January 1948 to September 1963. Monthly discharge only for January to July 1948 and yearly estimate for water year 1948 (incomplete), published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 3,500.65 ft above mean sea level (levels by Ventura County Water Resources Division).

Average discharge.--16 years (1947-63), 7.79 cfs (5,640 acre-ft per year); median of yearly mean discharges, 2.5 cfs (1,800 acre-ft per year).

Extremes.--Maximum discharge during year, 978 cfs Feb. 9 (gage height, 6.83 ft); minimum daily, 0.1 cfs for some days.

1948-63: Maximum discharge, about 3,800 cfs Feb. 10, 1962 (gage height, 10.6 ft, from floodmarks), on basis of field estimate of peak flow; no flow for many days in most years.

Remarks.--Records fair. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR.  | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 0.2  | 0.5   | 0.9  | 1.1  | 3.5   | 2.2   | 13    | 3.3  | 1.5   | 1.0  | 0.2  | 0.1   |
| 2     | .2   | .5    | 1.0  | 1.1  | 2.2   | 2.2   | 13    | 3.1  | 1.3   | 1.0  | .2   | .1    |
| 3     | .2   | .5    | 1.0  | 1.1  | 1.8   | 2.3   | 12    | 3.1  | 1.3   | .9   | .2   | .1    |
| 4     | .3   | .5    | 1.0  | 1.1  | 1.4   | 2.3   | 11    | 2.9  | 1.3   | .9   | .2   | .2    |
| 5     | .3   | .5    | 1.0  | 1.2  | 1.3   | 2.2   | 11    | 2.7  | 1.4   | .9   | .2   | .2    |
| 6     | .3   | .5    | 1.0  | 1.2  | 1.3   | 2.2   | 10    | 2.5  | 1.9   | .9   | .2   | .1    |
| 7     | .3   | .5    | 1.1  | 1.2  | 1.2   | 2.0   | 10    | 2.5  | 1.9   | .9   | .2   | .1    |
| 8     | .3   | .5    | 1.1  | 1.2  | 1.2   | 2.0   | 9.6   | 2.7  | 1.6   | .7   | .2   | .1    |
| 9     | .3   | .6    | 1.0  | 1.2  | 138   | 2.0   | 9.2   | 3.3  | 1.5   | .7   | .2   | .1    |
| 10    | .3   | .6    | 1.0  | 1.2  | 62    | 2.0   | 9.2   | 3.3  | 1.6   | .7   | .2   | .1    |
| 11    | .3   | .6    | 1.1  | 1.2  | 15    | 2.0   | 8.2   | 3.1  | 3.4   | .7   | .2   | .1    |
| 12    | .3   | .6    | 1.1  | 1.3  | *5.7  | 1.9   | 7.8   | 2.9  | 3.5   | .6   | .2   | .1    |
| 13    | .3   | .6    | 1.0  | 1.2  | 4.2   | 1.9   | 7.5   | 2.9  | 2.7   | .6   | .2   | .1    |
| 14    | .3   | .6    | 1.0  | 1.2  | 3.4   | 1.9   | 12    | 2.9  | 1.9   | .6   | .2   | .1    |
| 15    | A.3  | .6    | 1.0  | 1.2  | 3.0   | 2.0   | 8.5   | 2.7  | 1.5   | .5   | .1   | .1    |
| 16    | A.3  | .6    | 1.0  | 1.2  | 2.8   | 3.8   | 7.1   | 2.5  | 1.4   | .5   | .1   | .2    |
| 17    | A.3  | .7    | 1.1  | 1.2  | 2.7   | 3.5   | 7.1   | 2.5  | 1.3   | .5   | .1   | .2    |
| 18    | A.3  | .7    | 1.1  | 1.2  | 2.5   | 3.9   | 7.1   | 2.5  | 1.3   | .4   | .1   | .4    |
| 19    | A.4  | .7    | 1.1  | 1.3  | *2.2  | 4.2   | 5.7   | 2.3  | 1.2   | .4   | .1   | 4.5   |
| 20    | A.4  | .7    | 1.1  | 1.3  | 2.2   | 3.9   | 6.4   | 2.3  | 1.1   | .4   | .1   | .4    |
| 21    | A.4  | .7    | 1.1  | 1.3  | 2.2   | 3.1   | 6.8   | 2.3  | 1.0   | .4   | .1   | .3    |
| 22    | A.4  | .8    | 1.0  | 1.4  | 2.0   | 3.3   | 5.3   | 2.5  | 1.1   | .3   | .1   | .3    |
| 23    | A.4  | .9    | 1.0  | 1.4  | 2.0   | 4.2   | 5.0   | 2.5  | 1.2   | .3   | .1   | .3    |
| 24    | A.4  | .9    | 1.1  | 1.4  | 2.0   | 3.5   | 4.7   | 2.5  | 1.1   | .3   | .1   | .2    |
| 25    | A.4  | .9    | 1.1  | 1.3  | 2.0   | 3.1   | 4.7   | 2.3  | *1.0  | .3   | .1   | .2    |
| 26    | A.4  | .8    | 1.0  | 1.3  | 1.8   | 2.9   | 8.2   | 2.2  | 1.0   | .2   | *.1  | .2    |
| 27    | A.4  | *.8   | *1.0 | 1.4  | 1.6   | 2.9   | 6.4   | 2.3  | 1.0   | .2   | .1   | .2    |
| 28    | A.4  | .7    | 1.1  | 1.4  | *1.9  | *5.3  | 5.0   | *2.5 | 1.0   | .2   | .1   | .2    |
| 29    | A.4  | .8    | 1.1  | 1.4  | ----- | 24    | 4.2   | 2.2  | 1.0   | *.2  | .1   | .1    |
| 30    | A.4  | .8    | 1.1  | *1.5 | ----- | 17    | *3.7  | 1.8  | 1.0   | .2   | .1   | *.1   |
| 31    | *.5  | ----- | 1.1  | 4.2  | ----- | 14    | ----- | 1.6  | ----- | .2   | .1   | ----- |
| TOTAL | 10.4 | 19.7  | 32.4 | 41.9 | 273.1 | 181.4 | 239.4 | 80.7 | 45.0  | 16.6 | 4.5  | 9.5   |
| MEAN  | 0.34 | 0.66  | 1.05 | 1.35 | 9.75  | 5.85  | 7.98  | 2.60 | 1.50  | 0.54 | 0.15 | 0.32  |
| MAX   | 0.5  | 0.9   | 1.1  | 4.2  | 138   | 53    | 13    | 3.3  | 3.5   | 1.0  | 0.2  | 4.5   |
| MIN   | 0.2  | 0.5   | 0.9  | 1.1  | 1.2   | 1.9   | 3.7   | 1.6  | 1.0   | 0.2  | 0.1  | 0.1   |
| AC-FT | 21   | 39    | 64   | 83   | 542   | 360   | 475   | 160  | 89    | 33   | 8.9  | 19    |

CALENDAR YEAR 1962: MAX 2,710 MIN 0.2 MEAN 27.8 AC-FT 20,150  
 WATER YEAR 1962-63 MAX 138 MIN 0.1 MEAN 2.62 AC-FT 1,890

Peak discharge (base, 50 cfs).--Feb. 9 (1900 hrs) 978 cfs (6.83 ft); Mar. 28 (0630 hrs) 180 cfs (4.95 ft).

\* Discharge measurement made on this day.

A No gage-height record.



## SANTA CLARA RIVER BASIN

203

11-1115. Sespe Creek near Wheeler Springs, Calif.--Continued.

Records available.--Water temperatures: February 1962 to September 1963.

Extremes.--Maximum temperature during year, 78°F July 14; minimum, 35°F Mar. 16.

1962-63: Maximum temperature, that of July 14, 1963; minimum, that of Mar. 16, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 68   | 56  | 55    | 51    | 48   | 46  | 45   | 43  | 53    | 48    | 55   | 49  | 47    | 45    | 60  | 55  | 66    | 56    | 70   | 57  | 76   | 62  | 71    | 57    |
| 2   | 67   | 56  | 57    | 53    | 48   | 46  | 47   | 45  | 52    | 50    | 54   | 49  | 47    | 43    | 60  | 54  | 68    | 57    | 70   | 56  | 74   | 60  | 72    | 58    |
| 3   | 66   | 57  | 56    | 52    | 50   | 47  | 48   | 46  | 52    | 50    | 49   | 45  | 49    | 43    | 61  | 55  | 65    | 56    | 70   | 58  | 73   | 57  | 73    | 58    |
| 4   | 58   | 54  | 56    | 52    | 51   | 49  | 46   | 45  | 52    | 49    | 50   | 44  | 51    | 46    | 61  | 54  | 64    | 54    | 70   | 58  | 74   | 58  | 67    | 62    |
| 5   | 61   | 53  | 56    | 52    | 50   | 48  | 46   | 44  | 52    | 48    | 49   | 43  | 53    | 47    | 62  | 55  | 60    | 55    | 71   | 59  | 74   | 59  | 72    | 60    |
| 6   | 60   | 52  | 55    | 52    | 49   | 47  | 45   | 44  | 53    | 49    | 54   | 47  | 53    | 49    | 63  | 55  | 56    | 54    | 72   | 59  | 74   | 60  | 69    | 59    |
| 7   | 60   | 53  | 54    | 50    | 48   | 46  | 44   | 42  | 53    | 49    | 52   | 46  | 52    | 51    | 62  | 57  | 63    | 53    | 72   | 60  | 70   | 63  | 71    | 58    |
| 8   | 62   | 54  | 53    | 49    | 48   | 46  | 48   | 44  | 51    | 49    | 53   | 46  | 54    | 50    | 61  | 58  | 63    | 55    | 73   | 61  | 70   | 64  | 72    | 57    |
| 9   | 62   | 54  | 52    | 49    | 48   | 46  | 47   | 45  | 51    | 49    | 51   | 46  | 51    | 49    | 60  | 56  | 66    | 56    | 73   | 61  | 74   | 62  | 73    | 57    |
| 10  | 60   | 54  | 54    | 50    | 49   | 46  | 47   | 45  | 51    | 49    | 53   | 46  | 51    | 46    | 58  | 53  | 61    | 57    | 73   | 60  | 75   | 62  | 72    | 57    |
| 11  | 59   | 52  | 53    | 50    | 49   | 47  | 45   | 43  | 51    | 51    | 53   | 46  | 51    | 46    | 56  | 51  | 58    | 55    | 73   | 59  | 74   | 58  | 72    | 56    |
| 12  | 60   | 54  | 52    | 49    | 48   | 46  | 43   | 40  | 52    | 51    | 54   | 47  | 51    | 46    | 58  | 51  | 55    | 53    | 73   | 58  | 74   | 60  | 69    | 58    |
| 13  | 57   | 52  | 52    | 49    | 47   | 46  | 40   | 38  | 54    | 50    | 52   | 45  | 52    | 47    | 59  | 53  | 63    | 53    | 74   | 61  | 75   | 60  | 74    | 61    |
| 14  | 57   | 52  | 53    | 51    | 49   | 46  | 41   | 39  | 53    | 50    | 52   | 45  | 52    | 50    | 58  | 54  | 67    | 56    | 78   | 63  | 75   | 61  | 72    | 59    |
| 15  | 55   | 50  | 51    | 49    | 50   | 48  | 42   | 40  | 50    | 46    | 54   | 45  | 52    | 48    | 61  | 54  | 70    | 60    | 77   | 64  | 76   | 64  | 72    | 59    |
| 16  | -    | -   | 49    | 46    | 50   | 49  | 43   | 40  | 50    | 47    | 45   | 35  | 51    | 48    | 63  | 56  | 71    | 61    | 75   | 62  | 77   | 64  | 68    | 59    |
| 17  | -    | -   | 48    | 46    | 50   | 49  | 44   | 41  | 50    | 47    | 42   | 36  | 51    | 47    | 64  | 58  | 71    | 61    | 75   | 62  | 77   | 63  | 61    | 54    |
| 18  | -    | -   | 48    | 46    | 51   | 50  | 43   | 41  | 50    | 46    | 47   | 40  | 51    | 47    | 63  | 58  | 71    | 61    | 76   | 61  | 77   | 62  | 61    | 59    |
| 19  | -    | -   | 46    | 44    | 50   | 48  | 43   | 41  | 51    | 46    | 48   | 40  | 51    | 49    | 64  | 60  | 71    | 60    | 75   | 61  | 75   | 60  | 59    | 56    |
| 20  | -    | -   | 49    | 46    | 49   | 47  | 42   | 39  | 52    | 47    | 49   | 41  | 51    | 48    | 64  | 57  | 71    | 59    | 75   | 62  | 75   | 61  | 62    | 55    |
| 21  | -    | -   | 50    | 47    | 47   | 45  | 43   | 40  | 51    | 47    | 50   | 42  | 50    | 45    | 63  | 57  | 69    | 58    | 77   | 62  | 73   | 57  | 64    | 55    |
| 22  | -    | -   | 49    | 47    | 47   | 45  | 44   | 42  | 52    | 47    | 51   | 45  | 51    | 46    | 63  | 59  | 67    | 56    | 77   | 62  | 71   | 56  | 64    | 56    |
| 23  | -    | -   | 49    | 47    | 46   | 45  | 45   | 42  | 52    | 46    | 47   | 44  | 53    | 48    | 62  | 59  | 66    | 57    | 76   | 60  | 70   | 56  | 66    | 57    |
| 24  | -    | -   | 51    | 49    | 48   | 46  | 45   | 42  | 51    | 45    | 50   | 43  | 53    | 48    | 61  | 58  | 66    | 54    | 77   | 62  | 70   | 54  | 66    | 56    |
| 25  | -    | -   | 50    | 48    | 46   | 43  | 46   | 43  | 52    | 46    | 50   | 43  | 53    | 47    | 62  | 56  | 70    | 56    | 77   | 59  | 71   | 56  | 65    | 56    |
| 26  | -    | -   | 49    | 47    | 43   | 42  | 46   | 44  | 55    | 50    | 51   | 43  | 50    | 44    | 62  | 57  | 70    | 58    | 75   | 59  | 71   | 55  | 67    | 59    |
| 27  | -    | -   | 50    | 48    | 42   | 39  | 45   | 43  | 54    | 49    | 50   | 45  | 53    | 46    | 59  | 57  | 70    | 58    | 74   | 59  | 69   | 55  | 68    | 59    |
| 28  | -    | -   | 50    | 47    | 40   | 39  | 46   | 44  | 53    | 46    | 48   | 43  | 55    | 47    | 59  | 55  | 69    | 56    | 74   | 58  | 71   | 54  | 68    | 60    |
| 29  | -    | -   | 47    | 45    | 41   | 39  | 48   | 46  | ----- | ----- | 48   | 44  | 55    | 50    | 63  | 58  | 70    | 56    | 75   | 59  | 70   | 53  | 68    | 60    |
| 30  | -    | -   | 47    | 45    | 43   | 40  | 48   | 48  | ----- | ----- | 49   | 45  | 59    | 52    | 65  | 56  | 70    | 56    | 74   | 60  | 71   | 59  | 68    | 59    |
| 31  | -    | -   | ----- | ----- | 43   | 41  | 48   | 48  | ----- | ----- | 50   | 46  | ----- | ----- | 64  | 57  | ----- | ----- | 75   | 61  | 71   | 58  | ----- | ----- |
| Avg | -    | -   | 51    | 48    | 47   | 45  | 45   | 43  | 52    | 48    | 50   | 44  | 52    | 47    | 61  | 56  | 66    | 56    | 74   | 60  | 73   | 59  | 68    | 58    |

Note.--Recorded range in temperature Oct. 16-31, 48°-57°F.

## SANTA CLARA RIVER BASIN

11-1130. Sespe Creek near Fillmore, Calif.

Location.--Lat 34°27'03", long 118°55'30", in NE 1/4 sec. 12, T.4 N., R.20 W., on right bank 0.1 mile downstream from Little Sespe Creek and 3.5 miles north of Fillmore.

Drainage area.--253 sq mi.

Records available.--September 1911 to September 1913, October 1927 to September 1963; combined records of creek and canal, October 1927 to September 1963. Published as "at Sespe," prior to 1935.

Gage.--Water-stage recorder; water-stage recorder and 2-ft Parshall flume on canal. Altitude of gage is 580 ft (from topographic map). Prior to Sept. 30, 1913, staff gage, and Oct. 1, 1927, to Nov. 4, 1934, water-stage recorder, at site 3 miles downstream at different datum. Nov. 5, 1934, to Mar. 2, 1938, water-stage recorder at same site at different datum (destroyed by flood; reestablished at present datum Feb. 2, 1939). Prior to Jan. 17, 1946, staff gage read once daily on Fillmore Irrigation Co.'s canal.

Average discharge (creek only).--38 years, 92.3 cfs (66,820 acre-ft per year); median of yearly mean discharges, 46 cfs (33,300 acre-ft per year).

(combined).--36 years, 97.8 cfs (70,800 acre-ft per year); median of yearly mean discharges, 51 cfs (36,900 acre-ft per year).

Extremes (creek only).--Maximum discharge during year, 4,400 cfs Feb. 10 (gage height, 7.80 ft); minimum daily, 0.2 cfs July 23-26, Aug. 9-14, 20-21, 28, Sept. 10-13.

1927-63: Maximum discharge, 56,000 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; no flow at times in some years.

(combined).--Maximum discharge during year, 4,400 cfs Feb. 10; minimum daily, 2.8 cfs Sept. 12.

1927-63: Maximum discharge, 56,000 cfs Mar. 2, 1938; minimum daily, 1.1 cfs July 31, Aug. 2, 1951.

Remarks.--Records good. No regulation. Fillmore Irrigation Co. has diverted water 1 mile upstream since September 1911. For records of combined discharge of Sespe Creek and Fillmore Irrigation Co.'s canal, see following page.

Cooperation.--Five discharge measurements furnished by Ventura County Water Resources Division.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 17 to Aug. 6, Sept. 20-30)

|     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-------|
| 2.0 | 0.1 | 2.5 | 6.7 | 3.5 | 124   |
| 2.1 | .4  | 2.6 | 10  | 4.0 | 268   |
| 2.2 | 1.0 | 2.9 | 30  | 4.7 | 580   |
| 2.3 | 2.0 | 3.2 | 66  | 5.7 | 1,340 |
| 2.4 | 3.9 |     |     |     |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec.  | Jan.  | Feb.    | Mar.  | Apr.   | May    | June  | July | Aug. | Sept. |
|-------|------|-------|-------|-------|---------|-------|--------|--------|-------|------|------|-------|
| 1     | 0.5  | 0.7   | 1.1   | 1.8   | * 36    | 20    | 51     | 55     | 6.7   | 0.5  | 0.4  | 0.3   |
| 2     | .5   | .7    | 1.1   | 1.6   | 38      | 18    | 44     | 48     | 5.8   | .5   | .4   | .3    |
| 3     | .6   | .7    | 1.1   | 1.7   | 22      | 18    | 36     | 41     | 4.6   | .5   | .4   | .3    |
| 4     | .6   | .7    | 1.0   | 1.7   | 15      | 18    | 30     | 38     | 3.2   | .5   | .4   | .3    |
| 5     | .6   | .8    | 1.0   | 1.6   | 11      | 18    | 27     | 35     | 2.6   | .4   | .4   | .3    |
| 6     | .6   | .9    | 1.1   | 1.6   | 10      | 20    | 24     | 31     | 3.0   | .4   | .4   | .3    |
| 7     | .6   | .8    | 1.4   | 1.6   | 8.1     | 18    | 25     | 28     | 3.7   | .4   | .3   | .3    |
| 8     | .6   | .8    | 1.6   | 1.6   | 8.1     | 15    | 29     | 26     | 4.4   | .4   | .3   | .3    |
| 9     | .6   | .8    | 1.6   | 1.7   | 6 61    | 13    | 27     | 29     | 4.2   | .4   | .2   | .3    |
| 10    | .6   | .8    | 1.7   | 1.7   | *1.3 20 | 15    | 26     | 32     | 3.9   | .4   | .2   | .2    |
| 11    | .7   | .9    | 1.8   | 1.8   | 201     | 19    | 24     | 29     | 4.9   | .4   | .2   | .2    |
| 12    | .7   | .9    | 2.0   | 1.7   | * 115   | 18    | 21     | 26     | 4.9   | .3   | .2   | .2    |
| 13    | .7   | 1.0   | 2.2   | 1.6   | 83      | 18    | 18     | 24     | 5.8   | .3   | .2   | .2    |
| 14    | 2.8  | 1.0   | 2.2   | 1.4   | 62      | 17    | 38     | 24     | 7.8   | .3   | .2   | .3    |
| 15    | 2.1  | 1.0   | 2.3   | 1.4   | 48      | 17    | 47     | 23     | 8.5   | .3   | .3   | .3    |
| 16    | .7   | 1.0   | 2.4   | 1.4   | 42      | 43    | 42     | 21     | 6.7   | .3   | .3   | .3    |
| 17    | .6   | 1.0   | 2.6   | 1.4   | 36      | * 59  | 32     | 18     | 3.9   | .3   | .3   | .3    |
| 18    | .7   | .9    | 2.8   | 1.3   | * 31    | 46    | 28     | 15     | 2.4   | .3   | .3   | 5.5   |
| 19    | .7   | .9    | 3.0   | 1.8   | 29      | * 36  | 27     | 15     | 1.8   | .3   | .3   | 15    |
| 20    | .7   | .9    | 2.6   | 2.2   | * 28    | 24    | 30     | 14     | 1.6   | .3   | .2   | 14    |
| 21    | .6   | .9    | 1.8   | 2.2   | 27      | 21    | 41     | 13     | 1.6   | .3   | .2   | 6.4   |
| 22    | .7   | 1.0   | 1.8   | 3.2   | 25      | 24    | 35     | 12     | a 1.4 | .3   | .3   | 4.6   |
| 23    | .7   | 1.0   | 2.0   | 2.3   | 23      | 31    | 28     | 11     | a 1.2 | .2   | .3   | 2.1   |
| 24    | .7   | 1.0   | 3.6   | 1.4   | 22      | 35    | 27     | 10     | a 1.1 | .2   | .3   | .6    |
| 25    | .7   | 1.1   | 5.2   | 1.7   | 21      | 29    | 30     | 8.5    | a 1.0 | .2   | .3   | .6    |
| 26    | .7   | 1.1   | 4.4   | 1.7   | * 21    | 26    | * 114  | 8.1    | a .9  | .2   | .3   | .5    |
| 27    | .7   | 1.1   | 2.6   | 2.2   | 20      | 23    | 102    | 7.8    | .8    | .3   | .3   | .5    |
| 28    | .7   | 1.1   | * 1.7 | 1.6   | 20      | * 227 | 85     | 7.4    | * .6  | .3   | * .2 | .4    |
| 29    | .7   | * 1.2 | 1.7   | * 1.7 | -----   | 180   | * 78   | 7.8    | .5    | .3   | .3   | .4    |
| 30    | * .7 | 1.1   | 1.7   | 7.9   | -----   | 92    | 66     | * 7.8  | .5    | * .3 | .3   | * .3  |
| 31    | .7   | ----- | 1.7   | 41    | -----   | 65    | -----  | 7.4    | ----- | .3   | .3   | ----- |
| Total | 23.8 | 27.8  | 64.8  | 99.5  | 298 3.2 | 122 3 | 123 32 | 67 2.8 | 100.0 | 10.4 | 9.0  | 55.6  |
| Mean  | 0.77 | 0.93  | 2.09  | 3.21  | 107     | 39.5  | 41.1   | 21.7   | 3.33  | 0.34 | 0.29 | 1.85  |
| Max   | 2.8  | 1.2   | 5.2   | 41    | 1,320   | 227   | 114    | 55     | 8.5   | 0.5  | 0.4  | 15    |
| Min   | 0.5  | 0.7   | 1.0   | 1.3   | 8.1     | 13    | 18     | 7.4    | 0.5   | 0.2  | 0.2  | 0.2   |
| Ac-ft | 47   | 55    | 129   | 197   | 5,920   | 2,430 | 2,440  | 1,330  | 198   | 21   | 18   | 110   |

Calendar year 1962: Max 22,000 Min 0.5 Mean 236 Ac-ft 170,700  
Water year 1962-63: Max 1,320 Min 0.2 Mean 17.8 Ac-ft 12,900

Peak discharge (base, 1,300 cfs).--Feb. 10 (0100 hrs) 4,400 cfs (7.80 ft)

\* Discharge measurement made on this day.  
a No gage-height record.

## 1130. Sespe Creek near Fillmore, Calif.--Continued

Combined discharge, in cubic feet per second, of Sespe Creek and Fillmore Irrigation Co.'s canal near Fillmore, Calif., water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 6.4   | 6.3   | 7.1   | 1.0  | 3.6   | 2.2   | 5.1   | 5.8   | 1.9   | 7.4   | 4.1   | 3.5   |
| 2     | 6.4   | 6.4   | 7.2   | 1.0  | 3.8   | 2.0   | 4.4   | 5.1   | 1.7   | 7.3   | 4.1   | 3.5   |
| 3     | 6.5   | 6.5   | 7.2   | 1.0  | 2.3   | 1.9   | 3.9   | 4.4   | 1.6   | 7.1   | 4.1   | 3.6   |
| 4     | 6.6   | 6.6   | 7.1   | 1.0  | 1.7   | 1.9   | 3.4   | 4.1   | 1.5   | 6.8   | 4.0   | 3.9   |
| 5     | 6.7   | 6.7   | 7.0   | 1.0  | 1.3   | 1.9   | 3.1   | 3.7   | 1.5   | 6.6   | 4.0   | 4.4   |
| 6     | 6.7   | 6.8   | 7.4   | 1.0  | 1.2   | 2.1   | 2.7   | 3.4   | 1.5   | 6.5   | 4.0   | 4.3   |
| 7     | 6.7   | 6.6   | 8.1   | 1.0  | 1.1   | 1.9   | 2.8   | 3.3   | 1.6   | 6.4   | 4.0   | 4.0   |
| 8     | 6.6   | 6.5   | 8.4   | 1.0  | 1.1   | 1.8   | 3.2   | 3.1   | 1.6   | 6.3   | 4.2   | 3.6   |
| 9     | 6.5   | 6.5   | 8.5   | 1.0  | 6.64  | 1.7   | 3.0   | 3.2   | 1.6   | 6.2   | 4.2   | 3.4   |
| 10    | 6.4   | 6.6   | 8.6   | 1.1  | 1.320 | 1.8   | 2.9   | 3.5   | 1.6   | 6.2   | 4.0   | 3.1   |
| 11    | 6.6   | 6.7   | 8.8   | 1.1  | 2.02  | 1.9   | 2.7   | 3.2   | 1.6   | 6.0   | 3.9   | 2.9   |
| 12    | 6.7   | 6.6   | 9.3   | 1.0  | 1.16  | 1.8   | 2.4   | 3.0   | 1.6   | 5.5   | 3.7   | 2.8   |
| 13    | 6.7   | 6.8   | 9.5   | 1.0  | 8.4   | 1.8   | 2.1   | 2.8   | 1.7   | 5.3   | 3.5   | 2.9   |
| 14    | 5.7   | 6.9   | 9.6   | 1.0  | 6.3   | 1.7   | 3.9   | 2.8   | 1.8   | 5.1   | 3.3   | 3.1   |
| 15    | 6.9   | 7.0   | 9.7   | 1.0  | 4.9   | 1.7   | 4.7   | 2.7   | 1.7   | 5.0   | 3.5   | 3.3   |
| 16    | 6.8   | 7.0   | 9.9   | 1.0  | 4.3   | 4.3   | 4.4   | 2.5   | 1.5   | 4.8   | 3.5   | 3.5   |
| 17    | 6.5   | 6.9   | 1.0   | 1.0  | 3.7   | 5.9   | 3.4   | 2.4   | 1.3   | 4.8   | 3.5   | 3.6   |
| 18    | 6.7   | 6.9   | 1.0   | 1.1  | 3.3   | 5.0   | 3.0   | 2.1   | 1.2   | 4.7   | 3.5   | 8.2   |
| 19    | 6.7   | 6.9   | 1.0   | 1.0  | 3.1   | 4.0   | 2.9   | 2.2   | 1.1   | 4.6   | 3.5   | 1.7   |
| 20    | 6.7   | 6.8   | 1.0   | 1.0  | 3.0   | 2.7   | 3.2   | 2.1   | 1.1   | 4.5   | 3.3   | 1.6   |
| 21    | 6.6   | 6.8   | 9.8   | 1.0  | 2.8   | 2.4   | 4.2   | 2.1   | 1.1   | 4.5   | 3.2   | 8.3   |
| 22    | 6.6   | 7.0   | 9.9   | 1.0  | 2.7   | 2.6   | 3.7   | 2.1   | 1.1   | 4.4   | 3.4   | 6.4   |
| 23    | 6.6   | 7.0   | 1.0   | 1.1  | 2.5   | 3.1   | 3.0   | 2.0   | 1.1   | 4.2   | 3.5   | 5.7   |
| 24    | 6.6   | 7.1   | 9.6   | 1.1  | 2.4   | 3.6   | 3.0   | 2.0   | 1.1   | 4.1   | 3.6   | 4.5   |
| 25    | 6.6   | 7.3   | 9.7   | 1.1  | 2.3   | 3.1   | 3.2   | 2.0   | 1.0   | 4.0   | 3.6   | 4.2   |
| 26    | 6.6   | 7.3   | 9.6   | 1.0  | 2.3   | 2.8   | 1.15  | 2.0   | 9.7   | 3.9   | 3.6   | 3.9   |
| 27    | 6.5   | 7.2   | 9.8   | 1.1  | 2.2   | 2.5   | 1.03  | 2.0   | 9.3   | 4.0   | 3.5   | 3.8   |
| 28    | 6.1   | 7.2   | 1.0   | 1.1  | 2.2   | 2.28  | 8.6   | 1.9   | 8.8   | 4.0   | 3.1   | 3.6   |
| 29    | 6.1   | 7.2   | 1.0   | 1.1  | ----- | 1.80  | 8.0   | 1.9   | 8.4   | 4.0   | 3.2   | 3.5   |
| 30    | 6.1   | 7.1   | 1.0   | 1.2  | ----- | 9.2   | 6.9   | 2.0   | 7.9   | 4.0   | 3.3   | 3.4   |
| 31    | 6.1   | ----- | 1.0   | 4.1  | ----- | 6.5   | ----- | 1.9   | ----- | 4.0   | 3.5   | ----- |
| Total | 202.0 | 205.2 | 281.8 | 35.2 | 30.27 | 1.266 | 1.296 | 87.3  | 405.1 | 162.2 | 113.4 | 147.9 |
| Mean  | 6.52  | 6.84  | 9.09  | 11.4 | 1.08  | 40.8  | 43.2  | 28.2  | 13.5  | 5.23  | 3.66  | 4.93  |
| Max   | 6.9   | 7.3   | 1.0   | 4.1  | 1,320 | 228   | 115   | 58    | 19    | 7.4   | 4.2   | 1.7   |
| Min   | 5.7   | 6.3   | 7.0   | 1.0  | 1.1   | 17    | 2.1   | 1.9   | 7.9   | 3.9   | 3.1   | 2.8   |
| Ac-ft | 401   | 407   | 559   | 698  | 6,000 | 2,510 | 2,570 | 1,730 | 804   | 322   | 225   | 293   |

Calendar year 1962: Max 22,000 Min 5.7 Mean 24.2 Ac-ft 175,200  
 Water year 1962-63: Max 1,320 Min 2.8 Mean 22.8 Ac-ft 16,520

Peak discharge (base, 1,300 cfs).--Feb. 10 (0100 hrs) 4,400 cfs.

## SANTA CLARA RIVER BASIN

11-1135. Santa Paula Creek near Santa Paula, Calif.

Location.--Lat 34°23'44", long 119°04'32", in NW1/4SW1/4 sec.27, T.4 N., R.21 W., on right bank 15 ft upstream from Santa Paula Water Works diversion dam, 150 ft upstream from Mud Creek, and 3 miles north of Santa Paula.

Drainage area.--40.0 sq mi.

Records available.--October 1927 to September 1963. March 1912 to September 1913, at site 2.5 miles upstream; records not equivalent.

Gage.--Water-stage recorder (digital) and concrete diversion dam control. Altitude of gage is 650 ft (from topographic map). Oct. 1, 1927, to Feb. 19, 1931, water-stage recorder at site 500 ft downstream at different datum.

Average discharge.--36 years, 18.1 cfs (13,100 acre-ft per year); median of yearly mean discharges, 9.0 cfs (6,500 acre-ft per year).

Extremes.--Maximum discharge during year, 684 cfs Feb. 9 (gage height, 3.78 ft); minimum daily, 0.2 cfs Sept. 13.

1927-63: Maximum discharge, 13,500 cfs Mar. 2, 1938 (gage height, 10.56 ft), from rating curve extended above 2,100 cfs on basis of slope-area measurement of peak flow; no flow at times in 1949, 1951-52.

Remarks.--Records good. No regulation above station. Santa Paula Water Works began diverting water above station for irrigation prior to October 1927; 280 acre-ft was diverted during year.

Cooperation.--Four discharge measurements furnished by Ventura County Water Resources Division.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 9-11, Aug. 22 to Sept. 30)

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 1.4 | 0.1 | 1.8 | 5.4 | 2.4 | 61  |
| 1.5 | .5  | 1.9 | 9.1 | 2.7 | 136 |
| 1.6 | 1.3 | 2.0 | 22  | 3.0 | 255 |
| 1.7 | 2.8 | 2.2 | 31  |     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG.  | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| 1     | 1.9   | 1.9   | 3.8   | 3.8   | 5.8   | 4.4   | 8.0   | 12    | 3.3   | 3.3  | * 2.2 | 0.6   |
| 2     | 2.2   | 2.5   | 3.8   | 3.6   | 4.1   | 4.4   | 7.6   | 11    | 3.1   | 3.3  | 1.5   | .6    |
| 3     | 3.1   | 2.7   | 3.8   | 2.8   | 3.8   | 4.4   | 6.9   | 11    | 3.1   | 3.3  | 1.6   | .7    |
| 4     | 3.1   | 2.2   | 3.6   | 2.5   | 3.6   | 4.4   | 6.5   | 9.6   | 3.1   | 3.1  | 1.6   | 1.2   |
| 5     | 3.1   | 2.1   | 3.6   | 2.7   | 3.3   | 4.4   | 6.1   | 8.7   | 3.1   | 3.1  | 2.1   | 1.0   |
| 6     | 3.1   | 2.2   | 3.6   | 2.8   | 3.3   | 4.4   | 6.1   | 8.0   | 3.1   | 2.7  | 2.4   | .9    |
| 7     | 3.3   | 2.1   | 3.8   | 3.1   | 3.3   | 4.4   | 6.5   | 7.6   | 3.1   | 2.5  | 2.4   | .8    |
| 8     | 3.1   | 2.1   | 3.8   | 3.1   | 3.3   | 4.4   | 6.5   | 7.3   | 3.1   | 2.4  | 2.4   | .8    |
| 9     | 3.1   | 2.1   | 3.8   | 3.1   | 150   | 4.4   | 5.8   | 7.6   | 3.1   | 2.2  | 2.4   | .7    |
| 10    | 3.1   | 2.7   | 2.8   | 3.1   | * 110 | 4.4   | 5.8   | 6.9   | 3.3   | 2.2  | 2.2   | .7    |
| 11    | 2.8   | 3.1   | 2.5   | 3.3   | 26    | 3.8   | 5.4   | 6.5   | 3.8   | 2.4  | 2.1   | .4    |
| 12    | 2.7   | 3.1   | 2.5   | 3.3   | * 19  | 3.3   | 5.1   | 6.1   | 3.6   | 2.2  | 1.5   | .3    |
| 13    | 2.5   | 3.1   | 2.7   | 3.6   | 13    | 3.1   | 4.6   | 6.1   | 3.6   | 2.1  | 1.1   | .2    |
| 14    | 4.4   | 2.8   | 2.7   | 3.6   | 12    | 3.1   | 8.7   | 6.1   | 3.3   | 2.1  | 1.0   | .3    |
| 15    | 3.8   | 2.8   | 2.8   | 3.8   | 9.6   | 3.1   | 6.1   | 5.4   | 3.1   | 2.1  | .9    | .4    |
| 16    | 3.6   | 2.8   | 3.6   | 3.8   | 8.7   | 15    | 5.1   | 5.1   | 3.1   | 2.1  | 1.1   | .4    |
| 17    | 3.6   | 2.8   | 3.8   | 3.8   | 8.0   | * 13  | 5.4   | 4.9   | 3.6   | 2.1  | 1.6   | .4    |
| 18    | 3.3   | 2.8   | 3.8   | 4.1   | 7.3   | 5.4   | 5.1   | 4.6   | 3.6   | 2.1  | 1.6   | .8    |
| 19    | 3.3   | 2.7   | 3.6   | 3.8   | 6.5   | 4.1   | 5.1   | 4.6   | 3.6   | 1.9  | .9    | 4.1   |
| 20    | 3.3   | 3.1   | 3.6   | 3.8   | 6.1   | 3.3   | 6.1   | 4.6   | 3.6   | 1.8  | .6    | 1.1   |
| 21    | 3.3   | 2.8   | 3.6   | 4.1   | 5.8   | 3.1   | 8.7   | 4.1   | 3.6   | 2.1  | .5    | .9    |
| 22    | 2.2   | 3.1   | 3.6   | 4.4   | 5.4   | 3.8   | 5.4   | 4.1   | 3.6   | 1.9  | .8    | .8    |
| 23    | 1.9   | 3.1   | 3.8   | 4.6   | 5.1   | 4.9   | 5.1   | 4.1   | 3.6   | 1.9  | .7    | .7    |
| 24    | 2.2   | 3.1   | 3.8   | 4.6   | 4.9   | 3.8   | 4.9   | 4.1   | 3.3   | 1.8  | .7    | .7    |
| 25    | 2.4   | 3.1   | 3.8   | 4.6   | 4.9   | 3.6   | 7.6   | 4.1   | 3.3   | 1.6  | .7    | .7    |
| 26    | 2.5   | 3.6   | 3.6   | 4.9   | 4.6   | 3.6   | 22    | 4.1   | 3.3   | 1.5  | .5    | .6    |
| 27    | 2.4   | 4.1   | 3.8   | 5.1   | * 4.6 | * 3.6 | 15    | 3.6   | 3.6   | 1.8  | * .5  | .6    |
| 28    | 2.2   | 4.1   | * 3.8 | 5.1   | 4.4   | * 18  | 14    | 3.6   | * 3.6 | 1.9  | .4    | .5    |
| 29    | 1.9   | * 4.1 | 3.8   | 5.1   | ----- | 14    | 12    | 3.6   | 3.6   | 2.1  | .3    | .6    |
| 30    | 1.8   | 4.1   | 4.1   | 5.1   | ----- | 9.6   | * 13  | * 3.6 | 3.3   | 2.1  | .4    | * .7  |
| 31    | * 1.8 | ----- | 3.8   | * 11  | ----- | 8.4   | ----- | 3.6   | ----- | 2.5  | .5    | ----- |
| TOTAL | 87.0  | 86.9  | 109.5 | 126.1 | 446.4 | 177.6 | 230.2 | 186.3 | 101.1 | 70.2 | 39.2  | 23.2  |
| MEAN  | 2.81  | 2.90  | 3.53  | 4.07  | 15.9  | 5.73  | 7.67  | 6.01  | 3.37  | 2.27 | 1.27  | .77   |
| AC-FT | 173   | 172   | 217   | 250   | 885   | 352   | 457   | 370   | 201   | 139  | 77    | 46    |
| MAX   | 4.4   | 4.1   | 4.1   | 11    | 150   | 18    | 22    | 12    | 3.8   | 3.3  | 2.4   | 4.1   |
| MIN   | 1.8   | 1.9   | 2.5   | 2.5   | 3.3   | 3.1   | 4.6   | 3.6   | 3.1   | 1.5  | 0.3   | 0.2   |

CALENDAR YEAR 1962 MAX 2,370 MIN 1.8 MEAN 36.3 AC-FT 26,260  
WATER YEAR 1962-63 MAX 150 MIN .2 MEAN 4.61 AC-FT 3,340

Peak discharge (base, 200 cfs).--Feb. 9 (2015 hrs) 684 cfs (3.78 ft).

\* Discharge measurement made on this day.

11-1145. Matilija Creek above reservoir, near Matilija Hot Springs, Calif.

Location.--Lat 34°29'41", long 119°19'48", in SW<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.19, T.5 N., R.23 W., on left bank 1.6 miles upstream from Matilija Dam and 1.7 miles northwest of Matilija Hot Springs.

Drainage area.--50.7 sq mi.

Records available.--May 1948 to September 1963. Published as "near Matilija" prior to October 1953.

Gage.--Water-stage recorder. Datum of gage is 1,160.20 ft above mean sea level (levels by Ventura County Water Resources Division).

Average discharge.--15 years, 19.6 cfs (14,190 acre-ft per year); median of yearly mean discharges, 7.6 cfs (5,500 acre-ft per year).

Extremes.--Maximum discharge during year, 863 cfs Feb. 9 (gage height, 4.71 ft); minimum daily, 1.5 cfs Sept. 2, 3, 26, 27.

1948-63: Maximum discharge, 8,800 cfs Jan. 15, 1952 (gage height, 12.1 ft), from rating curve extended above 5,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.3 cfs Oct. 17-20, 25, 27, 1951.

Remarks.--Records good. Discharge measurements made once a week. No regulation or diversion above station.

Cooperation.--Fifty-six discharge measurements furnished by Ventura County Water Resources Division and one by Ventura River Municipal Water District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug. | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 1     | 3.4   | 3.6   | 4.0   | 4.5   | 9.3   | 10    | 14    | 11    | 7.2   | 4.9   | 2.8  | 1.7   |
| 2     | 3.4   | 3.6   | 4.0   | 4.5   | 7.7   | 11    | 14    | 11    | 7.2   | 4.9   | 2.5  | 1.5   |
| 3     | 3.4   | 3.6   | 4.0   | 4.5   | 7.7   | 12    | 13    | 11    | 7.2   | 4.5   | 2.5  | 1.5   |
| 4     | 3.6   | 4.0   | 4.0   | 4.5   | 7.7   | 12    | 12    | 10    | 6.8   | 4.5   | 2.5  | 2.3   |
| 5     | 3.6   | 4.0   | 4.0   | 4.5   | 7.2   | 12    | 11    | 10    | 7.2   | 4.0   | 2.5  | 2.1   |
| 6     | 3.6   | 4.0   | 4.0   | 4.5   | 7.2   | 11    | 11    | 9.3   | 7.2   | 4.0   | 2.5  | 1.9   |
| 7     | 3.6   | 3.6   | 4.0   | 4.5   | 7.2   | 11    | 12    | 8.6   | 7.2   | 3.6   | 2.8  | 1.7   |
| 8     | 3.4   | 3.6   | 4.0   | 4.5   | 6.8   | 12    | 12    | 8.6   | 6.8   | 3.6   | 2.8  | 1.7   |
| 9     | 3.4   | 3.6   | 4.0   | 4.5   | 205   | 9.3   | 11    | 10    | 6.8   | 3.6   | 2.8  | 1.7   |
| 10    | 3.4   | 4.0   | 4.0   | 4.5   | 161   | 9.3   | 11    | 10    | 7.2   | 3.4   | 2.8  | 1.7   |
| 11    | 3.4   | 4.0   | 4.5   | 4.5   | 65    | 9.3   | 11    | 9.3   | 8.1   | 3.4   | 2.8  | 1.7   |
| 12    | 3.4   | 4.0   | 4.5   | 4.5   | 39    | 8.1   | 10    | 8.6   | 8.1   | 3.4   | 2.8  | 1.7   |
| 13    | 3.4   | 4.0   | 4.5   | 4.5   | 31    | 8.1   | 10    | 8.6   | 7.7   | 3.4   | 2.8  | 1.7   |
| 14    | 4.0   | 4.0   | 4.5   | 4.5   | 26    | 8.1   | 16    | 8.6   | 7.2   | 3.4   | 2.5  | 1.7   |
| 15    | 3.6   | 4.0   | 4.9   | 4.5   | 22    | 8.1   | 14    | 8.1   | 6.3   | 3.4   | 2.3  | 1.7   |
| 16    | 3.6   | 4.0   | 4.9   | 4.9   | 18    | 16    | 12    | 7.7   | 6.3   | 3.4   | 2.3  | 1.9   |
| 17    | 3.6   | 4.0   | 4.9   | 4.9   | 16    | 17    | 12    | 7.7   | 6.3   | 3.4   | 2.3  | 1.9   |
| 18    | 3.6   | 4.0   | 4.5   | 4.9   | 14    | 13    | 12    | 7.7   | 6.3   | 3.4   | 2.3  | 2.5   |
| 19    | 4.0   | 4.0   | 4.5   | 4.9   | 14    | 12    | 12    | 7.7   | 6.3   | 3.4   | 2.1  | 3.4   |
| 20    | 4.0   | 4.0   | 4.0   | 4.9   | 13    | 11    | 12    | 7.7   | 6.3   | 3.4   | 1.9  | 2.3   |
| 21    | 4.0   | 4.0   | 4.0   | 4.5   | 13    | 9.3   | 12    | 7.7   | 6.3   | 3.4   | 1.9  | 2.1   |
| 22    | 4.0   | 4.0   | 4.0   | 4.5   | 12    | 11    | 10    | 7.7   | 6.8   | 3.4   | 1.9  | 1.9   |
| 23    | 4.0   | 4.0   | 4.5   | 4.5   | 12    | 12    | 9.3   | 7.7   | 6.8   | 3.1   | 1.9  | 1.9   |
| 24    | 4.0   | 4.0   | 4.5   | 4.5   | 12    | 9.3   | 8.6   | 7.7   | 6.3   | 2.8   | 1.9  | 1.9   |
| 25    | 4.0   | 4.0   | 4.5   | 4.5   | 12    | 8.6   | 11    | 7.7   | 5.8   | 2.8   | 1.7  | 1.7   |
| 26    | 4.0   | 4.0   | 4.5   | 4.5   | 12    | 8.6   | 18    | 7.7   | 5.4   | 2.8   | 1.7  | 1.5   |
| 27    | 4.0   | 4.5   | 4.5   | 4.5   | 11    | 8.1   | 14    | 7.7   | 5.4   | 2.8   | 1.7  | 1.5   |
| 28    | 3.6   | 4.5   | 4.5   | 4.5   | 10    | 29    | 12    | 7.7   | 5.4   | 2.8   | 1.7  | 1.7   |
| 29    | 3.6   | 4.5   | 4.5   | 4.5   | ----- | 21    | 11    | 7.7   | 5.4   | 2.8   | 1.7  | 1.7   |
| 30    | 3.6   | 4.3   | 4.5   | 6.8   | ----- | 16    | 10    | 7.7   | 4.9   | 2.8   | 1.9  | 1.7   |
| 31    | 3.6   | ----- | 4.5   | 13    | ----- | 14    | ----- | 7.7   | ----- | 2.8   | 1.9  | ----- |
| Total | 113.8 | 119.4 | 134.2 | 152.3 | 778.8 | 367.2 | 357.9 | 265.9 | 198.2 | 107.3 | 70.5 | 55.9  |
| Mean  | 3.67  | 3.98  | 4.33  | 4.91  | 27.8  | 11.8  | 11.9  | 8.58  | 6.61  | 3.46  | 2.27 | 1.86  |
| Max   | 4.0   | 4.5   | 4.9   | 13    | 205   | 29    | 18    | 11    | 8.1   | 4.9   | 2.8  | 3.4   |
| Min   | 3.4   | 3.6   | 4.0   | 4.5   | 6.8   | 8.1   | 8.6   | 7.7   | 4.9   | 2.8   | 1.7  | 1.5   |
| Ac-ft | 226   | 237   | 266   | 302   | 1,540 | 728   | 710   | 527   | 393   | 213   | 140  | 111   |

Calendar year 1962: Max 4,050 Min 3.4 Mean 59.1 Ac-ft 42,750

Water year 1962-63: Max 205 Min 1.5 Mean 7.46 Ac-ft 5,390

Peak discharge (base, 200 cfs).--Feb. 9 (1900 hrs) 863 cfs (4.71 ft).

## VENTURA RIVER BASIN

11-1150. Matilija Reservoir at Matilija Hot Springs, Calif.

Location.--Lat 34°29'02", long 119°18'28", in SW 1/4 sec. 29, T.5 N., R.23 W., on upstream face near right end of Matilija Dam on Matilija Creek, 0.2 mile west of Matilija Hot Springs.

Drainage area.--54.4 sq mi (revised).

Records available.--March 1948 to September 1963. Prior to October 1953, published as "at Matilija."

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Ventura County Water Resources Division). Prior to Oct. 1, 1954, at datum 1,000 ft higher.

Extremes.--Maximum contents during year, 6,258 acre-ft Feb. 12 (elevation, 1,118.75 ft); minimum, 3,089 acre-ft Sept. 30 (elevation, 1,085.25 ft).

1948-63: Maximum contents, 7,399 acre-ft Apr. 3, 1958 (elevation, 1,128.10 ft); minimum, 54 acre-ft (sluice gate open) July 27, 1951, to Jan. 11, 1952.

Remarks.--Reservoir is formed by concrete dam, completed in 1948. Storage began Mar. 14, 1948. Capacity and area ratings for reservoir are based on surveys made in 1948. Dead storage below sluice gate (elevation, 1,000.0 ft), 54 acre-ft included in contents. Capacity below outlet gate (elevation, 1,025.0 ft), 250 acre-ft; below spillway level (elevation, 1,125.0 ft), 7,020 acre-ft. Water released from reservoir passes down natural channel of Matilija Creek or is diverted through pipeline to Ventura River basin and Ojai Valley for irrigation.

Cooperation.--Gage-height record furnished by Ventura River Municipal Water District.

Month-end elevation and contents, water year October 1962 to September 1963

| Date                    | Elevation<br>(feet)† | Contents<br>(acre-feet) | Change in contents<br>(acre-feet) |
|-------------------------|----------------------|-------------------------|-----------------------------------|
| Sept. 30.....           | 1,115.81             | 5,917                   | -                                 |
| Oct. 31.....            | 1,115.32             | 5,861                   | -56                               |
| Nov. 30.....            | 1,114.95             | 5,818                   | -43                               |
| Dec. 31.....            | 1,114.63             | 5,784                   | -34                               |
| Calendar year 1962..... | -                    | -                       | +3,539                            |
| Jan. 31.....            | 1,115.19             | 5,846                   | +62                               |
| Feb. 28.....            | 1,106.08             | 4,887                   | -959                              |
| Mar. 31.....            | 1,100.19             | 4,318                   | -569                              |
| Apr. 30.....            | 1,101.06             | 4,401                   | +83                               |
| May 31.....             | 1,099.37             | 4,244                   | -157                              |
| June 30.....            | 1,097.30             | 4,060                   | -184                              |
| July 31.....            | 1,093.15             | 3,705                   | -355                              |
| Aug. 31.....            | 1,088.13             | 3,306                   | -399                              |
| Sept. 30.....           | 1,085.25             | 3,089                   | -217                              |
| Water year 1962-63..... | -                    | -                       | -2,828                            |

† Elevation at 2400 hours.

VENTURA RIVER BASIN

209

11-1155. Matilija Creek at Matilija Hot Springs, Calif.

Location.--Lat 34°28'58", long 119°18'03", in SW 1/4 sec. 28, T.5 N., R.23 W., on right bank 0.2 mile east of Matilija Hot Springs, 0.2 mile upstream from North Fork, and 0.45 mile downstream from Matilija Dam.

Drainage area.--54.6 sq mi.

Records available.--October 1927 to September 1963. Combined monthly records for creek and diversion since May 1951. Prior to October 1953, published as "at Matilija."

Gage.--Water-stage recorder. Altitude of gage is 900 ft (from topographic map). Prior to Feb. 11, 1939, at site 0.6 mile upstream at different datum.

Extremes.--Maximum discharge during year, 68 cfs Feb. 9 (gage height, 2.35 ft); minimum daily, 1.5 cfs Aug. 27, Sept. 26-30.

1927-63: Maximum discharge, 15,900 cfs Mar. 2, 1938, on basis of slope-area measurement of peak flow; minimum daily, 0.1 cfs for several days in some years of regulated flow.

Remarks.--Records good. Flow regulated since March 1948 by Matilija Reservoir (see preceding page); water diverted at dam by Matilija conduit to Ventura River basin and Ojai Valley for irrigation, since May 1951.

Cooperation.--Records of diversion from Matilija Reservoir and eleven discharge measurements furnished by Ventura River Municipal Water District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day    | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1      | 3.1   | 3.3   | 3.4   | 3.8   | 4.4   | 5.6   | 1.6   | 9.6   | 8.2   | 7.0   | 3.0   | 2.1   |
| 2      | 3.1   | 3.2   | 3.2   | 3.8   | 4.3   | 5.6   | 1.6   | 9.6   | 8.2   | e 6   | 2.9   | 2.3   |
| 3      | 3.1   | 3.4   | 2.8   | 3.8   | 4.3   | 5.4   | 1.5   | 9.6   | 8.2   | e 5   | 2.9   | 2.2   |
| 4      | 3.1   | 3.3   | 3.2   | 3.8   | 4.3   | 5.3   | 1.5   | 9.6   | 8.2   | e 5   | 2.9   | 2.4   |
| 5      | 3.1   | 3.0   | 3.1   | 3.8   | * 3.1 | * 5.3 | 1.4   | 9.6   | 8.0   | e 5   | 2.9   | 2.4   |
| 6      | 3.2   | 3.2   | 3.0   | 3.8   | * 5.6 | 5.2   | 1.4   | 9.6   | 8.0   | e 5   | 2.9   | 2.1   |
| 7      | 3.2   | 3.2   | 2.2   | 3.8   | 5.6   | 5.2   | 1.4   | 9.6   | 8.0   | e 5   | 2.8   | 2.0   |
| 8      | 3.0   | 3.2   | 2.7   | 3.8   | * 5.6 | * 3.4 | 1.4   | 9.9   | 8.0   | e 5   | 2.8   | 1.9   |
| 9      | 3.3   | 3.2   | 3.6   | 3.8   | 4.5   | 9.3   | 1.3   | 10    | 8.0   | e 4.5 | 2.7   | 1.9   |
| 10     | 3.4   | 3.5   | 2.5   | 3.8   | * 3.3 | 9.3   | 1.3   | 10    | 8.0   | e 4   | 2.7   | 2.0   |
| 11     | 3.4   | 3.5   | 2.8   | 3.8   | * 6.0 | 9.3   | 1.3   | 10    | 8.0   | e 4   | 2.7   | 1.9   |
| 12     | 3.3   | 3.2   | 4.0   | 3.8   | * 6.0 | 9.0   | 1.3   | 10    | 8.0   | e 4   | 2.6   | 1.9   |
| 13     | 3.4   | * 3.1 | 4.0   | 3.8   | 5.8   | 9.0   | 1.3   | 10    | 8.0   | e 4   | 2.6   | 2.0   |
| 14     | 3.3   | 3.1   | 4.0   | 3.8   | 5.8   | 8.7   | 1.3   | 10    | 8.0   | e 4   | 2.6   | 2.2   |
| 15     | 2.9   | 3.1   | 4.4   | 3.8   | 5.8   | 8.7   | 1.3   | 9.9   | 8.0   | e 4   | 2.6   | 2.2   |
| 16     | 3.3   | 3.1   | 3.9   | 3.8   | 5.8   | 9.0   | 1.3   | 9.9   | 8.0   | e 4   | 2.5   | 2.2   |
| 17     | 3.3   | 3.3   | 3.7   | 3.8   | 5.7   | 9.0   | 1.2   | 9.9   | 8.0   | e 4   | 2.5   | 2.2   |
| 18     | 3.3   | 3.3   | 4.1   | 3.8   | 5.7   | 9.3   | 1.2   | 9.9   | 8.0   | e 4   | 2.2   | 2.4   |
| 19     | 3.3   | 3.4   | 4.1   | 3.8   | * 5.6 | 9.6   | 1.2   | 9.9   | 8.0   | e 3.5 | 2.1   | 2.7   |
| 20     | 3.5   | 3.4   | 4.1   | 4.0   | 5.6   | 9.6   | 1.2   | 9.6   | 7.7   | e 3.5 | 2.1   | * 2.9 |
| 21     | 3.5   | 3.4   | 4.0   | 4.0   | 5.6   | 9.6   | 1.2   | 8.0   | 7.7   | e 3.5 | 2.0   | 2.8   |
| 22     | 2.9   | 3.4   | 4.6   | 4.0   | 5.6   | 9.9   | 1.2   | 9.3   | 7.7   | e 3.5 | 2.0   | 2.6   |
| 23     | 3.3   | 3.5   | 3.9   | 4.0   | 5.6   | 9.9   | 1.1   | 9.3   | 7.7   | e 3.5 | 1.8   | * 2.3 |
| 24     | 3.3   | 3.5   | 3.8   | 4.0   | 5.6   | 10    | 1.1   | 9.3   | * 7.2 | e 3.5 | 1.8   | 2.1   |
| 25     | 3.2   | 3.7   | 4.4   | 4.0   | 5.6   | 10    | 1.1   | 9.3   | 6.8   | e 3.5 | 1.6   | 1.8   |
| 26     | 3.3   | 3.7   | 3.6   | 4.0   | * 5.6 | 10    | 1.1   | 9.0   | 7.0   | e 3   | 1.6   | 1.5   |
| 27     | 3.5   | * 3.7 | * 3.8 | 4.0   | 5.6   | 11    | 1.1   | 9.0   | * 7.0 | e 3   | * 1.5 | 1.5   |
| 28     | 3.3   | 3.7   | 3.8   | 4.0   | * 5.6 | 11    | 1.1   | * 9.0 | 7.0   | e 3   | 1.6   | 1.5   |
| 29     | 3.1   | 3.6   | 3.8   | 4.0   | 4.0   | * 1.1 | 10    | 9.0   | 7.0   | e 3   | 1.7   | 1.5   |
| 30     | 3.3   | 3.5   | 3.8   | 4.3   | ----- | 13    | * 9.9 | 8.7   | 7.0   | e 3   | 1.8   | 1.5   |
| 31     | * 3.3 | ----- | 3.8   | * 5.0 | ----- | 15    | ----- | 8.2   | ----- | * 3.0 | 1.9   | ----- |
| Total  | 100.6 | 100.7 | 112.1 | 121.5 | 132.3 | 640.2 | 379.9 | 294.3 | 232.6 | 126.0 | 72.3  | 63.0  |
| Mean   | 3.25  | 3.36  | 3.62  | 3.92  | 4.72  | 20.7  | 12.7  | 9.49  | 7.75  | 4.06  | 2.33  | 2.10  |
| Max    | 3.5   | 3.7   | 4.6   | 5.0   | 60    | 56    | 16    | 10    | 8.2   | 7.0   | 3.0   | 2.9   |
| Min    | 2.9   | 3.0   | 2.2   | 3.8   | 4.3   | 8.7   | 9.9   | 8.2   | 6.8   | 3.0   | 1.5   | 1.5   |
| Ac-ft  | 200   | 200   | 222   | 241   | 2,620 | 1,270 | 754   | 584   | 461   | 249   | 143   | 125   |
| (†)    | 33    | 27    | 66    | 0     | 0     | 0     | 0     | 132   | 181   | 320   | 341   | 211   |
| Mean†  | 3.79  | 3.81  | 4.68  | 3.92  | 4.72  | 20.7  | 12.7  | 11.6  | 10.8  | 9.25  | 7.87  | 5.65  |
| Ac-ft† | 233   | 227   | 288   | 241   | 2,620 | 1,270 | 754   | 716   | 642   | 569   | 484   | 336   |

Calendar year 1962: Max 3,890 Min 1.8 Mean 55.0 Ac-ft 39,800 Mean† 57.4 Ac-ft† 41,590  
 Water year 1962-63: Max 60 Min 1.5 Mean 9.76 Ac-ft 7,070 Mean† 11.6 Ac-ft† 8,380

\* Discharge measurement made on this day.

† Diversion, in acre-feet, by Matilija conduit.

‡ Combined discharge for creek and diversion.

e Stage-discharge relation indefinite.

Note.--No gage-height record Oct. 5 to Nov. 12, Nov. 29 to Dec. 26.

## VENTURA RIVER BASIN

11-1160. North Fork Matilija Creek at Matilija Hot Springs, Calif.

Location.--Lat 34°29'33", long 119°18'20", in NE 1/4 sec. 29, T.5 N., R.23 W., on right bank at bridge on U. S. Highway 399, 0.7 mile north of Matilija Hot Springs and 0.8 mile upstream from mouth.

Drainage area.--15.6 sq mi.

Records available.--October 1928 to September 1932, October 1933 to September 1963. Prior to October 1953, published as "at Matilija."

Gage.--Water-stage recorder. Datum of gage is 1,142.02 ft above mean sea level (levels by Ventura County Water Resources Division). Prior to Nov. 12, 1948, at site 0.3 mile downstream at different datum.

Average discharge.--34 years, 8.78 cfs (6,360 acre-ft per year); median of yearly mean discharges, 4.0 cfs (2,900 acre-ft per year).

Extremes.--Maximum discharge during year, 730 cfs Feb. 9 (gage height, 3.90 ft); minimum daily, 0.3 cfs Sept. 11-13. 1928-32, 1933-63: Maximum discharge, 5,580 cfs Mar. 2, 1938; minimum, 0.1 cfs for several days in some years.

Remarks.--Records good. Discharge measurements generally made once a week. No regulation or diversion above station.

Cooperation.--Gage-height record and 65 discharge measurements furnished by Ventura County Water Resources Division.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.3 | 0   | 0.8 | 9.3 |
| .4  | .4  | 1.0 | 20  |
| .5  | 1.4 | 1.3 | 45  |
| .6  | 3.0 | 1.6 | 80  |
| .7  | 5.7 | 2.0 | 145 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 1.6  | 1.2   | 1.6  | 1.6  | 4.8   | 3.0   | 4.8   | 4.0  | 2.4   | 1.4  | 0.7  | 0.5   |
| 2     | 1.6  | 1.4   | 1.6  | 1.6  | 3.6   | 2.8   | 4.6   | 4.0  | 2.2   | 1.2  | .7   | .5    |
| 3     | 1.5  | 1.4   | 1.6  | 1.6  | 2.8   | 2.8   | 4.3   | 4.0  | 2.2   | 1.1  | .6   | .5    |
| 4     | 1.5  | 1.5   | 1.6  | 1.6  | 2.8   | 2.8   | 3.8   | 3.8  | 2.1   | 1.1  | .6   | .8    |
| 5     | 1.5  | 1.5   | 1.6  | 1.6  | 2.4   | 2.8   | 3.6   | 3.6  | 2.2   | 1.1  | .6   | .8    |
| 6     | 1.5  | 1.5   | 1.5  | 1.6  | 2.4   | 2.8   | 3.6   | 3.6  | 2.2   | 1.1  | .7   | .6    |
| 7     | 1.5  | 1.4   | 1.5  | 1.6  | 2.2   | 2.8   | 3.6   | 3.3  | 2.2   | 1.1  | .7   | .5    |
| 8     | 1.4  | 1.4   | 1.5  | 1.6  | 2.2   | 2.6   | 3.8   | 3.3  | 2.1   | 1.1  | .8   | .4    |
| 9     | 1.4  | 1.4   | 1.5  | 1.8  | 117   | 2.6   | 3.8   | 4.0  | 2.0   | 1.0  | .7   | .4    |
| 10    | 1.4  | 1.4   | 1.6  | 1.8  | 65    | 2.6   | 3.8   | 3.6  | 2.1   | 1.0  | .6   | .4    |
| 11    | 1.5  | 1.4   | 1.6  | 1.8  | 14    | 2.4   | 3.6   | 3.6  | 2.4   | 1.0  | .6   | .3    |
| 12    | 1.5  | 1.4   | 1.6  | 1.8  | 8.9   | 2.4   | 3.3   | 3.3  | 2.2   | .9   | .6   | .3    |
| 13    | 1.5  | 1.4   | 1.6  | 2.0  | 6.4   | 2.4   | 3.0   | 3.0  | 2.2   | .9   | .5   | .3    |
| 14    | 1.8  | 1.5   | 1.6  | 2.0  | 5.7   | 2.2   | 5.4   | 3.0  | 2.1   | .9   | .5   | .4    |
| 15    | 1.5  | 1.5   | 1.6  | 2.0  | 5.1   | 2.2   | 4.3   | 3.0  | 2.0   | .9   | .5   | .4    |
| 16    | 1.4  | 1.5   | 1.8  | 1.8  | 4.6   | 8.0   | 3.8   | 2.8  | 2.0   | .9   | .5   | .5    |
| 17    | 1.4  | 1.5   | 1.8  | 1.8  | 4.3   | 7.0   | 3.6   | 2.8  | 2.0   | .9   | .5   | .5    |
| 18    | 1.4  | 1.5   | 1.8  | 1.8  | 4.0   | 4.3   | 3.6   | 2.8  | 1.8   | .9   | .5   | .9    |
| 19    | 1.4  | 1.5   | 1.8  | 1.8  | 3.8   | 4.0   | 3.6   | 2.8  | 1.8   | .9   | .5   | 2.7   |
| 20    | 1.4  | 1.4   | 1.6  | 1.8  | 3.8   | 3.6   | 4.0   | 2.8  | 1.8   | .9   | .5   | 1.0   |
| 21    | 1.4  | 1.4   | 1.6  | 1.8  | 3.8   | 3.3   | 4.0   | 2.8  | 2.0   | .9   | .5   | .9    |
| 22    | 1.4  | 1.4   | 1.6  | 1.8  | 3.8   | 3.8   | 3.6   | 2.8  | 2.1   | .9   | .5   | .7    |
| 23    | 1.4  | 1.5   | 1.6  | 1.8  | 3.6   | 4.3   | 3.3   | 2.8  | 2.0   | .9   | .5   | .6    |
| 24    | 1.4  | 1.5   | 1.6  | 1.8  | 3.3   | 3.6   | 3.0   | 2.8  | 1.8   | .8   | .5   | .6    |
| 25    | 1.4  | 1.6   | 1.6  | 1.8  | 3.0   | 3.3   | 4.8   | 2.6  | 1.6   | .8   | .5   | .5    |
| 26    | 1.4  | 1.6   | 1.6  | 1.8  | 3.0   | 3.3   | 12    | 2.6  | 1.5   | .8   | .5   | .5    |
| 27    | 1.4  | 1.6   | 1.6  | 1.8  | 3.0   | 3.3   | 7.8   | 2.4  | 1.6   | .8   | .4   | .5    |
| 28    | 1.2  | 1.6   | 1.6  | 1.8  | 3.0   | 17    | 5.4   | 2.4  | 1.6   | .8   | .4   | .5    |
| 29    | 1.2  | 1.6   | 1.6  | 2.0  | ----- | 7.0   | 4.6   | 2.4  | 1.5   | .8   | .4   | .5    |
| 30    | 1.2  | 1.6   | 1.6  | 2.8  | ----- | 5.7   | 4.3   | 2.4  | 1.5   | .8   | .4   | .5    |
| 31    | 1.2  | ----- | 1.6  | 8.5  | ----- | 5.4   | ----- | 2.4  | ----- | .7   | .4   | ----- |
| Total | 44.3 | 44.1  | 50.0 | 62.7 | 292.3 | 126.1 | 130.7 | 95.5 | 59.2  | 29.3 | 16.9 | 18.5  |
| Mean  | 1.43 | 1.47  | 1.61 | 2.02 | 10.4  | 4.07  | 4.36  | 3.08 | 1.97  | 0.95 | 0.55 | 0.62  |
| Max   | 1.8  | 1.6   | 1.8  | 8.5  | 117   | 17    | 12    | 4.0  | 2.4   | 1.4  | 0.8  | 2.7   |
| Min   | 1.2  | 1.2   | 1.5  | 1.6  | 2.2   | 2.2   | 3.0   | 2.4  | 1.5   | 0.7  | 0.4  | 0.3   |
| Ac-ft | 88   | 87    | 99   | 124  | 580   | 250   | 259   | 189  | 117   | 58   | 34   | 37    |

Calendar year 1962: Max 1,550 Min 1.0 Mean 20.8 Ac-ft 15,030

Water year 1962-63: Max 117 Min .3 Mean 2.66 Ac-ft 1,920

Peak discharge (base, 40 cfs).--Feb. 9 (1930 hrs) 730 cfs (3.90 ft); Mar. 28 (0830 hrs) 49 cfs (1.39 ft).



VENTURA RIVER BASIN

211

11-1165.5. Ventura River near Meiners Oaks, Calif.

Location.--Lat 34°27'45", long 119°17'20", in Santa Ana Grant, on right bank 500 ft downstream from Robles diversion dam, 1,500 ft downstream from Los Padres National Forest boundary, and 1.1 miles northwest of Meiners Oaks, Ventura County.

Drainage area.--76.4 sq mi.

Records available.--May 1959 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 744.60 ft above mean sea level (Bureau of Reclamation bench mark).

Extremes.--Maximum discharge during year, 230 cfs Feb. 9 (gage height, 2.40 ft), from rating curve extended above 50 cfs on basis of slope-area measurement at gage height 7.1 ft; no flow for much of year.

1959-63: Maximum discharge, 7,590 cfs Feb. 10, 1962 (gage height, 7.1 ft), from rating curve extended above 50 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. Flow regulated by Matilija Reservoir (see p. 208). Flows up to 500 cfs diverted since May 1959 at Robles diversion dam to Casitas Reservoir on Coyote Creek. Flow reported herein is that released through gates in Robles diversion dam.

Cooperation.--Three discharge measurements furnished by Ventura River Municipal Water District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.0 | 0   | 1.3 | 5.7 |
| 1.1 | .3  | 1.4 | 13  |
| 1.2 | 1.8 | 1.5 | 22  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     |      | 0     | 0    | 0.2  | 4.2   | 0     | 8.2   | 9.6   | 1.4   |      |      |       |
| 2     |      | 0     | 0    | 1.2  | 2.6   | 0     | 8.2   | 9.5   | 2.3   |      |      |       |
| 3     |      | 0     | 0    | .6   | 2.0   | 0     | 7.5   | 9     | 3.3   |      |      |       |
| 4     |      | 0     | 0    | .2   | 2.0   | 0     | 6.3   | 8.5   | 3.3   |      |      |       |
| 5     |      | 0     | 0    | .6   | 2.3   | 0     | 6.3   | 8.5   | 2.3   |      |      |       |
| 6     |      | 0     | 0    |      |       |       |       |       |       |      |      |       |
| 7     |      | 0     | 0    | .4   | * 2.2 | 0     | 6.3   | 8     | * 2.0 |      |      |       |
| 8     |      | 0     | 0    | 1.2  | 2.6   | 0     | 6.3   | 8     | 2.6   |      |      |       |
| 9     |      | 0     | 0    | .4   | 3.0   | 4.7   | 6.3   | 7.5   | 2.3   |      |      |       |
| 10    |      | 0     | 0    | 0    | 15    | 11    | 6.3   | 7.5   | 2.0   |      |      |       |
|       |      |       |      | 1.2  | 11    | 9.6   | 6.9   | 7.5   | 2.3   |      |      |       |
| 11    |      | 0     | 0    | .7   | * 19  | 8.2   | 7.5   | 6.9   | 3.7   |      |      |       |
| 12    |      | 0     | 0    | .5   | 18    | 6.3   | 7.5   | 6.9   | 4.2   |      |      |       |
| 13    |      | 0     | 0    | 1.4  | 18    | 5.2   | 8.2   | 6.9   | 3.7   |      |      |       |
| 14    |      | 0     | 0    | .5   | 18    | 5.2   | 8.9   | 6.9   | 2.6   |      |      |       |
| 15    |      | 0     | 0    | 1.4  | 18    | 5.2   | 11    | 6.9   | 2.3   |      |      |       |
| 16    |      | 0     | 0    | .7   | 22    | 6.9   |       |       |       |      |      |       |
| 17    |      | 0     | .1   | 0    | 21    | 12    |       | 6.3   | 1.8   |      |      |       |
| 18    |      | 0     | 1.4  | 0    | 20    | 7.5   |       | 6.3   | 1.8   |      |      |       |
| 19    |      | 0     | 1.0  | 0    | 18    | 8.2   |       | 6.9   | 1.8   |      |      |       |
| 20    |      | 0     | .4   | 0    | 16    | 8.2   | 8     | 6.9   | * 1.8 |      |      |       |
| 21    |      | 0     |      | 0    | 16    | 8.2   |       |       |       |      |      |       |
| 22    |      | 0     | .2   | 0    | 15    | 8.2   |       | 3.7   | 1.8   |      |      |       |
| 23    |      | 0     | .8   |      | 14    | 8.9   |       | 3.7   | 1.8   |      |      |       |
| 24    |      | .1    | 1.4  |      | 12    | 8.2   |       | 4.2   | 2.0   |      |      |       |
| 25    |      | .2    | .8   |      | 8.6   | 7.5   |       | 4.7   | 2.3   |      |      |       |
| 26    |      |       |      |      |       |       |       | 3.7   | 1.6   |      |      |       |
| 27    |      | * 0   | * .5 | .5   | 1.4   | 7.5   | * 20  | 3.3   |       |      | (*)  |       |
| 28    |      | 0     | 1.6  |      | * 0   | 7.5   | 14    | 3.7   | * .9  |      |      |       |
| 29    |      | 0     | 1.0  |      | 0     | 13    | 12    | 3.7   | .4    |      |      |       |
| 30    | (*)  | 0     | 0    | 0    | ----- | * 14  | 11    | * 3.7 | .2    |      |      |       |
| 31    |      | ----- | .8   | * .4 | ----- | 8.9   | 10    | 3.0   | 0     | (*)  |      |       |
|       |      |       | .7   | 7.6  | ----- | 8.9   | ----- | 1.8   | ----- |      |      |       |
| Total | 0    | 0.3   | 10.9 | 22.2 | 301.9 | 199.0 | 258.7 | 190.6 | 60.3  | 0    | 0    | 0     |
| Mean  | 0    | 0.01  | 0.35 | 0.72 | 10.8  | 6.42  | 8.62  | 6.15  | 2.01  | 0    | 0    | 0     |
| Max   | 0    | 0.2   | 1.6  | 7.6  | 22    | 14    | 20    | 9.6   | 4.2   | 0    | 0    | 0     |
| Min   | 0    | 0     | 0    | 0    | 0     | 0     | 6.3   | 1.8   | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0.6   | 22   | 44   | 599   | 395   | 513   | 378   | 120   | 0    | 0    | 0     |

Calendar year 1962: Max 5,210 Min 0 Mean 36.8 Ac-ft 26,630  
Water year 1962-63: Max 22 Min 0 Mean 2.86 Ac-ft 2,070

\* Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Jan. 17-29, Apr. 16-25, May 2-8.

## VENTURA RIVER BASIN

11-1175. San Antonio Creek at Casitas Springs, Calif.

Location.--Lat 34°22'49", long 119°18'13", in Santa Ana Grant, on downstream side of bridge on U. S. Highway 399, 0.2 mile upstream from mouth, and 0.9 mile north of Casitas Springs, Ventura County.

Drainage area.--51.2 sq mi.

Records available.--October 1949 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 307.25 ft (revised) above mean sea level (Levels by Ventura County Water Resources Division). Prior to Jan. 30, 1962, at datum 0.30 ft higher.

Average discharge.--14 years, 5.81 cfs (4,210 acre-ft per year); median of yearly mean discharges, 1.4 cfs (1,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,150 cfs Feb. 9 (gage height, 7.91 ft); no flow Oct. 1 to Jan. 30, June 29 to Sept. 30. 1949-63: Maximum discharge, 5,240 cfs Apr. 3, 1958 (gage height, 12.80 ft, present datum), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records poor. No regulation above station, but pumping from wells along creek for irrigation affects surface flow at this station.

Cooperation.--Gage-height record, 31 discharge measurements, and 4 observations of no flow furnished by Ventura County Water Resources Division.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     |      |      |      | 0    | * 2.2 | * 1.2 | * 1.6 | * 1.0 | 0.3   | (*)  | (*)  |       |
| 2     |      |      |      | 0    | .6    | 1.2   | 1.5   | 1.0   | .3    |      |      |       |
| 3     |      |      |      | 0    | .2    | 1.2   | 1.4   | * 1.0 | * .3  |      |      |       |
| 4     |      |      |      | 0    | .1    | 1.2   | 1.3   | 1.0   | .3    |      |      |       |
| 5     |      |      |      | 0    | .1    | 1.2   | * 1.2 | .9    | .3    |      |      |       |
| 6     |      |      |      | 0    | .1    | 1.1   | 1.2   | .9    | .3    |      |      |       |
| 7     |      |      |      | 0    | .2    | 1.1   | 1.2   | .9    | * .2  |      |      |       |
| 8     |      |      |      | 0    | * .4  | 1.0   | 1.1   | .8    | .2    |      |      |       |
| 9     |      |      |      | 0    | 191   | 1.0   | 1.0   | .8    | .2    |      |      |       |
| 10    |      |      |      | 0    | * 118 | .9    | .9    | .7    | .2    |      |      | (*)   |
| 11    |      |      |      | 0    | * 12  | .9    | .8    | .7    | .2    |      |      |       |
| 12    |      |      |      | 0    | 4.4   | * .9  | * .8  | .6    | .2    |      |      |       |
| 13    |      |      |      | 0    | * 2.7 | .9    | .8    | * .6  | .2    |      |      |       |
| 14    |      |      |      | 0    | 2.3   | .9    | 2.0   | .6    | * .2  |      |      |       |
| 15    |      |      |      | 0    | 2.0   | .9    | * 3.7 | .6    | .2    |      |      |       |
| 16    |      |      |      | 0    | 1.8   | 29    | * 1.7 | .6    | .2    |      |      |       |
| 17    |      |      |      | 0    | 1.5   | * 12  | 1.2   | .5    | .2    |      |      |       |
| 18    |      |      |      | 0    | * 1.4 | 3.0   | 1.1   | .5    | .2    |      |      |       |
| 19    |      |      |      | 0    | 1.4   | 2.5   | * .9  | .5    | .2    |      |      |       |
| 20    |      |      |      | 0    | 1.4   | 2.0   | .9    | * .5  | .2    |      |      |       |
| 21    |      |      |      | 0    | 1.4   | 1.5   | .9    | .5    | * .2  |      |      |       |
| 22    |      |      |      | 0    | 1.4   | * 1.1 | .9    | .4    | .2    |      |      |       |
| 23    |      |      |      | 0    | 1.4   | 1.0   | .9    | .4    | .1    |      |      |       |
| 24    |      |      |      | 0    | 1.3   | 1.0   | .9    | * .4  | .1    |      |      |       |
| 25    |      |      |      | 0    | 1.3   | .9    | 2.5   | .4    | .1    |      |      |       |
| 26    |      |      |      | 0    | * 1.3 | .8    | * 15  | .4    | .1    |      |      |       |
| 27    |      |      |      | 0    | 1.2   | .8    | 3.5   | .4    | .1    |      |      |       |
| 28    |      |      |      | 0    | 1.2   | * 18  | 1.6   | .4    | * .1  |      |      |       |
| 29    |      |      |      | 0    | ----- | * 3.3 | * .9  | .4    | 0     |      |      |       |
| 30    |      |      |      | 0    | ----- | 2.7   | .9    | .4    | 0     |      |      |       |
| 31    |      |      |      | 11   | ----- | 2.0   | ----- | .4    | ----- |      | (*)  | (*)   |
| Total | 0    | 0    | 0    | 11   | 354.3 | 97.2  | 54.3  | 19.2  | 5.6   | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0.35 | 12.7  | 3.14  | 1.81  | 0.62  | 0.19  | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 11   | 191   | 29    | 15    | 1.0   | 0.3   | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0.1   | 0.8   | 0.8   | 0.4   | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 22   | 703   | 193   | 108   | 38    | 11    | 0    | 0    | 0     |

Calendar year 1962: Max 1,860 Min 0 Mean 18.3 Ac-ft 13,260

Water year 1962-63: Max 191 Min 0 Mean 1.48 Ac-ft 1,080

Peak discharge (base, 200 cfs).--Feb. 9 (1930 hrs) 1,150 cfs (7.91 ft); Mar. 16 (2100 hrs) 325 cfs (6.10 ft).

\* Discharge measurement or observation of no flow made on this day.

Note.--Discharge from graph based on gage readings, except those above 20 cfs.

VENTURA RIVER BASIN

213

11-1176. Coyote Creek near Oak View, Calif.

Location.--Lat 34°25'00", long 119°22'00", in Santa Ana Grant, on right bank 1,000 ft downstream from Los Padres National Forest boundary, 0.6 mile upstream from Poplin Creek, and 4.2 miles west of Oak View, Ventura County.

Drainage area.--13.2 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 560 ft (from topographic map).

Average discharge.--5 years, 3.01 cfs (2,180 acre-ft per year).

Extremes.--Maximum discharge during year, 299 cfs Feb. 9 (gage height, 4.68 ft); minimum daily, 0.1 cfs for some days.

1958-63: Maximum discharge, 1,700 cfs Feb. 9, 1962 (gage height, 7.45 ft in gage well, 7.81 ft from outside gage), on basis of slope-area measurement of peak flow; no flow at times in most years.

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

Cooperation.--Seven discharge measurements furnished by Ventura River Municipal Water District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Aug. 23 to Sept. 30)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.7 | 0.1 | 2.5 | 8.4 |
| 1.8 | .2  | 2.7 | 15  |
| 1.9 | .5  | 3.0 | 32  |
| 2.0 | .9  | 3.5 | 78  |
| 2.1 | 1.6 | 4.0 | 145 |
| 2.3 | 4.0 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.2  | 0.2   | 0.3  | 0.4  | 0.9   | 1.2   | 1.0   | 1.4   | 0.9   | 0.6  | 0.4  | 0.1   |
| 2     | .2   | .2    | .3   | .4   | .6    | 1.1   | 1.0   | 1.3   | .9    | .6   | .4   | .1    |
| 3     | .2   | .2    | .3   | .4   | .6    | 1.0   | .9    | 1.3   | .9    | .6   | .4   | .1    |
| 4     | .2   | .3    | .3   | .4   | .6    | 1.0   | .9    | 1.3   | .9    | .6   | .4   | .2    |
| 5     | .2   | .3    | .3   | .4   | .6    | 1.0   | .9    | 1.2   | .9    | .5   | .4   | .2    |
| 6     | .2   | .3    | .3   | .4   | .6    | .9    | .9    | 1.2   | .9    | .5   | .4   | .1    |
| 7     | .2   | .3    | .3   | .4   | .6    | .9    | .9    | 1.2   | .9    | .5   | .3   | .1    |
| 8     | .2   | .2    | .3   | .4   | .6    | .9    | .9    | 1.2   | .9    | .5   | .3   | .1    |
| 9     | .2   | .2    | .4   | .4   | 71    | .9    | .9    | 1.2   | .9    | .5   | .3   | .1    |
| 10    | .2   | .3    | .4   | .4   | * 88  | .9    | .9    | 1.2   | .9    | .4   | .3   | .1    |
| 11    | .2   | .3    | .4   | * 4  | * 12  | .9    | .9    | 1.2   | 1.0   | .4   | .3   | .1    |
| 12    | .2   | .3    | .4   | .4   | 5.0   | .9    | .9    | 1.1   | .9    | .4   | .3   | .1    |
| 13    | .2   | .3    | .4   | .4   | 3.0   | .9    | .9    | 1.1   | .9    | .4   | .2   | .1    |
| 14    | .3   | .3    | .4   | .4   | 2.4   | .9    | 1.4   | 1.0   | .9    | .4   | .2   | .1    |
| 15    | * .2 | .3    | .4   | .4   | 2.0   | .9    | 1.4   | 1.0   | .9    | .4   | .2   | .1    |
| 16    | .2   | .3    | .4   | .4   | 1.9   | 7.1   | 1.2   | 1.0   | .8    | .4   | .2   | .1    |
| 17    | .2   | .3    | * .4 | .5   | 1.6   | 3.2   | 1.2   | 1.0   | .8    | .4   | .2   | .1    |
| 18    | .2   | .3    | .4   | .5   | 1.6   | 1.2   | 1.2   | 1.0   | .8    | .4   | .2   | .1    |
| 19    | .2   | * .3  | .4   | .5   | 1.5   | 1.0   | 1.1   | 1.0   | .8    | .4   | .2   | .3    |
| 20    | .2   | .3    | .4   | .5   | 1.5   | .8    | 1.2   | 1.0   | * .6  | .4   | .2   | .1    |
| 21    | .2   | .3    | .4   | .5   | 1.4   | .8    | 1.4   | 1.0   | .7    | .4   | .2   | .1    |
| 22    | .2   | .3    | .4   | .5   | 1.4   | .8    | 1.3   | * 1.0 | .7    | .4   | .2   | .1    |
| 23    | .2   | .3    | .4   | .5   | 1.3   | .7    | 1.2   | 1.0   | .7    | .4   | .1   | .1    |
| 24    | .2   | .3    | .4   | .5   | 1.3   | .7    | 1.2   | 1.0   | .7    | .4   | .1   | .1    |
| 25    | .2   | .3    | .4   | .5   | 1.3   | .7    | 1.3   | 1.0   | .7    | .4   | .1   | .1    |
| 26    | .2   | .3    | .4   | .5   | 1.2   | .7    | 2.8   | 1.0   | * .7  | .4   | .1   | .1    |
| 27    | .2   | .3    | * .4 | .5   | 1.2   | .7    | 2.2   | 1.0   | .7    | .4   | * .1 | .1    |
| 28    | .2   | .3    | .4   | .5   | * 1.2 | 2.7   | 1.9   | * 1.0 | .7    | .4   | .1   | .1    |
| 29    | .2   | * .3  | .4   | .5   | ----- | * 1.4 | 1.6   | 1.0   | .6    | .4   | .1   | .1    |
| 30    | * .2 | .3    | .4   | * .7 | ----- | 1.2   | 1.4   | 1.0   | .6    | .4   | .1   | .1    |
| 31    | .2   | ----- | .4   | 1.4  | ----- | 1.1   | ----- | 1.0   | ----- | * .4 | .1   | ----- |
| Total | 6.3  | 8.5   | 11.6 | 15.0 | 206.9 | 39.1  | 36.9  | 33.9  | 24.4  | 13.7 | 7.1  | 3.5   |
| Mean  | 0.20 | 0.28  | 0.37 | 0.48 | 7.39  | 1.26  | 1.23  | 1.09  | 0.81  | 0.44 | 0.23 | 0.12  |
| Max   | 0.3  | 0.3   | 0.4  | 1.4  | .88   | 7.1   | 2.8   | 1.4   | 1.0   | 0.6  | 0.4  | 0.3   |
| Min   | 0.2  | 0.2   | 0.3  | 0.4  | 0.6   | 0.7   | 0.9   | 1.0   | 0.6   | 0.4  | 0.1  | 0.1   |
| Ac-ft | 12   | 17    | 23   | 30   | 410   | 78    | 73    | 67    | 48    | 27   | 14   | 6.9   |

Calendar year 1962: Max 1,230 Min 0.1 Mean 11.7 Ac-ft 8,490

Water year 1962-63: Max 88 Min 0.1 Mean 1.11 Ac-ft 806

Peak discharge (base, 150 cfs).--Feb. 9 (1730 hrs) 299 cfs (4.68 ft).

\* Discharge measurement made on this day.

## VENTURA RIVER BASIN

11-1178. Santa Ana Creek near Oak View, Calif.

Location.--Lat 34°25'25", long 119°20'25", in Santa Ana Grant, on downstream end of right abutment of bridge, 400 ft upstream from unnamed tributary, and 3.0 miles northwest of Oak View, Ventura County.

Drainage area.--9.11 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 610 ft (from topographic map).

Average discharge.--5 years, 2.67 cfs (1,930 acre-ft per year).

Extremes.--Maximum discharge during year, 485 cfs Feb. 9 (gage height, 4.69 ft); no flow Oct. 1 to Jan. 30, Feb. 2-5, July 16 to Sept. 30.

1958-63: Maximum discharge, 2,200 cfs Feb. 9, 1962 (gage height, 6.77 ft); no flow for part of each year.

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

Cooperation.--Four discharge measurements furnished by Ventura River Municipal Water District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 2.0 | 0   | 2.6 | 7.7 |
| 2.1 | .1  | 2.8 | 17  |
| 2.2 | .5  | 3.0 | 32  |
| 2.3 | 1.2 | 3.3 | 68  |
| 2.4 | 2.5 | 3.5 | 102 |
| 2.5 | 4.7 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.   | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|--------|------|-------|------|-------|------|------|-------|
| 1     |      |       |      | 0    | 0.2    | 0.4  | 0.7   | 1.1  | 0.2   | 0.1  |      |       |
| 2     |      |       |      | 0    | 0      | .4   | .7    | 1.1  | .2    | .1   |      |       |
| 3     |      |       |      | 0    | 0      | .3   | .7    | 1.0  | .2    | .1   |      |       |
| 4     |      |       |      | 0    | 0      | .2   | .7    | 1.0  | .2    | .1   |      |       |
| 5     |      |       |      | 0    | 0      | .2   | .7    | 1.0  | .3    | .1   |      |       |
| 6     |      |       |      | 0    | .1     | .2   | .7    | .9   | .4    | .1   |      |       |
| 7     |      |       |      | 0    | .2     | .2   | .8    | .9   | .4    | .1   |      |       |
| 8     |      |       |      | 0    | .4     | .7   | 1.0   | .8   | .4    | .1   |      |       |
| 9     |      |       |      | 0    | 1 00   | 1.0  | .9    | 1.0  | .4    | .1   |      |       |
| 10    |      |       |      | 0    | *66    | 1.0  | .9    | .9   | .5    | .1   |      |       |
| 11    |      |       |      | 0    | *13    | 1.0  | .9    | .9   | .7    | .1   |      |       |
| 12    |      |       |      | 0    | 5.6    | 1.0  | .9    | .9   | .7    | .1   |      |       |
| 13    |      |       |      | 0    | 4.4    | 1.0  | .8    | .9   | .7    | .1   |      |       |
| 14    |      |       |      | 0    | 3.7    | 1.0  | 1.6   | .9   | .6    | .1   |      |       |
| 15    |      |       |      | 0    | 3.1    | .9   | 1.4   | .8   | .6    | .1   |      |       |
| 16    |      |       |      | 0    | 2.7    | 7.5  | 1.0   | .8   | .6    | 0    |      |       |
| 17    |      |       |      | 0    | 2.2    | 4.4  | .9    | a .8 | .5    | 0    |      |       |
| 18    |      |       |      | 0    | 1.9    | 2.0  | .9    | a .8 | .5    | 0    |      |       |
| 19    |      |       |      | 0    | 1.8    | 1.6  | .9    | a .7 | .6    | 0    |      |       |
| 20    |      |       |      | 0    | 1.6    | *1.3 | 1.1   | a .7 | .6    | 0    |      |       |
| 21    |      |       |      | 0    | 1.5    | 1.0  | 1.6   | a .7 | .9    | 0    |      |       |
| 22    |      |       |      | 0    | 1.4    | 1.1  | 1.2   | a .6 | 1.8   | 0    |      |       |
| 23    |      |       |      | 0    | 1.2    | 1.9  | 1.0   | a .6 | .7    | 0    |      |       |
| 24    |      |       |      | 0    | .9     | 1.4  | 1.0   | .6   | *.2   | 0    |      |       |
| 25    |      |       |      | 0    | .7     | 1.2  | 1.2   | .6   | .1    | 0    |      |       |
| 26    |      | (*)   | (*)  | 0    | .4     | 1.2  | *3.3  | .6   | *.1   | 0    |      |       |
| 27    |      |       |      | 0    | *.2    | 1.2  | 1.8   | .6   | .2    | 0    | (*)  |       |
| 28    |      |       |      | 0    | .2     | 5.3  | 1.4   | *.6  | .2    | 0    |      |       |
| 29    |      |       |      | 0    | -----  | *2.5 | 1.2   | .3   | .1    | 0    |      |       |
| 30    | (*)  |       |      | *0   | -----  | 2.0  | *1.1  | .2   | .1    | 0    |      |       |
| 31    |      | ----- |      | .2   | -----  | 1.3  | ----- | .2   | ----- | *0   |      | ----- |
| Total | 0    | 0     | 0    | 0.2  | 2 13.4 | 46.4 | 33.0  | 23.5 | 13.7  | 1.5  | 0    | 0     |
| Mean  | 0    | 0     | 0    | 0.06 | 7.62   | 1.50 | 1.10  | 0.76 | 0.46  | 0.05 | 0    | 0     |
| Max   | 0    | 0     | 0    | 0.2  | 100    | 7.5  | 3.3   | 1.1  | 1.8   | 0.1  | 0    | 0     |
| Min   | 0    | 0     | 0    | 0    | 0      | 0.2  | 0.7   | 0.2  | 0.1   | 0    | 0    | 0     |
| Ac-ft | 0    | 0     | 0    | 0.4  | 423    | 92   | 65    | 47   | 27    | 3.0  | 0    | 0     |

Calendar year 1962: Max 1,150 Min 0 Mean 10.9 Ac-ft 7,920

Water year 1962-63: Max 100 Min 0 Mean 0.91 Ac-ft 657

Peak discharge (base, 150 cfs).--Feb. 9 (1700 hrs) 485 cfs (4.69 ft).

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record.

VENTURA RIVER BASIN

215

11-1185, Ventura River near Ventura, Calif.

Location.--Lat 34°21'05", long 119°18'23", in southeast corner of Santa Ana Grant, on right bank 500 ft downstream from county highway Bridge at Foster Memorial Park, 0.2 mile downstream from Coyote Creek, and 5 miles north of Ventura, Ventura County.

Drainage area.--188 sq mi.

Records available.--September 1911 to January 1914, October 1929 to September 1963; combined records of river and diversion, October 1932 to September 1963.

Gage.--Water-stage recorder on river; water-stage recorder and 2-ft Parshall flume on diversion. Altitude of gage is 200 ft (from topographic map). Prior to Jan. 18, 1914, chain gage at site 370 ft upstream at different datum (destroyed by flood). October 1929 to Nov. 2, 1949, at site 370 ft upstream at present datum.

Average discharge (river only).--36 years (1911-13, 1929-63), 57.1 cfs (41,340 acre-ft per year); median of yearly mean discharges, 23 cfs (16,700 acre-ft per year).  
(combined).--31 years (1932-63), 67.2 cfs (48,650 acre-ft per year); median of yearly mean discharges, 28 cfs (20,300 acre-ft per year).

Extremes (river only).--Maximum discharge during year, 1,060 cfs Feb. 9 (gage height, 9.86 ft), on basis of slope-area measurement of peak flow; no flow Sept. 16-18, 20-23, 30.

1911-14, 1929-63: Maximum discharge, 39,200 cfs Mar. 2, 1938 (gage height, 19.2 ft), from rating curve extended above 7,700 cfs on basis of slope-area and contracted opening measurement of peak flow; no flow at times in many years.

(combined).--Maximum discharge during year, 1,060 cfs Feb. 9; minimum daily, 2.8 cfs Jan. 5, 25.

1932-63: Maximum discharge, 39,200 cfs Mar. 2, 1938; minimum daily, 0.1 cfs Sept. 3, 4, 13, 1961.

Remarks.--Records fair. Flow partly regulated since March 1948 by Matilija Reservoir (see p. 208) and since October 1959 by Casitas Reservoir (capacity, 267,000 acre-ft). Water diverted since May 1951 through pipeline at dam (Matilija Reservoir) to Ojai Valley for irrigation. Water diverted to Casitas Reservoir since January 1959. City of Ventura diverts water for municipal supply. For records of combined discharge of river and diversion, see following page.

Cooperation.--Gage-height record for diversion weir furnished by city of Ventura.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.    | Mar.    | Apr.    | May     | June    | July  | Aug. | Sept. |
|-------|------|-------|------|------|---------|---------|---------|---------|---------|-------|------|-------|
| 1     | 0.2  | *1.8  | 0.5  | 0.7  | 2.5     | 2.6     | 3.5     | *3.9    | 6.3     | 2.6   | 1.4  | 0.2   |
| 2     | .1   | .3    | .4   | 1.3  | 1.8     | 2.6     | 3.5     | 4.2     | 5.0     | 1.5   | 1.5  | .2    |
| 3     | .7   | .4    | 1.8  | .6   | 1.8     | 2.6     | 3.5     | 3.5     | 4.7     | 2.1   | 1.9  | .2    |
| 4     | .5   | .3    | 1.6  | .5   | 1.9     | 2.8     | 3.5     | 3.7     | 4.4     | 1.2   | 2.5  | .2    |
| 5     | 3.2  | 2.3   | .6   | .5   | 1.6     | 3.0     | 3.5     | 4.4     | 4.2     | 1.1   | 2.0  | .2    |
| 6     | 1.9  | 1.6   | 1.3  | 1.3  | * 1.5   | 3.2     | 3.5     | 4.4     | 3.7     | 1.6   |      | .1    |
| 7     | .3   | .5    | .5   | .6   | 1.4     | 3.4     | 3.9     | 3.9     | 3.7     | 2.0   |      | .2    |
| 8     | 1.9  | 1.6   | .2   | .4   | 1.2     | 2.8     | 3.9     | 4.2     | 4.9     | 2.6   |      | .2    |
| 9     | 1.9  | 2.3   | .7   | 1.4  | * 2 0 5 | 2.0     | 3.7     | 4.2     | 3.7     | 2.1   |      | .2    |
| 10    | 3.0  | 2.6   | .4   | 1.6  | 1 2 3   | 2.3     | 3.7     | 4.2     | 3.9     | 3.4   |      | .2    |
| 11    | 3.0  | 2.6   | .3   | .7   | 2 4     | 3.0     | 3.7     | 4.4     | 4.7     | 3.0   |      | .2    |
| 12    | 1.9  | 2.8   | .3   | .8   | * 1 4   | 2.8     | 3.9     | 5.2     | 3.5     | 2.1   | 1.5  | .2    |
| 13    | .5   | 2.8   | 1.6  | 1.2  | 8.8     | 2.0     | 4.4     | 5.2     | 3.9     | 1.3   |      | .1    |
| 14    | .4   | 2.8   | 2.3  | 1.2  | 6.9     | 2.0     | 10      | 3.7     | 3.9     | 1.6   |      | .1    |
| 15    | 3.1  | 2.8   | 2.6  | 1.0  | 6.1     | 2.9     | 7.3     | 2.8     | 3.7     | 2.8   |      | .1    |
| 16    | 1.2  | 2.8   | 1.9  | .9   | 5.5     | 2 1     | 3.9     | 3.2     | 3.5     | 3.2   |      | 0     |
| 17    | .2   | 2.8   | .7   | .9   | 6.1     | 2 2     | 3.7     | 3.7     | 3.5     | 1.5   |      | 0     |
| 18    | 1.1  | 2.8   | .6   | .8   | 6.3     | 9.2     | 3.7     | 6.1     | 3.4     | 1.4   |      | 0     |
| 19    | 1.6  | 2.8   | 1.6  | .7   | 5.2     | 7.9     | 3.9     | 5.8     | 3.4     | 1.3   | .7   | .1    |
| 20    | 1.9  | 2.8   | .6   | .6   | 4.2     | 7.2     | 5.6     | 4.4     | 3.7     | 1.3   | .8   | 0     |
| 21    | 1.9  | 2.8   | .3   | .6   | 3       | 4.4     | 6.4     | 3.4     | 3.5     | 1.4   | .8   | 0     |
| 22    | 1.8  | 2.8   | .3   | .6   | 3.4     | 3.2     | 3.5     | 3.7     | 3.4     | 1.4   | .8   | 0     |
| 23    | 3.7  | 2.6   | .2   | .6   | 3.9     | 3.2     | 3.5     | 4.7     | 3.2     | 1.4   | 1.0  | 0     |
| 24    | 2.0  | 1.9   | .3   | .5   | 3.5     | 3.2     | 3.4     | 5.0     | 3.0     | 1.9   | .8   | .2    |
| 25    | 2.0  | .8    | 1.3  | .4   | 3.0     | 3.4     | 5.2     | 7.2     | 3.0     | 1.6   | .7   | .2    |
| 26    | 2.0  | 2.3   | 1.4  | .4   | * 3.0   | 3.4     | 3 6     | 6.6     | 2.8     | 1.4   | .6   | .2    |
| 27    | 2.0  | 1.9   | * 4  | .5   | 2.8     | 3.4     | 1 1     | 5.5     | * 2.8   | 1.3   | * 4  | .2    |
| 28    | 2.5  | .7    | .4   | .5   | 2.5     | 1 9     | 3.5     | 5.8     | 2.6     | 1.3   | .4   | .1    |
| 29    | 2.6  | * 4   | 1.4  | * 5  | -----   | * 9.7   | 3.5     | * 6.6   | 3.4     | 1.3   | .4   | .1    |
| 30    | 2.0  | 1.4   | 1.3  | .6   | -----   | 3.7     | 3.7     | 7.2     | 3.4     | 1.4   | .3   | * 0   |
| 31    | 1.9  | ----- | .7   | 6.1  | -----   | 3.5     | -----   | 6.6     | -----   | * 1.3 | .3   | ----- |
| Total | 53.0 | 59.1  | 28.5 | 29.0 | 4 5 3.9 | 1 6 7.4 | 1 6 6.0 | 1 4 7.4 | 1 1 2.8 | 55.4  | 36.8 | 3.7   |
| Mean  | 1.71 | 1.97  | 0.92 | 0.94 | 16.2    | 5.40    | 5.53    | 4.75    | 3.76    | 1.79  | 1.19 | 0.12  |
| Max   | 3.7  | 2.8   | 2.6  | 6.1  | 205     | 22      | 36      | 7.2     | 6.3     | 3.4   | 2.5  | 0.2   |
| Min   | 0.1  | 0.3   | 0.2  | 0.4  | 1.2     | 2.0     | 3.4     | 2.8     | 2.6     | 1.1   | 0.3  | 0     |
| Ac-ft | 105  | 117   | 57   | 58   | 900     | 332     | 329     | 292     | 224     | 110   | 73   | 7.3   |

Calendar year 1962: Max 9,420 Min 0 Mean 81.9 Ac-ft 59,260  
Water year 1962-63: Max 205 Min 0 Mean 3.60 Ac-ft 2,600

Peak discharge (base, 500 cfs).--Feb. 9 (1930 hrs) 1,060 cfs (9.86 ft).

\* Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Aug. 6-18.

## VENTURA RIVER BASIN

1185. Ventura River near Ventura, Calif.--Continued

Combined discharge, in cubic feet per second, of Ventura River and Ventura City diversion  
near Ventura, Calif., water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 7.6   | 8.8   | 6.1   | 3.5   | 6.5   | 8.0   | 11    | 11    | 12    | 14    | 8.8   | 8.8   |
| 2     | 6.2   | 7.9   | 5.2   | 5.5   | 4.6   | 8.2   | 11    | 12    | 12    | 10    | 9.1   | 7.0   |
| 3     | 7.0   | 7.8   | 6.2   | 7.4   | 4.6   | 8.0   | 11    | 12    | 12    | 10    | 9.3   | 7.8   |
| 4     | 6.5   | 5.5   | 10    | 6.3   | 6.5   | 8.4   | 10    | 12    | 12    | 10    | 9.7   | 6.9   |
| 5     | 8.1   | 6.3   | 4.8   | 2.8   | 4.3   | 8.4   | 10    | 12    | 12    | 10    | 8.7   | 4.6   |
| 6     | 8.8   | 7.3   | 6.9   | 4.7   | 4.1   | 8.5   | 10    | 9.8   | 12    | 9.2   | 7.6   | 6.9   |
| 7     | 6.4   | 6.8   | 9.4   | 5.0   | 5.1   | 8.7   | 11    | 9.8   | 11    | 8.4   | 7.6   | 6.8   |
| 8     | 7.5   | 7.0   | 5.1   | 4.2   | 5.0   | 11    | 11    | 9.9   | 12    | 10    | 7.7   | 6.2   |
| 9     | 8.0   | 8.4   | 5.1   | 7.1   | 208   | 11    | 11    | 9.9   | 12    | 9.5   | 7.5   | 6.7   |
| 10    | 8.0   | 8.8   | 5.8   | 10    | 125   | 7.2   | 11    | 9.8   | 12    | 10    | 7.6   | 7.7   |
| 11    | 7.8   | 8.7   | 5.7   | 9.2   | 26    | 7.7   | 10    | 9.4   | 13    | 12    | 7.5   | 8.3   |
| 12    | 7.8   | 8.7   | 3.7   | 7.7   | 18    | 9.2   | 10    | 8.8   | 12    | 14    | 5.3   | 8.3   |
| 13    | 7.9   | 8.7   | 6.2   | 8.1   | 13    | 9.2   | 10    | 11    | 12    | 12    | 7.5   | 8.3   |
| 14    | 6.1   | 8.8   | 5.4   | 7.9   | 11    | 8.1   | 15    | 11    | 12    | 10    | 8.1   | 8.3   |
| 15    | 8.0   | 8.6   | 6.0   | 7.4   | 9.9   | 9.0   | 13    | 11    | 12    | 9.1   | 11    | 8.3   |
| 16    | 8.4   | 8.2   | 7.2   | 7.2   | 9.3   | 26    | 11    | 11    | 11    | 12    | 11    | 8.1   |
| 17    | 6.5   | 7.9   | 6.5   | 7.1   | 8.7   | 26    | 10    | 11    | 12    | 12    | 10    | 6.6   |
| 18    | 6.3   | 7.7   | 3.9   | 6.8   | 9.3   | 12    | 10    | 11    | 12    | 8.6   | 10    | 4.7   |
| 19    | 6.9   | 7.9   | 6.0   | 6.6   | 9.3   | 11    | 11    | 12    | 12    | 9.5   | 6.3   | 4.1   |
| 20    | 7.3   | 7.7   | 6.3   | 5.8   | 9.1   | 10    | 11    | 11    | 12    | 9.5   | 8.7   | 5.3   |
| 21    | 7.3   | 7.6   | 5.5   | 4.8   | 8.1   | 9.7   | 12    | 11    | 12    | 9.8   | 8.4   | 4.6   |
| 22    | 6.9   | 7.5   | 5.5   | 6.3   | 8.3   | 9.8   | 10    | 11    | 12    | 9.5   | 7.0   | 4.0   |
| 23    | 7.5   | 7.2   | 5.4   | 6.3   | 8.2   | 9.9   | 10    | 12    | 12    | 8.6   | 8.6   | 5.6   |
| 24    | 7.2   | 9.7   | 3.6   | 5.8   | 8.6   | 9.6   | 10    | 12    | 12    | 8.6   | 9.7   | 4.8   |
| 25    | 7.1   | 5.5   | 3.9   | 2.8   | 8.6   | 9.8   | 11    | 12    | 11    | 9.8   | 9.5   | 7.0   |
| 26    | 7.2   | 6.3   | 5.4   | 4.2   | 8.6   | 9.8   | 38    | 12    | 11    | 11    | 9.2   | 5.1   |
| 27    | 7.6   | 8.2   | 5.7   | 6.3   | 8.2   | 9.8   | 19    | 12    | 12    | 11    | 7.2   | 7.8   |
| 28    | 7.8   | 7.6   | 3.5   | 3.5   | 8.1   | 22    | 13    | 12    | 11    | 11    | 8.2   | 8.1   |
| 29    | 7.5   | 5.2   | 3.9   | 4.6   | ----- | 15    | 12    | 12    | 11    | 9.3   | 8.9   | 7.7   |
| 30    | 7.1   | 7.1   | 5.7   | 6.3   | ----- | 12    | 12    | 12    | 11    | 9.3   | 8.9   | 5.9   |
| 31    | 6.8   | ----- | 8.1   | 11    | ----- | 11    | ----- | 12    | ----- | 8.9   | 8.9   | ----- |
| Total | 227.1 | 229.4 | 177.7 | 192.2 | 564.0 | 344.0 | 365   | 345.4 | 354   | 316.6 | 263.5 | 200.5 |
| Mean  | 7.33  | 7.65  | 5.73  | 6.20  | 20.1  | 11.1  | 12.2  | 11.1  | 11.8  | 10.2  | 8.50  | 6.68  |
| Max   | 8.8   | 9.7   | 10    | 11    | 208   | 26    | 38    | 12    | 13    | 14    | 11    | 8.8   |
| Min   | 6.1   | 5.2   | 3.5   | 2.8   | 4.1   | 7.2   | 10    | 8.8   | 11    | 8.4   | 5.3   | 4.1   |
| Ac-ft | 450   | 455   | 352   | 381   | 1,120 | 682   | 724   | 685   | 702   | 628   | 523   | 398   |

Calendar year 1962: Max 9,420 Min 0.6 Mean 91.2 Ac-ft 66,020

Water year 1962-63: Max 208 Min 2.8 Mean 9.81 Ac-ft 7,100

Peak discharge (base, 500 cfs).--Feb. 9 (1930 hrs) 1,060 cfs.

11-1195. Carpinteria Creek near Carpinteria, Calif.

Location.--Lat 34°24'04", long 119°29'08", in El Rincon Grant, on left bank at upstream side of bridge on State Highway 150, 200 ft downstream from Gobernador Creek, and 1.8 miles northeast of Carpinteria, Santa Barbara County.

Drainage area.--13.1 sq mi.

Records available.--January 1941 to September 1963.

Gage.--Water-stage recorder and 28-ft box-culvert control. Altitude of gage is 130 ft (from topographic map). Prior to July 1, 1958, at datum 2.00 ft higher.

Average discharge.--22 years, 1.84 cfs (1,330 acre-ft per year); median of yearly mean discharges, 0.3 cfs (220 acre-ft per year).

Extremes.--Maximum discharge during year, 105 cfs Feb. 9 (gage height, 4.50 ft); no flow for most of year.

1941-63: Maximum discharge, 2,440 cfs Jan. 15, 1952 (gage height, 9.75 ft, present datum), from rating curve extended above 500 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Records good. Gobernador Land and Water Co. diverts from Gobernador Creek 1.8 miles above station. Small lake three-quarters of a mile 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 into Gobernador Creek 1,000 ft above station. No pumping occurred this year.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|                 |                 |                 |
|-----------------|-----------------|-----------------|
| Feb. 9.....19   | Mar. 17.....0.4 | Mar. 27.....1.5 |
| 10.....*31      | 21.....1.4      | 28.....*1.2     |
| 11.....5.7      | 22.....3.9      | Apr. 14......1  |
| 12.....*1.9     | 23.....3.9      | 26.....*1.1     |
| 13......3       | 24.....3.5      | May 4......4    |
| 14......1       | 25.....3.3      | 5......3        |
| Mar. 16.....1.9 | 26.....2.9      | Sept. 19......2 |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| February 1963.....      | 58.0     | 31      | 0       | 2.07 | 115                    |
| March.....              | 23.9     | 3.9     | 0       | .77  | 47                     |
| April.....              | 1.2      | 1.1     | 0       | .04  | 2.4                    |
| May.....                | .7       | .4      | 0       | .02  | 1.4                    |
| September.....          | .2       | .2      | 0       | .007 | .4                     |
| Calendar year 1962..... | -        | 813     | 0       | 7.79 | 5,630                  |
| Water year 1962-63..... | -        | 31      | 0       | .23  | 166                    |

Peak discharge (base, 25 cfs).--Feb. 9 (1945 hrs) 105 cfs (4.50 ft).

\* Discharge measurement made on this day.

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

## ATASCADERO CREEK BASIN

11-1200. Atascadero Creek near Goleta, Calif.

Location.--Lat 34°25'29", long 119°48'39", in La Goleta Grant, on downstream side of left-bank abutment of private road bridge 400 ft downstream from Maria Ygnacio Creek, 1.3 miles upstream from mouth, and 1.3 miles southeast of Goleta, Santa Barbara County.

Drainage area.--18.3 sq mi.

Records available.--October 1941 to September 1963. Prior to October 1947, published as Alascadero Creek near Goleta.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--22 years, 2.71 cfs (1,960 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 732 cfs Feb. 9 (gage height, 8.78 ft), from rating curve extended above 150 cfs; no flow for many days.

1941-63: Maximum discharge, about 4,500 cfs Jan. 15, 1952 (gage height, 10.85 ft), estimated on basis of records for nearby streams; no flow for many days in each year.

Remarks.--Records fair. Discharge measurements generally made twice a month. Small diversions for irrigation. Much of low flow results from return irrigation waste water.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.   | Mar.   | Apr.  | May  | June  | July | Aug. | Sept. |
|---|------|-------|------|------|--------|--------|-------|------|-------|------|------|-------|
| 1   | 0    | 0.1   | 0    | 0    | 3.5    | 0.1    | 0.2   | 1.0  | 0     | 0    | 0    | 0     |
| 2   | 0    | .1    | 0    | 0    | .7     | .1     | .1    | 1.0  | 0     | 0    | 0    | 0     |
| 3   | 0    | 0     | 0    | 0    | .2     | .1     | .1    | .8   | 0     | 0    | 0    | 0     |
| 4   | 0    | 0     | 0    | 0    | .1     | 0      | .1    | .8   | 0     | 0    | 0    | 0     |
| 5   | 0    | 0     | 0    | 0    | 0      | 0      | .1    | .6   | .4    | 0    | 0    | .7    |
| 6   | 0    | 0     | .1   | 0    | 0      | 0      | .1    | .6   | .2    | 0    | 0    | .2    |
| 7   | 0    | 0     | 0    | 0    | .1     | 0      | .1    | .4   | .1    | 0    | 0    | .1    |
| 8   | 0    | 0     | .1   | 0    | .1     | 0      | .1    | .4   | 0     | 0    | 0    | .1    |
| 9   | 0    | 0     | .3   | 0    | 300    | 0      | .1    | 1.2  | .1    | 0    | 0    | .1    |
| 10  | 0    | 0     | .1   | .1   | 173    | 0      | .1    | .4   | .1    | 0    | 0    | .2    |
| 11  | 0    | 0     | .1   | .6   | 11     | 0      | .1    | .2   | 4.1   | 0    | 0    | .1    |
| 12  | 0    | 0     | 0    | .3   | 1.9    | 0      | .1    | .2   | .6    | 0    | .1   | .1    |
| 13  | 0    | 0     | 0    | .1   | 1.1    | 0      | .1    | .1   | .4    | 0    | .1   | .1    |
| 14  | 0    | 0     | 0    | .1   | .3     | 0      | 17    | .1   | .1    | 0    | .1   | .1    |
| 15  | 0    | 0     | 0    | 0    | .1     | 0      | 3.7   | .1   | .2    | 0    | 0    | .1    |
| 16  | .1   | 0     | 0    | 0    | .1     | 56     | .2    | .1   | .1    | 0    | 0    | .1    |
| 17  | .1   | 0     | 0    | 0    | .1     | 5.1    | .1    | .1   | .1    | .2   | 0    | .1    |
| 18  | .1   | 0     | 0    | 0    | .1     | .5     | .1    | .5   | 0     | .1   | 0    | .1    |
| 19  | .1   | 0     | 0    | 0    | 0      | .4     | .1    | .4   | 0     | 0    | 0    | 2.0   |
| 20  | 0    | 0     | 0    | 0    | 0      | 5.4    | .1    | .7   | 0     | 0    | 0    | .8    |
| 21  | .1   | 0     | 0    | 0    | 0      | 21     | .4    | .4   | .1    | 0    | 0    | .2    |
| 22  | .1   | 0     | 0    | 0    | 0      | 5.2    | .1    | .4   | .1    | 0    | 0    | 0     |
| 23  | .1   | .1    | 0    | 0    | 0      | 2.1    | .1    | .2   | .1    | 0    | .1   | 0     |
| 24  | 0    | .2    | 0    | 0    | 0      | .3     | .1    | .2   | 0     | 0    | .1   | 0     |
| 25  | 0    | 0     | 0    | 0    | 0      | .1     | 19    | .2   | 0     | 0    | 0    | 0     |
| 26  | 0    | 0     | 0    | 0    | .3     | .1     | 25    | .1   | 0     | 0    | 0    | 0     |
| 27  | 0    | 0     | 0    | 0    | .1     | .1     | 4.3   | .1   | 0     | 0    | 0    | 0     |
| 28  | 0    | 0     | 0    | 0    | .1     | 50     | 1.9   | .2   | 0     | 0    | 0    | 0     |
| 29  | 0    | 0     | 0    | 0    | -----  | 1.4    | 1.4   | .1   | 0     | 0    | .2   | 0     |
| 30  | 0    | 0     | 0    | .4   | -----  | .3     | 1.0   | .1   | 0     | 0    | .2   | .1    |
| 31  | .1   | ----- | 0    | 16   | -----  | .2     | ----- | 0    | ----- | 0    | .1   | ----- |
| Total   | 0.8  | 0.5   | 0.7  | 17.6 | 4 92.9 | 1 48.5 | 76.0  | 11.7 | 6.8   | 0.3  | 1.0  | 5.3   |
| Mean  | 0.03 | 0.02  | 0.02 | 0.57 | 17.6   | 4.79   | 2.53  | 0.38 | 0.23  | 0.01 | 0.03 | 0.18  |
| Max   | 0.1  | 0.2   | 0.3  | 16   | 300    | 56     | 25    | 1.2  | 4.1   | 0.2  | 0.2  | 2.0   |
| Min   | 0    | 0     | 0    | 0    | 0      | 0      | 0.1   | 0.1  | 0     | 0    | 0    | 0     |
| Ac-ft   | 1.6  | 1.0   | 1.4  | 35   | 978    | 295    | 151   | 23   | 13    | 0.6  | 2.0  | 11    |
| Calendar year 1962: Max 781 Min 0 Mean 11.4 Ac-ft 8,280 |      |       |      |      |        |        |       |      |       |      |      |       |
| Water year 1962-63: Max 300 Min 0 Mean 2.36 Ac-ft 1,510 |      |       |      |      |        |        |       |      |       |      |      |       |

Peak discharge (base, 60 cfs)

| Date | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|---------|-------------|-----------|------|------|-------------|-----------|
| 2-9  | unknown | 8.78        | 732       | 4-14 | 1100 | 6.44        | 102       |
| 3-16 | 1830    | 7.77        | 382       | 4-25 | 2200 | 7.08        | 216       |
| 3-28 | 0500    | 7.34        | 275       |      |      |             |           |



11-1205. San Jose Creek near Goleta, Calif.

Location.--Lat 34°27'33", long 119°48'29", in La Goleta Grant, on left pier of Patterson Avenue Bridge, 1.1 miles downstream from unnamed tributary, and 1.7 miles northeast of Goleta, Santa Barbara County.

Drainage area.--5.51 sq mi.

Records available.--January 1941 to September 1963.

Gage.--Water-stage recorder and concrete low-water control since October 1962. Altitude of gage is 100 ft (from topographic map). Prior to Dec. 24, 1955, at datum 5.50 ft higher. Dec. 24, 1955, to Jan. 10, 1960, at datum 1.5 ft higher.

Average discharge.--22 years, 1.59 cfs (1,150 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 258 cfs Feb. 9 (gage height, 3.94 ft), from rating curve extended above 40 cfs on basis of slope-area measurement of peak flow; no flow Sept. 10, 11, 14, 17.  
1941-63: Maximum discharge, 1,960 cfs Apr. 4, 1941, from rating curve extended above 850 cfs; maximum gage height, 12.74 ft, present datum, Jan. 21, 1943; no flow at times in each year.

Remarks.--Records good. Many small diversions for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 2-18)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.5 | 0   | 2.1 | 9.0 |
| 1.6 | .2  | 2.2 | 14  |
| 1.7 | .6  | 2.4 | 26  |
| 1.8 | 1.5 | 2.7 | 53  |
| 1.9 | 3.0 | 3.0 | 90  |
| 2.0 | 5.4 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar. | Apr.  | May   | June  | July | Aug.  | Sept. |
|-------|------|-------|------|-------|-------|------|-------|-------|-------|------|-------|-------|
| 1     | 0.1  | 0.1   | 0.1  | 0.3   | 1.8   | 0.6  | 0.8   | 0.9   | 0.5   | 0.2  | 0.1   | 0.1   |
| 2     | .2   | .1    | .2   | .2    | .7    | .6   | .7    | .8    | .5    | .2   | .1    | .1    |
| 3     | .2   | .2    | .2   | .2    | .6    | .5   | .7    | .8    | .5    | .2   | .1    | .1    |
| 4     | .2   | .2    | .2   | .3    | .5    | .5   | .6    | .8    | * 4   | .2   | .1    | .1    |
| 5     | .2   | .2    | .1   | .3    | .5    | .5   | .5    | .7    | .4    | .2   | .1    | .1    |
| 6     | .2   | .1    | .1   | .3    | .5    | .5   | .5    | .7    | .3    | .2   | .1    | .1    |
| 7     | .2   | .1    | * .1 | .3    | .4    | .5   | .6    | .6    | .4    | * .2 | .1    | .1    |
| 8     | * .2 | .2    | .1   | .3    | .4    | .5   | .6    | .7    | .4    | .2   | .1    | .1    |
| 9     | .2   | .2    | .2   | * .3  | * 55  | .5   | * .5  | * 1.2 | .4    | .2   | * .2  | .1    |
| 10    | .2   | .2    | .2   | .2    | * 4 4 | .5   | .5    | .7    | .4    | .2   | .2    | 0     |
| 11    | .3   | .2    | .2   | .2    | 7.8   | .5   | .5    | .7    | 1.9   | .2   | .2    | 0     |
| 12    | .3   | .2    | .2   | .3    | * 2.5 | .5   | .5    | .6    | .8    | .2   | .2    | * .1  |
| 13    | .3   | .2    | .2   | .4    | 1.8   | * .5 | .5    | .5    | .7    | .2   | .1    | .1    |
| 14    | .4   | .2    | .2   | .4    | 1.5   | .4   | 4.9   | .5    | .7    | .2   | .1    | 0     |
| 15    | .3   | .2    | .2   | .4    | 1.1   | .4   | 2.6   | .5    | .6    | .2   | .1    | .1    |
| 16    | .2   | .2    | .3   | .3    | .9    | 6.8  | 1.3   | .5    | .6    | .1   | .1    | .1    |
| 17    | .2   | .2    | .3   | .3    | .8    | 3.4  | .9    | .5    | .5    | .1   | .1    | 0     |
| 18    | .2   | .2    | .3   | .3    | .8    | 1.1  | .7    | .5    | * .5  | .2   | .1    | .1    |
| 19    | .2   | .2    | .2   | .3    | .8    | .7   | .6    | .5    | .5    | .1   | .1    | .4    |
| 20    | .2   | .2    | * .1 | .3    | .7    | .7   | .7    | .5    | .5    | .1   | .1    | .3    |
| 21    | .2   | * .2  | .1   | .3    | .7    | .6   | 1.3   | .5    | .5    | .2   | .1    | .2    |
| 22    | .2   | .2    | .1   | .4    | .7    | .9   | .7    | * .5  | .5    | .2   | .1    | .2    |
| 23    | .2   | .2    | .2   | .2    | .6    | 1.5  | * .5  | .5    | .5    | .2   | * .1  | .2    |
| 24    | .2   | .2    | .2   | .3    | .6    | .8   | .5    | .5    | .4    | .2   | .1    | .1    |
| 25    | * .2 | .2    | .2   | .2    | .6    | .7   | 3.7   | .5    | .3    | .1   | .1    | .1    |
| 26    | .2   | .2    | .2   | .2    | .6    | .6   | 6.8   | .5    | .3    | * .1 | .1    | .1    |
| 27    | .2   | .2    | .2   | .2    | * .6  | * .5 | 2.2   | .5    | .3    | .1   | .1    | .1    |
| 28    | .2   | .2    | .2   | .3    | .6    | 1.3  | 1.4   | .5    | .3    | .1   | .1    | .1    |
| 29    | .2   | .2    | .2   | .2    | ----- | 2.6  | 1.2   | .5    | .2    | .1   | .1    | .1    |
| 30    | .1   | .2    | .2   | .5    | ----- | 1.5  | 1.0   | .5    | .2    | .1   | .1    | .1    |
| 31    | .1   | ----- | .2   | * 2.0 | ----- | 1.2  | ----- | .5    | ----- | .1   | ----- | ----- |
| Total | 6.5  | 5.6   | 5.7  | 10.7  | 128.1 | 44.1 | 38.5  | 18.7  | 15.0  | 5.1  | 3.5   | 3.4   |
| Mean  | 0.21 | 0.19  | 0.18 | 0.35  | 4.58  | 1.42 | 1.28  | 0.60  | 0.50  | 0.16 | 0.11  | 0.11  |
| Max   | 0.4  | 0.2   | 0.3  | 2.0   | 55    | 13   | 6.8   | 1.2   | 1.9   | 0.2  | 0.2   | 0.4   |
| Min   | 0.1  | 0.1   | 0.1  | 0.2   | 0.4   | 0.4  | 0.5   | 0.5   | 0.2   | 0.1  | 0.1   | 0     |
| Ac-ft | 13   | 11    | 11   | 21    | 254   | 87   | 76    | 37    | 30    | 10   | 6.9   | 6.7   |

Calendar year 1962: Max 348 Min 0 Mean 4.58 Ac-ft 3,310

Water year 1962-63: Max 55 Min 0 Mean 0.78 Ac-ft 564

Peak discharge (base, 100 cfs).--Feb. 9 (1630 hrs) 258 cfs (3.94 ft).

\* Discharge measurement made on this day.

## SANTA YNEZ RIVER BASIN

11-1210. Santa Ynez River at Jameson Lake, near Montecito, Calif.

Location.--Lat 34°29'32", long 119°30'25", on upstream side of Juncal Dam, 6.5 miles north of Carpinteria, and 8 miles northeast of Montecito, Santa Barbara County.

Drainage area.--13.8 sq mi (not including Alder Creek).

Records available.--December 1930 to September 1963. Prior to October 1938, published as "at Juncal Reservoir, near Montecito."

Gage.--Water-stage recorder on lake; water-stage recorder and sharp-crested weir on outlet conduit. Datum of gage is 2,021.6 ft above mean sea level (Bureau of Reclamation bench mark), or 2,000 ft above arbitrary datum (called sea level) generally used for works in this vicinity.

Average discharge.--32 years (1931-63), 5.50 cfs (3,980 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Remarks.--Records of total inflow represent all water reaching Jameson Lake, including precipitation on the lake. Net runoff computed on basis of records of storage, diversion (draft) to the city of Montecito, spill and release to river, and evaporation. Records of net runoff exclude precipitation on lake surface. Monthly evaporation from lake surface computed on basis of evaporation from Class A pan using coefficient of 0.80. Capacity and area ratings for this lake (revised) are based on surveys made in 1961. Lake capacity at spillway level (gage height, 223.82 ft) 6,596 acre-ft. Dead storage, 220 acre-ft, below lowest outlet at gage height 139.0 ft, included in these records. There is no regulation or diversion above station. At times flow of Alder Creek, which enters Santa Ynez River 2 miles downstream from Juncal Dam, is diverted at elevation 2,250 ft through a tunnel to Jameson Lake, and is included in these records.

Cooperation.--Reservoir-operation records and related data furnished by Montecito County Water District.

Monthly net runoff, water year October 1962 to September 1963

| Month                   | Gage height<br>(feet)† | Contents<br>(acre-<br>feet) | Change<br>in<br>contents<br>(acre-<br>feet) | Draft<br>(acre-<br>feet) | Spill<br>and<br>release<br>(acre-<br>feet) | Evapo-<br>ration<br>(acre-<br>feet) | Total<br>inflow<br>(acre-<br>feet) | Rain on<br>reser-<br>voir<br>(acre-<br>feet) | Net<br>runoff<br>(acre-<br>feet) |
|-------------------------|------------------------|-----------------------------|---|--------------------------|--|-------------------------------------|------------------------------------|--|----------------------------------|
|                         | Jameson Lake           |                             |   |                          |  |                                     |                                    |  |                                  |
| Sept. 30.....           | 215.75                 | 5,531                       | -   | -                        | -  | -                                   | -                                  | -  | -                                |
| Sept. 30.....           | 215.75                 | 5,501                       | -   | -                        | -  | -                                   | -                                  | -  | -                                |
| Oct. 31.....            | 214.47                 | 5,339                       | -162  | 90                       | 0  | 25                                  | -47                                | 3  | -50                              |
| Nov. 30.....            | 213.63                 | 5,233                       | -106  | 54                       | 0  | 11                                  | -41                                | 0  | -41                              |
| Dec. 31.....            | 212.93                 | 5,147                       | -86   | 56                       | 0  | 7                                   | -23                                | 2  | -25                              |
| Calendar year 1962..... | -                      | -                           | +4,501                                      | 1,096                    | 521  | 410                                 | 6,528                              | 236  | 6,292                            |
| Jan. 31.....            | 211.95                 | 5,027                       | -120  | 113                      | 0  | 7                                   | 0                                  | 21   | -21                              |
| Feb. 28.....            | 212.90                 | 5,143                       | +116  | 70                       | 0  | 15                                  | 201                                | 70   | 131                              |
| Mar. 31.....            | 212.78                 | 5,128                       | -15   | 96                       | 0  | 24                                  | 105                                | 49   | 56                               |
| Apr. 30.....            | 212.79                 | 5,129                       | +1  | 57                       | 0  | 22                                  | 80                                 | 32   | 48                               |
| May 31.....             | 212.47                 | 5,090                       | -39   | 63                       | 0  | 33                                  | 57                                 | 4  | 53                               |
| June 30.....            | 211.73                 | 5,000                       | -90   | 65                       | 0  | 42                                  | 17                                 | 9  | 8                                |
| July 31.....            | 209.96                 | 4,787                       | -213  | 146                      | 0  | 59                                  | -8                                 | 0  | -8                               |
| Aug. 31.....            | 207.73                 | 4,527                       | -260  | 177                      | 0  | 51                                  | -32                                | 0  | -32                              |
| Sept. 30.....           | 205.95                 | 4,324                       | -203  | 155                      | 0  | 31                                  | -17                                | 26   | -43                              |
| Water year 1962-63..... | -                      | -                           | -1,177                                      | 1,142                    | 0  | 327                                 | 292                                | 216  | 76                               |

† Gage height at 2400 hours.

‡ Contents from capacity table used 1948-62.

Note.--For months when inflow to the lake was small and other quantities were large, discordant figures of net runoff may appear. This arises primarily from the difficulty of computing net runoff 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.

11-1220. Santa Ynez River above Gibraltar Dam, near Santa Barbara, Calif.

Location.--Lat 34°31'37", long 119°41'10", on upstream side of Gibraltar Dam, 7 miles north of Santa Barbara, Santa Barbara County.

Drainage area.--216 sq mi.

Records available.--April 1920 to September 1963. 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 "near Santa Barbara."

Gage.--Water-stage recorder on reservoir; water-stage recorder and sharp-crested weir on diversion. Spill and release measured at river gaging station below dam (see following page). Datum of reservoir gage is mean sea level (datum of 1929). Prior to August 1916, staff gage 900 ft downstream at different datum. August 1916 to June 1918, water-stage recorder at Gibraltar damsite at different datum. June to November 1918, staff gage at several sites and datums near dam. Apr. 1, 1920, to Oct. 1, 1955, at datum 21.82 ft higher. Since Oct. 1, 1955, supplemental gage 15 ft to right of spillway, used for elevation above 1,386 ft.

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 Class A pan using coefficient of 0.80. Reservoir capacity and area tables are based on surveys made in 1956. Reservoir capacity at spillway level (elevation, 1,399.82 ft), 14,777 acre-ft. Dead storage, 716 acre-ft, below lowest outlet at elevation 1,333.86 ft, included in these records. Flow regulated by Jameson Lake since December 1930 (see preceding page).

Cooperation.--Reservoir-operation records and related data furnished by city of Santa Barbara.

Monthly net inflow, water year October 1962 to September 1963

| Month                   | Elevation<br>(feet)† | Contents<br>(acre-<br>feet) | Change<br>in<br>contents<br>(acre-<br>feet) | Draft<br>(acre-<br>feet) | Spill<br>and<br>release<br>(acre-<br>feet) | Evapo-<br>ration<br>(acre-<br>feet) | Total<br>inflow<br>(acre-<br>feet) | Rain on<br>reser-<br>voir<br>(acre-<br>feet) | Net<br>inflow<br>(acre-<br>feet) |
|-------------------------|----------------------|-----------------------------|---|--------------------------|--|-------------------------------------|------------------------------------|--|----------------------------------|
|                         | Gibraltar Reservoir  |                             |   |                          |  |                                     |                                    |  |                                  |
| Sept. 30.....           | 1,383.84             | 10,582                      | -   | -                        | -  | -                                   | -                                  | -  | -                                |
| Oct. 31.....            | 1,386.61             | 9,863                       | -719  | 637                      | 0  | 91                                  | 9                                  | 8  | 1                                |
| Nov. 30.....            | 1,384.50             | 9,224                       | -639  | 574                      | 0  | 50                                  | -15                                | 0  | -15                              |
| Dec. 31.....            | 1,382.57             | 8,676                       | -548  | 528                      | 0  | 38                                  | 18                                 | 0  | 18                               |
| Calendar year 1962..... | -                    | -                           | +5,824                                      | 7,702                    | 46,266                                     | 1,352                               | 61,144                             | 808  | 60,336                           |
| Jan. 31.....            | 1,381.79             | 8,463                       | -213  | 233                      | 0  | 28                                  | 48                                 | 44   | 4                                |
| Feb. 28.....            | 1,387.14             | 10,029                      | +1,566                                      | 106                      | 5  | 48                                  | 1,725                              | 164  | 1,561                            |
| Mar. 31.....            | 1,389.65             | 10,855                      | +826  | 227                      | 1  | 56                                  | 1,110                              | 141  | 969                              |
| Apr. 30.....            | 1,392.90             | 12,010                      | +1,155                                      | 72                       | 0  | 92                                  | 1,319                              | 93   | 1,226                            |
| May 31.....             | 1,394.17             | 12,487                      | +477  | 130                      | 0  | 113                                 | 720                                | 6  | 714                              |
| June 30.....            | 1,393.65             | 12,291                      | -196  | 245                      | 31   | 156                                 | 236                                | 14   | 222                              |
| July 31.....            | 1,390.79             | 11,249                      | -1,042                                      | 827                      | 28   | 206                                 | 19                                 | 0  | 19                               |
| Aug. 31.....            | 1,387.84             | 10,254                      | -995  | 829                      | 5  | 167                                 | 6                                  | 6  | 0                                |
| Sept. 30.....           | 1,385.69             | 9,579                       | -675  | 621                      | 4  | 122                                 | 72                                 | 39   | 33                               |
| Water year 1962-63..... | -                    | -                           | -1,003                                      | 5,029                    | 74   | 1,167                               | 5,267                              | 515  | 4,752                            |

† Elevation at 1800 hours.

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.

## SANTA YNEZ RIVER BASIN

11-1230. Santa Ynez River below Gibraltar Dam, near Santa Barbara, Calif.

Location.--Lat 34°31'28", long 119°41'11", in southwest portion of Los Padres National Forest, on left bank 700 ft downstream from Gibraltar Dam, and 7 miles north of Santa Barbara, Santa Barbara County.

Drainage area.--216 sq mi.

Records available.--April 1920 to September 1963 (monthly discharge only prior to October 1941).

Gage.--Water-stage recorder; water-stage recorder and combination sharp-crested weir on "Release to river gage." Altitude of gage is 1,250 ft (from topographic map). Water-stage recorder on Gibraltar Reservoir used as supplementary gage. Prior to Apr. 17, 1952, water-stage recorder on Gibraltar Reservoir used as principal gage. Apr. 17 to Oct. 15, 1952, staff gage and Oct. 16, 1952, to May 20, 1958, water-stage recorder, at same site at datum 5.00 ft higher.

Extremes.--Maximum discharge during year, 12 cfs Feb. 9 (gage height, 4.93 ft); no flow for most of year.

1920-63: Maximum discharge, 35,500 cfs Mar. 2, 1938, computed from spillway rating; no flow at times in most years.

Remarks.--Records good. Discharge represents flow in Santa Ynez River passing Gibraltar Dam. Flow regulated by Gibraltar Reservoir and Jameson Lake (see pp. 221, 220). City of Santa Barbara diverted 5,029 acre-ft during the water year from Gibraltar Reservoir; Montecito County Water District diverted 1,142 acre-ft during the water year from Jameson Lake.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr. | May | June  | July  | Aug.  | Sept. |
|-------|------|------|------|------|-------|------|------|-----|-------|-------|-------|-------|
| 1     |      |      |      |      | 0     | 0    |      |     | 0     | 1.7   | 0.08  | 0.08  |
| 2     |      |      |      | (*)  | 0     | 0    |      |     | 0     | 1.7   | .08   | .08   |
| 3     |      |      |      |      | 0     | 0    |      |     | 0     | 1.7   | .08   | .08   |
| 4     |      |      |      |      | 0     | 0    |      |     | 0     | .90   | .08   | .07   |
| 5     |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .07   |
| 6     |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .07   |
| 7     |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .07   |
| 8     |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .07   |
| 9     |      |      |      |      | 1.4   | 0    |      |     | 0     | .52   | .08   | .07   |
| 10    |      |      |      |      | .9    | 0    |      |     | 0     | .52   | .08   | .07   |
| 11    |      |      |      |      | .1    | 0    |      |     | 0     | .52   | .08   | .07   |
| 12    |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .08   |
| 13    |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .08   |
| 14    |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .08   |
| 15    |      |      |      |      | 0     | 0    |      | (*) | 0     | .52   | .08   | .08   |
| 16    |      |      |      |      | 0     | .2   |      |     | 0     | .52   | .08   | .08   |
| 17    |      |      |      |      | 0     | 0    |      |     | 0     | .52   | .08   | .07   |
| 18    |      |      |      |      | * 0   | 0    |      |     | 0     | .29   | .08   | .07   |
| 19    |      |      |      |      | 0     | 0    |      |     | 0     | .18   | .08   | .07   |
| 20    |      |      |      |      | 0     | 0    |      |     | .35   | .13   | .08   | .07   |
| 21    |      | (*)  |      |      | 0     | 0    |      |     | 1.4   | .09   | .08   | .07   |
| 22    |      |      |      |      | 0     | 0    |      |     | 1.4   | .08   | .08   | .07   |
| 23    |      |      |      |      | 0     | 0    | (*)  |     | 1.4   | .07   | * .08 | .07   |
| 24    |      |      |      |      | 0     | 0    |      |     | * 1.5 | .08   | .08   | .07   |
| 25    | (*)  |      |      |      | 0     | 0    |      |     | 1.6   | .09   | .08   | .08   |
| 26    |      |      |      |      | 0     | 0    |      |     | 1.6   | .09   | .08   | .08   |
| 27    |      |      |      |      | 0     | * 0  |      |     | 1.6   | .08   | .08   | .07   |
| 28    |      |      |      |      | 0     | .1   |      |     | 1.6   | .08   | .08   | .07   |
| 29    |      |      |      |      | ----- | 0    |      |     | 1.6   | * .08 | .08   | .07   |
| 30    |      |      |      |      | ----- | 0    |      |     | 1.6   | .08   | .08   | .07   |
| 31    |      |      |      | (*)  | ----- | 0    |      |     | ----- | .08   | .08   | ----- |
| Total | 0    | 0    | 0    | 0    | 2.4   | 0.3  | 0    | 0   | 15.65 | 14.26 | 2.48  | 2.20  |
| Mean  | 0    | 0    | 0    | 0    | 0.09  | 0.01 | 0    | 0   | 0.522 | 0.460 | 0.080 | 0.073 |
| Max   | 0    | 0    | 0    | 0    | 1.4   | 0.2  | 0    | 0   | 1.6   | 1.7   | 0.08  | 0.08  |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0   | 0     | 0.07  | 0.08  | 0.07  |
| Ac-ft | 0    | 0    | 0    | 0    | 4.8   | 0.6  | 0    | 0   | 31    | 28    | 4.9   | 4.4   |

Calendar year 1962: Max 4,960 Min 0 Mean 63.9 Ac-ft 46,270

Water year 1962-63: Max 1.7 Min 0 Mean 0.102 Ac-ft 74

\* Discharge measurement or observation of no flow made on this day.

Note.--Discharge June 20-23, July 5 to Sept. 30 obtained from unpublished records for supplementary gage on outlet channel below dam.

11-1235. Santa Ynez River below Los Laureles Canyon, near Santa Ynez, Calif.

Location.--Lat 34°32'37", long 119°51'50", in San Marcos Grant, on left bank 0.3 mile downstream from Los Laureles Canyon Creek and 13.3 miles east of Santa Ynez, Santa Barbara County.

Drainage area.--277 sq mi.

Records available.--April 1947 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 787.8 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 35.8 cfs (25,920 acre-ft per year); median of yearly mean discharges, 2.2 cfs (1,600 acre-ft per year).

Extremes.--Maximum discharge during year, 398 cfs Feb. 9 (gage height, 6.18 ft); no flow Oct. 1 to Feb. 8, July 3, 4, July 7 to Sept. 30.

1947-63: Maximum discharge, 33,000 cfs Jan. 15, 1952 (gage height, 15.6 ft), from rating curve extended above 6,400 cfs on basis of slope-area measurement of peak flow at station below Gibraltar Dam; no flow for several months in each year.

Remarks.--Records good. Flow regulated by Jameson Lake and Gibraltar Reservoir (see pp. 220, 221). Water diverted out of basin from these reservoirs to cities of Montecito and Santa Barbara for municipal supply. Flow affected by intermittent pumping for irrigation and from infiltration gallery in river bed at station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 4.6 | 0   |
| 4.7 | .6  |
| 4.8 | 2.6 |
| 4.9 | 6.5 |
| 5.0 | 13  |
| 5.2 | 35  |
| 5.4 | 70  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.   | Mar.   | Apr.   | May   | June  | July | Aug. | Sept. |
|-------|------|------|------|------|--------|--------|--------|-------|-------|------|------|-------|
| 1     |      |      |      |      | 0      | 0.7    | 5.5    | 4.2   | 1.0   | 0.2  |      |       |
| 2     |      |      |      | (*)  | 0      | .8     | 5.0    | 3.8   | 1.0   | .1   |      |       |
| 3     |      |      |      |      | 0      | .7     | 5.0    | 3.5   | .8    | 0    |      |       |
| 4     |      |      |      |      | 0      | .7     | 5.0    | 3.2   | .7    | 0    |      |       |
| 5     |      |      |      |      | 0      | .7     | 4.6    | 2.9   | .7    | .1   |      |       |
| 6     |      |      |      |      | 0      | .7     | 4.2    | 2.9   | .7    | .1   |      |       |
| 7     |      |      |      |      | 0      | .7     | 4.2    | 2.6   | .7    | 0    |      |       |
| 8     | (*)  |      |      |      | 0      | .6     | 3.8    | 2.6   | .6    | 0    |      |       |
| 9     |      |      |      |      | 64     | .4     | * 3.5  | * 2.6 | .6    | * 0  |      |       |
| 10    |      |      |      |      | * 62   | .5     | 3.5    | 2.3   | .6    | 0    |      |       |
| 11    |      |      |      |      | 21     | .4     | 3.2    | 2.3   | * .8  | 0    |      |       |
| 12    |      |      |      |      | 4.6    | .3     | 2.9    | 2.0   | 1.0   | 0    |      |       |
| 13    |      |      |      |      | 2.3    | * .1   | 2.6    | 1.8   | 1.0   | 0    |      |       |
| 14    |      |      |      |      | * 1.8  | .1     | 6.5    | 1.6   | 1.2   | 0    |      |       |
| 15    |      |      |      |      | 1.6    | .3     | 6.0    | 1.6   | 1.2   | 0    |      |       |
| 16    |      |      |      |      | 1.4    | 1.8    | 4.6    | 1.6   | 1.0   | 0    |      |       |
| 17    |      |      |      |      | 1.2    | 1.5    | 3.8    | 1.4   | .8    | 0    |      |       |
| 18    |      |      |      |      | 1.2    | * 8.9  | 3.5    | 1.4   | .7    | 0    |      |       |
| 19    |      |      |      |      | 1.0    | 6.0    | 3.5    | 1.4   | .6    | 0    |      |       |
| 20    |      |      |      |      | 1.0    | 4.2    | 3.5    | 1.4   | .5    | 0    |      |       |
| 21    |      | (*)  |      |      | .8     | 3.5    | 4.2    | 1.2   | .5    | 0    | (*)  |       |
| 22    |      |      |      |      | .8     | 3.5    | 3.8    | * 1.2 | .4    | 0    |      |       |
| 23    |      |      |      |      | .8     | 4.6    | * 3.2  | 1.4   | .5    | 0    |      |       |
| 24    |      |      |      |      | .8     | 4.2    | 2.9    | 1.6   | * .6  | 0    |      |       |
| 25    | (*)  |      |      |      | 1.0    | 3.5    | 5.6    | 1.6   | .5    | * 0  |      |       |
| 26    |      |      |      |      | 1.0    | 3.5    | 13     | 1.6   | .3    | 0    |      |       |
| 27    |      |      |      |      | * .8   | * 3.2  | 8.3    | 1.6   | .2    | 0    |      |       |
| 28    |      |      |      |      | .8     | 31     | 6.0    | 1.6   | .2    | 0    |      |       |
| 29    |      |      |      |      | -----  | 15     | 5.5    | 1.6   | .2    | 0    |      |       |
| 30    |      |      |      |      | -----  | 8.3    | 4.6    | 1.4   | .2    | 0    |      |       |
| 31    |      |      |      |      | -----  | 6.5    | -----  | 1.2   | ----- | 0    |      |       |
| Total | 0    | 0    | 0    | 0    | 1 69.9 | 1 46.6 | 1 41.5 | 63.1  | 19.8  | 0.5  | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 6.07   | 4.73   | 4.72   | 2.04  | 0.66  | 0.02 | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 64     | 31     | 13     | 4.2   | 1.2   | 0.2  | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0      | 0.1    | 2.6    | 1.2   | 0.2   | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 337    | 291    | 281    | 125   | 39    | 1.0  | 0    | 0     |

Calendar year 1962: Max 8,910 Min 0 Mean 115 Ac-ft 83,060  
 Water year 1962-63: Max 64 Min 0 Mean 1.48 Ac-ft 1,070

\* Discharge measurement or observation of no flow made on this day.

## SANTA YNEZ RIVER BASIN

11-1245. Santa Cruz Creek near Santa Ynez, Calif.

Location.--Lat 34°35'48", long 119°54'28", in San Marcos Grant, on right bank 0.6 mile downstream from Pine Canyon and 9.9 miles east of Santa Ynez, Santa Barbara County.

Drainage area.--73.9 sq mi.

Records available.--October 1941 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 786.63 ft above mean sea level (levels by Bureau of Reclamation). Prior to Jan. 22, 1943, at site 1.9 miles downstream at different datum (destroyed by flood). Jan. 22, 1943, to Sept. 26, 1952, at site 1.7 miles downstream at different datum.

Average discharge.--22 years, 13.0 cfs (9,410 acre-ft per year); median of yearly mean discharges, 5.7 cfs (4,100 acre-ft per year).

Extremes.--Maximum discharge during year, 398 cfs Feb. 9 (gage height, 5.29 ft); no flow Oct. 1 to Jan. 31, Feb. 3-8, Aug. 3 to Sept. 30.  
1941-63: Maximum discharge, 4,520 cfs Feb. 9, 1962 (gage height, 9.75 ft), from rating curve extended above 2,100 cfs; no flow at times since 1953.

Remarks.--Records good except those above 100 cfs, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.   | Mar.   | Apr.   | May    | June  | July | Aug.  | Sept. |
|-------|------|------|------|------|--------|--------|--------|--------|-------|------|-------|-------|
| 1     |      |      |      |      | 0.1    | 1.8    | 6.3    | 9.0    | 5.3   | 0.7  | 0.1   |       |
| 2     |      |      |      | (*)  | .3     | 1.8    | 5.9    | 7.8    | 5.0   | .6   | .1    |       |
| 3     |      |      |      |      | 0      | 1.8    | 5.6    | 7.4    | 4.5   | .6   | 0     |       |
| 4     |      |      |      |      | 0      | 2.0    | 5.0    | 6.6    | 4.0   | .5   | 0     |       |
| 5     |      |      |      |      | 0      | 2.0    | 4.8    | 7.0    | 4.0   | .5   | 0     |       |
| 6     |      |      |      |      | 0      | 2.0    | 4.5    | 6.3    | 4.0   | .4   | 0     |       |
| 7     |      |      |      |      | 0      | 2.0    | 4.8    | 5.9    | 4.2   | .4   | 0     |       |
| 8     |      |      |      |      | 0      | 2.0    | 5.6    | * 5.9  | 4.0   | .4   | 0     |       |
| 9     |      |      |      |      | 21     | 2.1    | * 5.3  | 6.3    | 4.0   | * .3 | * 0   |       |
| 10    |      |      |      |      | 223    | 2.3    | 5.0    | 6.3    | 3.8   | .3   | 0     |       |
| 11    |      |      |      |      | 79     | 2.3    | 4.8    | 5.9    | 4.8   | .2   | 0     |       |
| 12    |      |      |      |      | * 20   | 2.3    | 4.5    | 5.6    | 5.6   | .2   | 0     |       |
| 13    |      |      |      |      | 9.8    | 2.3    | 4.5    | 5.3    | 5.3   | .2   | 0     |       |
| 14    |      |      |      |      | 7.4    | 2.3    | 17     | 5.0    | 4.5   | .2   | 0     |       |
| 15    |      |      |      |      | 5.3    | 2.3    | 33     | 4.8    | 3.6   | .2   | 0     |       |
| 16    |      |      |      |      | 4.2    | 5.2    | 16     | 4.5    | 2.8   | .2   | 0     |       |
| 17    |      |      |      |      | 3.6    | 9.9    | 11     | 4.2    | * 2.3 | .2   | 0     |       |
| 18    |      |      |      |      | 3.4    | 4.8    | 8.6    | 4.2    | 2.1   | .2   | 0     |       |
| 19    |      |      |      |      | 3.0    | 3.8    | 7.8    | 4.5    | 1.8   | .2   | 0     |       |
| 20    |      |      |      |      | 2.6    | 3.6    | 8.2    | 4.5    | 1.8   | .2   | 0     |       |
| 21    |      |      |      |      | 2.4    | 3.6    | 16     | 4.5    | 1.8   | .2   | 0     |       |
| 22    |      |      |      |      | 2.3    | 4.0    | * 14   | * 4.8  | 1.8   | .2   | 0     |       |
| 23    |      |      |      |      | 2.1    | 5.9    | 11     | 5.3    | 1.8   | .2   | * 0   |       |
| 24    | (*)  |      |      |      | 2.1    | 5.6    | 9.0    | 5.3    | * 1.8 | .1   | 0     |       |
| 25    |      |      |      |      | 2.0    | 4.8    | 9.0    | 5.3    | 1.7   | * .1 | 0     |       |
| 26    |      |      |      |      | 2.0    | 4.0    | 18     | 5.9    | 1.4   | .1   | 0     |       |
| 27    |      |      |      |      | * 2.0  | * 4.0  | 16     | 6.6    | 1.3   | .1   | 0     |       |
| 28    |      |      |      |      | 1.8    | 25     | 16     | 6.6    | 1.0   | .1   | 0     |       |
| 29    |      |      |      |      | -----  | 20     | 13     | 6.3    | 1.0   | .1   | 0     |       |
| 30    |      |      |      |      | -----  | 9.8    | 11     | 5.9    | .9    | .1   | 0     |       |
| 31    |      |      |      |      | -----  | 7.0    | -----  | 5.6    | ----- | .1   | 0     |       |
| Total | 0    | 0    | 0    | 0    | 3 99.4 | 1 52.3 | 3 01.2 | 1 79.1 | 91.9  | 8.1  | 0.2   | 0     |
| Mean  | 0    | 0    | 0    | 0    | 14.3   | 4.91   | 10.0   | 5.78   | 3.06  | 0.26 | 0.006 | 0     |
| Max   | 0    | 0    | 0    | 0    | 223    | 25     | 33     | 9.0    | 5.6   | 0.7  | 0.1   | 0     |
| Min   | 0    | 0    | 0    | 0    | 0      | 1.8    | 4.5    | 4.2    | 0.9   | 0.1  | 0     | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 792    | 302    | 597    | 355    | 182   | 16   | 0.4   | 0     |

Calendar year 1962: Max 1,700 Min 0 Mean 28.3 Ac-ft 20,450  
Water year 1962-63: Max 223 Min 0 Mean 3.10 Ac-ft 2,240

Peak discharge (base, 100 cfs).--Feb. 9 (2330 hrs) 398 cfs (5.29 ft).

\* Discharge measurement or observation of no flow made on this day.

11-1255. Lake Cachuma near Santa Ynez, Calif.

Location.--Lat 34°34'57", long 119°58'47", at Cachuma Dam on Santa Ynez River, in Lomas de la Purification Grant, on upstream face near left end of dam, 6.1 miles east of Santa Ynez, Santa Barbara County.

Drainage area.--417 sq mi.

Records available.--November 1952 to September 1963. Prior to October 1960, published as Cachuma Reservoir near Santa Ynez.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929 (Bureau of Reclamation bench mark).

Extremes.--Maximum contents during year, 190,387 acre-ft Oct. 1 (elevation, 745.19 ft); minimum, 171,736 acre-ft Sept. 30 (elevation, 738.61 ft).

1952-63: Maximum contents, 206,863 acre-ft Apr. 17, 1958 (elevation, 750.64 ft); minimum, since initial filling in April 1958, 129,268 acre-ft Feb. 6, 1962 (elevation, 721.75 ft).

Remarks.--Reservoir is formed by earth-fill dam. Storage began November 1952. Area and capacity ratings for reservoir are based on surveys made in January 1953. Dead storage below outlet gate to river (elevation, 600 ft), 3,114 acre-ft. Capacity below sill of inlet to Tecolote Tunnel (elevation, 660 ft), 32,514 acre-ft; below spillway level (elevation, 720 ft), 125,292 acre-ft; below top of 4 radial gates (elevation, 750 ft), 204,874 acre-ft. Water is released from outlet to Santa Ynez River to satisfy downstream water rights, and from the inlet to Tecolote Tunnel for use by city of Santa Barbara and nearby communities. Figures given herein represent total contents.

Cooperation.--Reservoir elevations and releases through Tecolote Tunnel furnished by Bureau of Reclamation.

Month-end elevation and contents, water year October 1962 to September 1963

| Date                    | Elevation<br>(feet)† | Contents<br>(acre-feet) | Change in contents<br>(acre-feet) | Diversion through<br>Tecolote tunnel<br>(acre-feet)‡ |
|-------------------------|----------------------|-------------------------|-----------------------------------|--|
| Sept. 30.....           | 745.22               | 190,475                 | -                                 | -  |
| Oct. 31.....            | 744.52               | 188,430                 | -2,045                            | 861  |
| Nov. 30.....            | 743.91               | 186,657                 | -1,773                            | 549  |
| Dec. 31.....            | 743.47               | 185,390                 | -1,267                            | 462  |
| Calendar year 1962..... | -                    | -                       | +55,088                           | 10,237   |
| Jan. 31.....            | 742.93               | 183,836                 | -1,554                            | 974  |
| Feb. 28.....            | 743.33               | 184,986                 | +1,150                            | 355  |
| Mar. 31.....            | 743.32               | 184,958                 | -28                               | 608  |
| Apr. 30.....            | 743.33               | 184,986                 | +28                               | 502  |
| May 31.....             | 742.93               | 183,836                 | -1,150                            | 637  |
| June 30.....            | 742.05               | 181,326                 | -2,510                            | 1,100  |
| July 31.....            | 740.65               | 177,385                 | -3,941                            | 1,828  |
| Aug. 31.....            | 739.36               | 173,800                 | -3,585                            | 1,671  |
| Sept. 30.....           | 738.61               | 171,736                 | -2,064                            | 1,048  |
| Water year 1962-63..... | -                    | -                       | -18,739                           | 10,595   |

† Elevation at 0845 hours.

‡ Tecolote Tunnel diverts water out of Santa Ynez River basin to Santa Barbara and nearby communities for municipal use and irrigation.

## SANTA YNEZ RIVER BASIN

11-1260. Santa Ynez River near Santa Ynez, Calif.

Location.--Lat 34°35'30", long 119°59'45", on boundary between Canada de los Pinos and Lomas de la Purification Grants on right bank, 1.1 miles downstream from Cachuma Dam, and 5 miles southeast of Santa Ynez, Santa Barbara County.

Drainage area.--422 sq mi.

Records available.--December 1928 to September 1931, October 1932 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 552.9 ft, datum of 1929. Prior to Oct. 1, 1955, at site 2.1 miles downstream at different datum.

Extremes.--Maximum discharge during year, 280 cfs Feb. 10 (gage height, 3.06 ft); no flow for several months.

1928-31, 1932-63: Maximum discharge, 43,700 cfs Mar. 2, 1938 (gage height, 17.90 ft, site and datum then in use, from rating curve extended above float measurement of 34,100 cfs; no flow at times in some years.

Remarks.--Records good except those for periods of no gage-height record and backwater, which are poor. Flow regulated by Jameson Lake since December 1930, Gibraltar Reservoir, and Lake Cachuma since November 1952 (see pp. 220, 221, 225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and to the Santa Ynez valley for municipal supply. Some water pumped from wells along river banks for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     |      |      |      |      | 0     | *4.0  | 4     | 2.4  | 0.1   | 4.4  | 0.6  | 2.6   |
| 2     |      |      |      | (*)  | 0     | 4.9   | 4     | 2.8  | 0     | 1.1  | .2   | 3.5   |
| 3     |      |      |      |      | 0     | 4.2   | 4     | 3.0  | 0     | .6   | .1   | 3.0   |
| 4     |      |      |      |      | 0     | 4.2   | 4     | 3.2  | 0     | 1.0  | .1   | .6    |
| 5     |      |      |      |      | 0     | 6.8   | 4     | 3.2  | 0     | .4   | .1   | .2    |
| 6     |      |      |      |      | 0     | 6.5   | 4     | 4.0  | 0     | .1   | 1.9  | .1    |
| 7     |      |      |      |      | 0     | 6.5   | 4     | 6.4  | 0     | .5   | 1.1  | 0     |
| 8     | (*)  |      |      |      | 0     | 6.5   | 4     | *1.9 | 0     | 1.2  | *.2  | 0     |
| 9     |      |      |      |      | c 5   | 5     | *4.0  | 1.3  | 0     | *.4  | 4.8  | 0     |
| 10    |      |      |      |      | 5.0   | 5     | 4.9   | .6   | 0     | .2   | 3.0  | 0     |
| 11    |      |      |      |      | 5.3   | 2     | 2.8   | .4   | *4.8  | .2   | 1.8  | 0     |
| 12    |      |      |      |      | 8.4   | 1     | 2.6   | .6   | 7.0   | .1   | 1.1  | *0    |
| 13    |      |      |      |      | 8.4   | *.7   | 3.0   | 8.6  | .2    | 0    | .2   | 0     |
| 14    |      |      |      |      | *8.4  | .7    | 3.7   | 4.0  | .1    | 0    | .1   | 0     |
| 15    |      |      |      |      | 8.4   | .7    | 3.7   | 3.0  | 0     | 0    | 0    | 0     |
| 16    |      |      |      |      | 8.4   | .7    | 3.0   | 2.6  | 0     | 3.5  | 0    | 0     |
| 17    |      |      |      |      | 8.4   | .7    | 3.0   | 1.8  | 3.8   | 5.0  | 0    | 0     |
| 18    |      |      |      |      | 8.0   | 2     | 3.0   | 4.8  | 1.2   | 4.7  | 0    | 0     |
| 19    |      |      |      |      | 7.2   | 3     | 3.2   | 3.5  | 1.4   | 5.0  | 0    | 0     |
| 20    |      |      |      |      | 3.5   | 3     | 3.2   | 1.8  | 1.4   | 5.9  | 0    | 0     |
| 21    |      | (*)  |      |      | 1.3   | 3     | 3.0   | 4.1  | 1.6   | 5.9  | 0    | 0     |
| 22    |      |      |      |      | 2.2   | 3     | 1.8   | *3.2 | 1.6   | 5.6  | 0    | 0     |
| 23    |      |      |      |      | 2.2   | 3     | *1.3  | 2.0  | 1.7   | 2.0  | 0    | 0     |
| 24    |      |      |      |      | 2.3   | 3     | 1.2   | 2.2  | 1.3   | .7   | 0    | 0     |
| 25    |      |      |      |      | 1.5   | 3     | 1.2   | .8   | *4.4  | *.2  | 0    | 0     |
| 26    |      |      |      |      | 5.3   | 3     | 1.9   | .4   | 3.5   | 0    | *0   | 0     |
| 27    |      |      |      |      | 5.3   | 3     | 1.5   | .3   | 3.5   | 0    | 0    | 0     |
| 28    |      |      |      |      | 4.4   | *8    | 1.3   | .4   | 3.7   | 0    | 1.5  | 0     |
| 29    |      |      |      |      | ----- | 6     | 1.2   | .2   | 3.7   | 0    | .2   | 0     |
| 30    |      |      |      |      | ----- | 4     | 1.3   | .2   | 4.0   | 0    | 0    | 0     |
| 31    |      |      |      | (*)  | ----- | 3     | ----- | .2   | ----- | 1    | 1.0  | ----- |
| Total | 0    | 0    | 0    | 0    | 239.4 | 110.1 | 87.8  | 73.9 | 140.8 | 48.8 | 18.0 | 10.0  |
| Mean  | 0    | 0    | 0    | 0    | 8.55  | 3.55  | 2.93  | 2.38 | 4.69  | 1.57 | 0.58 | 0.33  |
| Max   | 0    | 0    | 0    | 0    | 50    | 8     | 4.9   | 8.6  | 17    | 5.9  | 4.8  | 3.5   |
| Min   | 0    | 0    | 0    | 0    | 0     | 0.7   | 1.2   | 0.2  | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 475   | 218   | 174   | 147  | 279   | 97   | 36   | 20    |

Calendar year 1962: Max 801 Min 0 Mean 34.1 Ac-ft 24,660  
 Water year 1962-63: Max 50 Min 0 Mean 2.00 Ac-ft 1,450

\* Discharge measurement or observation of no flow made on this day.

c Backwater.

Note.--No gage-height record Mar. 7-12, Mar. 14 to Apr. 8.



## SANTA YNEZ RIVER BASIN

227

11-1265. Santa Agueda Creek near Santa Ynez, Calif.

Location.--Lat 34°35'40", long 120°01'30", in Canada de los Pinos Grant, on left downstream wingwall of highway bridge, 0.8 mile upstream from mouth, and 3.5 miles southeast of Santa Ynez, Santa Barbara County.

Drainage area.--55.8 sq mi.

Records available.--October 1940 to September 1963. 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 520 ft (from topographic map). Prior to Oct. 1, 1955, at datum 1.0 ft higher.

Average discharge.--23 years, 3.52 cfs (2,550 acre-ft per year); median of yearly mean discharges, 0.8 cfs (580 acre-ft per year).

Extremes.--Maximum discharge during year, 64 cfs Feb. 10 (gage height, 2.25 ft); no flow for most of year.

1940-63: Maximum discharge, 5,760 cfs Feb. 19, 1958 (gage height, 6.14 ft), from rating curve extended above 2,000 cfs; no flow at times in most years.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

Feb. 9..... 0.1  
 10.....\*17  
 11.....\* 4.7  
 Mar. 28..... .2  
 Apr. 21..... .1  
 26.....\*.4

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| February 1963.....      | 21.8     | 17      | 0       | 0.78 | 43                     |
| March.....              | .2       | .2      | 0       | .006 | .4                     |
| April.....              | .5       | .4      | 0       | .02  | 1.0                    |
| Calendar year 1962..... | -        | 569     | 0       | 5.37 | 3,880                  |
| Water year 1962-63..... | -        | 17      | 0       | .06  | 44                     |

Peak discharge (base, 50 cfs).--Feb. 10 (1900 hrs) 64 cfs (2.25 ft).

\* Discharge measurement made on this day.

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

## SANTA YNEZ RIVER BASIN

11-1280. Santa Ynez River at Grand Avenue, near Santa Ynez, Calif.

Location.--Lat 34°35'06", long 120°06'00", in Canada de los Pinos Grant, on downstream side of first pier from right bank of highway bridge, 0.2 mile downstream from Zanja de Cota Creek, and 2.2 miles southwest of Santa Ynez, Santa Barbara County.

Drainage area.--513 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 420 ft (from topographic map).

Extremes.--Maximum discharge during year, 46 cfs Feb. 10 (gage height, 2.71 ft); no flow for many days.  
1954-63: Maximum discharge, about 6,000 cfs Mar. 21, 1958; no flow at times in most years.

Remarks.--Records fair. Flow regulated by Jameson Lake, Gibraltar Reservoir and Lake Cachuma (see pp. 220, 221, 225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara and Goleta for municipal supply. Some water for irrigation pumped from wells along banks of river in valley upstream.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0    | 0.3   | 2.5   | 3.0   | 2.0   | * 4.9 | 6.1   | 4.5   | 3.0   | 0.7  |      | 0     |
| 2     | 0    | .6    | 2.8   | 3.0   | 2.0   | 4.9   | 6.1   | 4.1   | 2.8   | .7   |      | 0     |
| 3     | 0    | .6    | 2.8   | 3.0   | 2.0   | 5.7   | 6.1   | 4.1   | 2.5   | .3   |      | 0     |
| 4     | 0    | .6    | 3.0   | 3.0   | 2.0   | 5.7   | 6.1   | 4.1   | 1.5   | .6   |      | 0     |
| 5     | 0    | .6    | 3.0   | 3     | 2.0   | 7.1   | 6.1   | 3.7   | 1.2   | .8   |      | 0     |
| 6     | 0    | .8    | * 3.0 | 3     | 2.0   | 9.8   | 6.1   | 3.7   | .7    | .5   |      | 0     |
| 7     | .5   | .8    | 2.8   | 3     | * 2.0 | 12    | 6.1   | * 3.7 | .7    | .3   |      | 0     |
| 8     | * 0  | .8    | 2.0   | * 3.0 | 2.0   | 11    | 6.6   | 4.5   | .9    | .3   |      | 0     |
| 9     | 0    | .8    | 1.5   | 3.0   | 8.0   | 11    | 6.6   | 5.7   | .9    | .1   |      | 0     |
| 10    | .1   | .8    | 1.0   | 3.0   | * 2.7 | 11    | 6.1   | 5.3   | .4    | * .1 |      | 0     |
| 11    | .2   | 1.0   | 1.0   | 2.5   | 18    | 12    | 7.1   | 5.3   | * 1.9 | .2   |      | 0     |
| 12    | .1   | 1.0   | 1.0   | 3.0   | 6.6   | 9.8   | * 6.1 | 4.9   | 2.2   | .2   |      | 0     |
| 13    | .3   | 1.0   | 1.0   | 2.8   | 6.1   | 6.6   | 5.7   | 4.5   | .8    | .1   |      | 0     |
| 14    | .7   | 1.0   | 1.0   | 2.2   | * 5.7 | * 5.3 | 8.6   | 4.9   | .3    | .2   |      | 0     |
| 15    | .3   | 1.0   | .7    | 2.2   | 5.7   | 4.1   | 8.1   | 4.5   | .3    | .1   |      | 0     |
| 16    | 0    | 1.0   | .7    | 2.2   | 5.7   | 11    | 7.1   | 4.5   | 1.8   | .1   |      | 0     |
| 17    | .1   | 1.2   | .7    | 2.2   | 6.1   | 9.2   | 7.6   | 4.1   | 1.2   | .2   |      | 0     |
| 18    | 0    | 1.2   | * .7  | 2.2   | 6.1   | 7.1   | 6.6   | 4.1   | .4    | .2   |      | 0     |
| 19    | 0    | 1.2   | .7    | 2.0   | 7.1   | 4.9   | 8.1   | 4.1   | 1.2   | 0    |      | 0     |
| 20    | 0    | 1.2   | .8    | 2.0   | 6.1   | 4.9   | 8.6   | 4.1   | 1.8   | .1   |      | 0     |
| 21    | .1   | * 1.2 | 1.0   | 1.8   | 4.1   | 5.3   | 9.8   | 4.1   | 1.8   | .1   |      | 0     |
| 22    | .1   | 1.2   | 1.2   | 1.8   | 13    | 6.6   | 8.1   | 4.1   | .8    | .1   |      | 0     |
| 23    | .3   | 1.2   | 1.3   | 1.8   | 13    | 8.6   | 7.1   | 4.1   | 2.0   | .1   |      | .1    |
| 24    | .6   | 1.2   | 1.5   | 1.8   | 14    | 7.6   | * 6.1 | * 4.5 | 1.3   | 0    |      | .6    |
| 25    | .8   | 1.3   | 1.8   | 1.5   | 17    | 7.6   | 6.6   | 4.9   | * .4  | * 0  |      | .8    |
| 26    | 1.0  | 1.5   | 2.0   | 1.5   | 7.1   | 7.6   | 9.2   | 4.9   | .6    | 0    | (*)  | 1.2   |
| 27    | 1.0  | 1.8   | 2.2   | 1.5   | 4.5   | 8.1   | 6.6   | 4.5   | .4    | 0    |      | 1.5   |
| 28    | 1.2  | 2.0   | 2.5   | 1.3   | 3.7   | * 2.0 | 5.7   | 4.1   | .4    | 0    |      | 2.0   |
| 29    | 1.0  | 2.2   | 2.5   | 1.3   | ----- | 10    | 4.9   | 2.2   | .4    | 0    |      | 2.2   |
| 30    | 1.0  | 2.2   | 2.5   | * 1.3 | ----- | 7.6   | 4.9   | 1.8   | .6    | 0    |      | 1.3   |
| 31    | * .4 | ----- | 2.8   | 1.5   | ----- | 6.6   | ----- | 2.8   | ----- | 0    |      | ----- |
| Total | 9.8  | 33.3  | 54.0  | 70.4  | 200.6 | 253.6 | 204.6 | 130.4 | 35.2  | 6.1  | 0    | 9.7   |
| Mean  | 0.32 | 1.11  | 1.74  | 2.27  | 7.16  | 8.18  | 6.82  | 4.21  | 1.17  | 0.20 | 0    | 0.32  |
| Max   | 1.2  | 2.2   | 3.0   | 3.0   | 27    | 20    | 9.8   | 5.7   | 3.0   | 0.8  | 0    | 2.2   |
| Min   | 0    | 0.3   | 0.7   | 1.3   | 2.0   | 4.1   | 4.9   | 1.8   | 0.3   | 0    | 0    | 0     |
| Ac-ft | 19   | 66    | 107   | 140   | 398   | 503   | 406   | 259   | 70    | 12   | 0    | 19    |

Calendar year 1962: Max 1,320 Min 0 Mean 45.1 Ac-ft 32,620  
Water year 1962-63: Max 27 Min 0 Mean 2.76 Ac-ft 2,000

\* Discharge measurement or observation of no-flow made on this day.

Note.--Stage-discharge relation indefinite Nov. 6-19, Dec. 9-16, Jan. 21-29, Jan. 31 to Feb. 4.

11-1284. Alisal Creek near Solvang, Calif.

Location.--Lat 34°34'55", long 120°08'40", in Nojoqui Grant, on right bank at footbridge, 0.3 mile upstream from mouth, and 1.1 miles southwest of Solvang, Santa Barbara County.

Drainage area.--11.5 sq mi.

Records available.--October 1954 to September 1955, October 1955 to September 1956 (monthly discharge only), October 1956 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 380 ft (from topographic map). Prior to Dec. 25, 1955, at site 50 ft upstream at different datum (destroyed by flood). Oct. 1, 1956, to Jan. 23, 1961, at datum 1.0 ft higher.

Average discharge.--9 years, 5.88 cfs (4,260 acre-ft per year).

Extremes.--Maximum discharge during year, 722 cfs Feb. 9 (gage height, 4.75 ft); no flow Oct. 1 to Feb. 8, July 7-12, July 14 to Sept. 30.

1954-63: Maximum discharge, 2,960 cfs Feb. 9, 1962 (gage height, 8.15 ft), from rating curve extended above 1,000 cfs; no flow for several months in each year.

Remarks.--Records good. No regulation or diversion above station. At times waste irrigation water pumped from Santa Ynez River causes minor flow.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.   | Mar.   | Apr.   | May   | June  | July | Aug. | Sept. |
|-------|------|------|------|------|--------|--------|--------|-------|-------|------|------|-------|
| 1     |      |      |      |      | 0      | 0.4    | 7.9    | 3.2   | 1.0   | 0.1  |      |       |
| 2     |      |      |      |      | 0      | .6     | 7.1    | 3.0   | .9    | .1   |      |       |
| 3     |      |      |      |      | 0      | .4     | 5.8    | 2.8   | .8    | .1   |      |       |
| 4     |      |      |      |      | 0      | .4     | 5.0    | 2.6   | .8    | .1   |      |       |
| 5     |      |      |      |      | 0      | .5     | 4.4    | 2.6   | .8    | .1   |      |       |
| 6     |      |      |      |      | 0      | .5     | 3.8    | 2.6   | .8    | .1   |      |       |
| 7     |      |      |      |      | 0      | .5     | 3.8    | * 2.6 | .7    | 0    |      |       |
| 8     | (*)  |      |      | (*)  | 0      | .5     | 3.5    | 2.6   | .7    | 0    |      |       |
| 9     |      |      |      |      | 1 35   | .5     | 3.0    | 4.4   | .7    | 0    |      |       |
| 10    |      |      |      |      | * 1 24 | .5     | * 2.8  | 3.0   | .7    | * 0  |      |       |
| 11    |      |      |      |      | * 37   | .6     | 2.8    | 2.8   | * .8  | 0    |      |       |
| 12    |      |      |      |      | 11     | .5     | 2.4    | 2.6   | .9    | 0    |      |       |
| 13    |      |      |      |      | 5.4    | .4     | 2.2    | 2.4   | .7    | .1   |      |       |
| 14    |      |      |      |      | 3.5    | * .4   | 2.1    | 2.4   | .6    | 0    |      |       |
| 15    |      |      |      |      | * 2.6  | .4     | 1.3    | 2.0   | .6    | 0    |      |       |
| 16    |      |      |      |      | 2.2    | 3.4    | 8.4    | 1.8   | .5    | 0    |      |       |
| 17    |      |      |      |      | 1.6    | 9.5    | 7.1    | 1.8   | .5    | 0    |      |       |
| 18    |      |      |      |      | 1.4    | * 3.8  | 5.8    | 1.8   | .5    | 0    |      |       |
| 19    |      |      |      |      | 1.2    | 2.8    | 5.4    | 1.8   | .5    | 0    |      |       |
| 20    |      | (*)  |      |      | 1.1    | 2.2    | 5.0    | 1.6   | .4    | 0    |      |       |
| 21    |      |      |      |      | 1.0    | 1.8    | 5.0    | 1.4   | .4    | 0    |      |       |
| 22    |      |      |      |      | 1.0    | 3.3    | 4.1    | 1.4   | .4    | 0    |      |       |
| 23    |      |      |      |      | .9     | 3.0    | 3.8    | 1.4   | .3    | 0    |      |       |
| 24    |      |      |      |      | .8     | 2.0    | * 3.5  | * 1.4 | .3    | * 0  |      |       |
| 25    |      |      |      |      | .9     | 1.6    | 5.9    | 1.4   | * .3  | 0    |      |       |
| 26    |      |      |      |      | .9     | 1.5    | * 8.8  | 1.4   | .3    | 0    | (*)  |       |
| 27    |      |      |      |      | .8     | 1.4    | 5.0    | 1.4   | .2    | 0    |      |       |
| 28    |      |      |      |      | * .5   | * 9.3  | 4.4    | 1.2   | .2    | 0    |      |       |
| 29    |      |      |      |      | -----  | 2.5    | 3.8    | 1.2   | .2    | 0    |      |       |
| 30    |      |      |      |      | -----  | 1.5    | 3.5    | 1.1   | .2    | 0    |      |       |
| 31    |      |      |      |      | -----  | 9.9    | -----  | 1.0   | ----- | 0    |      |       |
| Total | 0    | 0    | 0    | 0    | 3 32.8 | 2 16.9 | 1 68.0 | 6 4.7 | 1 6.7 | 0.7  | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 11.9   | 7.00   | 5.60   | 2.09  | 0.56  | 0.02 | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 135    | 93     | 21     | 4.4   | 1.0   | 0.1  | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0      | 0.4    | 2.2    | 1.0   | 0.2   | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 660    | 430    | 333    | 128   | 33    | 1.4  | 0    | 0     |

Calendar year 1962: Max 839 Min 0 Mean 14.3 Ac-ft 10,340  
 Water year 1962-63: Max 135 Min 0 Mean 2.19 Ac-ft 1,590

Peak discharge (base, 100 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2- 9 | 1630 | 4.75        | 722       | 3-28 | 0500 | 3.93        | 376       |
| 3-16 | 1700 | 3.62        | 267       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

## SANTA YNEZ RIVER BASIN

11-1285. Santa Ynez River at Solvang, Calif.

Location.--Lat 34°35'05", long 120°08'35", in San Carlos de Jonata Grant, on downstream side of right abutment of Mission Bridge, 25 ft downstream from Alisal Creek, and 0.9 mile south of Solvang, Santa Barbara County.

Drainage area.--579 sq mi.

Records available.--October 1928 to November 1936, June 1937 to November 1940 (irrigation seasons only), October 1946 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). Various datums used during period of record. July 29 to Sept. 30, 1953, auxiliary water-stage recorder 750 ft upstream at different datum. Oct. 1, 1953, to Jan. 26, 1955, water-stage recorder on center bridge pier at same datum.

Extremes.--Maximum discharge during year, 612 cfs Feb. 9 (gage height, 5.16 ft); no flow for much of year.

1928-36, 1946-63: Maximum discharge, 37,000 cfs Jan. 15, 1952 (gage height, 14.80 ft, datum then in use), from rating curve extended above 10,000 cfs; no flow for several months in many years.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (see pp.220, 221, 225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water for irrigation pumped from wells along banks of river in valley upstream.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     |      |       |      | 0    | 3.3   | *7.3  | 16    | 11    | 6.6   |      |      |       |
| 2     |      |       |      | 0    | 3.1   | 7.3   | 15    | 12    | 6.3   |      |      |       |
| 3     |      |       |      | 0    | 3.3   | 6.9   | 14    | 11    | 5.4   |      |      |       |
| 4     |      |       |      | 0    | 3.3   | 6.6   | 13    | 11    | 2.9   |      |      |       |
| 5     |      |       |      | 0    | 2.9   | 6.6   | 12    | 9.7   | 2.3   |      |      |       |
| 6     |      |       |      | .3   | 3.1   | 8.1   | 12    | 8.9   | 1.9   |      |      |       |
| 7     |      |       |      | 1.4  | 3.1   | 8.9   | 12    | *7.7  | 1.0   |      |      |       |
| 8     | (*)  |       |      | *1.7 | 3.3   | 8.9   | 12    | 7.7   | 1.1   |      |      |       |
| 9     |      |       |      | 2.5  | 111   | 8.9   | 11    | 9.3   | 1.7   |      |      |       |
| 10    |      |       |      | 3.1  | *199  | 8.9   | 11    | 7.7   | 1.5   |      |      |       |
| 11    |      |       |      | 2.8  | 81    | 8.1   | 11    | 8.1   | *1.1  |      |      |       |
| 12    |      |       |      | 3.1  | 26    | 7.3   | *11   | 7.7   | 1.5   |      |      |       |
| 13    |      |       |      | 3.1  | 16    | 5.4   | 10    | 6.6   | 1.7   |      |      |       |
| 14    |      |       |      | 2.6  | 12    | *5.1  | 25    | 6.0   | .6    |      |      |       |
| 15    |      |       |      | 2.1  | *11   | 4.6   | 18    | 5.7   | .5    |      |      |       |
| 16    |      |       |      | 1.0  | 9.3   | 44    | 14    | 5.1   | 1.3   |      |      |       |
| 17    |      |       |      | .6   | 8.5   | 29    | 12    | 4.6   | 1.0   |      |      |       |
| 18    |      |       |      | .4   | 7.7   | 15    | 11    | 4.9   | .3    |      |      |       |
| 19    |      | (*)   |      | .3   | 7.3   | 12    | 11    | 4.6   | .2    |      |      |       |
| 20    |      |       |      | .1   | 6.6   | 11    | 11    | 4.6   | .1    |      |      |       |
| 21    |      |       |      | .2   | 4.9   | 9.7   | 12    | 4.6   | 0     |      |      |       |
| 22    |      |       |      | .9   | 9.9   | 12    | 11    | 4.6   | 0     |      |      |       |
| 23    |      |       |      | 1.3  | 17    | 13    | 11    | 4.6   | 0     |      |      |       |
| 24    |      |       |      | 2.6  | 20    | 9.7   | *11   | *4.6  | .1    | (*)  |      |       |
| 25    |      |       |      | 3.5  | 22    | 8.9   | 13    | 4.6   | *0    |      |      |       |
| 26    |      |       |      | 3.5  | 14    | 8.9   | 17    | 5.4   | 0     |      |      |       |
| 27    |      |       |      | 4.4  | 8.9   | 9.3   | 12    | 5.4   | 0     |      |      |       |
| 28    |      |       |      | 3.5  | 8.1   | *118  | 12    | 5.1   | 0     |      |      |       |
| 29    |      |       |      | 2.3  | ----- | 36    | 11    | 4.9   | 0     |      | (*)  |       |
| 30    |      |       |      | *2.6 | ----- | 24    | 11    | 5.1   | 0     |      |      |       |
| 31    |      | ----- |      | 3.5  | ----- | 19    | ----- | 6.6   | ----- |      |      | ----- |
| TOTAL | 0    | 0     | 0    | 53.4 | 625.6 | 488.4 | 383   | 209.4 | 39.1  | 0    | 0    | 0     |
| MEAN  | 0    | 0     | 0    | 1.72 | 22.3  | 15.8  | 12.8  | 6.75  | 1.30  | 0    | 0    | 0     |
| MAX   | 0    | 0     | 0    | 4.4  | 199   | 118   | 25    | 12    | 6.6   | 0    | 0    | 0     |
| MIN   | 0    | 0     | 0    | 0    | 2.9   | 4.6   | 10    | 4.6   | 0     | 0    | 0    | 0     |
| AC-FT | 0    | 0     | 0    | 106  | 1,240 | 969   | 760   | 415   | 78    | 0    | 0    | 0     |

WATER YEAR 1962: MAX 2,410 MIN 0 MEAN 67.2 AC-FT 48,670  
 WATER YEAR 1962-63 MAX 199 MIN 0 MEAN 4.93 AC-FT 3,570

\* Discharge measurement or observation of no flow made on this day.

## SANTA YNEZ RIVER BASIN

231

11-1300. Zaca Creek at Buellton, Calif.

Location.--Lat 34°36'50", long 120°11'30", in San Carlos de Jonata Grant, on right bank upstream from culvert on State Highway 150 in Buellton, Santa Barbara County, 1 mile upstream from mouth.

Drainage area.--39.4 sq mi.

Records available.--January 1941 to September 1963 (discontinued). Prior to October 1960, published as La Zaca Creek at Buellton.

Gage.--Water-stage recorder. Altitude of gage is 340 ft (from topographic map). Prior to Nov. 10, 1959, at site 11 ft downstream at same datum.

Average discharge.--22 years, 0.46 cfs (333 acre-ft per year); median of yearly mean discharges, 0.03 cfs (22 acre-ft per year).

Extremes.--Maximum discharge during year, 49 cfs Mar. 28 (gage height, 3.16 ft); no flow for most of year.

1941-63: Maximum discharge, 87½ cfs Mar. 3, 1941, from rating curve extended above 300 cfs on basis of velocity-area study; maximum gage height, 6.80 ft Mar. 4, 1941; no flow for most of each year.

Remarks.--Records fair. Waste water from large café nearby not included in these records when there is no natural flow.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|                 |                 |                  |
|-----------------|-----------------|------------------|
| Oct. 14.....0.1 | Feb. 9.....1.8  | Mar. 28.....*4.6 |
| Dec. 16......1  | 10.....*2.8     | Apr. 14.....1.1  |
| Jan. 30......1  | Mar. 16.....1.0 | 25......4        |
| 31......2       | 17.....* .1     | 26.....* .3      |
| Feb. 1......1   | 22......1       |                  |

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|-------|------------------------|
| October 1962.....       | 0.1      | 0.1     | 0       | 0.003 | 0.2                    |
| December.....           | .1       | .1      | 0       | .003  | .2                     |
| January 1963.....       | .3       | .2      | 0       | .01   | .6                     |
| February.....           | 4.7      | 2.8     | 0       | .17   | 9.3                    |
| March.....              | 5.8      | 4.6     | 0       | .19   | 12                     |
| April.....              | 1.8      | 1.1     | 0       | .06   | 3.6                    |
| Calendar year 1962..... | -        | 358     | 0       | 2.86  | 2,070                  |
| Water year 1962-63..... | -        | 4.6     | 0       | .04   | 26                     |

Peak discharge (base, 10 cfs).--Feb. 9 (1400 hrs) 30 cfs (2.95 ft); Mar. 28 (0500 hrs) 49 cfs (3.16 ft).

\* Discharge measurement made on this day.

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

## SANTA YNEZ RIVER BASIN

11-1305. Santa Ynez River near Buellton, Calif.

Location.--Lat 34°36'50", long 120°14'30", in Santa Rosa Grant, on left bank 0.5 mile downstream from Canada de los Palos Blancos and 3 miles west of Buellton, Santa Barbara County.

Drainage area.--668 sq mi.

Records available.--June 1948 to September 1952 (irrigation seasons only); October 1952 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 250 ft (from topographic map). Prior to Apr. 25, 1950, at same site at different datum. Apr. 25, 1950, to Sept. 22, 1957, at site 200 ft upstream at datum 3 ft higher. Sept. 23, 1957, to Mar. 28, 1962, at site 200 ft upstream at datum 1 ft higher.

Extremes.--Maximum discharge during year, 755 cfs Feb. 9 (gage height, 4.77 ft); no flow Oct. 1-16, July 23 to Sept. 30. 1952-63: Maximum discharge, 10,600 cfs Mar. 22, 1958 (gage height, 11.10 ft, present datum), from rating curve extended above 400 cfs on basis of peak flows for station at Buellton; no flow for many days in each year.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (see pp. 220, 221, 225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG.  | SEPT. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|-------|-------|
| 1     | 0    | 0.7   | 0.6  | 1.8  | 2.6   | *9.3  | *25   | 12    | 3.4   | 0.6  |       |       |
| 2     | 0    | .7    | .8   | 1.8  | 3.4   | 8.9   | 21    | 12    | 3.2   | .6   |       |       |
| 3     | 0    | .7    | .9   | 1.8  | 4.1   | 8.6   | 18    | 11    | 3.2   | .7   |       |       |
| 4     | 0    | .6    | .9   | 1.8  | 4.6   | 10    | 17    | 11    | 2.6   | 1.0  |       |       |
| 5     | 0    | .7    | .6   | 1.8  | 5.1   | 8.1   | 17    | 10    | 2.8   | 1.1  |       |       |
| 6     | 0    | .6    | *.6  | 1.8  | 5.1   | 7.2   | 16    | 12    | 2.2   | 1.1  |       |       |
| 7     | 0    | .6    | .7   | 1.8  | 5.3   | 7.9   | 16    | *11   | 1.9   | .8   |       |       |
| 8     | *0   | .6    | .8   | *1.8 | 5.9   | 8.2   | 17    | 9.6   | 1.9   | .7   | (*)   |       |
| 9     | 0    | .6    | 1.0  | 1.8  | 116   | 8.9   | 16    | 11    | 1.9   | *.7  |       |       |
| 10    | 0    | .6    | 1.1  | 1.8  | *311  | 8.9   | 15    | 14    | 1.5   | .6   |       |       |
| 11    | 0    | .6    | 1.2  | 1.9  | *148  | 8.9   | 13    | 14    | *2.2  | .6   |       |       |
| 12    | 0    | .6    | 1.4  | 1.9  | 49    | 8.6   | *12   | 15    | 2.1   | .9   |       |       |
| 13    | 0    | .6    | 1.5  | 1.9  | *27   | *6.5  | 11    | 14    | 2.6   | .8   |       |       |
| 14    | 0    | .6    | 1.5  | 2.1  | 20    | 5.6   | 35    | 12    | 2.4   | .9   |       |       |
| 15    | 0    | .6    | 1.6  | 2.1  | 16    | 5.3   | 40    | 12    | 1.6   | .8   |       |       |
| 16    | 0    | .6    | 1.9  | 2.2  | 14    | 59    | 29    | 11    | 2.2   | .6   |       |       |
| 17    | 0    | .6    | 1.8  | 1.8  | 12    | *54   | 23    | 10    | 2.2   | .3   |       |       |
| 18    | .1   | .6    | *1.8 | 1.6  | 11    | 22    | 19    | 8.9   | 1.6   | .3   |       |       |
| 19    | .1   | .6    | 1.6  | 1.6  | 11    | 16    | 18    | 8.2   | 1.6   | .4   |       |       |
| 20    | .2   | *.6   | 1.6  | 1.8  | 11    | 14    | 19    | 7.9   | 1.8   | .2   |       |       |
| 21    | .3   | .7    | 1.8  | 2.1  | 10    | *13   | 19    | 6.9   | 1.8   | .1   |       |       |
| 22    | .4   | .7    | 1.8  | 2.2  | 11    | 12    | 17    | 5.6   | 1.9   | .1   |       |       |
| 23    | .4   | .7    | 1.8  | 1.9  | 14    | 19    | *14   | 6.5   | 1.9   | 0    |       |       |
| 24    | .4   | .7    | 1.8  | 1.6  | 16    | 16    | 12    | *5.9  | 1.2   | 0    |       |       |
| 25    | .5   | .7    | 1.8  | 1.4  | 18    | 15    | 14    | 5.1   | *.8   | *0   |       |       |
| 26    | .6   | .7    | 1.8  | 1.4  | 17    | 15    | 24    | 4.6   | .7    | 0    | (*)   |       |
| 27    | .6   | .7    | 1.6  | 1.5  | 12    | 16    | 21    | 4.8   | .6    | 0    |       |       |
| 28    | .6   | .7    | 1.2  | 1.6  | 9.6   | *167  | 18    | 4.1   | .6    | 0    |       |       |
| 29    | .6   | .7    | 1.6  | *1.6 | ----- | 65    | 16    | 3.6   | .7    | 0    |       |       |
| 30    | .6   | .7    | 1.8  | 1.9  | ----- | 43    | 13    | 3.0   | .6    | 0    |       |       |
| 31    | *.7  | ----- | 1.8  | 2.4  | ----- | 33    | ----- | 3.6   | ----- | 0    | ----- |       |
| TOTAL | 6.1  | 19.4  | 42.7 | 56.5 | 889.7 | 700.9 | 565   | 280.3 | 55.7  | 13.9 | 0     | 0     |
| MEAN  | 0.20 | 0.65  | 1.38 | 1.82 | 31.8  | 22.6  | 18.8  | 9.04  | 1.86  | 0.45 | 0     | 0     |
| MAX   | 0.7  | 0.7   | 1.9  | 2.4  | 311   | 167   | 40    | 15    | 3.4   | 1.1  | 0     | 0     |
| MIN   | 0    | 0.6   | 0.6  | 1.4  | 2.6   | 5.3   | 11    | 3.0   | 0.6   | 0    | 0     | 0     |
| AC-FT | 12   | 38    | 85   | 112  | 1,760 | 1,390 | 1,120 | 556   | 110   | 28   | 0     | 0     |

CALENDAR YEAR 1962: MAX 4,000 MIN 0 MEAN 86.3 AC-FT 62,510  
 WATER YEAR 1962-63 MAX 311 MIN 0 MEAN 7.21 AC-FT 5,210

\* Discharge measurement or observation of no flow made on this day.

11-1310. Santa Ynez River at Santa Rosa damsite, near Buellton, Calif.

Location.--Lat 34°36'35", long 120°18'20", in Santa Rosa Grant, on left bank 1.1 miles downstream from Santa Rosa Creek and 6½ miles west of Buellton, Santa Barbara County.

Drainage area.--700 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 200 ft (from topographic map). Prior to Oct. 1, 1957, at datum 2.00 ft higher.

Extremes.--Maximum discharge during year, 912 cfs Feb. 9 (gage height, 5.04 ft); no flow Oct. 1 to Dec. 21, July 24 to Aug. 11, Aug. 13 to Sept. 30.

1954-63: Maximum discharge, about 7,500 cfs Mar. 22, 1958 (gage height, 9.09 ft), from rating curve extended above 400 cfs on basis of peak discharge for station at Buellton; no flow for several months in each year.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.220,221,225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 10, 11, Mar. 28)

|     |     |     |     |
|-----|-----|-----|-----|
| 2.1 | 0   | 2.9 | 26  |
| 2.2 | .1  | 3.2 | 59  |
| 2.3 | .8  | 3.5 | 115 |
| 2.4 | 2.4 | 4.0 | 270 |
| 2.5 | 4.8 | 4.5 | 520 |
| 2.7 | 12  |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.    | Mar.   | Apr.  | May   | June  | July | Aug.  | Sept. |
|-------|------|------|------|------|---------|--------|-------|-------|-------|------|-------|-------|
| 1     |      |      | 0    | 0.3  | 1.7     | * 12   | 34    | 16    | 3.0   | 1.0  | 0     |       |
| 2     |      |      | 0    | .4   | 1.4     | 11     | 30    | 15    | 2.6   | 1.0  | 0     |       |
| 3     |      |      | 0    | .4   | 1.4     | 10     | 26    | 14    | 2.4   | 1.0  | 0     |       |
| 4     |      |      | 0    | .4   | 1.4     | 9.8    | 23    | 13    | 2.2   | .9   | 0     |       |
| 5     |      |      | 0    | .4   | 1.4     | 9.4    | 21    | 12    | 2.1   | .9   | 0     |       |
| 6     |      |      | 0    | .4   | 1.4     | 9.0    | 18    | * 12  | 1.9   | .9   | 0     |       |
| 7     |      |      | 0    | .4   | 1.4     | 8.6    | 18    | 12    | 1.7   | .9   | 0     |       |
| 8     | (*)  |      | 0    | * .5 | 1.4     | 8.2    | 17    | 12    | 1.6   | .8   | 0     |       |
| 9     |      |      | 0    | .6   | 8.7     | 8.2    | 17    | 12    | 1.7   | * .8 | 0     |       |
| 10    |      |      | 0    | .6   | 4 35    | 8.2    | 16    | 12    | * 1.9 | .7   | 0     |       |
| 11    |      |      | 0    | .6   | * 18 9  | 8.2    | 15    | 12    | 2.2   | .7   | 0     |       |
| 12    |      |      | 0    | .6   | 55      | 7.8    | * 14  | 12    | 2.2   | .6   | .1    |       |
| 13    |      |      | 0    | .6   | 39      | * 6.6  | 14    | 11    | 2.1   | .6   | 0     |       |
| 14    |      |      | 0    | .6   | * 25    | 6.3    | 25    | 10    | 2.1   | .6   | 0     |       |
| 15    |      |      | 0    | .6   | 21      | 6.0    | 38    | 9.8   | 2.1   | .6   | 0     |       |
| 16    |      |      | 0    | .7   | 19      | 34     | 28    | 9.4   | 1.7   | .6   | 0     |       |
| 17    |      |      | 0    | .8   | 18      | 59     | 25    | 8.6   | 1.6   | .5   | 0     |       |
| 18    |      |      | 0    | .8   | 17      | * 25   | 22    | 8.2   | 1.6   | .5   | 0     |       |
| 19    |      |      | 0    | .8   | 17      | 20     | 20    | 8.2   | 1.6   | .4   | 0     |       |
| 20    |      | (*)  | 0    | .8   | 16      | 17     | 20    | 7.4   | 1.6   | .4   | 0     |       |
| 21    |      |      | 0    | .8   | 15      | 16     | 20    | 7.0   | 1.6   | .3   | 0     |       |
| 22    |      |      | .1   | .8   | 14      | 16     | 18    | 6.6   | 1.6   | .3   | 0     |       |
| 23    |      |      | .1   | .8   | 15      | 19     | * 17  | 6.6   | 1.7   | .1   | 0     |       |
| 24    |      |      | .1   | .8   | 17      | 17     | 16    | * 6.6 | 1.9   | 0    | 0     |       |
| 25    |      |      | .1   | .8   | 19      | 15     | 17    | 6.3   | 1.2   | * 0  | 0     |       |
| 26    |      |      | .1   | .9   | 19      | 13     | 27    | 6.0   | * 1.2 | 0    | 0     |       |
| 27    |      |      | .2   | .9   | 16      | 13     | 24    | 5.7   | 1.2   | 0    | * 0   |       |
| 28    |      |      | .2   | .9   | 12      | * 17 3 | 20    | 5.1   | 1.2   | 0    | 0     |       |
| 29    |      |      | .2   | * .9 | -----   | 67     | 17    | 4.5   | 1.2   | 0    | 0     |       |
| 30    |      |      | .3   | 1.4  | -----   | 45     | 17    | 4.0   | 1.0   | 0    | 0     |       |
| 31    |      |      | .3   | 2.1  | -----   | 38     | ----- | 3.5   | ----- | 0    | 0     | ----- |
| Total | 0    | 0    | 1.7  | 22.4 | 107 6.5 | 716.3  | 634   | 288.5 | 53.7  | 15.1 | 0.1   | 0     |
| Mean  | 0    | 0    | 0.05 | 0.72 | 38.4    | 23.1   | 21.1  | 9.31  | 1.79  | 0.49 | 0.003 | 0     |
| Max   | 0    | 0    | 0.3  | 2.1  | 435     | 173    | 38    | 16    | 3.0   | 1.0  | 0.1   | 0     |
| Min   | 0    | 0    | 0    | 0.3  | 1.4     | 6.0    | 14    | 3.5   | 1.0   | 0    | 0     | 0     |
| Ac-ft | 0    | 0    | 3.4  | 44   | 2,140   | 1,420  | 1,260 | 572   | 107   | 30   | 0.2   | 0     |

Calendar year 1962: Max 4,400 Min 0 Mean 89.7 Ac-ft 64,940  
Water year 1962-63: Max 435 Min 0 Mean 7.69 Ac-ft 5,580

\* Discharge measurement or observation of no flow made on this day.

## SANTA YNEZ RIVER BASIN

11-1315. Santa Ynez River at Cooper's Reef, near Lompoc, Calif.

Location.--Lat 34°36'48", long 120°21'20", near boundary of Canada de Salsipuedes Grant, on right bank 0.6 mile upstream from Canada de la Vina, and 6 miles east of Lompoc, Santa Barbara County.

Drainage area.--708 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder (digital). Altitude of gage is 200 ft (from topographic map).

Extremes.--Maximum discharge during year, 758 cfs Feb. 10 (gage height, 3.66 ft); minimum daily, 0.1 cfs for many days.  
1954-63: Maximum discharge, 6,260 cfs Mar. 22, 1958 (gage height, 8.44 ft); maximum stage, 8.75 ft Feb. 11, 1962; no flow for several months in some years.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.220,221,225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Dec. 18, Mar. 18 to Apr. 29)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.4 | 0.1 | 2.0 | 17  |
| 1.5 | .5  | 2.2 | 37  |
| 1.6 | 1.4 | 2.4 | 76  |
| 1.7 | 3.2 | 2.7 | 175 |
| 1.8 | 6.2 | 3.0 | 330 |
| 1.9 | 11  | 3.5 | 710 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.1  | 0.2   | 0.2  | 0.4  | 0.5   | 10    | 35    | 17    | 3.9   | 0.6  | 0.2  | 0.1   |
| 2     | .1   | .2    | .2   | .4   | .5    | 10    | 30    | 15    | 3.2   | .6   | .1   | .1    |
| 3     | .1   | .2    | .2   | .4   | .5    | 9.8   | 27    | 15    | 3.2   | .5   | .2   | .1    |
| 4     | .1   | .2    | .2   | .4   | .4    | 9.4   | 25    | 13    | 2.6   | .5   | .1   | .1    |
| 5     | .1   | .2    | .2   | .4   | .3    | 9.4   | 24    | 13    | 2.6   | .5   | .2   | .1    |
| 6     | .1   | .2    | * .2 | .4   | .3    | 8.5   | 22    | * 12  | 2.4   | .5   | .2   | .1    |
| 7     | .1   | .2    | .2   | .4   | .3    | 8.5   | 23    | 12    | 2.2   | .5   | .2   | .1    |
| 8     | * .1 | .2    | .2   | .4   | .3    | 8.5   | 22    | 12    | 1.8   | .5   | * .2 | .1    |
| 9     | .1   | .2    | .2   | * .4 | 6.4   | 9.4   | 22    | 11    | 1.8   | * .5 | .2   | .1    |
| 10    | .1   | .2    | .2   | .4   | 372   | 9.4   | 22    | 11    | * 1.7 | .4   | .2   | .1    |
| 11    | .2   | .2    | .2   | .4   | 216   | 8.9   | * 21  | 11    | 1.6   | .4   | .2   | .1    |
| 12    | .2   | .2    | .2   | .4   | 67    | 8.9   | 20    | 11    | 1.4   | .4   | .2   | * .1  |
| 13    | .2   | .1    | .2   | .4   | 39    | * 8.9 | 19    | 10    | 1.2   | .4   | .2   | .2    |
| 14    | .2   | .1    | .2   | .4   | * 27  | 8.9   | 25    | 8.9   | 1.0   | .4   | .1   | .1    |
| 15    | .2   | .1    | .2   | .4   | 20    | 8.5   | 46    | 8.9   | 1.0   | .4   | .1   | .2    |
| 16    | .2   | .1    | .3   | .4   | 17    | 14    | 34    | 8.5   | 1.1   | .3   | .1   | .2    |
| 17    | .2   | .1    | .3   | .4   | 15    | 92    | 30    | 8.0   | 1.2   | .3   | .1   | .2    |
| 18    | .2   | .2    | * .3 | .4   | 13    | * 35  | 26    | 8.0   | 1.1   | .3   | .1   | .2    |
| 19    | .2   | .2    | .3   | .4   | 13    | 27    | 26    | 8.0   | 1.0   | .3   | .1   | .3    |
| 20    | .2   | * .2  | .3   | .4   | 13    | 23    | 26    | 7.6   | .9    | .3   | .1   | .2    |
| 21    | .2   | .2    | .3   | .4   | 12    | 22    | 27    | 6.2   | .8    | .3   | .1   | .2    |
| 22    | .2   | .2    | .3   | .4   | 11    | 22    | 24    | 6.2   | .7    | .3   | .1   | .1    |
| 23    | .2   | .2    | .3   | .4   | 12    | 24    | * 23  | 6.2   | .7    | .2   | .1   | .2    |
| 24    | .2   | .2    | .3   | .4   | 14    | 23    | 21    | * 6.7 | .6    | .2   | .1   | .2    |
| 25    | .2   | .2    | .3   | .4   | 15    | 22    | 22    | 6.2   | * .6  | * .2 | .1   | .2    |
| 26    | .2   | .2    | .3   | .4   | 16    | 21    | 30    | 6.2   | .7    | .2   | .1   | .2    |
| 27    | .2   | .2    | .3   | .4   | 14    | 21    | 27    | 5.5   | .7    | .2   | * .1 | .2    |
| 28    | .2   | .2    | .3   | .4   | * 11  | * 180 | 22    | 5.5   | .7    | .2   | .1   | .2    |
| 29    | .2   | .2    | .3   | * .4 | ----- | 84    | 20    | 4.8   | .6    | .2   | .1   | .2    |
| 30    | .2   | .2    | .3   | .4   | ----- | 54    | 18    | 4.2   | .6    | .2   | .1   | .2    |
| 31    | * .2 | ----- | .3   | .5   | ----- | 42    | ----- | 3.9   | ----- | .2   | .1   | ----- |
| TOTAL | 5.2  | 5.5   | 7.8  | 12.5 | 926.5 | 843.0 | 759   | 282.5 | 43.6  | 11.0 | 4.2  | 4.7   |
| MEAN  | .17  | 0.18  | .25  | .40  | 33.1  | 27.2  | 25.3  | 9.11  | 1.45  | 0.35 | .14  | .16   |
| AC-FT | 10   | 11    | 15   | 25   | 1,840 | 1,670 | 1,510 | 560   | 86    | 22   | 8.3  | 9.3   |
| MAX   | 0.2  | 0.2   | 0.3  | 0.5  | 372   | 180   | 46    | 17    | 3.9   | 0.6  | 0.2  | 0.3   |
| MIN   | 0.1  | 0.1   | 0.2  | 0.4  | 0.3   | 8.5   | 18    | 3.9   | 0.6   | 0.2  | 0.1  | 0.1   |

CALENDAR YEAR 1962 MAX 4,790 MIN 0 MEAN 102 AC-FT 73,560  
WATER YEAR 1962-63 MAX 372 MIN 0.1 MEAN 7.96 AC-FT 5,770

\* Discharge measurement made on this day.



11-1325. Salsipuedes Creek near Lompoc, Calif.

Location.--Lat 34°35'20", long 120°24'27", in W $\frac{1}{2}$  sec. 24, T. 6 N., R. 34 W., on right bank at highway bridge on Jalama Road, 0.4 mile downstream from El Jaro Creek and 4.4 miles southeast of Lompoc.

Drainage area.--47.1 sq mi.

Records available.--January 1941 to September 1963.

Gage.--Water-stage recorder (digital) and concrete low-water control. Altitude of gage is 240 ft (from topographic map).

Average discharge.--22 years, 8.58 cfs (6,210 acre-ft per year); median of yearly mean discharges, 3.0 cfs (2,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,540 cfs Mar. 28 (gage height, 7.57 ft, from crest-stage gage); minimum daily, 0.5 cfs Sept. 30.

1941-63: Maximum discharge, 11,400 cfs Mar. 15, 1952 (gage height, 20.8 ft); no flow at times in some years.

Remarks.--Records good except those for the period Oct. 1 to Feb. 8, which are fair. No regulation. Small diversions for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Feb. 8, Mar. 16-18)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.1 | 0.3 | 1.7 | 33  |
| 1.2 | 1.6 | 2.0 | 67  |
| 1.3 | 4.9 | 2.5 | 158 |
| 1.4 | 10  | 3.0 | 274 |
| 1.5 | 16  | 4.0 | 560 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 0.6  | 0.7   | 1.2   | 2.0   | * 1.1 | 3.4   | * 1.4 | 8.8   | 3.7   | 1.6   | 0.7   | 0.8   |
| 2     | .6   | .7    | 1.0   | 2.0   | 4.9   | 3.4   | 12    | 7.7   | 3.7   | 1.8   | .8    | .9    |
| 3     | .7   | .7    | 1.2   | 2.0   | 3.0   | 3.4   | 11    | * 7.7 | 3.0   | 1.6   | .8    | .9    |
| 4     | .7   | .7    | 1.2   | 2.0   | 2.4   | 3.4   | 10    | 7.2   | 3.0   | 1.4   | .8    | 1.5   |
| 5     | .7   | .7    | .9    | 2.0   | 1.9   | 3.4   | 9.4   | 7.2   | 3.0   | 1.8   | 1.0   | 2.2   |
| 6     | .7   | .7    | * .9  | 2.0   | 1.6   | 3.7   | 8.2   | * 6.7 | 3.0   | 1.8   | .9    | 1.7   |
| 7     | .7   | .7    | .7    | 2.0   | 1.4   | 3.7   | 9.4   | 6.7   | 3.0   | 1.8   | 1.0   | 1.5   |
| 8     | * .7 | .7    | .7    | 2.0   | 1.2   | 3.7   | 10    | 7.2   | 3.0   | 1.8   | * 1.2 | 1.4   |
| 9     | .7   | .7    | .7    | * 1.9 | * 3.7 | 4.1   | 8.2   | 9.4   | 3.0   | * 1.8 | 1.2   | 1.2   |
| 10    | .7   | .7    | .6    | 1.9   | 3.2   | 4.5   | 7.7   | 6.7   | * 3.0 | 1.6   | 1.1   | 1.1   |
| 11    | .7   | .7    | .6    | 1.9   | * 1.0 | 4.1   | * 7.2 | 6.2   | 3.4   | 1.4   | 1.2   | 1.0   |
| 12    | .7   | .7    | .6    | 1.9   | 2.6   | 4.1   | 7.2   | 6.2   | 3.4   | 1.2   | 1.1   | * .8  |
| 13    | .9   | .7    | .6    | 1.6   | * 1.9 | * 4.1 | 6.7   | 6.2   | 3.4   | 1.0   | .9    | .8    |
| 14    | 1.0  | .7    | .7    | 1.6   | 1.1   | 4.5   | 6.1   | 5.8   | 3.4   | 1.0   | .7    | .6    |
| 15    | 1.0  | .7    | .7    | 1.9   | 7.7   | 5.3   | 1.9   | 5.8   | 3.4   | 1.0   | .6    | .7    |
| 16    | .9   | .9    | 5.8   | 1.9   | 6.7   | 1.0   | 12    | 5.3   | 3.4   | .9    | .7    | .6    |
| 17    | .9   | .9    | 4.9   | 1.9   | 5.8   | * 2.8 | 12    | 5.3   | 2.7   | .9    | .7    | .7    |
| 18    | .9   | .9    | * 3.4 | 2.1   | 4.9   | 1.0   | 10    | 5.8   | 2.7   | .9    | .6    | 1.3   |
| 19    | .9   | .9    | 2.1   | 2.1   | 4.9   | 7.2   | 10    | 5.8   | 2.7   | 1.2   | .6    | 2.6   |
| 20    | .9   | * .7  | 2.1   | 1.9   | 4.5   | 6.7   | 10    | 5.3   | 2.7   | 1.2   | .7    | 1.9   |
| 21    | .9   | 1.0   | 2.1   | 2.1   | 4.1   | * 6.2 | 11    | 5.3   | 2.7   | 1.2   | .7    | 1.7   |
| 22    | .9   | 1.0   | 2.1   | 2.1   | 3.7   | 12    | 8.8   | 5.3   | 2.4   | 1.2   | .7    | 1.2   |
| 23    | .9   | 1.0   | 2.1   | 2.1   | 3.7   | 12    | * 8.2 | 5.3   | 2.1   | 1.2   | .7    | 1.3   |
| 24    | .9   | 1.0   | 2.1   | 2.1   | 3.4   | 8.2   | 8.8   | * 5.3 | 2.1   | .9    | .7    | 1.1   |
| 25    | .7   | 1.0   | 2.4   | 2.1   | 3.4   | 7.2   | 4.6   | 5.3   | * 2.4 | .7    | .9    | 1.0   |
| 26    | .7   | 1.0   | 2.1   | 2.1   | 3.4   | 6.7   | * 3.7 | 4.9   | 2.4   | * .7  | .8    | .8    |
| 27    | .7   | 1.2   | 2.1   | 1.9   | 3.4   | 6.7   | 1.4   | 4.5   | 2.1   | .9    | * .8  | .8    |
| 28    | .7   | 1.4   | 2.0   | 1.9   | * 3.4 | * 3.9 | 11    | 4.5   | 1.8   | 1.0   | .7    | .6    |
| 29    | .7   | 1.2   | 2.0   | * 2.7 | ----- | 3.7   | 10    | 4.5   | 1.4   | 1.0   | .7    | .6    |
| 30    | .7   | 1.2   | 2.0   | 8.2   | ----- | 2.4   | 9.4   | 4.1   | 1.2   | .9    | .8    | .5    |
| 31    | * .7 | ----- | 2.0   | 3.3   | ----- | 1.8   | ----- | 4.1   | ----- | .8    | .7    | ----- |
| Total | 24.1 | 25.8  | 53.6  | 98.9  | 94.3  | 75.4  | 419.2 | 186.1 | 83.2  | 38.2  | 25.5  | 33.8  |
| Mean  | 0.78 | 0.86  | 1.73  | 3.19  | 33.7  | 24.3  | 14.0  | 6.00  | 2.77  | 1.23  | 0.82  | 1.13  |
| Max   | 1.0  | 1.4   | 5.8   | 33    | 370   | 399   | 61    | 9.4   | 3.7   | 1.8   | 1.2   | 2.6   |
| Min   | 0.6  | 0.7   | 0.6   | 1.6   | 1.2   | 3.4   | 6.7   | 4.1   | 1.2   | 0.7   | 0.6   | 0.5   |
| Ac-ft | 47   | 51    | 106   | 196   | 1,870 | 1,500 | 832   | 369   | 165   | 76    | 50    | 67    |

Calendar year 1962: Max 1,670 Min 0.3 Mean 29.9 Ac-ft 21,630  
Water year 1962-63: Max 399 Min 0.5 Mean 7.36 Ac-ft 5,330

Peak discharge (base, 100 cfs).

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-9  | 1530 | †6.19       | 1,800     | 4-14 | 1000 | 3.20        | 344       |
| 3-16 | 1730 | 3.92        | 532       | 4-25 | 2200 | 2.97        | 288       |
| 3-28 | 0330 | †7.57       | 2,540     |      |      |             |           |

† From crest-stage gage.

\* Discharge measurement made on this day.  
Note.--No gage-height record Dec. 28 to Jan. 8, Feb. 23-27, May 28.

11-1330. Santa Ynez River at narrows, near Lompoc, Calif.

Location.--Lat 34°38'15", long 120°25'30", in Canada de Salsipuedes Grant, on left bank 0.5 mile upstream from State Highway 150, 1.9 miles east of Lompoc, Santa Barbara County, and 2.0 miles downstream from Salsipuedes Creek.

Drainage area.--789 sq mi.

Records available.--April 1947 to September 1952 (irrigation seasons only); October 1952 to September 1963 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 90 ft (from topographic map). Prior to Mar. 23, 1953, at site 200 ft upstream at different datum. Mar. 23, 1953, to Feb. 10, 1962, at datum 2.00 ft higher.

Extremes.--Maximum discharge during year, 1,780 cfs Mar. 28 (gage height, 6.40 ft); minimum daily, 0.1 cfs Aug. 26, 27, Sept. 17. 1952-63: Maximum discharge, 8,560 cfs Feb. 11, 1962 (gage height, 10.80 ft); no flow at times in most years.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (see pp. 220, 221, 225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.    | MAR.    | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|---------|---------|-------|-------|-------|------|------|-------|
| 1     | 0.4  | 0.4   | 0.4  | 0.6  | 24      | 15      | 38    | 24    | 7.5   | 1.1  | 0.4  | 0.4   |
| 2     | .4   | .4    | .4   | .7   | 15      | 15      | 33    | 23    | 7.1   | 1.1  | .4   | .4    |
| 3     | .4   | .4    | .4   | 1.0  | 9.0     | 14      | 30    | 22    | 6.6   | 1.1  | .4   | .2    |
| 4     | .4   | .4    | .4   | 1.1  | 6.6     | 13      | 28    | 22    | 5.7   | 1.1  | .5   | .3    |
| 5     | .4   | .4    | .4   | 1.2  | 5.7     | 12      | 27    | 21    | 5.3   | 1.1  | .5   | .3    |
| 6     | .4   | .4    | .4   | 1.8  | 4.9     | 12      | 26    | *21   | 5.3   | 1.1  | .3   | .3    |
| 7     | .4   | .4    | .4   | 1.1  | 4.9     | 11      | 26    | 20    | 4.9   | 1.1  | .4   | .4    |
| 8     | *.4  | .4    | .4   | 1.1  | 4.9     | 11      | 27    | 21    | 4.5   | 1.1  | *.4  | .4    |
| 9     | .4   | .4    | .4   | *1.1 | 280     | 11      | 25    | 21    | 4.5   | *1.0 | .2   | .4    |
| 10    | .4   | .4    | .4   | .4   | 1.1     | *533    | 11    | 24    | 19    | *4.5 | 1.0  | .4    |
| 11    | .4   | .4    | .4   | 1.2  | *348    | 11      | *24   | 18    | 4.5   | 1.0  | .5   | .5    |
| 12    | .4   | .4    | .4   | 1.1  | 97      | 10      | 23    | 18    | 4.2   | 1.1  | .2   | *.5   |
| 13    | .4   | .4    | .5   | 1.0  | *59     | *10     | 22    | 18    | 3.5   | 1.1  | .2   | .7    |
| 14    | .5   | .4    | .6   | 1.0  | 45      | 9.5     | 57    | 18    | 3.2   | 1.1  | .3   | .7    |
| 15    | .5   | .4    | .6   | 1.1  | 35      | 10      | 40    | 18    | 2.7   | 1.6  | .3   | .8    |
| 16    | .4   | .4    | 1.0  | 1.2  | 30      | 91      | 33    | 18    | 2.7   | 1.4  | .4   | .4    |
| 17    | .4   | .4    | .7   | 1.2  | 27      | 91      | 31    | 18    | 2.2   | 1.1  | .4   | .1    |
| 18    | .4   | .4    | *1.0 | 1.2  | 24      | *49     | 27    | 17    | 1.4   | 1.0  | .4   | .2    |
| 19    | .4   | .4    | 1.0  | 1.2  | 22      | 38      | 26    | 17    | 1.4   | .8   | .3   | .3    |
| 20    | .5   | *.4   | 1.0  | 1.1  | 21      | 33      | 27    | 16    | 1.4   | .8   | .3   | .3    |
| 21    | .5   | .4    | 1.1  | 1.1  | 20      | 31      | 28    | 16    | 1.2   | .7   | .3   | .4    |
| 22    | .4   | .4    | 1.2  | 1.1  | 18      | 32      | 26    | 15    | 1.2   | .7   | .3   | .4    |
| 23    | .4   | .4    | 1.1  | 1.1  | 18      | 38      | *25   | 13    | 1.2   | .7   | .3   | .4    |
| 24    | .4   | .4    | 1.1  | 1.2  | 18      | 33      | 24    | *13   | 1.1   | .6   | .3   | .3    |
| 25    | .4   | .4    | 1.1  | 1.4  | 18      | 30      | 29    | 12    | *1.1  | *.6  | .3   | .4    |
| 26    | .4   | .4    | 1.4  | 1.4  | 17      | 29      | 66    | 12    | 1.1   | .6   | .1   | .5    |
| 27    | .5   | .4    | 1.1  | 1.1  | 17      | 29      | 32    | 11    | 1.1   | .6   | *.1  | .7    |
| 28    | .5   | .4    | 1.0  | 1.1  | *17     | *458    | 28    | 11    | 1.1   | .4   | .2   | 1.1   |
| 29    | .5   | .4    | 1.1  | *1.2 | -----   | 111     | 26    | 10    | 1.1   | .5   | .2   | 1.8   |
| 30    | .5   | .4    | 1.0  | 1.6  | -----   | 61      | 25    | 9.5   | 1.1   | .5   | .3   | .8    |
| 31    | *.4  | ----- | .8   | 33   | -----   | 46      | ----- | 8.0   | ----- | .4   | .4   | ----- |
| TOTAL | 13.2 | 12.0  | 23.2 | 67.4 | 1,739.0 | 1,375.5 | 903   | 520.5 | 94.4  | 28.1 | 10.0 | 14.7  |
| MEAN  | 0.43 | 0.40  | 0.75 | 2.17 | 62.1    | 44.4    | 30.1  | 16.8  | 3.15  | 0.91 | 0.32 | 0.49  |
| MAX   | 0.5  | 0.4   | 1.4  | 33   | 533     | 458     | 66    | 24    | 7.5   | 1.6  | 0.5  | 1.8   |
| MIN   | 0.4  | 0.4   | 0.4  | 0.6  | 4.9     | 9.5     | 22    | 8.0   | 1.1   | 0.4  | 0.1  | 0.1   |
| AC-FT | 26   | 24    | 46   | 134  | 3,450   | 2,730   | 1,790 | 1,030 | 187   | 56   | 20   | 29    |

CALENDAR YEAR 1962: MAX 5,210 MIN 0.1 MEAN 121 AC-FT 87,500  
 WATER YEAR 1962-63 MAX 533 MIN 0.1 MEAN 13.2 AC-FT 9,520

\* Discharge measurement made on this day.

11-1345. Santa Ynez River at 13th Street, near Lompoc, Calif.

Location.--Lat 34°40'06", long 120°28'29", in Lompoc Grant, on right bank at 13th Street crossing, 2.3 miles northwest of Lompoc, Santa Barbara County.

Drainage area.--820 sq mi.

Records available.--October 1954 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 60 ft (from topographic map). Prior to Nov. 27, 1956, at various sites within 300 ft at same datum. Prior to Oct. 1, 1962, at datum 1.00 ft higher.

Extremes.--Maximum discharge during year, 1,870 cfs Mar. 28 (gage height, 3.65 ft), from rating curve extended above 400 cfs; no flow Oct. 1 to Feb. 8, Feb. 19-27, Mar. 2-15, June 1 to Sept. 30.

1954-63: Maximum discharge, 6,670 cfs Feb. 11, 1962 (gage height, 8.92 ft, present datum), from rating curve extended above 500 cfs on basis of measurements at station at H Street one mile upstream; no flow for several months in each year.

Remarks.--Records good except those above 400 cfs, which are fair. Flow regulated by Jameson Lake, Gibraltar Reservoir, and Lake Cachuma (see pp.220,221,225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along bank of river for irrigation in valley upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 10 to May 15)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.5 | 0   | 1.3 | 46  |
| .6  | .2  | 1.6 | 105 |
| .7  | 1.2 | 1.9 | 200 |
| .8  | 3.6 | 2.2 | 340 |
| .9  | 8.3 | 2.5 | 540 |
| 1.1 | 23  |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.   | Mar.  | Apr.  | May   | June | July | Aug. | Sept. |
|-------|------|------|------|------|--------|-------|-------|-------|------|------|------|-------|
| 1     |      |      |      |      | 0      | 0.7   | * 33  | 16    |      |      |      |       |
| 2     |      |      |      |      | 0      | 0     | 31    | 14    |      |      |      |       |
| 3     |      |      |      |      | 0      | 0     | 25    | * 12  |      |      |      |       |
| 4     |      |      |      |      | 0      | * 0   | 22    | 10    |      |      |      |       |
| 5     |      |      |      |      | 0      | 0     | 20    | 8.8   |      |      |      |       |
| 6     |      |      |      |      | 0      | 0     | 17    | * 8.8 |      |      |      |       |
| 7     |      |      |      |      | 0      | 0     | 17    | 8.8   |      |      |      |       |
| 8     | (*)  |      |      |      | 0      | 0     | 17    | 8.8   |      |      |      |       |
| 9     |      |      |      |      | 164    | 0     | 17    | 9.3   |      |      |      |       |
| 10    |      |      |      | (*)  | 493    | 0     | 14    | 7.8   | (*)  |      |      |       |
| 11    |      |      |      |      | *352   | 0     | * 13  | 5.2   |      |      |      |       |
| 12    |      |      |      |      | 87     | 0     | 12    | 4.4   |      |      |      |       |
| 13    |      |      |      |      | * 37   | * 0   | 8.8   | * 4.8 |      |      |      |       |
| 14    |      |      |      |      | * 20   | 0     | 48    | 4.0   |      |      |      |       |
| 15    |      |      |      |      | * 9.8  | 0     | 45    | 3.0   |      |      |      |       |
| 16    |      |      |      |      | 4.4    | 47    | 31    | 3.3   |      |      |      |       |
| 17    |      |      |      |      | 2.4    | 82    | 28    | * 3.6 |      |      |      |       |
| 18    |      |      |      |      | * 1.3  | * 29  | 24    | 3.0   |      |      |      |       |
| 19    |      |      |      |      | 0      | 19    | 21    | 2.7   |      |      |      |       |
| 20    |      | (*)  |      |      | * 0    | 12    | 21    | 3.6   |      |      |      |       |
| 21    |      |      |      |      | 0      | * 10  | 23    | 2.7   |      |      |      |       |
| 22    |      |      |      |      | 0      | 10    | 19    | 2.2   |      |      |      |       |
| 23    |      |      |      |      | 0      | 17    | * 15  | 2.2   |      |      |      |       |
| 24    |      |      |      |      | 0      | 10    | 12    | * 2.0 |      |      |      |       |
| 25    |      |      |      |      | 0      | 8.8   | 12    | .5    | (*)  |      |      |       |
| 26    |      |      |      |      | 0      | 7.2   | * 95  | .4    |      | (*)  |      |       |
| 27    |      |      |      |      | 0      | 6.8   | 36    | 1.4   |      |      |      |       |
| 28    |      |      |      |      | * 1.3  | 415   | 27    | 1.4   |      |      |      |       |
| 29    |      |      |      |      | -----  | 122   | 21    | .5    |      |      |      |       |
| 30    |      |      |      |      | -----  | 68    | 19    | .1    |      |      | (*)  | ----- |
| 31    |      |      |      |      | -----  | 49    | ----- | 1     |      |      |      |       |
| Total | 0    | 0    | 0    | 0    | 1172.2 | 913.5 | 743.8 | 155.4 | 0    | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 41.9   | 29.5  | 24.8  | 5.01  | 0    | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 493    | 415   | 95    | 16    | 0    | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0      | 0     | 8.8   | 0.1   | 0    | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 2,330  | 1,810 | 1,480 | 308   | 0    | 0    | 0    | 0     |

Calendar year 1962: Max 3,960 Min 0 Mean 114 Ac-ft 82,790

Water year 1962-63: Max 493 Min 0 Mean 8.18 Ac-ft 5,930

\* Discharge measurement or observation of no flow made on this day.

11-1355. Santa Ynez River at barrier, near Surf, Calif.

Location.--Lat  $34^{\circ}41'20''$ , long  $120^{\circ}35'05''$ , in Lompoc Grant, on upstream side at center of salt-water barrier, 1.0 mile upstream from mouth, and 1.2 miles east of Surf, Santa Barbara County.

Drainage area.--895 sq mi.

Records available.--October 1946, April 1947 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and compound broad-crested weir. Datum of gage is 5.5 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1947-63), 48.1 cfs (34,820 acre-ft per year); median of yearly mean discharges, 2.8 cfs (2,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,180 cfs Feb. 10 (gage height, 2.55 ft), from rating curve extended above 200 cfs on basis of weir formula; no flow Oct. 1 to Feb. 8, June 18 to July 6, July 17 to Sept. 14, Sept. 24-30.

1947-63: Maximum discharge, 36,000 cfs Jan. 16, 1952 (gage height, 6.50 ft, from rating curve extended above 200 cfs on basis of weir formula; no flow for several months in each year.

Remarks.--Records good. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952 by Lake Cachuma (see pp. 220, 221, 225). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to cities of Montecito, Santa Barbara, and Goleta for municipal supply. Some water pumped from wells along banks of river for irrigation in valley upstream. Flow from Arguello drainage ditch bypasses station; this flow amounted to 211 acre-ft during current year.

Rating table, except for period of backwater (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.5 | 0   | 1.5 | 16  |
| .6  | .5  | 1.6 | 25  |
| .8  | 2.4 | 1.8 | 79  |
| 1.0 | 5.1 | 2.0 | 205 |
| 1.4 | 13  | 2.3 | 580 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.    | Mar.  | Apr.  | May   | June  | July | Aug.  | Sept. |
|-------|------|-------|------|------|---------|-------|-------|-------|-------|------|-------|-------|
| 1     |      |       |      |      | 0       | 1.0   | 25    | 13    | 0.2   | 0    |       | 0     |
| 2     |      |       |      |      | 0       | .9    | 17    | 11    | .2    | 0    |       | 0     |
| 3     |      |       |      |      | 0       | .7    | 15    | 8.6   | .2    | 0    |       | 0     |
| 4     |      |       |      |      | 0       | .6    | 13    | 7.5   | .2    | 0    |       | 0     |
| 5     |      |       |      |      | 0       | .5    | 13    | 6.1   | .2    | 0    |       | 0     |
| 6     |      |       | (*)  |      | 0       | .5    | 12    | * 4.8 | .1    | 0    |       | 0     |
| 7     |      |       |      |      | 0       | .5    | 12    | 4.8   | .1    | .5   |       | 0     |
| 8     | (*)  |       |      |      | 0       | .6    | 12    | 4.6   | .1    | .4   | (*)   | 0     |
| 9     |      |       |      | (*)  | 1.2     | .7    | 12    | 4.5   | .1    | * .5 |       | 0     |
| 10    |      |       |      |      | 480     | .6    | 9.8   | 4.8   | .1    | .1   |       | 0     |
| 11    |      |       |      |      | 358     | .4    | * 8.0 | 3.4   | .1    | .2   |       | 0     |
| 12    |      |       |      |      | 114     | .3    | 7.3   | 2.0   | .1    | .5   |       | * 0   |
| 13    |      |       |      |      | * 45    | * .2  | 7.0   | 1.4   | .1    | .2   |       | 0     |
| 14    |      |       |      |      | 27      | .2    | 22    | 1.4   | .1    | .3   |       | 0     |
| 15    |      |       |      |      | 13      | .3    | 48    | 1.3   | .1    | .4   |       | .1    |
| 16    |      |       |      |      | 7.3     | 4.1   | 27    | .8    | .1    | .2   |       | .1    |
| 17    |      |       |      |      | 4.0     | 114   | 22    | .5    | .1    | 0    |       | .1    |
| 18    |      |       | (*)  |      | 2.6     | 35    | 17    | .5    | 0     | 0    |       | .1    |
| 19    |      |       |      |      | 2.1     | 16    | 15    | .4    | 0     | 0    |       | .1    |
| 20    |      | (*)   |      |      | 1.6     | 12    | 15    | .5    | 0     | 0    |       | .1    |
| 21    |      |       |      |      | 1.4     | 8.8   | 17    | .5    | 0     | 0    |       | .1    |
| 22    |      |       |      |      | 1.3     | 5.6   | 15    | .9    | 0     | 0    |       | .1    |
| 23    |      |       |      |      | 1.2     | 11    | 12    | 1.2   | 0     | 0    |       | .1    |
| 24    |      |       |      |      | 1.1     | 8.9   | 12    | * .6  | 0     | 0    |       | 0     |
| 25    |      |       |      |      | 1.1     | 4.2   | 11    | .4    | * 0   | 0    |       | 0     |
| 26    |      |       |      |      | * 1.1   | 3.1   | 63    | .3    | 0     | * 0  |       | 0     |
| 27    |      |       |      |      | 1.1     | 2.6   | 38    | .4    | 0     | 0    |       | 0     |
| 28    |      |       |      |      | 1.1     | 266   | 21    | .6    | 0     | 0    |       | 0     |
| 29    |      |       |      |      |         | 150   | * 16  | .8    | 0     | 0    |       | 0     |
| 30    |      |       |      |      | -----   | 66    | 14    | .5    | 0     | 0    | (*)   | 0     |
| 31    | (*)  | ----- |      |      |         | 35    | ----- | .2    | ----- | 0    | ----- | ----- |
| Total | 0    | 0     | 0    | 0    | 1,065.2 | 750.3 | 548.1 | 88.3  | 2.2   | 3.3  | 0     | 0.9   |
| Mean  | 0    | 0     | 0    | 0    | 38.0    | 24.2  | 18.3  | 2.85  | 0.07  | 0.11 | 0     | 0.03  |
| Max   | 0    | 0     | 0    | 0    | 480     | 266   | 63    | 13    | 0.2   | 0.5  | 0     | 0.1   |
| Min   | 0    | 0     | 0    | 0    | 0       | 0.2   | 7.0   | 0.2   | 0     | 0    | 0     | 0     |
| Ac-ft | 0    | 0     | 0    | 0    | 2,110   | 1,490 | 1,090 | 175   | 4.4   | 6.5  | 0     | 1.8   |
| (†)   | 9.3  | 7.5   | 0    | 0    | 53      | 36    | 40    | 25    | 6.0   | 12   | 14    | 8.3   |

Calendar year 1962: Max 3,150 Min 0 Mean 97.7 Ac-ft 70,730  
 Water year 1962-63: Max 480 Min 0 Mean 6.74 Ac-ft 4,880

\* Discharge measurement or observation of no flow made on this day.

† Flow, in acre-feet, from Arguello drainage ditch; this is not included in flow that passes station.

Note.--Backwater from ocean lagoon Oct. 1 to Feb. 8.

## SAN ANTONIO CREEK BASIN

239

11-1361. San Antonio Creek near Casmalia, Calif.

Location.--Lat 34°46'56", long 120°31'47", in Jesus Maria Grant, on Camp Cook Military Reservation on downstream side of left center pile bent of San Antonio Road bridge, 0.7 mile east of junction of San Antonio Road with Lompoc-Casmalia Road, and 3.8 miles south of Casmalia, Santa Barbara County.

Drainage area.--7135 sq mi (revised).

Records available.--October 1955 to September 1963.

Gage.--Water-stage recorder (digital). Altitude of gage is 160 ft (from topographic map). Prior to June 27, 1958, at datum 2.00 ft higher.

Average discharge.--8 years, 6.83 cfs (4,940 acre-ft per year).

Extremes.--Maximum discharge during year, 105 cfs Mar. 28 (gage height, 4.58 ft); minimum daily, 0.2 cfs May 17, 18.  
1955-63; Maximum discharge, 1,300 cfs Feb. 19, 1962 (gage height, 9.35 ft); minimum daily, 0.1 cfs June 19, 20, 1957.

Remarks.--Records good. Flow affected by pumping from wells along stream for irrigation, above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 1     | 1.5   | 2.1   | 3.3   | 3.3   | 18    | 3.9   | 5.5   | 2.8   | 2.1   | 1.0   | 0.8  | 0.8   |
| 2     | 1.5   | 2.2   | 3.4   | 3.3   | 10    | 4.2   | 4.5   | 2.6   | 1.9   | 1.2   | .8   | .8    |
| 3     | 1.8   | 2.3   | 3.5   | 3.1   | 4.5   | 4.2   | 4.2   | 2.6   | 1.9   | 1.1   | .9   | .9    |
| 4     | 1.7   | 2.6   | * 3.7 | 4.0   | 3.3   | 3.9   | 4.0   | 2.6   | 1.8   | 1.0   | .7   | .9    |
| 5     | 1.8   | 2.7   | 3.5   | 5.1   | 2.8   | 3.9   | 3.9   | 2.5   | 1.8   | 1.0   | .6   | 2.2   |
| 6     | 1.8   | 2.7   | 3.5   | 4.8   | 3.1   | 4.2   | 4.2   | * 2.5 | * 1.9 | 1.0   | .6   | 1.9   |
| 7     | 1.8   | 2.6   | 3.7   | 4.3   | 2.8   | 4.5   | 5.4   | 2.5   | 1.9   | 1.1   | .7   | 1.4   |
| 8     | * 1.8 | 2.7   | 3.5   | * 4.0 | 2.4   | 4.2   | 6.0   | 2.7   | 1.8   | * 1.0 | *.9  | 1.4   |
| 9     | 1.7   | 2.8   | 3.8   | 4.3   | 15    | 4.5   | 5.1   | 3.5   | 1.8   | .9    | 1.3  | 1.2   |
| 10    | 1.7   | 3.0   | 3.9   | 4.0   | 47    | 4.5   | * 4.9 | 3.1   | 1.6   | .9    | 1.2  | 1.1   |
| 11    | 2.0   | 2.7   | 3.9   | 3.9   | * 24  | 4.5   | 4.3   | 2.7   | 2.4   | .8    | 1.0  | .9    |
| 12    | 2.0   | 2.6   | 3.9   | 3.4   | * 12  | 4.3   | 4.0   | 2.5   | 2.4   | 1.0   | .8   | *.8   |
| 13    | 2.1   | 2.9   | 3.9   | 3.1   | 12    | 4.0   | 3.9   | 2.4   | 2.1   | 1.0   | 1.4  | .8    |
| 14    | 5.8   | 3.1   | 4.0   | 3.1   | 9.5   | * 4.0 | 17    | 2.4   | 1.8   | 1.0   | 1.3  | 1.1   |
| 15    | 2.9   | 2.9   | 4.0   | 3.0   | 6.6   | 4.6   | 12    | 1.9   | 1.6   | 1.0   | .7   | 1.2   |
| 16    | 2.0   | 2.9   | 6.0   | 3.2   | 5.7   | 20    | 6.0   | .3    | 1.8   | 1.0   | .5   | 1.2   |
| 17    | 1.8   | 2.9   | 6.3   | 3.9   | 5.2   | 35    | 5.7   | .2    | 1.7   | .9    | .6   | 1.2   |
| 18    | 1.8   | 2.9   | * 4.8 | 3.7   | 4.9   | * 9.7 | 4.8   | .2    | 1.8   | .9    | .3   | 1.5   |
| 19    | 1.8   | 2.9   | 4.0   | 3.7   | 4.8   | 6.2   | 4.6   | .5    | 1.9   | .8    | .9   | 2.6   |
| 20    | 1.7   | * 2.9 | 3.8   | 3.2   | 4.9   | 5.4   | 5.1   | 2.6   | 1.8   | .8    | .9   | 3.1   |
| 21    | 1.7   | 2.9   | 3.7   | 3.1   | 4.6   | 4.9   | 8.4   | 2.6   | 1.8   | 1.0   | .5   | 2.1   |
| 22    | 1.7   | 2.9   | 3.8   | 3.3   | 4.3   | 5.8   | * 5.4 | 2.4   | 1.6   | * 1.0 | .4   | 1.8   |
| 23    | 1.8   | 3.1   | 3.9   | 3.5   | 4.3   | 11    | 4.5   | * 2.4 | 1.5   | 1.0   | .6   | 1.7   |
| 24    | 1.9   | 3.3   | 4.0   | 3.7   | 4.2   | 6.8   | 4.0   | 2.5   | * 1.4 | .8    | .7   | 1.4   |
| 25    | 1.9   | 3.3   | 3.8   | 3.8   | 4.3   | 5.4   | 4.3   | 2.4   | 1.3   | .8    | .7   | 1.3   |
| 26    | 2.0   | 3.4   | 3.8   | 4.2   | 4.3   | 4.9   | * 17  | 2.5   | 1.3   | .7    | .6   | 1.2   |
| 27    | 2.0   | 3.5   | 3.7   | 4.2   | 4.5   | 4.8   | 6.8   | 2.2   | 1.4   | .6    | .5   | 1.2   |
| 28    | 2.1   | 3.5   | 3.8   | 4.3   | * 4.2 | * 60  | 3.9   | 2.8   | 1.3   | .8    | .5   | 1.2   |
| 29    | * 1.9 | 3.4   | 3.8   | * 4.3 | ----- | 17    | 3.1   | 2.8   | 1.1   | .7    | .5   | 1.0   |
| 30    | 2.2   | 3.3   | 3.7   | 6.6   | ----- | 7.2   | 3.0   | 2.5   | 1.0   | 1.2   | *.7  | 1.0   |
| 31    | 2.4   | ----- | 3.5   | 20    | ----- | 5.7   | ----- | 2.2   | ----- | 1.7   | .6   | ----- |
| TOTAL | 62.6  | 87.0  | 121.9 | 135.4 | 233.2 | 273.2 | 175.5 | 70.4  | 51.9  | 29.7  | 23.2 | 40.9  |
| MEAN  | 2.02  | 2.90  | 3.93  | 4.37  | 8.33  | 8.81  | 5.85  | 2.27  | 1.73  | 0.96  | 0.75 | 1.36  |
| AC-FT | 124   | 173   | 242   | 269   | 463   | 542   | 348   | 140   | 103   | 59    | 46   | 81    |
| MAX   | 5.8   | 3.5   | 6.3   | 20    | 47    | 60    | 17    | 3.5   | 2.4   | 1.7   | 1.4  | 3.1   |
| MIN   | 1.5   | 2.1   | 3.3   | 3.0   | 2.4   | 3.9   | 3.0   | 0.2   | 1.0   | 0.6   | 0.3  | 0.8   |

CALENDAR YEAR 1962 MAX 1,000

MIN 0.8

MEAN 15.6

AC-FT 11,320

WATER YEAR 1962-63 MAX 60

MIN 0.2

MEAN 3.58

AC-FT 2,590

## Peak discharge (base, 50 cfs)

\* Discharge measurement made on this day.

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-9  | 1930 | 3.98        | 58        | 3-28 | 0600 | 4.58        | 105       |
| 3-17 | 0330 | 4.08        | 66        |      |      |             |           |

## SANTA MARIA RIVER BASIN

11-1368. Cuyama River below Buckhorn Canyon, near Santa Maria, Calif.

Location.--Lat 35°01'20", long 120°13'10", in SW $\frac{1}{4}$  sec.14, T.11 N., R.32 W., on downstream side of second pier from right abutment of bridge on State Highway 166, 0.7 mile downstream from Buckhorn Canyon and 13 miles northeast of Santa Maria.

Drainage area.--884 sq mi.

Records available.--October 1903 to December 1905 (published as Santa Maria River near Santa Maria), October 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 760 ft (from topographic map). Prior to October 1959, at different site and datum.

Extremes.--Maximum discharge during year, 7.7 cfs Feb. 14 (gage height, 3.43 ft); no flow Dec. 28 to Jan. 30, Feb. 3-8, July 15 to Sept. 30.

1903-05, 1959-63: Maximum discharge observed, about 10,000 cfs Mar. 13, 1905 (gage height, 10.0 ft, site and datum then in use); no flow at times in most years.

Remarks.--Records good. Pumping from wells along stream for irrigation in upper Cuyama Valley.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.3  | 0.3   | 0.3  | 0    | 0.2   | 0.6  | 1.3   | 1.0  | 0.7   | 0.3  |      |       |
| 2     | .3   | .3    | .3   | 0    | .1    | .6   | 1.0   | .8   | .6    | .2   |      |       |
| 3     | .4   | .3    | .3   | 0    | 0     | .6   | .7    | .7   | .6    | .2   |      |       |
| 4     | .4   | .3    | .3   | 0    | 0     | .6   | .6    | .7   | .5    | .2   |      |       |
| 5     | .4   | .3    | *.3  | 0    | 0     | .6   | .6    | .7   | .5    | .2   |      |       |
| 6     | .5   | .3    | .3   | 0    | 0     | .6   | .6    | .7   | .4    | .2   |      |       |
| 7     | .5   | .3    | .2   | 0    | 0     | .6   | .7    | *.6  | *.5   | .2   |      |       |
| 8     | .5   | .3    | .2   | 0    | 0     | .6   | .6    | .6   | .5    | *.2  |      |       |
| 9     | *.4  | .3    | .2   | *0   | .6    | .7   | *.6   | .8   | .5    | .2   |      |       |
| 10    | .4   | .3    | .2   | 0    | *1.0  | .5   | .6    | .7   | .5    | .2   |      |       |
| 11    | .6   | .3    | .2   | 0    | .3    | .5   | .6    | .7   | .5    | .2   |      |       |
| 12    | .6   | .3    | .2   | 0    | 2.4   | .5   | .6    | .7   | .6    | .1   |      |       |
| 13    | .6   | .3    | .2   | 0    | 2.0   | *.5  | .6    | .7   | .7    | .1   |      |       |
| 14    | 1.6  | .3    | .1   | 0    | *5.9  | .5   | 1.0   | .7   | .6    | .1   |      |       |
| 15    | .6   | .3    | .1   | 0    | 3.5   | .5   | 1.8   | .7   | .5    | 0    |      |       |
| 16    | .4   | .3    | .2   | 0    | 1.8   | 1.4  | 1.8   | .7   | .4    | 0    |      |       |
| 17    | .3   | .3    | *.2  | 0    | 1.0   | .8   | 1.6   | .7   | .4    | 0    |      |       |
| 18    | .3   | .3    | .2   | 0    | .6    | .6   | 1.4   | .8   | .4    | 0    |      |       |
| 19    | .3   | *.3   | .2   | 0    | .6    | .5   | 1.4   | .8   | .4    | 0    |      |       |
| 20    | .3   | .2    | .1   | 0    | .6    | .4   | 1.8   | .8   | .5    | 0    |      |       |
| 21    | .3   | .2    | .1   | 0    | .6    | .4   | 2.2   | .8   | .5    | 0    |      |       |
| 22    | .2   | .2    | .1   | 0    | .6    | .5   | *2.0  | *1.0 | .4    | 0    |      |       |
| 23    | .2   | .2    | .1   | 0    | .6    | .7   | 1.8   | .8   | .4    | 0    |      |       |
| 24    | .3   | .2    | .1   | 0    | .6    | .5   | 1.6   | 1.0  | *.4   | *0   |      |       |
| 25    | .3   | .2    | .1   | 0    | .6    | .5   | 1.8   | .8   | .3    | 0    |      |       |
| 26    | .3   | .2    | .1   | 0    | .6    | .6   | 3.0   | .8   | .3    | 0    |      |       |
| 27    | .3   | .2    | .1   | 0    | *.6   | *.6  | 2.2   | .7   | .3    | 0    |      |       |
| 28    | .3   | .3    | 0    | *0   | .6    | 1.1  | 1.4   | 1.0  | .3    | 0    |      |       |
| 29    | .3   | .3    | 0    | 0    | ----- | .8   | 1.3   | .8   | .2    | 0    | (*)  |       |
| 30    | *.3  | .3    | 0    | 0    | ----- | .7   | 1.1   | .8   | .2    | 0    |      |       |
| 31    | .3   | ----- | 0    | .2   | ----- | .8   | ----- | .7   | ----- | 0    |      | ----- |
| TOTAL | 12.8 | 8.2   | 5.0  | 0.2  | 25.4  | 19.4 | 38.3  | 23.8 | 13.6  | 2.6  | 0    | 0     |
| MEAN  | 0.41 | 0.27  | 0.16 | 0.01 | 0.81  | 0.63 | 1.28  | 0.77 | 0.45  | 0.08 | 0    | 0     |
| MAX   | 1.6  | 0.3   | 0.3  | 0.2  | 5.9   | 1.4  | 3.0   | 1.0  | 0.7   | 0.3  | 0    | 0     |
| MIN   | 0.2  | 0.2   | 0    | 0    | 0     | 0.4  | 0.6   | 0.6  | 0.2   | 0    | 0    | 0     |
| AC-FT | 25   | 16    | 9.9  | 0.4  | 50    | 38   | 76    | 47   | 27    | 5.2  | 0    | 0     |

CALENDAR YEAR 1962: MAX 6,390 MIN 0 MEAN 43.4 AC-FT 31,450

WATER YEAR 1962-63 MAX 5.9 MIN 0 MEAN 0.41 AC-FT 295

Peak discharge (base, 200 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

11-1374. Alamo Creek near Nipomo, Calif.

Location.--Lat 35°02'55", long 120°18'05", in Huasna Grant, on right bank 3.2 miles upstream from mouth and 10 miles east of Nipomo, San Luis Obispo County.

Drainage area.--83.3 sq mi.

Records available.--March 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 650 ft (from topographic map).

Extremes.--No flow during year.

1959-63: Maximum discharge, 1,630 cfs Feb. 9 (gage height, 4.80 ft); no flow for all or part of each year.

Remarks.--No flow since May 12, 1962. No regulation or diversion above station. Figures of discharge for the calendar year 1962 are as follows: maximum daily discharge, 992 cfs; minimum, zero; mean, 15.6 cfs; runoff, 11,260 acre-ft.

SANTA MARIA RIVER BASIN

241

11-1379. Huasna River near Arroyo Grande, Calif.

Location.--Lat 35°04'40", long 120°22'15", in Huasna Grant, on right bank 300 ft downstream from mouth of Huasna Creek and 12 miles southeast of Arroyo Grande, San Luis Obispo County.

Drainage area.--104 sq mi.

Records available.--June 1959 to September 1963.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 640 ft (from topographic map).

Extremes.--Maximum discharge during year, 71 cfs Feb. 10 and Apr. 21 (gage heights, 3.62 ft and 3.87 ft, respectively); no flow

July 30 to Aug. 2, Aug. 6-8, Aug. 27 to Sept. 2, Sept. 5-30.

1959-63: Maximum discharge, 2,100 cfs Feb. 10, 1962 (gage height, 6.90 ft, from crest-stage gage); no flow for many days in each year.

Remarks.--Records good. No regulation. Some diversions by pumping for irrigation above station.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |      |       |      |      |       |      |       |       |       |      |      |       |
|--|------|-------|------|------|-------|------|-------|-------|-------|------|------|-------|
| Day  | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May   | June  | July | Aug. | Sept. |
| 1  | 0.3  | 1.0   | 0.8  | 0.6  | 0.8   | 1.0  | 2.6   | 1.1   | 1.7   | 0.2  | 0    | 0     |
| 2  | .3   | 1.2   | .8   | .6   | .4    | 1.0  | 2.6   | 9.4   | 1.4   | .2   | 0    | 0     |
| 3  | .3   | 1.4   | .8   | .6   | .4    | .8   | 2.6   | 8.8   | 1.4   | .2   | .1   | .3    |
| 4  | .3   | 1.4   | .6   | .6   | .6    | .8   | 2.6   | 7.7   | 1.4   | .2   | .1   | .1    |
| 5  | .3   | 1.7   | *.6  | .6   | .8    | 1.0  | 2.6   | 7.2   | 1.4   | .2   | .1   | 0     |
| 6  | .3   | 1.7   | .6   | .6   | 1.0   | 1.0  | 2.6   | *6.7  | *1.4  | .2   | 0    | 0     |
| 7  | .3   | 1.7   | .6   | .6   | 1.2   | 1.0  | 2.6   | 6.2   | 1.4   | .2   | 0    | 0     |
| 8  | .3   | 1.7   | .6   | .6   | 1.4   | 1.0  | 2.6   | 5.8   | 1.4   | *.2  | 0    | 0     |
| 9  | *.3  | 1.7   | .6   | *.6  | 1.7   | 1.0  | *2.6  | 5.8   | 1.4   | .2   | *.1  | 0     |
| 10   | .3   | 1.7   | .6   | .6   | 7.6   | 1.0  | 2.6   | 5.3   | 1.4   | .3   | .2   | 0     |
| 11   | .3   | 1.7   | .6   | .4   | 2.4   | 1.0  | 2.0   | 4.4   | 1.2   | .3   | .3   | 0     |
| 12   | .3   | 1.7   | .6   | .4   | *3.3  | 1.0  | 1.7   | 4.0   | 1.0   | .3   | .4   | 0     |
| 13   | .3   | 1.7   | .6   | .4   | a 2   | *1.0 | 1.4   | 3.3   | .6    | .3   | .8   | *0    |
| 14   | .8   | 1.7   | .6   | .4   | a 2   | 1.0  | 4.0   | 2.9   | .4    | .3   | .3   | 0     |
| 15   | .6   | 1.7   | .6   | .4   | a 2   | 1.2  | 3.8   | 2.6   | .3    | .3   | .2   | 0     |
| 16   | .4   | 1.7   | .6   | .4   | a 1.5 | 2.6  | 5.0   | 2.3   | .3    | .3   | .2   | 0     |
| 17   | .4   | 1.7   | *.6  | .4   | a 1.5 | 2.0  | 3.9   | 2.0   | .3    | .2   | .4   | 0     |
| 18   | .4   | 1.7   | .6   | .4   | a 1   | 1.4  | 2.9   | 2.0   | .3    | .2   | .3   | 0     |
| 19   | .4   | 1.7   | .6   | .4   | a 1   | 1.2  | 2.5   | 2.0   | .3    | .2   | .2   | 0     |
| 20   | .4   | 1.2   | .6   | .4   | 1.0   | 1.2  | 2.4   | 1.7   | .3    | .2   | .1   | 0     |
| 21   | .4   | 1.0   | .6   | .4   | 1.0   | 1.2  | 5.7   | 1.7   | .3    | .2   | .1   | 0     |
| 22   | .6   | 1.0   | .6   | .4   | 1.0   | 1.2  | 4.5   | 1.2   | .3    | .2   | .2   | 0     |
| 23   | .6   | .8    | .6   | .4   | 1.0   | 1.2  | 3.5   | 1.2   | .3    | .2   | .2   | 0     |
| 24   | .4   | .8    | .6   | .4   | 1.0   | 1.4  | 2.7   | 1.2   | *.3   | *.2  | .2   | 0     |
| 25   | .3   | .8    | .6   | .4   | 1.0   | 1.4  | 2.2   | 1.7   | .3    | .2   | .2   | *0    |
| 26   | .4   | .8    | *.6  | .4   | *1.0  | 1.2  | 3.3   | 1.7   | .3    | .2   | .1   | 0     |
| 27   | .4   | *.8   | .6   | .4   | 1.0   | *1.2 | 2.9   | 1.7   | .3    | .2   | 0    | 0     |
| 28   | .4   | .8    | .6   | *.4  | 1.0   | 1.7  | 2.1   | 1.7   | .2    | .2   | *0   | 0     |
| 29   | .3   | .8    | .6   | .4   | ----- | 1.2  | *1.6  | *1.7  | .2    | *.3  | 0    | 0     |
| 30   | *.3  | .8    | .6   | .4   | ----- | 1.0  | 1.3   | 1.7   | .2    | 0    | 0    | 0     |
| 31   | .8   | ----- | .6   | 1.2  | ----- | 1.4  | ----- | 1.7   | ----- | 0    | 0    | ----- |
| Total  | 12.2 | 40.1  | 19.2 | 15.2 | 63.2  | 37.3 | 538.1 | 118.3 | 22.0  | 6.6  | 4.8  | 0.4   |
| Mean   | 0.39 | 1.34  | 0.62 | 0.49 | 2.06  | 1.20 | 17.9  | 3.82  | 0.73  | 0.21 | 0.15 | 0.01  |
| Max  | 0.8  | 1.7   | 0.8  | 1.2  | 2.4   | 2.6  | 5.7   | 11    | 1.7   | 0.3  | 0.8  | 0.3   |
| Min  | 0.3  | 0.8   | 0.6  | 0.4  | 0.4   | 0.8  | 1.4   | 1.2   | 0.2   | 0    | 0    | 0     |
| Ac-ft  | 24   | 80    | 38   | 30   | 125   | 74   | 1,070 | 235   | 44    | 13   | 9.5  | 0.8   |
| Calendar year 1962: Max 1,800 Min 0 Mean 31.3 Ac-ft 22,630                     |      |       |      |      |       |      |       |       |       |      |      |       |
| Water year 1962-63: Max 57 Min 0 Mean 2.40 Ac-ft 1,740                         |      |       |      |      |       |      |       |       |       |      |      |       |

Peak discharge (base, 40 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-10 | 2330 | 3.62        | 71        | 4-21 | 0900 | 3.87        | 71        |
| 4-15 | 1800 | 3.72        | 64        |      |      |             |           |

\* Discharge measurement made on this day.  
a No gage-height record.

## SANTA MARIA RIVER BASIN

11-1381. Cuyama River below Twitchell Dam, Calif.

Location.--Lat 34°56'40", long 120°17'30", in Suey Grant, on left bank 3.5 miles upstream from mouth, 4 miles northeast of Garey, Santa Barbara County, and 4.4 miles downstream from Twitchell Dam.

Drainage area.--1,132 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 390 ft (from topographic map).

Extremes.--Maximum discharge during year, 63 cfs May 14 (gage height, 3.70 ft); no flow Oct. 1 to Jan. 31, June 28 to Sept. 30. 1958-63: Maximum discharge, 548 cfs Feb. 10, 1962 (gage height, 5.76 ft); no flow for part of each year.

Remarks.--Records good. Flow regulated since February 1959 by Twitchell Reservoir (capacity, 240,000 acre-ft). Some pumping from wells along stream for irrigation above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day  | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.   | May    | June  | July | Aug. | Sept. |
|--|------|------|------|------|-------|------|--------|--------|-------|------|------|-------|
| 1  |      |      |      |      | 0.9   | 0.4  | 0.6    | 32     | 1.4   |      |      |       |
| 2  |      |      |      |      | .9    | .4   | .7     | 32     | 1.0   |      |      |       |
| 3  |      |      |      |      | .4    | .4   | .6     | 32     | 1.0   |      |      |       |
| 4  |      |      |      |      | .3    | .4   | .4     | 32     | .8    |      |      |       |
| 5  |      |      |      |      | .2    | .3   | .4     | 32     | .7    |      |      |       |
| 6  |      |      |      |      | .1    | .3   | .4     | 32     | .7    |      |      |       |
| 7  |      |      |      |      | .1    | .3   | .6     | * 33   | * .7  |      |      |       |
| 8  | (*)  |      |      | (*)  | .1    | .3   | .6     | 37     | .6    | (*)  |      |       |
| 9  |      |      |      |      | .7    | .3   | .5     | 38     | .5    |      |      |       |
| 10   |      |      |      |      | 6.3   | .3   | * .5   | 38     | .5    |      |      |       |
| 11   |      |      |      |      | 2.9   | .3   | .5     | 38     | .5    |      |      |       |
| 12   |      |      |      |      | 1.3   | .3   | .4     | 38     | .4    |      |      |       |
| 13   |      |      |      |      | * 1.6 | .3   | 1.5    | 38     | .4    |      |      |       |
| 14   |      |      |      |      | 2.3   | * .3 | 2.4    | 41     | .4    |      |      |       |
| 15   |      |      |      |      | 1.3   | .3   | 3.0    | 40     | .3    |      |      |       |
| 16   |      |      |      |      | 1.0   | 1.0  | 1.8    | 41     | .3    |      |      |       |
| 17   |      |      |      |      | .9    | 2.0  | 1.8    | 42     | .3    |      |      |       |
| 18   |      |      |      |      | .7    | .9   | * 31   | 43     | .3    |      |      |       |
| 19   |      | (*)  |      |      | .7    | .6   | 33     | 13     | .3    |      |      |       |
| 20   |      |      |      |      | .6    | .6   | 35     | 2.8    | .2    |      |      |       |
| 21   |      |      |      |      | .6    | .4   | 34     | 2.4    | .2    |      |      |       |
| 22   |      |      |      |      | .5    | .4   | * 34   | 2.8    | .2    | (*)  |      |       |
| 23   |      |      |      |      | .5    | .8   | 34     | * 2.8  | .2    |      |      |       |
| 24   |      |      |      |      | .5    | .8   | 32     | 2.7    | * .2  |      |      |       |
| 25   |      |      |      |      | .5    | .6   | 35     | 5.5    | .1    |      |      |       |
| 26   |      |      |      |      | .4    | * .4 | 36     | 4.0    | .1    |      |      |       |
| 27   |      |      |      |      | .4    | .4   | 32     | 1.6    | .1    |      |      |       |
| 28   |      |      |      | (*)  | * .4  | 2.7  | 32     | 1.5    | 0     |      |      |       |
| 29   | (*)  |      |      |      | ----- | 1.6  | 32     | 1.5    | 0     |      | (*)  |       |
| 30   |      |      |      |      | ----- | 1.0  | 32     | 1.5    | 0     |      |      |       |
| 31   |      |      |      |      | ----- | .7   | -----  | 2.3    | ----- |      |      |       |
| Total  | 0    | 0    | 0    | 0    | 27.1  | 19.8 | 4 64.9 | 70 3.4 | 12.4  | 0    | 0    | 0     |
| Mean   | 0    | 0    | 0    | 0    | 0.97  | 0.64 | 15.5   | 22.7   | 0.41  | 0    | 0    | 0     |
| Max  | 0    | 0    | 0    | 0    | 6.3   | 2.7  | 36     | 43     | 1.4   | 0    | 0    | 0     |
| Min  | 0    | 0    | 0    | 0    | 0.1   | 0.3  | 0.4    | 1.5    | 0     | 0    | 0    | 0     |
| Ac-ft  | 0    | 0    | 0    | 0    | 54    | 39   | 922    | 1,400  | 25    | 0    | 0    | 0     |
| Calendar year 1962: Max 350 Min 0 Mean 80.9 Ac-ft 58,560 |      |      |      |      |       |      |        |        |       |      |      |       |
| Water year 1962-63: Max 43 Min 0 Mean 3.36 Ac-ft 2,440   |      |      |      |      |       |      |        |        |       |      |      |       |

\* Discharge measurement or observation of no flow made on this day.



11-1385. Sisquoc River near Sisquoc; Calif.

Location.--Lat 34°50'25", long 120°10'00", in sec.20, T.9 N., R.31 W., on left bank 2.2 miles upstream from La Brea Creek and 7 miles east of Sisquoc.

Drainage area.--281 sq mi.

Records available.--October 1943 to September 1963. October 1929 to September 1933, at site 0.2 mile 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 (digital). Datum of gage is 624.30 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Aug. 24, 1951, at site 0.2 mile downstream at datum 3.70 ft lower; during this period, a supplementary gage at site 200 ft downstream from present site at different datums was generally used for periods of low flow.

Average discharge.--20 years (1943-63), 28.0 cfs (20,270 acre-ft per year); median of yearly mean discharges, 13 cfs (9,400 acre-ft per year).

Extremes.--Maximum discharge during year, 465 cfs Feb. 10 (gage height, 3.70 ft); minimum daily, 1.1 cfs Aug. 26-29.

1929-33, 1943-63: Maximum discharge, 7,640 cfs Apr. 3, 1958 (gage height, 10.62 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement at gage height 10.08 ft; minimum daily since 1943, 0.4 cfs for several days in 1947, 1951, 1957, and 1961.

Maximum discharge known, 11,000 cfs Mar. 2, 1938 (gage height, 8.1 ft, from high-water mark in gage well at site in use 1929-33), from rating curve extended above 2,800 cfs.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 1.4   | 1.6   | 1.6   | 1.8   | 1.8   | 2.5   | 24    | 32    | 9.0   | 3.5   | 1.6   | 1.2   |
| 2     | 1.6   | 1.6   | 1.8   | 1.8   | 1.6   | 2.5   | 23    | 29    | 8.5   | 3.5   | 1.6   | 1.2   |
| 3     | 1.6   | 1.8   | 1.8   | 1.8   | 1.4   | 2.7   | 20    | 27    | 7.5   | 3.5   | 1.6   | 1.2   |
| 4     | 1.6   | 1.8   | * 1.8 | 1.8   | 1.4   | 2.5   | 18    | 26    | 7.0   | 3.2   | 1.6   | 1.4   |
| 5     | 1.6   | 1.8   | 1.8   | 1.8   | 1.4   | 2.5   | 17    | 22    | 6.6   | 3.8   | 1.6   | 1.4   |
| 6     | 1.6   | 1.6   | 1.8   | 1.8   | 1.4   | 2.7   | 16    | 21    | 6.2   | 4.1   | 1.6   | 1.2   |
| 7     | 1.6   | 1.6   | 1.8   | 1.8   | 1.4   | 2.5   | 18    | * 20  | * 5.8 | 3.8   | 1.7   | 1.4   |
| 8     | * 1.6 | 1.6   | 1.8   | * 1.8 | 1.4   | 2.7   | 17    | 20    | 5.4   | * 3.8 | * 1.9 | 1.4   |
| 9     | 1.6   | 1.6   | 2.0   | 1.8   | 2.4   | 3.0   | 16    | 21    | 5.1   | 3.5   | 1.6   | 1.2   |
| 10    | 1.6   | 1.6   | 2.0   | 1.8   | 246   | 3.0   | * 17  | 20    | 5.1   | 3.2   | 1.6   | 1.2   |
| 11    | 1.6   | 1.6   | 2.0   | 1.8   | * 148 | 2.7   | 16    | 19    | 5.4   | 3.0   | 1.6   | 1.2   |
| 12    | 1.6   | 1.6   | 2.0   | 1.8   | 34    | 2.7   | 15    | 19    | 5.4   | 3.0   | 1.4   | * 1.2 |
| 13    | 1.6   | 1.6   | 2.0   | 1.8   | * 18  | 2.5   | 14    | 18    | 5.4   | 2.7   | 1.4   | 1.2   |
| 14    | 1.8   | 1.6   | 2.0   | 1.6   | 14    | * 2.7 | 18    | 17    | 5.4   | 2.5   | 1.2   | 1.2   |
| 15    | 1.6   | 1.6   | 2.0   | 1.6   | 9.0   | 3.0   | 67    | 16    | 5.4   | 2.5   | 1.2   | 1.2   |
| 16    | 1.4   | 1.6   | 2.0   | 1.6   | 6.2   | 5.8   | 51    | 15    | 5.1   | 2.2   | 1.2   | 1.2   |
| 17    | 1.4   | 1.6   | * 2.0 | 1.6   | 4.8   | 6.2   | 38    | 14    | 4.8   | 2.2   | 1.4   | 1.2   |
| 18    | 1.4   | 1.6   | 2.0   | 1.6   | 3.8   | 10    | 32    | 14    | 4.4   | 2.1   | 1.2   | 1.6   |
| 19    | 1.4   | * 1.6 | 2.0   | 1.6   | 3.5   | 9.0   | 28    | 14    | 4.4   | 2.1   | 1.2   | 1.7   |
| 20    | 1.4   | 1.6   | 1.8   | 1.6   | 3.2   | 8.5   | 29    | 13    | 4.4   | 2.1   | 1.2   | 1.4   |
| 21    | 1.3   | 1.6   | 1.8   | 1.4   | 3.2   | 9.0   | 49    | 13    | 4.1   | 2.1   | 1.2   | 1.2   |
| 22    | 1.3   | 1.6   | 1.8   | 1.4   | 3.0   | 9.6   | * 42  | 12    | 4.1   | * 2.1 | 1.2   | 1.4   |
| 23    | 1.3   | 1.6   | 1.8   | 1.4   | 3.0   | 12    | 35    | * 12  | 3.8   | 1.9   | 1.2   | 1.2   |
| 24    | 1.4   | 1.6   | 1.8   | 1.6   | 3.0   | 15    | 31    | 13    | * 4.1 | 1.9   | 1.2   | 1.2   |
| 25    | 1.4   | 1.6   | 1.8   | 1.6   | 2.7   | 15    | 32    | 13    | 3.8   | 1.9   | 1.2   | 1.2   |
| 26    | 1.6   | 1.4   | 1.8   | 1.4   | 2.7   | 15    | 53    | 12    | 3.8   | 1.7   | 1.1   | 1.2   |
| 27    | 1.6   | 1.4   | 1.8   | 1.4   | 2.5   | 14    | 51    | 12    | 3.8   | 1.7   | 1.1   | 1.2   |
| 28    | 1.4   | 1.6   | 1.8   | 1.4   | * 2.5 | * 21  | 44    | 14    | 3.8   | 1.7   | 1.1   | 1.2   |
| 29    | * 1.6 | 1.6   | 1.8   | 1.4   | ----- | 64    | 42    | 13    | 3.8   | 1.7   | * 1.1 | 1.2   |
| 30    | 1.6   | 1.6   | 1.8   | * 1.4 | ----- | 38    | 39    | 11    | 3.5   | 1.7   | 1.2   | 1.2   |
| 31    | 1.6   | ----- | 1.8   | 1.8   | ----- | 29    | ----- | 10    | ----- | 1.6   | 1.2   | ----- |
| Total | 47.1  | 48.2  | 57.8  | 50.8  | 527.3 | 321.3 | 912   | 532   | 154.9 | 80.3  | 42.2  | 38.1  |
| Mean  | 1.52  | 1.61  | 1.86  | 1.64  | 18.8  | 10.4  | 30.4  | 17.2  | 5.16  | 2.59  | 1.36  | 1.27  |
| Max   | 1.8   | 1.8   | 2.0   | 1.8   | 246   | 64    | 67    | 32    | 9.0   | 4.1   | 1.9   | 1.7   |
| Min   | 1.3   | 1.4   | 1.6   | 1.4   | 1.4   | 2.5   | 14    | 10    | 3.5   | 1.6   | 1.1   | 1.2   |
| Ac-ft | 93    | 96    | 115   | 101   | 1,050 | 637   | 1,810 | 1,060 | 307   | 159   | 84    | 76    |

Calendar year 1962: Max 3,250 Min 1.0 Mean 67.2 Ac-ft 48,640

Water year 1962-63: Max 246 Min 1.1 Mean 7.70 Ac-ft 5,590

Peak discharge (base, 100 cfs).--Feb. 10 (0700 hrs) 465 cfs (3.70 ft).

\* Discharge measurement made on this day.

## SANTA MARIA RIVER BASIN

11-1390. La Brea Creek near Sisquoc, Calif.

Location.--Lat 34°51'10", long 120°11'55", in SE $\frac{1}{4}$  sec.13, T.9 N., R.32 W., on right bank 2,100 ft upstream from mouth and 5.5 miles east of Sisquoc.

Drainage area.--93.8 sq mi.

Records available.--October 1943 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 550 ft (from topographic map).

Average discharge.--20 years, 4.42 cfs (3,200 acre-ft per year); median of yearly mean discharges, 0.2 cfs (140 acre-ft per year).

Extremes.--No flow during year.

1943-63: Maximum discharge, 3,320 cfs Jan. 15, 1952 (gage height, 5.94 ft); no flow for most of each year.

Remarks.--No flow since May 7, 1962. Perennial low flow from basin above sinks beneath stream bed before reaching station. No regulation or diversion above station. Figures of discharge for the calendar year 1962 are as follows: maximum daily discharge, 683 cfs; minimum, zero; mean, 11.2 cfs; runoff, 8,120 acre-ft.

11-1395. Tepusquet Creek near Sisquoc, Calif.

Location.--Lat  $34^{\circ}52'20''$ , long  $120^{\circ}14'35''$ , in NE  $\frac{1}{4}$  sec. 9, T.9 N., R.32 W., on downstream wingwall of right bridge abutment, 1.1 miles upstream from mouth and 3 miles east of Sisquoc.

Drainage area.--28.6 sq mi.

Records available.--October 1943 to September 1963.

Gage.--Water-stage recorder (digital). Concrete control since July 1957. Altitude of gage is 500 ft (from topographic map). Prior to Dec. 9, 1948, at same site at datum 0.9 ft higher.

Average discharge.--20 years, 1.22 cfs (883 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 9.8 cfs Feb. 9 (gage height, 2.11 ft); minimum daily, 0.1 cfs for many days.

1943-63: Maximum discharge, 500 cfs Feb. 9, 1962 (gage height, 4.25 ft), from rating curve extended above 220 cfs; no flow at times in some years.

Remarks.--Records good. No regulation. Some diversion by pumping from wells along stream to irrigate about 100 acres above gage.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 1.7 | 0   |
| 1.8 | .2  |
| 1.9 | 1.0 |
| 2.0 | 3.2 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.1  | 0.1   | 0.1  | 0.2  | 0.6   | 0.3  | 0.5   | 0.5  | 0.7   | 0.7  | 0.3  | 0.2   |
| 2     | .1   | .1    | .1   | .2   | .3    | .3   | .4    | .4   | .8    | .8   | .3   | .2    |
| 3     | .1   | .1    | .1   | .1   | .2    | .3   | .3    | .4   | .8    | .7   | .3   | .2    |
| 4     | .1   | .1    | *.1  | .1   | .2    | .3   | .3    | .4   | .8    | .7   | .3   | .3    |
| 5     | .1   | .1    | .1   | .1   | .2    | .3   | .4    | .4   | .8    | .7   | .3   | .3    |
| 6     | .1   | .1    | .1   | .1   | .2    | .3   | .3    | .5   | .8    | .6   | .3   | .3    |
| 7     | .1   | .1    | .1   | .1   | .2    | .3   | .3    | *.5  | *.8   | .5   | .3   | .3    |
| 8     | *.1  | .1    | .1   | *.1  | .2    | .3   | .3    | .6   | .8    | *.5  | *.4  | .3    |
| 9     | .1   | .1    | .1   | .1   | 1.4   | .4   | .3    | .7   | .8    | .5   | .2   | .2    |
| 10    | .1   | .1    | .1   | .1   | 2.3   | .4   | *.3   | .6   | 1.0   | .4   | .2   | .2    |
| 11    | .1   | .1    | .2   | .2   | .9    | .4   | .3    | .6   | .6    | .3   | .2   | .1    |
| 12    | .1   | .1    | .1   | .2   | .5    | .4   | .3    | .6   | .8    | .8   | .3   | *.2   |
| 13    | .1   | .1    | .2   | .2   | *.7   | .3   | .3    | .5   | .8    | .5   | .2   | .1    |
| 14    | .2   | .1    | .1   | .2   | .8    | *.3  | .4    | .6   | .7    | .5   | .2   | .1    |
| 15    | .1   | .1    | .1   | .2   | .5    | .3   | .3    | .7   | .7    | .5   | .1   | .1    |
| 16    | .1   | .2    | .2   | .1   | .4    | A.7  | .3    | .7   | .7    | .5   | .2   | .1    |
| 17    | .1   | .1    | *.2  | .2   | .4    | A.5  | .3    | .6   | .9    | .5   | .2   | A.2   |
| 18    | .1   | .1    | .2   | .2   | .4    | A.3  | .3    | .7   | .7    | .5   | .3   | A.2   |
| 19    | .1   | *.2   | .2   | .2   | .3    | A.3  | .3    | .7   | .9    | .4   | .2   | A.2   |
| 20    | .1   | .2    | .2   | .2   | .3    | A.3  | .4    | .8   | .9    | .5   | .2   | A.2   |
| 21    | .1   | .1    | .2   | .2   | .3    | A.3  | .3    | .7   | .9    | .5   | .2   | A.2   |
| 22    | .1   | .1    | .2   | .2   | .3    | A.3  | *.3   | .8   | .8    | *.5  | .2   | A.2   |
| 23    | .1   | .1    | .2   | .2   | .3    | A.3  | .3    | *.8  | .9    | .5   | .2   | A.2   |
| 24    | .1   | .1    | .2   | .2   | .3    | A.3  | .3    | .8   | *.8   | .5   | .2   | .2    |
| 25    | .2   | .1    | .2   | .2   | .3    | A.3  | .5    | .8   | .8    | .4   | .2   | *.2   |
| 26    | .2   | .1    | .2   | .2   | .3    | A.3  | .8    | .8   | .9    | .3   | .2   | .2    |
| 27    | .1   | .1    | .2   | .2   | .3    | A.3  | .6    | .8   | .9    | .3   | .2   | .2    |
| 28    | .1   | .2    | .2   | *.2  | *.3   | *.7  | .5    | .8   | 1.0   | .3   | .1   | .2    |
| 29    | *.1  | .1    | .2   | .2   | ----- | .3   | .4    | .8   | .8    | .3   | *.2  | .2    |
| 30    | .1   | .1    | .2   | .2   | ----- | .4   | .4    | .7   | .8    | .3   | .1   | .2    |
| 31    | .1   | ----- | .2   | .3   | ----- | .4   | ----- | .8   | ----- | .2   | .1   | ----- |
| TOTAL | 3.4  | 3.4   | 4.9  | 5.4  | 13.4  | 10.9 | 11.0  | 20.1 | 24.4  | 14.8 | 6.8  | 6.0   |
| MEAN  | 0.11 | 0.11  | 0.16 | 0.17 | 0.48  | 0.35 | 0.37  | 0.65 | 0.81  | 0.48 | 0.22 | 0.20  |
| MAX   | 0.2  | 0.2   | 0.2  | 0.3  | 2.3   | 0.7  | 0.8   | 0.8  | 1.0   | 0.7  | 0.4  | 0.3   |
| MIN   | 0.1  | 0.1   | 0.1  | 0.1  | 0.2   | 0.3  | 0.3   | 0.4  | 0.6   | 0.2  | 0.1  | 0.1   |
| AC-FT | 6.7  | 6.7   | 9.7  | 11   | 27    | 22   | 22    | 40   | 48    | 29   | 14   | 12    |

CALENDAR YEAR 1962: MAX 258 MIN 0 MEAN 3.42 AC-FT 2,480  
 WATER YEAR 1962-63 MAX 2.3 MIN 0.1 MEAN 0.34 AC-FT 248

Peak discharge (base, 10 cfs).--No peak above base.

\* Discharge measurement made on this day.

a No gage-height record.

## SANTA MARIA RIVER BASIN

11-1400. Sisquoc River near Garey, Calif.

Location--Lat 34°53'38", long 120°18'20", in SW $\frac{1}{4}$  sec.36, T.10 N., R.33 W., near right bank on downstream side of county road bridge, 0.6 mile northeast of Garey and 3.7 miles downstream from Tepusquet Creek.

Drainage area--472 sq mi.

Records available--October 1940 to September 1963. Records for water year 1941 incomplete, yearly estimate and monthly discharge only for October 1940 and January 1941, published in WSP 1315-B.

Gage--Water-stage recorder. Datum of gage is 360.8 ft above mean sea level (Santa Barbara County bench mark). Prior to Aug. 27, 1954, at site 3 miles upstream at different datum. Aug. 28, 1954, to Nov. 1, 1956, at site 0.7 mile upstream at different datum. Nov. 1, 1956, to Sept. 30, 1959, at same site at different datums. Since Oct. 1, 1959, supplementary gage near left bank at same datum.

Average discharge--23 years, 32.6 cfs (23,600 acre-ft per year); median of yearly mean discharges, 7.4 cfs (5,400 acre-ft per year).

Extremes--Maximum discharge during year, about 150 cfs Feb. 10 (gage height, unknown); no flow for most of year.  
1940-63: Maximum discharge, 13,000 cfs Jan. 23, 1943 (gage height, 8.46 ft, site and datum then in use), from rating curve extended above 2,000 cfs on basis of records for upstream stations; no flow for several months in each year.

Remarks--Records poor. No regulation. Some diversion for irrigation above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

|              |      |              |     |
|--------------|------|--------------|-----|
| Feb. 10..... | e50  | Apr. 17..... | 0.3 |
| 11.....      | *e70 | 26.....      | .7  |
| 12.....      | *a 5 | 27.....      | 7.7 |
| Mar. 30..... | .3   | 28.....      | 2.9 |
| Apr. 16..... | .6   | 29.....      | 1.2 |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1963.....      | 125      | 70      | 0       | 4.46 | 248                 |
| March.....              | .3       | .3      | 0       | .01  | .6                  |
| April.....              | 13.4     | 7.7     | 0       | .45  | 27                  |
| Calendar year 1962..... | -        | 5,400   | 0       | 64.3 | 46,570              |
| Water year 1962-63..... | -        | 70      | 0       | .38  | 276                 |

Peak discharge (base, 100 cfs)---Feb. 10 (time unknown) about 150 cfs (gage height, unknown).

\* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

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

11-1410. Santa Maria River at Guadalupe, Calif.

Location--Lat 34°58'35", long 120°34'15", in Guadalupe Grant, on downstream side of fifth bridge pier from left bank on State Highway 1, 0.5 mile north of Guadalupe, Santa Barbara County, and 4.5 miles upstream from mouth.

Drainage area--1,742 sq mi.

Records available--October 1940 to September 1963. Monthly discharge only, October 1940 to January 1941, published in WSP 1315-B.

Gage--Water-stage recorder. Datum of gage is 64.92 ft above mean sea level, datum of 1929, supplementary adjustment of 1934 (Corps of Engineers bench mark). Supplementary water-stage recorder near right bank at same datum. Jan. 19, 1941, to Aug. 11, 1955, at site 100 ft upstream at same datum. Oct. 5, 1945, to Aug. 11, 1955, supplementary gage near right bank 100 ft upstream at same datum.

Average discharge--23 years, 33.6 cfs (24,330 acre-ft per year); median of yearly mean discharges, 2.3 cfs (1,700 acre-ft per year).

Extremes--No flow during year.

1940-63: Maximum discharge, 32,800 cfs Jan. 16, 1952 (gage height, 8.18 ft); no flow for several months of each year.

Remarks--No flow since Mar. 21, 1962. Several small surface diversions and extensive pumping from wells for irrigation along stream above station. Flow of Cuyama River regulated since February 1959 by Twitchell Reservoir (capacity, 240,000 acre-ft). Figures of discharge for calendar year 1962 are as follows: maximum daily discharge, 5,450 cfs; minimum, zero; mean, 33.5 cfs; runoff, 24,280 acre-ft.

## ARROYO GRANDE BASIN

247

11-1413. Arroyo Grande near Arroyo Grande, Calif.

Location.--Lat 35°11'10", long 120°29'55", in NW $\frac{1}{4}$  sec.32, T.31 S., R.14 E., on downstream side of county road bridge, 0.9 mile downstream from Lopez Canyon Creek, and 6 $\frac{1}{4}$  miles northeast of Arroyo Grande.

Drainage area.--68.3 sq mi.

Records available.--July 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 360 ft (from topographic map).

Average discharge.--5 years, 2.86 cfs (2,070 acre-ft per year).

Extremes.--Maximum discharge during year, 60 cfs Feb. 10 (gage height, 1.70 ft); no flow for several months.  
1958-63: Maximum discharge, 1,280 cfs Feb. 9, 1962 (gage height, 4.50 ft); no flow for most of each year.

Remarks.--Records fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|-------|-------|------|------|-------|
| 1     |      |      |      |      | 0     | 0    | 1.6   | 3.8   | 0.2   |      |      |       |
| 2     |      |      |      |      | 0     | 0    | 1.2   | 2.9   | .2    |      |      |       |
| 3     |      |      |      |      | 0     | 0    | 1.0   | * 2.5 | .2    |      |      |       |
| 4     |      |      |      |      | 0     | 0    | 1.0   | 2.2   | .1    |      |      |       |
| 5     |      |      |      |      | 0     | 0    | 1.0   | 2.0   | .1    |      |      |       |
| 6     |      |      |      |      | 0     | 0    | 1.0   | * 1.8 | * 0   |      |      |       |
| 7     |      |      |      |      | 0     | 0    | 1.0   | 1.6   | 0     |      |      |       |
| 8     |      |      |      |      | 0     | 0    | .9    | 1.5   | 0     | (*)  |      |       |
| 9     | (*)  |      |      | (*)  | 4.0   | 0    | * .8  | 1.5   | 0     |      |      |       |
| 10    |      |      |      |      | * 3.8 | 0    | .7    | 1.4   | 0     |      |      |       |
| 11    |      |      |      |      | * 2.0 | 0    | .6    | 1.2   | 0     |      |      |       |
| 12    |      |      |      |      | * .3  | 0    | .6    | 1.1   | 0     |      |      |       |
| 13    |      |      |      |      | 3.1   | * 0  | .6    | 1.0   | 0     |      |      |       |
| 14    |      |      |      |      | * 7.1 | 0    | 2.4   | .9    | 0     |      |      |       |
| 15    |      |      |      |      | 5.6   | 0    | 1.7   | .8    | 0     |      |      |       |
| 16    |      |      |      |      | 4     | 0    | 1.2   | .7    | 0     |      |      |       |
| 17    |      |      |      |      | 3     | 0    | 8.2   | .7    | 0     |      |      |       |
| 18    |      |      |      |      | 2     | * 0  | 6.5   | .7    | 0     |      |      |       |
| 19    |      |      |      |      | 2     | 0    | 5.9   | .7    | 0     |      |      |       |
| 20    |      |      |      |      | 1     | 0    | 7.2   | .7    | 0     |      |      |       |
| 21    |      |      |      |      | 1     | 0    | 1.0   | .7    | 0     |      |      |       |
| 22    |      |      |      |      | .5    | 0    | * 7.8 | * .7  | 0     |      |      |       |
| 23    |      |      |      |      | .5    | 1.0  | 7.1   | .7    | 0     |      |      |       |
| 24    |      |      |      |      | .2    | 3.1  | 6.5   | .7    | * 0   | (*)  |      |       |
| 25    |      |      |      |      | .2    | 1.4  | 6.8   | .7    | 0     |      |      |       |
| 26    |      |      |      |      | .1    | 1.1  | * 1.4 | .7    | 0     |      |      |       |
| 27    |      | (*)  |      |      | * 0   | * .9 | 9.8   | .6    | 0     |      |      |       |
| 28    |      |      |      | (*)  | 0     | 6.6  | 7.4   | .6    | 0     |      | (*)  |       |
| 29    |      |      |      |      | ----- | 5.0  | 6.2   | .5    | 0     |      |      |       |
| 30    |      |      |      |      | ----- | 3.1  | 4.8   | .4    | 0     |      |      |       |
| 31    |      |      |      |      | ----- | 2.2  | ----- | .3    | ----- |      |      |       |
| Total | 0    | 0    | 0    | 0    | 92.6  | 24.4 | 151.6 | 36.3  | 0.8   | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 0    | 3.31  | 0.79 | 5.05  | 1.17  | 0.03  | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 0    | 38    | 6.6  | 17    | 3.8   | 0.2   | 0    | 0    | 0     |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0.6   | 0.3   | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0    | 0    | 0    | 184   | 48   | 301   | 72    | 1.6   | 0    | 0    | 0     |

Calendar year 1962: Max 561 Min 0 Mean 12.7 Ac-ft 9,180

Water year 1962-63: Max 38 Min 0 Mean 0.84 Ac-ft 607

Peak discharge (base, 40 cfs).--Feb. 10 (1200 hrs) 60 cfs (gage height, 1.70 ft).

\* Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Feb. 16-26.

## ARROYO GRANDE BASIN

11-1415. Arroyo Grande at Arroyo Grande, Calif.

Location.--Lat 35°07'30", long 120°34'05", in Pismo Grant, on left bank at Arroyo Grande, San Luis Obispo County, 0.7 mile upstream from U.S. Highway 101.

Drainage area.--102 sq mi.

Records available.--October 1939 to September 1963. Records for water year 1940 incomplete, yearly estimate published in WSP 1315-B.

Gage.--Water-stage recorder (digital) and broad-crested weir. Datum of gage is 97.77 ft above mean sea level, datum of 1929, supplementary adjustment of 1934. Prior to July 10, 1947, at datum 0.50 ft higher.

Average discharge.--24 years, 20.4 cfs (14,770 acre-ft per year); median of yearly mean discharges, 9.7 cfs (7,000 acre-ft per year).

Extremes.--Maximum discharge during year, 97 cfs Feb. 10 (gage height, 2.53 ft); minimum daily, 0.4 cfs Aug. 23, 24.  
1939-63: Maximum discharge, 5,370 cfs Jan. 15, 1952 (gage height, 11.97 ft); no flow for several days in some years.

Remarks.--Records good. Discharge measurements made twice a month. Many small and intermittent diversions by pumping from stream for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 20-29, Apr. 7-11, May 27 to June 17)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.7 | 0.3 | 1.3 | 7.9 |
| .8  | .7  | 1.5 | 14  |
| .9  | 1.4 | 1.8 | 28  |
| 1.0 | 2.4 | 2.1 | 49  |
| 1.1 | 3.8 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| 1     | 1.9   | 1.8   | 5.0   | 5.6   | 10    | 11    | 18    | 22    | 9.6   | 5.8   | 2.9  | 1.3   |
| 2     | 3.9   | 2.3   | 5.6   | 5.8   | 10    | 12    | 17    | 19    | 11    | 2.8   | 2.8  | .8    |
| 3     | 3.3   | 1.2   | 5.4   | 5.4   | 11    | 12    | 17    | 18    | 9.9   | 3.5   | 3.5  | .8    |
| 4     | 3.2   | 1.8   | 4.1   | 4.4   | 10    | 11    | 16    | 17    | 9.4   | 4.2   | 3.5  | 1.3   |
| 5     | 2.6   | 1.8   | 3.3   | 3.8   | 10    | 12    | 16    | 15    | 8.8   | 4.1   | 3.2  | 2.4   |
| 6     | 2.5   | 2.8   | 4.1   | 3.9   | 10    | 10    | 15    | 14    | 8.8   | 3.5   | 2.2  | 1.5   |
| 7     | 2.9   | 2.3   | 2.8   | 3.9   | 10    | 11    | 16    | 14    | 8.8   | 4.4   | 1.5  | 1.0   |
| 8     | 2.9   | 2.9   | 3.3   | 3.3   | 11    | 11    | 16    | 14    | 9.6   | 5.0   | 3.2  | 1.8   |
| 9     | 1.7   | 3.8   | 4.1   | 2.2   | 22    | 10    | 15    | 15    | 11    | 3.0   | 2.9  | 3.3   |
| 10    | 1.4   | 3.3   | 4.6   | 2.5   | 46    | 10    | 13    | 15    | 11    | 3.2   | 3.5  | 3.0   |
| 11    | 2.2   | 2.3   | 4.4   | 2.9   | 41    | 9.6   | 14    | 14    | 9.9   | 4.2   | 3.5  | 2.2   |
| 12    | 6.1   | 2.0   | 4.8   | 2.9   | 17    | 9.6   | 13    | 14    | 10    | 3.9   | 3.3  | 1.0   |
| 13    | 6.8   | 2.9   | 4.8   | 2.8   | 18    | 9.6   | 13    | 14    | 9.9   | 4.6   | 2.4  | 2.0   |
| 14    | 7.9   | 3.5   | 4.4   | 2.6   | 17    | 9.9   | 17    | 13    | 9.1   | 6.1   | 2.0  | 2.5   |
| 15    | 7.0   | 3.2   | 5.2   | 2.3   | 14    | 11    | 27    | 13    | 8.5   | 5.6   | 1.4  | 2.6   |
| 16    | 5.8   | 2.4   | 6.1   | 2.4   | 13    | 16    | 28    | 12    | 9.1   | 4.6   | 1.0  | 3.5   |
| 17    | 5.4   | 3.0   | 5.2   | 2.5   | 13    | 14    | 25    | 13    | 9.1   | 3.9   | 1.2  | 2.3   |
| 18    | 5.6   | 3.0   | 5.2   | 3.2   | 13    | 15    | 23    | 13    | 8.0   | 4.2   | 1.1  | 2.8   |
| 19    | 5.6   | 2.8   | 5.2   | 2.1   | 13    | 15    | 23    | 12    | 8.0   | 5.0   | 1.6  | 4.4   |
| 20    | 5.2   | 3.3   | 5.2   | 2.1   | 13    | 14    | 25    | 12    | 8.0   | 6.5   | 1.1  | 3.5   |
| 21    | 4.8   | 2.3   | 5.0   | 4.2   | 13    | 14    | 29    | 11    | 7.5   | 6.3   | .7   | 2.2   |
| 22    | 5.2   | 3.0   | 5.0   | 4.2   | 14    | 15    | 26    | 12    | 7.5   | 5.4   | 1.3  | 1.8   |
| 23    | 3.8   | 3.8   | 5.2   | 3.5   | 14    | 15    | 25    | 12    | 7.0   | 3.2   | .4   | 2.3   |
| 24    | 4.8   | 3.9   | 5.4   | 3.0   | 14    | 17    | 23    | 9.9   | 7.0   | 3.8   | .4   | 1.3   |
| 25    | 4.1   | 3.6   | 5.2   | 3.2   | 14    | 16    | 24    | 11    | 5.2   | 3.2   | 2.3  | 1.3   |
| 26    | 2.6   | 3.2   | 5.4   | 3.3   | 14    | 15    | 29    | 11    | 5.6   | 3.5   | 1.6  | 1.3   |
| 27    | 2.8   | 3.8   | 5.4   | 3.6   | 14    | 16    | 28    | 12    | 3.6   | 3.3   | 2.1  | 1.1   |
| 28    | 3.6   | 4.6   | 5.4   | 3.2   | 13    | 28    | 26    | 11    | 2.9   | 4.2   | 1.0  | .7    |
| 29    | 4.8   | 5.0   | 5.2   | 2.9   | ----- | 24    | 25    | 10    | 5.2   | 3.5   | 1.5  | .7    |
| 30    | 4.2   | 5.0   | 5.4   | 5.2   | ----- | 21    | 23    | 9.6   | 6.8   | 2.4   | 2.0  | .9    |
| 31    | 2.5   | ----- | 5.6   | 7.7   | ----- | 19    | ----- | 9.6   | ----- | 2.4   | 1.9  | ----- |
| TOTAL | 127.1 | 90.6  | 151.0 | 110.6 | 432   | 433.7 | 625   | 412.1 | 245.8 | 129.3 | 63.0 | 57.6  |
| MEAN  | 4.10  | 3.02  | 4.87  | 3.57  | 15.4  | 14.0  | 20.8  | 13.3  | 8.19  | 4.17  | 2.03 | 1.92  |
| AC-FT | 252   | 180   | 300   | 219   | 857   | 860   | 1,240 | 817   | 488   | 257   | 125  | 114   |
| MAX   | 7.9   | 5.0   | 6.1   | 7.7   | 46    | 28    | 29    | 22    | 11    | 6.5   | 3.5  | 4.4   |
| MIN   | 1.4   | 1.2   | 2.8   | 2.1   | 10    | 9.6   | 13    | 9.6   | 2.9   | 2.4   | 0.4  | 0.7   |

CALENDAR YEAR 1962: MAX 1,020 MIN 0.6 MEAN 27.3 AC-FT 19,740  
WATER YEAR 1962-63: MAX 46 MIN 0.4 MEAN 7.88 AC-FT 5,710

Peak discharge (base, 40 cfs).--Feb. 10 (2245 hrs) 97 cfs (2.53 ft).

Note.--No gage-height record June 18-24.

## SANTA ROSA CREEK BASIN

249

11-1422. Santa Rosa Creek near Cambria, Calif.

Location.--Lat 35°34'35", long 120°59'50", in NE¼ sec.21, T.27 S., R.9 E., on left bank 4.8 miles east of Cambria.

Drainage area.--12.5 sq mi.

Records available.--August 1957 to September 1963.

Gage.--Water-stage recorder (digital). Datum of gage is 264.03 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

Average discharge.--6 years, 10.2 cfs (8,690 acre-ft per year).

Extremes.--Maximum discharge during year, 1,520 cfs Mar. 27 (gage height, 7.05 ft); no flow Oct. 1-13, Nov. 19.

1957-63: Maximum discharge, 2,520 cfs Feb. 1, 1960 (gage height, 10.36 ft), from rating curve extended above 390 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.  
Flood of December 1955 reached a stage of 15.2 ft (from floodmarks).

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0    | 0.2   | 0.2   | 0.7   | 518   | 12    | 24    | 24    | 5.1   | 3.8  | 1.3  | 0.7   |
| 2     | 0    | 0.2   | 0.2   | 0.7   | 64    | 11    | *23   | 22    | 4.9   | 3.9  | 1.3  | 0.7   |
| 3     | 0    | 0.2   | 0.2   | 0.7   | 36    | 9.9   | 22    | 21    | 4.4   | 4.0  | 1.3  | 0.7   |
| 4     | 0    | 0.2   | 0.1   | 0.7   | 25    | 9.1   | 21    | 20    | 4.2   | 4.1  | 1.3  | 0.7   |
| 5     | 0    | 0.2   | 0.1   | 0.7   | 19    | 8.6   | 20    | 19    | 4.1   | 4.0  | 1.2  | 0.9   |
| 6     | 0    | 0.1   | 0.1   | 0.6   | *17   | 8.2   | 20    | 18    | 4.2   | 4.1  | 1.2  | 0.8   |
| 7     | 0    | 0.2   | 0.1   | 0.6   | 14    | 7.8   | 75    | 17    | 3.9   | 4.3  | 1.4  | 0.7   |
| 8     | 0    | 0.2   | 0.2   | 0.6   | 13    | 7.4   | 38    | 18    | 3.9   | 4.3  | 1.5  | 0.7   |
| 9     | 0    | 0.2   | 0.2   | 0.6   | a180  | 7.1   | 31    | 17    | 3.8   | 4.0  | 1.3  | 0.6   |
| 10    | 0    | 0.2   | 0.2   | 0.6   | a300  | 6.7   | 27    | 14    | 4.3   | 3.8  | 1.2  | 0.6   |
| 11    | 0    | 0.1   | 0.2   | 0.6   | a150  | 6.4   | 25    | 13    | 3.9   | 4.0  | 1.2  | 0.4   |
| 12    | a0   | 0.1   | 0.2   | 0.6   | a80   | *6.0  | 23    | 13    | 4.0   | 4.0  | 1.3  | 0.5   |
| 13    | a0   | 0.2   | 0.2   | 0.6   | a260  | 5.6   | 22    | 12    | 3.9   | 3.8  | 1.1  | 0.3   |
| 14    | a25  | 0.1   | 0.3   | 0.6   | a100  | 5.1   | 176   | 12    | 4.1   | 3.3  | 1.0  | 0.2   |
| 15    | a5.0 | 0.1   | 0.6   | 0.6   | a70   | 5.3   | 75    | 11    | 4.3   | 3.0  | 0.9  | 0.2   |
| 16    | a1.2 | 0.1   | 83    | 0.6   | a55   | 58    | *46   | 11    | 4.7   | 2.7  | 0.9  | *3    |
| 17    | a.8  | 0.1   | 9.9   | 0.6   | a44   | 22    | 38    | 10    | 4.8   | 2.4  | 1.1  | 0.5   |
| 18    | *5   | 0.1   | 3.1   | 0.6   | a35   | 12    | 33    | 10    | 5.3   | 2.3  | 1.0  | 0.5   |
| 19    | 0.4  | *0    | 1.7   | 0.6   | 30    | 9.0   | 49    | 10    | 5.1   | 2.2  | *.9  | 0.6   |
| 20    | 0.4  | 0.1   | 1.2   | 0.5   | 27    | 7.6   | 53    | 9.8   | 5.1   | 2.1  | 0.7  | 0.6   |
| 21    | 0.4  | 0.1   | 0.9   | 0.5   | 24    | 6.6   | 42    | *8.9  | 4.7   | 1.9  | 0.8  | 0.5   |
| 22    | 0.4  | 0.1   | 0.8   | 0.5   | 22    | 10    | 32    | 9.5   | 4.4   | 1.8  | 1.0  | 0.5   |
| 23    | 0.4  | 0.1   | 0.7   | *.5   | 20    | 32    | 29    | 9.4   | 4.1   | 1.7  | 1.1  | 0.5   |
| 24    | 0.4  | 0.1   | 0.7   | 0.5   | 19    | 16    | 26    | 8.5   | 4.0   | 1.6  | 1.0  | 0.5   |
| 25    | 0.3  | 0.1   | 0.7   | 0.5   | 17    | 11    | 49    | 8.1   | 3.5   | *1.6 | 0.9  | 0.4   |
| 26    | 0.3  | 0.1   | *.8   | 0.5   | 15    | 9.4   | 67    | 7.4   | *3.6  | 1.5  | 0.8  | 0.4   |
| 27    | 0.3  | 0.2   | 0.8   | 0.5   | 14    | 137   | 35    | 7.4   | 3.4   | 1.5  | 0.7  | 0.4   |
| 28    | 0.3  | 0.1   | 0.8   | 0.5   | 13    | 246   | 31    | 6.9   | 3.4   | 1.5  | 0.7  | 0.4   |
| 29    | 0.3  | 0.1   | 0.8   | 0.6   | ----- | 47    | 28    | 6.6   | 3.6   | 1.5  | 0.7  | 0.4   |
| 30    | 0.2  | 0.1   | 0.7   | 132   | ----- | 34    | 26    | 5.8   | 3.7   | 1.4  | 0.7  | 0.3   |
| 31    | 0.2  | ----- | 0.7   | 498   | ----- | 28    | ----- | 5.7   | ----- | 1.3  | 0.8  | ----- |
| Total | 36.8 | 4.0   | 110.4 | 647.0 | 2,181 | 801.8 | 1,206 | 386.0 | 126.4 | 87.4 | 32.3 | 15.5  |
| Mean  | 1.19 | 0.13  | 3.56  | 20.9  | 77.9  | 25.9  | 40.2  | 12.5  | 4.21  | 2.82 | 1.04 | 0.52  |
| Max   | 25   | 0.2   | 83    | 498   | 518   | 246   | 176   | 24    | 5.3   | 4.3  | 1.5  | 0.9   |
| Min   | 0    | 0     | 0.1   | 0.5   | 13    | 5.1   | 20    | 5.7   | 3.4   | 1.3  | 0.7  | 0.2   |
| Ac-ft | 73   | 7.9   | 219   | 1,280 | 4,330 | 1,590 | 2,390 | 766   | 251   | 173  | 64   | 31    |

Calendar year 1962: Max 698 Min 0 Mean 14.9 Ac-ft 10,780

Water year 1962-63: Max 518 Min 0 Mean 15.4 Ac-ft 11,180

Peak discharge (base, 300 cfs)

| Date | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|---------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 0900    | 6.73        | 1,330     | 3-27 | 2315 | 7.05        | 1,520     |
| 2-9  | unknown | -           | unknown   | 4-14 | 0730 | 5.39        | 676       |
| 2-13 | unknown | -           | unknown   |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## ARROYO DE LA CRUZ BASIN

11-1425. Arroyo de la Cruz near San Simeon, Calif.

Location.--Lat 35°43'25", long 121°17'00", in Piedra Blanca Grant, on right bank 1.7 miles upstream from mouth and 7 miles northwest of town of San Simeon, San Luis Obispo County.

Drainage area.--41.4 sq mi.

Records available.--October 1950 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 22 ft (from topographic map).

Average discharge.--13 years, 53.3 cfs (38,590 acre-ft per year); median of yearly mean discharges, 40 cfs (29,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,700 cfs Jan. 31 (gage height, 11.41 ft); no flow for several months.  
1950-63: Maximum discharge, 17,700 cfs Dec. 23, 1955 (gage height, 12.40 ft), from rating curve extended above 7,600 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records fair. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.    | JAN.    | FEB.   | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|---------|---------|--------|-------|-------|-------|-------|------|------|-------|
| 1     | 0     | 0.5   | 0       | 5.6     | 4,220  | 48    | 84    | 68    | 21    | 4.3  | 0.6  |       |
| 2     | 0     | .3    | 0       | 5.3     | 710    | 44    | 70    | 61    | 20    | 4.1  | .5   |       |
| 3     | 0     | 0     | 0       | 4.7     | 343    | 43    | 61    | 56    | 18    | 3.6  | .5   |       |
| 4     | 0     | 0     | 0       | 4.4     | 214    | 39    | 56    | 52    | 18    | 3.4  | .4   |       |
| 5     | 0     | 0     | 0       | 3.9     | 153    | 36    | 50    | 50    | 18    | 3.1  | .4   |       |
| 6     | 0     | 0     | 0       | 3.3     | *118   | 34    | 48    | 46    | 18    | 2.9  | .4   |       |
| 7     | 0     | 0     | 0       | 3.1     | 96     | 36    | 342   | 43    | 18    | 2.8  | .4   |       |
| 8     | 0     | 0     | 0       | 3.1     | 84     | 32    | 168   | 42    | 17    | 2.6  | .4   |       |
| 9     | 0     | 0     | 0       | 3.1     | 770    | 32    | 124   | 42    | 17    | 2.5  | .4   |       |
| 10    | 0     | 0     | 0       | 2.9     | 1,070  | 31    | 104   | 38    | 17    | 2.3  | .4   |       |
| 11    | 0     | 0     | 0       | 2.8     | 457    | 28    | 88    | 37    | 17    | 2.2  | .3   |       |
| 12    | 0     | 0     | 0       | 2.2     | 283    | 27    | 77    | 37    | 15    | 2.0  | .3   |       |
| 13    | 68    | 0     | 0       | 2.1     | 912    | 24    | 67    | 34    | 15    | 2.0  | .4   |       |
| 14    | 390   | 0     | 0       | 1.9     | 458    | 23    | 789   | 32    | 13    | 2.0  | .3   |       |
| 15    | 47    | 0     | 0       | 1.9     | 290    | 24    | 430   | 32    | 13    | 1.9  | .3   |       |
| 16    | 20    | 0     | 1,560   | 1.9     | 221    | 242   | *212  | 29    | 12    | 1.7  | .3   |       |
| 17    | 12    | 0     | 306     | 1.9     | 180    | 129   | 160   | 28    | 11    | 1.6  | .3   |       |
| 18    | *7.8  | 0     | 110     | 1.9     | 146    | 79    | 128   | 28    | 10    | 1.4  | .2   |       |
| 19    | 6.6   | *0    | 59      | 1.7     | 124    | 54    | 265   | 27    | 9.9   | 1.3  | *.2  |       |
| 20    | 5.4   | 0     | 37      | 1.6     | 112    | 44    | 196   | *27   | 9.9   | 1.2  | .1   |       |
| 21    | 4.3   | 0     | 28      | 1.6     | 94     | 38    | 180   | 26    | 8.6   | 1.2  | .1   |       |
| 22    | 3.8   | 0     | 22      | *1.6    | 85     | 70    | 128   | 25    | 7.9   | 1.1  | 0    |       |
| 23    | 2.8   | 0     | 18      | 1.5     | 77     | 225   | 110   | 25    | 7.6   | 1.0  | 0    |       |
| 24    | 2.3   | 0     | 15      | 1.5     | 70     | 103   | 97    | 25    | 6.9   | *.9  | 0    |       |
| 25    | 1.8   | 0     | 12      | 1.5     | 64     | 68    | 152   | 25    | *6.6  | .9   | 0    |       |
| 26    | 1.4   | 0     | *9.7    | 1.4     | 59     | 56    | 183   | 23    | 6.2   | .8   | 0    |       |
| 27    | 1.4   | *0    | 8.9     | 1.4     | 55     | 260   | 114   | 23    | 5.5   | .8   | 0    |       |
| 28    | 1.4   | 0     | 7.6     | 1.4     | 50     | 805   | 94    | 23    | 5.2   | .8   | 0    |       |
| 29    | 1.1   | 0     | 7.2     | 2.2     | -----  | 200   | 84    | 22    | 5.0   | .8   | 0    |       |
| 30    | 1.1   | 0     | 6.4     | 2,670   | -----  | 132   | 74    | 21    | 4.5   | .7   | 0    |       |
| 31    | .8    | ----- | 5.8     | 6,870   | -----  | 103   | ----- | 21    | ----- | .7   | 0    | ----- |
| TOTAL | 579.0 | 0.8   | 2,212.6 | 9,613.4 | 11,515 | 3,109 | 4,735 | 1,068 | 371.8 | 58.6 | 7.2  | 0     |
| MEAN  | 18.7  | 0.03  | 71.4    | 310     | 411    | 100   | 158   | 34.5  | 12.4  | 1.89 | 0.23 | 0     |
| MAX   | 390   | 0.5   | 1,560   | 6,870   | 4,220  | 805   | 789   | 68    | 21    | 4.3  | 0.6  | 0     |
| MIN   | 0     | 0     | 0       | 1.4     | 50     | 23    | 48    | 21    | 4.5   | 0.7  | 0    | 0     |
| AC-FT | 1,150 | 1.6   | 4,390   | 19,070  | 22,840 | 6,170 | 9,390 | 2,120 | 737   | 116  | 14   | 0     |

Calendar year 1962: Max 3,770 Min 0 Mean 82.8 Ac-ft 59,910  
Water year 1962-63: Max 6,870 Min 0 Mean 91.2 Ac-ft 66,000

## Peak discharge (base, 1,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-14 | 0100 | 5.52        | 1,250     | 2-13 | 1400 | 5.90        | 1,800     |
| 12-16 | 0900 | 6.65        | 2,620     | 3-16 | 1500 | 5.14        | 1,130     |
| 1-31  | 1000 | 11.41       | 13,700    | 3-27 | 2300 | 6.30        | 2,200     |
| 2- 9  | 1900 | 6.23        | 2,130     | 4-14 | 0700 | 6.46        | 2,390     |

\* Discharge measurement or observation of no flow made on this day.



11-1428, Rat Creek near Lucia, Calif.

Location.--Lat 36°05'32", Long 121°37'03", in SW 1/4 sec.22, T.21 S., R.3 E., on left bank at culvert on State Highway 1 and 6.2 miles northwest of Lucia.

Drainage area.--0.82 sq mi.

Records available.--October 1960 to September 1963, discontinued as a continuous-record station; converted to crest-stage partial-record station.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 190 ft (from topographic map).

Extremes.--Maximum discharge during year, 18 cfs Jan. 31 (gage height, 1.89 ft), from rating curve extended above 2 cfs on basis of computation of flow through culvert at gage height 2.16 ft; maximum gage height, 2.16 ft Jan. 31 (log jam); no flow for many days. 1960-63: Maximum discharge, that of Jan. 31, 1963; no flow for many days in each year.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|-------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0    |       | 0    | 0     | 11    | 0.2  | 0.8   | 1.3  | 0.2   | 0.2  | 0.1  |       |
| 2     | 0    |       | 0    | 0     | 4.5   | .2   | .6    | 1.2  | .2    | .2   | .1   |       |
| 3     | 0    |       | 0    | 0     | e 3.5 | .2   | .5    | 1.1  | .2    | .2   | .1   |       |
| 4     | 0    |       | 0    | 0     | e 2.4 | .2   | .4    | 1.0  | .2    | .2   | .1   |       |
| 5     | 0    |       | 0    | 0     | e 1.6 | .2   | .3    | .9   | .2    | .2   | .1   |       |
| 6     | 0    |       | 0    | 0     | e 1.3 | .2   | .5    | .9   | .2    | .2   | .1   |       |
| 7     | 0    |       | 0    | 0     | e 1.2 | .2   | .9    | .8   | .2    | .2   | .1   |       |
| 8     | 0    |       | 0    | 0     | e 1.1 | .2   | .7    | .9   | .2    | .2   | .1   |       |
| 9     | 0    |       | 0    | 0     | e 1.8 | .2   | .7    | .8   | .2    | .1   | .2   |       |
| 10    | 0    |       | 0    | 0     | e 3.0 | .3   | .7    | .8   | .2    | .1   | .1   |       |
| 11    | .1   |       | 0    | 0     | e 2.5 | *.3  | .5    | .7   | .3    | .1   | .2   |       |
| 12    | .1   |       | 0    | 0     | e 2.0 | .3   | .5    | .6   | .3    | .1   | .2   |       |
| 13    | .5   |       | 0    | 0     | 2.3   | .2   | .4    | .5   | .3    | .1   | *.2  |       |
| 14    | .1   |       | 0    | 0     | 2.1   | .2   | .9    | .5   | .3    | .1   |      |       |
| 15    | 0    |       | .3   | 0     | 1.9   | .2   | *.9   | .4   | .3    | .1   |      | 0.1   |
| 16    | * 0  |       | .7   | 0     | 1.7   | .8   | 1.0   | .5   | .3    | .1   |      |       |
| 17    | 0    |       | .6   | 0     | 1.5   | .4   | 1.1   | .4   | .3    | .1   |      |       |
| 18    | 0    |       | .3   | 0     | * 1.3 | .2   | 1.0   | .4   | .3    | .1   |      |       |
| 19    | 0    | (*)   | .3   | 0     | 1.1   | .2   | 1.0   | .4   | .3    | .1   |      |       |
| 20    | 0    |       | .2   | 0     | .9    | .2   | 1.0   | *.4  | .3    | .1   |      |       |
| 21    | 0    |       | .2   | 0     | .9    | .2   | 1.0   | .4   | .3    | .1   |      |       |
| 22    | 0    |       | .1   | * 0   | .7    | .2   | .9    | .4   | .3    | .1   |      |       |
| 23    | 0    |       | .1   | 0     | .6    | .3   | 1.0   | .4   | .3    | .1   | .2   |       |
| 24    | 0    |       | 0    | 0     | .5    | .3   | 1.0   | .3   | .3    | *.1  |      |       |
| 25    | 0    |       | 0    | 0     | .4    | .3   | 1.2   | .3   | *.3   | .1   |      |       |
| 26    | 0    |       | * 0  | 0     | .3    | .3   | 1.9   | .3   | .2    | .1   |      |       |
| 27    | 0    |       | 0    | 0     | .2    | .7   | 1.9   | .3   | .3    | .1   |      |       |
| 28    | 0    |       | 0    | 0     | .2    | 2.2  | 1.8   | .2   | .2    | .1   |      |       |
| 29    | 0    |       | 0    | 0     | ----- | 1.7  | 1.6   | .3   | .2    | .1   |      |       |
| 30    | 0    |       | 0    | 4.7   | ----- | 1.2  | 1.5   | .2   | .2    | .1   |      |       |
| 31    | 0    | ----- | 0    | * 1.3 | ----- | .9   | ----- | .2   | ----- | .1   |      |       |
| Total | 0.8  | 0     | 2.8  | 17.7  | 52.5  | 13.4 | 28.2  | 17.8 | 7.6   | 3.8  | 5.3  | 3.0   |
| Mean  | 0.03 | 0     | 0.09 | 0.57  | 1.88  | 0.43 | 0.94  | 0.57 | 0.25  | 0.12 | 0.17 | 0.1   |
| Max   | 0.5  | 0     | 0.7  | 13    | 11    | 2.2  | 1.9   | 1.3  | 0.3   | 0.2  | -    | -     |
| Min   | 0    | 0     | 0    | 0     | 0.2   | 0.2  | 0.3   | 0.2  | 0.2   | 0.1  | -    | -     |
| Ac-ft | 1.6  | 0     | 5.6  | 35    | 104   | 27   | 56    | 35   | 15    | 7.5  | 11   | 6.0   |
| (†)   | 4.7  | 0     | 4.9  | 12.6  | 5.0   | 6.4  | 6.7   | 0.7  | 0.1   | 0    | 0    | 0     |

Calendar year 1962: Max 9.0 Min 0 Mean 0.29 Ac-ft 212

Water-year 1962-63: Max 13 Min 0 Mean 0.42 Ac-ft 304

Peak discharge (base, 15 cfs).--Jan. 31 (1145) 18 cfs (1.89 ft).

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

† Precipitation, in inches.

e Stage-discharge relation indefinite.

Note.--No gage-height record Nov. 19 to Dec. 23, Feb. 13-17, Aug. 14 to Sept. 30.

## BIG SUR RIVER BASIN

11-1430. Big Sur River near Big Sur, Calif.

Location.--Lat 36°14'45", long 121°46'20", in SW 1/4 sec. 29, T.19 S., R.2 E., on right bank at downstream side of bridge, 0.4 mile upstream from Post Creek and 2.6 miles southeast of Big Sur.

Drainage area.--46.5 sq mi.

Records available.--March 1950 to September 1963. Prior to October 1959, published as Sur River at Big Sur.

Gage.--Water-stage recorder. Altitude of gage is 400 ft (from topographic map). Prior to Oct. 1, 1951, wire-weight gage at site 0.9 mile downstream at different datum.

Average discharge.--13 years, 92.6 cfs (67,040 acre-ft per year); median of yearly mean discharges, 71 cfs (51,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,400 cfs Feb. 1 (gage height, 11.23 ft), from rating curve extended above 1,400 cfs as explained below; minimum, 14 cfs Oct. 1-9.

1950-63: Maximum discharge, 5,680 cfs Apr. 2, 1958 (gage height, 11.56 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement at gage height 11.05 ft; minimum, 3.7 cfs Oct. 7, 1961.

Remarks.--Records fair. No regulation or diversion above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 10-21, Sept. 3-30)

| Oct. 1 to Jan. 31 |     |      |       | Feb. 1 to Sept. 30 |     |     |       |
|-------------------|-----|------|-------|--------------------|-----|-----|-------|
| 2.4               | 9.0 | 4.5  | 380   | 2.6                | 16  | 5.0 | 560   |
| 2.7               | 31  | 5.0  | 590   | 3.0                | 46  | 6.0 | 1,140 |
| 3.0               | 61  | 6.0  | 1,080 | 3.5                | 107 | 8.0 | 2,600 |
| 3.5               | 128 | 8.0  | 2,500 | 4.0                | 202 | 9.0 | 3,400 |
| 4.0               | 230 | 10.0 | 4,240 | 4.5                | 350 |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.   | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|-------|-------|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 14    | 29    | 21    | 31     | 3,250  | 132    | 242    | 270   | 95    | a55   | 35    | 22    |
| 2     | 14    | 29    | 21    | 30     | 1,360  | 129    | 220    | 252   | 93    | a54   | 34    | 22    |
| 3     | 14    | 29    | 21    | 29     | 822    | 125    | 197    | 239   | 90    | a52   | 34    | 21    |
| 4     | 14    | 28    | 21    | 29     | 570    | 119    | 183    | 228   | 89    | a51   | 33    | 21    |
| 5     | 14    | 27    | 21    | 29     | 438    | 118    | 172    | 215   | 88    | a50   | 32    | 22    |
| 6     | 14    | 27    | 21    | 27     | 347    | 113    | 220    | 205   | 86    | a50   | 31    | 22    |
| 7     | 14    | 26    | 21    | 26     | 297    | 112    | 393    | 195   | 84    | a50   | 31    | 22    |
| 8     | 14    | 25    | 21    | 26     | 261    | 110    | 279    | 188   | 81    | a50   | 32    | 22    |
| 9     | 14    | 25    | 21    | 26     | 417    | 107    | 264    | 180   | 79    | a49   | 31    | 22    |
| 10    | 15    | 25    | 20    | 26     | 763    | 106    | 282    | 178   | 79    | a48   | 31    | 22    |
| 11    | 53    | 25    | 20    | 25     | 615    | *102   | 270    | 170   | 79    | a48   | 30    | 21    |
| 12    | 221   | 25    | 20    | 25     | 493    | 99     | 255    | 162   | 77    | a46   | 29    | 21    |
| 13    | 676   | 25    | 21    | 25     | 585    | 95     | 236    | 156   | 76    | a45   | 29    | 22    |
| 14    | 596   | 25    | 21    | 25     | 529    | 97     | 828    | 150   | 73    | a43   | 28    | 22    |
| 15    | 175   | 25    | 78    | 24     | *454   | 97     | *1,120 | 147   | 70    | a42   | 27    | 21    |
| 16    | *113  | 24    | 196   | 24     | 394    | 195    | 822    | 141   | 68    | a42   | 27    | *21   |
| 17    | 89    | 24    | 164   | 23     | 343    | 139    | 645    | 137   | 67    | a42   | 27    | 22    |
| 18    | 74    | 24    | 102   | 22     | 303    | 119    | 551    | 134   | 57    | a43   | 25    | 22    |
| 19    | 63    | *23   | 80    | 22     | 270    | 112    | 533    | 131   | 65    | a43   | *24   | 23    |
| 20    | 58    | 22    | 66    | 22     | 247    | 104    | 515    | *129  | 63    | a43   | 24    | 22    |
| 21    | 52    | 22    | 59    | 21     | 220    | 103    | 502    | 125   | 61    | a42   | 26    | 22    |
| 22    | 48    | 22    | 52    | *21    | 202    | 145    | 462    | 124   | 61    | a41   | 26    | 21    |
| 23    | 44    | 21    | 49    | 21     | 188    | 271    | 422    | 122   | 61    | a40   | 27    | 22    |
| 24    | 42    | 22    | 44    | 21     | 172    | 207    | 390    | 118   | *59   | *40   | 27    | 21    |
| 25    | 40    | 23    | 42    | 21     | 164    | 176    | 398    | 115   | 57    | 40    | 26    | 20    |
| 26    | 38    | 23    | *39   | 21     | 152    | 160    | 402    | 112   | 56    | 38    | 24    | 20    |
| 27    | 37    | 25    | 38    | 21     | 147    | 243    | 358    | 109   | 57    | 38    | 24    | 19    |
| 28    | 35    | 24    | 36    | 21     | 141    | 542    | 333    | 107   | 58    | 38    | 24    | 18    |
| 29    | 33    | 21    | 35    | 29     | -----  | 390    | 309    | 104   | 57    | 37    | 23    | 18    |
| 30    | 33    | 21    | 34    | 1,240  | -----  | 315    | 291    | 102   | 56    | 36    | 22    | 18    |
| 31    | 31    | ----- | 33    | 3,830  | -----  | 276    | -----  | 98    | ----- | 36    | 22    | ----- |
| TOTAL | 2,692 | 736   | 1,438 | 5,783  | 14,144 | 5,158  | 12,094 | 4,843 | 2,152 | 1,372 | 865   | 634   |
| MEAN  | 86.8  | 24.5  | 46.4  | 187    | 505    | 166    | 403    | 156   | 71.7  | 44.3  | 27.9  | 21.1  |
| MAX   | 676   | 29    | 196   | 3,830  | 3,250  | 542    | 1,120  | 270   | 95    | 55    | 35    | 23    |
| MIN   | 14    | 21    | 20    | 21     | 141    | 95     | 172    | 98    | 56    | 36    | 22    | 18    |
| AC-FT | 5,340 | 1,460 | 2,850 | 11,470 | 28,050 | 10,230 | 23,990 | 9,610 | 4,270 | 2,720 | 1,720 | 1,260 |

CALENDAR YEAR 1962: MAX 2,190 MIN 9.6 MEAN 87.6 AC-FT 63,430

WATER YEAR 1962-63: MAX 3,830 MIN 14 MEAN 142 AC-FT 103,000

Peak discharge (base, 700 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 2100 | 7.43        | 2,040     | 2-10 | 1030 | 5.68        | 918       |
| 2-1   | 0100 | 11.23       | 5,400     | 4-14 | 2300 | 6.30        | 1,340     |

\* Discharge measurement made on this day.  
a No gage-height record.

11-1432. Carmel River at Robles del Rio, Calif.

Location.--Lat 36°28'28", long 121°43'40", in Los Laureles Grant, on downstream side of county road bridge at Robles del Rio, Monterey County, 0.2 mile downstream from Hitchcock Canyon and 11 miles southeast of town of Carmel.

Drainage area.--193 sq mi.

Records available.--August 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 270 ft (from topographic map).

Average discharge.--6 years, 71.7 cfs (51,910 acre-ft per year).

Extremes.--Maximum discharge during year, 4,950 cfs Jan. 31 (gage height, 9.60 ft); no flow Oct. 1-13, Aug. 29 to Sept. 24.

1957-63: Maximum discharge, 7,100 cfs Apr. 2, 1958 (gage height, 10.50 ft); no flow at times each year.

Flood of Dec. 23, 1955, reached a stage of 11.7 ft, from floodmarks (discharge, 6,930 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records fair. Flow regulated by Los Padres Reservoir (capacity, 3,000 acre-ft) and San Clemente Reservoir (capacity, 1,600 acre-ft).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 5 to July 12, July 15-17)

Oct. 1 to Feb. 10

Feb. 11 to Sept. 30

|     |     |     |     |     |       |     |     |     |       |
|-----|-----|-----|-----|-----|-------|-----|-----|-----|-------|
| 2.4 | 0   | 3.0 | 8.8 | 5.0 | 405   | 1.8 | 0   | 2.6 | 34    |
| 2.5 | .1  | 3.2 | 18  | 6.0 | 850   | 1.9 | .1  | 3.0 | 82    |
| 2.6 | .5  | 3.4 | 34  | 7.0 | 1,540 | 2.0 | .7  | 3.5 | 150   |
| 2.7 | 1.3 | 3.7 | 70  | 8.0 | 2,550 | 2.1 | 2.3 | 4.0 | 233   |
| 2.8 | 3.1 | 4.0 | 122 | 9.0 | 3,950 | 2.2 | 5.4 | 5.0 | 470   |
| 2.9 | 5.6 | 4.5 | 245 |     |       | 2.3 | 10  | 6.3 | 1,020 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.    | Feb.   | Mar.  | Apr.   | May   | June  | July  | Aug. | Sept. |
|-------|-------|-------|-------|---------|--------|-------|--------|-------|-------|-------|------|-------|
| 1     | 0     | 3.3   | 1.8   | 12      | 2,900  | 131   | a 270  | 272   | 77    | 24    | 1.0  | 0     |
| 2     | 0     | 3.6   | 1.6   | 11      | *1,110 | 122   | a 240  | 258   | 70    | 24    | .8   | 0     |
| 3     | 0     | 3.6   | 1.0   | 10      | 660    | 120   | a 210  | 243   | 65    | 19    | .8   | 0     |
| 4     | 0     | 3.8   | 6.4   | 11      | *437   | 112   | a 190  | 229   | 82    | 14    | .8   | 0     |
| 5     | 0     | 3.8   | 5.1   | 8.8     | 299    | 105   | a 180  | 211   | 78    | 14    | .7   | 0     |
| 6     | 0     | 3.6   | 5.6   | 7.0     | 210    | 103   | a 190  | 206   | 13    | 13    | .7   | 0     |
| 7     | 0     | 3.6   | 5.6   | 7.0     | 158    | 99    | a 270  | 199   | 13    | 12    | .7   | 0     |
| 8     | 0     | 2.7   | 5.9   | 6.4     | 139    | 96    | a 250  | 194   | 13    | 12    | .7   | 0     |
| 9     | 0     | 3.6   | 6.4   | 7.7     | 220    | 94    | 244    | 185   | 13    | 12    | .7   | 0     |
| 10    | 0     | 2.7   | 6.1   | 6.7     | 717    | 90    | 246    | 174   | 12    | 13    | .6   | 0     |
| 11    | 0     | 2.9   | 6.1   | 5.6     | 666    | 86    | 237    | 176   | 12    | 12    | .6   | 0     |
| 12    | 0     | 2.1   | 6.4   | 4.6     | 521    | *81   | 224    | 164   | 16    | 10    | .6   | 0     |
| 13    | 0     | 1.9   | 6.1   | 4.6     | 539    | 74    | 206    | 155   | 26    | 4.6   | .5   | 0     |
| 14    | 19    | 1.9   | 6.1   | 4.1     | 497    | 73    | 614    | 147   | 27    | 6.8   | .5   | 0     |
| 15    | 24    | 1.9   | 7.0   | 5.4     | 433    | 90    | 994    | 138   | 26    | 8.6   | .4   | 0     |
| 16    | 11    | 1.8   | 16    | 4.6     | 388    | 176   | *730   | 132   | 26    | 8.2   | .4   | 0     |
| 17    | 7.0   | 1.8   | 22    | 4.6     | 353    | 153   | 610    | 125   | 20    | 6.8   | .3   | 0     |
| 18    | 6.7   | 1.9   | 17    | 4.1     | 308    | 117   | 528    | 120   | 13    | 6.3   | .3   | 0     |
| 19    | 4.3   | 2.1   | 13    | 4.1     | 274    | 104   | 511    | 115   | 16    | 5.9   | .3   | 0     |
| 20    | 3.6   | 1.8   | 10    | 3.3     | a 243  | 100   | 494    | 109   | 23    | 5.0   | .3   | * 0   |
| 21    | 6.4   | 1.6   | 9.2   | 3.3     | a 230  | 96    | 494    | 108   | 23    | 5.0   | .3   | 0     |
| 22    | 4.1   | 1.4   | 8.0   | 2.9     | a 210  | 111   | 452    | 105   | 23    | 5.0   | .2   | 0     |
| 23    | 4.1   | *1.3  | 8.0   | 3.1     | a 200  | 228   | 420    | *103  | 27    | 4.6   | .2   | 0     |
| 24    | 4.6   | 2.7   | 7.4   | *2.9    | a 180  | 206   | 393    | 103   | 25    | 4.6   | .2   | 0     |
| 25    | *4.1  | 2.1   | 6.7   | 2.7     | *167   | 176   | 383    | 99    | 19    | 4.6   | .2   | 11    |
| 26    | 5.1   | 1.9   | 7.0   | 2.7     | 155    | 158   | 398    | 98    | 14    | *3.7  | *.2  | 16    |
| 27    | 4.8   | 3.9   | 6.7   | 2.7     | 150    | 193   | 363    | 92    | *23   | 1.9   | .1   | 19    |
| 28    | 4.1   | 3.3   | *7.0  | 2.7     | 138    | 564   | 328    | 89    | 23    | 1.4   | .1   | 16    |
| 29    | 3.8   | 2.5   | 11    | 2.7     | -----  | 413   | 308    | 89    | 25    | 1.2   | 0    | 5.9   |
| 30    | 3.6   | 1.8   | 12    | 922     | -----  | 338   | 286    | 85    | 25    | 1.2   | 0    | 2.1   |
| 31    | 3.6   | ----- | 12    | *3,670  | -----  | 294   | -----  | 79    | ----- | 1.1   | 0    | ----- |
| Total | 123.9 | 76.9  | 250.2 | 4,750.3 | 12,502 | 4,903 | 11,263 | 4,602 | 868   | 265.5 | 13.2 | 70.0  |
| Mean  | 4.00  | 2.56  | 8.07  | 153     | 446    | 158   | 375    | 148   | 28.9  | 8.56  | 0.43 | 2.33  |
| Max   | 24    | 3.9   | 22    | 3,670   | 2,900  | 564   | 994    | 272   | 82    | 24    | 1.0  | 19    |
| Min   | 0     | 1.3   | 1.0   | 2.7     | 138    | 73    | 180    | 79    | 12    | 1.1   | 0    | 0     |
| Ac-ft | 246   | 153   | 496   | 9,420   | 24,800 | 9,720 | 22,340 | 9,130 | 1,720 | 527   | 26   | 139   |

Calendar year 1962: Max 1,820 Min 0 Mean 59.8 Ac-ft 43,290  
Water year 1962-63: Max 3,670 Min 0 Mean 109 Ac-ft 78,720

Peak discharge (base, 1,000 cfs).--Jan. 31 (1600) 4,950 cfs (9.60 ft); Apr. 15 (0500) 1,120 cfs (6.46 ft).

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record.

## CARMEL RIVER BASIN

11-1432.5. Carmel River near Carmel, Calif.

Location---Lat 36°32'20", long 121°52'25", in Canada de la Segunda Grant, on right bank 0.3 mile downstream from Potrero Canyon and 3 miles east of Carmel.

Drainage area---246 sq mi.

Records available---August 1962 to September 1963.

Gage---Water-stage recorder. Altitude of gage is 45 ft (from topographic map).

Extremes---1962: Maximum daily discharge during period August to September, 0.5 cfs Aug. 5-14; minimum, 0.1 cfs Sept. 30.  
1962-63: Maximum discharge during water year, 7,360 cfs Jan. 31 (gage height, 14.72 ft); no flow Oct. 6-10.

Remarks---Records poor. Flow regulated by Los Padres Reservoir (capacity, 3,000 acre-ft) and San Clemente Reservoir (capacity, 1,600 acre-ft).

## Discharge, in cubic feet per second, 1962

| Day        | Aug. | Sept. | Day | Aug. | Sept. | Day | Aug. | Sept. | Day | Aug. | Sept. | Day | Aug. | Sept. |
|------------|------|-------|-----|------|-------|-----|------|-------|-----|------|-------|-----|------|-------|
| 1          | 0.4  | 0.3   | 7   | 0.5  | 0.4   | 13  | 0.5  | 0.3   | 19  | 0.3  | 0.2   | 25  | 0.2  | 0.2   |
| 2          | .4   | .3    | 8   | .5   | .4    | 14  | *.5  | .3    | 20  | .4   | .2    | 26  | .3   | .2    |
| 3          | .4   | .3    | 9   | .5   | .4    | 15  | .4   | .3    | 21  | .4   | .2    | 27  | .4   | .2    |
| 4          | *.4  | .3    | 10  | .5   | .4    | 16  | .4   | .2    | 22  | .3   | .2    | 28  | .3   | .2    |
| 5          | .5   | .4    | 11  | .5   | .4    | 17  | .3   | .2    | 23  | .2   | .2    | 29  | .2   | .2    |
| 6          | .5   | .4    | 12  | .5   | .4    | 18  | .2   | *.2   | 24  | .2   | .2    | 30  | .2   | .1    |
|            |      |       |     |      |       |     |      |       |     |      |       | 31  | .3   |       |
| Total..... |      |       |     |      |       |     |      |       |     |      |       |     | 11.6 | 8.2   |
| Mean.....  |      |       |     |      |       |     |      |       |     |      |       |     | 0.37 | 0.27  |
| Max.....   |      |       |     |      |       |     |      |       |     |      |       |     | 0.5  | 0.4   |
| Min.....   |      |       |     |      |       |     |      |       |     |      |       |     | 0.2  | 0.1   |
| Ac-ft..... |      |       |     |      |       |     |      |       |     |      |       |     | 23   | 16    |

\* Discharge measurement made on this day.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.    | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|------|-------|------|---------|--------|--------|--------|-------|-------|-------|------|-------|
| 1     | 0.1  | 0.3   | 0.6  | 0.6     | 4,270  | 160    | 333    | 302   | 89    | 26    | 1.5  | 0.6   |
| 2     | .1   | .4    | .6   | .6      | *1,370 | 154    | 294    | 276   | 80    | 23    | 1.7  | .6    |
| 3     | .1   | .5    | .6   | .6      | 787    | 148    | 265    | 250   | 77    | 22    | 1.7  | *.5   |
| 4     | .1   | .5    | .6   | .6      | *562   | 139    | *242   | 242   | 78    | 22    | 1.7  | .5    |
| 5     | .1   | .5    | .6   | .6      | 435    | 133    | 220    | 228   | 81    | 21    | 1.7  | .5    |
| 6     | 0    | .5    | .6   | .6      | 359    | 128    | 218    | 211   | 62    | 23    | 1.9  | .4    |
| 7     | 0    | .5    | *.6  | .6      | 305    | 122    | 328    | 202   | *35   | 21    | 1.9  | .4    |
| 8     | 0    | .5    | .6   | .6      | 271    | 124    | 314    | *200  | 29    | 20    | *1.7 | .4    |
| 9     | 0    | *.5   | .6   | *.6     | 318    | 117    | 294    | 191   | 26    | 17    | 1.5  | .5    |
| 10    | 0    | .5    | .6   | .6      | 817    | 117    | 278    | 175   | 22    | 14    | 1.3  | .4    |
| 11    | .1   | .5    | .6   | .8      | 710    | 109    | 278    | 182   | 21    | 16    | 1.3  | .4    |
| 12    | .2   | .5    | .5   | 1.0     | 562    | *102   | 263    | 169   | 17    | *15   | 1.2  | .4    |
| 13    | .5   | .4    | .6   | 1.2     | 594    | 93     | 242    | 158   | 31    | 13    | 1.2  | .4    |
| 14    | .4   | .5    | .5   | 1.5     | 558    | 93     | 519    | 152   | 39    | 12    | 1.0  | .4    |
| 15    | .3   | .5    | .5   | 1.7     | *487   | 102    | 1,080  | 139   | 41    | 8.7   | .9   | .3    |
| 16    | .3   | .4    | 1.2  | 2.0     | 431    | 174    | *832   | 139   | 41    | 8.7   | .9   | .4    |
| 17    | .3   | .5    | 1.2  | 2.4     | 398    | 235    | 694    | 131   | 40    | 7.9   | .9   | .3    |
| 18    | .3   | .5    | .8   | 2.5     | 359    | 169    | 622    | 124   | 28    | 7.2   | .9   | .2    |
| 19    | .4   | .5    | .7   | 2.8     | 319    | 148    | 602    | 124   | 23    | 6.4   | .9   | .2    |
| 20    | .4   | .5    | .6   | 3.0     | 291    | 137    | 578    | 120   | 30    | 5.4   | .8   | *.2   |
| 21    | .4   | .5    | .6   | 3.2     | 276    | 128    | 602    | 117   | 29    | 4.4   | .7   | .3    |
| 22    | .4   | .5    | .6   | 3.5     | 255    | 131    | 540    | 115   | 27    | 4.4   | .7   | .3    |
| 23    | .4   | *.6   | .6   | 3.9     | 230    | 237    | 498    | *115  | 35    | 5.4   | .7   | .3    |
| 24    | .5   | .6    | .6   | *3.9    | 213    | 271    | 452    | 112   | 41    | 4.9   | .6   | .3    |
| 25    | *.5  | .6    | .6   | 3.9     | *204   | 235    | 435    | 107   | 30    | 4.0   | .6   | .4    |
| 26    | .5   | .6    | .6   | 3.0     | 186    | 207    | 449    | 102   | 26    | *3.0  | *.6  | .4    |
| 27    | .5   | .6    | .6   | 2.2     | 173    | 207    | 410    | 102   | *26   | 2.1   | .5   | .3    |
| 28    | .5   | .6    | *.6  | 2.8     | 171    | 697    | 377    | 96    | 26    | 1.7   | .5   | .3    |
| 29    | .5   | .6    | .6   | 3.0     | -----  | 515    | 347    | 95    | 26    | 1.9   | .6   | .4    |
| 30    | .4   | .6    | .6   | 293     | -----  | 417    | 322    | 89    | 26    | 1.7   | .7   | .6    |
| 31    | .3   | ----- | .6   | *5,000  | -----  | 365    | -----  | 89    | ----- | 1.5   | .6   | ----- |
| TOTAL | 8.6  | 15.3  | 19.8 | 5,347.3 | 15,911 | 6,114  | 12,928 | 4,854 | 1,182 | 344.3 | 33.4 | 11.6  |
| MEAN  | 0.28 | 0.51  | 0.64 | 172     | 568    | 197    | 431    | 157   | 39.4  | 11.1  | 1.08 | 0.39  |
| MAX   | 0.5  | 0.6   | 1.2  | 5,000   | 4,270  | 697    | 1,080  | 302   | 89    | 26    | 1.9  | 0.6   |
| MIN   | 0    | 0.3   | 0.5  | 0.6     | 171    | 93     | 218    | 89    | 17    | 1.5   | 0.5  | 0.2   |
| AC-FT | 17   | 30    | 39   | 10,610  | 31,560 | 12,130 | 25,640 | 9,630 | 2,340 | 683   | 66   | 23    |

CALENDAR YEAR 1962: MAX - MIN - MEAN - AC-FT -  
WATER YEAR 1962-63: MAX 5,000 MIN 0 MEAN 128 AC-FT 92,770

Peak discharge (base, 1,200 cfs)---Jan. 31 (1800) 7,360 cfs (14.72 ft); Apr. 15 (0500) 1,200 cfs (7.82 ft).

\* Discharge measurement made on this day.

11-1435. Salinas River near Pozo, Calif.

Location.--Lat 35°18'20", long 120°24'20", in SW 1/4 sec. 18, T.30 S., R.15 E., on right bank 0.4 mile downstream from highway bridge, 1.5 miles downstream from Pozo Creek, 1.7 miles west of Pozo, and 7 miles upstream from Salinas Dam.

Drainage area.--74.1 sq mi.

Records available.--July 1942 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 1,347.78 ft above mean sea level datum of 1929, supplementary adjustment of 1960.

Average discharge.--21 years, 14.0 cfs (10,140 acre-ft per year); median of yearly mean discharge, 6.3 cfs (4,600 acre-ft per year).

Extremes.--Maximum discharge during year, 541 cfs Feb. 10 (gage height, 5.67 ft); minimum, many days in October and September.

1942-63: Maximum discharge, 7,210 cfs Jan. 21, 1943 (gage height, 13.35 ft), from rating curve extended above 4,800 cfs; no flow at times.

Remarks.--Records fair. No storage or diversion above station. Water is stored in Salinas Reservoir below station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV. | DEC.  | JAN. | FEB.    | MAR.  | APR.    | MAY   | JUNE | JULY  | AUG. | SEPT. |
|-------|------|------|-------|------|---------|-------|---------|-------|------|-------|------|-------|
| 1     |      | 0.1  | 0.2   | 0.7  | 0.9     | 95    | 3.7     | 17    | 31   | 2.7   | 1.4  | 0.2   |
| 2     |      | .1   | .2    | .7   | .9      | 22    | 3.7     | 14    | 25   | 2.3   | 1.4  | .2    |
| 3     |      | .1   | .2    | .7   | 1.1     | 7.3   | 3.7     | 12    | 22   | 2.0   | 1.4  | .2    |
| 4     |      | .1   | .2    | .7   | 1.1     | 4.2   | 3.2     | 11    | 19   | 2.0   | 1.4  | .2    |
| 5     |      | .1   | .4    | .9   | 1.1     | 3.7   | 3.2     | 9.2   | 16   | 2.0   | 1.1  | .2    |
| 6     |      | .1   | .5    | .9   | 1.1     | 3.7   | 2.7     | 8.2   | 15   | 2.0   | 1.1  | .4    |
| 7     |      | .1   | .5    | .9   | 1.1     | 2.7   | 2.7     | 9.2   | 14   | 2.0   | 1.1  | .4    |
| 8     |      | .1   | .5    | .9   | 1.1     | *2.3  | 2.7     | 9.2   | 14   | 1.7   | 1.1  | .4    |
| 9     |      | .1   | .5    | .9   | 1.1     | 96    | 2.7     | 8.2   | 16   | 1.7   | .9   | .4    |
| 10    |      | .1   | .5    | .9   | 1.1     | 397   | 2.7     | 7.3   | 14   | 2.3   | .9   | .2    |
| 11    |      | .1   | .5    | .9   | 1.1     | 166   | 2.7     | 6.4   | 12   | 2.7   | .9   | .2    |
| 12    |      | .1   | .5    | .9   | 1.1     | 61    | 2.7     | 6.4   | 11   | 2.3   | .9   | .2    |
| 13    |      | .2   | .5    | .9   | 1.1     | 72    | *2.7    | 5.5   | 10   | 2.3   | .7   | .2    |
| 14    |      | .9   | .5    | .9   | 1.1     | 78    | 2.7     | 71    | 8.2  | 2.0   | .5   | .2    |
| 15    |      | .7   | .7    | .9   | 1.1     | 43    | 3.2     | 228   | 6.4  | 2.0   | .5   | .2    |
| 16    |      | .5   | .7    | 1.4  | 1.1     | 28    | 24      | 105   | 5.5  | 2.0   | .5   | .2    |
| 17    |      | *.4  | .7    | 1.1  | 1.4     | 16    | 18      | *63   | 4.8  | 1.7   | .5   | *.2   |
| 18    |      | .4   | .5    | .9   | 1.4     | 17    | 10      | 46    | 4.2  | 1.7   | .5   | .2    |
| 19    |      | .4   | .5    | .9   | 1.1     | 14    | 8.2     | 35    | 4.2  | 1.7   | .5   | .4    |
| 20    |      | .2   | *.5   | .9   | 1.1     | 12    | 8.2     | 57    | 4.2  | 1.7   | .5   | .4    |
| 21    |      | .2   | .5    | .9   | 1.1     | 9.2   | 7.3     | 123   | 4.2  | 1.7   | .4   | .2    |
| 22    |      | .2   | .5    | .9   | 1.1     | 8.2   | 8.2     | 66    | *4.2 | 1.7   | .4   | .2    |
| 23    |      | .2   | .5    | .9   | *1.1    | 7.3   | 37      | 51    | 4.2  | 1.7   | .4   | .2    |
| 24    |      | .2   | .5    | .9   | 1.1     | 6.4   | 42      | 42    | 3.7  | 1.7   | .2   | .1    |
| 25    |      | .2   | .5    | .9   | 1.1     | 4.8   | 25      | 48    | 3.7  | 1.7   | *.4  | .1    |
| 26    |      | .4   | .5    | .9   | 1.7     | 4.2   | 19      | 86    | 3.7  | 1.7   | .4   | .1    |
| 27    |      | .4   | .5    | *.9  | 1.7     | 4.2   | 17      | 75    | 3.2  | *1.7  | .4   | .1    |
| 28    |      | .4   | .5    | .9   | 1.7     | 3.7   | 55      | 55    | 3.2  | 1.7   | .4   | .1    |
| 29    |      | .4   | .5    | .9   | 1.7     | ----- | 37      | 45    | 3.2  | 1.7   | .4   | .1    |
| 30    |      | .2   | .5    | .9   | 4.2     | ----- | 26      | 36    | 2.7  | 1.4   | .4   | .1    |
| 31    |      | .2   | ----- | .9   | 39      | ----- | 20      | ----- | 2.7  | ----- | .2   | ----- |
| TOTAL | 7.9  | 14.3 | 27.8  | 77.7 | 1,188.9 | 406.9 | 1,355.6 | 295.2 | 57.5 | 21.8  | 10.7 | 6.7   |
| MEAN  | 0.25 | 0.48 | 0.90  | 2.51 | 42.5    | 13.1  | 45.2    | 9.52  | 1.92 | 0.70  | 0.35 | 0.22  |
| MAX   | 0.9  | 0.7  | 1.4   | 39   | 397     | 55    | 228     | 31    | 2.7  | 1.4   | 0.5  | 0.4   |
| MIN   | 0.1  | 0.2  | 0.7   | 0.9  | 2.3     | 2.7   | 5.5     | 2.7   | 1.4  | 0.2   | 0.2  | 0.1   |
| AC-FT | 16   | 28   | 55    | 154  | 2,360   | 807   | 2,690   | 586   | 114  | 43    | 21   | 13    |

CALENDAR YEAR 1962: MAX 1,260 MIN 0.1 MEAN 25.1 AC-FT 18,160  
 WATER YEAR 1962-63: MAX 397 MIN 0.1 MEAN 9.51 AC-FT 6,890

Peak discharge (base, 100 cfs)

\* Discharge measurement made on this day.

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-1  | 1800 | 4.01        | 132       | 4-15 | 0200 | 4.97        | 343       |
| 2-10 | 1730 | 5.67        | 541       | 4-20 | 2300 | 4.48        | 226       |
| 2-13 | 2400 | 3.97        | 116       | 4-25 | 2400 | 3.92        | 105       |

## SALINAS RIVER BASIN

11-1440. Toro Creek near Pozo, Calif.

Location.--Lat 35°19'20", long 120°25'20", in SE $\frac{1}{4}$  sec.12, T.30 S., R.14 E., on left bank 300 ft upstream from mouth and 3 miles north-west of Pozo.

Drainage area.--9.61 sq mi.

Records available.--June 1942 to September 1963. Prior to October 1961 low-water records only. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 1,320 ft (from topographic map). Prior to Dec. 8, 1961, at Site 250 ft downstream at datum 11.83 ft lower.

Extremes.--Maximum discharge during year, 25 cfs Feb. 9 (gage height, 4.13 ft); no flow at times.

1961-63: Maximum discharge, 31 cfs Feb. 9, 1962 (gage height, 4.24 ft).

1942-63: No flow at times in most years.

Remarks.--Records fair. Small diversions above station for irrigation and stock reservoir.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 20 to Nov. 23, Dec. 27 to Jan. 9,  
May 2 to June 26, Aug. 25 to Sept. 30)

|     |    |     |     |
|-----|----|-----|-----|
| 3.1 | 0  | 3.4 | 1.7 |
| 3.2 | .1 | 3.5 | 3.1 |
| 3.3 | .7 | 3.6 | 5.1 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.1  | 0.2   | .2   | 0.3  | 0.7   | 0.3  | 0.3   | 0.2  | 0.2   | 0.1  | 0    | 0     |
| 2     | .1   | .2    | .2   | .3   | .4    | .3   | .3    | .2   | .2    | .1   | 0    | 0     |
| 3     | .1   | .2    | .2   | .3   | .4    | .3   | .3    | .2   | .2    | .1   | .1   | 0     |
| 4     | .1   | .2    | .2   | .3   | .4    | .2   | .3    | .2   | .2    | .1   | .1   | 0     |
| 5     | .1   | .2    | .3   | .3   | .3    | .2   | .3    | .2   | .2    | .1   | .1   | .1    |
| 6     | .1   | .2    | .3   | .3   | .3    | .2   | .3    | .2   | .2    | .1   | .1   | .1    |
| 7     | .1   | .2    | .3   | .3   | .3    | .2   | .4    | .2   | .2    | .1   | .1   | .1    |
| 8     | .1   | .1    | .3   | .2   | *.3   | .3   | .3    | .2   | .2    | .1   | .2   | .1    |
| 9     | .1   | .1    | .3   | .2   | 4.3   | .3   | .3    | .2   | .2    | .1   | .1   | 0     |
| 10    | .1   | .1    | .3   | .2   | 3.0   | .3   | .3    | .2   | .3    | .1   | .3   | 0     |
| 11    | .2   | .1    | .3   | .2   | .6    | .3   | .2    | .2   | .3    | .1   | .1   | 0     |
| 12    | .3   | .1    | .3   | .2   | .7    | .3   | .2    | .2   | .3    | .1   | 0    | 0     |
| 13    | .2   | .2    | .3   | .2   | .6    | *.3  | .2    | .2   | .2    | .1   | .2   | 0     |
| 14    | .3   | .2    | .3   | .2   | .4    | .4   | 1.1   | .2   | .2    | 0    | 0    | 0     |
| 15    | .2   | .2    | .4   | .2   | .4    | .4   | .5    | .2   | .2    | 0    | 0    | 0     |
| 16    | .2   | .2    | .3   | .2   | .4    | 2.0  | .3    | .2   | .2    | .1   | 0    | .1    |
| 17    | *.2  | .2    | .3   | .2   | .4    | .4   | *.3   | .1   | .1    | .1   | 0    | *.1   |
| 18    | .2   | .2    | .3   | .3   | .4    | .4   | .3    | .1   | .1    | 0    | 0    | .1    |
| 19    | .2   | .2    | .3   | .3   | .3    | .4   | .3    | .1   | .1    | 0    | 0    | .1    |
| 20    | .2   | *.2   | .3   | .3   | .3    | .3   | .4    | .2   | .2    | 0    | *0   | .1    |
| 21    | .2   | .1    | .3   | .3   | .3    | .3   | .3    | .2   | .1    | 0    | 0    | 0     |
| 22    | .2   | .1    | .3   | .3   | .3    | .6   | .2    | *.2  | .2    | 0    | 0    | 0     |
| 23    | .2   | .1    | .3   | *.3  | .3    | .9   | .2    | .2   | .2    | 0    | 0    | 0     |
| 24    | .2   | .1    | .3   | .3   | .3    | .4   | .2    | .3   | .2    | 0    | .1   | 0     |
| 25    | .2   | .1    | .3   | .3   | .3    | .3   | .4    | .2   | .1    | *0   | .1   | 0     |
| 26    | .2   | .1    | .3   | .3   | .3    | .3   | .4    | .2   | .1    | 0    | .1   | 0     |
| 27    | .2   | .1    | *.3  | .3   | .3    | .3   | .2    | .2   | *.2   | 0    | 0    | 0     |
| 28    | .2   | .1    | .3   | .3   | .3    | 1.1  | .2    | .3   | .2    | 0    | 0    | 0     |
| 29    | .2   | .1    | .3   | .3   | ----- | .4   | .2    | .2   | .1    | .1   | 0    | 0     |
| 30    | .2   | .1    | .4   | .6   | ----- | .4   | .2    | .2   | .1    | 0    | .1   | 0     |
| 31    | .2   | ----- | .3   | 1.7  | ----- | .3   | ----- | .2   | ----- | 0    | .1   | ----- |
| TOTAL | 5.4  | 4.5   | 9.1  | 10.0 | 17.3  | 13.1 | 9.4   | 6.1  | 5.5   | 1.6  | 1.9  | 0.9   |
| MEAN  | 0.17 | 0.15  | 0.29 | 0.32 | 0.62  | 0.42 | 0.31  | 0.20 | 0.18  | 0.05 | 0.06 | 0.03  |
| MAX   | 0.3  | 0.2   | 0.4  | 1.7  | 4.3   | 2.0  | 1.1   | 0.3  | 0.3   | 0.1  | 0.3  | 0.1   |
| MIN   | 0.1  | 0.1   | 0.2  | 0.2  | 0.3   | 0.2  | 0.2   | 0.1  | 0.1   | 0    | 0    | 0     |
| AC-FT | 11   | 8.9   | 18   | 20   | 34    | 26   | 19    | 12   | 11    | 3.2  | 3.8  | 1.8   |

CALENDAR YEAR 1962: MAX 7.2

MIN 0

MEAN 0.39

AC-FT 281

WATER YEAR 1962-63: MAX 4.3

MIN 0

MEAN 0.23

AC-FT 169

## Peak discharge (base, 10 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1200 | 3.90        | 15        | 3-16 | 1600 | 3.78        | 10        |
| 2-9  | 1500 | 4.13        | 25        |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 24 to Dec. 26, Mar. 5-12.

## SALINAS RIVER BASIN

257

11-1445. Salinas Reservoir near Pozo, Calif.

Location.--Lat 35°20'15", long 120°30'05", in NW¼ sec. 8, T.30 S., R.14 E., at left end of dam on Salinas River, 2 miles upstream from Pilitas Creek and 7.5 miles northwest of Pozo.

Drainage area.--112 sq mi.

Records available.--December 1941 to September 1963.

Gage.--Water-stage-recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Mar. 9, 1942, staff gage at same site and datum.

Extremes.--Maximum contents during year, 26,000 acre-ft May 6-20; maximum elevation, 1,301.04 ft May 13; minimum contents, 18,000 acre-ft Jan. 20-29.

1941-63: Maximum contents, 30,900 acre-ft Apr. 3, 1958 (elevation, 1,306.92 ft); minimum, 1,730 acre-ft Nov. 6-10, 1943.

Remarks.--Reservoir is formed by concrete-arch dam, outlet closed Dec. 6, 1941. Usable capacity, 26,000 acre-ft between elevations 1,220.3 (bottom of outlet pipe) and 1,301.0 ft (spillway crest) above mean sea level. Water diverted at dam into pipeline to small reservoir 10 miles below, from which it is pumped to Camp San Luis Obispo and city of San Luis Obispo for water supply; water is also released down natural channel of river. Figures given herein represent usable contents.

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

1,289      17,700  
1,301      26,000

Contents, in acre-feet at 2400 hours, water year October 1962 to September 1963

| Day  | Oct.     | Nov.     | Dec.     | Jan.     | Feb.     | Mar.     | Apr.     | May      | June     | July     | Aug.     | Sept.    |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1    | 19,400   | 18,900   | 18,500   | 18,200   | 18,600   | 21,600   | 22,900   | 25,800   | 25,800   | 25,100   | 24,100   | 23,200   |
| 2    | 19,300   | 18,800   | 18,400   | 18,200   | 18,600   | 21,600   | 23,000   | 25,900   | 25,800   | 25,100   | 24,100   | 23,200   |
| 3    | 19,300   | 18,800   | 18,400   | 18,200   | 18,600   | 21,600   | 23,000   | 25,900   | 25,800   | 25,100   | 24,100   | 23,200   |
| 4    | 19,300   | 18,800   | 18,400   | 18,200   | 18,600   | 21,600   | 23,000   | 25,900   | 25,800   | 25,000   | 24,000   | 23,200   |
| 5    | 19,300   | 18,800   | 18,400   | 18,200   | 18,600   | 21,600   | 23,000   | 25,900   | 25,700   | 25,000   | 24,000   | 23,200   |
| 6    | 19,200   | 18,800   | 18,400   | 18,200   | 18,600   | 21,600   | 23,000   | 26,000   | 25,700   | 25,000   | 24,000   | 23,200   |
| 7    | 19,200   | 18,800   | 18,400   | 18,200   | 18,600   | 21,600   | 23,100   | 26,000   | 25,700   | 24,900   | 24,000   | 23,100   |
| 8    | 19,200   | 18,800   | 18,400   | 18,200   | 18,600   | 21,600   | 23,100   | 26,000   | 25,700   | 24,900   | 23,900   | 23,100   |
| 9    | 19,200   | 18,800   | 18,400   | 18,200   | 19,200   | 21,600   | 23,100   | 26,000   | 25,700   | 24,900   | 23,900   | 23,100   |
| 10   | 19,100   | 18,700   | 18,400   | 18,100   | 20,500   | 21,600   | 23,100   | 26,000   | 25,600   | 24,900   | 23,900   | 23,000   |
| 11   | 19,100   | 18,700   | 18,300   | 18,100   | 20,900   | 21,600   | 23,100   | 26,000   | 25,600   | 24,800   | 23,800   | 23,000   |
| 12   | 19,100   | 18,700   | 18,300   | 18,100   | 21,000   | 21,600   | 23,200   | 26,000   | 25,600   | 24,800   | 23,800   | 23,000   |
| 13   | 19,100   | 18,700   | 18,300   | 18,100   | 21,200   | 21,600   | 23,200   | 26,000   | 25,600   | 24,800   | 23,800   | 23,000   |
| 14   | 19,100   | 18,700   | 18,300   | 18,100   | 21,400   | 21,600   | 23,400   | 26,000   | 25,600   | 24,700   | 23,800   | 22,900   |
| 15   | 19,100   | 18,700   | 18,300   | 18,100   | 21,500   | 21,600   | 23,900   | 26,000   | 25,600   | 24,700   | 23,700   | 22,900   |
| 16   | 19,100   | 18,600   | 18,400   | 18,100   | 21,500   | 21,900   | 24,100   | 26,000   | 25,500   | 24,700   | 23,700   | 22,900   |
| 17   | 19,100   | 18,600   | 18,300   | 18,100   | 21,500   | 21,900   | 24,300   | 26,000   | 25,500   | 24,600   | 23,700   | 22,900   |
| 18   | 19,100   | 18,600   | 18,300   | 18,100   | 21,600   | 22,000   | 24,300   | 26,000   | 25,500   | 24,600   | 23,600   | 22,900   |
| 19   | 19,100   | 18,600   | 18,300   | 18,100   | 21,600   | 22,000   | 24,400   | 26,000   | 25,500   | 24,600   | 23,600   | 22,900   |
| 20   | 19,100   | 18,600   | 18,300   | 18,000   | 21,600   | 22,000   | 24,500   | 25,900   | 25,400   | 24,500   | 23,600   | 22,800   |
| 21   | 19,000   | 18,600   | 18,300   | 18,000   | 21,600   | 22,000   | 24,800   | 25,900   | 25,400   | 24,500   | 23,500   | 22,800   |
| 22   | 19,000   | 18,600   | 18,300   | 18,000   | 21,600   | 22,000   | 24,900   | 25,900   | 25,400   | 24,500   | 23,500   | 22,800   |
| 23   | 19,000   | 18,600   | 18,300   | 18,000   | 21,600   | 22,200   | 24,900   | 25,900   | 25,300   | 24,400   | 23,500   | 22,800   |
| 24   | 19,000   | 18,500   | 18,300   | 18,000   | 21,700   | 22,300   | 25,000   | 25,900   | 25,300   | 24,400   | 23,500   | 22,800   |
| 25   | 19,000   | 18,500   | 18,300   | 18,000   | 21,700   | 22,400   | 25,100   | 25,900   | 25,300   | 24,400   | 23,400   | 22,800   |
| 26   | 18,900   | 18,500   | 18,300   | 18,000   | 21,700   | 22,400   | 25,400   | 25,900   | 25,300   | 24,300   | 23,400   | 22,700   |
| 27   | 18,900   | 18,500   | 18,300   | 18,000   | 21,600   | 22,500   | 25,500   | 25,900   | 25,200   | 24,300   | 23,400   | 22,700   |
| 28   | 18,900   | 18,500   | 18,300   | 18,000   | 21,600   | 22,700   | 25,600   | 25,900   | 25,200   | 24,300   | 23,300   | 22,700   |
| 29   | 18,900   | 18,500   | 18,200   | 18,000   | -----    | 22,800   | 25,700   | 25,900   | 25,200   | 24,200   | 23,300   | 22,700   |
| 30   | 18,900   | 18,500   | 18,200   | 18,100   | -----    | 22,900   | 25,800   | 25,900   | 25,200   | 24,200   | 23,300   | 22,600   |
| 31   | 18,900   | -----    | 18,200   | 18,400   | -----    | 22,900   | -----    | 25,800   | -----    | 24,200   | 23,300   | -----    |
| (+)  | 1,290.95 | 1,290.28 | 1,289.88 | 1,290.10 | 1,294.92 | 1,296.71 | 1,300.74 | 1,300.80 | 1,299.94 | 1,298.52 | 1,297.23 | 1,296.33 |
| (#)  | - 500    | - 400    | - 300    | + 200    | + 3,200  | + 1,300  | + 2,900  | 0        | - 600    | - 1,000  | - 900    | - 700    |
| (++) | 319      | 290      | 236      | 261      | 188      | 105      | 172      | 299      | 404      | 468      | 466      | 392      |

Calendar year 1962..... ++10,670      ++4,040  
Water year 1962-63..... ++3,200      ++3,600

† Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

++ Diversion, in acre-feet, for municipal supply; furnished by county of San Luis Obispo.

## SALINAS RIVER BASIN

11-1450. Salinas River above Pilitas Creek, near Santa Margarita, Calif.

Location.--Lat 35°20'55", long 120°30'40", in NE¼ sec.6, T.30 S., R.14 E., on downstream side of right bank bridge pier, 200 ft upstream from Pilitas Creek, 2 miles downstream from Salinas Dam, and 6 miles southeast of Santa Margarita.

Drainage area.--114 sq mi.

Records available.--July 1942 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,148.66 ft above mean sea level, datum of 1929, supplementary adjustment of 1960.

Average discharge.--21 years, 12.8 cfs (9,270 acre-ft per year).

Extremes.--Maximum discharge during year, 208 cfs May 13 (gage height, 2.59 ft); no flow during several months.

1942-63: Maximum discharge, 4,720 cfs Apr. 3, 1958 (gage height, 8.68 ft); no flow at times during 1944, 1947-63.

Remarks.--Records fair. Flow regulated by Salinas Reservoir beginning in 1941 and water diverted to Camp San Luis Obispo and city of San Luis Obispo (see preceding page).

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 9, Apr. 15, May 8, 13)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.4 | 0   | 0.8 | 2.9 |
| .5  | .1  | .9  | 5.8 |
| .6  | .4  | 1.0 | 11  |
| .7  | 1.2 | 1.2 | 30  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec.  | Jan. | Feb.  | Mar. | Apr.  | May  | June | July | Aug. | Sept. |
|-------|------|-------|-------|------|-------|------|-------|------|------|------|------|-------|
| 1     | 0    | 0.7   | 0     | 0    | 2.3   | 0.2  | 0.4   | 0.2  |      | 0    | 1.7  | 0     |
| 2     | 0    | .4    | 0     | 0    | .7    | .1   | .4    | .2   |      | 0    | 1.7  | 0     |
| 3     | 0    | .2    | 0     | 0    | .4    | .1   | .3    | .2   |      | 0    | 1.7  | 0     |
| 4     | 0    | .1    | 0     | 0    | .3    | .1   | .2    | .2   |      | .4   | 1.7  | 0     |
| 5     | 0    | .1    | 0     | 0    | .2    | .1   | .2    | .1   |      | 1.1  | 1.7  | .1    |
| 6     | 0    | .1    | 0     | 0    | .2    | .1   | .2    | .1   |      | 1.2  | 1.7  | .1    |
| 7     | 0    | 0     | 0     | 0    | .2    | .1   | .4    | .1   |      | 1.4  | .4   | .1    |
| 8     | 0    | 0     | 0     | 0    | *.1   | .1   | .3    | *13  |      | 1.9  | .1   | .1    |
| 9     | 0    | 0     | 0     | 0    | 4.8   | .1   | .2    | .9   |      | 1.5  | 0    | 0     |
| 10    | 0    | 0     | 0     | 0    | 12    | .1   | .2    | .4   |      | 1.5  | 0    | 0     |
| 11    | 0    | 0     | 0     | 0    | 2.3   | .1   | .2    | .6   |      | 1.5  | 0    | 0     |
| 12    | .1   | 0     | 0     | 0    | 1.1   | .1   | .2    | .8   |      | 1.5  | 0    | 0     |
| 13    | .2   | 0     | 0     | 0    | 1.3   | *.1  | .2    | *25  |      | 1.5  | 0    | .1    |
| 14    | .6   | 0     | 0     | 0    | .8    | .1   | 1.0   | .6   |      | 1.5  | 0    | .1    |
| 15    | .2   | 0     | 0     | 0    | .6    | .1   | 4.6   | .3   |      | 1.7  | 0    | .1    |
| 16    | .1   | 0     | .1    | 0    | .5    | 1.9  | 1.2   | .2   |      | 1.7  | 0    | .1    |
| 17    | *.1  | 0     | .1    | 0    | .4    | 1.0  | *.6   | .2   |      | 1.7  | 0    | *.2   |
| 18    | 0    | 0     | 0     | 0    | .4    | .4   | .4    | .1   |      | 1.7  | 0    | .3    |
| 19    | 0    | 0     | 0     | 0    | .4    | .2   | .4    | .1   |      | 1.7  | 0    | .4    |
| 20    | .2   | *0    | 0     | 0    | .3    | .2   | .4    | .1   |      | 1.7  | *0   | .3    |
| 21    | .4   | 0     | 0     | 0    | .3    | .2   | .5    | .1   |      | 1.7  | 0    | .2    |
| 22    | .5   | 0     | 0     | 0    | .3    | .2   | .3    | *.1  |      | 1.7  | 0    | .2    |
| 23    | .6   | 0     | 0     | *0   | .2    | 1.4  | .3    | .1   |      | 1.7  | 0    | .1    |
| 24    | .6   | 0     | 0     | 0    | .2    | .8   | .2    | .1   |      | 1.7  | 0    | .1    |
| 25    | .6   | 0     | 0     | 0    | .2    | .4   | .3    | 0    |      | *1.7 | 0    | .1    |
| 26    | .6   | 0     | 0     | 0    | .2    | .4   | .8    | 0    |      | 1.7  | 0    | .1    |
| 27    | .6   | 0     | *0    | 0    | .2    | .3   | .5    | 0    | (*)  | 1.7  | 0    | .1    |
| 28    | .6   | 0     | 0     | 0    | .2    | 2.5  | .4    | 0    |      | 1.7  | 0    | .1    |
| 29    | .6   | 0     | 0     | 0    | ----- | .7   | .3    | 0    |      | 1.7  | 0    | 0     |
| 30    | .6   | 0     | 0     | 0    | ----- | .5   | .2    | 0    |      | 2.1  | 0    | 0     |
| 31    | .7   | ----- | 0     | 3.7  | ----- | .4   | ----- | 0    |      | 1.7  | 0    | ----- |
| Total | 7.9  | 1.6   | 0.2   | 4.1  | 31.1  | 13.1 | 15.8  | 43.8 | 0    | 44.3 | 10.7 | 3.0   |
| Mean  | 0.25 | 0.05  | 0.006 | 0.13 | 1.11  | 0.42 | 0.53  | 1.41 | 0    | 1.43 | 0.35 | 0.10  |
| Max   | 0.7  | 0.7   | 0.1   | 3.7  | 12    | 2.5  | 4.6   | 25   | 0    | 2.1  | 1.7  | 0.4   |
| Min   | 0    | 0     | 0     | 0    | 0.1   | 0.1  | 0.2   | 0    | 0    | 0    | 0    | 0     |
| Ac-ft | 16   | 3.2   | 0.4   | 8.1  | 62    | 26   | 31    | 87   | 0    | 88   | 21   | 6.0   |

Calendar year 1962: Max 396 Min 0 Mean 13.0 Ac-ft 9,410  
Water year 1962-63: Max 25 Min 0 Mean 0.48 Ac-ft 349

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.



11-1470. Jack Creek near Templeton, Calif.

Location.--Lat 35°34', long 120°48', in Paso de Robles Grant, on left bank 1.4 miles upstream from mouth, 1.8 miles northwest of Oakdale School, and 5.6 miles west of Templeton, San Luis Obispo County.

Drainage area.--25.3 sq mi.

Records available.--October 1949 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 980 ft (from topographic map).

Average discharge.--14 years, 13.1 cfs (9,480 acre-ft per year); median of yearly mean discharges, 8.0 cfs (5,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,820 cfs Jan. 31 (gage height, 6.90 ft); no flow for several months.

1949-63: Maximum discharge, 5,040 cfs Jan. 25, 1956 (gage height, 9.56 ft), from rating curve extended above 1,500 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records good. No regulation. Small diversions above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-------|
| 1.4 | 0   | 2.0 | 2.6 | 3.3 | 100   |
| 1.5 | .1  | 2.1 | 4.1 | 4.0 | 250   |
| 1.6 | .2  | 2.2 | 6.2 | 4.5 | 400   |
| 1.7 | .5  | 2.3 | 9.0 | 5.0 | 615   |
| 1.8 | .9  | 2.5 | 18  | 6.0 | 1,150 |
| 1.9 | 1.6 | 2.8 | 39  |     |       |

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.    | FEB.  | MAR.    | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|---------|-------|---------|-------|-------|-------|------|------|-------|
| 1     |      |       | 0    | 0.2     | 709   | 10      | 34    | 27    | 4.5   | 1.2  | 0.4  | 0.1   |
| 2     |      |       | 0    | .2      | 109   | 9.4     | 29    | 24    | 4.3   | 1.1  | .4   | .1    |
| 3     |      |       | 0    | .2      | 50    | 9.0     | 24    | 22    | 4.0   | 1.0  | .5   | .1    |
| 4     |      |       | 0    | .2      | 30    | 8.4     | 22    | 20    | 3.8   | 1.0  | .4   | .1    |
| 5     |      |       | 0    | .2      | 22    | 7.9     | 19    | 18    | 3.8   | 1.1  | .4   | .1    |
| 6     |      |       | 0    | .2      | 17    | 7.9     | 17    | 17    | 3.8   | 1.1  | .4   | .1    |
| 7     |      |       | 0    | .2      | *14   | 8.2     | 43    | 16    | 3.7   | 1.2  | .4   | .1    |
| 8     |      |       | 0    | .2      | 12    | 7.6     | 35    | 16    | 3.5   | 1.1  | .5   | .1    |
| 9     |      |       | 0    | .2      | 245   | 7.3     | 26    | 17    | 3.4   | 1.0  | .4   | .1    |
| 10    |      |       | 0    | .2      | 461   | 6.8     | 23    | 15    | 3.4   | .9   | .4   | .1    |
| 11    |      |       | 0    | .2      | 142   | 6.5     | 20    | 13    | 3.4   | .9   | .4   | .1    |
| 12    |      |       | 0    | .2      | 78    | *6.2    | 18    | 12    | 3.2   | .9   | .4   | .1    |
| 13    |      |       | 0    | .2      | 128   | 5.8     | 17    | 11    | 2.9   | .7   | .4   | .1    |
| 14    |      |       | 0    | .2      | 94    | 5.8     | 186   | 10    | 2.6   | .7   | .3   | .1    |
| 15    |      |       | 0    | .2      | 60    | 6.0     | 176   | 9.4   | 2.5   | .7   | .3   | 0     |
| 16    |      |       | 15   | .2      | 47    | 47      | *90   | 8.7   | 2.4   | .7   | .2   | 0     |
| 17    |      |       | 4.1  | .2      | 37    | 33      | 64    | 8.2   | 2.1   | .7   | .2   | *.1   |
| 18    | (*)  |       | .5   | .2      | 30    | 16      | 48    | 7.9   | 2.2   | .7   | .2   | .1    |
| 19    |      |       | .2   | .2      | 27    | 12      | 53    | 7.3   | 2.1   | .7   | .2   | .1    |
| 20    |      | (*)   | .2   | .2      | 23    | 10      | 56    | 7.3   | 2.1   | .6   | *.2  | .1    |
| 21    |      |       | .2   | .2      | 20    | 8.7     | 61    | 6.8   | 2.0   | .6   | .2   | 0     |
| 22    |      |       | .2   | .2      | 18    | 16      | 45    | *6.5  | 1.9   | .5   | .2   | 0     |
| 23    |      |       | .2   | *.2     | 16    | 76      | 37    | 6.5   | 1.4   | .4   | .2   | 0     |
| 24    |      |       | .2   | .2      | 15    | 39      | 33    | 6.2   | 1.3   | .5   | .2   | 0     |
| 25    |      |       | .2   | .2      | 13    | 25      | 44    | 5.8   | 1.4   | *.4  | .2   | 0     |
| 26    |      |       | .2   | .3      | 12    | 20      | 94    | 5.6   | *1.4  | .4   | .2   | 0     |
| 27    |      |       | *.2  | .3      | 11    | 32      | 56    | 5.6   | 1.5   | .4   | .1   | 0     |
| 28    |      |       | .2   | .3      | 11    | 378     | 43    | 5.6   | 1.5   | .4   | .1   | 0     |
| 29    |      |       | .2   | .4      | ----- | 92      | 37    | 5.2   | 1.4   | .4   | .1   | 0     |
| 30    |      |       | .2   | 128     | ----- | 58      | 32    | 4.9   | 1.3   | .4   | .1   | 0     |
| 31    |      | ----- | .2   | 905     | ----- | 43      | ----- | 4.9   | ----- | .3   | .1   | ----- |
| TOTAL | 0    | 0     | 22.2 | 1,039.3 | 2,451 | 1,018.5 | 1,482 | 350.4 | 78.8  | 22.7 | 8.7  | 1.8   |
| MEAN  | 0    | 0     | 0.72 | 33.5    | 87.5  | 32.9    | 49.4  | 11.3  | 2.63  | 0.73 | 0.28 | 0.06  |
| MAX   | 0    | 0     | 15   | 905     | 709   | 378     | 186   | 27    | 4.5   | 1.2  | 0.5  | 0.1   |
| MIN   | 0    | 0     | 0    | 0.2     | 11    | 5.8     | 17    | 4.9   | 1.3   | 0.3  | 0.1  | 0     |
| AC-FT | 0    | 0     | 44   | 2,060   | 4,860 | 2,020   | 2,940 | 695   | 156   | 45   | 17   | 3.6   |

CALENDAR YEAR 1962: MAX 1,540 MIN 0 MEAN 23.7 AC-FT 17,180  
 WATER YEAR 1962-63: MAX 905 MIN 0 MEAN 17.7 AC-FT 12,840

Peak discharge (base, 500 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1200 | 6.90        | 1,820     | 3-28 | 0100 | 5.91        | 1,100     |
| 2-9  | 1900 | 5.26        | 745       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

## SALINAS RIVER BASIN

11-1470.7. Santa Rita Creek near Templeton, Calif.

Location.--Lat 35°31'26", long 120°45'54", in Asuncion Grant, on left bank 1.6 miles upstream from Paso Robles Creek and 4 miles west of Templeton, San Luis Obispo County.

Drainage area.--18.2 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 860 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,210 cfs Jan. 31 (gage height, 7.66 ft); no flow for several months.

1961-63: Maximum discharge, 2,320 cfs Feb. 9, 1962 (gage height, 9.15 ft); no flow for several months in each year.

Remarks.--Records fair. No regulation or diversion above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Jan. 30

Jan. 31 to Sept. 30

|     |     |     |    |     |     |     |     |
|-----|-----|-----|----|-----|-----|-----|-----|
| 3.4 | 0   | 3.9 | 11 | 3.4 | 0   | 4.3 | 55  |
| 3.5 | .1  | 4.2 | 34 | 3.5 | .2  | 4.6 | 96  |
| 3.6 | .7  | 4.4 | 55 | 3.6 | 1.5 | 5.0 | 167 |
| 3.7 | 3.4 | 4.7 | 95 | 3.7 | 4.7 | 5.5 | 285 |
|     |     |     |    | 3.8 | 9.6 | 6.5 | 630 |
|     |     |     |    | 4.0 | 24  |     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.    | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|-------|---------|-------|-------|-------|-------|------|------|-------|
| 1     |      |       | 0    | 0.2   | 607     | 6.7   | 31    | 26    | 3.9   | 1.1  | 0.3  |       |
| 2     |      |       | 0    | .2    | 107     | 6.2   | *26   | 22    | 3.5   | 1.0  | .4   |       |
| 3     |      |       | 0    | .2    | 42      | 5.7   | 22    | 19    | 3.1   | .7   | .4   |       |
| 4     |      |       | 0    | .2    | 25      | 5.2   | 18    | 18    | 3.1   | 1.1  | .3   |       |
| 5     |      |       | 0    | .2    | 17      | 4.7   | 17    | 15    | 2.7   | 1.0  | *.2  | (*)   |
| 6     |      |       | 0    | .2    | 12      | 4.7   | 15    | *14   | 3.1   | 1.1  | .2   |       |
| 7     |      |       | 0    | .2    | *10     | 4.7   | 64    | 12    | 2.7   | 1.1  | .2   |       |
| 8     |      |       | 0    | *.2   | 8.6     | 4.7   | 41    | 15    | 2.7   | 1.1  | .3   |       |
| 9     |      |       | 0    | .2    | 223     | 4.3   | 30    | 17    | 2.4   | *1.0 | .2   |       |
| 10    |      |       | 0    | .2    | 411     | 3.9   | 26    | 11    | 3.1   | .7   | .2   |       |
| 11    |      |       | 0    | .2    | 145     | 3.9   | 22    | 10    | *3.1  | .8   | .1   |       |
| 12    |      |       | *0   | .2    | 75      | 3.5   | 18    | 9.1   | 2.7   | .8   | .1   |       |
| 13    |      |       | 0    | .2    | 179     | 3.5   | 18    | 8.1   | 2.4   | .7   | .1   |       |
| 14    |      |       | 0    | .2    | 117     | 3.1   | 235   | 7.6   | 2.1   | .6   | .1   |       |
| 15    |      |       | 0    | .2    | 70      | 3.5   | 165   | 7.2   | 2.1   | .5   | 0    |       |
| 16    |      |       | 25   | .3    | 51      | 4.5   | 92    | 6.7   | 2.1   | .5   | 0    |       |
| 17    |      |       | 5.1  | .3    | 36      | 26    | 63    | 6.2   | 1.9   | .5   | 0    |       |
| 18    | (*)  |       | 1.0  | .3    | 29      | 13    | 49    | 5.7   | 1.9   | .5   | 0    |       |
| 19    |      |       | .5   | .3    | 22      | 9.6   | 55    | 5.7   | 1.9   | .4   | 0    |       |
| 20    |      |       | .3   | .3    | 18      | 8.1   | 55    | 5.7   | 1.9   | .4   | 0    |       |
| 21    |      |       | .2   | .3    | 16      | 7.6   | 55    | 5.7   | 1.9   | .4   | 0    |       |
| 22    |      |       | .2   | .3    | 14      | 13    | 40    | 5.7   | 1.9   | .3   | 0    |       |
| 23    |      |       | .2   | .3    | 12      | 69    | 35    | 5.2   | 1.9   | .2   | 0    |       |
| 24    |      |       | .2   | .3    | 11      | 36    | 30    | 5.2   | 1.9   | .2   | 0    |       |
| 25    |      |       | .2   | .3    | 9.6     | 25    | 42    | 5.2   | 1.7   | .1   | 0    |       |
| 26    |      |       | .2   | .3    | 8.6     | 18    | 81    | 5.2   | 1.5   | .1   | 0    |       |
| 27    |      |       | .2   | .3    | 8.1     | 16    | 49    | 4.7   | 1.5   | .1   | 0    |       |
| 28    |      |       | .2   | .3    | 7.2     | 393   | 40    | 4.7   | 1.5   | .2   | 0    |       |
| 29    |      |       | .2   | .5    | -----   | 102   | 34    | 4.3   | 1.5   | .3   | 0    |       |
| 30    |      |       | .2   | 81    | -----   | 62    | 29    | 4.3   | 1.3   | .4   | 0    |       |
| 31    |      | ----- | .2   | 523   | -----   | 42    | ----- | 3.9   | ----- | .4   | 0    | ----- |
| TOTAL | 0    | 0     | 34.1 | 611.4 | 2,291.1 | 953.6 | 1,497 | 295.1 | 69.0  | 18.3 | 3.1  | 0     |
| MEAN  | 0    | 0     | 1.10 | 19.7  | 81.8    | 30.8  | 49.9  | 9.52  | 2.30  | 0.59 | 0.10 | 0     |
| MAX   | 0    | 0     | 25   | 523   | 607     | 393   | 235   | 26    | 3.9   | 1.1  | 0.4  | 0     |
| MIN   | 0    | 0     | 0    | 0.2   | 7.2     | 3.1   | 15    | 3.9   | 1.3   | 0.1  | 0    | 0     |
| AC-FT | 0    | 0     | 68   | 1,210 | 4,540   | 1,890 | 2,970 | 585   | 137   | 36   | 6.1  | 0     |
| (+)   | 2.6  | 0     | 3.4  | 5.7   | 7.4     | 6.8   | 5.4   | 0.6   | 0.1   | 0    | 0    | 0.1   |

CALENDAR YEAR 1962: MAX 1,080 MIN 0 MEAN 21.5 AC-FT 15,560  
 WATER YEAR 1962-63: MAX 607 MIN 0 MEAN 15.8 AC-FT 11,440

## Peak discharge (base, 400 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1030 | 7.66        | 1,210     | 3-28 | 0130 | 7.42        | 1,060     |
| 2-9  | 1930 | 6.64        | 686       | 4-14 | 0900 | 6.27        | 538       |

\* Discharge measurement or observation of no flow made on this day.

† Precipitation, in inches.

11-1395. Tepusquet Creek near Sisquoc, Calif.

Location.--Lat 34°52'20", long 120°14'35", in NE¼ sec.9, T.9 N., R.32 W., on downstream wingwall of right bridge abutment, 1.1 miles upstream from mouth and 3 miles east of Sisquoc.

Drainage area.--28.6 sq mi.

Records available.--October 1943 to September 1963.

Gage.--Water-stage recorder (digital). Concrete control since July 1957. Altitude of gage is 500 ft (from topographic map). Prior to Dec. 9, 1948, at same site at datum 0.9 ft higher.

Average discharge.--20 years, 1.22 cfs (883 acre-ft per year); median of yearly mean discharges, 0.4 cfs (290 acre-ft per year).

Extremes.--Maximum discharge during year, 9.8 cfs Feb. 9 (gage height, 2.11 ft); minimum daily, 0.1 cfs for many days.

1943-63: Maximum discharge, 500 cfs Feb. 9, 1962 (gage height, 4.25 ft), from rating curve extended above 220 cfs; no flow at times in some years.

Remarks.--Records good. No regulation. Some diversion by pumping from wells along stream to irrigate about 100 acres above gage.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 1.7 | 0   |
| 1.8 | .2  |
| 1.9 | 1.0 |
| 2.0 | 3.2 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0.1  | 0.1   | 0.1  | 0.2  | 0.6   | 0.3  | 0.5   | 0.5  | 0.7   | 0.7  | 0.3  | 0.2   |
| 2     | .1   | .1    | .1   | .2   | .3    | .3   | .4    | .4   | .8    | .7   | .3   | .2    |
| 3     | .1   | .1    | .1   | .1   | .2    | .3   | .3    | .4   | .8    | .7   | .3   | .2    |
| 4     | .1   | .1    | *.1  | .1   | .2    | .3   | .3    | .4   | .8    | .7   | .3   | .3    |
| 5     | .1   | .1    | .1   | .1   | .2    | .3   | .4    | .4   | .8    | .7   | .3   | .3    |
| 6     | .1   | .1    | .1   | .1   | .2    | .3   | .3    | .5   | .8    | .6   | .3   | .3    |
| 7     | .1   | .1    | .1   | .1   | .2    | .3   | .3    | *.5  | *.8   | .5   | .3   | .3    |
| 8     | *.1  | .1    | .1   | *.1  | .2    | .3   | .3    | .6   | .8    | *.5  | *.4  | .3    |
| 9     | .1   | .1    | .1   | .1   | 1.4   | .4   | .3    | .7   | .8    | .5   | .2   | .2    |
| 10    | .1   | .1    | .1   | .1   | 2.3   | .4   | *.3   | .6   | 1.0   | .4   | .2   | .2    |
| 11    | .1   | .1    | .2   | .2   | .9    | .4   | .3    | .6   | .6    | .3   | .2   | .1    |
| 12    | .1   | .1    | .1   | .2   | .5    | .4   | .3    | .6   | .8    | .5   | .3   | *.2   |
| 13    | .1   | .1    | .2   | .2   | *.7   | .3   | .3    | .5   | .8    | .5   | .2   | .1    |
| 14    | .2   | .1    | .1   | .2   | .8    | *.3  | .4    | .6   | .7    | .5   | .2   | .1    |
| 15    | .1   | .1    | .1   | .2   | .5    | .3   | .3    | .7   | .7    | .5   | .1   | .1    |
| 16    | .1   | .2    | .2   | .1   | .4    | A.7  | .3    | .7   | .7    | .5   | .2   | .1    |
| 17    | .1   | .1    | *.2  | .2   | .4    | A.5  | .3    | .6   | .9    | .5   | .2   | A.2   |
| 18    | .1   | .1    | .2   | .2   | .4    | A.3  | .3    | .7   | .7    | .5   | .3   | A.2   |
| 19    | .1   | *.2   | .2   | .2   | .3    | A.3  | .3    | .7   | .9    | .4   | .2   | A.2   |
| 20    | .1   | .2    | .2   | .2   | .3    | A.3  | .4    | .8   | .9    | .5   | .2   | A.2   |
| 21    | .1   | .1    | .2   | .2   | .3    | A.3  | .3    | .7   | .9    | .5   | .2   | A.2   |
| 22    | .1   | .1    | .2   | .2   | .3    | A.3  | *.3   | .8   | .8    | *.5  | .2   | A.2   |
| 23    | .1   | .1    | .2   | .2   | .3    | A.3  | .3    | *.8  | .9    | .5   | .2   | A.2   |
| 24    | .1   | .1    | .2   | .2   | .3    | A.3  | .3    | .8   | *.8   | .5   | .2   | .2    |
| 25    | .2   | .1    | .2   | .2   | .3    | A.3  | .5    | .8   | .8    | .4   | .2   | .2    |
| 26    | .2   | .1    | .2   | .2   | .3    | A.3  | .8    | .8   | .9    | .3   | .2   | .2    |
| 27    | .1   | .1    | .2   | .2   | .3    | A.3  | .6    | .8   | .9    | .3   | .2   | .2    |
| 28    | .1   | .2    | .2   | *.2  | *.3   | *.7  | .5    | .8   | 1.0   | .3   | .1   | .2    |
| 29    | *.1  | .1    | .2   | .2   | ----- | .3   | .4    | .8   | .8    | .3   | *.2  | .2    |
| 30    | .1   | .1    | .2   | .2   | ----- | .4   | .4    | .7   | .8    | .3   | .1   | .2    |
| 31    | .1   | ----- | .2   | .3   | ----- | .4   | ----- | .8   | ----- | .2   | .1   | ----- |
| TOTAL | 3.4  | 3.4   | 4.9  | 5.4  | 13.4  | 10.9 | 11.0  | 20.1 | 24.4  | 14.8 | 6.9  | 6.0   |
| MEAN  | 0.11 | 0.11  | 0.16 | 0.17 | 0.48  | 0.35 | 0.37  | 0.65 | 0.81  | 0.48 | 0.22 | 0.20  |
| MAX   | 0.2  | 0.2   | 0.2  | 0.3  | 2.3   | 0.7  | 0.8   | 0.8  | 1.0   | 0.7  | 0.4  | 0.3   |
| MIN   | 0.1  | 0.1   | 0.1  | 0.1  | 0.2   | 0.3  | 0.3   | 0.4  | 0.6   | 0.2  | 0.1  | 0.1   |
| AC-FT | 6.7  | 6.7   | 9.7  | 11   | 27    | 22   | 22    | 40   | 48    | 29   | 14   | 12    |

CALENDAR YEAR 1962: MAX 258 MIN 0 MEAN 3.42 AC-FT 2,480

WATER YEAR 1962-63 MAX 2.3 MIN 0.1 MEAN 0.34 AC-FT 248

Peak discharge (base, 10 cfs).--No peak above base.

\* Discharge measurement made on this day.

a No gage-height record.

## SALINAS RIVER BASIN

11-1476. Huerhuero Creek near Creston, Calif.

Location.--Lat 35°35'00", long 120°33'15", in NE¼ sec.15, T.27 S., R.13 E., on left bank 1 mile northwest of Genesee School and 4.6 miles northwest of Creston.

Drainage area.--101 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 930 ft (from topographic map).

Average discharge.--5 years, 3.04 cfs (442 acre-ft per year).

Extremes.--Maximum discharge during year, 4.6 cfs Feb. 9 (gage height, 2.30 ft); no flow for several months.

1958-63: Maximum discharge, 808 cfs Feb. 9, 1962 (gage height, 5.75 ft), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records fair. Small diversions above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 24-29)

|     |    |     |     |
|-----|----|-----|-----|
| 1.9 | 0  | 2.1 | 0.7 |
| 2.0 | .1 | 2.2 | 2.2 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      |       |      | 0    | 0.8   | 0.4  | 0.4   | 0.3  |       |      |      |       |
| 2     |      |       |      | 0    | *.4   | .4   | .4    | .3   |       |      |      |       |
| 3     |      |       |      | 0    | .4    | .4   | *.3   | .3   |       |      |      |       |
| 4     |      |       |      | 0    | .3    | .4   | .3    | .2   |       |      |      |       |
| 5     |      |       |      | 0    | .3    | .4   | .4    | .2   |       |      |      | (*)   |
| 6     |      | (*)   | (*)  | 0    | .3    | .4   | .4    | .2   |       |      | (*)  |       |
| 7     |      |       |      | 0    | .3    | .4   | .5    | .2   |       |      |      |       |
| 8     |      |       |      | *0   | .3    | .4   | .4    | .3   |       |      |      |       |
| 9     |      |       |      | 0    | 1.6   | .4   | .4    | .3   |       |      |      |       |
| 10    |      |       |      | 0    | 1.4   | .4   | .3    | .2   | (*)   |      |      |       |
| 11    |      |       |      | 0    | .7    | .4   | .3    | .2   |       |      |      |       |
| 12    |      |       |      | 0    | .8    | .4   | .3    | .2   |       |      |      |       |
| 13    |      |       |      | 0    | .9    | *.4  | .3    | .2   |       |      |      |       |
| 14    |      |       |      | 0    | .7    | .4   | .6    | .2   |       |      |      |       |
| 15    |      |       |      | 0    | .6    | .4   | .6    | .2   |       |      |      |       |
| 16    |      |       |      | 0    | .6    | .8   | .5    | .2   |       |      |      |       |
| 17    | (*)  |       |      | 0    | .5    | .5   | *.5   | .1   |       |      |      |       |
| 18    |      |       |      | 0    | .5    | .4   | .5    | .1   |       |      |      | (*)   |
| 19    |      |       |      | 0    | .5    | .3   | .5    | .2   |       |      |      |       |
| 20    |      |       |      | 0    | .4    | .3   | .7    | .2   |       |      | (*)  |       |
| 21    |      | (*)   |      | 0    | *.4   | .4   | .6    | .2   |       |      |      |       |
| 22    |      |       |      | 0    | .4    | .4   | .5    | *.2  |       |      |      |       |
| 23    |      |       |      | 0    | .4    | .6   | .4    | .2   |       |      |      |       |
| 24    |      |       |      | *.1  | .4    | .4   | .4    | .2   |       |      |      |       |
| 25    |      |       |      | .1   | .4    | .4   | .5    | .1   |       |      |      |       |
| 26    |      |       |      | .1   | .4    | .4   | .6    | .1   | (*)   | (*)  |      |       |
| 27    |      |       |      | .1   | .4    | .4   | .6    | .1   |       |      |      |       |
| 28    |      |       |      | .1   | .4    | .9   | .4    | .1   |       |      |      |       |
| 29    |      |       |      | .2   | ----- | .4   | .4    | .1   |       |      |      |       |
| 30    |      |       |      | .4   | ----- | .4   | .3    | .1   |       |      |      |       |
| 31    |      | ----- |      | .9   | ----- | .4   | ----- | .1   | ----- |      |      | ----- |
| TOTAL | 0    | 0     | 0    | 2.0  | 15.5  | 13.5 | 13.2  | 5.8  | 0     | 0    | 0    | 0     |
| MEAN  | 0    | 0     | 0    | 0.06 | 0.55  | 0.44 | 0.44  | 0.19 | 0     | 0    | 0    | 0     |
| MAX   | 0    | 0     | 0    | 0.9  | 1.6   | 0.9  | 0.7   | 0.3  | 0     | 0    | 0    | 0     |
| MIN   | 0    | 0     | 0    | 0    | 0.3   | 0.3  | 0.3   | 0.1  | 0     | 0    | 0    | 0     |
| AC-FT | 0    | 0     | 0    | 4.0  | 31    | 27   | 26    | 12   | 0     | 0    | 0    | 0     |

CALENDAR YEAR 1962: MAX 92 MIN 0 MEAN 2.48 AC-FT 1,790  
WATER YEAR 1962-63: MAX 1.6 MIN 0 MEAN 0.14 AC-FT 100

Peak discharge (base, 40 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

11-1477. Cholame Creek tributary near Cholame, Calif.

Location.--Lat 35°45'10", long 120°15'50", in Cholame Grant, on right bank at culvert on State Highway 41, 2.8 miles northeast of Cholame, San Luis Obispo County.

Drainage area.--9.32 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Datum of gage is 1,213 ft above mean sea level (by vertical angles).

Average discharge.--5 years, 0.10 cfs (72 acre-ft per year).

Extremes.--Maximum daily discharge during year, 0.2 cfs Jan. 31, Feb. 9, 10; no flow for several months.

1958-63; Maximum discharge, 118 cfs (revised) Feb. 9, 1962 (gage height, 4.99 ft), by indirect measurement of peak flow through culvert; no flow for most of each year.

Revisions.--The maximum discharge for the water year 1962 has been revised to 118 cfs Feb. 9, 1962 (gage height, 4.99 ft), superseding figure published in 1962 Basic Data Release.

Remarks.--Records poor. No regulation. Small diversions above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 10-20)

|     |    |
|-----|----|
| 2.4 | 0  |
| 2.5 | .1 |
| 2.6 | .5 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0    |      | 0    | 0    | 0     | 0    | 0.1   | 0    | 0     |      |      | 0     |
| 2     | 0    |      | 0    | 0    | *0    | 0    | .1    | 0    | 0     |      |      | 0     |
| 3     | 0    |      | 0    | 0    | 0     | 0    | *.1   | 0    | 0     |      |      | 0     |
| 4     | 0    |      | 0    | 0    | 0     | 0    | .1    | 0    | 0     |      |      | 0     |
| 5     | 0    |      | 0    | 0    | 0     | 0    | .1    | 0    | 0     |      | (*)  | *0    |
| 6     | 0    |      | *0   | 0    | 0     | 0    | .1    | 0    | 0     |      |      | 0     |
| 7     | 0    |      | 0    | 0    | 0     | 0    | .1    | 0    | 0     |      |      | 0     |
| 8     | 0    |      | 0    | *0   | .1    | 0    | .1    | 0    | .1    |      |      | 0     |
| 9     | 0    |      | .1   | .1   | .2    | 0    | .1    | .1   | 0     |      |      | 0     |
| 10    | .1   |      | .1   | .1   | .2    | 0    | .1    | .1   | *0    |      |      | 0     |
| 11    | .1   |      | .1   | 0    | .1    | 0    | .1    | .1   | .1    | (*)  |      | 0     |
| 12    | .1   |      | .1   | .1   | .1    | 0    | .1    | .1   | 0     |      |      | 0     |
| 13    | 0    |      | .1   | .1   | .1    | 0    | .1    | .1   | 0     |      |      | 0     |
| 14    | 0    |      | .1   | .1   | .1    | 0    | .1    | .1   | 0     |      |      | 0     |
| 15    | .1   |      | .1   | .1   | 0     | 0    | .1    | .1   | 0     |      |      | 0     |
| 16    | 0    |      | .1   | .1   | 0     | .1   | .1    | .1   | 0     |      |      | 0     |
| 17    | 0    |      | .1   | .1   | 0     | .1   | .1    | .1   | 0     |      |      | 0     |
| 18    | 0    |      | .1   | .1   | 0     | 0    | .1    | .1   | 0     |      |      | .1    |
| 19    | 0    |      | .1   | .1   | 0     | 0    | .1    | .1   | 0     |      |      | 0     |
| 20    | 0    |      | .1   | .1   | 0     | 0    | .1    | .1   | 0     |      |      | 0     |
| 21    | 0    | (*)  | 0    | .1   | 0     | 0    | .1    | *.1  | 0     |      |      | 0     |
| 22    | 0    |      | 0    | .1   | 0     | .1   | .1    | .1   | 0     |      |      | 0     |
| 23    | 0    |      | 0    | 0    | 0     | .1   | .1    | .1   | 0     |      |      | 0     |
| 24    | 0    |      | 0    | 0    | 0     | 0    | 0     | .1   | 0     |      |      | 0     |
| 25    | 0    |      | 0    | 0    | 0     | 0    | 0     | .1   | 0     |      |      | 0     |
| 26    | 0    |      | 0    | 0    | 0     | 0    | 0     | .1   | 0     |      |      | 0     |
| 27    | 0    |      | 0    | 0    | 0     | .1   | 0     | .1   | 0     |      |      | 0     |
| 28    | 0    |      | 0    | 0    | 0     | .1   | 0     | .1   | 0     |      |      | 0     |
| 29    | 0    |      | 0    | .1   | ----- | .1   | 0     | .1   | 0     |      |      | 0     |
| 30    | 0    |      | 0    | .1   | ----- | .1   | 0     | 0    | 0     |      |      | 0     |
| 31    | 0    |      | 0    | .2   | ----- | .1   | ----- | 0    | ----- |      |      | ----- |
| Total | 0.4  | 0    | 1.2  | 1.7  | 0.9   | 0.9  | 2.3   | 2.1  | 0.2   | 0    | 0    | 0.1   |
| Mean  | 0.01 | 0    | 0.04 | 0.05 | 0.03  | 0.03 | 0.08  | 0.07 | 0.007 | 0    | 0    | 0.003 |
| Max   | 0.1  | 0    | 0.1  | 0.2  | 0.2   | 0.1  | 0.1   | 0.1  | 0.1   | 0    | 0    | 0.1   |
| Min   | 0    | 0    | 0    | 0    | 0     | 0    | 0     | 0    | 0     | 0    | 0    | 0     |
| Ac-ft | 0.8  | 0    | 2.4  | 3.4  | 1.8   | 1.8  | 4.6   | 4.2  | 0.4   | 0    | 0    | 0.2   |
| (†)   | 0.3  | 0    | 0.3  | 1.8  | 2.0   | 1.6  | 1.4   | 0.9  | 0.2   | 0    | 0    | 0.2   |

Calendar year 1962; Max 14 Min 0 Mean 0.34 Ac-ft 244

Water year 1962-63; Max 0.2 Min 0 Mean 0.03 Ac-ft 20

Peak discharge (base, 10 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

† Precipitation, in inches.

Note.--No gage-height record Dec. 11 to Jan. 7, Feb. 10 to Apr. 2, Apr. 14-16, Apr. 30 to May 16.

## SALINAS RIVER BASIN

11-1478. Cholame Creek near Shandon, Calif.

Location.--Lat 35°41'20", long 120°20'03", in SE¼ sec. 3, T.26 S., R.15 E., on left bank 500 ft upstream from highway bridge, 2.6 miles downstream from White Canyon, and 3.5 miles northeast of Shandon.

Drainage area.--227 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 1,069.0 ft above mean sea level (planetable survey).

Average discharge.--5 years, 1.79 cfs (1,300 acre-ft per year).

Extremes.--Maximum discharge during year, 700 cfs Feb. 9 (gage height, 6.10 ft); no flow for most of year.

1958-63: Maximum discharge, 1,100 cfs Feb. 9, 1962 (gage height, 6.90 ft), but may have been higher Feb. 16, 1959; no flow for many months in each year.

Remarks.--Records poor. Small diversions above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 2.8 | 0   | 3.6 | 22  |
| 2.9 | .1  | 3.8 | 40  |
| 3.0 | .3  | 4.0 | 63  |
| 3.1 | 1.1 | 4.3 | 105 |
| 3.2 | 3.0 | 4.6 | 170 |
| 3.3 | 6.0 | 5.0 | 280 |
| 3.4 | 10  |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan. | Feb.  | Mar. | Apr. | May | June | July | Aug. | Sept. |
|-------|------|------|------|------|-------|------|------|-----|------|------|------|-------|
| 1     |      |      |      | 0    | 99    |      |      |     |      |      |      |       |
| 2     |      |      |      | 0    | *15   |      |      |     |      |      |      |       |
| 3     |      |      |      | 0    | .3    |      | (*)  |     |      |      |      |       |
| 4     |      |      |      | 0    | 0     |      |      |     |      |      |      |       |
| 5     |      |      |      | 0    | *0    |      |      |     |      |      | (*)  | (*)   |
| 6     |      |      | (*)  | 0    | 0     |      |      |     |      |      |      |       |
| 7     |      |      |      | 0    | 0     |      |      |     |      |      |      |       |
| 8     |      |      |      | *0   | 0     |      |      |     |      |      |      |       |
| 9     |      |      |      | 0    | 42    |      |      |     |      |      |      |       |
| 10    |      |      |      | 0    | 233   |      |      |     | (*)  |      |      |       |
| 11    |      |      |      | 0    | 30    |      |      |     |      | (*)  |      |       |
| 12    |      |      |      | 0    | .2    |      |      |     |      |      |      |       |
| 13    |      |      |      | 0    | 83    |      |      |     |      |      |      |       |
| 14    |      |      |      | 0    | 32    |      |      |     |      |      |      |       |
| 15    |      |      |      | 0    | .3    |      |      |     |      |      |      |       |
| 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    | ----- |      |      |     |      |      |      |       |
| 30    |      |      |      | 0    | ----- |      |      |     |      |      |      |       |
| 31    |      |      |      | 92   | ----- |      |      |     |      |      |      |       |
| Total | 0    | 0    | 0    | 92   | 534.8 | 0    | 0    | 0   | 0    | 0    | 0    | 0     |
| Mean  | 0    | 0    | 0    | 2.97 | 19.1  | 0    | 0    | 0   | 0    | 0    | 0    | 0     |
| Max   | 0    | 0    | 0    | 92   | 233   | 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    | 182  | 1,060 | 0    | 0    | 0   | 0    | 0    | 0    | 0     |

Calendar year 1962: Max 466 Min 0 Mean 6.29 Ac-ft 4,560  
 Water year 1962-63: Max 233 Min 0 Mean 1.72 Ac-ft 1,240

Peak discharge (base, 100 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 2100 | 5.98        | 652       | 2-13 | 1000 | 4.85        | 235       |
| 2-9  | 2400 | 6.10        | 700       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

11-1485. Estrella River near Estrella, Calif.  
(Formerly published as Estrella Creek near Estrella)

Location.--Lat 35°42'35", long 120°38'20", in NW $\frac{1}{4}$  NW $\frac{1}{4}$  sec.36, T.25 S., R.12 E., on right bank 0.2 mile downstream from mouth of Ranchito Canyon and 1.9 miles northwest of Estrella.

Drainage area.--922 sq mi, not including Carrizo Plains.

Records available.--October 1954 to September 1963. Prior to October 1962, published as Estrella Creek near Estrella.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 710 ft (from topographic map).

Average discharge.--9 years, 14.5 cfs (10,500 acre-ft per year).

Extremes.--Maximum discharge during year, 780 cfs Feb. 9 (gage height, 3.48 ft); no flow for several months.

1954-63: Maximum discharge, 8,850 cfs Apr. 6, 1958 (gage height, 7.20 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; no flow for several months in each year.

Remarks.--Records poor. Pumpage from wells along creek for irrigation affects flow at this station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.8 | 0   | 2.3 | 50  |
| 1.9 | 1.1 | 2.5 | 110 |
| 2.0 | 6.8 | 2.7 | 200 |
| 2.1 | 15  | 2.9 | 320 |
| 2.2 | 29  |     |     |

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |      |       |      |      |         |       |       |      |       |      |      |       |
|--|------|-------|------|------|---------|-------|-------|------|-------|------|------|-------|
| Day  | Oct. | Nov.  | Dec. | Jan. | Feb.    | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
| 1  |      |       |      | 0    | 97      | 4.0   | 4.0   | 2.8  |       |      |      |       |
| 2  |      |       |      | 0    | 72      | 4.0   | *4.0  | 2.2  |       |      |      |       |
| 3  |      |       |      | 0    | 27      | 4.0   | 4.0   | 1.7  |       |      |      |       |
| 4  |      |       |      | 0    | 13      | 4.0   | 4.0   | 1.7  |       |      |      |       |
| 5  |      |       |      | 0    | *9.8    | 4.0   | 4.0   | 1.1  |       |      |      | (*)   |
| 6  |      |       |      | 0    | 7.5     | 4.0   | 4.0   | *1.1 |       |      | (*)  |       |
| 7  |      |       |      | *0   | *6.1    | 4.0   | 4.7   | 1.1  |       |      |      |       |
| 8  |      | (*)   |      | 0    | 5.4     | 4.0   | 4.0   | 1.1  |       |      |      |       |
| 9  |      |       |      | 0    | 158     | 4.0   | 3.4   | 1.1  |       | (*)  |      |       |
| 10   |      |       |      | 0    | 270     | 4.0   | 4.0   | 1.4  |       |      |      |       |
| 11   |      |       |      | 0    | 114     | 4.0   | 4.0   | 1.4  | (*)   |      |      |       |
| 12   |      |       | (*)  | 0    | 72      | 4.0   | 3.4   | 1.4  |       |      |      |       |
| 13   |      |       |      | 0    | 84      | 4.0   | 3.4   | 1.4  |       |      |      |       |
| 14   |      |       |      | 0    | 69      | 4.0   | 4.7   | 1.1  |       |      |      |       |
| 15   |      |       |      | 0    | 55      | 4.0   | 5.4   | .8   |       |      |      |       |
| 16   |      |       |      | 0    | 40      | 6.0   | 4.7   | .6   |       |      |      |       |
| 17   | (*)  |       |      | 0    | 30      | 4.7   | 4.7   | .5   |       |      |      |       |
| 18   |      |       |      | 0    | 23      | 3.8   | 5.4   | .4   |       |      |      |       |
| 19   |      |       |      | 0    | 18      | 3.5   | 4.0   | .3   |       |      |      |       |
| 20   |      |       |      | 0    | 14      | 3.5   | 4.0   | .1   |       |      |      |       |
| 21   |      |       |      | 0    | 10      | 3.7   | 4.0   | 0    |       |      |      |       |
| 22   |      |       |      | 0    | 8.0     | 4.3   | 4.0   | 0    |       |      |      |       |
| 23   |      |       |      | 0    | 6.6     | 5.0   | 3.4   | 0    |       |      |      |       |
| 24   |      |       |      | 0    | 5.2     | 4.0   | 2.8   | 0    |       |      |      |       |
| 25   |      |       |      | 0    | 4.6     | 4.0   | 2.2   | 0    |       |      |      |       |
| 26   |      |       |      | 0    | 4.2     | 4.0   | 4.7   | 0    |       |      |      |       |
| 27   |      |       |      | 1.4  | 4.0     | 7.0   | 5.4   | .1   |       |      |      |       |
| 28   |      |       |      | 2.2  | 4.0     | 4.0   | 4.7   | .2   |       |      |      |       |
| 29   |      |       |      | 2.8  | -----   | 4.0   | 4.0   | .2   |       |      |      |       |
| 30   |      |       |      | 7.5  | -----   | 4.0   | 4.0   |      |       |      |      |       |
| 31   |      | ----- |      | 13   | -----   | 4.0   | ----- | .1   | ----- |      |      | ----- |
| Total  | 0    | 0     | 0    | 26.9 | 1,231.4 | 129.5 | 123.0 | 24.1 | 0     | 0    | 0    | 0     |
| Mean   | 0    | 0     | 0    | 0.87 | 44.0    | 4.18  | 4.10  | 0.78 | 0     | 0    | 0    | 0     |
| Max  | 0    | 0     | 0    | 13   | 270     | 7.0   | 5.4   | 2.8  | 0     | 0    | 0    | 0     |
| Min  | 0    | 0     | 0    | 0    | 4.0     | 3.5   | 2.2   | 0    | 0     | 0    | 0    | 0     |
| Ac-ft  | 0    | 0     | 0    | 53   | 2,440   | 257   | 244   | 48   | 0     | 0    | 0    | 0     |

Calendar year 1962: Max 1,500 Min 0 Mean 24.2 Ac-ft 17,510

Water year 1962-63: Max 270 Min 0 Mean 4.21 Ac-ft 2,990

Peak discharge (base, 200 cfs).--Feb. 1 (1500). 278 cfs (2.83 ft); Feb. 9 (1900) 780 cfs (3.48 ft).

\* Discharge measurement or observation of no flow made on this day.

Note.--No gage-height record Feb. 16 to Apr. 1.

## SALINAS RIVER BASIN

11-1488. Nacimiento River near Bryson, Calif.

Location.--Lat 35°48'06", long 121°06'50", in NW¼ sec.33, T.24 S., R.8 E., on right bank 0.6 mile upstream from Turtle Creek, 1.6 miles west of Bryson, and 10 miles southwest of Lockwood.

Drainage area.--140 sq mi.

Records available.--October 1955 to September 1963. Records for February to April 1901, published in WSP 66 and 75, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map).

Average discharge.--8 years, 161 cfs (116,600 acre-ft per year).

Extremes.--Maximum discharge during year, 22,800 cfs Jan. 31 (gage height, 21.08 ft); no flow for many days.

1955-63: Maximum discharge, 30,300 cfs Dec. 23, 1955 (gage height, 24.63 ft), from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Records fair. No storage or diversion above station.

Revisions (water years).--1962 Basic Data Report: 1961.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 2-9, Feb. 11 to Mar. 27,  
May 25 to Sept. 1)

|     |     |     |     |      |        |
|-----|-----|-----|-----|------|--------|
| 3.6 | 0   | 4.4 | 27  | 7.0  | 1,040  |
| 3.7 | .2  | 4.6 | 53  | 8.0  | 1,760  |
| 3.8 | .8  | 4.9 | 118 | 11.0 | 5,020  |
| 3.9 | 2.6 | 5.4 | 265 | 14.0 | 9,600  |
| 4.0 | 5.3 | 6.0 | 500 | 17.0 | 14,700 |
| 4.2 | 13  |     |     |      |        |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.    | JAN.     | FEB.   | MAR.    | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|---------|-------|---------|----------|--------|---------|--------|-------|-------|-------|------|-------|
| 1     | 0       | 7.5   | 5.7     | 18       | 8,370  | 15      | 343    | 255   | 46    | 17    | 1.7  | 0.1   |
| 2     | 0       | 7.2   | 5.7     | 18       | 1,940  | 13      | 283    | 233   | 43    | 15    | 1.4  | 0     |
| 3     | 0       | 7.2   | 5.7     | 17       | 902    | 11      | *236   | 215   | 38    | 15    | 1.2  | 0     |
| 4     | 0       | 6.8   | 6.0     | 17       | 509    | 10      | 203    | 194   | 37    | 14    | 1.4  | 0     |
| 5     | 0       | 6.8   | 6.0     | 16       | 328    | 9.0     | 176    | 176   | 36    | 13    | 1.2  | *0    |
| 6     | 0       | 6.4   | 6.0     | 15       | 239    | 8.3     | 161    | 161   | 35    | 12    | *1.2 | 0     |
| 7     | 0       | 6.0   | 6.0     | 14       | 194    | 7.9     | 613    | *150  | 36    | 12    | 1.2  | 0     |
| 8     | 0       | *6.4  | 6.0     | *14      | 156    | 7.5     | 460    | 141   | 36    | 11    | 1.5  | 0     |
| 9     | 0       | 6.0   | 6.0     | 14       | *1,610 | 7.2     | 371    | 150   | 35    | 11    | 1.9  | 0     |
| 10    | 0       | 6.0   | 5.7     | 14       | 3,730  | 6.4     | 328    | 128   | 34    | *9.4  | 2.1  | 0     |
| 11    | 0       | 6.0   | *6.0    | 13       | 1,730  | 5.7     | 304    | 136   | *35   | 9.0   | 1.7  | 0     |
| 12    | 0       | 6.0   | 6.0     | 12       | 758    | 5.0     | 262    | 118   | 34    | 8.3   | 1.2  | 0     |
| 13    | 404     | 6.0   | 6.0     | 12       | 1,710  | 4.1     | 233    | 106   | 34    | 7.5   | 1.0  | 0     |
| 14    | 1,010   | 6.0   | 6.0     | 11       | *1,100 | 3.5     | 1,430  | 98    | 33    | 7.2   | .9   | 0     |
| 15    | 146     | 6.0   | 7.4     | 11       | 630    | 4.4     | 1,810  | 86    | 31    | 6.4   | 1.4  | 0     |
| 16    | 66      | 5.7   | 546     | 11       | 407    | 423     | 998    | 82    | 27    | 6.0   | 1.2  | 0     |
| 17    | 41      | 5.3   | 335     | 11       | 286    | 182     | 690    | 75    | 26    | 5.7   | .9   | 0     |
| 18    | 30      | 5.3   | 113     | 11       | 212    | 55      | 541    | 73    | 25    | 5.0   | .8   | 0     |
| 19    | *23     | 5.3   | 71      | 11       | 156    | 28      | 590    | 67    | 24    | 5.0   | .5   | 0     |
| 20    | 18      | 5.3   | 55      | 11       | 121    | 19      | 532    | 66    | 23    | 4.7   | .4   | 0     |
| 21    | 16      | 5.3   | 47      | 10       | 91     | 14      | 554    | 64    | 22    | 4.1   | .3   | 0     |
| 22    | 13      | 5.7   | 40      | 9.8      | 67     | 115     | 464    | 64    | 22    | 4.1   | .2   | 0     |
| 23    | 12      | 5.7   | 36      | 9.8      | 52     | 627     | 403    | 62    | 21    | 4.1   | .2   | 0     |
| 24    | 11      | 5.7   | 33      | 9.8      | 38     | 252     | 359    | 60    | 21    | 3.5   | .1   | 0     |
| 25    | 11      | 5.7   | 28      | 9.8      | 31     | 150     | 387    | 60    | 20    | 3.3   | .1   | 0     |
| 26    | 10      | 5.7   | 26      | 9.8      | 24     | 98      | 500    | 58    | 19    | 3.0   | 0    | 0     |
| 27    | 9.8     | 6.0   | 24      | 9.8      | 21     | 285     | 387    | 53    | 19    | 2.6   | 0    | 0     |
| 28    | 9.4     | 6.0   | 22      | 9.8      | 17     | 2,280   | 343    | 52    | 18    | 2.3   | 0    | 0     |
| 29    | 9.0     | 6.0   | 21      | 13       | -----  | 902     | 311    | 52    | 18    | 2.3   | 0    | 0     |
| 30    | 8.6     | 5.7   | 20      | 4,700    | -----  | 568     | 279    | 50    | 17    | 2.1   | 0    | 0     |
| 31    | 7.9     | ----- | 20      | 13,600   | -----  | 431     | -----  | 47    | ----- | 1.9   | .1   | ----- |
| TOTAL | 1,855.7 | 180.7 | 1,527.2 | 18,662.6 | 25,429 | 6,547.0 | 14,551 | 3,332 | 865   | 227.5 | 25.8 | 0.1   |
| MEAN  | 59.9    | 6.02  | 49.3    | 602      | 908    | 211     | 485    | 107   | 28.8  | 7.34  | 0.83 | 0.003 |
| MAX   | 1,010   | 7.5   | 546     | 13,600   | 8,370  | 2,280   | 1,810  | 255   | 46    | 17    | 2.1  | 0.1   |
| MIN   | 0       | 5.3   | 5.7     | 9.8      | 17     | 3.5     | 161    | 47    | 17    | 1.9   | 0    | 0     |
| AC-FT | 3,680   | 358   | 3,030   | 37,020   | 50,440 | 12,990  | 28,860 | 6,610 | 1,720 | 451   | 51   | 0.2   |

CALENDAR YEAR 1962: MAX 10,200 MIN 0 MEAN 207 AC-FT 149,900

WATER YEAR 1962-63: MAX 13,600 MIN 0 MEAN 201 AC-FT 145,200

Peak discharge (base, 4,000 cfs).--Jan. 31 (1400) 22,800 cfs (21.08 ft); Feb. 9 (2000) 4,420 cfs (10.54 ft).

\* Discharge measurement or observation of no flow made on this day.



11-1494. Nacimiento River below Nacimiento Dam, near Bradley, Calif.

Location.--Lat 35°45'41", long 120°51'16", in NE<sup>1</sup>/<sub>4</sub>NE<sup>1</sup>/<sub>4</sub> sec.14, T.25 S., R.10 E., on left bank 2.2 miles below Nacimiento Dam and 7.6 miles southwest of Bradley.

Drainage area.--322 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 597 ft above mean sea level (Corps of Engineers bench mark).

Average discharge.--6 years, 217 cfs (157,100 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 518 cfs July 12, 13 (gage height, 5.77 ft); no flow for many days.  
1957-63: Maximum discharge, 5,220 cfs Apr. 7, 1958 (gage height, 10.28 ft); no flow many days each year.

Remarks.--Records good. Flow regulated by Nacimiento Dam (usable capacity, 340,000 acre-ft). No diversion above station.

Cooperation.--One discharge measurement furnished by Monterey County Flood Control and Water Conservation District.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 13, Mar. 21 to May 2, June 5-29)

Oct. 1-12

Oct. 13 to Sept. 30

5.0 240  
5.7 430

2.7 0 3.4 14  
2.8 .1 3.6 29  
2.9 .4 3.8 47  
3.0 1.2 4.0 70  
3.1 2.9 4.5 150  
3.2 5.5 5.0 270  
3.3 9.5 5.8 550

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.   | DEC.    | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE   | JULY   | AUG.   | SEPT.  |
|-------|---------|--------|---------|------|-------|------|-------|------|--------|--------|--------|--------|
| 1     | 421     | 255    | 253     | a0   | 1.4   | 0.1  | 0.1   | 0.1  | 0      | 335    | 494    | 369    |
| 2     | 321     | 255    | 253     | a0   | .5    | .1   | .1    | .1   | 0      | 402    | 494    | 369    |
| 3     | *245    | 258    | 253     | a0   | .2    | .1   | .1    | 0    | 0      | 406    | 494    | 450    |
| 4     | 245     | 258    | 185     | a0   | .2    | .1   | *.1   | 0    | 0      | 402    | 498    | 490    |
| 5     | 245     | 258    | 134     | a0   | .2    | .1   | .1    | 0    | 146    | 402    | *494   | *494   |
| 6     | 245     | 258    | *104    | a0   | .2    | .1   | .1    | *0   | 291    | 402    | 490    | 490    |
| 7     | 245     | 255    | 130     | a0   | .2    | .1   | .1    | 0    | 291    | 402    | 490    | 384    |
| 8     | 290     | 255    | 130     | *0   | *.2   | 0    | .1    | 0    | 291    | 402    | 486    | 268    |
| 9     | 335     | 255    | 130     | 0    | 2.7   | 0    | .1    | 0    | 291    | 402    | 486    | 344    |
| 10    | 333     | 255    | 130     | 0    | 1.4   | 0    | .1    | 0    | *291   | 402    | 486    | 490    |
| 11    | 328     | 255    | 130     | 0    | .4    | 0    | .1    | 0    | 337    | 398    | 486    | 486    |
| 12    | 325     | 255    | 128     | 0    | .3    | 0    | .1    | 0    | 402    | 510    | 486    | 486    |
| 13    | 199     | 255    | 128     | 0    | .5    | 0    | 0     | 0    | 398    | 514    | 486    | 486    |
| 14    | 3.4     | 255    | 128     | 0    | .3    | 0    | .1    | 0    | 402    | 510    | 486    | 411    |
| 15    | 118     | 255    | 128     | 0    | .2    | 0    | .1    | 0    | 398    | 478    | 486    | 372    |
| 16    | 243     | 255    | 80      | 0    | .2    | .1   | .1    | 0    | 398    | 387    | 486    | 372    |
| 17    | 243     | 255    | 1.5     | 0    | .2    | .1   | .1    | 0    | 398    | 387    | 486    | 372    |
| 18    | 281     | 255    | .3      | 0    | .1    | .1   | .1    | 0    | 394    | 387    | 486    | 340    |
| 19    | *336    | 255    | .2      | 0    | .1    | .1   | .1    | 0    | 398    | 434    | 486    | 268    |
| 20    | 333     | 255    | .1      | 0    | .1    | .1   | .1    | 0    | 394    | 510    | 486    | 268    |
| 21    | 330     | 255    | .1      | 0    | .1    | .1   | .1    | 0    | 394    | 506    | 486    | 265    |
| 22    | 330     | 255    | .1      | 0    | .1    | .1   | .1    | 0    | 398    | 510    | 486    | 268    |
| 23    | 330     | 255    | .1      | 0    | .1    | .1   | 0     | 0    | 394    | 510    | 482    | 270    |
| 24    | 330     | 255    | a0      | 0    | .1    | .1   | 0     | 0    | 394    | 506    | 482    | 268    |
| 25    | 330     | 255    | a0      | 0    | .1    | .1   | 0     | 0    | 398    | 506    | 482    | 270    |
| 26    | 330     | 255    | a0      | 0    | .1    | .1   | .1    | 0    | 398    | 506    | *482   | 326    |
| 27    | 330     | 255    | a0      | 0    | .1    | .1   | .1    | 0    | 398    | 502    | 482    | 375    |
| 28    | 330     | 255    | a0      | 0    | .1    | .2   | .1    | 0    | *363   | 502    | 482    | 375    |
| 29    | 330     | 253    | a0      | 0    | ----- | .2   | .1    | 0    | 291    | 498    | 482    | 375    |
| 30    | 284     | 253    | a0      | .1   | ----- | .1   | .1    | 0    | 294    | 498    | 433    | 375    |
| 31    | 253     | -----  | a0      | 1.1  | ----- | .1   | ----- | 0    | -----  | 494    | 369    | -----  |
| TOTAL | 8,841.4 | 7,658  | 2,426.4 | 1.2  | 10.4  | 2.5  | 2.6   | 0.2  | 9,242  | 13,950 | 14,920 | 11,176 |
| MEAN  | 285     | 255    | 78.3    | 0.04 | 0.37  | 0.08 | 0.09  | 0.01 | 308    | 450    | 481    | 373    |
| MAX   | 421     | 258    | 253     | 1.1  | 2.7   | 0.2  | 0.1   | 0.1  | 402    | 514    | 498    | 494    |
| MIN   | 3.4     | 253    | 0       | 0    | 0.1   | 0    | 0     | 0    | 0      | 335    | 369    | 265    |
| AC-FT | 17,540  | 15,190 | 4,810   | 2.4  | 21    | 5.0  | 5.2   | 0.4  | 18,330 | 27,670 | 29,590 | 22,170 |

CALENDAR YEAR 1962: MAX 560 MIN 0 MEAN 270 AC-FT 195,700  
WATER YEAR 1962-63: MAX 514 MIN 0 MEAN 187 AC-FT 135,300

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SALINAS RIVER BASIN

11-1497. San Antonio River at Sam Jones Bridge, near Lockwood, Calif.

Location.--Lat 35°54'45", long 121°07'50", in Los Ojitos Grant, on downstream side of Sam Jones Bridge, 300 ft downstream from China Gulch and 3.5 miles southwest of Lockwood, Monterey County.

Drainage area.--211 sq mi.

Records available.--June 1958 to September 1959, February 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 860 ft (from topographic map).

Extremes.--Maximum discharge during year, 14,400 cfs Jan. 31 (gage height, 8.70 ft); minimum daily, 0.1 cfs Sept. 6-8. 1958-59, 1961-63: Maximum discharge, that of Jan. 31, 1963; no flow July 15 to Nov. 1, 1961.

Remarks.--Records poor. Some pumping above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-14, Feb. 2-13, Mar. 25-28,  
Apr. 14 to May 13, July 5 to Aug. 28, Aug. 31 to Sept. 8)

| Oct. 1-13<br>Mar. 25 to Sept. 30 |     |     |       | Oct. 14 to Mar. 24 |     |     |        |
|----------------------------------|-----|-----|-------|--------------------|-----|-----|--------|
| 1.8                              | 0   | 2.5 | 26    | 2.4                | 2.0 | 3.6 | 235    |
| 2.0                              | .2  | 2.7 | 60    | 2.5                | 4.0 | 4.0 | 475    |
| 2.1                              | .5  | 3.0 | 140   | 2.6                | 8.0 | 4.5 | 940    |
| 2.2                              | 1.4 | 3.5 | 330   | 2.7                | 14  | 5.0 | 1,600  |
| 2.3                              | 5.5 | 4.0 | 610   | 2.8                | 22  | 6.0 | 3,700  |
| 2.4                              | 14  | 4.5 | 1,040 | 3.0                | 50  | 7.0 | 6,750  |
|                                  |     |     |       | 3.3                | 120 | 8.0 | 10,900 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.   | MAR.  | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|-------|-------|-------|---------|--------|-------|--------|-------|-------|-------|------|-------|
| 1     | 0.4   | 3.6   | 4.4   | 12      | *5,710 | 127   | 167    | 167   | 58    | *21   | 3.0  | 0.4   |
| 2     | .4    | 3.4   | 4.8   | 12      | 1,130  | 120   | 164    | 161   | 53    | 20    | 2.6  | .3    |
| 3     | .5    | 3.2   | 4.8   | 12      | 640    | 115   | 158    | 155   | 46    | 20    | 3.0  | .2    |
| 4     | .6    | 3.2   | 4.8   | 12      | 491    | 110   | 149    | 146   | 45    | 21    | 2.6  | .2    |
| 5     | .6    | 3.2   | 4.8   | 12      | 363    | 103   | *137   | 143   | 46    | 21    | 3.0  | *.2   |
| 6     | .6    | 3.0   | 4.8   | 12      | 290    | 100   | 131    | 137   | 46    | 21    | *2.2 | .1    |
| 7     | .6    | 3.0   | 5.2   | 11      | 235    | 98    | 184    | *134  | 46    | 21    | 3.0  | .1    |
| 8     | .6    | *3.0  | 5.2   | *10     | 208    | 95    | 177    | 134   | 45    | 21    | 2.6  | .1    |
| 9     | .6    | 3.4   | 5.2   | 10      | *412   | 93    | 161    | 140   | 45    | 19    | 2.6  | .2    |
| 10    | .7    | 3.4   | 5.2   | 10      | 1,140  | 88    | 155    | 125   | 44    | 16    | 2.6  | .2    |
| 11    | .9    | 3.4   | *5.2  | 9.8     | 720    | 85    | 164    | 125   | 43    | *14   | 2.6  | .2    |
| 12    | 1.0   | 3.4   | 5.2   | 9.2     | 461    | 83    | 161    | 122   | *42   | 11    | 2.6  | .2    |
| 13    | 1.4   | 3.6   | 5.2   | 9.2     | 942    | 78    | 149    | 116   | 41    | 13    | 2.2  | .3    |
| 14    | 352   | 4.0   | 5.2   | 9.2     | 750    | *75   | 357    | 112   | 40    | 11    | 1.8  | .2    |
| 15    | 100   | 4.0   | 6.8   | 8.6     | 523    | 78    | 734    | 106   | 40    | 11    | 1.8  | .2    |
| 16    | 47    | 3.8   | 33    | 8.6     | 426    | 148   | 544    | 102   | 38    | 8.9   | 1.8  | .3    |
| 17    | 30    | 4.0   | 85    | 8.0     | 375    | 213   | 442    | 100   | *34   | 7.2   | 2.2  | .4    |
| 18    | 20    | 3.8   | 46    | 8.0     | 334    | 134   | *375   | 98    | 34    | 6.4   | 2.2  | *1.1  |
| 19    | *13   | 3.8   | 35    | 8.0     | 296    | 110   | 370    | 93    | 29    | 6.4   | 2.2  | 1.8   |
| 20    | 11    | 3.8   | 29    | 8.0     | *279   | 100   | 330    | 88    | 28    | 5.5   | 2.2  | 1.0   |
| 21    | 9.2   | *3.8  | 22    | 8.0     | 241    | 90    | 321    | 82    | 28    | 5.1   | *2.6 | .8    |
| 22    | 7.6   | 3.8   | 22    | 8.0     | 217    | 90    | 269    | 79    | 28    | 4.7   | 2.2  | .5    |
| 23    | 6.8   | 3.8   | 20    | 8.0     | 195    | 196   | 241    | *76   | 28    | 4.3   | 1.8  | .5    |
| 24    | 6.4   | 3.8   | 18    | *8.0    | 180    | 180   | 221    | 74    | 26    | 3.9   | 1.2  | .4    |
| 25    | 6.0   | 3.6   | 16    | 8.6     | 169    | 116   | 213    | 70    | 26    | 3.9   | 1.1  | .4    |
| 26    | 5.6   | 3.8   | 16    | 8.6     | 159    | 98    | 308    | 66    | 25    | 3.5   | 1.0  | .3    |
| 27    | 5.6   | 4.4   | 15    | 8.6     | 148    | 90    | 233    | 60    | 22    | 3.5   | .9   | .3    |
| 28    | 5.2   | 4.4   | *14   | 8.6     | 141    | 393   | 209    | 60    | 21    | 3.0   | .7   | .3    |
| 29    | 4.0   | 4.4   | 14    | 9.8     | -----  | 265   | 184    | 58    | 21    | 3.5   | .6   | .3    |
| 30    | 3.8   | 4.4   | 13    | 1,530   | -----  | 205   | 174    | 64    | 21    | *3.0  | .5   | .4    |
| 31    | 3.6   | ----- | 13    | *7,480  | -----  | 177   | -----  | 62    | ----- | 2.6   | .4   | ----- |
| TOTAL | 645.7 | 110.2 | 487.8 | 9,285.8 | 17,175 | 4,053 | 7,582  | 3,255 | 1,089 | 336.4 | 61.8 | 11.9  |
| MEAN  | 20.8  | 3.67  | 15.7  | 300     | 613    | 131   | 253    | 105   | 36.3  | 10.9  | 1.99 | 0.40  |
| MAX   | 352   | 4.4   | 85    | 7,480   | 5,710  | 393   | 734    | 167   | 58    | 21    | 3.0  | 1.8   |
| MIN   | 0.4   | 3.0   | 4.4   | 8.0     | 141    | 75    | 131    | 58    | 21    | 2.6   | 0.4  | 0.1   |
| AC-FT | 1,280 | 219   | 968   | 18,420  | 34,070 | 8,040 | 15,040 | 6,460 | 2,160 | 667   | 123  | 24    |

Calendar year 1962: Max 3,560 Min 0.3 Mean 89.9 Ac-ft 65,080  
Water year 1962-63: Max 7,480 Min 0.1 Mean 121 Ac-ft 87,470

## Peak discharge (base, 300 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-14 | 0400 | 4.38        | 820       | 3-16 | 2200 | 3.87        | 387       |
| 1-31  | 1700 | 8.70        | 14,400    | 3-28 | 0800 | 3.95        | 580       |
| 2-10  | 1800 | 4.98        | 1,420     | 4-15 | 0600 | 4.32        | 868       |
| 2-13  | 1600 | 4.78        | 1,270     |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record May 14 to June 16.

## SALINAS RIVER BASIN

269

11-1500 San Antonio River at Pleyto, Calif.

Location.--Lat 35°51'55", long 120°59'30", in Pleyto Grant, on downstream side of left abutment of highway bridge at old townsite of Pleyto, Monterey County, 1.1 miles downstream from Cooperhead Creek, and 15 miles west of Bradley.

Drainage area.--284 sq mi.

Records available.--April to September 1922, October 1929 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 720 ft (from topographic map). Prior to May 10, 1939, at datum 1.00 ft higher. April to September 1922, staff gage at same site at different datum.

Average discharge.--34 years (1929-63), 82.0 cfs (59,370 acre-ft per year); median of yearly mean discharges, 48 cfs (34,800 acre-ft per year).

Extremes.--Maximum discharge during year, 14,800 cfs Jan. 31 (gage height, 6.35 ft), from rating curve extended above 5,000 cfs; no flow for many days.  
1929-63: Maximum discharge, 19,100 cfs Apr. 3, 1958 (gage height, 6.44 ft), from rating curve extended above 4,500 cfs; no flow several months each year except possibly 1942-43.

Remarks.--Records poor. Diversion for irrigation of about 500 acres above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 14-20, Nov. 18, 19, Dec. 16, 17,  
Jan. 30 to Feb. 10, Feb. 21 to Mar. 28, May 3-28)

| Oct. 1 to Dec. 16<br>Jan. 30 to Sept. 30 |     |     |     | Dec. 17 to Jan. 29 |       |     |     |
|--|-----|-----|-----|--------------------|-------|-----|-----|
| 0.5                                      | 0   | 1.1 | 26  | 3.5                | 1,200 | 1.1 | 0   |
| .6                                       | .2  | 1.3 | 57  | 4.0                | 1,610 | 1.2 | 9.0 |
| .7                                       | 1.2 | 1.6 | 128 | 4.5                | 2,410 | 1.3 | 20  |
| .8                                       | 3.6 | 2.0 | 255 | 5.0                | 3,500 | 1.5 | 47  |
| .9                                       | 8.0 | 2.5 | 460 | 5.5                | 4,850 | 1.8 | 110 |
| 1.0                                      | 16  | 3.0 | 780 | 6.0                | 7,000 |     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC.  | JAN.    | FEB.   | MAR.  | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|------|-------|-------|---------|--------|-------|--------|-------|-------|-------|------|-------|
| 1     | 0    | 0     | 0.2   | 9.0     | *5,780 | 155   | 216    | 216   | 63    | *17   | 0.1  |       |
| 2     | 0    | 0     | .2    | 9.0     | 1,400  | 149   | 212    | 200   | 57    | 17    | .1   |       |
| 3     | 0    | 0     | .2    | 10      | 708    | 140   | *190   | 187   | 50    | 16    | .1   |       |
| 4     | 0    | 0     | .2    | 9.0     | 465    | 128   | 180    | 177   | 49    | 14    | 0    |       |
| 5     | 0    | 0     | .3    | 10      | 353    | 123   | 180    | 164   | 50    | 14    | 0    | (*)   |
| 6     | 0    | 0     | .4    | 10      | 286    | 112   | 177    | 155   | 50    | 14    | *0   |       |
| 7     | 0    | 0     | .4    | 10      | 248    | 112   | 196    | *152  | 50    | 14    | 0    |       |
| 8     | 0    | *0    | .4    | *9.0    | 222    | 112   | 235    | 140   | 50    | 12    | 0    |       |
| 9     | 0    | 0     | .4    | 9.0     | *277   | 110   | 219    | 143   | 49    | 11    | 0    |       |
| 10    | 0    | 0     | .4    | 10      | 1,100  | 107   | 196    | 137   | 49    | 9.6   | 0    |       |
| 11    | 0    | 0     | *.4   | 10      | 919    | 102   | 212    | 134   | *47   | *9.6  | 0    |       |
| 12    | 0    | 0     | .4    | 10      | 570    | 97    | 193    | 125   | 47    | 7.6   | 0    |       |
| 13    | 0    | 0     | .4    | 9.0     | 871    | 88    | 177    | 120   | 45    | 6.7   | 0    |       |
| 14    | 7.8  | 0     | .4    | 10      | 841    | *78   | 299    | 115   | 45    | 5.8   | 0    |       |
| 15    | 48   | 0     | .6    | 10      | 582    | 74    | 722    | 112   | 45    | 4.9   | 0    |       |
| 16    | 8.0  | 0     | 4.0   | 10      | 475    | 100   | 516    | 107   | 43    | 4.0   | 0    |       |
| 17    | 2.4  | 0     | 56    | 10      | 406    | 187   | 425    | 107   | 39    | 3.6   | 0    |       |
| 18    | .9   | .1    | 63    | 11      | 361    | 137   | 374    | 105   | 36    | 3.1   | 0    |       |
| 19    | *.4  | .2    | 34    | 11      | 318    | 118   | *357   | 95    | 33    | 2.9   | 0    |       |
| 20    | .1   | .2    | 29    | 10      | *301   | 110   | 341    | 92    | 29    | 2.6   | 0    |       |
| 21    | 0    | *.2   | 24    | 9.0     | 262    | 97    | 329    | 88    | 27    | 1.9   | *0   |       |
| 22    | 0    | .2    | 21    | 9.0     | 235    | 88    | 304    | 85    | 26    | 1.7   | 0    |       |
| 23    | 0    | .2    | 17    | 8.1     | 225    | 131   | 266    | *83   | 25    | 1.4   | 0    |       |
| 24    | 0    | .2    | 16    | *7.2    | 216    | 180   | 252    | 80    | 25    | 1.0   | 0    |       |
| 25    | 0    | .2    | 13    | 6.3     | 203    | 155   | 235    | 76    | 25    | .8    | 0    |       |
| 26    | 0    | .2    | 12    | 4.5     | 177    | 131   | 290    | 72    | 23    | .7    | 0    |       |
| 27    | 0    | .2    | 12    | 5.4     | 164    | 118   | 297    | 65    | 22    | .4    | 0    |       |
| 28    | 0    | .2    | *12   | 4.5     | 164    | 377   | 266    | 65    | 20    | .4    | 0    |       |
| 29    | 0    | .2    | 10    | 3.6     | -----  | 337   | 245    | 63    | 19    | .4    | 0    |       |
| 30    | 0    | .2    | 10    | 517     | -----  | 273   | 232    | 70    | 17    | *.2   | 0    |       |
| 31    | 0    | ----- | 9.0   | *6,110  | -----  | 229   | -----  | 68    | ----- | .2    | 0    | ----- |
| TOTAL | 67.6 | 2.5   | 347.3 | 6,880.6 | 18,129 | 4,455 | 8,333  | 3,598 | 1,155 | 198.5 | 0.3  | 0     |
| MEAN  | 2.18 | 0.08  | 11.2  | 222     | 647    | 144   | 278    | 116   | 38.5  | 6.40  | 0.01 | 0     |
| MAX   | 48   | 0.2   | 63    | 6,110   | 5,780  | 377   | 722    | 216   | 63    | 17    | 0.1  | 0     |
| MIN   | 0    | 0     | 0.2   | 3.6     | 164    | 74    | 177    | 63    | 17    | 0.2   | 0    | 0     |
| AC-FT | 134  | 5.0   | 689   | 13,650  | 35,960 | 8,840 | 16,530 | 7,140 | 2,290 | 394   | 0.6  | 0     |

CALENDAR YEAR 1962: MAX 3,360 MIN 0 MEAN 86.0 AC-FT 62,230  
WATER YEAR 1962-63: MAX 6,110 MIN 0 MEAN 118 AC-FT 85,630

Peak discharge (base, 470 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1900 | 6.35        | 14,800    | 3-28 | 1300 | 2.77        | 588       |
| 2-10 | 2200 | 3.73        | 1,480     | 4-15 | 0900 | 3.20        | 980       |
| 2-13 | 1900 | 3.53        | 1,240     |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

## SALINAS RIVER BASIN

11-1505. Salinas River near Bradley, Calif.

Location.--Lat 35°55'40", long 120°52'00", in NE $\frac{1}{4}$  sec.15, T.23 S., R.10 E., on left bank 6 miles northwest of Bradley and 7 miles downstream from San Antonio River.

Drainage area.--2,535 sq mi.

Records available.--October 1948 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 450 ft (from topographic map).

Average discharge.--15 years, 371 cfs (268,600 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 12,200 cfs Feb. 1 (gage height, 9.87 ft); minimum, 12 cfs Jan. 13.

1948-63: Maximum discharge, 28,400 cfs Apr. 3, 1958 (gage height, 12.53 ft); no flow at times in 1951, 1954-55, 1957.

Remarks.--Records poor. Flow partly regulated by Salinas Reservoir (see p. 257), and Nacimiento Reservoir beginning in November 1956 (usable capacity, 340,000 acre-ft). Several small diversions above station.

Rating table, except period of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 9-15, Mar. 14-16, Mar. 26 to Apr. 3, Apr. 28 to May 18, June 5 to July 8, July 14 to Sept. 19)

|     |     |     |       |
|-----|-----|-----|-------|
| 3.6 | 12  | 5.0 | 700   |
| 3.7 | 27  | 5.8 | 1,430 |
| 3.8 | 49  | 7.0 | 3,170 |
| 4.0 | 113 | 8.0 | 5,420 |
| 4.3 | 255 | 9.0 | 8,600 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.  | Jan.  | Feb.    | Mar.   | Apr.   | May    | June   | July   | Aug.   | Sept.  |
|-------|--------|--------|-------|-------|---------|--------|--------|--------|--------|--------|--------|--------|
| 1     | 466    | 233    | 283   | 18    | * 7,780 | 206    | * 472  | * 358  | 99     | * 294  | 525    | 346    |
| 2     | 460    | 233    | 283   | 17    | 3,260   | 200    | 472    | 322    | 96     | 364    | 532    | 358    |
| 3     | 370    | 233    | 283   | 17    | 1,270   | 191    | 442    | 322    | 89     | 376    | 539    | 382    |
| 4     | 346    | 238    | 283   | 15    | 740     | 178    | 460    | 305    | 78     | 394    | 539    | 484    |
| 5     | 340    | 238    | 196   | 15    | 532     | 164    | 436    | 277    | 78     | 406    | 525    | * 504  |
| 6     | 328    | 238    | 160   | 14    | 478     | 155    | 424    | 272    | 118    | 418    | * 525  | 497    |
| 7     | 328    | * 244  | 138   | * 14  | 478     | 151    | 406    | 261    | 299    | 424    | 532    | 484    |
| 8     | 328    | 250    | 142   | 15    | 436     | 147    | 430    | 250    | 288    | 430    | 539    | 283    |
| 9     | 340    | 261    | 142   | 15    | 603     | 147    | 466    | 244    | 288    | 424    | 518    | 272    |
| 10    | 346    | 255    | 147   | 15    | 2,390   | 147    | 436    | 239    | 288    | 424    | 504    | 448    |
| 11    | 346    | 261    | 151   | 15    | 3,460   | 147    | 430    | 233    | 288    | * 424  | 490    | 478    |
| 12    | 352    | 266    | * 147 | 14    | * 1,940 | 142    | 430    | 233    | * 388  | 430    | 478    | 466    |
| 13    | 358    | 272    | 142   | 14    | 1,700   | 134    | 424    | 217    | 412    | 504    | 472    | 454    |
| 14    | 304    | 272    | 147   | 14    | 1,970   | * 126  | 424    | 206    | 394    | 518    | 472    | 448    |
| 15    | 282    | 266    | 147   | 14    | 1,250   | 142    | 737    | 187    | 382    | 539    | 478    | 388    |
| 16    | 288    | 266    | 217   | 15    | 949     | 169    | 1,020  | 182    | 376    | 454    | 490    | 388    |
| 17    | 299    | 266    | 117   | 15    | 716     | 211    | 788    | 173    | 370    | 412    | 504    | 406    |
| 18    | 304    | 266    | 61    | 15    | 602     | 294    | 672    | 160    | 382    | 412    | 511    | * 412  |
| 19    | 310    | 266    | 42    | 15    | 518     | 255    | * 630  | 147    | 388    | 406    | 511    | 364    |
| 20    | 328    | 266    | 34    | 15    | 484     | 217    | 602    | 134    | 388    | 484    | 497    | e 280  |
| 21    | 334    | * 266  | 31    | 15    | * 466   | 187    | 574    | 130    | 388    | 518    | * 490  | e 280  |
| 22    | 334    | 266    | 31    | 15    | 460     | 173    | 560    | 134    | 376    | 525    | 490    | e 280  |
| 23    | 334    | 266    | 29    | 17    | 376     | 169    | 511    | * 117  | 364    | 532    | 497    | e 280  |
| 24    | * 346  | 266    | 26    | 17    | 310     | 222    | 466    | 117    | 364    | 532    | 504    | e 280  |
| 25    | 340    | 272    | 24    | 17    | 277     | 310    | 442    | 117    | 358    | 525    | 490    | e 280  |
| 26    | 352    | 272    | 23    | 17    | 250     | 266    | 442    | 103    | 358    | * 525  | 466    | a 350  |
| 27    | 352    | 272    | 21    | 17    | 239     | 217    | 511    | 99     | 364    | 511    | 466    | a 380  |
| 28    | 358    | 277    | * 20  | 17    | 228     | 380    | 478    | 113    | 364    | 497    | 472    | a 400  |
| 29    | 364    | 277    | 21    | 17    | -----   | 937    | 436    | 106    | 310    | 497    | 460    | a 400  |
| 30    | 358    | 283    | 20    | 18    | -----   | 658    | 400    | 103    | 294    | 511    | 460    | a 400  |
| 31    | 255    | -----  | 20    | 2,890 | -----   | 546    | -----  | 99     | -----  | 525    | 364    | -----  |
| Total | 10,550 | 7,807  | 3,528 | 3,358 | 34,162  | 7,588  | 15,421 | 5,960  | 9,029  | 14,235 | 15,340 | 11,472 |
| Mean  | 340    | 260    | 114   | 108   | 1,220   | 245    | 514    | 192    | 301    | 459    | 495    | 382    |
| Max   | 466    | 283    | 283   | 2,890 | 7,780   | 937    | 1,020  | 358    | 412    | 539    | 539    | 504    |
| Min   | 255    | 233    | 20    | 14    | 228     | 126    | 400    | 99     | 78     | 294    | 364    | 272    |
| Ac-ft | 20,930 | 15,480 | 7,000 | 6,660 | 67,760  | 15,050 | 30,590 | 11,820 | 17,910 | 28,230 | 30,430 | 22,750 |

Calendar year 1962: Max 9,940 Min 6.2 Mean 531 Ac-ft 384,700  
Water year 1962-63: Max 7,780 Min 1.4 Mean 379 Ac-ft 274,600

\* Discharge measurement made on this day.

a No gage-height record.

e Stage-discharge relation indefinite.

11-1508. Cow Creek near San Ardo, Calif.

Location.--Lat 36°10'40", long 120°47'45", in San Lorenzo Grant, on right bank at culvert on Peach Tree Valley Road and 12.5 miles northeast of San Ardo, Monterey County.

Drainage area.--4.80 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, and tipping-bucket rain gage. Altitude of gage is 1,340 ft (from topographic map).

Extremes.--Maximum discharge during year, 173 cfs Feb. 9 (gage height, 5.90 ft, from floodmarks), by indirect measurement of peak flow through culvert; no flow most of year.

1960-63: Maximum discharge, 213 cfs Feb. 15, 1962 (gage height, 6.96 ft, from crest-stage gage), by indirect measurement of peak flow through culvert; no flow most of each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |
|-----|-----|
| 0.4 | 0   |
| .5  | .9  |
| .6  | 3.0 |
| 1.7 | 36  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.   | Mar. | Apr.  | May | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|--------|------|-------|-----|-------|------|------|-------|
| 1     |      |       |      | 0    | 0.2    | 0    |       |     |       |      |      |       |
| 2     |      |       |      | 0    | a 0    | 0    |       |     |       |      |      |       |
| 3     |      |       |      | 0    | a 0    | 0    | (*)   |     |       |      |      |       |
| 4     |      |       |      | 0    | a 0    | 0    |       |     |       |      |      | (*)   |
| 5     |      |       |      | 0    | a 0    | 0    |       |     |       |      |      |       |
| 6     |      |       |      | 0    | a 0    | 0    |       |     |       |      |      |       |
| 7     |      | (*)   | (*)  | 0    | a 0    | 0    |       |     |       |      | (*)  |       |
| 8     |      |       |      | * 0  | a 0    | 0    |       |     |       |      |      |       |
| 9     |      |       |      | 0    | * a 34 | 0    |       | (*) |       |      |      |       |
| 10    |      |       |      | 0    | 1.5    | 0    | (*)   |     | (*)   |      |      |       |
| 11    |      |       |      | 0    | 0      | 0    |       |     |       | (*)  |      |       |
| 12    |      |       |      | 0    | 2.7    | 0    |       |     |       |      |      |       |
| 13    |      |       |      | 0    | 8.5    | 0    |       |     |       |      |      |       |
| 14    |      |       |      | 0    | 0      | 0    |       |     |       |      |      |       |
| 15    |      |       |      | 0    | * 0    | 0    |       |     |       |      |      |       |
| 16    | (*)  |       |      | 0    | 0      | .4   |       |     |       |      |      |       |
| 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      | 4.7  |       |     |       |      |      |       |
| 29    |      |       |      | 0    | -----  | 0    |       |     |       |      |      |       |
| 30    |      |       |      | 0    | -----  | 0    |       |     |       |      |      |       |
| 31    |      | ----- |      | 9.2  | -----  | 0    | ----- |     | ----- |      |      | ----- |
| Total | 0    | 0     | 0    | 9.2  | 46.9   | 5.1  | 0     | 0   | 0     | 0    | 0    | 0     |
| Mean  | 0    | 0     | 0    | 0.30 | 1.68   | 0.16 | 0     | 0   | 0     | 0    | 0    | 0     |
| Max   | 0    | 0     | 0    | 9.2  | 34     | 4.7  | 0     | 0   | 0     | 0    | 0    | 0     |
| Min   | 0    | 0     | 0    | 0    | 0      | 0    | 0     | 0   | 0     | 0    | 0    | 0     |
| Ac-ft | 0    | 0     | 0    | 18   | 93     | 10   | 0     | 0   | 0     | 0    | 0    | 0     |
| (†)   | 0.6  | 0     | 3.2  | 3.0  | 3.4    | 3.0  | 2.6   | 0.4 | 0     | 0    | 0    | 0     |

Calendar year 1962: Max 21 Min 0 Mean 0.24 Ac-ft 175  
 Water year 1962-63: Max 34 Min 0 Mean 0.17 Ac-ft 121

Peak discharge (base, 5 cfs)

| Date | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|---------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1215    | 1.82        | 40        | 2-12 | 2315 | 2.08        | 47        |
| 2-9  | unknown | 5.90        | 173       | 3-28 | 0445 | 1.23        | 22        |

\* Discharge measurement or observation of no flow made on this day.

† Precipitation, in inches  
 a No gage-height record.

## SALINAS RIVER BASIN

11-1513. San Lorenzo Creek below Bitterwater Creek, near King City, Calif.

Location.--Lat 36°16'05", long 121°03'50", in NW $\frac{1}{4}$  sec.24, T.19 S., R.8 E., on left bank 1.2 miles downstream from Bitterwater Creek, 5 miles northeast of King City, and 10 miles upstream from mouth.

Drainage area.--233 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 480 ft (from topographic map).

Average discharge.--5 years, 5.68 cfs (4,110 acre-ft per year).

Extremes.--Maximum discharge during year, 2,130 cfs Feb. 10 (gage height, 8.13 ft), from rating curve extended above 800 cfs; minimum, 0.1 cfs for many days in several months.

1958-63: Maximum discharge, that of Feb. 10, 1963; no flow Sept. 15 to Oct. 4, 1961.

Remarks.--Records poor. Small diversions above station.

Revisions (water years).--1962 Basic Data Report: 1961.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.    | MAR.  | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|-------|---------|-------|-------|------|-------|------|------|-------|
| 1     | 0.2  | 0.1   | 0.1  | 0.2   | 193     | *1.3  | 5.6   | 3.9  | 0.3   | 0.2  | 0.2  | 0.1   |
| 2     | .2   | .1    | .1   | .2    | *33     | 1.3   | *4.9  | 2.8  | .3    | .2   | .2   | .1    |
| 3     | .2   | .2    | .1   | .2    | 15      | 1.3   | 4.1   | 2.2  | .3    | .2   | .2   | .1    |
| 4     | .2   | .2    | .1   | .2    | 10      | 1.2   | 2.8   | 1.7  | .3    | .2   | .2   | *.1   |
| 5     | .2   | .2    | .1   | .2    | 7.8     | 1.2   | 2.2   | 1.5  | .3    | .2   | *.1  | .1    |
| 6     | .2   | .2    | .2   | .2    | 7.0     | 1.3   | 2.1   | 1.1  | .3    | .3   | .2   | .1    |
| 7     | .2   | *.1   | .2   | .2    | 5.6     | 1.3   | 13    | 1.0  | ** .3 | .3   | .2   | .1    |
| 8     | .2   | .1    | .2   | *.2   | 4.9     | 1.2   | 17    | 1.6  | .2    | .3   | .1   | .1    |
| 9     | .2   | .1    | .2   | .2    | 234     | 1.3   | 6.5   | *8.7 | .2    | .3   | .1   | .1    |
| 10    | .2   | .1    | .2   | .2    | 518     | 1.3   | 4.7   | 5.6  | .2    | .2   | .1   | .1    |
| 11    | .2   | .1    | *.2  | .2    | 58      | 1.3   | 4.4   | 4.4  | .3    | *.2  | .1   | .1    |
| 12    | .2   | .1    | .2   | .2    | 24      | 1.2   | 3.6   | 3.0  | .3    | .2   | .1   | .1    |
| 13    | .2   | .1    | .2   | .2    | 338     | 1.1   | 2.5   | 2.1  | .3    | .2   | .1   | .1    |
| 14    | .2   | .1    | .2   | .2    | 138     | 1.2   | 4.1   | 1.6  | .3    | .2   | .1   | .1    |
| 15    | .2   | .1    | .2   | .2    | 27      | 1.6   | 88    | 1.1  | .3    | .2   | .1   | .1    |
| 16    | .2   | .1    | 1.5  | .2    | 19      | 9.7   | 23    | 1.0  | .2    | .2   | .1   | .1    |
| 17    | .2   | .1    | 6.1  | .2    | 15      | 18    | 11    | .6   | .2    | .2   | .1   | .1    |
| 18    | .2   | .1    | 1.3  | .2    | 12      | 5.6   | 8.7   | .4   | .2    | .2   | .1   | .2    |
| 19    | *.2  | .1    | .3   | .2    | 8.7     | 4.1   | 7.0   | .4   | .2    | .2   | .1   | .2    |
| 20    | .1   | .1    | .2   | .2    | 7.0     | 3.0   | 8.3   | .3   | .2    | .2   | .1   | .2    |
| 21    | .1   | .1    | .2   | .2    | .2      | 2.4   | 31    | .3   | .2    | .2   | .1   | .1    |
| 22    | .1   | .1    | .2   | .2    | 4.4     | 2.4   | 14    | .3   | .2    | .2   | .1   | .1    |
| 23    | .1   | .1    | .2   | .2    | 3.3     | 14    | 9.2   | .4   | .2    | .2   | .1   | .1    |
| 24    | .1   | .1    | .2   | .2    | 2.8     | 13    | 6.5   | .5   | .2    | .2   | .1   | .1    |
| 25    | .1   | .1    | .2   | .2    | 2.2     | 4.9   | 7.0   | .6   | .2    | .2   | .1   | .1    |
| 26    | .1   | .1    | .2   | .2    | 2.0     | 3.0   | 33    | .6   | .2    | .1   | .1   | .1    |
| 27    | .1   | .1    | .2   | .2    | 1.7     | 3.6   | 33    | .4   | .2    | .1   | .1   | .1    |
| 28    | .1   | .1    | .2   | .2    | 1.6     | 167   | 11    | .4   | .2    | .1   | .1   | .1    |
| 29    | .1   | .1    | .2   | .3    | -----   | 25    | 7.0   | .4   | .2    | .1   | .1   | .1    |
| 30    | .1   | .1    | .2   | 4.4   | -----   | 13    | 4.9   | .3   | .2    | .1   | .1   | .1    |
| 31    | .1   | ----- | .2   | 325   | -----   | 7.4   | ----- | .3   | ----- | .1   | .1   | ----- |
| TOTAL | 5.0  | 3.4   | 14.1 | 335.3 | 1,698.2 | 315.2 | 380.1 | 49.5 | 7.2   | 6.0  | 3.7  | 3.3   |
| MEAN  | 0.16 | 0.11  | 0.45 | 10.8  | 60.6    | 10.2  | 12.7  | 1.60 | 0.24  | 0.19 | 0.12 | 0.11  |
| MAX   | 0.2  | 0.2   | 6.1  | 325   | 518     | 167   | 88    | 8.7  | 0.3   | 0.3  | 0.2  | 0.2   |
| MIN   | 0.1  | 0.1   | 0.1  | 0.2   | 1.6     | 1.1   | 2.1   | 0.3  | 0.2   | 0.1  | 0.1  | 0.1   |
| AC-FT | 9.9  | 6.7   | 28   | 665   | 3,370   | 625   | 754   | 98   | 14    | 12   | 7.3  | 6.5   |

Calendar year 1962: Max 786 Min 0.1 Mean 11.3 Ac-ft 8,160

Water year 1962-63: Max 518 Min 0.1 Mean 7.73 Ac-ft 5,600

## Peak discharge (base, 200 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1900 | 6.30        | 940       | 2-13 | 0600 | 5.73        | 635       |
| 2-10 | 0200 | 8.13        | 2,130     | 3-28 | 1300 | 5.29        | 424       |

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

11-1518.7. Arroyo Seco near Greenfield, Calif.

Location---Lat 36°14'15", long 121°28'50", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.36, T.19 S., R.4 E., on right bank 0.6 mile downstream from Rocky Creek and 14.5 miles southwest of Greenfield.

Drainage area---113 sq mi.

Records available---October 1961 to September 1963.

Gage---Water-stage recorder. Altitude of gage is 780 ft (from topographic map).

Extremes---Maximum discharge during year, 10,400 cfs Jan. 31 (gage height, 11.35 ft); minimum, 2.2 cfs Oct. 1. 1961-63: Maximum discharge, that of Jan. 31, 1963; no flow Oct. 1-5, 1961.

Remarks---Records good. Small diversion for fishponds above station by pumping.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1 to Nov. 2, Dec. 17 to Jan. 30,  
Feb. 3-9, Sept. 22-30)

Oct. 1 to Jan. 30

Jan. 31 to Sept. 30

|     |     |     |       |     |     |      |       |
|-----|-----|-----|-------|-----|-----|------|-------|
| 1.4 | 1.5 | 3.0 | 127   | 0.9 | 6.7 | 3.5  | 390   |
| 1.5 | 2.8 | 3.5 | 235   | 1.0 | 10  | 4.0  | 580   |
| 1.6 | 4.6 | 4.0 | 390   | 1.5 | 37  | 5.0  | 1,070 |
| 1.8 | 10  | 5.0 | 840   | 2.0 | 78  | 6.0  | 1,780 |
| 2.0 | 19  | 6.0 | 1,540 | 2.5 | 143 | 8.0  | 3,950 |
| 2.3 | 39  | 7.0 | 2,550 | 3.0 | 246 | 10.0 | 7,400 |
| 2.6 | 69  | 8.0 | 3,860 |     |     |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 2.4     | 18    | 17    | 22     | 4,980  | *162   | *331   | 383    | 115   | 51    | 24    | 9.3   |
| 2     | 2.4     | 17    | 17    | 21     | 1,520  | 155    | 295    | 362    | 108   | 50    | 23    | 9.3   |
| 3     | 2.4     | 17    | 18    | 21     | 915    | 152    | 270    | 340    | 104   | 49    | 22    | *8.0  |
| 4     | 2.4     | 17    | 18    | 21     | *665   | 143    | 253    | 322    | 101   | 47    | 22    | 8.4   |
| 5     | 2.4     | 18    | 18    | 20     | 524    | 136    | 236    | 304    | 99    | 46    | *20   | 9.0   |
| 6     | 2.5     | 17    | *18   | 20     | 432    | 131    | 265    | 290    | 96    | 46    | 19    | 9.0   |
| 7     | 2.5     | *18   | 17    | *20    | 373    | 131    | 654    | 278    | *94   | 45    | 19    | 8.7   |
| 8     | 2.6     | 18    | 17    | 20     | 325    | 125    | 418    | *268   | 92    | *45   | 22    | 8.0   |
| 9     | 2.8     | 17    | 17    | 20     | 677    | 121    | 369    | 258    | 89    | 43    | 22    | 7.7   |
| 10    | 3.1     | 17    | 17    | 19     | 1,490  | 117    | 373    | 253    | 88    | 39    | 21    | 7.4   |
| 11    | 4.6     | 17    | 17    | 19     | 965    | 111    | 346    | 244    | 88    | 38    | 20    | 7.0   |
| 12    | 60      | 17    | 17    | 19     | 690    | 107    | 313    | 229    | 86    | 36    | 19    | 7.0   |
| 13    | 760     | 17    | 17    | 18     | 883    | 103    | 290    | 218    | 86    | 34    | 17    | 7.4   |
| 14    | 688     | 17    | 18    | 18     | 725    | 103    | 1,220  | 209    | 82    | 33    | 17    | 7.4   |
| 15    | 124     | 17    | 22    | 18     | 608    | 110    | 1,420  | 200    | 78    | 32    | 17    | 7.0   |
| 16    | 68      | 17    | 265   | 18     | 524    | 287    | 920    | 190    | 74    | 32    | 16    | 6.7   |
| 17    | 47      | 17    | 182   | 18     | 453    | 200    | 745    | 182    | 71    | 32    | 16    | 7.0   |
| 18    | 37      | 17    | 76    | 18     | 404    | 155    | 636    | 174    | 70    | 32    | 14    | 9.0   |
| 19    | 30      | 17    | 55    | 18     | 359    | 139    | 652    | 166    | 67    | 31    | 12    | 13    |
| 20    | 26      | 17    | 44    | 17     | 325    | 130    | 624    | 164    | 65    | 30    | 13    | 14    |
| 21    | 24      | 17    | 38    | 17     | 293    | 124    | 608    | 158    | 65    | 29    | 13    | 12    |
| 22    | 23      | 17    | 34    | 17     | 270    | 188    | 548    | 155    | 65    | 27    | 18    | 12    |
| 23    | 21      | 17    | 32    | 17     | 248    | 499    | 508    | 150    | 65    | 27    | 18    | 12    |
| 24    | 20      | 17    | 29    | 17     | 229    | 307    | 468    | 148    | 62    | 26    | 19    | 12    |
| 25    | *19     | 17    | 28    | 17     | 211    | 253    | 492    | 143    | 59    | 25    | 16    | 12    |
| 26    | 19      | 17    | 27    | 17     | 196    | 215    | 588    | 139    | 57    | 25    | 12    | 12    |
| 27    | 19      | 17    | 26    | 17     | 186    | 305    | 512    | 133    | 54    | 24    | 11    | 12    |
| 28    | 19      | 18    | 25    | 17     | 172    | 937    | 468    | 131    | 54    | 24    | 9.7   | 12    |
| 29    | 18      | 19    | 24    | 20     | -----  | 548    | 439    | 127    | 53    | 25    | 9.3   | 9.7   |
| 30    | 18      | 18    | 23    | 3,760  | -----  | 436    | 415    | 122    | 52    | 25    | 9.3   | *6.7  |
| 31    | 17      | ----- | 23    | *7,360 | -----  | 373    | -----  | 117    | ----- | 24    | 9.0   | ----- |
| TOTAL | 2,087.1 | 518   | 1,196 | 11,661 | 19,642 | 7,003  | 15,676 | 6,557  | 2,339 | 1,072 | 519.3 | 282.7 |
| MEAN  | 67.3    | 17.3  | 38.6  | 376    | 702    | 226    | 523    | 212    | 78.0  | 34.6  | 16.8  | 9.42  |
| MAX   | 760     | 19    | 265   | 7,360  | 4,980  | 937    | 1,420  | 383    | 115   | 51    | 24    | 14    |
| MIN   | 2.4     | 17    | 17    | 17     | 172    | 103    | 236    | 117    | 52    | 24    | 9.0   | 6.7   |
| AC-FT | 4,140   | 1,030 | 2,370 | 23,130 | 38,960 | 13,890 | 31,090 | 13,010 | 4,640 | 2,130 | 1,030 | 561   |

CALENDAR YEAR 1962: MAX 4,490 MIN 1.2 MEAN 132 AC-FT 95,710

WATER YEAR 1962-63: MAX 7,360 MIN 2.4 MEAN 188 AC-FT 136,000

Peak discharge (base, 1,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 2300 | 7.50        | 3,170     | 3-28 | 0200 | 5.43        | 1,330     |
| 1-31  | 1300 | 11.35       | 10,400    | 4-14 | 0800 | 6.70        | 2,450     |
| 2-10  | 1300 | 6.02        | 1,800     |      |      |             |           |

## SALINAS RIVER BASIN

11-1520. Arroyo Seco near Soledad, Calif.

Location.--Lat 36°16'50", long 121°19'20", in SW 1/4 sec. 16, T.19 S., R.6 E., on left bank just downstream from bridge, 1.5 miles downstream from Vaquero Creek, and 10 miles south of Soledad.

Drainage area.--244 sq mi.

Records available.--November 1901 to September 1963. Records for water year 1902 incomplete, yearly estimate published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 342.20 ft above mean sea level (Corps of Engineers benchmark). Prior to June 16, 1929, staff gage, and June 16, 1929, to Dec. 2, 1941, water-stage recorder, at site 1 mile upstream at different datum. Dec. 3, 1941, to Sept. 30, 1959, at datum 2.00 ft higher.

Average discharge.--62 years, 163 cfs (118,000 acre-ft per year); median of yearly mean discharges, 122 cfs (88,300 acre-ft per year).

Extremes.--Maximum discharge during year, 24,300 cfs Jan. 31 (gage height, 15.55 ft); no flow Oct. 1-13.

1901-63: Maximum discharge, 28,300 cfs Apr. 3, 1958 (gage height, 14.40 ft, datum then in use), from rating curve extended above 12,000 cfs on basis of slope-area measurement at gage height 14.30 ft; no flow at times during several years.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

(Shifting-control method used Nov. 24 to Dec. 16, Feb. 27 to Mar. 22,

Mar. 25-27, Apr. 1-7, Aug. 5 to Sept. 30)

Oct. 1 to Jan. 31

Feb. 1 to Sept. 30

|     |     |     |     |      |        |     |     |     |     |      |        |
|-----|-----|-----|-----|------|--------|-----|-----|-----|-----|------|--------|
| 2.0 | 0   | 2.8 | 12  | 7.0  | 940    | 5.0 | 3.0 | 6.0 | 72  | 8.5  | 1,520  |
| 2.1 | .1  | 3.0 | 21  | 8.0  | 1,580  | 5.1 | 5.0 | 6.5 | 168 | 9.0  | 2,250  |
| 2.2 | .4  | 3.4 | 50  | 9.0  | 2,660  | 5.2 | 8.0 | 7.0 | 290 | 10.0 | 4,150  |
| 2.3 | .9  | 4.0 | 112 | 10.0 | 4,220  | 5.4 | 16  | 7.5 | 480 | 11.0 | 6,500  |
| 2.4 | 2.0 | 5.0 | 260 | 11.5 | 8,000  | 5.7 | 36  | 8.0 | 940 | 12.5 | 11,400 |
| 2.5 | 3.5 | 6.0 | 510 | 13.5 | 15,400 |     |     |     |     |      |        |
| 2.6 | 5.5 |     |     |      |        |     |     |     |     |      |        |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG.  | SEPT. |
|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 0     | 17    | 14    | 31     | 10,200 | *190   | *341   | *422   | 142   | 59    | 24    | 8.8   |
| 2     | 0     | 16    | 14    | 29     | 2,700  | 181    | 311    | 398    | 136   | 56    | 23    | 7.4   |
| 3     | 0     | 16    | 14    | 28     | 1,980  | 175    | 283    | 374    | *122  | 56    | 22    | *7.4  |
| 4     | 0     | 16    | 14    | 28     | 1,490  | 166    | 263    | 347    | 118   | 55    | 21    | 6.8   |
| 5     | 0     | 15    | 14    | 27     | 1,110  | 158    | 243    | 332    | 114   | 55    | *19   | 7.7   |
| 6     | 0     | 14    | *14   | 26     | 830    | 152    | 233    | 317    | 112   | 53    | 19    | 7.1   |
| 7     | 0     | *15   | 14    | *26    | 649    | 148    | 883    | 299    | 110   | 51    | 17    | 6.8   |
| 8     | 0     | 15    | 14    | 25     | 522    | 144    | 455    | 290    | 106   | *49   | 18    | 6.5   |
| 9     | 0     | 15    | 13    | 26     | 1,110  | 138    | 390    | 290    | 104   | 46    | 21    | 5.6   |
| 10    | 0     | 15    | 13    | 26     | 2,920  | 134    | 378    | 275    | 100   | 44    | 20    | 5.3   |
| 11    | 0     | 15    | 12    | 25     | 1,740  | 130    | 370    | 273    | *100  | 42    | 18    | 4.6   |
| 12    | 0     | 15    | 12    | 25     | 1,230  | 124    | 335    | 260    | 100   | 38    | 16    | 4.4   |
| 13    | 309   | 15    | 12    | 24     | 1,600  | 120    | 314    | 248    | 100   | 36    | 16    | 4.6   |
| 14    | 1,030 | 15    | 13    | 23     | 1,340  | 118    | 1,510  | 240    | 97    | 35    | 14    | 4.6   |
| 15    | 192   | 15    | 15    | 23     | 1,050  | 128    | 2,260  | 228    | 93    | 34    | 13    | 4.6   |
| 16    | 99    | 15    | 134   | 23     | 830    | 310    | 1,440  | 223    | 86    | 34    | 12    | 5.3   |
| 17    | 67    | 15    | 322   | 23     | 667    | 269    | 1,180  | 213    | 82    | 34    | 12    | 5.9   |
| 18    | 51    | 15    | 122   | 22     | 515    | 186    | 984    | 203    | 81    | 34    | 10    | 7.1   |
| 19    | 43    | 15    | 83    | 22     | 440    | 164    | 1,010  | 198    | 75    | 32    | 10    | 11    |
| 20    | 36    | 14    | 68    | 22     | 394    | 156    | 940    | 190    | 75    | 31    | 9.2   | 12    |
| 21    | 32    | 13    | 57    | 21     | 350    | 148    | 951    | 186    | 75    | 30    | 8.4   | 14    |
| 22    | 28    | 14    | 50    | 21     | 320    | 157    | 790    | 179    | 74    | 29    | 9.2   | 13    |
| 23    | 26    | 14    | 47    | 20     | 293    | 608    | 658    | 177    | 74    | 28    | 9.6   | 12    |
| 24    | *25   | 14    | 44    | 20     | 270    | 366    | 577    | 175    | 72    | 27    | 10    | 10    |
| 25    | 23    | 14    | 40    | 20     | 250    | 280    | 595    | 170    | 69    | 26    | 12    | 10    |
| 26    | 22    | 14    | 36    | 20     | 233    | 240    | 841    | 166    | 66    | 26    | 12    | 9.2   |
| 27    | 21    | 14    | 36    | 20     | 220    | 232    | 667    | 160    | 62    | 25    | 10    | 7.7   |
| 28    | 20    | 14    | 33    | 20     | 208    | 1,560  | 568    | 156    | 60    | 25    | 9.2   | 6.2   |
| 29    | 19    | 15    | 33    | 20     | -----  | 750    | 501    | 154    | 60    | 25    | 10    | 4.4   |
| 30    | 18    | 15    | 32    | *3,580 | -----  | 494    | 455    | 148    | 60    | 25    | 9.6   | *3.4  |
| 31    | 17    | ----- | 31    | 14,500 | -----  | 402    | -----  | 144    | ----- | 25    | 9.2   | ----- |
| TOTAL | 2,078 | 444   | 1,370 | 18,766 | 35,461 | 8,528  | 20,726 | 7,435  | 2,725 | 1,165 | 443.4 | 223.4 |
| MEAN  | 67.0  | 14.8  | 44.2  | 605    | 1,266  | 275    | 691    | 240    | 90.8  | 37.6  | 14.3  | 7.45  |
| MAX   | 1,030 | 17    | 322   | 14,500 | 10,200 | 1,560  | 2,260  | 422    | 142   | 59    | 24    | 14    |
| MIN   | 0     | 13    | 12    | 20     | 208    | 118    | 233    | 144    | 60    | 25    | 8.4   | 3.4   |
| AC-FT | 4,120 | 881   | 2,720 | 37,220 | 70,340 | 16,920 | 41,110 | 14,750 | 5,400 | 2,310 | 879   | 443   |

CALENDAR YEAR 1962: MAX 5,380 MIN 0 MEAN 141 AC-FT 101,700

WATER YEAR 1962-63: MAX 14,500 MIN 0 MEAN 272 AC-FT 197,100

Peak discharge (base, 1,400 cfs)

| Date  | Time      | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|-----------|-------------|-----------|------|------|-------------|-----------|
| 10-14 | 0200      | 9.10        | 2,800     | 3-28 | 0500 | 9.10        | 2,400     |
| 1-31  | 1530      | 15.55       | 24,300    | 4-7  | 0800 | 8.45        | 1,460     |
| 2-9   | 2400      | 9.71        | 3,570     | 4-14 | 1100 | 9.74        | 3,630     |
| 2-13  | 1600-1900 | 8.73        | 1,850     |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record July 8 to Aug. 4.



11-1525. Salinas River near Spreckels, Calif.

Location.--Lat 36°37'50", long 121°40'40", in El Toro Grant, on first pier near left end of bridge on Salinas-Monterey highway, 0.5 mile upstream from Toro Creek, 2 miles west of Spreckels, Monterey County, and 4 miles south of Salinas.

Drainage area.--4,156 sq mi.

Records available.--January 1900 to August 1901, October 1929 to September 1963. Records for water year 1930 incomplete, yearly estimate published in WSP 1315-B. Published as "near Salinas" 1900-1901.

Gage.--Water-stage recorder. Datum of gage is 19.87 ft above mean sea level, datum of 1929, supplementary adjustment of 1955.

1900-1901, May 10 to July 29, 1940, staff gages at same site at different datum. Mar. 17, 1941, to June 30, 1961, supplementary wire-weight or staff gages and since July 1, 1961, auxiliary water-stage recorder at site 80 ft upstream at same datum.

Average discharge.--34 years (1929-63), 415 cfs (300,400 acre-ft per year); median of yearly mean discharges, 170 cfs (123,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,570 cfs Feb. 1 (gage height, 15.22 ft); minimum daily, 1.2 cfs Oct. 1-4.

1900-1901, 1929-63: Maximum discharge, 75,000 cfs Feb. 12, 1938 (gage height, 25.0 ft), from rating curve extended above 26,000 cfs on basis of velocity-area studies; maximum gage height, 26.85 ft Jan. 16, 1952, from floodmarks; no flow at times in 1929-40.

Remarks.--Records poor. Large withdrawals from ground water and small surface-water diversions for municipal use and irrigation of about 95,000 acres above station. Low flow represents waste water from Spreckels sugar refinery. Flow partly regulated by Nacimiento Reservoir beginning in November 1956 (usable capacity, 340,000 acre-ft).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 5, 6, Jan. 31 to Feb. 2, Feb. 10-15,  
Feb. 18 to Mar. 1, Apr. 1-15, July 22 to Sept. 30)

| Oct. 1 to Jan. 30 |     |     |     | Jan. 31 to Sept. 30 |     |      |       |
|-------------------|-----|-----|-----|---------------------|-----|------|-------|
| 5.4               | 1.0 | 5.8 | 0.5 | 6.4                 | 21  | 9.0  | 960   |
| 5.7               | 3.0 | 5.9 | 1.6 | 6.7                 | 47  | 10.0 | 1,810 |
| 6.0               | 5.6 | 6.0 | 3.6 | 7.0                 | 87  | 12.0 | 4,200 |
| 6.1               | 7.0 | 6.1 | 6.4 | 7.5                 | 198 | 14.0 | 7,200 |
| 6.2               | 9.6 | 6.2 | 10  | 8.0                 | 375 |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC.  | JAN.    | FEB.   | MAR.   | APR.   | MAY     | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|-------|---------|--------|--------|--------|---------|-------|------|------|-------|
| 1     | *1.2 | 3.0   | 5.3   | 5.2     | *6,590 | 315    | 802    | 586     | 3.9   | 1.8  | 1.6  | 3.0   |
| 2     | 1.2  | 3.0   | 5.2   | 5.2     | *6,250 | 288    | 658    | 562     | 3.6   | 1.6  | 1.5  | 3.0   |
| 3     | 1.2  | 3.1   | 5.3   | 5.1     | 5,030  | 267    | 550    | 574     | 3.6   | 1.6  | 1.5  | 3.4   |
| 4     | 1.2  | 3.2   | 5.3   | 5.0     | *2,780 | 244    | *475   | 538     | 3.4   | 1.5  | 2.0  | 4.2   |
| 5     | *4.3 | 3.3   | 5.2   | 4.9     | 1,810  | 224    | 445    | 465     | 3.4   | 1.4  | 2.4  | 4.7   |
| 6     | 4.9  | 3.4   | *5.2  | 4.9     | *1,300 | 213    | 425    | 393     | 3.2   | 1.4  | 2.6  | *4.2  |
| 7     | 4.4  | 3.4   | 5.3   | 5.0     | 1,060  | 201    | 375    | 343     | 3.0   | 1.4  | 3.0  | 3.6   |
| 8     | 3.2  | 3.6   | 5.3   | 4.8     | 876    | 188    | 559    | *303    | 3.0   | 1.4  | 3.2  | 3.6   |
| 9     | 2.4  | *3.7  | 5.4   | *4.7    | 760    | 172    | 574    | 271     | 3.2   | 1.5  | 3.0  | 3.6   |
| 10    | 2.2  | 3.6   | 5.4   | 4.7     | 921    | 160    | 510    | 253     | 3.2   | 1.5  | 3.0  | 3.6   |
| 11    | 1.8  | 3.7   | 5.4   | 4.4     | *2,730 | 153    | 505    | 221     | *3.2  | 1.5  | 2.8  | 3.4   |
| 12    | 1.6  | 4.0   | 5.3   | 4.4     | 2,790  | *148   | 475    | 198     | 3.2   | *1.5 | 3.0  | 3.2   |
| 13    | 1.8  | 4.2   | 5.3   | 4.3     | 2,630  | 140    | 393    | 170     | 3.2   | 1.4  | 2.8  | 4.2   |
| 14    | 2.0  | 4.2   | 5.4   | 4.3     | 2,350  | 135    | 371    | 150     | 2.8   | 1.4  | 3.0  | 3.9   |
| 15    | 7.0  | 4.1   | 5.9   | 4.2     | 2,110  | 130    | 938    | 130     | 2.8   | 1.5  | 2.8  | 3.6   |
| 16    | 4.0  | 4.3   | 8.6   | 4.1     | 1,820  | 140    | *1,460 | 110     | 2.8   | 1.5  | 2.8  | 3.4   |
| 17    | 3.0  | 4.3   | 6.6   | 3.8     | 1,400  | 160    | 1,220  | 96      | 3.0   | 1.4  | 2.8  | 4.4   |
| 18    | 2.5  | 4.3   | 6.3   | 3.7     | 1,090  | 210    | 1,220  | 82      | 3.0   | 1.5  | 3.9  | 13    |
| 19    | 2.2  | 4.3   | 5.9   | 3.6     | 939    | 280    | 1,070  | 70      | 3.0   | 1.4  | 3.4  | 16    |
| 20    | 2.0  | 4.6   | 6.0   | 3.3     | 790    | 240    | 995    | 60      | 2.8   | 1.5  | 3.2  | *17   |
| 21    | 2.3  | 4.7   | 6.0   | 3.4     | 724    | 210    | 939    | 50      | 2.8   | 1.5  | 3.2  | 21    |
| 22    | 2.5  | 4.8   | 6.0   | 3.2     | 688    | 200    | 876    | 40      | 3.0   | 1.6  | 2.8  | 16    |
| 23    | 2.5  | *4.4  | 5.9   | 2.9     | 610    | 180    | 808    | 34      | 2.8   | 1.6  | *3.0 | 4.7   |
| 24    | 2.5  | 4.7   | 5.6   | *3.1    | 526    | 307    | 748    | *25     | 2.6   | 1.5  | 2.6  | 1.8   |
| 25    | 2.5  | 4.8   | 5.6   | 2.9     | *470   | 351    | 718    | 20      | 2.4   | 1.5  | 2.8  | 3.0   |
| 26    | *2.6 | 5.0   | 5.5   | 2.8     | 425    | 295    | 718    | 16      | 2.4   | 1.6  | 2.6  | 2.6   |
| 27    | 2.7  | 5.3   | 5.4   | 2.7     | 384    | 307    | 766    | 12      | *2.0  | 1.8  | 2.6  | 2.6   |
| 28    | 2.7  | 5.1   | *5.3  | 2.7     | 351    | 355    | 706    | 9.0     | 2.0   | 1.6  | 2.4  | 2.6   |
| 29    | 2.7  | 5.2   | 5.2   | 2.8     | -----  | 920    | 712    | 5.3     | 2.0   | 2.2  | 2.8  | 2.6   |
| 30    | 2.8  | 5.3   | 5.2   | 4.3     | -----  | 863    | 676    | 4.2     | 1.8   | 1.6  | 2.8  | 2.6   |
| 31    | 3.0  | ----- | 5.2   | 1,280   | -----  | 972    | -----  | 4.2     | ----- | *1.6 | 2.8  | ----- |
| TOTAL | 82.7 | 124.6 | 174.5 | 1,400.4 | 50,204 | 8,968  | 21,687 | 5,794.7 | 87.1  | 47.8 | 84.7 | 168.5 |
| MEAN  | 2.67 | 4.15  | 5.63  | 45.2    | 1,793  | 289    | 723    | 187     | 2.90  | 1.54 | 2.73 | 5.62  |
| MAX   | 7.0  | 5.3   | 8.6   | 1,280   | 6,590  | 972    | 1,460  | 586     | 3.9   | 2.2  | 3.9  | 21    |
| MIN   | 1.2  | 3.0   | 5.2   | 2.7     | 351    | 130    | 371    | 4.2     | 1.8   | 1.4  | 1.5  | 1.8   |
| AC-FT | 164  | 247   | 346   | 2,780   | 99,580 | 17,790 | 43,020 | 11,490  | 173   | 95   | 168  | 334   |

CALENDAR YEAR 1962: MAX 5,290 MIN 0.8 MEAN 168 AC-FT 121,900

WATER YEAR 1962-63: MAX 6,590 MIN 1.2 MEAN 243 AC-FT 176,200

\* Discharge measurement made on this day.

g Computed from once-daily staff gage readings.

Note.--No gage-height record Oct. 7-25, Mar. 13-23, May 13-28.

## PAJARO RIVER BASIN

11-1529. Cedar Creek near Bell Station, Calif.

Location.--Lat 37°03'00", long 121°19'35", in San Luis Gonzaga Grant, on left bank 0.5 mile upstream from Hagerman Canyon and 1.3 miles northwest of Bell Station, Santa Clara County.

Drainage area.--12.8 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 390 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,490 cfs Jan. 31 (gage height, 6.85 ft), from rating curve extended above 260 cfs; no flow for several months.

1961-63: Maximum discharge, that of Jan. 31, 1963; no flow for several months in each year.

Remarks.--Records good except those above 300 cfs, which are poor. No regulation or diversion above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 31, Feb. 12, 13, Apr. 6, 7, 20)

| Oct. 1 to Jan. 30 |     |     |     | Jan. 31 to Sept. 30 |     |     |     |
|-------------------|-----|-----|-----|---------------------|-----|-----|-----|
| 1.1               | 0   | 1.6 | 4.3 | 1.1                 | 0   | 1.6 | 4.4 |
| 1.2               | .2  | 1.7 | 6.5 | 1.2                 | .1  | 1.7 | 7.8 |
| 1.3               | .6  | 1.9 | 13  | 1.3                 | .4  | 1.9 | 19  |
| 1.4               | 1.3 | 2.2 | 30  | 1.4                 | .9  | 2.2 | 49  |
| 1.5               | 2.6 | 2.4 | 50  | 1.5                 | 2.2 | 2.5 | 94  |
|                   |     |     |     |                     |     | 3.0 | 212 |
|                   |     |     |     |                     |     | 3.5 | 390 |
|                   |     |     |     |                     |     | 4.0 | 620 |
|                   |     |     |     |                     |     | 4.5 | 950 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.  | MAR.  | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|-------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 0    |       | 0    | 0     | *447  | 1.6   | 4.7   | 3.7  | 0.6   | 0.1  |      |       |
| 2     | 0    |       | 0    | 0     | 40    | 1.6   | 3.5   | 3.5  | .6    | .1   |      |       |
| 3     | 0    |       | 0    | 0     | 13    | 1.4   | 2.9   | 3.3  | .6    | .1   |      |       |
| 4     | 0    |       | 0    | 0     | 5.8   | 1.3   | 2.4   | 3.1  | .5    | .1   |      |       |
| 5     | 0    |       | 0    | 0     | 3.3   | 1.3   | 2.1   | 2.9  | .5    | .1   |      |       |
| 6     | 0    |       | 0    | 0     | 2.4   | 1.2   | 75    | 2.6  | .4    | .1   |      |       |
| 7     | 0    |       | 0    | 0     | 1.8   | 1.2   | 123   | 2.4  | .4    | .1   |      |       |
| 8     | 0    |       | 0    | 0     | *1.4  | .9    | 35    | 2.4  | .4    | .1   |      |       |
| 9     | 0    |       | 0    | 0     | 20    | .8    | 20    | 2.4  | .4    | .1   |      |       |
| 10    | 0    |       | 0    | 0     | 34    | .8    | 17    | 2.1  | .4    | .1   |      |       |
| 11    | 0    |       | 0    | 0     | 12    | *.7   | 12    | 1.9  | .4    | .1   |      |       |
| 12    | 0    |       | 0    | 0     | 31    | .7    | 7.8   | 1.7  | .4    | .1   |      |       |
| 13    | 0    |       | 0    | 0     | *176  | .7    | 6.1   | 1.6  | .3    | .1   |      |       |
| 14    | 0    |       | 0    | 0     | 53    | .7    | 20    | 1.4  | .3    | .1   |      |       |
| 15    | .2   |       | .1   | 0     | 22    | .7    | 17    | 1.4  | .3    | .1   |      |       |
| 16    | 0    |       | .2   | 0     | 13    | 8.6   | 13    | 1.3  | .3    | 0    |      |       |
| 17    | 0    |       | .1   | 0     | 8.3   | 4.4   | 15    | 1.2  | .3    | .1   |      |       |
| 18    | 0    |       | .1   | 0     | 5.8   | 1.8   | *9.4  | 1.0  | .3    | .1   |      |       |
| 19    | *0   | (*)   | 0    | 0     | 4.4   | 1.3   | 20    | 1.0  | .3    | .1   |      | (*)   |
| 20    | 0    |       | 0    | 0     | 3.7   | 1.0   | 89    | 1.0  | .3    | .1   |      |       |
| 21    | 0    |       | 0    | 0     | 3.3   | .9    | 81    | *.9  | .3    | 0    |      |       |
| 22    | 0    |       | 0    | 0     | 2.9   | 1.2   | 34    | .9   | .2    | 0    |      |       |
| 23    | 0    |       | 0    | *0    | 2.4   | 5.4   | 23    | .9   | .2    | 0    |      |       |
| 24    | 0    |       | 0    | 0     | 2.2   | 5.1   | 15    | .8   | .2    | 0    |      |       |
| 25    | 0    |       | 0    | 0     | 2.1   | 2.9   | 12    | .8   | .2    | *0   |      |       |
| 26    | 0    |       | 0    | 0     | 1.9   | 1.9   | 9.9   | .8   | *.2   | 0    |      |       |
| 27    | 0    |       | *0   | 0     | 1.8   | 12    | 7.1   | .8   | .2    | 0    |      | (*)   |
| 28    | 0    |       | 0    | 0     | 1.7   | 70    | 5.8   | .8   | .1    | 0    |      |       |
| 29    | 0    |       | 0    | 0     | ----- | 19    | 4.7   | .8   | .1    | 0    |      |       |
| 30    | 0    |       | 0    | 45    | ----- | 10    | 4.2   | .8   | .1    | 0    |      |       |
| 31    | 0    | ----- | 0    | 832   | ----- | 6.4   | ----- | .6   | ----- | 0    |      | ----- |
| TOTAL | 0.2  | 0     | 0.5  | 877   | 916.2 | 167.5 | 691.6 | 50.8 | 9.8   | 1.9  | 0    | 0     |
| MEAN  | 0.01 | 0     | 0.02 | 28.3  | 32.7  | 5.40  | 23.1  | 1.64 | 0.33  | 0.06 | 0    | 0     |
| MAX   | 0.2  | 0     | 0.2  | 832   | 447   | 70    | 123   | 3.7  | 0.6   | 0.1  | 0    | 0     |
| MIN   | 0    | 0     | 0    | 0     | 1.4   | 0.7   | 2.1   | 0.6  | 0.1   | 0    | 0    | 0     |
| AC-FT | 0.4  | 0     | 1.0  | 1.740 | 1.820 | 332   | 1.370 | 101  | 19    | 3.8  | 0    | 0     |

CALENDAR YEAR 1962: MAX 369

MIN 0

MEAN 3.84

AC-FT 2,770

WATER YEAR 1962-63: MAX 832

MIN 0

MEAN 7.44

AC-FT 5,390

Peak discharge (base, 100 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1300 | 6.85        | 3,490     | 3-27 | 2400 | 2.58        | 121       |
| 2-9  | 2130 | 2.67        | 128       | 4-6  | 2200 | 3.49        | 422       |
| 2-12 | 2400 | 3.20        | 306       | 4-20 | 1900 | 2.83        | 187       |

\* Discharge measurement or observation of no flow made on this day.

11-1530. Pacheco Creek near Dunneville, Calif.

Location.--Lat 36°58'50", long 121°22'45", in Ausaymas y San Felipe Grant, on right bank 350 ft downstream from private road bridge and 3.3 miles northeast of Dunneville, Santa Clara County.

Drainage area.--146 sq mi.

Records available.--October 1939 to September 1963. Monthly discharge only prior to January 1940, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 230.70 ft above mean sea level, datum of 1947. Prior to Nov. 17, 1950, staff gage, at site 350 ft upstream at datum 6.00 ft higher. Nov. 17, 1950, to Aug. 18, 1960, staff gage, at site 350 ft upstream at datum 4.00 ft higher.

Average discharge.--24 years, 34.1 cfs (24,690 acre-ft per year).

Extremes.--Maximum discharge during year, 8,900 cfs Feb. 1 (gage height, 17.7 ft, from floodmarks), from rating curve extended above 1,400 cfs on basis of slope-area measurement at gage height 21.0 ft; no flow Oct. 1 to Jan. 30.

1940-63: Maximum discharge, 12,600 cfs Dec. 23, 1955 (gage height, 21.0 ft, present site and datum, from floodmarks), from rating curve extended above 820 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Records fair. Flow regulated by Pacheco Lake (capacity, 6,150 acre-ft). Small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

(Shifting-control method used Feb. 12, May 31 to Aug. 26, Sept. 13-30)

| Oct. 1 to Feb. 12 |     |      |       | Feb. 13 to Sept. 30 |     |     |       |
|-------------------|-----|------|-------|---------------------|-----|-----|-------|
| 4.0               | 0   | 4.8  | 31    | 4.07                | 0.5 | 4.7 | 38    |
| 4.1               | .2  | 5.0  | 51    | 4.1                 | 1.0 | 5.0 | 73    |
| 4.2               | 1.0 | 6.0  | 240   | 4.2                 | 3.8 | 5.5 | 155   |
| 4.3               | 2.9 | 7.0  | 575   | 4.3                 | 7.9 | 6.5 | 410   |
| 4.4               | 5.9 | 9.0  | 1,580 | 4.5                 | 20  | 8.5 | 1,280 |
| 4.5               | 9.9 | 12.0 | 3,640 |                     |     |     |       |
| 4.6               | 15  |      |       |                     |     |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.   | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|------|-------|------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| 1     |      |       |      | 0     | 3,630  | 8.5   | 43    | 29    | 1.0   | 11    | 11    | 6.7   |
| 2     |      |       |      | 0     | 513    | 7.9   | 33    | 26    | .9    | 12    | 11    | 5.9   |
| 3     |      |       |      | 0     | 199    | 6.7   | 26    | 22    | .7    | 14    | 11    | 5.4   |
| 4     |      |       |      | 0     | *98    | 4.6   | 22    | 19    | .5    | 15    | 11    | 5.4   |
| 5     |      |       |      | 0     | 60     | 4.2   | 19    | 18    | .7    | 16    | 11    | 5.9   |
| 6     |      |       |      | 0     | 39     | 3.8   | 101   | 17    | .7    | 14    | 10    | 5.9   |
| 7     |      |       |      | 0     | 27     | 3.8   | 813   | 15    | .7    | 14    | 10    | 5.9   |
| 8     |      |       |      | 0     | *19    | 6.3   | 258   | 15    | .7    | 13    | 10    | 5.9   |
| 9     |      |       |      | 0     | 56     | 7.9   | 147   | 16    | .7    | 15    | 11    | 5.9   |
| 10    |      |       |      | 0     | 395    | 7.9   | 127   | 15    | .7    | 16    | 10    | 5.9   |
| 11    |      |       |      | 0     | 134    | *7.9  | 101   | 15    | .9    | 14    | 9.6   | 5.9   |
| 12    |      |       |      | 0     | 162    | 7.1   | 73    | 14    | .9    | 11    | 7.1   | 6.3   |
| 13    |      |       |      | 0     | *1,180 | 6.7   | 58    | 12    | 3.0   | 11    | 5.4   | 6.3   |
| 14    |      |       |      | 0     | 491    | 7.1   | 81    | 11    | 5.0   | 10    | 7.5   | 6.7   |
| 15    |      |       |      | 0     | 211    | 7.5   | 125   | 9.6   | 5.4   | 10    | 7.5   | 6.7   |
| 16    |      |       |      | 0     | 129    | 12    | 101   | 9.0   | 7.1   | 7.5   | 7.9   | 6.7   |
| 17    |      |       |      | 0     | 92     | 22    | 93    | 7.9   | 7.1   | 7.1   | 7.9   | 6.7   |
| 18    |      |       |      | 0     | 67     | 14    | *76   | 7.1   | 9.0   | 7.5   | 8.5   | *6.7  |
| 19    | (*)  | (*)   |      | 0     | 52     | 11    | 92    | 6.7   | 9.0   | 7.9   | 7.9   | 6.7   |
| 20    |      |       |      | 0     | 41     | 9.6   | 301   | 6.3   | 12    | 8.5   | 7.9   | 6.3   |
| 21    |      |       |      | 0     | 32     | 7.9   | 498   | *5.9  | 12    | 9.0   | 8.5   | 6.3   |
| 22    |      |       |      | 0     | 26     | 7.1   | 243   | 4.6   | 12    | 9.0   | 7.9   | 6.3   |
| 23    |      |       |      | *0    | 22     | 9.6   | 155   | 3.8   | 12    | 9.6   | 8.5   | 6.3   |
| 24    |      |       |      | 0     | 18     | 26    | 113   | 3.2   | 12    | 9.0   | 9.0   | 5.9   |
| 25    |      |       |      | 0     | 15     | 23    | 90    | 3.0   | 12    | *10   | 8.5   | 5.4   |
| 26    |      |       |      | 0     | 13     | 17    | 83    | 2.7   | *11   | 10    | 7.9   | 5.4   |
| 27    |      |       |      | 0     | 11     | 18    | 63    | 2.4   | 12    | 10    | *7.9  | 5.4   |
| 28    |      |       | (*)  | 0     | 10     | 288   | 50    | 1.8   | 11    | 11    | 7.9   | 5.0   |
| 29    |      |       |      | 0     | -----  | 146   | 42    | 1.6   | 12    | 11    | 7.9   | 5.0   |
| 30    |      |       |      | 0     | -----  | 81    | 35    | 1.3   | 12    | 11    | 7.9   | 4.6   |
| 31    |      | ----- |      | 549   | -----  | 55    | ----- | 1.3   | ----- | 11    | 7.5   | ----- |
| TOTAL | 0    | 0     | 0    | 549   | 7,742  | 845.1 | 4,062 | 322.2 | 184.7 | 345.1 | 272.6 | 179.4 |
| MEAN  | 0    | 0     | 0    | 17.7  | 276    | 27.3  | 135   | 10.4  | 6.16  | 11.1  | 8.79  | 5.98  |
| MAX   | 0    | 0     | 0    | 549   | 3,630  | 288   | 813   | 29    | 12    | 16    | 11    | 6.7   |
| MIN   | 0    | 0     | 0    | 0     | 10     | 3.8   | 19    | 1.3   | 0.5   | 7.1   | 5.4   | 4.6   |
| AC-FT | 0    | 0     | 0    | 1,090 | 15,360 | 1,680 | 8,060 | 639   | 366   | 684   | 541   | 356   |

CALENDAR YEAR 1962: MAX 756 MIN 0 MEAN 17.4 AC-FT 12,600  
 WATER YEAR 1962-63: MAX 3,630 MIN 0 MEAN 39.7 AC-FT 28,780

\* Discharge measurement or observation of no flow made on this day.

## PAJARO RIVER BASIN

11-1535. Llagas Creek near Morgan Hill, Calif.

Location.--Lat 37°06'50", long 121°41'25", in Las Uvas Grant, on right bank 500 ft upstream from Llagas Avenue Bridge, 0.3 mile downstream from Chesbro Dam, 0.3 mile upstream from small tributary, and 2.3 miles west of Morgan Hill, Santa Clara County.

Drainage area.--19.6 sq mi.

Records available.--October 1951 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 445 ft (from topographic map).

Average discharge.--12 years, 15.5 cfs (11,220 acre-ft per year); median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

Extremes.--Maximum discharge during year, 906 cfs Feb. 1 (gage height, 4.51 ft); minimum daily, 0.5 cfs Jan. 4.

1951-63: Maximum discharge, 3,190 cfs Apr. 2, 1958 (gage height, 8.45 ft), from rating curve extended above 1,600 cfs on basis of computation of peak flow over dam; no flow at times in most years.

Remarks.--Records good. Flow regulated by Chesbro Reservoir (see p. 292).

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 5, 6)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.8 | 0.1 | 1.7 | 52  |
| .9  | .7  | 2.0 | 90  |
| 1.0 | 2.6 | 2.5 | 177 |
| 1.1 | 5.9 | 3.0 | 298 |
| 1.2 | 11  | 3.5 | 455 |
| 1.4 | 24  | 4.0 | 660 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY                 | OCT.          | NOV.  | DEC.  | JAN.    | FEB.  | MAR.      | APR.  | MAY          | JUNE  | JULY | AUG.  | SEPT. |
|---------------------|---------------|-------|-------|---------|-------|-----------|-------|--------------|-------|------|-------|-------|
| 1                   | 1.3           | 26    | 21    | 1.0     | *566  | 79        | *40   | 45           | 8.8   | 15   | 15    | 44    |
| 2                   | 2.1           | 26    | 21    | .7      | *403  | 77        | 42    | 41           | 8.8   | *15  | 15    | 40    |
| 3                   | 2.3           | 26    | 21    | .6      | 198   | 77        | 38    | 38           | 9.8   | 15   | 16    | 36    |
| 4                   | *2.1          | 26    | 21    | .5      | 131   | 50        | 35    | 37           | 10    | 15   | 16    | *39   |
| 5                   | 1.7           | 26    | 21    | .7      | 96    | 15        | 31    | 46           | 14    | 15   | 16    | 41    |
| 6                   | 1.7           | 27    | 19    | .7      | 75    | 14        | 47    | *36          | *15   | 15   | 16    | 38    |
| 7                   | 1.7           | 27    | 17    | .7      | 60    | 9.8       | 117   | 26           | 15    | 15   | 16    | 36    |
| 8                   | 1.7           | 27    | 13    | .7      | 52    | 9.3       | 75    | 25           | 15    | 15   | 16    | 36    |
| 9                   | 1.7           | 26    | 12    | .7      | 68    | 4.3       | 64    | 26           | 15    | 15   | 16    | 36    |
| 10                  | 2.1           | 26    | 8.1   | .7      | 91    | 1.1       | 82    | 25           | 15    | 15   | 21    | 39    |
| 11                  | 2.3           | 26    | 4.0   | *.7     | 84    | 1.1       | 90    | 26           | 15    | 14   | 26    | 42    |
| 12                  | 2.6           | 26    | 3.4   | 1.1     | 84    | 1.1       | 65    | 24           | 15    | 14   | 27    | 42    |
| 13                  | 4.6           | 26    | 2.9   | 1.1     | *118  | 1.1       | 54    | 21           | 15    | 14   | 28    | 42    |
| 14                  | 3.4           | 26    | 3.1   | 1.1     | *106  | 1.1       | 234   | 20           | 15    | 14   | 29    | 42    |
| 15                  | 3.4           | 26    | 3.4   | 1.1     | 89    | 1.1       | 185   | 18           | 15    | 14   | 28    | 42    |
| 16                  | 3.4           | 26    | 3.4   | 1.1     | 83    | 1.6       | 122   | 18           | 14    | 14   | 27    | 43    |
| 17                  | 7.9           | 26    | 3.4   | 1.1     | 83    | 1.1       | 94    | 16           | 14    | 14   | 27    | 44    |
| 18                  | 23            | 26    | 3.4   | 1.1     | 83    | 1.1       | 84    | 18           | 14    | 14   | 27    | 44    |
| 19                  | 37            | 27    | *2.9  | 1.1     | 83    | 1.1       | 98    | 17           | 14    | 15   | 31    | 44    |
| 20                  | 48            | *27   | 2.3   | 1.1     | 83    | 1.1       | 107   | 17           | 14    | 15   | 43    | 44    |
| 21                  | 53            | 27    | 2.1   | 1.1     | 83    | 1.1       | 117   | 16           | 14    | 15   | 40    | 43    |
| 22                  | 54            | 27    | 2.1   | 1.0     | 83    | 1.3       | 86    | 16           | 14    | 15   | 29    | 43    |
| 23                  | 49            | 27    | 2.1   | 1.0     | 83    | 1.7       | 72    | 15           | 14    | 15   | 26    | 43    |
| 24                  | 33            | 27    | 2.1   | 1.0     | 83    | 1.3       | 69    | 15           | 15    | 15   | 27    | 43    |
| 25                  | 30            | 27    | 1.5   | 1.0     | 83    | 1.3       | 65    | 14           | 15    | 15   | 27    | 43    |
| 26                  | 33            | 24    | 1.3   | 1.0     | 83    | 1.3       | 64    | 13           | 15    | 15   | 27    | 43    |
| 27                  | 32            | 22    | 1.5   | 1.0     | 82    | 2.4       | 54    | 12           | 15    | 15   | 27    | 43    |
| 28                  | 28            | 22    | 1.3   | 1.0     | *82   | 2.3       | 52    | 11           | 15    | 15   | 27    | 43    |
| 29                  | 27            | 22    | 1.1   | 1.1     | ----- | 1.6       | 49    | 10           | 15    | 15   | 29    | 44    |
| 30                  | 27            | 21    | .8    | 11      | ----- | 11        | 47    | 11           | 15    | 15   | 30    | *44   |
| 31                  | 26            | ----- | .8    | 24      | ----- | 39        | ----- | 9.8          | ----- | 15   | 34    | ----- |
| TOTAL               | 546.0         | 771   | 223.0 | 61.8    | 3,298 | 412.3     | 2,379 | 682.8        | 418.4 | 457  | 779   | 1,246 |
| MEAN                | 17.6          | 25.7  | 7.19  | 1.99    | 118   | 13.3      | 79.3  | 22.0         | 13.9  | 14.7 | 25.1  | 41.5  |
| MAX                 | 54            | 27    | 21    | 24      | 566   | 79        | 234   | 46           | 15    | 15   | 43    | 44    |
| MIN                 | 1.3           | 21    | 0.8   | 0.5     | 52    | 1.1       | 31    | 9.8          | 8.8   | 14   | 15    | 36    |
| AC-FT               | 1,080         | 1,530 | 442   | 123     | 6,540 | 818       | 4,720 | 1,350        | 830   | 906  | 1,550 | 2,470 |
| CALENDAR YEAR       | 1962: MAX 233 |       |       | MIN 0   |       | MEAN 18.6 |       | AC-FT 13,440 |       |      |       |       |
| WATER YEAR 1962-63: | MAX 566       |       |       | MIN 0.5 |       | MEAN 30.9 |       | AC-FT 22,360 |       |      |       |       |

\* Discharge measurement made on this day.

11-1537. Pajaro River near Gilroy, Calif.

Location.--Lat 36°56'55", long 121°30'40", on boundary between Las Animas and Llano del Tequisquita Grants, on center pier on downstream side of highway bridge on Bolsa Road, 0.9 mile downstream from Llagas Creek, and 4.7 miles southeast of Gilroy, Santa Clara County.

Drainage area.--399 sq mi.

Records available.--March 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 123.88 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 5,320 cfs Feb. 1 (gage height, 13.81 ft), from rating curve extended above 2,100 cfs; no flow Oct. 22 to Nov. 3, Nov. 18 to Dec. 4.  
1959-63: Maximum discharge, that of Feb. 1, 1963; no flow for many days in 1962-63.

Remarks.--Records fair. Flow regulated by Pacheco Lake (capacity, 6,150 acre-ft), Chesbro Reservoir (see p. 292), and San Felipe Lake. Many diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 23 to Jan. 30, Feb. 18 to Mar. 27)

| Oct. 1 to Jan. 29 |     |     |     | Jan. 30 to Sept. 30 |       |  |  |
|-------------------|-----|-----|-----|---------------------|-------|--|--|
| 2.1               | 0   | 2.6 | 1.4 | 5.8                 | 149   |  |  |
| 2.2               | .2  | 2.7 | 1.8 | 6.6                 | 296   |  |  |
| 2.3               | .4  | 3.0 | 4.0 | 7.5                 | 545   |  |  |
| 2.4               | .7  | 3.4 | 8.6 | 9.0                 | 1,160 |  |  |
| 2.6               | 1.6 | 3.9 | 18  | 11.0                | 2,450 |  |  |
| 2.9               | 3.4 | 4.5 | 38  | 13.0                | 4,350 |  |  |
|                   |     | 5.1 | 74  |                     |       |  |  |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.    | FEB.   | MAR.    | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|------|-------|------|---------|--------|---------|--------|-------|-------|-------|-------|-------|
| 1     | 0.1  | 0     | 0    | 0.1     | 4,170  | 43      | 117    | 69    | 12    | 6.7   | 4.5   | 2.4   |
| 2     | .1   | 0     | 0    | .1      | *2,090 | 41      | 91     | 62    | 11    | 7.2   | 4.5   | 2.1   |
| 3     | .1   | 0     | 0    | .1      | 1,160  | 40      | 75     | 55    | 10    | 6.5   | 5.2   | 2.7   |
| 4     | .2   | .1    | 0    | .1      | 792    | 40      | 64     | 47    | 9.6   | 5.8   | 7.1   | 1.6   |
| 5     | .1   | .1    | .1   | .1      | 538    | 19      | 55     | 40    | 10    | 6.6   | 5.6   | 1.5   |
| 6     | .1   | .1    | 1.5  | .2      | 358    | 12      | 97     | 50    | 9.4   | 6.2   | 4.1   | 1.5   |
| 7     | .2   | .1    | 2.0  | .4      | 230    | 16      | 591    | 49    | 9.2   | 5.2   | 3.5   | 1.7   |
| 8     | .2   | .1    | .5   | .6      | *139   | 12      | 524    | 43    | 8.7   | 4.7   | 4.7   | 1.8   |
| 9     | .1   | .1    | .2   | .3      | 103    | 12      | 415    | 40    | 8.5   | 5.2   | 3.8   | 1.9   |
| 10    | .1   | .1    | .3   | .2      | 234    | 7.9     | 388    | 39    | 8.9   | 6.5   | 4.4   | 1.9   |
| 11    | .1   | .1    | .9   | .5      | 285    | 6.0     | 325    | 39    | 8.3   | 6.5   | 3.8   | 1.6   |
| 12    | .1   | .1    | 1.5  | .3      | 290    | 5.6     | 236    | 37    | 8.5   | 7.1   | 2.3   | 2.3   |
| 13    | .1   | .1    | .6   | .2      | *983   | 5.5     | 175    | 35    | 7.9   | 6.2   | 2.6   | 4.2   |
| 14    | .3   | .1    | .3   | 1.4     | 828    | *6.0    | 298    | 30    | 8.3   | 5.7   | 3.6   | 3.7   |
| 15    | .3   | .1    | .4   | .5      | 629    | 5.3     | 358    | 27    | 7.2   | 4.6   | 3.9   | 3.4   |
| 16    | .3   | .1    | 2.8  | .3      | 462    | 16      | 252    | 24    | 7.0   | 5.2   | 3.5   | 1.6   |
| 17    | .2   | .1    | 1.5  | .6      | 338    | 10      | *197   | 23    | 7.0   | 4.6   | 3.6   | *2.4  |
| 18    | *.1  | 0     | .7   | .8      | 238    | 5.7     | 164    | 20    | 6.1   | 4.3   | 2.8   | 3.5   |
| 19    | .1   | 0     | .5   | .3      | 172    | 5.6     | 195    | 20    | 7.2   | 5.7   | 2.3   | 3.7   |
| 20    | .1   | *0    | .4   | .2      | 125    | 5.7     | 371    | 17    | 7.6   | 4.7   | 1.8   | 3.8   |
| 21    | .1   | 0     | .3   | .2      | 95     | 5.7     | 574    | 17    | 6.4   | 4.1   | 2.4   | 3.9   |
| 22    | 0    | 0     | .3   | *.4     | 77     | 6.1     | 626    | *15   | 5.9   | 3.5   | 3.1   | 1.6   |
| 23    | 0    | 0     | .2   | .4      | 68     | 7.5     | 370    | 15    | 6.4   | 3.5   | 2.5   | 2.3   |
| 24    | 0    | 0     | .2   | .5      | 62     | 6.1     | 294    | 14    | 5.1   | 4.5   | 2.3   | 2.6   |
| 25    | 0    | 0     | .2   | .4      | 56     | 6.0     | 224    | 13    | *5.5  | *5.6  | 1.9   | 3.0   |
| 26    | 0    | 0     | .2   | .2      | 51     | 9.3     | 181    | 12    | 7.1   | 4.2   | 2.0   | 3.4   |
| 27    | 0    | 0     | *.1  | .4      | *48    | 14      | 137    | 13    | 8.2   | 2.9   | *1.8  | 3.0   |
| 28    | 0    | 0     | .1   | .3      | 45     | 208     | 111    | 14    | 7.3   | 3.8   | 1.9   | 3.4   |
| 29    | 0    | 0     | .1   | .3      | -----  | 190     | 88     | 13    | 7.3   | 3.8   | 3.2   | 3.4   |
| 30    | 0    | 0     | .1   | 85      | -----  | 160     | 73     | 15    | 8.0   | 3.0   | 3.5   | 2.3   |
| 31    | 0    | ----- | .1   | 2,480   | -----  | 132     | -----  | 12    | ----- | 4.0   | 3.0   | ----- |
| TOTAL | 3.1  | 1.4   | 16.1 | 2,575.4 | 14,666 | 1,059.0 | 7,666  | 919   | 239.6 | 158.1 | 105.2 | 78.2  |
| MEAN  | 0.10 | 0.05  | 0.52 | 83.1    | 524    | 34.2    | 256    | 29.6  | 7.99  | 5.10  | 3.39  | 2.61  |
| MAX   | 0.3  | 0.1   | 2.8  | 2,480   | 4,170  | 208     | 626    | 69    | 12    | 7.2   | 7.1   | 4.2   |
| MIN   | 0    | 0     | 0    | 0.1     | 45     | 5.3     | 55     | 12    | 5.1   | 2.9   | 1.8   | 1.5   |
| AC-FT | 6.1  | 2.8   | 32   | 5,110   | 29,090 | 2,100   | 15,210 | 1,820 | 475   | 314   | 209   | 155   |

CALENDAR YEAR 1962: MAX 750 MIN 0 MEAN 22.3 AC-FT 16,170  
WATER YEAR 1962-63: MAX 4,170 MIN 0 MEAN 75.3 AC-FT 54,520

## Peak discharge (base, 300 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-1  | 0500 | 13.81       | 5,320     | 4-7  | 0230 | 7.84        | 664       |
| 2-13 | 1400 | 9.07        | 1,200     | 4-14 | 1800 | 7.31        | 483       |
| 3-28 | 1000 | 6.62        | 301       | 4-20 | 2330 | 8.14        | 776       |

\* Discharge measurement or observation of no flow made on this day.

## PAJARO RIVER BASIN

11-1539. Uvas Creek above Uvas Reservoir, near Morgan Hill, Calif.

Location.--Lat 37°05'34", long 121°43'02", in Las Uvas Grant on left bank 0.6 mile downstream from Little Uvas Creek, 0.9 mile upstream from Hay Canyon and 4.4 miles southwest of Morgan Hill, Santa Clara County.

Drainage area.--21.0 sq mi.

Records available.--July 1961 to September 1963.

Gage.--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 500 ft (from topographic map).

Extremes.--Maximum discharge during the year, 6,580 cfs Oct. 13 (gage height, 13.18 ft); minimum daily, 0.1 cfs Oct. 1, 6-9. 1961-63: Maximum discharge, that of Oct. 13, 1962; no flow July 12 to Oct. 22, 1961.

Remarks.--Records good. Minor regulation and diversion above station affects low flows.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 12, 13, June 5 to Sept. 30)

|     |     |     |     |      |       |
|-----|-----|-----|-----|------|-------|
| 2.4 | 0.1 | 3.2 | 9.6 | 7.0  | 630   |
| 2.5 | .2  | 3.5 | 19  | 8.0  | 970   |
| 2.6 | .4  | 4.0 | 49  | 9.0  | 1,400 |
| 2.7 | 1.1 | 4.5 | 95  | 10.0 | 2,060 |
| 2.8 | 2.1 | 5.0 | 160 | 12.0 | 4,300 |
| 3.0 | 5.1 | 6.0 | 355 |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.    | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|---------|-------|-------|---------|-------|-------|-------|-------|-------|-------|------|-------|
| 1     | 0.1     | 7.4   | 4.3   | 7.2     | 1,150 | 33    | *65   | 49    | 15    | *5.9  | 1.6  | 1.1   |
| 2     | .2      | 6.8   | 4.5   | 7.0     | 300   | 32    | 58    | 46    | 14    | 5.9   | 1.6  | 1.3   |
| 3     | .3      | 6.6   | 4.3   | 7.0     | 180   | 31    | 51    | 43    | 14    | 5.9   | 2.0  | .8    |
| 4     | *.3     | 6.4   | 4.3   | 6.8     | 134   | 28    | 47    | 41    | 13    | 5.9   | 2.1  | *1.3  |
| 5     | .2      | 6.4   | 4.1   | 6.6     | 107   | 27    | 45    | 39    | 13    | 5.7   | *1.6 | 1.3   |
| 6     | .1      | 5.9   | 4.1   | 6.4     | 91    | 27    | 237   | *36   | *13   | 5.1   | 1.1  | 1.2   |
| 7     | .1      | 5.9   | 3.8   | 5.9     | 79    | 26    | 260   | 36    | 13    | 5.3   | 1.3  | 1.1   |
| 8     | .1      | 5.7   | 3.5   | 5.9     | 70    | 26    | 142   | 34    | 12    | 5.5   | 1.6  | 2.1   |
| 9     | .1      | 5.7   | 3.7   | 5.7     | 88    | 25    | 112   | 32    | 12    | 4.0   | 1.7  | 1.6   |
| 10    | .2      | 5.5   | 3.7   | *5.5    | 128   | 24    | 131   | 33    | 12    | 3.8   | 1.7  | 1.5   |
| 11    | 9.7     | 5.3   | 3.5   | 5.3     | 96    | 23    | 104   | 31    | 12    | 3.3   | 1.5  | 1.9   |
| 12    | 8.7     | 5.3   | 3.7   | 5.1     | 119   | 21    | 88    | 28    | 11    | 3.3   | 1.3  | 1.6   |
| 13    | *1,370  | 5.5   | 3.7   | 4.9     | *320  | *20   | 82    | 27    | 11    | 3.5   | 1.1  | 2.5   |
| 14    | *241    | 5.3   | 3.8   | 4.9     | 169   | 21    | 333   | 25    | 11    | 3.5   | .7   | 2.3   |
| 15    | 64      | 4.9   | 21    | 5.1     | 128   | 21    | 203   | 24    | 11    | 3.5   | .8   | 2.1   |
| 16    | 36      | 4.8   | 57    | 5.1     | 98    | 79    | 154   | 23    | 10    | 3.3   | .8   | 2.0   |
| 17    | 26      | 4.8   | 47    | 5.1     | 90    | 40    | 128   | 21    | 9.6   | 3.2   | 1.1  | 1.9   |
| 18    | 20      | 4.6   | 26    | 4.9     | 78    | 31    | 111   | 21    | 9.1   | 3.2   | 1.4  | 2.0   |
| 19    | 17      | 4.3   | *18   | 4.9     | 70    | 28    | 174   | 21    | 8.9   | 3.0   | 1.2  | 2.7   |
| 20    | 15      | *4.3  | 15    | 4.9     | 62    | 26    | 157   | 20    | 8.4   | 3.0   | .8   | 2.1   |
| 21    | 13      | *4.6  | 13    | 4.9     | 57    | 21    | 137   | 20    | 8.2   | 3.3   | .8   | 2.1   |
| 22    | 13      | 4.8   | 12    | 4.8     | 52    | 49    | 116   | 20    | 7.9   | 2.7   | 1.3  | 2.2   |
| 23    | 12      | 4.6   | 11    | 4.6     | 48    | 125   | 102   | 19    | 8.2   | 2.7   | 1.7  | 2.2   |
| 24    | 11      | 4.6   | 11    | 4.5     | 45    | 65    | 90    | 18    | 7.2   | 2.5   | 1.4  | 1.8   |
| 25    | 10      | 4.6   | 9.6   | 4.6     | 42    | 51    | 85    | 17    | 7.2   | 2.1   | 1.2  | 1.1   |
| 26    | 9.9     | 4.8   | 9.1   | 4.6     | 40    | 43    | 77    | 17    | 6.6   | 2.1   | .9   | 1.8   |
| 27    | 9.6     | 7.5   | 8.9   | 4.8     | 36    | 145   | 68    | 16    | 6.8   | 2.2   | .8   | .8    |
| 28    | 8.9     | 4.9   | 8.4   | 4.8     | 34    | 205   | 62    | 16    | 6.4   | 2.1   | .7   | .4    |
| 29    | 8.2     | 4.5   | 8.2   | 6.3     | ----- | 111   | 56    | 16    | 6.4   | 1.9   | .6   | 1.5   |
| 30    | 7.7     | 4.5   | 7.9   | 1,700   | ----- | 87    | 52    | 15    | *5.7  | 2.1   | .5   | 2.0   |
| 31    | 7.4     | ----- | 7.7   | *3,390  | ----- | 77    | 77    | 15    | ----- | 1.6   | .8   | ----- |
| TOTAL | 1,919.8 | 160.8 | 345.8 | 5,248.1 | 3,911 | 1,568 | 3,527 | 819   | 303.6 | 111.1 | 37.7 | 50.3  |
| MEAN  | 61.9    | 5.36  | 11.2  | 169     | 140   | 50.6  | 118   | 26.4  | 10.1  | 3.58  | 1.22 | 1.68  |
| MAX   | 1,370   | 7.5   | 57    | 3,390   | 1,150 | 205   | 333   | 49    | 15    | 5.9   | 2.1  | 2.7   |
| MIN   | 0.1     | 4.3   | 3.5   | 4.5     | 34    | 20    | 45    | 15    | 5.7   | 1.6   | 0.5  | 0.4   |
| AC-FT | 3,810   | 319   | 686   | 10,410  | 7,760 | 3,110 | 7,000 | 1,620 | 602   | 220   | 75   | 100   |
| (†)   | 8.4     | 0.4   | 2.9   | 15.2    | 3.0   | 6.3   | 7.1   | 0.3   | 0     | 0     | 0    | 0     |

Calendar year 1962: Max 1,370 Min 0.1 Mean 29.4 Ac-ft 21,330

Water year 1962-63: Max 3,390 Min 0.1 Mean 49.3 Ac-ft 35,710

Peak discharge (base, 220 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1630 | 13.18       | 6,580     | 4-6  | 2030 | 7.83        | 906       |
| 1-31  | 1130 | 13.10       | 6,400     | 4-14 | 0630 | 7.92        | 938       |
| 2-13  | 0630 | 5.99        | 415       | 4-19 | 0400 | 5.78        | 301       |
| 3-27  | 2200 | 6.62        | 516       |      |      |             |           |

\* Discharge measurement made on this day.  
† Precipitation, in inches.

11-1541. Bodfish Creek near Gilroy

Location.--Lat 37°00'15", long 121°40'00", in Las Animas Grant, on left bank just upstream from Whitehurst Creek, 2.7 miles upstream from mouth and 5.1 miles west of west city limits of Gilroy, Santa Clara County.

Drainage area.--7.40 sq mi.

Records available.--October 1959 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 360 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,240 cfs Jan. 31 (gage height, 8.25 ft), from rating curve extended above 580 cfs; no flow Oct. 1-10.

1959-63: Maximum discharge, that of Jan. 31, 1963; no flow for many days in each year.

Remarks.--Records good. No regulation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 2.3 | 0'  | 3.3 | 35  |
| 2.4 | .3  | 3.6 | 60  |
| 2.5 | 1.0 | 4.0 | 103 |
| 2.6 | 2.7 | 4.5 | 172 |
| 2.7 | 5.5 | 5.5 | 360 |
| 3.0 | 17  | 6.5 | 630 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0    | 0.3   | 0.3  | 0.6   | 228   | 3.0   | 8.3   | 7.6   | 3.0   | 1.2  | 0.5  | 0.3   |
| 2     | 0    | .3    | .3   | .6    | *a 34 | 2.7   | 6.9   | 7.3   | 2.7   | 1.2  | .5   | .3    |
| 3     | 0    | .3    | .3   | .6    | a 15  | 2.7   | 5.9   | 6.6   | 2.5   | 1.2  | .5   | .3    |
| 4     | 0    | .2    | .3   | .5    | a 9.8 | 2.5   | 5.2   | 6.6   | 2.5   | 1.2  | .5   | .3    |
| 5     | 0    | .2    | .3   | .5    | a 7.3 | 2.5   | 4.9   | 6.2   | 2.5   | 1.2  | .5   | .3    |
| 6     | 0    | .2    | .3   | .5    | a 6.6 | 2.4   | 189   | 5.9   | 2.4   | 1.2  | .4   | .3    |
| 7     | 0    | .3    | .3   | .5    | 5.9   | 2.4   | 102   | 5.2   | 2.4   | 1.2  | .4   | .3    |
| 8     | 0    | .3    | .3   | .5    | 5.5   | 2.4   | 37    | 4.9   | 2.4   | 1.2  | .4   | .3    |
| 9     | 0    | .3    | .2   | .4    | 9.1   | 2.4   | 27    | 4.7   | 2.2   | 1.1  | .4   | .3    |
| 10    | 0    | .2    | .2   | .4    | 17    | 2.2   | 34    | 4.7   | 2.2   | 1.1  | .4   | .3    |
| 11    | 1.2  | .2    | .2   | .4    | 14    | 2.2   | 24    | 4.7   | 2.2   | 1.1  | .4   | .2    |
| 12    | .5   | .2    | .2   | .4    | 23    | 2.0   | 19    | 4.4   | 2.2   | 1.1  | .4   | .2    |
| 13    | 32   | .2    | .2   | .4    | 83    | 2.0   | 16    | 4.1   | 2.2   | 1.1  | .3   | .3    |
| 14    | 12   | .2    | .2   | .4    | 27    | 2.0   | 40    | 3.8   | 2.0   | 1.1  | .3   | .2    |
| 15    | 2.2  | .2    | 2.8  | .4    | 18    | 2.0   | 27    | 3.5   | 1.8   | 1.0  | .3   | .3    |
| 16    | 1.1  | .2    | 7.3  | .4    | 14    | 8.7   | 23    | 3.5   | 1.7   | .9   | .3   | .3    |
| 17    | .9   | .2    | 4.1  | .3    | 11    | 4.4   | *19   | 3.3   | 1.7   | .9   | .3   | *.3   |
| 18    | *.7  | .2    | 2.5  | .3    | 8.3   | 3.5   | 16    | 3.3   | 1.7   | .9   | .3   | .3    |
| 19    | .6   | .2    | 1.7  | .3    | 7.3   | 2.7   | 54    | 3.3   | 1.7   | .9   | .3   | .3    |
| 20    | .5   | *.2   | 1.2  | .3    | 6.6   | 3.1   | 45    | 3.3   | 1.7   | .9   | .3   | .3    |
| 21    | .5   | .2    | 1.1  | .3    | 5.5   | 2.4   | 37    | *3.3  | 1.7   | .9   | .3   | .3    |
| 22    | .5   | .2    | .9   | *.3   | 5.2   | 3.3   | 26    | 3.3   | 1.7   | .8   | *.3  | .3    |
| 23    | .5   | .2    | .9   | .3    | 4.9   | 5.8   | 21    | 3.3   | 1.7   | .8   | .4   | .4    |
| 24    | .4   | .2    | .8   | .3    | 4.4   | 4.4   | 18    | 3.0   | 1.5   | *.8  | .3   | .3    |
| 25    | .4   | .2    | .7   | .3    | 4.1   | 3.8   | 16    | 3.0   | *1.3  | .7   | .3   | .3    |
| 26    | .4   | .2    | *.7  | .3    | 3.8   | 3.5   | 15    | 2.7   | 1.3   | .7   | .3   | .3    |
| 27    | .4   | 1.2   | .7   | .3    | *3.5  | 27    | 12    | 2.7   | 1.3   | .6   | .3   | .3    |
| 28    | .4   | .5    | .7   | .3    | 3.3   | 56    | 8.7   | 2.5   | 1.3   | .6   | .3   | .2    |
| 29    | .3   | .3    | .7   | .4    | ----- | 18    | 8.3   | 2.5   | 1.3   | .5   | .3   | .3    |
| 30    | .3   | .3    | .7   | 165   | ----- | 12    | 7.6   | 2.7   | 1.2   | .5   | .4   | .3    |
| 31    | .3   | ----- | .7   | 505   | ----- | 9.4   | ----- | 3.0   | ----- | .5   | .4   | ----- |
| Total | 56.1 | 8.1   | 31.8 | 681.5 | 585.1 | 203.4 | 872.8 | 128.9 | 58.0  | 29.1 | 11.3 | 8.7   |
| Mean  | 1.81 | 0.27  | 1.03 | 22.0  | 20.9  | 6.56  | 29.1  | 4.16  | 1.93  | 0.94 | 0.36 | 0.29  |
| Max   | 32   | 1.2   | 7.3  | 505   | 228   | 56    | 189   | 7.6   | 3.0   | 1.2  | 0.5  | 0.4   |
| Min   | 0    | 0.2   | 0.2  | 0.3   | 3.3   | 2.0   | 4.9   | 2.5   | 1.2   | 0.5  | 0.3  | 0.2   |
| Ac-ft | 111  | 16    | 63   | 1,350 | 1,160 | 403   | 1,730 | 256   | 115   | 58   | 22   | 17    |

Calendar year 1962: Max 102 Min 0 Mean 2.46 Ac-ft 1,780  
 Water year 1962-63: Max 505 Min 0 Mean 7.33 Ac-ft 5,300

Peak discharge (base, 150 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1800 | 4.38        | 154       | 4-6  | 1800 | 6.46        | 618       |
| 1-31  | 1200 | 8.25        | 1,240     |      |      |             |           |

\* Discharge measurement made on this day.  
 a No gage-height record.

## PAJARO RIVER BASIN

11-1542. Uvas Creek near Gilroy, Calif.

Location.--Lat 36°59'35", long 121°34'20", in Las Animas Grant, on left bank 400 ft upstream from county road bridge, 0.4 mile south-west of Gilroy, Santa Clara County, and 3.9 miles downstream from Bodfish Creek.

Drainage area.--71.2 sq mi.

Records available.--January 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 190 ft (from topographic map).

Extremes.--Maximum discharge during year, 7,180 cfs Feb. 1 (gage height, 17.66 ft), from rating curve extended above 2,500 cfs; no flow for several months.

1959-63: Maximum discharge, that of Feb. 1, 1963; no flow for several months in each year.

Remarks.--Records good. Flow regulated by Uvas Reservoir (see p. 292). Diversion above station for irrigation and municipal supply of city of Gilroy.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

(Shifting-control method used Oct. 15 to Dec. 19, Apr. 7-20)

| Oct. 1 to Jan. 31 |     |     |     |      | Feb. 1 to Sept. 30 |     |     |      |       |
|-------------------|-----|-----|-----|------|--------------------|-----|-----|------|-------|
| 2.7               | 0   | 3.3 | 2.3 | 4.0  | 41                 | 2.3 | 0   | 3.3  | 56    |
| 2.8               | .1  | 3.4 | 3.6 | 4.5  | 125                | 2.4 | .1  | 3.8  | 140   |
| 2.9               | .2  | 3.5 | 5.8 | 5.0  | 255                | 2.5 | .9  | 4.5  | 320   |
| 3.0               | .4  | 3.6 | 9.0 | 6.0  | 640                | 2.6 | 3.0 | 6.0  | 860   |
| 3.1               | .7  | 3.8 | 20  | 10.0 | 2,700              | 2.7 | 6.6 | 9.0  | 2,250 |
| 3.2               | 1.3 |     |     |      |                    | 2.8 | 11  | 13.0 | 4,350 |
|                   |     |     |     |      |                    | 3.0 | 24  |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.   | MAR.    | APR.   | MAY     | JUNE  | JULY | AUG.  | SEPT. |
|-------|------|-------|------|-------|--------|---------|--------|---------|-------|------|-------|-------|
| 1     | 0    | 4.5   | 0    | 0     | *3,910 | 51      | 144    | 120     | 8.4   | 1.7  | 3.7   | 7.5   |
| 2     | 0    | 2.2   | 0    | 0     | 1,260  | 49      | 113    | 110     | 7.0   | 1.3  | 4.1   | 7.9   |
| 3     | 0    | 2.7   | 0    | 0     | 720    | 45      | 91     | 98      | 5.5   | 1.3  | 5.2   | 8.4   |
| 4     | 0    | 4.0   | 0    | 0     | 494    | 41      | 76     | 86      | 4.4   | 2.0  | 5.9   | 7.9   |
| 5     | 0    | 7.7   | 0    | 0     | 374    | 34      | 67     | 76      | 4.4   | 2.6  | 6.6   | 7.5   |
| 6     | 0    | 12    | 0    | 0     | 287    | 28      | 612    | 70      | 5.5   | 2.8  | 6.6   | 7.0   |
| 7     | 0    | 12    | 0    | 0     | 238    | 21      | 1,210  | 54      | 1.7   | 2.4  | 7.0   | 7.0   |
| 8     | 0    | 13    | 0    | 0     | 195    | 18      | 498    | 44      | .2    | 1.7  | 7.5   | 6.6   |
| 9     | 0    | 12    | 0    | 0     | 190    | 16      | 323    | 40      | 1.5   | 2.0  | 7.5   | 6.6   |
| 10    | 0    | 8.0   | 0    | 0     | 314    | 13      | 342    | 36      | 3.4   | 2.0  | 7.9   | 6.6   |
| 11    | 0    | 7.4   | 0    | 0     | 287    | *9.2    | 272    | 35      | 2.8   | 1.7  | 7.9   | 5.5   |
| 12    | 0    | 7.7   | 0    | 0     | 266    | 7.5     | 198    | 29      | 2.4   | 1.7  | 7.9   | 4.1   |
| 13    | 0    | 8.4   | 0    | 0     | *873   | 5.9     | 155    | 25      | .7    | 1.5  | 7.5   | 3.7   |
| 14    | 0    | 9.5   | 0    | 0     | 578    | 5.5     | 573    | 22      | 0     | 2.0  | 7.0   | 3.4   |
| 15    | 2.0  | 9.0   | 0    | 0     | 414    | 5.9     | 561    | 19      | 0     | 2.8  | 7.5   | 3.0   |
| 16    | 0    | 8.4   | 2.2  | 0     | 335    | 38      | 383    | 16      | 0     | 2.6  | 7.5   | 2.8   |
| 17    | 0    | 8.0   | 12   | 0     | 272    | 31      | *329   | 16      | .7    | 2.8  | 7.0   | *2.8  |
| 18    | *0   | 7.1   | 8.0  | 0     | 225    | 20      | 269    | 16      | 1.1   | 2.8  | 7.0   | 2.6   |
| 19    | 0    | 6.4   | 3.6  | 0     | 190    | 16      | 496    | 15      | 1.3   | 4.1  | 7.5   | 2.4   |
| 20    | 0    | *6.8  | 0    | 0     | 162    | 16      | 488    | 13      | 1.5   | 4.4  | 7.0   | 2.2   |
| 21    | 0    | 7.4   | 0    | 0     | 134    | 14      | 529    | *13     | 2.2   | 4.4  | 7.5   | 1.7   |
| 22    | 0    | 7.4   | 0    | *0    | 117    | 15      | 424    | 15      | 2.4   | 4.8  | *8.4  | 1.5   |
| 23    | 0    | 7.1   | 0    | 0     | 103    | 154     | 362    | 15      | 2.6   | 4.4  | 8.4   | 1.3   |
| 24    | 0    | 6.4   | 0    | 0     | 89     | 136     | 311    | 14      | 2.6   | *3.7 | 8.4   | 1.3   |
| 25    | 0    | 7.1   | 0    | 0     | 76     | 78      | 275    | 13      | *2.6  | 4.1  | 8.4   | .4    |
| 26    | 1.2  | 7.4   | *0   | 0     | 62     | 56      | 250    | 12      | 2.8   | 4.1  | 7.9   | 0     |
| 27    | 8.7  | 2.5   | 0    | 0     | *64    | 121     | 210    | 12      | 3.4   | 4.1  | 7.0   | 0     |
| 28    | 15   | 0     | 0    | 0     | 56     | 770     | 180    | 11      | 3.7   | 4.4  | 7.5   | 0     |
| 29    | 18   | 0     | 0    | 0     | -----  | 353     | 160    | 10      | 2.8   | 4.4  | 7.5   | 0     |
| 30    | 19   | 0     | 0    | 315   | -----  | 243     | 144    | 8.8     | 2.2   | 4.1  | 7.0   | 0     |
| 31    | 12   | ----- | 0    | 2,410 | -----  | 190     | -----  | 8.8     | ----- | 3.4  | 7.0   | ----- |
| TOTAL | 75.9 | 202.1 | 25.8 | 2,725 | 12,285 | 2,601.0 | 10,045 | 1,072.6 | 79.8  | 92.1 | 220.8 | 111.7 |
| MEAN  | 2.45 | 6.74  | 0.83 | 87.9  | 439    | 83.9    | 335    | 34.6    | 2.66  | 2.97 | 7.12  | 3.72  |
| MAX   | 19   | 13    | 12   | 2,410 | 3,910  | 770     | 1,210  | 120     | 8.4   | 4.8  | 8.4   | 8.4   |
| MIN   | 0    | 0     | 0    | 0     | 56     | 5.5     | 67     | 8.8     | 0     | 1.3  | 3.7   | 0     |
| AC-FT | 151  | 401   | 51   | 5,400 | 24,370 | 5,160   | 19,920 | 2,130   | 158   | 183  | 438   | 222   |

CALENDAR YEAR 1962: MAX 1,020 MIN 0 MEAN 25.4 AC-FT 18,380  
 WATER YEAR 1962-63: MAX 3,910 MIN 0 MEAN 80.9 AC-FT 58,580

\* Discharge measurement or observation of no flow made on this day.



11-1560. San Benito River below McCoy Creek, near Hernandez, Calif.

Location.--Lat 36°23'22", long 120°53'42", in SW $\frac{1}{4}$  sec.4, T.18 S., R.10 E., on right bank 0.7 mile upstream from Lorenzo Vasquez Canyon, 3.1 mile downstream from McCoy Creek, 4.3 miles downstream from Hernandez Dam, and 6 miles west of Hernandez.

Drainage area.--108 sq mi.

Records available.--October 1949 to September 1953, June 1959 to September 1963 (discontinued). Monthly discharge only prior to January 1950, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 2,000 ft (from topographic map).

Average discharge.--8 years, 12.4 cfs (8,980 acre-ft per year).

Extremes.--Maximum discharge during year, 137 cfs May 13 (gage height, 3.51 ft); no flow Oct. 20-22, Mar. 12-14.

1949-53, 1959-63: Maximum discharge, 3,600 cfs Jan. 14, 1952 (gage height, 7.5 ft, from floodmarks), from rating curve extended above 630 cfs on basis of slope-area measurements at gage heights 7.03 and 8.93 ft; no flow at times in 1950-51, 1953, 1961-63.

Flood of Apr. 2, 1958, reached a stage of 8.93 ft, from floodmarks (discharge, 6,690 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records poor. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Some diversion above station for irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.8 | 0   | 2.4 | 7.5 |
| 1.9 | .2  | 2.6 | 16  |
| 2.0 | .7  | 2.8 | 31  |
| 2.1 | 1.6 | 3.0 | 52  |
| 2.2 | 2.9 | 3.2 | 83  |
| 2.3 | 4.8 | 3.5 | 147 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar.  | Apr.  | May    | June   | July  | Aug.  | Sept. |
|-------|------|-------|------|-------|-------|-------|-------|--------|--------|-------|-------|-------|
| 1     | 1.3  | 0.9   | 1.2  | 2.8   | a 6.0 | 0.7   | a 1.5 | 0.9    | 123    | 5.1   | 3.9   | 2.5   |
| 2     | 1.4  | .9    | 1.2  | 2.9   | a 3.5 | .7    | *1.1  | .9     | 123    | 5.1   | 3.9   | 2.6   |
| 3     | 1.5  | .9    | 1.2  | 2.9   | a 2.4 | .7    | 1.0   | .9     | 121    | 5.1   | 3.9   | 2.5   |
| 4     | 1.4  | .9    | 1.2  | 2.9   | a 1.7 | .7    | .8    | .9     | 118    | 5.1   | 3.9   | 2.5   |
| 5     | 1.4  | .9    | 1.2  | 3.1   | 1.1   | .7    | .8    | .8     | 118    | 4.8   | 3.9   | 2.4   |
| 6     | 1.4  | .9    | 1.2  | 3.1   | .9    | .5    | .9    | .8     | 116    | 4.8   | *3.9  | *2.5  |
| 7     | 1.4  | *.9   | *1.2 | *3.1  | .9    | .3    | 1.2   | .8     | 114    | 4.8   | 3.9   | 2.5   |
| 8     | 1.4  | .9    | 1.2  | 3.1   | .7    | .2    | 1.0   | 1.3    | 112    | 4.8   | 4.0   | 2.6   |
| 9     | 1.4  | 1.0   | 1.2  | 3.1   | a 1.5 | .1    | .9    | *1.6   | 109    | 4.6   | 3.9   | 2.6   |
| 10    | 1.4  | 1.0   | 1.2  | 2.9   | a 8.0 | .1    | .8    | 4.5    | *107   | 4.8   | 3.7   | 2.4   |
| 11    | 1.5  | 1.0   | 1.2  | 1.4   | 3.6   | .1    | .7    | 90     | 105    | *4.8  | 3.7   | 2.3   |
| 12    | 1.6  | 1.0   | 1.2  | 1.2   | 4.7   | 0     | .7    | 90     | 100    | 4.8   | 3.5   | 1.9   |
| 13    | 1.5  | 1.1   | 1.2  | 1.2   | 1.6   | 0     | .7    | 111    | 86     | 4.6   | 3.5   | 1.9   |
| 14    | 1.7  | 1.1   | 1.2  | 1.2   | *4.2  | 0     | 2.1   | 135    | 25     | 4.6   | 3.5   | 2.0   |
| 15    | 1.4  | 1.1   | 1.3  | 1.2   | 2.3   | a 2.6 | 2.6   | 135    | 11     | 4.4   | 3.5   | 2.0   |
| 16    | *1.4 | 1.1   | 5.1  | 1.1   | 2.0   | a 3.3 | 1.2   | 135    | 7.0    | 4.4   | 3.5   | 2.0   |
| 17    | 1.2  | 1.1   | 2.0  | 1.0   | 1.7   | a 2.4 | 1.1   | 133    | 6.4    | 4.4   | 3.3   | 1.9   |
| 18    | .9   | 1.2   | 1.5  | 1.0   | 1.5   | a 1.4 | 1.0   | 133    | 7.2    | 4.6   | 3.1   | 2.1   |
| 19    | .2   | 1.2   | 1.7  | 1.0   | 1.3   | a .8  | 1.1   | 133    | 6.2    | 4.4   | 3.1   | 2.0   |
| 20    | 0    | 1.2   | 2.9  | 1.0   | 1.2   | .6    | 4.7   | 130    | 5.6    | 4.4   | 2.9   | 2.0   |
| 21    | 0    | 1.2   | 2.9  | .9    | 1.1   | .5    | 2.3   | 130    | 5.3    | 4.4   | 2.8   | 1.9   |
| 22    | 0    | 1.2   | 2.9  | .9    | 1.0   | a 1.0 | 1.2   | 130    | 5.1    | 4.2   | 2.8   | 1.7   |
| 23    | .3   | 1.2   | 2.9  | .9    | 1.0   | a 2.0 | 1.0   | 130    | 5.3    | 4.2   | 2.8   | 1.7   |
| 24    | .8   | 1.3   | 2.9  | .9    | .9    | a 1.5 | .9    | 130    | 5.1    | 4.0   | 2.8   | 1.6   |
| 25    | .9   | 1.3   | 2.9  | .9    | .9    | .7    | 1.3   | 128    | 5.1    | 4.0   | 2.6   | 1.6   |
| 26    | .9   | 1.3   | 2.9  | .9    | .9    | .7    | 4.5   | 128    | 4.8    | 3.9   | 2.8   | 1.5   |
| 27    | .8   | 1.2   | 2.6  | .9    | .9    | .7    | 1.9   | 128    | 4.8    | 3.9   | 2.8   | 1.6   |
| 28    | .7   | 1.2   | 2.6  | 1.0   | .7    | a 1.4 | 1.3   | 128    | 5.1    | 3.7   | 2.8   | 1.6   |
| 29    | .8   | 1.2   | 2.5  | 1.1   | ----- | a 5.0 | 1.2   | 125    | 5.1    | 3.7   | 2.6   | 1.6   |
| 30    | .8   | 1.2   | 2.6  | a 1.1 | ----- | a 2.3 | 1.0   | 125    | 5.1    | 3.5   | 2.6   | 1.6   |
| 31    | .8   | ----- | 2.8  | a 1.5 | ----- | a 1.9 | ----- | 125    | -----  | 3.9   | 2.5   | ----- |
| Total | 32.2 | 32.6  | 61.8 | 75.6  | 86.1  | 46.2  | 42.5  | 268.59 | 1571.2 | 137.8 | 102.4 | 61.6  |
| Mean  | 1.04 | 1.09  | 1.99 | 2.44  | 3.08  | 1.49  | 1.42  | 86.6   | 52.4   | 4.45  | 3.30  | 2.05  |
| Max   | 1.7  | 1.3   | 5.1  | 1.5   | 1.6   | 14    | 4.7   | 135    | 123    | 5.1   | 4.0   | 2.6   |
| Min   | 0    | 0.9   | 1.2  | 0.9   | 0.7   | 0     | 0.7   | 0.8    | 4.8    | 3.5   | 2.5   | 1.5   |
| Ac-ft | 64   | 65    | 123  | 150   | 171   | 92    | 84    | 5,330  | 3,120  | 273   | 203   | 122   |

Calendar year 1962: Max 267 Min 0 Mean 22.0 Ac-ft 15,910  
Water year 1962-63: Max 135 Min 0 Mean 13.5 Ac-ft 9,800

\* Discharge measurement made on this day.

a No gage-height record.

11-1565. San Benito River near Willow Creek School, Calif.

Location.--Lat 36°36'50", long 121°12'50", in SW¼ sec.21, T.15 S., R.7 E., on right bank 1.7 miles downstream from Willow Creek, 1.8 miles northwest of Willow Creek School, and 10.4 miles northwest of San Benito.

Drainage area.--251 sq mi.

Records available.--October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 878.57 ft above mean sea level, datum of 1929, supplementary adjustment of 1943. Prior to Jan. 28, 1948, at same site at different datum. Jan. 28, 1948, to Nov. 10, 1955, at site 0.9 mile upstream at different datum.

Average discharge.--24 years, 23.9 cfs (17,300 acre-ft per year); median of yearly mean discharges, 12 cfs (8,700 acre-ft per year).

Extremes.--Maximum discharge during year, 168 cfs Feb. 10 (gage height, 2.83 ft); no flow Sept. 2-4.

1939-63: Maximum discharge, 8,210 cfs Apr. 3, 1958 (gage height, 8.35 ft), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; no flow at times in 1947, 1956, 1959, 1961-63.

Flood of February 1938 reached a stage of about 9.0 ft (former datum) from floodmarks.

Remarks.--Records fair. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Small diversions above station for irrigation.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.  | MAR.  | APR.  | MAY     | JUNE    | JULY | AUG. | SEPT. |
|-------|------|-------|------|-------|-------|-------|-------|---------|---------|------|------|-------|
| 1     | 0.2  | 0.1   | 1.2  | 2.0   | 87    | 4.7   | 12    | 5.4     | 116     | 2.5  | 0.1  | 0.1   |
| 2     | .2   | .1    | 1.0  | 2.0   | 37    | 4.7   | *11   | 4.7     | 114     | 2.3  | .1   | 0     |
| 3     | .2   | .1    | 1.0  | 2.0   | 21    | 4.3   | 8.6   | 4.3     | 112     | 1.6  | .1   | *0    |
| 4     | .2   | .1    | .9   | 2.0   | 15    | 4.3   | 6.4   | 4.0     | 112     | 1.4  | .1   | 0     |
| 5     | .2   | .1    | .9   | 1.8   | 11    | 4.0   | 6.1   | 3.6     | 112     | 1.2  | .1   | .1    |
| 6     | .2   | *.1   | .8   | 1.8   | 9.8   | 4.0   | 5.7   | 3.6     | 112     | .9   | .1   | .1    |
| 7     | .2   | .1    | *.9  | *1.8  | 7.5   | 4.0   | 5.7   | *3.3    | *110    | .7   | *.2  | .1    |
| 8     | .2   | .1    | 1.0  | 1.8   | 6.4   | 4.0   | 5.7   | 3.3     | 106     | .6   | .2   | .1    |
| 9     | .2   | .1    | 1.0  | 1.8   | 20    | 4.7   | 5.7   | 4.0     | 102     | .5   | .2   | .1    |
| 10    | .2   | .1    | .9   | 1.6   | 123   | 4.0   | 5.7   | 5.7     | 104     | .4   | .1   | .1    |
| 11    | .2   | .1    | 1.0  | 1.6   | 48    | 2.9   | 5.7   | 16      | 108     | .3   | .1   | .1    |
| 12    | .2   | .1    | 1.0  | 1.4   | 22    | 2.7   | 4.7   | 71      | 102     | *.2  | .1   | .1    |
| 13    | .2   | .1    | 1.0  | 1.4   | 60    | 2.7   | 4.0   | 73      | 108     | .2   | .1   | .1    |
| 14    | .4   | .1    | 1.0  | 1.4   | *52   | 2.5   | 6.1   | 94      | 85      | .2   | .1   | .1    |
| 15    | .3   | .1    | 1.2  | 1.4   | 25    | 2.9   | 9.8   | 108     | 57      | .2   | .1   | .1    |
| 16    | .3   | .1    | 18   | 1.4   | 18    | 14    | 9.8   | 114     | 44      | .2   | .1   | .1    |
| 17    | *.2  | .3    | 9.8  | 1.6   | 16    | 18    | 8.1   | 118     | 35      | .2   | .1   | .1    |
| 18    | .2   | .4    | 6.1  | 1.2   | 13    | 14    | 6.4   | 116     | 31      | .2   | .1   | .1    |
| 19    | .2   | .4    | 4.3  | 1.4   | 11    | 9.2   | 6.1   | 118     | 26      | .2   | .1   | .1    |
| 20    | .2   | .4    | 3.3  | 1.2   | 9.8   | 6.4   | 7.0   | 118     | 21      | .2   | .1   | .1    |
| 21    | .2   | .5    | 2.9  | 1.2   | 8.1   | 5.7   | 9.2   | 118     | 18      | .2   | .1   | .2    |
| 22    | .1   | .6    | 2.7  | 1.4   | 7.0   | 5.7   | 14    | 120     | 14      | .1   | .1   | .2    |
| 23    | .1   | .6    | 2.7  | 1.4   | 6.4   | 8.6   | 8.6   | 120     | 11      | .2   | .1   | .2    |
| 24    | .1   | .6    | 2.5  | 1.2   | 6.1   | 11    | 5.7   | 120     | 8.6     | .1   | .1   | .2    |
| 25    | .1   | .7    | 2.5  | 1.2   | 5.4   | 10    | 5.7   | 120     | 6.4     | .2   | .1   | .2    |
| 26    | .1   | .8    | 2.3  | 1.2   | 5.0   | 8.1   | 11    | 118     | 5.0     | .1   | .1   | .1    |
| 27    | .1   | .9    | 2.1  | 1.2   | 5.0   | 5.7   | 19    | 118     | 3.6     | .1   | .1   | .1    |
| 28    | .2   | .9    | 2.1  | 1.2   | 4.7   | 75    | 18    | 118     | 3.3     | .1   | .1   | .2    |
| 29    | .2   | 1.0   | 2.0  | 1.4   | ----- | 78    | 9.2   | 118     | 3.3     | .1   | .1   | .2    |
| 30    | .2   | 1.0   | 2.0  | 5.9   | ----- | 28    | 6.4   | 116     | 2.9     | .1   | .1   | .2    |
| 31    | .2   | ----- | 2.0  | 66    | ----- | 17    | ----- | 116     | -----   | .1   | .1   | ----- |
| TOTAL | 6.0  | 10.7  | 82.1 | 115.9 | 660.2 | 370.8 | 247.1 | 2,289.9 | 1,793.1 | 15.6 | 3.4  | 3.5   |
| MEAN  | 0.19 | 0.36  | 2.65 | 3.74  | 23.6  | 12.0  | 8.24  | 73.9    | 59.8    | 0.50 | 0.11 | 0.12  |
| MAX   | 0.4  | 1.0   | 18   | 66    | 123   | 78    | 19    | 120     | 116     | 2.5  | 0.2  | 0.2   |
| MIN   | 0.1  | 0.1   | 0.8  | 1.2   | 4.7   | 2.5   | 4.0   | 3.3     | 2.9     | 0.1  | 0.1  | 0     |
| AC-FT | 12   | 21    | 163  | 230   | 1,310 | 735   | 490   | 4,540   | 3,560   | 31   | 6.7  | 6.9   |

CALENDAR YEAR 1962: MAX 736 MIN 0.1 MEAN 26.8 AC-FT 19,430  
 WATER YEAR 1962-63: MAX 123 MIN 0 MEAN 15.3 AC-FT 11,110

\* Discharge measurement or observation of no flow made on this day.

11-1567. Pescadero Creek near Paicines, Calif.

Location.--Lat 36°41'40", long 121°18'35", in SE $\frac{1}{4}$  sec.21, T.14 S., R.6 E., on left bank just downstream from Cienega Valley Road bridge, 1.5 miles upstream from mouth and 3 miles southwest of Paicines.

Drainage area.--38.3 sq mi.

Records available.--July 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 720 ft (from topographic map).

Extremes.--Maximum discharge during year, 3.9 cfs Feb. 1 (gage height, 4.57 ft); no flow for several months.  
1959-63: Maximum discharge, 15 cfs Feb. 9, 1960 (gage height, 4.68 ft); no flow at times in each year.

Remarks.--Records poor. Small diversions above station for irrigation.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     |      |       | 0    | 0.4  | *1.9  | 0.5  | *0.5  | 0.5  | 0.1   | 0.1  |      |       |
| 2     |      |       | 0    | .4   | .8    | .5   | .5    | .5   | .1    | .1   |      |       |
| 3     |      |       | *0   | .3   | .7    | .5   | .4    | .5   | .1    | .1   |      | (*)   |
| 4     |      |       | 0    | .3   | .6    | .4   | .4    | .4   | .1    | .1   |      |       |
| 5     |      |       | 0    | .3   | .6    | .4   | .4    | .4   | .1    | .1   |      |       |
| 6     |      | (*)   | 0    | .3   | .6    | .4   | .4    | .3   | .1    | .1   |      |       |
| 7     |      |       | 0    | *.3  | .6    | .4   | .6    | *.3  | *.1   | .1   | (*)  |       |
| 8     |      |       | 0    | .3   | .5    | .4   | .5    | .4   | .1    | .1   |      |       |
| 9     |      |       | 0    | .3   | 1.1   | .4   | .4    | .4   | .1    | .1   |      |       |
| 10    |      |       | .1   | .3   | 1.2   | .3   | .4    | .3   | .1    | *0   |      |       |
| 11    |      |       | .1   | .3   | 1.0   | .3   | .5    | .3   | .1    | 0    |      |       |
| 12    |      |       | .1   | .3   | .8    | .3   | .5    | .3   | .1    | 0    |      |       |
| 13    |      |       | .1   | .3   | 1.2   | .3   | .5    | .3   | .1    | 0    |      |       |
| 14    |      |       | .1   | .3   | *.8   | .3   | .6    | .3   | .1    | 0    |      |       |
| 15    |      |       | .2   | .3   | .8    | .3   | .8    | .2   | .1    | 0    |      |       |
| 16    |      | (*)   | .8   | .4   | .8    | .7   | .6    | .2   | .1    | 0    |      |       |
| 17    |      |       | .5   | .4   | .7    | .6   | .6    | .2   | .1    | 0    |      |       |
| 18    |      |       | .3   | .5   | .7    | .4   | .5    | .2   | .1    | 0    |      |       |
| 19    |      |       | .3   | .5   | .6    | .3   | .6    | .2   | .2    | 0    |      |       |
| 20    |      |       | .3   | .5   | .6    | .3   | .8    | .2   | .2    | 0    |      |       |
| 21    |      |       | .3   | .5   | .6    | .3   | .8    | .2   | .1    | 0    |      |       |
| 22    |      |       | .3   | .5   | .6    | .3   | .6    | .1   | .1    | 0    |      |       |
| 23    |      |       | .3   | .5   | .6    | .4   | .6    | .1   | .1    | 0    |      |       |
| 24    |      |       | .3   | .5   | .5    | .3   | .5    | .2   | .1    | 0    |      |       |
| 25    |      |       | .3   | .5   | .5    | .3   | .6    | .2   | .1    | 0    |      |       |
| 26    |      |       | .3   | .5   | .5    | .3   | .8    | .2   | .1    | 0    |      |       |
| 27    |      |       | .3   | .5   | .5    | .4   | .6    | .2   | .2    | 0    |      |       |
| 28    |      |       | .3   | .5   |       | 1.1  | .5    | .2   | .2    | 0    |      |       |
| 29    |      |       | .3   | .5   | ----- | .6   | .5    | .2   | .2    | 0    |      |       |
| 30    |      |       | .4   | .8   | ----- | .5   | .5    | .2   | .1    | 0    |      |       |
| 31    |      | ----- | .5   | 2.0  | ----- | .5   | ----- | .1   | ----- | 0    |      | ----- |
| TOTAL | 0    | 0     | 6.5  | 14.3 | 20.9  | 13.0 | 16.5  | 8.3  | 3.5   | 0.9  | 0    | 0     |
| MEAN  | 0    | 0     | 0.21 | 0.46 | 0.75  | 0.42 | 0.55  | 0.27 | 0.12  | 0.03 | 0    | 0     |
| MAX   | 0    | 0     | 0.8  | 2.0  | 1.9   | 1.1  | 0.8   | 0.5  | 0.2   | 0.1  | 0    | 0     |
| MIN   | 0    | 0     | 0    | 0.3  | 0.5   | 0.3  | 0.4   | 0.1  | 0.1   | 0    | 0    | 0     |
| AC-FT | 0    | 0     | 13   | 28   | 41    | 26   | 33    | 16   | 6.9   | 1.8  | 0    | 0     |

CALENDAR YEAR 1962: MAX 3.3 MIN 0 MEAN 0.23 AC-FT 164  
WATER YEAR 1962-63: MAX 2.0 MIN 0 MEAN 0.23 AC-FT 166

Peak discharge (base, 50 cfs).--No peak above base.

\* Discharge measurement or observation of no flow made on this day.

## PAJARO RIVER BASIN

11-1575. Tres Pinos Creek near Tres Pinos, Calif.

Location.--Lat 36°45'13", long 121°17'03", in Santa Ana y Quien Sabe Grant, on right bank 3.5 miles southeast of Tres Pinos, San Benito County, and 6.2 miles upstream from mouth.

Drainage area.--206 sq mi.

Records available.--October 1939 to September 1963. Yearly estimate only for 1940 and monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Concrete control since June 3, 1954 (control ineffective since 1955 due to gravel fill). Altitude of gage is 570 ft (from topographic map).

Average discharge.--24 years, 13.7 cfs (9,920 acre-ft per year).

Extremes.--Maximum discharge during year, 43 cfs Mar. 28 (gage height, 4.30 ft); minimum daily, 0.3 cfs many days in October, August, and September.

1939-63: Maximum discharge, 8,060 cfs Apr. 4, 1941 (gage height, 7.75 ft), from rating curve extended above 3,500 cfs; no flow at times in 1952, 1957-61.

Flood in February 1938 reached a stage of about 9.0 ft, from floodmarks.

Remarks.--Records poor. Diversions above station for irrigation can divert total flow in summer months, and since 1962, diversions into basin above station from San Benito River for percolation and irrigation.

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1962, superseding figures published in Basic Data Release, are given herevith:

| Date    | Discharge | Date      | Discharge | Date      | Discharge | Date      | Discharge | Date      | Discharge |
|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 1962    |           | 1962-Con. |           | 1962-Con. |           | 1962-Con. |           | 1962-Con. |           |
| June 22 | 5.7       | June 26   | 8.8       | June 30   | 12        | July 4    | 13        | July 8    | 2.4       |
| 23      | 6.0       | 27        | 9.8       | July 1    | 11        | 5         | 16        | 9         | 2.2       |
| 24      | 8.2       | 28        | 11        | 2         | 13        | 6         | 11        |           |           |
| 25      | 8.2       | 29        | 12        | 3         | 13        | 7         | 2.6       |           |           |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in<br>acre-feet |
|-------------------------|----------|---------|---------|------|------------------------|
| June 1962.....          | 90.0     | 12      | 0.3     | 3.00 | 179                    |
| July.....               | 130.7    | 16      | 1.9     | 4.22 | 259                    |
| Water year 1961-62..... | -        | 336     | 0.2     | 6.82 | 4,940                  |

11-1575. Tres Pinos Creek near Tres Pinos, Calif.--Continued.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR. | APR.  | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|------|-------|------|------|-------|------|-------|-------|-------|-------|------|-------|
| 1     | 0.3  | 0.5   | 0.9  | 1.1  | 13    | 2.6  | *1.5  | 1.2   | 16    | 11    | 0.6  | 0.4   |
| 2     | .3   | .5    | .9   | 1.1  | 13    | 2.4  | 1.4   | 1.4   | 16    | 10    | .6   | .4    |
| 3     | .3   | .6    | *.9  | 1.2  | 4.8   | 2.6  | 1.2   | 1.4   | 17    | 10    | .5   | *.4   |
| 4     | .3   | .6    | .9   | 1.2  | 3.3   | 2.4  | 1.1   | 1.4   | 18    | 11    | .4   | .4    |
| 5     | .3   | .6    | .9   | 1.2  | 3.1   | 2.4  | 1.1   | 1.2   | 18    | 10    | .4   | .4    |
| 6     | .3   | *.7   | .9   | 1.4  | 3.1   | 2.4  | 1.4   | 1.2   | *19   | 11    | .4   | .3    |
| 7     | .3   | .7    | .9   | *1.2 | 2.9   | 2.2  | 1.4   | *1.4  | 19    | 14    | *.4  | .4    |
| 8     | .3   | .8    | .9   | 1.2  | 3.1   | 2.4  | 1.4   | 1.5   | 19    | 14    | .4   | .4    |
| 9     | .3   | .8    | .9   | 1.2  | 3.5   | 2.6  | 1.2   | 1.6   | 20    | 12    | .3   | .4    |
| 10    | .3   | .7    | .9   | 1.4  | 3.5   | 2.4  | 1.4   | 1.5   | 19    | *10   | .3   | .4    |
| 11    | .3   | .8    | .9   | 1.4  | 3.3   | 2.2  | 1.4   | 1.7   | 19    | 11    | .4   | .3    |
| 12    | .3   | .9    | .9   | 1.5  | 3.5   | 2.1  | 1.4   | 1.6   | 19    | 10    | .4   | .3    |
| 13    | .3   | .9    | .9   | 1.5  | 12    | 2.0  | 1.4   | 1.5   | 19    | 9.0   | .3   | .3    |
| 14    | .5   | .9    | .9   | 1.5  | *20   | 2.0  | 1.5   | 1.6   | 19    | 8.6   | .3   | .3    |
| 15    | .5   | .9    | 1.1  | 1.5  | 9.0   | 1.8  | 1.5   | 1.6   | 19    | 8.6   | .3   | .3    |
| 16    | .4   | 1.0   | 1.5  | 1.6  | 4.3   | 2.0  | 1.5   | 2.1   | 19    | 7.6   | .3   | .3    |
| 17    | *.4  | 1.0   | 1.2  | 1.6  | 3.3   | 1.8  | 1.5   | 1.8   | 18    | 3.3   | .3   | .3    |
| 18    | .4   | 1.0   | 1.4  | 1.6  | 3.3   | 1.7  | 1.5   | 4.1   | 18    | 3.1   | .3   | .3    |
| 19    | .4   | .9    | 1.4  | 1.6  | 2.9   | 1.7  | 1.5   | 6.0   | 18    | 2.6   | .3   | .3    |
| 20    | .4   | .9    | 1.2  | 1.6  | 2.9   | 1.7  | 1.6   | 4.9   | 18    | 2.1   | .3   | .3    |
| 21    | .3   | .9    | 1.1  | 1.6  | 2.7   | 1.6  | 6.9   | 2.2   | 17    | 1.8   | .3   | .3    |
| 22    | .3   | .9    | 1.1  | 1.7  | 2.7   | 1.6  | 12    | 2.2   | 16    | 1.6   | .3   | .3    |
| 23    | .3   | 1.0   | 1.1  | 1.7  | 2.7   | 1.6  | 8.6   | 3.7   | 16    | 1.5   | .3   | .3    |
| 24    | .4   | 1.0   | 1.1  | 1.7  | 2.7   | 1.5  | 5.5   | 11    | 15    | 1.0   | .3   | .3    |
| 25    | .4   | 1.0   | 1.1  | 1.8  | 2.7   | 1.5  | 4.0   | 14    | 15    | .7    | .4   | .4    |
| 26    | .4   | .9    | 1.1  | 1.8  | 2.7   | 1.4  | 4.0   | 14    | 12    | .6    | .3   | .4    |
| 27    | .4   | 1.0   | 1.1  | 1.8  | 2.6   | 1.5  | 6.0   | 8.1   | 7.2   | .6    | .3   | .4    |
| 28    | .4   | .9    | 1.1  | 1.8  | 2.6   | 19   | 4.0   | 4.0   | 12    | .6    | .4   | .5    |
| 29    | .4   | 1.0   | 1.1  | 2.2  | ----- | 9.7  | 2.1   | 15    | 12    | .6    | .3   | .5    |
| 30    | .4   | 1.0   | 1.1  | 2.7  | ----- | 2.4  | 1.2   | 15    | 11    | .6    | .4   | .5    |
| 31    | .4   | ----- | 1.1  | 5.4  | ----- | 1.6  | ----- | 16    | ----- | .6    | .4   | ----- |
| TOTAL | 11.0 | 25.3  | 32.5 | 51.8 | 139.2 | 86.8 | 82.2  | 145.9 | 500.2 | 189.1 | 11.2 | 10.8  |
| MEAN  | 0.35 | 0.84  | 1.05 | 1.67 | 4.97  | 2.80 | 2.74  | 4.71  | 16.7  | 6.10  | 0.36 | 0.36  |
| MAX   | 0.5  | 1.0   | 1.5  | 5.4  | 20    | 19   | 12    | 16    | 20    | 14    | 0.6  | 0.5   |
| MIN   | 0.3  | 0.5   | 0.9  | 1.1  | 2.6   | 1.4  | 1.1   | 1.2   | 7.2   | 0.6   | 0.3  | 0.3   |
| AC-FT | 22   | 50    | 64   | 103  | 276   | 172  | 163   | 289   | 992   | 375   | 22   | 21    |

CALENDAR YEAR 1962: MAX 336 MIN 0.2 MEAN 6.82 AC-FT 4,930  
WATER YEAR 1962-63: MAX 20 MIN 0.3 MEAN 3.52 AC-FT 2,550

Peak discharge (base, 450 cfs).--No peak above base.

\* Discharge measurement made on this day.

11-1585. San Benito River near Hollister, Calif.

Location.--Lat 36°47'17", long 121°22'11", in SW¼ sec.24, T.13 S., R.5 E., on left bank 1,500 ft downstream from Bird Creek, 0.9 mile downstream from Tres Pinos Creek, 2.7 miles west of Tres Pinos, and 4.8 miles southeast of Hollister.

Drainage area.--586 sq mi.

Records available.--October 1949 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 370 ft (from topographic map).

Average discharge.--14 years, 27.9 cfs (20,200 acre-ft per year); median of yearly mean discharges, 6.5 cfs (4,700 acre-ft per year).

Extremes.--Maximum discharge during year, 339 cfs Feb. 10 (gage height, 4.02 ft); no flow for several months.

1949-63: Maximum discharge, 11,600 cfs Apr. 3, 1958 (gage height, 16.30 ft), from rating curve extended above 1,200 cfs on basis of flood-routing study; no flow for parts of each year.

Remarks.--Records poor. Flow regulated by Hernandez Dam beginning in December 1961 (capacity, 18,700 acre-ft). Several small diversions above station for irrigation.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN. | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     |      |       | 0    | 0.1  | 43    | 0.8   | *2.5  | 6.6   | 42    | 0.5  | 0.2  | 0.2   |
| 2     |      |       | 0    | .1   | 22    | .8    | 2.1   | 3.4   | 39    | .5   | .2   | .1    |
| 3     |      |       | *0   | .1   | 12    | .6    | 5.7   | 3.0   | 37    | 3.0  | .2   | **1   |
| 4     |      |       | 0    | .1   | 11    | .5    | 5.2   | 3.0   | 35    | 3.9  | .2   | .1    |
| 5     |      |       | 0    | .1   | 7.0   | .5    | 4.3   | 3.0   | 35    | 4.8  | .2   | .2    |
| 6     |      | (*)   | 0    | 0    | 5.2   | .5    | 3.9   | 2.5   | *34   | 4.3  | .1   | .1    |
| 7     |      |       | 0    | *0   | 3.4   | .4    | 3.9   | *3.0  | 29    | 3.9  | .1   | .1    |
| 8     |      |       | 0    | 0    | 2.5   | .3    | 3.9   | 3.4   | 28    | 3.9  | *.3  | .1    |
| 9     |      |       | 0    | 0    | 4.3   | .4    | 3.9   | 3.0   | 29    | 3.9  | .2   | .1    |
| 10    |      |       | 0    | 0    | 63    | .3    | 3.4   | 3.0   | 28    | *3.4 | .2   | .1    |
| 11    |      |       | 0    | 0    | 100   | .2    | 3.4   | 3.0   | 28    | 3.4  | .2   | .1    |
| 12    |      |       | 0    | 0    | 39    | .2    | 3.4   | 2.5   | 32    | 2.1  | .2   | 0     |
| 13    |      |       | 0    | 0    | 36    | .2    | 3.4   | 21    | 26    | .8   | .2   | .2    |
| 14    |      |       | 0    | 0    | *39   | .4    | 3.4   | 40    | 31    | .4   | .2   | .1    |
| 15    |      |       | .1   | .1   | 7.7   | .4    | 6.1   | 24    | 21    | .3   | .2   | 0     |
| 16    |      |       | .4   | .1   | 4.3   | .5    | 4.3   | 15    | 7.0   | .4   | .2   | .1    |
| 17    |      |       | .3   | .1   | 3.9   | .4    | 5.7   | 28    | 7.9   | .4   | .2   | 0     |
| 18    |      |       | .2   | .1   | 3.4   | 4.2   | 5.2   | 34    | 5.2   | .4   | .2   | .1    |
| 19    | (*)  |       | .2   | .1   | 3.0   | 4.8   | 5.7   | 40    | 3.0   | .5   | .2   | .2    |
| 20    |      |       | .2   | .1   | 2.3   | 2.3   | 9.8   | 40    | 1.7   | .5   | .2   | .1    |
| 21    |      |       | .2   | .1   | 2.1   | 1.7   | 15    | 35    | .4    | .5   | .2   | 0     |
| 22    |      |       | .2   | .1   | 1.9   | 1.9   | 26    | 39    | .4    | .5   | .2   | 0     |
| 23    |      |       | .2   | .1   | 1.9   | 1.7   | 16    | 32    | .4    | .5   | .3   | 0     |
| 24    |      |       | .2   | .1   | 1.9   | 1.6   | 11    | 36    | .3    | .4   | .3   | 0     |
| 25    |      |       | .1   | .1   | 1.7   | 1.9   | 7.0   | 37    | .3    | *.5  | .3   | 0     |
| 26    |      |       | .1   | .1   | 1.6   | 2.3   | 7.7   | 39    | .2    | .4   | .2   | 0     |
| 27    |      |       | .1   | .1   | 1.4   | 2.5   | 8.4   | 39    | .3    | .3   | .2   | 0     |
| 28    |      |       | .1   | .1   | 1.0   | 27    | 7.0   | 40    | .4    | .4   | .2   | 0     |
| 29    |      |       | .1   | .1   | ----- | 47    | 8.4   | 42    | .5    | .4   | .2   | 0     |
| 30    |      |       | .1   | .4   | ----- | 9.8   | 9.8   | 40    | .5    | .3   | .2   | 0     |
| 31    |      | ----- | .1   | 4.5  | ----- | 3.9   | ----- | 39    | ----- | .2   | .3   | ----- |
| TOTAL | 0    | 0     | 2.9  | 6.9  | 425.5 | 120.0 | 205.5 | 699.4 | 502.5 | 45.7 | 6.5  | 2.1   |
| MEAN  | 0    | 0     | 0.09 | 0.22 | 15.2  | 3.87  | 6.85  | 22.6  | 16.8  | 1.47 | 0.21 | 0.07  |
| MAX   | 0    | 0     | 0.4  | 4.5  | 100   | 47    | 26    | 42    | 42    | 4.8  | 0.3  | 0.2   |
| MIN   | 0    | 0     | 0    | 0    | 1.0   | 0.2   | 2.1   | 2.5   | 0.2   | 0.2  | 0.1  | 0     |
| AC-FT | 0    | 0     | 5.8  | 14   | 844   | 238   | 408   | 1,390 | 997   | 91   | 13   | 4.2   |

Calendar Year 1962: Max 720 Min 0 Mean 17.6 Ac-ft 12,720  
 Water year 1962-63: Max 100 Min 0 Mean 5.53 Ac-ft 4,000

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

11-1590. Pajaro River at Chittenden, Calif.

Location.--Lat 36°54'01", long 121°35'48", in Salsipuedes Grant, on downstream side of right bank pier of State highway bridge, 0.6 mile downstream from Pescadero Creek, 0.6 mile southeast of Chittenden, Santa Cruz County, and 2.3 miles downstream from San Benito River.

Drainage area.--1,186 sq mi.

Records available.--October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "near Chittenden."

Gage.--Water-stage recorder. Datum of gage is 81.77 ft (revised) above mean sea level, datum of 1929, supplementary adjustment of 1955. Prior to May 13, 1949, wire-weight gage on former bridge 100 ft downstream at same datum except that water-stage recorder, also 100 ft downstream and at same datum, was used Dec. 20, 1946, to June 11, 1947, June 21 to Sept. 23, 1947, and Dec. 19, 1947, to May 6, 1948.

Average discharge.--24 years, 151 cfs (109,300 acre-ft per year); median of yearly mean discharges, 81 cfs (58,600 acre-ft per year).

Extremes.--Maximum discharge during year, 11,600 cfs Feb. 1 (gage height, 20.76 ft); minimum, 0.2 cfs Oct. 1, 2, 18-23.

1939-63: Maximum discharge, 24,000 cfs Dec. 24, 1955, from rating curve extended above 8,300 cfs on basis of slope-conveyance study; maximum gage height, 33.11 ft Apr. 3, 1958; no flow at times in July, August 1948.

Flood in February 1938 reached a stage of 31.3 ft, from floodmarks.

Remarks.--Records fair. Flow regulated by Pacheco Lake (capacity, 6,150 acre-ft), Chesbro and Uvas Reservoirs (see p. 292), and San Felipe Lake. Many diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.      | Nov.    | Dec.      | Jan.          | Feb.   | Mar.  | Apr.   | May   | June  | July  | Aug.  | Sept. |
|---------------------|-----------|---------|-----------|---------------|--------|-------|--------|-------|-------|-------|-------|-------|
| 1                   | 0.3       | 0.3     | 0.6       | 1.5           | *9.580 | 106   | 290    | 190   | 30    | 16    | 4.3   | 3.6   |
| 2                   | .6        | .3      | .6        | 1.4           | 3.750  | 101   | 216    | 172   | 27    | 15    | 5.2   | 4.0   |
| 3                   | .8        | .3      | .6        | 1.2           | 1.550  | 96    | 170    | 153   | 24    | 14    | 5.7   | 4.2   |
| 4                   | .6        | .4      | .6        | 1.2           | 960    | 88    | 140    | 140   | 22    | 15    | 5.7   | 4.0   |
| 5                   | .5        | .4      | .6        | 1.2           | 664    | 71    | 122    | 128   | 21    | 14    | 7.5   | 4.0   |
| 6                   | .5        | .3      | .6        | 1.2           | 488    | 46    | 411    | 123   | 21    | 14    | 8.1   | 4.0   |
| 7                   | .5        | .3      | .7        | 1.2           | 362    | 43    | 2,200  | 120   | 20    | 8.9   | 6.7   | 3.7   |
| 8                   | .5        | .3      | .7        | 1.2           | 268    | 38    | 1,150  | 104   | 19    | 9.2   | 6.7   | 3.6   |
| 9                   | .5        | .3      | .8        | 1.4           | 199    | 34    | 816    | 95    | 17    | 10    | 7.0   | 3.6   |
| 10                  | .5        | .3      | .9        | 1.4           | 336    | 31    | 772    | 88    | 17    | 11    | 7.0   | 3.6   |
| 11                  | .7        | .3      | .9        | 1.5           | 396    | 24    | 690    | 86    | 18    | 10    | 7.5   | 3.6   |
| 12                  | .6        | .3      | 1.0       | 1.5           | 358    | 21    | 520    | 82    | 17    | 12    | 7.3   | 3.6   |
| 13                  | .9        | .4      | 1.0       | 1.5           | *1,940 | 19    | 415    | 76    | 17    | 12    | 6.1   | 3.6   |
| 14                  | 1.1       | .4      | 1.1       | 1.6           | 1,630  | *19   | 761    | 69    | 18    | 10    | 3.7   | 4.0   |
| 15                  | .7        | .3      | 2.0       | 1.7           | 1,130  | 19    | 1,010  | 62    | 17    | 10    | a 4.0 | 4.3   |
| 16                  | .6        | .4      | 5.7       | 1.8           | 876    | 31    | 732    | 56    | 15    | 9.2   | a 4.4 | 4.5   |
| 17                  | .3        | .4      | 5.2       | 2.0           | 693    | 71    | 595    | 52    | 14    | 8.7   | a 4.7 | 4.3   |
| 18                  | *.4       | .4      | 5.2       | 2.1           | 544    | 40    | 493    | 49    | 11    | 8.1   | a 4.6 | 4.3   |
| 19                  | .3        | .4      | 4.3       | 2.2           | 436    | 31    | *725   | 46    | 11    | 8.1   | a 4.4 | *4.3  |
| 20                  | .3        | *.5     | 3.7       | 2.4           | 355    | 29    | 836    | 42    | 14    | 9.5   | a 3.9 | 4.5   |
| 21                  | .3        | .5      | 3.2       | 2.4           | 270    | 27    | 1,180  | 42    | 15    | 9.2   | a 3.1 | 5.0   |
| 22                  | .3        | .5      | 2.9       | 2.2           | 222    | 27    | 892    | *41   | 12    | 8.9   | *2.4  | 5.2   |
| 23                  | .3        | .5      | 2.5       | *2.1          | 194    | 67    | 720    | 39    | 11    | 8.4   | 2.3   | 4.8   |
| 24                  | .3        | .5      | 2.1       | 2.1           | 172    | 155   | 592    | 39    | 11    | 7.5   | 2.7   | 3.9   |
| 25                  | .3        | .5      | 1.8       | 2.1           | 152    | 96    | 496    | 36    | *1.0  | 7.3   | 3.1   | 3.6   |
| 26                  | .3        | .5      | 1.7       | 2.2           | 137    | 74    | 436    | 33    | 11    | 7.8   | 3.3   | 3.4   |
| 27                  | .3        | .6      | *1.6      | 2.2           | *129   | 83    | 360    | 33    | 14    | 6.3   | 3.3   | 3.6   |
| 28                  | .3        | .5      | 1.6       | 2.4           | 118    | 855   | 302    | 33    | 16    | 5.9   | 3.0   | 3.7   |
| 29                  | .3        | .6      | 1.5       | 3.1           | -----  | 589   | 248    | 32    | 14    | *5.2  | 2.9   | 3.9   |
| 30                  | .3        | .6      | 1.5       | 60            | -----  | 430   | *213   | 30    | 14    | 4.2   | 2.9   | 4.3   |
| 31                  | .3        | -----   | 1.5       | 4,550         | -----  | 345   | -----  | 30    | ----- | 4.0   | 3.4   | ----- |
| Total               | 14.5      | 12.3    | 58.7      | 4,662.0       | 27,909 | 3,706 | 18,503 | 2,321 | 498   | 2,994 | 146.9 | 120.7 |
| Mean                | 0.47      | 0.41    | 1.89      | 150           | 997    | 120   | 617    | 74.9  | 16.6  | 9.66  | 4.74  | 4.02  |
| Max                 | 1.1       | 0.6     | 5.7       | 4,550         | 9,580  | 855   | 2,200  | 190   | 30    | 16    | 8.1   | 5.2   |
| Min                 | 0.3       | 0.3     | 0.6       | 1.2           | 118    | 19    | 122    | 30    | 10    | 4.0   | 2.3   | 3.4   |
| Ac-ft               | 29        | 24      | 116       | 9,250         | 55,360 | 7,350 | 36,700 | 4,600 | 988   | 594   | 291   | 239   |
| Calendar year 1962: | Max 2,300 | Min 0.1 | Mean 60.4 | Ac-ft 43,730  |        |       |        |       |       |       |       |       |
| Water year 1962-63: | Max 9,580 | Min 0.3 | Mean 160  | Ac-ft 115,500 |        |       |        |       |       |       |       |       |

Peak discharge (base, 400 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-1  | 0900 | 20.76       | 11,600    | 4-7  | 0400 | 11.22       | 2,920     |
| 2-13 | 1730 | 10.82       | 2,600     | 4-14 | 1930 | 8.78        | 1,300     |
| 3-28 | 1200 | 8.50        | 1,160     | 4-21 | 0330 | 9.02        | 1,430     |

\* Discharge measurement made on this day.

a No gage-height record.

## PAJARO RIVER BASIN

11-1591.5. Corralitos Creek near Corralitos, Calif.

Location.--Lat 37°00'20", long 121°48'25", in Los Corralitos Grant, on left bank 0.5 mile downstream from Mormon Gulch, 1.2 miles upstream from Corralitos, Santa Cruz County, and 7 miles northwest of Watsonville.

Drainage area.--10.6 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 310 ft (from topographic map).

Average discharge.--6 years, 9.47 cfs (6,860 acre-ft per year).

Extremes.--Maximum discharge during year, 1,920 cfs Jan. 31 (gage height, 7.62 ft), from rating curve extended above 430 cfs as explained below; minimum, 0.1 cfs for several days in October and September.

1957-63: Maximum discharge, 1,970 cfs Apr. 2, 1958 (gage height, 7.55 ft), from rating curve extended above 430 cfs on basis of estimate of peak flow over dam; maximum gage height, that of Jan. 31, 1963; no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Approximately 3.9 cfs diverted daily above station for municipal supply of city of Watsonville.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

(Shifting-control method used Apr. 6, 14, 18, Aug. 5-7, 11-13, 15)

| Oct. 1 to Apr. 6 |     |     |       | Apr. 7 to Aug. 14 |     |     |     | Aug. 15 to Sept. 30 |     |
|------------------|-----|-----|-------|-------------------|-----|-----|-----|---------------------|-----|
| 0.5              | 0   | 1.5 | 28    | 0.4               | 0.2 | 1.0 | 8.1 | 0.5                 | 0.1 |
| .6               | .2  | 2.0 | 61    | .5                | .4  | 1.3 | 21  | .6                  | .3  |
| .7               | .6  | 2.5 | 104   | .6                | .9  | 1.8 | 55  | .7                  | .8  |
| .8               | 1.8 | 3.0 | 162   | .7                | 1.7 | 2.4 | 111 | .8                  | 1.9 |
| .9               | 3.7 | 4.0 | 325   | .8                | 3.2 | 3.0 | 184 |                     |     |
| 1.0              | 6.5 | 5.0 | 600   |                   |     |     |     |                     |     |
| 1.2              | 14  | 6.1 | 1,040 |                   |     |     |     |                     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.1   | 1.0   | 0.3   | 1.8     | 467   | *15   | 22    | 27    | 5.9   |      | 1.3  | 0.1   |
| 2     | .1    | 1.2   | .4    | 1.4     | A131  | 12    | 19    | 26    | 5.4   |      | .8   | .2    |
| 3     | .1    | 1.0   | .6    | 1.4     | A79   | 11    | 16    | 25    | 5.2   |      | .7   | .4    |
| 4     | .1    | 1.0   | .5    | 1.4     | A58   | 10    | 15    | 23    | 5.0   |      | .8   | .3    |
| 5     | .1    | 1.0   | .5    | 1.4     | *44   | 9.3   | 14    | 22    | 5.2   |      | 2.4  | .3    |
| 6     | .1    | .8    | .4    | 1.4     | 35    | 9.0   | 215   | 21    | 5.0   |      | 1.9  | .3    |
| 7     | .1    | .8    | .6    | 1.4     | 30    | 9.0   | 173   | 21    | 5.0   |      | 1.7  | .1    |
| 8     | .1    | .8    | .5    | 1.2     | 27    | 8.6   | A70   | 20    | 4.7   |      | .3   | .1    |
| 9     | .1    | .8    | .2    | 1.4     | 38    | 8.3   | A53   | 20    | 4.7   |      | .3   | .1    |
| 10    | 1.5   | .8    | .3    | 1.0     | 67    | 7.6   | A46   | 20    | 4.7   |      | .2   | .1    |
| 11    | 12    | .8    | .2    | .8      | 49    | 6.9   | A40   | 19    | 4.5   |      | 1.7  | .9    |
| 12    | 6.6   | .6    | .4    | .8      | 50    | 6.5   | A36   | A17   | 4.1   |      | 1.7  | 1.9   |
| 13    | 293   | .6    | .4    | .6      | 124   | 5.9   | A35   | A16   | 3.9   | A1.5 | 2.1  | 1.2   |
| 14    | 84    | .6    | .6    | .6      | 67    | 7.9   | 137   | A14   | 3.9   |      | .2   | .3    |
| 15    | *17   | .6    | 26    | 1.2     | 51    | 10    | 81    | A13   | 3.6   |      | *.4  | .3    |
| 16    | 9.3   | .6    | 40    | 1.2     | 42    | 28    | *66   | A12   | 3.2   |      | .7   | (*)   |
| 17    | 5.7   | .8    | 30    | 1.2     | 37    | 17    | 57    | A11   | 3.1   |      | .7   |       |
| 18    | 4.5   | 1.0   | 18    | 1.2     | 30    | 12    | 62    | A10   | 2.9   |      | .6   |       |
| 19    | 3.5   | 1.0   | 11    | 1.2     | 27    | 9.7   | 120   | A9.4  | 2.9   |      | .6   |       |
| 20    | 3.1   | .6    | 7.2   | 1.2     | 24    | 8.6   | 73    | *8.9  | 2.8   |      | .5   |       |
| 21    | 2.5   | *.6   | 4.8   | 1.2     | 22    | 7.9   | 61    | 8.9   | 5.1   |      | .4   |       |
| 22    | 2.3   | .6    | 3.7   | *.6     | 20    | 15    | 54    | 8.9   | 2.9   |      | .5   |       |
| 23    | 2.0   | .5    | 3.3   | .4      | 18    | 29    | 47    | 8.5   | 2.6   |      | .6   | A0.3  |
| 24    | *2.1  | .4    | 2.7   | .4      | 16    | 21    | 42    | 8.1   | (*)   | (*)  | .6   |       |
| 25    | 2.0   | .3    | 2.1   | .3      | 15    | 16    | 41    | 7.6   |       | .9   | .5   |       |
| 26    | 1.8   | 2.0   | *2.0  | .3      | 14    | 13    | 39    | 7.3   |       | .6   | .8   |       |
| 27    | 1.6   | *10   | 2.1   | .2      | 15    | 44    | 34    | 7.0   | A1.5  | .6   | 1.4  |       |
| 28    | 1.4   | 2.1   | 2.3   | .3      | 15    | 69    | 32    | 7.0   |       | .7   | .3   |       |
| 29    | 1.4   | .5    | 2.0   | 4.5     | ----- | 38    | 29    | 6.8   |       | .8   | .4   |       |
| 30    | 1.4   | .3    | 2.0   | 426     | ----- | 29    | 28    | 6.5   |       | .7   | .4   |       |
| 31    | 1.2   | ----- | 2.0   | *997    | ----- | 25    | ----- | 6.2   | ----- | .9   | .2   | ----- |
| TOTAL | 460.8 | 33.9  | 167.1 | 1,455.0 | 1,612 | 519.2 | 1,757 | 438.1 | 106.8 | 41.2 | 25.7 | 11.1  |
| MEAN  | 14.9  | 1.13  | 5.39  | 46.9    | 57.6  | 16.7  | 58.6  | 14.1  | 3.56  | 1.33 | 0.83 | 0.37  |
| MAX   | 293   | 10    | 40    | 997     | 467   | 69    | 215   | 27    | 5.9   | -    | 2.4  | 1.9   |
| MIN   | 0.1   | 0.3   | 0.2   | 0.2     | 14    | 5.9   | 14    | 6.2   | -     | 0.6  | 0.2  | 0.1   |
| AC-FT | 914   | 67    | 331   | 2,890   | 3,200 | 1,030 | 3,480 | 869   | 212   | 82   | 51   | 22    |

Calendar year 1962: Max 350 Min 0 Mean 9.31 Ac-ft 6,740  
 Water year 1962-63: Max 997 Min 0.1 Mean 18.2 Ac-ft 13,150

## Peak discharge (base, 200 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1630 | 6.13        | 1,050     | 4-14 | 0600 | 3.51        | 259       |
| 1-31  | 1130 | 7.62        | 1,920     | 4-19 | 0230 | 3.42        | 244       |
| 4-6   | 2000 | 4.97        | 591       |      |      |             |           |

\* Discharge measurement made on this day.  
 A No gage-height record.



## PAJARO RIVER BASIN

291

11-1592. Corralitos Creek at Freedom, Calif.

Location.--Lat 36°56'22", long 121°46'10", in Los Corralitos Grant, on right bank just upstream from Green Valley Road bridge, 0.25 mile north of Freedom, Santa Cruz County, and 2.3 miles north of Watsonville.

Drainage area.--27.8 sq mi.

Records available.--October 1956 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 80 ft (from topographic map).

Average discharge.--7 years, 13.7 cfs (9,920 acre-ft per year).

Extremes.--Maximum discharge during year, 2,580 cfs Jan. 31 (gage height, 11.80 ft), from rating curve extended above 790 cfs as explained below; no flow for many days.

1956-63: Maximum discharge, 2,680 cfs Apr. 2, 1958 (gage height, 12.59 ft), from rating curve extended above 610 cfs on basis of contracted-opening measurement at gage height 15.6 ft; no flow at times.

Flood of Dec. 22, 1955, reached a stage of 15.6 ft, from floodmarks (discharge, 3,620 cfs on basis of contracted-opening measurement of peak flow).

Remarks.--Records poor. Approximately 3.9 cfs diverted daily above station for municipal supply of city of Watsonville.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0     | 0     | 0     | 0.2     | 1,090 | *20   | 42    | 31    | 6.9   | 0.4  | 0.6  | 0.2   |
| 2     | 0     | 0     | 0     | .2      | 350   | 17    | 33    | 28    | 5.9   | .5   | .8   | .2    |
| 3     | 0     | 0     | 0     | .4      | 159   | 15    | 26    | 27    | 5.4   | .3   | .6   | .2    |
| 4     | 0     | 0     | 0     | .3      | A103  | 15    | 25    | 24    | 3.7   | .3   | .6   | .2    |
| 5     | 0     | 0     | 0     | 1.4     | A72   | 13    | 20    | 22    | 4.2   | .3   | .5   | .2    |
| 6     | 0     | 0     | 0     | .1      | *A52  | 12    | 525   | 21    | 4.9   | .3   | .4   | .2    |
| 7     | 0     | 0     | 0     | 0       | 40    | 11    | 431   | 19    | 3.7   | .3   | .5   | .2    |
| 8     | 0     | 0     | 0     | 0       | 28    | 9.9   | 148   | 19    | 2.9   | .4   | .6   | .2    |
| 9     | 0     | 0     | 0     | 0       | 54    | 9.9   | 91    | 18    | 2.4   | .3   | .5   | .2    |
| 10    | 0     | 0     | 0     | 0       | 143   | 9.2   | 104   | 20    | 1.8   | .6   | .3   | .2    |
| 11    | 6.1   | 0     | 0     | 0       | 91    | *9.9  | 73    | 19    | 1.5   | .8   | .5   | .1    |
| 12    | 2.4   | 0     | 0     | 0       | 101   | 9.2   | 60    | 15    | 1.4   | .8   | .4   | .1    |
| 13    | 387   | 0     | .3    | 0       | 402   | 9.2   | 54    | 14    | .9    | .6   | .4   | .2    |
| 14    | 108   | 0     | 0     | .1      | 197   | 9.9   | 306   | 13    | .7    | .6   | *.2  | .2    |
| 15    | *19   | 0     | 27    | .1      | 125   | 14    | 159   | 12    | .6    | .6   | .2   | .2    |
| 16    | 8.8   | 0     | 52    | .1      | 95    | 51    | *112  | 11    | .6    | .6   | .3   | *.2   |
| 17    | A4.2  | 0     | 36    | .1      | 78    | 26    | 88    | 10    | .6    | .4   | .3   | .2    |
| 18    | A2.4  | 0     | 20    | .3      | 62    | 17    | 73    | 9.0   | .6    | .5   | .3   | .2    |
| 19    | A1.1  | 0     | 11    | .2      | 52    | 13    | 297   | 9.0   | .6    | .4   | .2   | .2    |
| 20    | A.6   | 0     | 7.4   | 0       | 44    | 11    | 151   | *8.5  | .6    | .4   | .2   | .2    |
| 21    | A.4   | *A0   | 5.0   | 0       | 40    | 9.9   | 112   | 8.5   | .6    | .3   | .2   | .2    |
| 22    | A.2   | A0    | 3.8   | *0      | 33    | 15    | 88    | 8.5   | .6    | .3   | .2   | .2    |
| 23    | A.1   | A0    | 3.4   | 0       | 30    | 52    | 70    | 8.5   | .6    | .3   | .2   | .2    |
| 24    | *.1   | A0    | 2.8   | 0       | 25    | 32    | 60    | 8.0   | *.5   | *.3  | .2   | .2    |
| 25    | .1    | A0    | 2.0   | 0       | 22    | 22    | 57    | 6.9   | .6    | .3   | .2   | .2    |
| 26    | .1    | A0    | *1.4  | 0       | 20    | 17    | 51    | 6.4   | .6    | .3   | .2   | .2    |
| 27    | 0     | *A9.1 | .8    | 0       | 21    | 94    | 44    | 6.4   | .5    | .4   | .2   | .2    |
| 28    | 0     | 2.0   | .6    | 0       | 20    | 223   | 41    | 5.9   | .4    | .7   | .2   | .2    |
| 29    | 0     | .3    | .5    | 0       | ----- | 93    | 36    | 8.5   | .3    | .6   | .3   | .2    |
| 30    | 0     | .1    | .5    | *600    | ----- | 66    | 33    | 9.0   | .4    | .6   | .3   | .2    |
| 31    | 0     | ----- | .5    | 1,490   | ----- | 52    | ----- | 7.5   | ----- | .6   | .3   | ----- |
| TOTAL | 540.7 | 11.5  | 175.0 | 2,093.5 | 3,549 | 978.1 | 3,410 | 433.6 | 55.0  | 14.1 | 10.9 | 5.8   |
| MEAN  | 17.4  | 0.38  | 5.65  | 67.5    | 127   | 31.6  | 114   | 14.0  | 1.83  | 0.45 | 0.35 | 0.19  |
| MAX   | 387   | 9.1   | 52    | 1,490   | 1,090 | 223   | 525   | 31    | 6.9   | 0.8  | 0.8  | 0.2   |
| MIN   | 0     | 0     | 0     | 0       | 20    | 9.2   | 20    | 5.9   | 0.3   | 0.3  | 0.2  | 0.1   |
| AC-FT | 1,070 | 23    | 347   | 4,150   | 7,040 | 1,940 | 6,760 | 860   | 109   | 28   | 22   | 12    |

CALENDAR YEAR 1962: MAX 528 MIN 0 MEAN 12.4 AC-FT 9,010

WATER YEAR 1962-63: MAX 1,490 MIN 0 MEAN 30.9 AC-FT 22,360

## Peak discharge (base, 350 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1800 | 7.70        | 1,350     | 4-6  | 1800 | 7.48        | 1,280     |
| 1-31  | 1400 | 11.80       | 2,580     | 4-14 | 0800 | 5.62        | 726       |
| 2-13  | 0900 | 5.04        | 539       | 4-19 | 0400 | 5.57        | 711       |
| 3-27  | 2400 | 4.76        | 447       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

A No gage-height record.

## PAJARO RIVER BASIN

## Reservoirs in Pajaro River basin, Calif.

11-1534.8. Chesbro Reservoir.--Lat 37°07'00", long 121°41'34", near southwest boundary of Ojo de Agua de la Coche Grant, at left end of dam on Llagas Creek and 2.5 miles west of Morgan Hill, Santa Clara County. Drainage area, 19.4 sq mi. Records available, December 1955 to September 1963. Monthly contents prior to October 1959 published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by South Santa Clara Valley Water Conservation District). Maximum contents during year, 7,840 acre-ft Feb. 1 (elevation, 526.34 ft); minimum observed, 306 acre-ft Oct. 12 (elevation, 475.9 ft). Maximum contents observed during period 1955-63, 7,950 acre-ft Apr. 3, 1958 (elevation, 526.8 ft); no contents at times in 1957, 1960-62.

Reservoir is formed by earth- and rock-fill dam completed in 1955. Capacity, 7,500 acre-ft between elevations 465 (elevation of outlet gates) and 525 ft (crest of spillway). Reservoir is used for flood control and water released down Llagas Creek for irrigation. Record of contents furnished by South Santa Clara Valley Water Conservation District.

11-1540.2. Uvas Reservoir.--Lat 37°04'02", long 121°41'25", in Las Uvas Grant, at center of dam on Uvas Creek and 4.8 miles southwest of Morgan Hill, Santa Clara County. Drainage area, 30.2 sq mi. Records available, December 1957 to September 1963. Monthly contents prior to October 1959 published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by South Santa Clara Valley Water Conservation District). Maximum contents observed during year, 10,760 acre-ft Feb. 1 (elevation, 489.6 ft); minimum observed, 466 acre-ft Oct. 6 (elevation, 426.1 ft). Maximum contents observed during period 1957-63, that of Feb. 1, 1963; no contents May 18 to Nov. 30, 1961.

Reservoir is formed by earth- and rock-fill dam completed in 1957. Capacity, 10,000 acre-ft between elevations 410 (hydraulic gate valves) and 487.5 ft (crest of spillway). Water released down Uvas Creek for irrigation; at times, diverted into Llagas Creek 3.6 miles below Chesbro Reservoir for ground-water recharge by percolation. Record of contents furnished by South Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1962 to September 1963

| Date          | Chesbro Reservoir | Uvas Reservoir |
|---------------|-------------------|----------------|
| Sept. 30..... | 340               | 496            |
| Oct. 31.....  | 1,590             | 2,460          |
| Nov. 30.....  | 512               | 640            |
| Dec. 31.....  | 466               | 1,190          |
| Jan. 31.....  | 7,820             | 10,760         |
| Feb. 28.....  | 6,550             | 9,960          |
| Mar. 31.....  | 7,590             | 10,130         |
| Apr. 30.....  | 7,680             | 10,440         |
| May 31.....   | 7,580             | 9,500          |
| June 30.....  | 7,560             | 7,760          |
| July 31.....  | 6,470             | 5,050          |
| Aug. 31.....  | 5,090             | 2,530          |
| Sept. 30..... | 3,000             | 1,370          |

Note.--Contents at 0800 hours on first day of following month.

APTOS CREEK BASIN

293

11-1597. Aptos Creek at Aptos, Calif.

Location.--Lat 36°58'35", long 121°54'05", in Aptos Grant, on left bank at Aptos, Santa Cruz County, 0.6 mile upstream from mouth.

Drainage area.--12.2 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map).

Average discharge.--5 years, 7.37 cfs (5,340 acre-ft per year).

Extremes.--Maximum discharge during year, 2,110 cfs Jan. 31 (gage height, 10.82 ft), from rating curve extended above 980 cfs; minimum, 0.9 cfs Oct. 9.

1958-63: Maximum discharge, that of Jan. 31, 1963; minimum, 0.3 cfs July 25, 1959, Oct. 8, 1961.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.    | Nov.    | Dec.      | Jan.         | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|---------------------|---------|---------|-----------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1                   | 1.0     | 2.3     | a 2.9     | 3.7          | * 425 | 12    | 25    | 23    | 8.2   | 4.4   | * 3.1 | 2.1   |
| 2                   | 1.0     | 2.1     | a 2.7     | * 3.4        | 121   | 11    | 22    | 22    | 7.6   | 4.4   | 3.1   | 2.1   |
| 3                   | 1.0     | 2.1     | a 2.7     | 3.1          | 78    | 10    | * 19  | * 21  | 7.1   | 4.4   | 3.1   | 2.1   |
| 4                   | 1.0     | 2.1     | a 2.5     | 3.1          | 52    | 9.9   | 18    | 18    | 7.1   | 4.0   | 3.1   | * 2.1 |
| 5                   | 1.0     | 2.1     | a 2.5     | 3.1          | 59    | 9.3   | 17    | 18    | 6.5   | 3.7   | 3.1   | 2.3   |
| 6                   | 1.0     | 2.1     | a 2.3     | 3.1          | * 22  | 9.3   | 276   | 17    | 6.5   | 3.7   | 3.1   | 2.3   |
| 7                   | 1.0     | 2.1     | a 2.1     | 3.1          | 16    | 9.3   | 208   | 17    | 7.1   | 3.7   | 3.1   | 2.3   |
| 8                   | 1.0     | 2.1     | a 2.0     | 3.1          | 12    | 9.3   | 76    | 16    | 7.1   | * 3.7 | 3.1   | 2.3   |
| 9                   | * 9     | a 2.0   | a 1.8     | 2.9          | 29    | 9.3   | * 51  | 16    | 6.5   | 3.7   | 3.1   | 2.3   |
| 10                  | 1.4     | a 2.0   | a 1.7     | 2.9          | 73    | 8.8   | 46    | 17    | 6.5   | 3.7   | 3.1   | 2.3   |
| 11                  | 11      | a 1.8   | a 1.7     | 3.1          | 52    | * 8.2 | 36    | 16    | * 6.5 | 3.4   | 3.1   | 2.3   |
| 12                  | 2.7     | a 1.8   | 1.5       | 3.4          | 39    | 7.6   | 29    | 14    | 6.5   | 3.4   | 3.1   | 2.5   |
| 13                  | * 179   | a 1.7   | 1.7       | 3.6          | 155   | 7.1   | 27    | 14    | 6.5   | 3.4   | 3.1   | 2.7   |
| 14                  | 65      | a 1.7   | 2.3       | 4.0          | a 77  | 7.6   | 238   | 13    | 6.5   | 3.7   | 3.1   | 2.3   |
| 15                  | 16      | a 1.5   | 23        | 4.0          | * 54  | 7.6   | 102   | 12    | 6.5   | 4.0   | 3.1   | 2.3   |
| 16                  | 6.5     | a 1.5   | 49        | 4.0          | 53    | 29    | * 68  | 12    | 6.5   | 4.0   | 2.9   | 2.3   |
| 17                  | * 4.9   | a 1.5   | * 36      | 4.0          | 53    | 18    | 65    | 11    | 6.0   | 4.0   | 2.9   | 2.3   |
| 18                  | 3.7     | a 1.5   | 19        | 4.0          | 54    | 13    | 63    | 12    | 6.0   | 4.0   | 2.9   | 2.3   |
| 19                  | 3.1     | a 1.5   | 12        | 4.0          | 56    | 10    | 169   | 12    | 5.4   | 4.0   | 2.9   | 2.3   |
| 20                  | 2.9     | a 1.4   | 8.8       | 4.0          | 51    | 9.9   | 69    | 12    | 5.4   | 4.0   | 2.9   | 2.1   |
| 21                  | 2.5     | a 1.4   | 7.6       | 4.0          | a 45  | 8.8   | 58    | 11    | 5.4   | 4.0   | 2.5   | 2.1   |
| 22                  | 2.5     | a 1.4   | 7.1       | 4.0          | a 40  | 12    | 48    | 10    | 4.9   | 3.7   | 2.3   | 2.1   |
| 23                  | 2.3     | a 1.4   | 6.5       | 3.6          | a 37  | 28    | 42    | 10    | 4.9   | 3.7   | 2.3   | 2.1   |
| 24                  | 2.3     | a 1.4   | 6.0       | 3.6          | a 29  | 18    | 38    | 10    | 4.9   | 3.7   | 2.3   | 2.1   |
| 25                  | 2.3     | a 1.4   | 5.4       | 3.6          | a 24  | 12    | 37    | 9.9   | 4.9   | 3.4   | 2.1   | 2.1   |
| 26                  | 2.3     | a 1.4   | 5.4       | 3.6          | a 20  | 9.9   | 34    | 9.3   | 4.9   | 3.1   | 2.1   | 2.0   |
| 27                  | 2.3     | * a 12  | 5.4       | 4.0          | 17    | 60    | 32    | 8.8   | 4.9   | 3.4   | 2.1   | 2.0   |
| 28                  | 2.3     | 3.1     | 4.9       | 4.0          | 13    | 176   | 31    | 9.3   | 4.4   | 3.4   | 2.1   | 2.0   |
| 29                  | * 2.3   | a 3.1   | 4.9       | 6.5          | ----- | a 64  | 31    | 9.3   | 4.4   | 3.4   | 2.1   | 2.0   |
| 30                  | 2.3     | a 2.9   | 4.4       | 446          | ----- | a 41  | 27    | 8.8   | 4.4   | 3.4   | 2.1   | 2.0   |
| 31                  | 2.3     | -----   | 4.0       | * 861        | ----- | a 30  | ----- | 8.2   | ----- | 3.4   | 2.1   | ----- |
| Total               | 330.8   | 66.4    | 239.8     | 1,413.5      | 1,736 | 675.9 | 2,002 | 417.6 | 180.0 | 115.9 | 85.1  | 66.1  |
| Mean                | 10.7    | 2.21    | 7.74      | 45.6         | 62.0  | 21.8  | 66.7  | 13.5  | 6.00  | 3.74  | 2.75  | 2.20  |
| Max                 | 179     | 12      | 49        | 861          | 425   | 176   | 276   | 23    | 8.2   | 4.4   | 3.1   | 2.7   |
| Min                 | 0.9     | 1.4     | 1.5       | 2.9          | 12    | 7.1   | 17    | 8.2   | 4.4   | 3.1   | 2.1   | 2.0   |
| Ac-ft               | 656     | 132     | 476       | 2,800        | 3,440 | 1,340 | 3,970 | 828   | 357   | 230   | 169   | 131   |
| Calendar year 1962: | Max 220 | Min 0.7 | Mean 7.18 | Ac-ft 5,200  |       |       |       |       |       |       |       |       |
| Water year 1962-63: | Max 861 | Min 0.9 | Mean 20.1 | Ac-ft 14,530 |       |       |       |       |       |       |       |       |

Peak discharge (base, 100 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1900 | 6.46        | 428       | 4-6  | 1800 | 7.23        | 699       |
| 1-31  | 1200 | 10.82       | 2,110     | 4-14 | 0700 | 6.72        | 600       |
| 2-13  | 1130 | 5.42        | 213       | 4-19 | 0400 | 5.78        | 365       |
| 3-27  | 2400 | 5.74        | 315       |      |      |             |           |

\* Discharge measurement made on this day.  
a No gage-height record.

## SOQUEL CREEK BASIN

11-1598. West Branch Soquel Creek near Soquel, Calif.

Location.--Lat 37°03'05", long 121°56'20", in NW¼ sec.23, T.10 S., R.1 W., on left bank 0.5 mile upstream from Soquel Creek and 4.5 miles north of Soquel.

Drainage area.--12.2 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 220 ft (from topographic map).

Average discharge.--5 years, 11.8 cfs (8,540 acre-ft per year).

Extremes.--Maximum discharge during the year, 4,120 cfs Jan. 31 (gage height, 10.88 ft), from rating curve extended above 740 cfs on basis of slope-area measurement at gage height 7.96 ft; minimum, 0.8 cfs Oct. 1, 1958-63; Maximum discharge, that of Jan. 31, 1963; minimum, 0.4 cfs July 16, 1961.

Remarks.--Records good except those for period of no gage-height record, which are poor. Small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-13, Feb. 2-9, Apr. 7-14,  
June 16 to Sept. 30)

| Oct. 1 to Feb. 1 |     |     |     |     |       | Feb. 2 to Sept. 30 |     |     |     |  |  |
|------------------|-----|-----|-----|-----|-------|--------------------|-----|-----|-----|--|--|
| 2.3              | 0.6 | 2.8 | 9.7 | 4.5 | 300   | 2.8                | 0.9 | 3.6 | 48  |  |  |
| 2.4              | 1.2 | 3.0 | 21  | 5.0 | 480   | 2.9                | 2.1 | 3.8 | 80  |  |  |
| 2.5              | 2.2 | 3.2 | 39  | 6.0 | 970   | 3.0                | 4.2 | 4.0 | 122 |  |  |
| 2.6              | 3.8 | 3.5 | 75  | 8.0 | 2,140 | 3.1                | 7.3 | 4.5 | 265 |  |  |
| 2.7              | 6.2 | 4.0 | 165 |     |       | 3.2                | 12  | 5.0 | 460 |  |  |
|                  |     |     |     |     |       | 3.4                | 26  | 5.5 | 720 |  |  |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.    | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|---------|-------|-------|---------|-------|-------|-------|-------|-------|-------|------|-------|
| 1     | 0.9     | 2.8   | 2.7   | 5.2     | 648   | 16    | 33    | 24    | 9.2   | 5.1   | *3.4 | 2.5   |
| 2     | .9      | 2.8   | 2.5   | 5.2     | *164  | 16    | 27    | 23    | 9.7   | 4.8   | 3.4  | 2.3   |
| 3     | .9      | 2.7   | 2.5   | 5.2     | 84    | 15    | *23   | *21   | 8.2   | 4.5   | 3.4  | 2.3   |
| 4     | .9      | 2.7   | 2.7   | 5.2     | 59    | 14    | 22    | 20    | 8.2   | 4.5   | 2.9  | *2.5  |
| 5     | .9      | 2.5   | 2.7   | 5.2     | 44    | 13    | 20    | 19    | 8.2   | 4.5   | 2.7  | 2.7   |
| 6     | .9      | 2.5   | 2.5   | 5.0     | *35   | 13    | 341   | 18    | 7.8   | 4.5   | 2.7  | 2.7   |
| 7     | .9      | *2.5  | 2.5   | 5.0     | 29    | 14    | 219   | 17    | 7.3   | 4.5   | 2.7  | 2.7   |
| 8     | .9      | 2.5   | 2.5   | 5.0     | 27    | 15    | 67    | 17    | 7.3   | *4.2  | 2.7  | 2.7   |
| 9     | *.9     | 2.5   | 2.5   | 4.8     | 121   | 14    | *48   | 16    | 7.3   | 4.5   | 2.7  | 2.9   |
| 10    | 1.8     | 2.5   | 2.4   | 4.8     | 182   | 12    | 74    | 17    | 7.3   | 4.0   | 2.3  | 2.7   |
| 11    | 4.4     | 2.5   | *2.2  | 4.8     | 118   | *12   | 51    | 16    | *7.3  | 4.0   | 2.3  | 2.7   |
| 12    | 2.6     | 2.5   | 2.2   | 4.5     | 123   | 10    | 37    | 15    | 7.0   | 4.2   | 2.1  | 3.2   |
| 13    | *953    | 2.5   | 2.5   | 4.8     | 300   | 10    | 46    | 14    | 6.7   | 4.2   | 2.1  | 3.8   |
| 14    | *89     | 2.5   | 3.5   | 4.8     | 136   | 14    | 486   | 13    | 6.7   | 4.0   | 2.0  | 3.6   |
| 15    | 18      | 2.5   | 48    | 4.8     | 80    | 12    | 155   | 13    | 6.7   | 4.0   | 1.9  | 3.8   |
| 16    | 11      | 2.5   | 66    | 4.8     | a63   | 92    | *104  | 13    | 6.8   | 4.0   | 1.7  | 3.8   |
| 17    | *8.3    | 2.5   | *53   | 4.8     | a60   | 28    | 80    | 12    | 7.0   | 3.8   | 1.9  | 3.6   |
| 18    | 5.5     | 2.4   | 23    | 4.8     | a50   | 17    | 69    | 11    | 6.7   | 3.8   | 1.7  | 3.6   |
| 19    | 6.0     | 2.4   | 15    | 4.8     | a46   | 14    | 161   | 11    | 6.7   | 3.8   | 1.7  | 4.0   |
| 20    | 5.2     | 2.4   | 12    | 4.5     | a42   | 14    | 107   | 11    | 6.7   | 3.8   | 1.7  | 3.8   |
| 21    | 5.0     | 2.4   | 11    | 4.5     | a38   | 12    | 86    | 12    | 6.7   | 3.8   | 1.7  | 3.8   |
| 22    | 4.8     | 2.4   | 9.0   | 4.5     | a35   | 34    | 66    | 11    | 6.7   | 3.8   | 2.1  | 3.8   |
| 23    | 4.0     | 2.4   | 8.3   | 4.3     | a32   | 70    | 54    | 11    | 6.7   | 3.8   | 2.1  | 3.6   |
| 24    | 4.0     | 2.4   | 7.6   | 4.3     | a28   | 32    | 47    | 10    | 6.1   | 3.4   | 2.1  | 3.2   |
| 25    | 3.6     | 2.4   | 7.3   | 4.3     | a25   | 24    | 46    | 10    | 5.4   | 3.4   | 2.1  | 2.7   |
| 26    | 3.6     | 3.1   | 6.6   | 4.3     | a22   | 21    | 43    | 9.7   | *5.1  | 3.4   | 2.3  | 2.3   |
| 27    | 3.6     | 5.1   | 6.2   | 4.3     | a20   | 130   | 35    | 9.7   | 4.9   | 3.2   | 1.9  | 2.0   |
| 28    | 3.5     | 2.8   | 6.2   | 4.3     | 13    | 179   | 32    | 9.7   | 5.1   | 3.4   | 1.7  | 1.6   |
| 29    | 3.3     | 2.8   | 5.7   | 7.3     | ----- | 66    | 28    | 9.2   | 5.1   | 3.5   | 1.9  | 1.6   |
| 30    | 3.2     | 2.7   | 5.5   | 746     | ----- | 46    | 25    | 9.2   | 5.4   | 3.6   | 2.0  | 1.5   |
| 31    | 3.0     | ----- | 5.5   | 1,910   | ----- | 41    | ----- | 9.2   | ----- | 3.2   | 2.3  | ----- |
| TOTAL | 1,154.5 | 79.2  | 331.6 | 2,796.1 | 2,634 | 1,020 | 2,632 | 431.7 | 204.9 | 123.5 | 70.2 | 88.4  |
| MEAN  | 37.2    | 2.64  | 10.7  | 90.2    | 94.1  | 32.9  | 87.7  | 13.9  | 6.83  | 3.98  | 2.26 | 2.95  |
| MAX   | 953     | 5.1   | 66    | 1,910   | 648   | 179   | 486   | 24    | 9.2   | 5.1   | 3.4  | 4.0   |
| MIN   | 0.9     | 2.4   | 2.2   | 4.3     | 18    | 10    | 20    | 9.2   | 4.8   | 3.2   | 1.7  | 1.5   |
| AC-FT | 2,290   | 157   | 658   | 5,550   | 5,220 | 2,020 | 5,220 | 856   | 405   | 245   | 139  | 175   |

Calendar year 1962: Max 953 Min 0.8 Mean 13.8 Ac-ft 9,980  
Water year 1962-63: Max 1,910 Min 0.9 Mean 31.7 Ac-ft 22,940

## Peak discharge (base, 300 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1630 | 7.96        | 2,110     | 3-27 | 2200 | 5.20        | 560       |
| 1-31  | 1200 | 10.88       | 4,120     | 4- 6 | 2000 | 5.82        | 880       |
| 2- 9  | 2000 | 4.87        | 403       | 4-14 | 0630 | 6.72        | 1,370     |
| 2-13  | 0030 | 5.08        | 500       | 4-19 | 0300 | 4.85        | 395       |

\* Discharge measurement made on this day.  
a No gage-height record.

11-1600. Soquel Creek at Soquel, Calif.

Location.--Lat 36°59'29", long 121°57'17", in NE 1/4 sec. 10, T.11 S., R.1 W., on left bank 0.2 mile upstream from highway bridge in town of Soquel and 0.4 mile downstream from Bates Creek.

Drainage area.--40.2 sq mi.

Records available.--May 1951 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 40 ft (from topographic map).

Average discharge.--12 years, 45.8 cfs (33,160 acre-ft per year); median of yearly mean discharges, 29 cfs (21,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,950 cfs Jan. 31 (gage height, 16.27 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurements at gage heights 13.24, 13.34, and 22.33 ft; minimum daily, 1.2 cfs Oct. 1.  
1951-63: Maximum discharge, 15,800 cfs Dec. 23, 1955 (gage height, 22.33 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement of peak flow; minimum, 0.3 cfs Oct. 9, 1955.

Remarks.--Records good. Small diversion above station for irrigation.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.    | FEB.   | MAR.  | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|-------|---------|--------|-------|--------|-------|-------|-------|-------|-------|
| 1     | 1.2     | 11    | 8.2   | 16      | *2,110 | 62    | 114    | 89    | 28    | 16    | *8.2  | 5.5   |
| 2     | 1.3     | *10   | 8.2   | *15     | 558    | 56    | 95     | 85    | 27    | 15    | 8.9   | 5.3   |
| 3     | 1.3     | 9.7   | 7.9   | 15      | 318    | 51    | *80    | *79   | 26    | 15    | 9.3   | 5.5   |
| 4     | 1.3     | 9.7   | 7.9   | 15      | 206    | 46    | 71     | 74    | 26    | 14    | 8.5   | *5.5  |
| 5     | 1.3     | 10    | 7.9   | 14      | *156   | 42    | 63     | 69    | 25    | 14    | 8.9   | 6.1   |
| 6     | 1.8     | 10    | 7.9   | 14      | 126    | 42    | 767    | 63    | 24    | 14    | 8.2   | 5.5   |
| 7     | 1.6     | 9.7   | 7.9   | 14      | 106    | 44    | 646    | 61    | 24    | 13    | 8.9   | 5.5   |
| 8     | 1.5     | 9.7   | 7.0   | 13      | 93     | 41    | 259    | 59    | 24    | *12   | 8.9   | 5.5   |
| 9     | *1.5    | 9.7   | 7.0   | 13      | 262    | 44    | *200   | 55    | 23    | 12    | 8.9   | 5.8   |
| 10    | 2.2     | 9.7   | 7.0   | 13      | 424    | 38    | 258    | 56    | 23    | 11    | 8.9   | 5.8   |
| 11    | 4.6     | 9.3   | *6.7  | 13      | 238    | 36    | 193    | 53    | *23   | 11    | 8.5   | 5.5   |
| 12    | 3.0     | 8.9   | 6.7   | 13      | 235    | 34    | 151    | 49    | 23    | 10    | 8.2   | 5.5   |
| 13    | *2,470  | 8.9   | 7.9   | 12      | 743    | 33    | 146    | 47    | 22    | 10    | 7.9   | 6.7   |
| 14    | *514    | 8.9   | 9.7   | 12      | 304    | *40   | 1,030  | 44    | 22    | 10    | 7.3   | 6.4   |
| 15    | 91      | 8.5   | 135   | 12      | *229   | 43    | 397    | 43    | 22    | 10    | 6.4   | 5.8   |
| 16    | 51      | 8.5   | 210   | 12      | 195    | 153   | *300   | 41    | 21    | 9.4   | 5.8   | 5.8   |
| 17    | *37     | 8.9   | *165  | 11      | 178    | 43    | 248    | 40    | 21    | 9.7   | 6.1   | 5.8   |
| 18    | 30      | 9.3   | 69    | 11      | 149    | 37    | 213    | 39    | 20    | 7.3   | 6.4   | 5.8   |
| 19    | 25      | 9.7   | 41    | 12      | 140    | 30    | 491    | 38    | 20    | 7.6   | 6.1   | 6.1   |
| 20    | 21      | 9.3   | 31    | 11      | 126    | 25    | 299    | 37    | 20    | 7.9   | 5.8   | 6.1   |
| 21    | 20      | 8.9   | 25    | 10      | 126    | 22    | 241    | 37    | 20    | 8.9   | 5.8   | 5.5   |
| 22    | 16      | 8.9   | 22    | 9.7     | 110    | 51    | 211    | 37    | 20    | 8.5   | 6.1   | 5.3   |
| 23    | 17      | 8.9   | 19    | 9.3     | 98     | 170   | 184    | 36    | 20    | 8.5   | 7.0   | 5.8   |
| 24    | 17      | 8.9   | 20    | 9.3     | 91     | 85    | 166    | 35    | 19    | 8.2   | 6.7   | 5.3   |
| 25    | 16      | 8.9   | 20    | 9.3     | 86     | 61    | 155    | 34    | 19    | 7.9   | 6.4   | 5.0   |
| 26    | 15      | 10    | 20    | 9.3     | 79     | 51    | 138    | 32    | 19    | 8.5   | 4.5   | 4.8   |
| 27    | 14      | *26   | 19    | 9.3     | 73     | 254   | 121    | 32    | 19    | 7.0   | 4.3   | 4.0   |
| 28    | 13      | 11    | 18    | 9.3     | 69     | 476   | 113    | 31    | 19    | 8.2   | 5.5   | 3.6   |
| 29    | 12      | 9.3   | 17    | 5.3     | -----  | 100   | 106    | 30    | 17    | 8.5   | 5.5   | 3.8   |
| 30    | 12      | 8.2   | 17    | 1,880   | -----  | 142   | 97     | 30    | 16    | 8.9   | 5.8   | 3.6   |
| 31    | 11      | ----- | 16    | *4,150  | -----  | 121   | -----  | 28    | ----- | 8.5   | 5.5   | ----- |
| TOTAL | 3,426.6 | 298.4 | 971.9 | 6,375.8 | 7,628  | 2,564 | 7,553  | 1,483 | 652   | 320.5 | 219.2 | 162.6 |
| MEAN  | 111     | 9.95  | 31.4  | 206     | 272    | 82.7  | 252    | 47.8  | 21.7  | 10.3  | 7.07  | 5.42  |
| MAX   | 2,470   | 25    | 210   | 4,150   | 2,110  | 475   | 1,030  | 89    | 28    | 16    | 9.3   | 6.7   |
| MIN   | 1.2     | 8.2   | 6.7   | 9.3     | 69     | 22    | 63     | 28    | 16    | 7.0   | 4.3   | 3.6   |
| AC-FT | 6,800   | 592   | 1,923 | 12,650  | 15,130 | 5,097 | 14,980 | 2,940 | 1,290 | 636   | 435   | 323   |

Calendar year 1962: Max 2,470 Min 0.8 Mean 43.2 Ac-ft 31,290

Water year 1962-63: Max 4,150 Min 1.2 Mean 86.7 Ac-ft 62,800

Peak discharge (base, 750 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1800 | 13.34       | 5,160     | 3-27 | 2400 | 7.21        | 1,190     |
| 1-31  | 1300 | 16.27       | 7,950     | 4-6  | 2100 | 8.93        | 2,110     |
| 2-9   | 2130 | 6.38        | 869       | 4-14 | 0700 | 10.30       | 2,930     |
| 2-13  | 0830 | 6.80        | 1,060     | 4-19 | 0430 | 6.77        | 977       |

## SAN IORENZO RIVER BASIN

11-1603. Zayante Creek at Zayante, Calif.

Location.--Lat 37°05'10", long 122°02'45", in SE $\frac{1}{4}$  sec.2, T.10 S., R.2 W., on left bank at Zayante Road bridge in town of Zayante, 0.4 mile upstream from Lompico Creek, 2.0 miles east of Ben Lomond, and 3.2 miles upstream from mouth.

Drainage area.--11.1 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 390 ft (from topographic map).

Average discharge.--6 years, 10.6 cfs (7,670 acre-ft per year).

Extremes.--Maximum discharge during year, 2,830 cfs Jan. 31 (gage height, 6.86 ft), from rating curve extended above 1,200 cfs as explained below; minimum, 0.2 cfs Oct. 1-3.

1957-63: Maximum discharge, 3,700 cfs Apr. 2, 1958 (gage height, 7.70 ft), from rating curve extended above 350 cfs on basis of slope-area measurement of peak flow; no flow at times, caused by filling of pools upstream.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No known regulation; only small diversion for individual use.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-7, Feb. 10 to Apr. 14, Aug. 2 to Sept. 30)

| Oct. 1 to Feb. 4<br>July 8 to Sept. 30 |     |     |     | Feb. 5 to July 7 |       |     |     |
|--|-----|-----|-----|------------------|-------|-----|-----|
| 1.3                                    | 0.2 | 1.8 | 7.0 | 3.0              | 160   | 1.1 | 0.5 |
| 1.4                                    | .6  | 1.9 | 12  | 3.5              | 310   | 1.2 | 1.3 |
| 1.5                                    | 1.1 | 2.0 | 19  | 4.0              | 510   | 1.3 | 2.5 |
| 1.6                                    | 2.2 | 2.2 | 36  | 5.0              | 1,100 | 1.4 | 4.4 |
| 1.7                                    | 4.0 | 2.5 | 70  | 6.0              | 1,930 | 1.5 | 6.9 |
|  |     |     |     |                  |       | 1.7 | 14  |
|  |     |     |     |                  |       | 2.0 | 32  |
|  |     |     |     |                  |       | 2.5 | 81  |
|  |     |     |     |                  |       | 3.0 | 163 |
|  |     |     |     |                  |       | 3.5 | 287 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.3   | 1.7   | 1.3   | 2.7     | *A500 | 13    | 29    | 20    | 6.9   | 2.9  | 1.9  | 1.2   |
| 2     | .2    | 1.5   | 1.3   | 2.7     | A100  | 13    | 25    | *19   | 6.7   | 2.9  | 2.0  | 1.1   |
| 3     | .2    | 1.5   | 1.5   | 2.7     | A45   | 12    | 22    | 18    | 6.4   | 2.9  | 2.0  | 1.1   |
| 4     | .3    | 1.5   | 1.4   | 2.6     | A35   | 12    | *20   | 17    | 6.4   | 2.9  | 2.0  | 1.1   |
| 5     | .3    | 1.5   | 1.3   | 2.6     | *A30  | 11    | 18    | 16    | 6.2   | 2.9  | 1.8  | *1.1  |
| 6     | .3    | 1.4   | 1.2   | A2.6    | 27    | 10    | 119   | 15    | 6.2   | 2.9  | 1.6  | 1.0   |
| 7     | .4    | 1.3   | 1.2   | *2.4    | 23    | 10    | 111   | 14    | *6.2  | 2.8  | 1.6  | 1.0   |
| 8     | .3    | 1.3   | 1.2   | 2.2     | 21    | 9.4   | 60    | 14    | 6.2   | 2.7  | 1.8  | 1.0   |
| 9     | *.4   | 1.3   | 1.2   | 2.2     | 60    | 9.1   | 48    | 13    | 6.2   | *2.6 | 1.8  | 1.0   |
| 10    | .7    | 1.3   | 1.2   | 2.2     | 109   | 8.5   | 52    | 14    | 6.2   | 2.6  | 1.6  | 1.1   |
| 11    | 3.1   | 1.3   | 1.2   | 2.1     | 65    | *8.1  | 44    | 13    | 5.9   | 2.6  | 1.5  | 1.2   |
| 12    | 4.1   | 1.3   | 1.1   | 2.0     | 71    | 8.1   | 36    | 12    | 5.9   | 2.4  | 1.5  | 1.3   |
| 13    | 379   | 1.3   | 1.5   | 2.0     | 139   | 7.8   | 36    | 11    | 5.7   | 2.4  | 1.5  | 1.4   |
| 14    | *47   | 1.3   | 1.8   | 2.0     | 74    | 8.5   | 225   | 10    | 5.4   | 2.4  | 1.5  | 1.2   |
| 15    | 11    | 1.2   | 1.7   | 2.0     | 56    | 7.8   | 102   | 9.7   | 5.4   | 2.4  | 1.4  | 1.1   |
| 16    | 5.5   | 1.2   | 2.9   | 2.0     | 46    | 3.9   | 70    | 9.4   | 5.2   | 2.2  | 1.4  | 1.1   |
| 17    | 4.3   | 1.3   | *31   | 2.0     | 38    | 18    | 57    | 9.1   | 5.2   | 2.2  | 1.4  | 1.0   |
| 18    | *3.5  | 1.2   | 14    | 2.0     | 33    | 13    | 49    | 8.8   | 4.9   | 2.2  | 1.4  | 1.0   |
| 19    | 3.3   | 1.1   | 9.0   | 2.0     | 30    | 11    | 78    | 8.8   | 4.9   | 2.1  | 1.3  | 1.1   |
| 20    | 2.9   | 1.1   | 6.7   | 1.9     | 27    | 10    | 63    | 8.8   | 4.7   | 2.1  | 1.3  | 1.1   |
| 21    | 2.7   | 1.1   | 5.8   | 1.9     | 24    | 9.1   | 55    | 8.8   | 4.4   | 2.0  | 1.4  | 1.1   |
| 22    | 2.4   | 1.1   | 4.9   | 1.9     | 22    | 19    | 47    | 8.5   | 4.0   | 2.0  | 1.6  | 1.3   |
| 23    | 2.2   | 1.1   | 4.6   | 1.9     | 20    | 27    | 41    | 8.5   | 3.8   | 2.0  | 1.8  | 1.4   |
| 24    | 2.1   | 1.1   | 4.0   | 1.9     | 19    | 19    | 34    | 8.5   | 3.6   | 2.0  | 1.6  | 1.4   |
| 25    | 2.1   | 1.1   | 3.8   | A1.9    | 18    | 16    | 34    | 8.1   | 3.5   | 2.0  | 1.5  | 1.4   |
| 26    | 2.0   | 1.4   | 3.6   | A1.8    | 16    | 14    | 32    | 7.8   | 3.3   | 1.9  | 1.4  | 1.4   |
| 27    | 1.9   | 2.2   | 3.5   | A1.8    | 16    | 71    | 29    | 7.8   | 3.3   | 1.9  | 1.3  | 1.4   |
| 28    | 1.8   | *1.4  | 3.3   | 1.9     | 14    | 111   | 26    | 7.8   | 3.1   | 2.0  | 1.3  | 1.2   |
| 29    | 1.8   | 1.3   | 3.1   | A1.0    | ----- | 52    | 24    | 7.5   | 3.1   | 2.0  | 1.3  | .9    |
| 30    | 1.8   | 1.3   | 3.1   | A1.50   | ----- | 39    | 22    | 7.5   | 2.9   | 2.0  | 1.3  | .9    |
| 31    | 1.7   | ----- | 2.9   | *1.400  | ----- | 34    | ----- | 7.2   | ----- | 2.0  | 1.3  | ----- |
| TOTAL | 489.6 | 39.7  | 167.7 | 1,619.9 | 1,678 | 650.4 | 1,608 | 348.6 | 151.8 | 72.9 | 48.1 | 34.6  |
| MEAN  | 15.8  | 1.32  | 5.41  | 52.3    | 59.9  | 21.0  | 53.6  | 11.2  | 5.06  | 2.35 | 1.55 | 1.15  |
| MAX   | 379   | 2.2   | 31    | 1,400   | 500   | 111   | 225   | 20    | 6.9   | 2.9  | 2.0  | 1.4   |
| MIN   | 0.2   | 1.1   | 1.1   | 1.8     | 14    | 7.8   | 18    | 7.2   | 2.9   | 1.9  | 1.3  | 0.9   |
| AC-FT | 971   | 79    | 333   | 3,210   | 3,330 | 1,290 | 3,190 | 691   | 301   | 145  | 95   | 69    |

Calendar year 1962: Max 379 Min 0.1 Mean 9.00 Ac-ft 6,520  
Water year 1962-63: Max 1,400 Min 0.2 Mean 18.9 Ac-ft 13,700

Peak discharge (base, 100 cfs, revised)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1630 | 4.50        | 780       | 3-27 | 2200 | 3.29        | 260       |
| 1-31  | 1200 | 6.86        | 2,830     | 4-6  | 2000 | 3.51        | 322       |
| 2-10  | 1230 | 2.79        | 143       | 4-14 | 0500 | 4.03        | 508       |
| 2-12  | 2330 | 3.11        | 214       | 4-19 | 0200 | 2.77        | 132       |

\* Discharge measurement made on this day.  
A No gage-height record.

11-1605. San Lorenzo River at Big Trees, Calif.

Location.--Lat 37°01'40", long 122°03'30", in Canada del Rincon Grant, on right bank 0.5 mile south of Big Trees station on Southern Pacific Railroad, 1.6 miles downstream from Zayante Creek, and 4 miles north of Santa Cruz, Santa Cruz County.

Drainage area.--111 sq mi.

Records available.--October 1936 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 217.0 ft above mean sea level (levels by Topographic Division).

Average discharge.--27 years, 137 cfs (99,180 acre-ft per year); median of yearly mean discharges, 98 cfs (70,900 acre-ft per year).

Extremes.--Maximum discharge during year, 13,000 cfs Jan. 31 (gage height, 15.80 ft, from floodmarks); minimum, 14 cfs Oct. 9.  
1937-63: Maximum discharge, 30,400 cfs Dec. 23, 1955 (gage height, 22.55 ft), from rating curve extended above 11,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.8 cfs June 25, 1939.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Many small diversions above station for domestic supply.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control methods used July 24 to Sept. 30)

|     |     |      |       |
|-----|-----|------|-------|
| 0.5 | 12  | 3.0  | 330   |
| 1.0 | 29  | 4.0  | 715   |
| 1.5 | 59  | 5.0  | 1,180 |
| 2.0 | 106 | 9.0  | 4,090 |
| 2.5 | 192 | 13.0 | 8,540 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.  | DEC.  | JAN.   | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|--------|-------|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 16     | 33    | 26    | 40     | a3,900 | a155   | 279    | 248   | 93    | 52    | 37    | 27    |
| 2     | 17     | 32    | 26    | 40     | 1,130  | a145   | 250    | *a234 | 89    | 52    | 37    | 28    |
| 3     | 16     | 31    | 28    | 39     | 675    | a140   | 226    | a225  | 87    | 52    | 37    | 30    |
| 4     | 15     | 31    | 28    | 38     | 475    | a135   | *204   | a215  | 85    | 51    | 37    | 29    |
| 5     | 16     | 30    | 27    | 37     | *365   | a130   | 192    | a205  | 85    | 50    | *38   | *31   |
| 6     | 15     | 30    | 26    | 36     | 303    | a125   | 620    | a195  | 84    | 48    | 36    | 30    |
| 7     | 18     | 29    | 26    | *35    | 279    | a120   | 911    | a185  | *83   | 46    | 37    | 28    |
| 8     | 15     | 29    | 25    | 35     | 259    | a118   | 498    | a175  | 78    | 45    | 36    | 29    |
| 9     | *14    | 29    | 25    | 34     | 779    | a115   | 390    | a170  | 78    | *45   | 36    | 28    |
| 10    | 18     | 30    | 25    | 34     | 1,290  | a110   | 414    | a185  | 75    | 44    | 36    | 27    |
| 11    | 34     | 29    | 25    | 33     | 742    | a105   | 348    | a170  | 79    | 43    | 36    | 25    |
| 12    | 49     | 29    | 25    | 32     | 648    | *101   | 309    | a160  | 77    | 42    | 37    | 27    |
| 13    | 3,390  | 28    | 29    | 31     | 1,250  | 98     | 309    | 151   | 74    | 42    | 36    | 28    |
| 14    | *822   | 29    | 33    | 31     | 731    | 106    | 1,390  | 144   | 74    | 41    | 35    | 27    |
| 15    | 199    | 31    | 180   | 32     | 539    | 107    | 1,040  | 139   | 69    | 40    | 34    | 25    |
| 16    | 110    | 27    | 231   | 38     | 447    | 432    | 699    | 134   | 69    | 39    | 35    | 25    |
| 17    | 79     | 27    | 352   | 32     | 383    | a320   | 575    | 128   | 67    | 39    | 35    | 25    |
| 18    | *68    | 27    | 172   | 31     | 324    | a240   | 483    | 128   | 66    | 38    | 35    | 25    |
| 19    | 56     | 27    | 105   | 31     | 294    | a200   | 830    | 122   | 65    | 37    | 35    | 25    |
| 20    | 54     | 27    | 83    | 29     | a280   | a180   | 656    | 119   | 65    | 36    | 34    | 25    |
| 21    | 49     | 27    | 71    | 29     | a260   | a165   | 579    | 119   | 63    | 36    | 35    | 23    |
| 22    | 46     | 27    | 63    | 29     | a250   | 157    | 487    | 118   | 62    | 36    | 35    | 26    |
| 23    | 44     | 27    | 58    | 29     | a240   | 315    | 428    | 116   | 61    | 36    | 36    | 23    |
| 24    | 43     | 27    | 53    | 29     | a220   | 209    | 379    | 114   | 61    | 36    | 36    | 23    |
| 25    | 39     | 27    | 49    | 29     | a200   | 170    | 393    | 110   | 61    | 36    | 35    | 22    |
| 26    | 38     | 28    | 47    | 29     | a180   | 151    | 362    | 106   | 58    | 36    | 34    | 21    |
| 27    | 37     | 47    | 45    | 29     | a170   | 555    | 318    | 104   | 56    | 36    | 33    | 21    |
| 28    | 35     | *32   | 44    | 28     | a160   | 1,100  | 294    | 101   | 55    | 36    | 32    | 21    |
| 29    | 35     | 28    | 43    | 67     | -----  | 532    | 276    | 101   | 55    | 36    | 29    | 22    |
| 30    | 36     | 27    | 42    | a3,600 | -----  | 376    | 262    | 96    | 53    | 36    | 28    | 21    |
| 31    | 33     | ----- | 41    | a7,400 | -----  | 315    | -----  | 95    | ----- | 36    | 28    | ----- |
| TOTAL | 5,456  | 882   | 2,053 | 11,986 | 16,773 | 7,227  | 14,401 | 4,612 | 2,127 | 1,278 | 1,080 | 767   |
| MEAN  | 176    | 29.4  | 66.2  | 387    | 599    | 233    | 480    | 149   | 70.9  | 41.2  | 34.8  | 25.6  |
| MAX   | 3,390  | 47    | 352   | 7,400  | 3,900  | 1,100  | 1,390  | 248   | 93    | 52    | 38    | 31    |
| MIN   | 14     | 27    | 25    | 28     | 160    | 98     | 192    | 95    | 53    | 36    | 28    | 21    |
| AC-FT | 10,820 | 1,750 | 4,070 | 23,770 | 33,270 | 14,330 | 28,560 | 9,150 | 4,220 | 2,530 | 2,140 | 1,520 |

Calendar year 1962: Max 3,390 Min 11 Mean 106 Ac-ft 77,000  
Water year 1962-63: Max 7,400 Min 14 Mean 188 Ac-ft 136,100

Peak discharge (base, 1,400 cfs)

| Date  | Time  | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|-------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1730  | 12.10       | 7,390     | 3-27 | 2400 | 6.21        | 1,900     |
| 1-31  | †1300 | 15.80       | 13,000    | 4-6  | 2400 | 5.62        | 1,520     |
| 2-9   | 2000  | 6.34        | 1,990     | 4-14 | 0800 | 6.68        | 2,230     |
| 2-13  | 0430  | 5.68        | 1,560     |      |      |             |           |

† About.

\* Discharge measurement made on this day.  
a No gage-height record.

## SAN LORENZO RIVER BASIN

11-1615. Branciforte Creek at Santa Cruz, Calif.

Location.--Lat 36°58'00", long 122°01'00", on right bank in Santa Cruz, Santa Cruz County, 15 ft downstream from Market Street bridge and 1.0 mile upstream from mouth.

Drainage area.--17.3 sq mi.

Records available.--January 1940 to September 1943, March 1952 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 11.22 ft above mean sea level (levels by Corps of Engineers). Jan. 3 to Nov. 14, 1940, staff gage at site 15 ft upstream at datum 3.90 ft higher. Nov. 15, 1940, to Nov. 25, 1941, staff gage at site 150 ft downstream and Nov. 26, 1941, to Sept. 30, 1943, water-stage recorder at site 75 ft downstream, both at datum 4.52 ft higher. Mar. 16 to July 27, 1952, staff gages at site 150 ft downstream at present datum.

Average discharge.--14 years, 21.5 cfs (15,570 acre-ft per year); median of yearly mean discharges, 17 cfs (12,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,820 cfs Jan. 31 (gage height, 13.34 ft); minimum, 0.9 cfs Oct. 1, 2, 6, 7. 1940-43, 1952-63: Maximum discharge, 8,100 cfs Dec. 22, 1955 (gage height, 22.04 ft), from rating curve extended above 2,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.1 cfs Aug. 18, 1954, Sept. 17, 1955.

Remarks.--Records fair. No storage or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.    | MAR.    | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|---------|---------|-------|-------|-------|------|------|-------|
| 1     | 1.0   | 2.2   | 2.1   | 4.0     | *502    | 6.5     | 28    | 18    | 5.3   | 2.2  | 1.9  | 1.7   |
| 2     | 1.0   | 2.1   | 2.1   | *3.8    | *127    | 6.8     | 22    | 16    | 5.0   | 2.2  | 1.8  | 1.7   |
| 3     | 1.1   | 2.1   | 2.4   | 3.5     | 62      | 6.8     | *20   | *15   | 4.8   | 2.2  | 1.9  | 1.8   |
| 4     | 1.1   | 2.1   | 2.4   | 3.5     | 42      | 6.5     | 19    | 14    | 4.5   | 2.2  | 1.9  | *1.9  |
| 5     | 1.1   | 2.1   | 2.4   | 3.5     | 31      | 6.5     | 17    | 13    | 4.3   | 2.2  | 2.1  | 2.1   |
| 6     | 1.1   | 2.1   | 2.2   | 3.3     | *24     | 6.5     | 369   | 12    | 4.5   | 2.1  | *2.1 | 1.9   |
| 7     | 1.0   | *2.1  | 2.2   | 3.3     | 21      | 6.5     | 240   | 12    | 4.5   | 1.9  | 2.1  | 1.9   |
| 8     | 1.1   | 2.1   | 2.2   | 3.3     | 20      | 6.8     | 71    | 12    | 4.3   | 1.8  | 2.1  | 2.1   |
| 9     | *1.1  | 2.1   | 2.1   | 3.3     | 154     | 7.4     | *59   | 11    | 4.3   | *1.9 | 2.1  | 2.2   |
| 10    | 4.1   | 2.1   | 2.1   | 3.0     | 247     | 6.2     | 130   | 12    | 4.5   | 2.2  | 1.9  | 2.1   |
| 11    | 5.6   | 2.1   | *2.2  | 3.0     | 92      | 5.6     | 70    | 10    | *4.3  | 2.2  | 1.7  | 1.7   |
| 12    | 3.0   | 1.9   | 2.2   | 2.8     | 164     | 5.6     | 53    | 9.4   | 4.0   | 2.4  | 1.7  | 1.5   |
| 13    | 140   | 1.9   | 3.0   | 2.8     | 445     | 5.6     | 58    | 9.1   | 4.0   | 2.4  | 1.7  | 2.1   |
| 14    | *34   | 2.1   | 3.8   | 2.8     | 113     | *7.1    | 515   | 8.4   | 4.0   | 2.2  | 1.8  | 1.7   |
| 15    | 7.1   | 1.9   | 72    | 2.8     | *68     | 6.8     | 127   | 8.0   | 3.5   | 2.2  | 1.5  | 1.5   |
| 16    | 4.3   | 1.9   | 97    | 3.0     | 50      | 198     | 75    | 8.0   | 3.5   | 2.1  | 1.5  | 1.5   |
| 17    | *3.3  | 1.9   | *51   | 3.0     | 37      | 45      | *60   | 7.7   | 3.5   | 1.9  | 1.7  | 1.7   |
| 18    | 3.0   | 2.1   | 25    | 3.0     | 28      | 26      | 56    | 7.7   | 3.5   | 1.8  | 1.8  | 1.7   |
| 19    | 2.8   | 1.9   | 15    | 3.0     | 22      | 21      | 376   | 7.7   | 3.3   | 1.8  | 1.7  | 1.8   |
| 20    | 2.8   | 2.1   | 12    | 2.8     | 18      | 20      | 106   | 7.4   | 3.0   | 1.8  | 1.5  | 1.8   |
| 21    | 2.5   | 2.1   | 10    | 2.8     | 14      | 19      | 74    | 7.4   | 2.5   | 1.9  | 1.8  | 1.7   |
| 22    | 2.4   | 2.1   | 9.4   | *3.3    | 10      | 35      | 53    | 7.4   | 2.4   | *1.7 | 2.1  | 1.5   |
| 23    | 2.4   | 2.2   | 8.4   | 3.5     | 9.4     | 53      | 42    | 7.1   | 2.4   | 1.8  | 2.1  | 1.7   |
| 24    | 2.4   | 2.2   | 7.4   | 3.5     | 8.7     | 32      | 35    | 7.1   | 2.5   | 1.5  | 1.8  | 1.4   |
| 25    | 2.4   | 2.1   | 6.8   | 3.5     | 7.7     | 28      | 38    | 6.8   | 2.5   | 1.4  | 1.7  | 1.4   |
| 26    | 2.4   | 4.3   | 5.9   | 3.3     | 7.4     | 26      | 37    | 6.2   | 2.5   | 1.5  | 1.7  | 1.4   |
| 27    | 2.4   | *7.7  | 5.6   | 3.3     | 7.7     | 247     | 28    | 6.2   | 2.5   | 1.8  | 1.7  | 1.4   |
| 28    | 2.4   | 2.4   | 5.3   | 3.0     | 7.1     | 269     | 23    | 6.5   | 2.5   | 1.8  | 1.5  | 1.5   |
| 29    | 2.2   | 2.1   | 4.8   | 11      | -----   | 67      | 21    | 6.5   | 2.2   | 1.9  | 1.5  | 1.2   |
| 30    | 2.2   | 2.1   | 4.5   | 1,040   | -----   | 42      | 19    | 5.9   | 2.2   | 1.8  | 1.5  | 1.4   |
| 31    | 2.2   | ----- | 4.3   | 1,220   | -----   | 33      | ----- | 5.6   | ----- | 1.8  | 1.5  | ----- |
| TOTAL | 245.5 | 70.2  | 377.8 | 2,360.7 | 2,339.0 | 1,258.2 | 2,841 | 291.1 | 106.8 | 60.6 | 55.4 | 51.0  |
| MEAN  | 7.92  | 2.34  | 12.2  | 76.2    | 83.5    | 40.6    | 94.7  | 9.39  | 3.56  | 1.95 | 1.79 | 1.70  |
| MAX   | 140   | 7.7   | 97    | 1,220   | 502     | 269     | 515   | 18    | 5.3   | 2.4  | 2.1  | 2.2   |
| MIN   | 1.0   | 1.9   | 2.1   | 2.8     | 7.1     | 5.6     | 17    | 5.6   | 2.2   | 1.4  | 1.5  | 1.2   |
| AC-FT | 487   | 139   | 749   | 4,680   | 4,640   | 2,500   | 5,640 | 577   | 212   | 120  | 110  | 101   |

CALENDAR YEAR 1962: MAX 586 MIN 0.8 MEAN 17.5 AC-FT 12,680

WATER YEAR 1962-63: MAX 1,220 MIN 1.0 MEAN 27.6 AC-FT 19,960

## Peak discharge (base, 600 cfs)

\* Discharge measurement made on this day.

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1200 | 13.34       | 2,820     | 4-6  | 2000 | 9.14        | 934       |
| 2-12 | 2400 | 8.61        | 819       | 4-14 | 0630 | 10.34       | 1,430     |
| 3-16 | 1030 | 8.15        | 658       | 4-19 | 0230 | 10.00       | 1,280     |
| 3-27 | 2000 | 9.40        | 1,040     |      |      |             |           |



11-1619. Scott Creek above Little Creek, near Davenport, Calif.

Location.--Lat 37°03'50", long 122°13'45", in Agua Puerco y las Trancas Grant, on right bank 600 ft upstream from Little Creek, 2.0 miles upstream from mouth, and 4.2 miles north of Davenport, Santa Cruz County.

Drainage area.--25.0 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 30 ft (from topographic map).

Average discharge.--5 years, 21.6 cfs (15,640 acre-ft per year).

Extremes.--Maximum discharge during year, 1,560 cfs Jan. 31 (gage height, 8.71 ft), from rating curve extended above 650 cfs as explained below; minimum, 0.4 cfs Oct. 3.  
1958-63: Maximum discharge, 1,970 cfs Feb. 13, 1962 (gage height, 9.36 ft), from rating curve extended above 650 cfs on basis of slope-area measurement at gage height 7.35 ft; minimum, 0.2 cfs Sept. 16, 1962.

Remarks.--Records fair except those for period of indefinite stage-discharge relation, which are poor. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.   | MAR.  | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|-------|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 0.8   | *7.7  | 5.2   | 12    | *644   | 57    | 87    | 97    | 31    | 16    | 7.7   | 3.7   |
| 2     | .7    | 8.4   | 6.0   | 12    | *303   | 56    | 80    | *91   | 29    | 16    | 7.7   | 4.0   |
| 3     | .6    | 8.0   | 9.3   | 13    | 184    | 52    | 74    | 90    | 28    | 15    | 7.7   | *3.5  |
| 4     | .6    | 8.0   | 9.0   | 14    | 151    | 51    | *70   | 90    | 26    | 15    | 7.7   | 3.8   |
| 5     | .6    | 7.7   | 7.7   | 14    | 125    | 47    | 69    | 84    | 25    | 15    | *7.4  | 3.8   |
| 6     | .7    | 7.4   | 7.0   | 14    | *105   | 48    | 291   | 76    | 24    | 14    | 7.0   | 3.1   |
| 7     | .5    | 6.7   | 6.7   | *14   | 93     | 43    | 383   | 74    | *23   | 14    | 6.7   | 2.8   |
| 8     | .6    | 7.0   | 7.0   | 13    | 95     | 43    | 192   | 71    | 23    | 13    | 7.0   | 2.6   |
| 9     | *.6   | 7.4   | 6.7   | 12    | 388    | 42    | 157   | 69    | 22    | *13   | 7.4   | 2.9   |
| 10    | 1.7   | 7.7   | 6.7   | 14    | 444    | 38    | 152   | 73    | 21    | 11    | 6.7   | 2.8   |
| 11    | 5.7   | 7.7   | 7.0   | 14    | 267    | 35    | 135   | 70    | 21    | 12    | 6.7   | 2.6   |
| 12    | 8.1   | 7.7   | 7.4   | 13    | 297    | 35    | 124   | 66    | 20    | 12    | 6.5   | 2.9   |
| 13    | *499  | 7.7   | 11    | 13    | 376    | 31    | 125   | 69    | 19    | 12    | 6.2   | 3.3   |
| 14    | *157  | e7.5  | 17    | 13    | 246    | *34   | 256   | 71    | 18    | 11    | 5.7   | 2.9   |
| 15    | 48    | e7.5  | 121   | 14    | *197   | 34    | 233   | 65    | 18    | 11    | 5.5   | 2.4   |
| 16    | 32    | e7.0  | 100   | 14    | 172    | 87    | 186   | 63    | 17    | 10    | 5.5   | 2.3   |
| 17    | 23    | e6.5  | *116  | 13    | 148    | 64    | *167  | 58    | 18    | 10    | 5.5   | 2.6   |
| 18    | *18   | e6.0  | 57    | 13    | 128    | 52    | 156   | 57    | 17    | 9.7   | 5.0   | 2.8   |
| 19    | 16    | e6.0  | 29    | 12    | 116    | 47    | 257   | 54    | 18    | 10    | 5.0   | 2.8   |
| 20    | 15    | e5.5  | 19    | 11    | 105    | 44    | 211   | 51    | 20    | 10    | 4.0   | *2.8  |
| 21    | 14    | e5.5  | 15    | 12    | 95     | 42    | 192   | 49    | 20    | 9.7   | 4.0   | 2.8   |
| 22    | 13    | e5.0  | 12    | 14    | 90     | 50    | 168   | 47    | 20    | 9.7   | 4.5   | 2.8   |
| 23    | 12    | e5.0  | 10    | 12    | 83     | 67    | 154   | 44    | 20    | 9.3   | 4.7   | 2.9   |
| 24    | 11    | e5.0  | 10    | 11    | 77     | 57    | 143   | 43    | 19    | 8.7   | 4.7   | 2.9   |
| 25    | 10    | e4.8  | 9.3   | 11    | 74     | 52    | 152   | 43    | 19    | 8.7   | 4.2   | 2.8   |
| 26    | 10    | e6.0  | 9.0   | 11    | 70     | 49    | 144   | 42    | 18    | 8.4   | 4.0   | 2.6   |
| 27    | 9.3   | 19    | 9.3   | 10    | 65     | 131   | 118   | 40    | 17    | 8.4   | 3.7   | 2.3   |
| 28    | 8.7   | 8.4   | 10    | 10    | 62     | 270   | 111   | 38    | 17    | 8.4   | 3.7   | 2.3   |
| 29    | 8.7   | 6.2   | 11    | 13    | -----  | 143   | 106   | 36    | 16    | 8.4   | 3.7   | 2.3   |
| 30    | 8.4   | 5.7   | 11    | 400   | -----  | 113   | 105   | 35    | 16    | 8.4   | 3.7   | 2.3   |
| 31    | 7.7   | ----- | 12    | 1,030 | -----  | 97    | ----- | 33    | ----- | 8.0   | 3.8   | ----- |
| TOTAL | 942.0 | 215.7 | 6,743 | 1,796 | 5,200  | 2,011 | 4,798 | 1,889 | 620   | 345.8 | 173.3 | 86.4  |
| MEAN  | 30.4  | 7.19  | 21.8  | 57.9  | 186    | 64.9  | 160   | 60.9  | 20.7  | 11.2  | 5.59  | 2.88  |
| MAX   | 499   | 19    | 121   | 1,030 | 644    | 270   | 383   | 97    | 31    | 16    | 7.7   | 4.0   |
| MIN   | 0.5   | 4.8   | 5.2   | 10    | 62     | 31    | 69    | 33    | 16    | 8.0   | 3.7   | 2.3   |
| AC-FT | 1,870 | 428   | 1,340 | 3,560 | 10,310 | 3,990 | 9,520 | 3,750 | 1,230 | 686   | 344   | 171   |

Calendar year 1962: Max 637 Min 0.4 Mean 27.3 Ac-ft 19,790  
Water year 1962-63: Max 1,030 Min 0.5 Mean 51.4 Ac-ft 37,200

## Peak discharge (base, 300 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1800 | 7.35        | 1,060     | 3-27 | 2300 | 4.30        | 485       |
| 12-15 | 1500 | 5.06        | 326       | 4-6  | 2100 | 5.00        | 673       |
| 1-31  | 1300 | 8.71        | 1,560     | 4-14 | 0730 | 3.36        | 318       |
| 2-9   | 1730 | 7.60        | 1,150     | 4-19 | 0330 | 3.65        | 384       |
| 2-13  | 0130 | 4.60        | 483       |      |      |             |           |

\* Discharge measurement made on this day.  
.e Stage-discharge relation indefinite.

## PESCADERO CREEK BASIN

11-1625. Pescadero Creek near Pescadero, Calif.

Location.--Lat 37°15'40", long 122°19'40", in SW $\frac{1}{4}$  sec.5, T.8 S., R.4 W., on left bank at downstream side of highway bridge, 3.0 miles east of Pescadero and 5.3 miles upstream from mouth.

Drainage area.--45.9 sq mi.

Records available.--April 1951 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 62.3 ft above mean sea level, datum of 1929.

Average discharge.--12 years, 42.9 cfs (31,060 acre-ft per year); median of yearly mean discharges, 25 cfs (18,100 acre-ft per year).

Extremes.--Maximum discharge during year, 6,700 cfs Jan. 31 (gage height, 18.80 ft), from rating curve extended above 1,400 cfs as explained below; minimum, 0.7 cfs Oct. 7.

1951-63; Maximum discharge, 9,420 cfs Dec. 23, 1955 (gage height, 21.27 ft), from rating curve extended above 2,700 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Small diversions above station by pumping. Minor regulation in San Mateo County Memorial Park.

Revisions (water years).--1962 Basic Data Report: 1961.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.   | Jan.    | Feb.   | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|---------|-------|--------|---------|--------|-------|-------|-------|-------|-------|-------|-------|
| 1     | *0.9    | 15    | 5.9    | 11      | *2.180 | a 60  | a 95  | 73    | 26    | 13    | 6.2   | 5.0   |
| 2     | 1.2     | 14    | 5.9    | 9.8     | 475    | a 55  | a 80  | *68   | 25    | *13   | 6.9   | 4.8   |
| 3     | 1.6     | 15    | 7.6    | 10      | a 250  | a 50  | a 70  | 64    | 24    | 13    | 6.9   | 4.8   |
| 4     | 1.4     | 15    | 8.0    | 9.8     | a 180  | a 45  | *63   | 59    | 23    | 13    | 7.3   | 4.5   |
| 5     | 1.1     | 14    | 5.9    | 9.4     | a 160  | *39   | 57    | 56    | 23    | 12    | 6.9   | 7.7   |
| 6     | 1.1     | 14    | 5.3    | 8.7     | a 130  | 37    | 179   | 52    | 23    | 12    | 6.9   | 4.0   |
| 7     | .9      | 13    | 5.0    | 8.3     | *107   | 36    | 296   | 50    | 22    | 12    | 6.2   | 3.5   |
| 8     | 1.0     | 12    | 4.8    | 8.3     | 101    | 34    | 181   | 51    | 22    | 11    | 6.2   | 3.3   |
| 9     | 1.4     | 12    | 5.5    | 8.3     | 319    | 33    | 146   | 49    | 21    | 11    | 6.2   | 3.6   |
| 10    | 1.7     | 13    | 6.6    | 8.0     | a 450  | 32    | 136   | 51    | *20   | 11    | 5.9   | 6.6   |
| 11    | 3.9     | 12    | 6.9    | 8.0     | a 350  | 31    | 118   | 54    | 16    | 11    | 5.5   | 3.8   |
| 12    | 23      | 12    | 8.0    | 7.6     | a 300  | 30    | 107   | 46    | 16    | 10    | 5.5   | 4.0   |
| 13    | 1.790   | 11    | 8.7    | 8.0     | a 400  | *28   | 99    | 42    | 18    | 9.8   | 5.3   | 4.8   |
| 14    | *524    | 11    | 9.8    | *8.0    | a 280  | 29    | 321   | 41    | 17    | 9.8   | 5.5   | 4.8   |
| 15    | 112     | 11    | 32     | 8.0     | *a 200 | 32    | 351   | 38    | 17    | 9.8   | 5.3   | 4.0   |
| 16    | 64      | 9.0   | 6.8    | 7.6     | a 175  | 93    | 230   | 36    | 16    | 9.4   | 5.0   | 3.8   |
| 17    | *44     | 7.3   | 9.7    | 7.6     | a 160  | 70    | 177   | 35    | 16    | 9.4   | 5.0   | 3.8   |
| 18    | 34      | 6.9   | 7.0    | 7.3     | a 145  | 49    | 149   | 34    | 16    | 9.4   | 5.0   | 3.8   |
| 19    | 32      | 6.9   | *46    | 6.9     | a 130  | 42    | 238   | 33    | 16    | 9.4   | 5.0   | 3.8   |
| 20    | 30      | *5.9  | 33     | 6.6     | a 120  | 36    | 215   | 32    | 16    | 9.4   | 4.8   | 3.8   |
| 21    | 25      | 5.9   | 26     | 6.2     | a 110  | 32    | 199   | 32    | 15    | 9.0   | 5.3   | 3.3   |
| 22    | 20      | 5.9   | 22     | 6.2     | a 100  | 41    | 168   | 31    | 15    | 9.0   | 5.0   | 3.3   |
| 23    | 18      | 5.9   | 19     | 6.2     | a 90   | 82    | *144  | 32    | 15    | 9.0   | 5.3   | 3.3   |
| 24    | 20      | 5.5   | 18     | 6.2     | a 80   | 61    | 126   | 32    | 15    | 8.3   | 5.3   | 3.3   |
| 25    | 21      | 5.3   | 15     | 5.9     | 73     | *51   | 122   | 31    | 14    | 8.0   | 5.3   | 3.3   |
| 26    | 20      | 5.3   | 14     | 5.5     | 69     | 45    | 119   | 29    | 14    | 8.0   | 5.3   | 3.3   |
| 27    | 19      | 13    | 13     | 5.5     | a 65   | 135   | 102   | 28    | 13    | 6.9   | 5.0   | 3.0   |
| 28    | 18      | 9.8   | 12     | 5.3     | a 62   | 411   | 91    | 28    | 13    | 6.9   | 4.5   | 2.8   |
| 29    | 17      | 6.9   | 12     | 6.1     | -----  | 180   | 85    | 28    | 13    | *6.9  | 4.5   | 2.8   |
| 30    | 16      | 5.9   | 11     | 7.90    | -----  | 124   | 80    | 26    | 13    | 6.9   | *4.5  | 3.0   |
| 31    | 15      | ----- | 11     | 2.930   | -----  | 108   | ----- | ----- | ----- | 6.6   | 4.8   | ----- |
| Total | 2,878.2 | 2,994 | 6,12.9 | 3,940.3 | 7,261  | 2,131 | 4,544 | 1,291 | 533   | 303.9 | 1,723 | 1,196 |
| Mean  | 92.8    | 9.98  | 19.8   | 127     | 259    | 68.7  | 151   | 41.6  | 17.8  | 9.80  | 5.56  | 3.99  |
| Max   | 1,790   | 15    | 97     | 2,930   | 2,180  | 411   | 351   | 73    | 26    | 13    | 7.3   | 7.7   |
| Min   | 0.9     | 5.3   | 4.8    | 5.3     | 62     | 28    | 57    | 26    | 13    | 6.6   | 4.5   | 2.8   |
| Ac-ft | 5,710   | 594   | 1,220  | 7,820   | 14,400 | 4,230 | 9,010 | 2,560 | 1,060 | 603   | 342   | 237   |

Calendar year 1962: Max 1,790 Min 0 Mean 32.3 Ac-ft 23,420  
 Water year 1962-63: Max 2,930 Min 0.9 Mean 66.0 Ac-ft 47,790

## Peak discharge (base, 500 cfs)

| Date  | Time | Gage height | Discharge | Date | Time    | Gage height | Discharge |
|-------|------|-------------|-----------|------|---------|-------------|-----------|
| 10-13 | 1730 | 16.38       | 4,620     | 2-13 | unknown | -           | unknown   |
| 1-31  | 2400 | 18.80       | 6,700     | 3-28 | 0130    | 7.10        | 680       |
| 2-9   | 2100 | 8.14        | 946       |      |         |             |           |

\* Discharge measurement made on this day.

a No gage-height record.

## PURISIMA CREEK BASIN

301

11-1626. Purisima Creek near Half Moon Bay, Calif.

Location.--Lat 37°26'06", long 122°22'23", in Canada de Verde y Arroyo de la Purisima Grant, on left bank 15 ft downstream from county road bridge, 3.6 miles southeast of Half Moon Bay, San Mateo County, and 4.0 miles upstream from mouth.

Drainage area.--4.83 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 380 ft (from topographic map).

Average discharge.--5 years, 2.24 cfs (1,620 acre-ft per year).

Extremes.--Maximum discharge during year, 301 cfs Jan. 31 (gage height, 5.31 ft), from rating curve extended above 65 cfs on basis of slope-area measurement at gage-height 5.28 ft; minimum, 0.6 cfs Oct. 1-10.

1958-63: Maximum discharge, that of Jan. 31, 1963; minimum, 0.2 cfs Dec. 29, 30, 1959, Sept. 3-5, 1961.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 13)

| Oct. 1-12 |     | Oct. 13 to Sept. 30 |     |
|-----------|-----|---------------------|-----|
| 3.3       | 0.2 | 3.4                 | 0.8 |
| 3.4       | 1.2 | 3.5                 | 2.8 |
| 3.5       | 2.8 | 3.6                 | 5.6 |
| 3.6       | 5.1 | 3.7                 | 9.3 |
| 3.7       | 8.4 | 3.8                 | 14  |
|           |     | 4.0                 | 28  |
|           |     | 4.2                 | 47  |
|           |     | 4.5                 | 89  |
|           |     | 5.0                 | 200 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | *0.6  | 1.6   | 1.0   | 2.0   | *87   | 4.8   | 8.2   | 9.3   | 5.0   | 2.3  | 1.4  | 1.1   |
| 2     | .6    | 1.4   | 1.0   | 2.0   | 40    | 4.5   | 7.5   | *8.9  | 4.8   | *2.5 | 1.4  | 1.1   |
| 3     | .6    | 1.4   | 1.8   | 1.8   | 20    | 4.2   | 6.7   | 8.6   | 4.5   | 2.3  | 1.4  | 1.1   |
| 4     | .6    | 1.4   | 1.4   | 1.8   | 15    | 3.8   | *6.0  | 8.2   | 4.2   | 2.3  | 1.6  | 1.1   |
| 5     | .6    | 1.3   | 1.3   | 1.8   | 10    | *3.6  | 6.3   | 7.5   | 4.2   | 2.3  | 1.6  | 1.1   |
| 6     | .6    | 1.3   | 1.0   | 1.6   | 9.0   | 3.9   | 37    | 7.5   | 4.2   | 2.0  | 1.6  | 1.1   |
| 7     | .6    | 1.3   | 1.0   | 1.6   | *8.5  | 3.9   | 37    | 7.1   | 3.9   | 2.0  | 1.4  | 1.1   |
| 8     | .6    | *1.3  | 1.0   | 1.4   | 8.0   | 3.6   | 25    | 7.5   | 3.9   | 2.0  | 1.4  | 1.1   |
| 9     | .6    | 1.3   | 1.0   | 1.4   | 20    | 3.6   | 18    | 7.1   | 3.6   | 1.8  | 1.4  | 1.1   |
| 10    | 1.8   | 1.3   | 1.0   | 1.4   | 35    | 3.4   | 16    | 7.1   | *3.6  | 1.8  | 1.4  | 1.1   |
| 11    | 1.9   | 1.1   | 1.0   | 1.4   | 30    | 3.4   | 14    | 7.1   | 3.4   | 1.8  | 1.3  | 1.1   |
| 12    | 8.0   | 1.1   | 1.0   | 1.3   | 22    | 3.1   | 13    | 6.7   | 3.1   | 1.8  | 1.3  | 1.1   |
| 13    | *130  | 1.1   | 1.1   | 1.3   | 32    | 3.1   | 12    | 6.3   | 2.8   | 1.8  | 1.3  | 1.3   |
| 14    | *42   | 1.0   | 1.1   | *1.3  | 25    | 3.4   | 14    | 6.0   | 2.8   | 1.6  | 1.3  | 1.3   |
| 15    | 13    | 1.0   | 6.8   | 1.3   | 18    | 3.1   | 16    | 5.6   | 2.8   | 1.6  | 1.3  | 1.1   |
| 16    | 7.1   | 1.0   | 15    | 1.3   | 15    | 5.5   | 16    | 5.6   | 2.8   | 1.6  | 1.1  | 1.1   |
| 17    | *5.0  | 1.1   | 15    | 1.3   | 12    | 6.0   | 14    | 5.3   | 2.8   | 1.6  | 1.1  | 1.1   |
| 18    | 4.5   | 1.0   | 11    | 1.3   | 11    | 4.8   | 12    | 5.0   | 2.8   | 1.6  | 1.1  | 1.1   |
| 19    | 3.6   | .8    | *8.2  | 1.3   | 10    | 4.5   | 23    | 5.0   | 2.8   | 1.6  | 1.1  | 1.1   |
| 20    | 3.1   | *.8   | 7.1   | 1.1   | 9.0   | 4.2   | 21    | 4.8   | 2.8   | 1.6  | 1.1  | 1.1   |
| 21    | 2.5   | .8    | 5.6   | 1.1   | 8.5   | 3.9   | 19    | 4.8   | 2.5   | 1.6  | 1.1  | 1.0   |
| 22    | 2.3   | .8    | 4.8   | 1.1   | 8.0   | 3.9   | 17    | 5.0   | 2.5   | 1.6  | 1.1  | 1.1   |
| 23    | 2.3   | .8    | 4.2   | 1.1   | 7.5   | 4.8   | *15   | 5.0   | 2.5   | 1.6  | 1.3  | 1.1   |
| 24    | 2.3   | .8    | 3.9   | 1.1   | 7.0   | 4.2   | 14    | 5.0   | 2.5   | 1.6  | 1.3  | 1.1   |
| 25    | 2.0   | .8    | 3.4   | 1.1   | 6.5   | *4.2  | 14    | 5.0   | 2.3   | 1.4  | 1.3  | 1.0   |
| 26    | 2.0   | 1.1   | 3.1   | 1.1   | 6.0   | 3.9   | 14    | 5.0   | 2.5   | 1.4  | 1.3  | 1.0   |
| 27    | 2.0   | 1.9   | 2.8   | 1.1   | 5.5   | 8.6   | 12    | 5.0   | 2.5   | 1.4  | 1.1  | 1.0   |
| 28    | 2.0   | 1.1   | 2.8   | 1.1   | 5.2   | 24    | 12    | 5.0   | 2.5   | 1.4  | 1.1  | 1.0   |
| 29    | 1.8   | 1.0   | 2.5   | 1.2   | ----- | 15    | 11    | 4.8   | 2.5   | *1.4 | 1.1  | 1.0   |
| 30    | 1.6   | 1.0   | 2.5   | 19    | ----- | 12    | 9.8   | 5.0   | 2.5   | 1.4  | *1.1 | 1.0   |
| 31    | 1.6   | ----- | 2.5   | 122   | ----- | 9.3   | ----- | 5.0   | ----- | 1.4  | 1.1  | ----- |
| TOTAL | 247.8 | 33.7  | 116.9 | 180.7 | 490.7 | 174.2 | 460.5 | 190.8 | 95.6  | 54.1 | 39.5 | 32.7  |
| MEAN  | 7.99  | 1.12  | 3.77  | 5.83  | 17.5  | 5.62  | 15.4  | 6.15  | 3.19  | 1.75 | 1.27 | 1.09  |
| MAX   | 130   | 1.9   | 15    | 122   | 87    | 24    | 37    | 9.3   | 5.0   | 2.5  | 1.6  | 1.3   |
| MIN   | 0.6   | 0.8   | 1.0   | 1.1   | 5.2   | 3.1   | 6.0   | 4.8   | 2.3   | 1.4  | 1.1  | 1.0   |
| AC-FT | 492   | 67    | 232   | 358   | 973   | 346   | 913   | 378   | 190   | 107  | 78   | 65    |

CALENDAR YEAR 1962: MAX 130 MIN 0.3 MEAN 2.93 AC-FT 2,120  
WATER YEAR 1962-63: MAX 130 MIN 0.6 MEAN 5.80 AC-FT 4,200

## Peak discharge (base, 20 cfs)

| Date  | Time    | Gage height | Discharge | Date | Time    | Gage height | Discharge |
|-------|---------|-------------|-----------|------|---------|-------------|-----------|
| 10-13 | 1700    | 5.28        | 290       | 2-13 | unknown | -           | unknown   |
| 12-16 | 2200    | 3.96        | 20        | 3-28 | 0300    | 4.05        | 32        |
| 1-31  | 2200    | 5.31        | 301       | 4-6  | 0900    | 4.32        | 62        |
| 2-9   | unknown | -           | unknown   | 4-19 | 0400    | 4.02        | 29        |

\* Discharge measurement made on this day.

Note.--No gage-height record Feb. 2 to Mar. 4.

## REDWOOD CREEK BASIN

11-1628. Redwood Creek at Redwood City, Calif.

Location.--Lat 37°26'58", long 122°13'57", in Pulgas Grant, at Menlo Country Club, on right bank, 200 ft upstream from Alameda de las Pulgas bridge and 2.5 miles south of Redwood City Post Office, San Mateo County.

Drainage area.--1.82 sq mi.

Records available.--September 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 83.92 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 644 cfs Jan. 31 (gage height, 9.36 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of peak flow and indirect measurement of peak flow through culvert; no flow for many days.  
1959-63: Maximum discharge, that of Jan. 31, 1963; no flow many days in each year.

Remarks.--Records good except those for periods of fragmentary gage-height record, which are fair. Low flow at times affected by return flow from urban irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.8 | 0   | 1.6 | 6.2 |
| 1.0 | .1  | 2.0 | 16  |
| 1.1 | .3  | 3.0 | 50  |
| 1.2 | .9  | 4.0 | 104 |
| 1.3 | 1.8 | 5.0 | 185 |
| 1.4 | 3.0 |     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT. | NOV.  | DEC. | JAN.  | FEB.  | MAR. | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|------|-------|------|-------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0    | 0.1   | 0.1  | 0.2   | f24   | 0.5  | 1.0   | 0.4  | 0.1   | 0.1  |      |       |
| 2     | 0    | .1    | .1   | .2    | 4.1   | .4   | .8    | *.4  | .1    | .1   |      |       |
| 3     | 0    | .1    | .1   | .2    | 2.2   | .3   | .6    | .4   | .1    | *.1  |      |       |
| 4     | .1   | .1    | .1   | .2    | 1.6   | *.3  | *.6   | .4   | .1    | .1   |      | (*)   |
| 5     | 0    | .1    | .1   | .1    | 1.3   | .3   | .6    | .3   | .1    | .1   |      |       |
| 6     | 0    | .1    | 0    | .1    | 1.0   | .6   | 6.9   | .3   | *.1   | .1   |      |       |
| 7     | 0    | .1    | 0    | .1    | .9    | .4   | 3.9   | .3   | .1    | .1   |      |       |
| 8     | 0    | .1    | .1   | .1    | *.8   | .3   | 1.6   | .9   | .1    | .1   |      | (*)   |
| 9     | 0    | .1    | .1   | .1    | 14    | .3   | 1.3   | .4   | .1    | .1   |      |       |
| 10    | 0    | 0     | 0    | .1    | 5.7   | .3   | 1.6   | .4   | .1    | 0    |      |       |
| 11    | .1   | 0     | 0    | .1    | 1.9   | .3   | 1.2   | .5   | .1    | .1   |      |       |
| 12    | 2.9  | 0     | 0    | .1    | 7.1   | .2   | .8    | .4   | .1    | 0    |      |       |
| 13    | 79   | 0     | .1   | .1    | 7.3   | .2   | .9    | .3   | .1    | .1   |      |       |
| 14    | 6.2  | 0     | .1   | .1    | 2.2   | .3   | 6.1   | .3   | .1    | 0    |      |       |
| 15    | .9   | 0     | 1.7  | .1    | 1.7   | .3   | 3.7   | .3   | .1    | 0    |      |       |
| 16    | *.2  | 0     | 12   | *.1   | 1.9   | 12   | 1.7   | .3   | .1    | 0    |      |       |
| 17    | .1   | .1    | 10   | .1    | 1.5   | 1.5  | 1.3   | .2   | .1    | 0    |      |       |
| 18    | .1   | .1    | 3.2  | .1    | 1.1   | .7   | 1.8   | .2   | .1    | 0    |      |       |
| 19    | .1   | 0     | .8   | .1    | .9    | .6   | 9.0   | .2   | .1    | 0    |      |       |
| 20    | .1   | 0     | *.5  | .1    | .8    | .5   | 3.2   | .2   | .1    | 0    |      |       |
| 21    | .1   | *0    | .3   | .1    | .8    | .4   | 1.8   | .2   | .1    | 0    |      |       |
| 22    | .1   | 0     | .3   | .1    | .7    | 2.3  | 1.3   | .2   | .1    | 0    |      |       |
| 23    | .1   | 0     | .2   | .1    | .6    | 2.9  | 1.0   | .2   | .1    | 0    |      |       |
| 24    | .1   | 0     | .2   | .1    | .6    | .9   | .9    | .2   | .1    | 0    |      |       |
| 25    | .1   | 0     | .2   | .1    | .6    | .7   | 1.1   | .2   | .1    | 0    |      |       |
| 26    | .1   | .3    | .2   | .1    | .5    | .6   | .9    | .1   | .1    | 0    |      |       |
| 27    | .1   | .1    | .2   | .1    | .4    | 22   | .7    | .1   | .1    | 0    |      |       |
| 28    | .1   | .1    | .2   | .1    | .4    | *10  | .6    | .1   | .1    | 0    |      |       |
| 29    | .1   | .2    | .1   | .4    | ----- | 2.6  | .6    | .1   | .1    | 0    |      |       |
| 30    | .1   | .1    | .2   | f37   | ----- | 1.7  | .4    | .1   | .1    | 0    |      |       |
| 31    | .1   | ----- | .2   | *f181 | ----- | 1.3  | ----- | .1   | ----- | 0    |      | ----- |
| TOTAL | 90.9 | 1.9   | 31.4 | 221.6 | 86.6  | 65.7 | 57.9  | 8.7  | 3.0   | 1.1  | 0    | 0     |
| MEAN  | 2.93 | 0.06  | 1.01 | 7.15  | 3.09  | 2.12 | 1.93  | 0.28 | 0.10  | 0.04 | 0    | 0     |
| MAX   | 79   | 0.3   | 12   | 181   | 24    | 22   | 9.0   | 0.9  | 0.1   | 0.1  | 0    | 0     |
| MIN   | 0    | 0     | 0    | 0.1   | 0.4   | 0.2  | 0.4   | 0.1  | 0.1   | 0    | 0    | 0     |
| AC-FT | 180  | 3.8   | 62   | 440   | 172   | 130  | 115   | 17   | 6.0   | 2.2  | 0    | 0     |

CALENDAR YEAR 1962: MAX 79 MIN 0 MEAN 1.14 AC-FT 826

WATER YEAR 1962-63: MAX 181 MIN 0 MEAN 1.56 AC-FT 1,130

Peak discharge (base, 50 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0930 | 4.93        | 179       | 3-16 | 0900 | 3.13        | 55        |
| 1-31  | 1830 | 9.36        | 644       | 3-27 | 1930 | 4.04        | 107       |
| 2-9   | 1930 | 3.35        | 66        |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

f Fragmentary gage-height record.

ATHERTON DRAINAGE CHANNEL BASIN

303

11-1629. Sharon Creek near Menlo Park, Calif.

Location.--Lat 37°25'45", long 122°13'02", in Pulgas Grant, at Atherton City boundary, 900 ft upstream from Atherton drainage channel and 2.6 miles southwest of Menlo Park, San Mateo County.

Drainage area.--0.38 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 146.18 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 0.071 cfs (51 acre-ft per year).

Extremes.--Maximum discharge during year, 68.0 cfs Jan. 31 (gage height, 3.07 ft), from rating curve extended above 21 cfs on basis of slope-area measurement of peak flow; no flow Jan. 12-16, 20-24.

1958-63: Maximum discharge, that of Jan. 31, 1963; maximum gage height, 3.10 ft, from floodmarks, Mar. 5, 1962; no flow for many months in each year.

Flood of Apr. 2, 1958, reached a stage of about 4.2 ft, from floodmarks.

Remarks.--Records fair. No regulation or diversion above station.

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |       |       |        |       |       |       |       |       |       |       |       |       |
|--|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Day  | Oct.  | Nov.  | Dec.   | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
| 1  | 0.02  | 0.01  | 0.02   | 0.03  | 3.70  | 0.01  | 0.01  | 0.01  | 0.02  | 0.01  | 0.01  | 0.01  |
| 2  | .02   | .01   | .02    | .03   | 1.07  | .01   | .01   | .01   | .02   | .01   | .01   | .01   |
| 3  | .02   | .02   | .02    | .03   | .62   | .01   | .01   | .01   | .02   | .01   | .01   | .01   |
| 4  | .02   | .02   | .02    | .03   | .06   | .01   | .01   | .01   | .02   | .01   | .17   | .01   |
| 5  | .02   | .02   | .02    | .02   | .12   | .01   | .01   | .02   | .03   | .01   | .01   | .01   |
| 6  | .03   | .02   | .02    | .02   | .09   | .04   | 2.25  | .02   | .02   | .01   | .01   | .01   |
| 7  | .03   | .02   | .02    | .02   | .09   | .01   | .21   | .02   | .02   | .01   | .01   | .01   |
| 8  | .02   | .02   | .02    | .02   | .05   | .02   | .02   | .24   | .04   | .01   | .01   | .01   |
| 9  | .02   | .05   | .02    | .02   | 5.02  | .01   | .06   | .02   | .02   | .01   | .01   | .01   |
| 10   | .10   | .01   | .02    | .03   | .58   | .01   | .05   | .06   | .02   | .02   | .01   | .01   |
| 11   | .08   | .01   | .02    | .35   | .10   | .01   | .01   | .02   | .02   | .01   | .01   | .04   |
| 12   | 1.94  | .02   | .02    | 0     | 1.86  | .01   | .01   | .01   | .01   | a.01  | .01   | .10   |
| 13   | 10.0  | .01   | .05    | 0     | .54   | .01   | .04   | .01   | .01   | a.01  | .01   | .01   |
| 14   | .13   | .01   | .02    | 0     | .07   | .05   | 1.83  | .01   | .01   | a.01  | .01   | .01   |
| 15   | .03   | .01   | 1.44   | 0     | .04   | .01   | .24   | .02   | .01   | a.01  | .01   | .01   |
| 16   | .04   | .01   | * 3.23 | 0     | .05   | 2.55  | .02   | .02   | .01   | a.01  | .01   | .01   |
| 17   | .12   | .02   | *.87   | .01   | .02   | .01   | .02   | .02   | .02   | a.02  | .01   | .02   |
| 18   | .10   | .01   | .13    | .01   | .02   | .01   | .60   | .02   | .07   | .01   | .01   | .01   |
| 19   | .06   | .01   | .04    | .03   | .09   | .06   | .95   | .02   | .01   | .01   | .01   | .01   |
| 20   | .02   | .01   | .03    | 0     | .02   | .02   | 1.14  | .02   | .01   | .01   | .01   | .01   |
| 21   | .02   | .02   | .04    | 0     | .39   | .01   | .05   | .03   | .01   | .01   | .01   | .01   |
| 22   | .02   | .02   | .03    | 0     | .02   | .67   | .03   | .02   | .01   | .01   | .01   | .01   |
| 23   | .01   | .01   | .03    | 0     | .01   | .18   | .02   | .02   | .01   | .01   | .01   | .01   |
| 24   | .01   | .01   | .03    | 0     | .01   | .01   | .02   | .02   | .01   | .02   | .01   | .01   |
| 25   | .02   | .01   | .02    | .01   | .01   | .01   | .12   | .02   | .01   | .01   | .01   | .01   |
| 26   | .03   | .19   | 1.08   | .01   | .01   | .01   | .02   | .02   | .01   | .01   | .01   | .01   |
| 27   | .02   | .04   | .04    | .01   | .02   | 4.46  | .01   | .04   | .01   | .01   | .01   | .03   |
| 28   | .02   | .02   | .03    | .01   | .01   | .89   | .01   | .04   | .01   | .01   | .01   | .06   |
| 29   | .02   | .01   | .03    | .08   | ----- | .06   | .01   | .02   | .01   | .01   | .01   | .01   |
| 30   | .01   | .02   | .03    | *6.25 | ----- | .02   | .01   | .02   | .01   | .01   | .01   | .01   |
| 31   | .01   | ----- | .04    | *19.2 | ----- | .03   | ----- | .02   | ----- | .01   | .01   | ----- |
| Total  | 13.01 | 0.67  | 7.45   | 26.22 | 14.69 | 9.23  | 7.80  | 0.86  | 0.51  | 0.34  | 0.47  | 0.50  |
| Mean   | 0.420 | 0.022 | 0.240  | 0.846 | 0.525 | 0.298 | 0.260 | 0.028 | 0.017 | 0.011 | 0.015 | 0.017 |
| Max  | 10.0  | 0.19  | 3.23   | 19.2  | 5.02  | 4.46  | 2.25  | 0.24  | 0.07  | 0.02  | 0.17  | 0.10  |
| Min  | 0.01  | 0.01  | 0.02   | 0     | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  | 0.01  |
| Cfsm   | 1.10  | 0.058 | 0.632  | 2.23  | 1.38  | 0.784 | 0.684 | 0.074 | 0.045 | 0.029 | 0.039 | 0.045 |
| In.  | 1.27  | 0.07  | 0.73   | 2.57  | 1.44  | 0.90  | 0.76  | 0.08  | 0.05  | 0.03  | 0.05  | 0.05  |
| Ac-ft  | 26    | 1.3   | 15     | 52    | 29    | 18    | 16    | 1.7   | 1.0   | 0.7   | 0.9   | 1.0   |

|                         |      |     |   |      |       |      |       |     |      |       |     |
|-------------------------|------|-----|---|------|-------|------|-------|-----|------|-------|-----|
| Calendar year 1962: Max | 10.0 | Min | 0 | Mean | 0.134 | Cfsm | 0.352 | In. | 4.77 | Ac-ft | 97  |
| Water year 1962-63: Max | 19.2 | Min | 0 | Mean | 0.224 | Cfsm | 0.589 | In. | 8.00 | Ac-ft | 162 |

Peak discharge (base, 9 cfs)

\* Discharge measurement made on this day.  
a No gage-height record.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0815 | 2.37        | 29.6      | 2-12 | 2200 | 2.07        | 16.6      |
| 12-15 | 2230 | 2.02        | 14.7      | 4-19 | 0015 | 2.03        | 15.1      |
| 1-31  | 1900 | 3.07        | 68.0      |      |      |             |           |

## SAN FRANCISQUITO CREEK BASIN

11-1629.4. San Francisquito Creek below Ladera damsite, near Stanford University, Calif.  
(Formerly published as San Francisquito Creek below Ladera damsite)

Location.--Lat 37°24'24", long 122°12'11", on north boundary of El Corte de Madera Grant, 1.2 miles upstream from Los Trancos Creek, 0.5 mile northwest of Ladera School and 2.3 miles southwest of Stanford University Post Office, Santa Clara County.

Drainage area.--28.5 sq mi.

Records available.--October 1961 to September 1963. Prior to October 1962, published as "below Ladera damsite."

Gage.--Water-stage recorder (digital) and concrete control. Altitude of gage is 180 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,880 cfs Jan. 31 (gage height, 16.04 ft), from rating curve extended above 620 cfs; no flow at times.  
1961-63: Maximum discharge, that of Jan. 31, 1963; no flow at times in each year.

Remarks.--Records good. Flow regulated by Searsville Lake (capacity, 952 acre-ft). Small diversions from Searsville Lake for irrigation on Stanford University Campus.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Aug. 11 to Sept. 30)

|     |     |      |       |
|-----|-----|------|-------|
| 2.2 | 0   | 3.1  | 14    |
| 2.4 | .1  | 3.4  | 32    |
| 2.5 | .4  | 3.7  | 63    |
| 2.6 | 1.0 | 4.0  | 111   |
| 2.7 | 2.2 | 6.0  | 520   |
| 2.8 | 4.0 | 8.0  | 1,000 |
| 2.9 | 6.6 | 11.0 | 2,050 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.    | MAR.    | APR.    | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|---------|---------|---------|-------|-------|------|------|-------|
| 1     | *0    | 6.1   | 1.4   | 0.9     | 866     | 10      | 38      | 17    | 3.0   | 0.6  | *0.1 | 0     |
| 2     | 0     | 4.5   | 1.0   | 7.4     | 227     | 7.0     | 33      | 16    | 3.4   | .5   | .1   | 0     |
| 3     | 0     | 1.0   | 1.0   | .6      | 99      | 1.8     | 9.4     | 15    | 3.2   | *.4  | .1   | *0    |
| 4     | 0     | .6    | 1.0   | .4      | 47      | 1.6     | 8.7     | 10    | 3.1   | .4   | .1   | 0     |
| 5     | 0     | .8    | .9    | .4      | 35      | 1.5     | *17     | 5.5   | 2.6   | .4   | .1   | 0     |
| 6     | 0     | .6    | .8    | .4      | 27      | *1.7    | 270     | *2.6  | 2.4   | .4   | .1   | 0     |
| 7     | 0     | .5    | .8    | .4      | 23      | 1.7     | 289     | 2.1   | *2.2  | .5   | .1   | 0     |
| 8     | 0     | .3    | .8    | .4      | *20     | 1.9     | 107     | 3.6   | 2.0   | .5   | .1   | .1    |
| 9     | 0     | .3    | .4    | .5      | 185     | 1.5     | 58      | 3.9   | 2.5   | .4   | .1   | .1    |
| 10    | 0     | .3    | .2    | .4      | 221     | 2.7     | 26      | 5.1   | 3.2   | .4   | .1   | .1    |
| 11    | 0     | .2    | .2    | .3      | 69      | 4.5     | 31      | 10    | 2.5   | .4   | .1   | .1    |
| 12    | 0     | .3    | .3    | .3      | 74      | 4.3     | 28      | 11    | 2.3   | .3   | .1   | .1    |
| 13    | 625   | .3    | .4    | .3      | 187     | 4.2     | 26      | 11    | 2.2   | .4   | .1   | .1    |
| 14    | 219   | .2    | .5    | .3      | 59      | 6.5     | 140     | 7.4   | 1.9   | .4   | .1   | .1    |
| 15    | 24    | 7.9   | 3.9   | .3      | 43      | 8.7     | 219     | 6.3   | 1.9   | .4   | .1   | .1    |
| 16    | *12   | 6.2   | 47    | *.3     | 37      | 171     | 84      | 5.9   | 2.0   | .4   | .1   | .1    |
| 17    | 1.6   | .9    | 57    | .5      | 33      | 36      | 50      | 5.4   | 2.2   | .3   | .1   | .1    |
| 18    | 1.1   | .5    | 26    | .4      | 26      | 18      | 37      | 3.9   | 2.1   | .2   | .1   | .1    |
| 19    | .9    | *.4   | 16    | .3      | 23      | 10      | 238     | 1.2   | 1.7   | .2   | .1   | .1    |
| 20    | 29    | .3    | 12    | .3      | 19      | 3.6     | 167     | 1.2   | 1.3   | .2   | .1   | .1    |
| 21    | 6.6   | .4    | *9.0  | .3      | 14      | 3.6     | 134     | 2.0   | 1.0   | .1   | .1   | .1    |
| 22    | 2.2   | .4    | 1.8   | .3      | 13      | 21      | 74      | 4.2   | 1.0   | .1   | .1   | .1    |
| 23    | 1.4   | .4    | 1.6   | .4      | 11      | 45      | 46      | 4.9   | .9    | .1   | .1   | .1    |
| 24    | .9    | 31    | 1.5   | .4      | 10      | 20      | 35      | 4.5   | .9    | .3   | .1   | .1    |
| 25    | .8    | 6.9   | 1.4   | .3      | 9.7     | 11      | 44      | 4.1   | .8    | .1   | .1   | .1    |
| 26    | .9    | 4.0   | 8.8   | .4      | 10      | 9.3     | 44      | 4.2   | .8    | .1   | .1   | .1    |
| 27    | .8    | 5.6   | 7.9   | .3      | 12      | 236     | 28      | 3.3   | .7    | .1   | .1   | .1    |
| 28    | .8    | 3.6   | 8.5   | .4      | 11      | 415     | 24      | 3.9   | .6    | .1   | .1   | 0     |
| 29    | .6    | 2.2   | .8    | .4      | -----   | 78      | 19      | 2.8   | .6    | .1   | 0    | 0     |
| 30    | .5    | 1.6   | 1.1   | 335     | -----   | 38      | 17      | 2.2   | .6    | .1   | .1   | 0     |
| 31    | .5    | ----- | .9    | *1,560  | -----   | 23      | -----   | 2.4   | ----- | .1   | 0    | ----- |
| TOTAL | 928.6 | 88.4  | 214.9 | 1,913.3 | 2,410.7 | 1,198.1 | 2,341.1 | 182.6 | 55.6  | 9.0  | 2.9  | 2.0   |
| MEAN  | 30.0  | 2.95  | 6.93  | 61.7    | 86.1    | 38.6    | 78.0    | 5.89  | 1.85  | 0.29 | 0.09 | 0.07  |
| AC-FT | 1,840 | 175   | 426   | 3,790   | 4,780   | 2,380   | 4,640   | 362   | 110   | 17   | 5.8  | 4.0   |
| MAX   | 625   | 31    | 57    | 1,560   | 866     | 415     | 289     | 17    | 3.4   | 0.6  | 0.1  | 0.1   |
| MIN   | 0     | 0.2   | 0.2   | 0.3     | 9.7     | 1.5     | 8.7     | 1.2   | 0.6   | 0.1  | 0    | 0     |

CALENDAR YEAR 1962: MAX 625 MIN 0 MEAN 10.5 AC-FT 7,590  
WATER YEAR 1962-63: MAX 1,560 MIN 0 MEAN 25.6 AC-FT 18,530

Peak discharge (base, 600 cfs)

\* Discharge measurement or observation of no flow made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1100 | 9.87        | 1,400     | 3-16 | 1015 | 6.60        | 642       |
| 1-31  | 2230 | 16.04       | 2,880     | 3-27 | 1945 | 7.93        | 935       |
| 2-9   | 2100 | 6.61        | 644       |      |      |             |           |

11-1629.5. San Francisquito Creek tributary near Stanford University, Calif.

Location.--Lat 37°24'43", long 122°11'52", in Pulgas Grant, on left bank 130 ft upstream from mouth, 200 ft downstream from ranch road bridge, 0.4 mile west of gate at Alpine Road, and 1.8 miles southwest of Stanford University Post Office, Santa Clara County.

Drainage area.--0.26 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 174.73 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 0.030 cfs (22 acre-ft per year).

Extremes.--Maximum discharge during year, 38.5 cfs Jan. 31 (gage height, 2.96 ft), from rating curve extended above 16 cfs as explained below; no flow for most of year.

1958-63: Maximum discharge, 39.2 cfs Mar. 5, 1962 (gage height, 2.98 ft), from rating curve extended above 16 cfs on basis of slope-area measurement of peak flow; no flow for many months in each year.

Flood of Apr. 2, 1958, reached a stage of 3.2 ft, from floodmarks.

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

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1962, superseding figures published in 1962 Basic Data Release, are given herewith:

Mar. 22, 1962..... 0.10

| Month                   | Cfs-days | Maximum | Minimum | Mean  | Per square mile | Runoff |           |
|-------------------------|----------|---------|---------|-------|-----------------|--------|-----------|
|                         |          |         |         |       |                 | Inches | Acre-feet |
| March 1962.....         | 6.68     | 3.94    | 0       | 0.210 | 0.827           | 0.96   | 13        |
| Water year 1961-62..... | -        | 3.94    | 0       | 0.041 | 0.158           | 2.13   | 29        |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|
| 1     | *0    | (*)   | 0     | 0     | 2.56  | 0     | .04   | 0     |       |      | 0     | 0     |
| 2     | 0     |       | 0     | *0    | .41   | 0     | .01   | 0     |       |      | *0    | 0     |
| 3     | 0     |       | 0     | 0     | .24   | 0     | .01   | 0     |       |      | 0     | 0     |
| 4     | 0     |       | 0     | 0     | .14   | 0     | .01   | 0     |       |      | 0     | 0     |
| 5     | 0     |       | *0    | 0     | .03   | 0     | .01   | 0     |       | (*)  | 0     | 0     |
| 6     | 0     |       | 0     | 0     | .02   | .01   | .63   | 0     |       |      | 0     | 0     |
| 7     | 0     |       | 0     | 0     | .01   | .01   | .17   | 0     |       |      | 0     | 0     |
| 8     | 0     |       | 0     | 0     | .01   | .02   | .02   | .05   |       |      | 0     | 0     |
| 9     | 0     |       | 0     | 0     | 3.46  | .01   | .03   | .01   |       |      | *0    | 0     |
| 10    | 0     |       | 0     | 0     | .59   | 0     | .02   | .02   |       |      | 0     | 0     |
| 11    | 0     |       | 0     | 0     | .18   | 0     | .01   | .01   |       |      | 0     | 0     |
| 12    | 0     |       | *0    | 0     | 1.45  | 0     | .01   | 0     |       | (*)  | 0     | .01   |
| 13    | 2.52  |       | 0     | 0     | .71   | 0     | .01   | 0     |       |      | 0     | 0     |
| 14    | .02   |       | *0    | 0     | .18   | 0     | .53   | 0     |       |      | 0     | 0     |
| 15    | .02   |       | .08   | 0     | .07   | 0     | .17   | 0     |       |      | 0     | 0     |
| 16    | .01   |       | *.70  | *0    | .11   | .54   | .02   | 0     |       |      | *0    | 0     |
| 17    | .01   |       | .26   | 0     | .05   | .01   | .02   | 0     |       |      | 0     | 0     |
| 18    | .05   |       | .01   | 0     | .01   | .01   | .07   | 0     |       |      | 0     | 0     |
| 19    | .14   |       | 0     | 0     | .01   | .01   | .49   | 0     |       | (*)  | 0     | 0     |
| 20    | 0     |       | 0     | 0     | .01   | .01   | .49   | 0     |       |      | 0     | 0     |
| 21    | 0     | (*)   | 0     | 0     | .01   | .09   | .06   | 0     |       |      | 0     | 0     |
| 22    | 0     |       | 0     | 0     | .01   | .26   | .01   | 0     |       |      | 0     | 0     |
| 23    | 0     |       | 0     | 0     | .01   | .19   | .01   | 0     |       |      | .01   | 0     |
| 24    | 0     |       | 0     | 0     | .01   | .01   | .01   | 0     |       |      | .03   | 0     |
| 25    | 0     |       | 0     | 0     | .01   | .01   | .06   | 0     |       |      | .02   | 0     |
| 26    | 0     |       | *0    | 0     | .01   | .01   | .01   | 0     |       | (*)  | .02   | .02   |
| 27    | 0     |       | 0     | 0     | .01   | 1.30  | .01   | 0     |       |      | .03   | .01   |
| 28    | 0     | (*)   | 0     | 0     | 0     | .30   | .01   | 0     | (*)   |      | .01   | 0     |
| 29    | 0     |       | 0     | 0     | ----- | .02   | .01   | 0     |       |      | *0    | 0     |
| 30    | 0     |       | 0     | 1.30  | ----- | .01   | 0     | 0     |       |      | 0     | 0     |
| 31    | 0     | ----- | 0     | *11.9 | ----- | .01   | ----- | 0     | ----- |      | 0     | ----- |
| Total | 2.77  | 0     | 1.05  | 13.20 | 10.32 | 2.84  | 2.96  | 0.09  | 0     | 0    | 0.12  | 0.04  |
| Mean  | 0.089 | 0     | 0.034 | 0.426 | 0.369 | 0.092 | 0.099 | 0.003 | 0     | 0    | 0.004 | 0.001 |
| Max   | 2.52  | 0     | 0.70  | 11.9  | 3.46  | 1.30  | 0.63  | 0.05  | 0     | 0    | 0.03  | 0.02  |
| Min   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0     | 0     |
| Cfsm  | 0.342 | 0     | 0.131 | 1.64  | 1.42  | 0.354 | 0.381 | 0.012 | 0     | 0    | 0.015 | 0.004 |
| In.   | 0.40  | 0     | 0.15  | 1.89  | 1.48  | 0.41  | 0.42  | 0.01  | 0     | 0    | 0.02  | 0.006 |
| Ac-ft | 5.5   | 0     | 2.1   | 26    | 20    | 5.6   | 5.9   | 0.2   | 0     | 0    | 0.2   | 0.1   |

Calendar year 1962: Max 3.94 Min 0 Mean 0.051 Cfsm 0.196 In. 2.66 Ac-ft 37  
 Water year 1962-63: Max 11.9 Min 0 Mean 0.091 Cfsm 0.352 In. 4.79 Ac-ft 66

Peak discharge (base, 5 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1430 | 2.13        | 11.7      | 2-12 | 2200 | 2.14        | 12.0      |
| 1-31  | 2145 | 2.96        | 38.5      | 3-16 | 0845 | 1.83        | 5.22      |
| 2-9   | 1530 | 2.42        | 19.9      | 3-27 | 1900 | 2.05        | 9.75      |

\* Discharge measurement or observation of no flow made on this day.

## SAN FRANCISQUITO CREEK BASIN

11-1632. Los Trancos Creek tributary near Stanford University, Calif.

Location.--Lat 37°24'18", long 122°11'09", in El Corte de Madera Grant, on right bank 350 ft east of wooden water tanks, 0.4 mile east of Ladera, 0.6 mile upstream from mouth, and 1.7 miles southwest of Stanford University Post Office, Santa Clara County.

Drainage area.--0.47 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 269.13 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 0.034 cfs (25 acre-ft per year).

Extremes.--Maximum discharge during year, 66.2 cfs Jan. 31 (gage height, 2.63 ft), from rating curve extended above 8 cfs on basis of slope-area measurement of peak flow; no flow for most of year.  
1958-63: Maximum discharge, that of Jan. 31, 1963; no flow for many months in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.0 | 0   | 1.5 | 3.5 |
| 1.1 | .1  | 1.6 | 5.6 |
| 1.2 | .4  | 1.7 | 8.3 |
| 1.3 | 1.0 | 1.8 | 12  |
| 1.4 | 2.0 | 2.0 | 20  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.   | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|--------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | *0    | (*)   | 0      | 0     | *2.86 | 0     | 0     | 0.01  |       |      |      |       |
| 2     | 0     |       | 0      | *0    | .20   | 0     | 0     | .01   |       |      | (*)  |       |
| 3     | 0     |       | 0      | 0     | .07   | 0     | 0     | .01   |       |      |      |       |
| 4     | 0     |       | 0      | 0     | .02   | 0     | 0     | .01   |       |      |      |       |
| 5     | 0     |       | *0     | 0     | .01   | 0     | 0     | .01   |       | (*)  |      |       |
| 6     | 0     |       | 0      | 0     | .01   | 0     | .20   | .01   |       |      |      | (*)   |
| 7     | 0     | (*)   | 0      | 0     | .01   | 0     | .08   | .01   | (*)   |      |      |       |
| 8     | 0     |       | 0      | 0     | 0     | 0     | .01   | .01   |       |      |      |       |
| 9     | 0     |       | 0      | *0    | 4.51  | 0     | .01   | .01   |       |      | (*)  |       |
| 10    | 0     |       | 0      | 0     | .57   | 0     | .01   | .01   |       |      |      |       |
| 11    | 0     |       | 0      | 0     | .30   | 0     | .01   | .01   |       |      |      |       |
| 12    | 0     |       | *0     | 0     | .76   | 0     | 0     | .01   |       | (*)  |      |       |
| 13    | .05   |       | 0      | 0     | .91   | 0     | .01   | .01   |       |      |      | (*)   |
| 14    | *0    |       | 0      | 0     | .09   | 0     | .21   | 0     | (*)   |      |      |       |
| 15    | 0     |       | 0      | 0     | .03   | 0     | .09   | 0     |       |      |      |       |
| 16    | 0     |       | .01    | *0    | .02   | .16   | .01   | 0     |       |      | (*)  |       |
| 17    | 0     |       | 0      | 0     | .02   | 0     | .01   | 0     |       | (*)  |      |       |
| 18    | 0     |       | 0      | 0     | .01   | 0     | .01   | 0     |       |      |      |       |
| 19    | 0     |       | *0     | 0     | .01   | 0     | .17   | 0     |       | (*)  |      |       |
| 20    | 0     |       | 0      | 0     | .01   | 0     | .35   | 0     |       |      |      | (*)   |
| 21    | 0     | (*)   | 0      | 0     | .01   | 0     | .06   | 0     | (*)   |      |      |       |
| 22    | 0     |       | 0      | 0     | 0     | .01   | .02   | 0     |       |      |      |       |
| 23    | 0     |       | 0      | 0     | 0     | .01   | .01   | 0     |       |      |      |       |
| 24    | 0     |       | 0      | 0     | 0     | 0     | .01   | *0    |       |      | (*)  |       |
| 25    | 0     |       | 0      | 0     | 0     | 0     | .02   | 0     |       |      |      |       |
| 26    | *0    |       | *0     | 0     | 0     | 0     | .01   | 0     |       | (*)  |      |       |
| 27    | 0     |       | 0      | 0     | 0     | .57   | .01   | 0     |       |      |      |       |
| 28    | 0     | (*)   | 0      | 0     | 0     | .28   | .01   | 0     | (*)   |      |      |       |
| 29    | 0     |       | 0      | 0     | ----- | .01   | .01   | 0     |       |      |      |       |
| 30    | 0     |       | 0      | .29   | ----- | .01   | .01   | 0     |       |      | (*)  |       |
| 31    | 0     | ----- | 0      | *16.9 | ----- | .01   | ----- | *0    | ----- |      |      | ----- |
| Total | 0.05  | 0     | 0.01   | 17.19 | 10.43 | 1.16  | 1.35  | 0.13  | 0     | 0    | 0    | 0     |
| Mean  | 0.002 | 0     | 0.0003 | 0.555 | 0.372 | 0.037 | 0.045 | 0.004 | 0     | 0    | 0    | 0     |
| Max   | 0.05  | 0     | 0.01   | 16.9  | 4.51  | 0.67  | 0.35  | 0.01  | 0     | 0    | 0    | 0     |
| Min   | 0     | 0     | 0      | 0     | 0     | 0     | 0     | 0     | 0     | 0    | 0    | 0     |
| Cfsm  | 0.004 | 0     | 0.0006 | 1.18  | 0.791 | 0.079 | 0.096 | 0.009 | 0     | 0    | 0    | 0     |
| In.   | 0.004 | 0     | 0.0008 | 1.36  | 0.83  | 0.09  | 0.11  | 0.01  | 0     | 0    | 0    | 0     |
| Ac-ft | 0.1   | 0     | 0      | 34    | 21    | 2.3   | 2.7   | 0.3   | 0     | 0    | 0    | 0     |

Calendar year 1962: Max 4.64 Min 0 Mean 0.040 Cfsm 0.085 In. 1.15 Ac-ft 29  
Water year 1962-63: Max 16.9 Min 0 Mean 0.083 Cfsm 0.177 In. 2.40 Ac-ft 60

Peak discharge (base, 6 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 1830 | 2.63        | 66.2      | 2-12 | 2300 | 1.64        | 6.68      |
| 2-9  | 1930 | 2.27        | 36.0      | 3-27 | 2000 | 1.62        | 6.14      |

\* Discharge measurement or observation of no flow made on this day.



11-1645. San Francisquito Creek at Stanford University, Calif.

Location.--Lat 37°25'24", long 122°11'18", in San Francisquito Grant at golf course, on right bank 1.1 miles downstream from Los Trancos Creek and 1.1 miles west of Stanford University Post Office, Santa Clara County.

Drainage area.--37.5 sq mi.

Records available.--October 1930 to September 1941, October 1950 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 120 ft (from topographic map).

Average discharge.--24 years, 17.6 cfs (12,740 acre-ft per year).

Extremes.--Maximum discharge during year, 3,270 cfs Jan. 31 (gage height, 9.28 ft in gage well, 10.07 ft from outside gage); no flow at times.

1930-41, 1950-63: Maximum discharge, 5,560 cfs Dec. 22, 1955 (gage height, 13.60 ft); no flow at times in each year.

Remarks.--Records good. Flow regulated by Searsville Lake (capacity, 952 acre-ft). Diversions above station to Los Trancos and Lagunita Canals for irrigation on Stanford University campus below station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|      |     |     |     |     |       |
|------|-----|-----|-----|-----|-------|
| 0.15 | 0   | 0.6 | 4.4 | 2.0 | 118   |
| .2   | .1  | .7  | 7.2 | 3.0 | 320   |
| .3   | .4  | 1.0 | 19  | 4.0 | 610   |
| .4   | 1.1 | 1.3 | 37  | 5.0 | 980   |
| .5   | 2.4 | 1.6 | 64  | 7.0 | 1,930 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.  | MAR.    | APR.    | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|-------|---------|---------|-------|-------|------|------|-------|
| 1     | *0    | 3.4   | 0.2   | 0.3     | 855   | 11      | 36      | 15    | 0.7   | 0.1  | 0.1  | 0     |
| 2     | 0     | 6.6   | .2    | 4.0     | *201  | 7.9     | 31      | 16    | 5.3   | .1   | .1   | 0     |
| 3     | 0     | 1.7   | .2    | .2      | 88    | 2.9     | 11      | 15    | 5.3   | *.1  | .1   | *0    |
| 4     | 0     | 1.0   | .2    | .2      | 45    | 2.6     | 9.8     | 13    | .6    | .1   | .1   | 0     |
| 5     | 0     | 1.0   | .2    | .2      | 31    | .9      | *17     | 6.6   | .5    | .1   | .1   | 0     |
| 6     | 0     | .9    | .2    | .2      | 19    | *1.7    | 196     | *3.9  | .4    | .1   | .1   | 0     |
| 7     | 0     | .8    | .2    | .2      | 11    | 2.0     | 228     | 2.7   | *.3   | .1   | .1   | 0     |
| 8     | 0     | .7    | .2    | .2      | *13   | 2.1     | 96      | 5.3   | .3    | .1   | *.1  | 0     |
| 9     | 0     | .7    | .2    | .2      | 159   | 3.5     | 57      | 6.9   | .3    | .1   | .1   | 0     |
| 10    | 0     | .6    | .2    | .2      | 190   | 3.7     | 28      | 6.9   | .3    | .1   | .1   | 0     |
| 11    | .1    | .6    | .2    | .2      | 69    | 3.3     | 33      | 13    | .4    | .1   | .1   | 0     |
| 12    | .1    | .5    | .3    | .2      | 76    | 1.8     | 29      | 12    | .4    | .1   | .1   | .1    |
| 13    | 569   | .5    | .4    | .1      | 167   | 1.2     | 26      | 11    | .4    | .1   | .1   | .1    |
| 14    | 208   | .5    | .3    | .2      | 70    | 2.4     | 128     | 4.1   | .4    | .1   | .1   | .1    |
| 15    | 26    | 5.3   | .4    | .1      | 49    | 6.9     | 172     | 2.4   | .3    | .1   | .1   | .1    |
| 16    | *15   | 7.4   | 32    | *.1     | 47    | 141     | 78      | 2.3   | .3    | .1   | .1   | .1    |
| 17    | 3.1   | 1.4   | 50    | .2      | 42    | 42      | 50      | 2.4   | .3    | .1   | .1   | .2    |
| 18    | 2.3   | .8    | 16    | .1      | 26    | 19      | 38      | 2.3   | .2    | .1   | .1   | .2    |
| 19    | 2.1   | *1.4  | 5.7   | .1      | 19    | 10      | 203     | .8    | .2    | .1   | .1   | .2    |
| 20    | 26    | .6    | 7.1   | .1      | 21    | 4.1     | 138     | .7    | .2    | .1   | .1   | .1    |
| 21    | 7.9   | .5    | *4.8  | .1      | 15    | 4.1     | 115     | .7    | .2    | .1   | .1   | 0     |
| 22    | 3.3   | .6    | .3    | .1      | 15    | 24      | 70      | 1.1   | .1    | .1   | .1   | 0     |
| 23    | 2.3   | .6    | .3    | .1      | 13    | 53      | 45      | 1.5   | .1    | .1   | .1   | 0     |
| 24    | 1.8   | 29    | .4    | .1      | 12    | 23      | 36      | 1.4   | .1    | .1   | .1   | 0     |
| 25    | 1.3   | 7.9   | .4    | .1      | 11    | 11      | 43      | 1.3   | .1    | .1   | .1   | 0     |
| 26    | 1.2   | 3.8   | 4.6   | .1      | 11    | 6.6     | 47      | 1.4   | .1    | .1   | .1   | 0     |
| 27    | 1.1   | 4.4   | 3.8   | .1      | 12    | 180     | 30      | 1.1   | .1    | .1   | 0    | 0     |
| 28    | 1.1   | .6    | 4.1   | .1      | 13    | 316     | 24      | 1.5   | .1    | .1   | 0    | 0     |
| 29    | 1.0   | .2    | .3    | .1      | ----- | 80      | 17      | 1.1   | .1    | .1   | 0    | 0     |
| 30    | .8    | .2    | .2    | 285     | ----- | 45      | 12      | 1.0   | .1    | .1   | 0    | 0     |
| 31    | .8    | ----- | .2    | 1,420   | ----- | 29      | -----   | .7    | ----- | .1   | 0    | ----- |
| TOTAL | 874.3 | 84.2  | 133.8 | 1,713.2 | 2,300 | 1,041.7 | 2,043.8 | 155.1 | 18.2  | 3.1  | 2.6  | 1.2   |
| MEAN  | 28.2  | 2.81  | 4.32  | 55.3    | 82.1  | 33.6    | 68.1    | 5.00  | 0.61  | 0.10 | 0.08 | 0.04  |
| MAX   | 569   | 29    | 50    | 1,420   | 855   | 316     | 228     | 16    | 5.3   | 0.1  | 0.1  | 0.2   |
| MIN   | 0     | 0.2   | 0.2   | 0.1     | 11    | 0.9     | 9.8     | 0.7   | 0.1   | 0.1  | 0    | 0     |
| AC-FT | 1,730 | 167   | 265   | 3,400   | 4,560 | 2,070   | 4,050   | 308   | 36    | 6.1  | 5.2  | 2.4   |

CALENDAR YEAR 1962: MAX 569 MIN 0 MEAN 9.38  
WATER YEAR 1962-63: MAX 1,420 MIN 0 MEAN 22.9

AC-FT 6,780  
AC-FT 16,600

Peak discharge (base, 700 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1130 | 5.38        | 1,130     | 3-27 | 2000 | 4.32        | 722       |
| 1-31  | 2300 | 9.28        | 3,270     |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

## MATADERO CREEK BASIN

11-1660. Matadero Creek at Palo Alto, Calif.

Location.--Lat 37°25'10", long 122°08'10", in Rinconada de San Francisquito Grant, on right bank on Ash Street, 150 ft upstream from Lambert Avenue Bridge and 2.1 miles southeast of post office at Palo Alto, Santa Clara County.

Drainage area.--7.24 sq mi.

Records available.--July 1952 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 25 ft (from topographic map). Prior to Sept. 25, 1958, at site 150 ft downstream at different datum.

Average discharge.--11 years, 1.28 cfs (927 acre-ft per year); median of mean annual discharges, 0.5 cfs (360 acre-ft per year).

Extremes.--Maximum discharge during year, 641 cfs Jan. 31 (gage height, 3.97 ft), from rating curve extended above 60 cfs on basis of critical-depth determination at gage height 2.85 ft; no flow for most of year.

1952-63: Maximum discharge, 854 cfs Dec. 22, 1955, from rating curve extended above 390 cfs on basis of slope-area measurement of peak flow; maximum gage height, 9.88 ft Dec. 23, 1955, site and datum then in use (backwater from culvert); no flow for many months in each year.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.1 | 0   | 0.8 | 16  |
| .2  | .1  | 1.1 | 37  |
| .3  | .5  | 1.4 | 68  |
| .4  | 1.7 | 1.7 | 110 |
| .5  | 3.9 | 2.0 | 155 |
| .6  | 6.9 | 3.0 | 380 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|-------|-------|------|-------|------|-------|------|------|-------|
| 1     | *0   |       | 0    | 0     | 57    | 0    | 0.1   | 0    |       |      |      |       |
| 2     | 0    |       | 0    | 0     | 4.5   | 0    | 0     | 0    |       |      |      |       |
| 3     | 0    |       | 0    | 0     | 1.7   | 0    | 0     | 0    |       |      |      |       |
| 4     | 0    |       | 0    | 0     | .8    | 0    | 0     | 0    |       |      |      | (*)   |
| 5     | 0    |       | 0    | 0     | .4    | *0   | *0    | 0    |       |      |      |       |
| 6     | 0    |       | 0    | 0     | 0     | 0    | 9.0   | *0   |       |      |      |       |
| 7     | 0    |       | 0    | 0     | 0     | 0    | 3.0   | 0    |       | (*)  |      |       |
| 8     | 0    |       | 0    | 0     | *0    | 0    | .8    | .6   |       |      |      |       |
| 9     | 0    |       | 0    | 0     | 51    | 0    | .4    | .2   |       |      |      |       |
| 10    | 0    |       | 0    | 0     | 13    | 0    | .5    | .8   |       |      |      |       |
| 11    | 0    |       | 0    | 0     | 21    | 0    | 0     | .1   |       |      |      |       |
| 12    | *1.5 |       | 0    | 0     | 7.0   | 0    | 0     | 0    |       |      |      |       |
| 13    | *35  |       | 0    | 0     | 13    | 0    | 0     | 0    |       |      |      |       |
| 14    | *2.2 |       | 0    | 0     | 1.9   | 0    | 7.9   | 0    |       |      |      |       |
| 15    | 0    |       | 5.0  | *0    | 1.0   | 0    | 2.8   | 0    |       |      |      |       |
| 16    | 0    |       | 12   | 0     | 1.2   | 12   | .8    | 0    |       |      |      |       |
| 17    | 0    |       | 5.0  | 0     | .4    | .6   | .3    | 0    |       |      |      |       |
| 18    | 0    |       | .5   | 0     | .1    | *0   | .2    | 0    |       |      |      |       |
| 19    | 0    | (*)   | .1   | 0     | .3    | 0    | 2.8   | 0    |       |      |      |       |
| 20    | 0    |       | 0    | 0     | 0     | 0    | 6.6   | 0    |       |      |      |       |
| 21    | 0    |       | *0   | 0     | 0     | 0    | 1.4   | 0    |       |      |      |       |
| 22    | 0    |       | 0    | 0     | 0     | 2.4  | .4    | 0    |       |      |      |       |
| 23    | 0    |       | 0    | 0     | 0     | 2.2  | **2   | 0    |       |      |      |       |
| 24    | 0    |       | 0    | 0     | 0     | .2   | 0     | 0    |       |      |      |       |
| 25    | 0    |       | 0    | 0     | 0     | 0    | 2.8   | 0    |       |      |      |       |
| 26    | 0    |       | *0   | 0     | 0     | 0    | .4    | 0    |       |      |      |       |
| 27    | 0    |       | 0    | 0     | 0     | 22   | 0     | 0    |       |      |      |       |
| 28    | 0    |       | 0    | 0     | 0     | 16   | 0     | 0    |       |      |      |       |
| 29    | 0    |       | 0    | .1    | ----- | 1.4  | 0     | 0    |       |      | (*)  |       |
| 30    | 0    |       | 0    | *41   | ----- | .5   | 0     | 0    |       |      |      |       |
| 31    | 0    | ----- | 0    | 200   | ----- | .4   | ----- | 0    | ----- |      |      | ----- |
| Total | 38.7 | 0     | 22.6 | 241.1 | 155.4 | 57.7 | 40.4  | 1.7  | 0     | 0    | 0    | 0     |
| Mean  | 1.25 | 0     | 0.73 | 7.78  | 5.55  | 1.86 | 1.35  | 0.05 | 0     | 0    | 0    | 0     |
| Max   | 35   | 0     | 12   | 200   | 57    | 22   | 9.0   | 0.8  | 0     | 0    | 0    | 0     |
| Min   | 0    | 0     | 0    | 0     | 0     | 0    | 0     | 0    | 0     | 0    | 0    | 0     |
| Ac-ft | 77   | 0     | 45   | 478   | 308   | 114  | 80    | 3.4  | 0     | 0    | 0    | 0     |

Calendar year 1962: Max 52 Min 0 Mean 0.98 Ac-ft 708  
 Water year 1962-63: Max 200 Min 0 Mean 1.53 Ac-ft 1,110

Peak discharge (base, 50 cfs)

| Date  | Time | Gage height | Discharge | Date | Time  | Gage height | Discharge |
|-------|------|-------------|-----------|------|-------|-------------|-----------|
| 10-13 | 1500 | 1.61        | 96        | 3-16 | 10900 | 1.39        | 67        |
| 1-31  | 2000 | 3.97        | 641       | 3-27 | 2030  | 1.83        | 130       |
| 2-9   | 2000 | 2.40        | 235       |      |       |             |           |

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

Note.--No gage-height record Nov. 19 to Dec. 20, Mar. 13-16, May 8, 9.

11-1664.8. Stevens Creek Reservoir near Monte Vista, Calif.

Location.--Lat 37°17'55", long 122°04'34", in NW $\frac{1}{4}$  sec.27, T.7 S., R.2 W., at center of dam on Stevens Creek, 2.0 miles southwest of Monte Vista.

Drainage area.--17.3 sq mi.

Records available.--December 1935 to September 1963. Monthly contents prior to October 1959 published in WSP 1735.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District).

Extremes.--Maximum contents during year, 4,070 acre-ft Jan. 31 (elevation, 539.48 ft, from floodmarks); minimum observed, 1,670 acre-ft Oct. 12 (elevation, 509.05 ft).

1935-63: Maximum contents observed, 4,100 acre-ft Dec. 26, 1955 (elevation, 538.61 ft); no contents for part of most years.

Remarks.--Reservoir is formed by earth-fill dam completed in 1936. Capacity, 3,860 acre-ft between elevations 444.9 (invert of outlet tunnel) and 537.14 ft (crest of spillway). Water released down Stevens Creek for irrigation and ground-water recharge by percolation.

Cooperation.--Record of contents furnished by Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1962 to September 1963

| Date         | Contents† |
|--------------|-----------|
| Sept.30..... | 1,790     |
| Oct. 31..... | 2,870     |
| Nov. 30..... | 2,760     |
| Dec. 31..... | 2,950     |
| Jan. 31..... | 3,990     |
| Feb. 28..... | 3,880     |
| Mar. 31..... | 3,870     |
| Apr. 30..... | 3,860     |
| May 31.....  | 3,870     |
| June 30..... | 3,700     |
| July 31..... | 3,310     |
| Aug. 31..... | 2,990     |
| Sept.30..... | 2,380     |

† Contents at 0800 hours on first day of following month.

## GUADALUPE RIVER BASIN

11-1669. Alamitos Creek near New Almaden, Calif.

Location.--Lat 37°13'21", long 121°51'00", in Pueblo Lands of San Jose Grant, on left bank at Greystone bridge, 1.1 miles downstream from Arroyo Calero, 3.4 miles southwest of Edenvale, and 3.5 miles northwest of New Almaden, Santa Clara County.

Drainage area.--31.9 sq mi.

Records available.--April 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 247 ft (from topographic map). Prior to July 15, 1958, staff gage at same site and datum.

Average discharge.--5 years, 16.3 cfs (11,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,670 cfs Jan. 31 (gage height, 8.17 ft), from rating curve extended above 440 cfs on basis of slope-area measurement at gage height 7.98 ft; no flow Oct. 1-12.

1958-63: Maximum discharge, 4,300 cfs Apr. 2, 1958 (gage height, 9.67 ft), from rating curve extended above 330 cfs on basis of computed outflow from Almaden and Calero Reservoirs; no flow for parts of each year.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Calero and Almaden Reservoirs (see p. 315); water released during summer. Small diversions above station.

Cooperation.--Five discharge measurements furnished by Santa Clara Valley Water Conservation District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 16-21, Dec. 13-18, Jan. 30 to Feb. 2,  
June 21 to Aug. 21)

|     |     |     |    |     |       |
|-----|-----|-----|----|-----|-------|
| 2.0 | 0   | 2.5 | 15 | 3.5 | 195   |
| 2.1 | 2.0 | 2.6 | 22 | 4.0 | 351   |
| 2.2 | 3.8 | 2.8 | 40 | 5.0 | 710   |
| 2.3 | 6.3 | 3.0 | 69 | 7.0 | 1,680 |
| 2.4 | 9.8 |     |    |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.    | FEB.    | MAR.    | APR.  | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|-------|---------|---------|---------|-------|-------|-------|-------|-------|-------|
| 1     | 0       | 11    | 21    | 18      | *1,130  | 6.0     | *73   | 41    | 26    | 43    | 31    | 36    |
| 2     | *0      | 12    | 19    | 18      | *274    | 5.7     | 59    | 40    | 26    | *49   | 30    | 31    |
| 3     | 0       | a12   | 20    | 18      | *106    | 5.4     | 53    | 38    | 24    | 55    | 26    | 31    |
| 4     | 0       | a12   | 22    | 14      | 39      | *5.2    | 50    | 37    | 22    | 56    | 23    | 31    |
| 5     | 0       | a8.0  | 22    | 6.0     | 23      | 5.2     | 47    | 35    | 23    | 55    | 22    | 32    |
| 6     | 0       | a7.0  | 21    | 5.2     | 18      | 4.9     | 80    | *33   | 24    | 39    | 22    | *34   |
| 7     | 0       | a5.0  | 21    | 4.9     | 15      | 4.9     | 159   | 33    | 22    | 45    | 23    | 34    |
| 8     | 0       | a8.0  | 21    | 4.7     | 13      | 4.7     | 103   | 34    | 22    | 48    | 22    | 33    |
| 9     | 0       | g11   | 21    | 4.7     | 28      | 4.4     | 91    | 32    | 21    | 48    | 22    | 33    |
| 10    | 0       | a11   | 21    | 4.4     | 26      | 4.4     | 94    | 31    | 25    | 41    | 20    | 29    |
| 11    | 0       | a11   | 20    | *4.4    | 17      | 4.2     | 94    | 31    | 23    | 39    | 22    | 26    |
| 12    | 0       | a11   | 19    | 4.4     | 16      | 4.9     | 83    | 31    | *24   | 41    | 22    | 26    |
| 13    | *681    | a11   | 19    | 4.2     | 39      | 8.8     | 77    | 28    | 23    | 45    | 26    | 22    |
| 14    | *498    | *a9.4 | 18    | 4.4     | *21     | 11      | 241   | 26    | 22    | 43    | 28    | 26    |
| 15    | 160     | a9.1  | 15    | 4.4     | 17      | 12      | 213   | 26    | 22    | 41    | 28    | 26    |
| 16    | 77      | 9.1   | 6.7   | 4.4     | 14      | 52      | 162   | 27    | 22    | 43    | 28    | 26    |
| 17    | *13     | 9.1   | 6.0   | 4.7     | 14      | 32      | 127   | 26    | 22    | 45    | 27    | 26    |
| 18    | 8.8     | 9.1   | *4.0  | 5.2     | 12      | 8.4     | 101   | 26    | 22    | 41    | 27    | 27    |
| 19    | 6.7     | 11    | 6.3   | 5.4     | 11      | 5.7     | 111   | 26    | 27    | 39    | 27    | 26    |
| 20    | 5.4     | 16    | 4.7   | 5.4     | *9.8    | 5.4     | 118   | 25    | 36    | 35    | 27    | 26    |
| 21    | 5.4     | *17   | 9.5   | 5.4     | 9.1     | 8.7     | 111   | 25    | 37    | 29    | 26    | 27    |
| 22    | 4.7     | 17    | 12    | 5.7     | 8.4     | 35      | 91    | 23    | 43    | 25    | 23    | 25    |
| 23    | 6.6     | 17    | 12    | 5.7     | *8.1    | 113     | 79    | 22    | 43    | 25    | 21    | 24    |
| 24    | 14      | 18    | 12    | 5.4     | 7.7     | 67      | 71    | 20    | 35    | 22    | 22    | 24    |
| 25    | 14      | 17    | 12    | 5.2     | 7.4     | 55      | 66    | 18    | 14    | 25    | 23    | 25    |
| 26    | 14      | 15    | 11    | 5.4     | *7.0    | 47      | 61    | 18    | 14    | 26    | 24    | 26    |
| 27    | 13      | 6.0   | 9.1   | 5.7     | *6.7    | 93      | 58    | 19    | 13    | 25    | 23    | 26    |
| 28    | 12      | 8.8   | 13    | 5.7     | 6.3     | 231     | 53    | 24    | 14    | 25    | 24    | 25    |
| 29    | 14      | 18    | 14    | 5.4     | -----   | 145     | 47    | 26    | 19    | *26   | 25    | 26    |
| 30    | 14      | 21    | 17    | 432     | -----   | 108     | 44    | 28    | 39    | 27    | 31    | 26    |
| 31    | 8.8     | ----- | 18    | 1,670   | -----   | 87      | ----- | 27    | ----- | 31    | 38    | ----- |
| TOTAL | 1,570.4 | 357.6 | 467.3 | 2,296.4 | 1,903.5 | 1,184.9 | 2,817 | 876   | 749   | 1,177 | 783   | 835   |
| MEAN  | 50.7    | 11.9  | 15.1  | 74.1    | 68.0    | 38.2    | 93.9  | 28.3  | 25.0  | 38.0  | 25.3  | 27.8  |
| MAX   | 681     | 21    | 22    | 1,670   | 1,130   | 231     | 241   | 41    | 43    | 56    | 38    | 36    |
| MIN   | 0       | 5.0   | 4.0   | 4.2     | 6.3     | 4.2     | 44    | 18    | 13    | 22    | 20    | 22    |
| AC-FT | 3,110   | 709   | 927   | 4,550   | 3,780   | 2,350   | 5,590 | 1,740 | 1,490 | 2,330 | 1,550 | 1,660 |

CALENDAR YEAR 1962: MAX 681 MIN 0 MEAN 24.5 AC-FT 17,700

WATER YEAR 1962-63: MAX 1,670 MIN 0 MEAN 41.1 AC-FT 29,790

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record.

g Computed from once-daily staff gage reading.

11-1676.6. Ross Creek at San Jose, Calif.

Location.--Lat 37°14'55", long 121°54'49", in SE $\frac{1}{4}$  sec.12, T.8 S., R.1 E., on left bank, 100 ft downstream from Lone Hill Creek, 500 ft upstream from Harwood Avenue, and at south city limits of San Jose.

Drainage area.--5.70 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 210 ft (from topographic map).

Extremes.--Maximum discharge during year, 530 cfs Oct. 13 (gage height, 6.30 ft); no flow for many days.  
1961-63: Maximum discharge, that of Oct. 13, 1962; no flow for many days in each year.

Remarks.--Records fair except those for period of doubtful gage-height record, which are poor. No regulation or diversion.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC. | JAN.  | FEB.  | MAR.  | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|------|-------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 0     | 0     | 0.7  | 1.4   | 71    | 0.3   | 2.1   | D2.1 | 0     | 0    | 0.1  | 0.3   |
| 2     | *0    | 0     | 0    | 1.4   | 18    | .3    | *1.5  | D1.8 | 0     | .1   | 0    | .1    |
| 3     | 0     | 0     | 0    | 1.2   | 6.6   | .2    | 1.3   | D1.4 | 0     | 0    | .1   | *0    |
| 4     | 0     | 0     | .5   | .5    | *4.9  | .1    | 1.2   | D.7  | 0     | .1   | .1   | .3    |
| 5     | 0     | 0     | .2   | 1.0   | 3.7   | 0     | 1.2   | D.3  | 0     | 0    | 0    | .2    |
| 6     | 0     | 0     | 0    | .9    | 2.6   | .2    | 23    | .2   | 0     | .1   | .1   | .3    |
| 7     | 0     | 0     | 0    | .3    | 2.0   | .1    | 3.8   | *.2  | 0     | .1   | 0    | .4    |
| 8     | 0     | 0     | .1   | 0     | 1.9   | .7    | 1.6   | .7   | 0     | 0    | .1   | .5    |
| 9     | 0     | *0    | 0    | .2    | 19    | .2    | 1.8   | .2   | 0     | 0    | .1   | .2    |
| 10    | 0     | 0     | 0    | *0    | 7.3   | 0     | 4.1   | .6   | *0    | *0   | .1   | .1    |
| 11    | .3    | 0     | 0    | 0     | 2.2   | 0     | 1.4   | .1   | 0     | .1   | .2   | .2    |
| 12    | 19    | 0     | 0    | 0     | 12    | 0     | 1.2   | .1   | 0     | 0    | 0    | .6    |
| 13    | *230  | 0     | .4   | 0     | *24   | 0     | 3.9   | .1   | 0     | .1   | .2   | .2    |
| 14    | 19    | 0     | .5   | 0     | 5.8   | .2    | 51    | 0    | 0     | .1   | .1   | .1    |
| 15    | 5.4   | 0     | 7.0  | 0     | 4.7   | .1    | 13    | 0    | 0     | 0    | .2   | .1    |
| 16    | 4.0   | 0     | 18   | 0     | 3.4   | 23    | 9.0   | 0    | .1    | .2   | .2   | 0     |
| 17    | 3.7   | .4    | 6.6  | 0     | 2.3   | .5    | 5.1   | 0    | *.1   | .2   | .3   | .1    |
| 18    | 2.2   | 0     | 3.3  | .3    | 1.4   | .3    | *3.5  | 0    | 0     | .2   | .3   | 0     |
| 19    | .1    | 0     | 1.7  | 0     | 2.2   | .3    | 10    | 0    | .2    | .2   | .3   | .1    |
| 20    | 0     | 0     | *.8  | 0     | .9    | .3    | 21    | 0    | .1    | .3   | .3   | .1    |
| 21    | 2.5   | 0     | .1   | .6    | .9    | .2    | 10    | 0    | 0     | .4   | .4   | .1    |
| 22    | 3.4   | 0     | .3   | .3    | .7    | 16    | 6.3   | 0    | 0     | .1   | .3   | .1    |
| 23    | 1.5   | 0     | 0    | 0     | .5    | 6.5   | 4.7   | 0    | 0     | .5   | .3   | .1    |
| 24    | *.5   | 0     | 0    | .1    | .5    | .6    | 4.0   | 0    | 0     | .4   | .2   | .1    |
| 25    | 0     | 0     | 0    | 0     | .5    | .5    | 4.1   | 0    | 0     | .4   | .3   | 0     |
| 26    | 0     | .2    | .4   | 0     | .4    | .5    | D4.1  | 0    | 0     | .2   | .1   | .1    |
| 27    | 0     | .7    | .5   | 0     | .4    | 31    | D3.7  | 0    | *0    | .8   | 0    | 0     |
| 28    | 0     | 0     | 0    | .3    | *.4   | 24    | D3.7  | 0    | 0     | .9   | .1   | .1    |
| 29    | *0    | 0     | .3   | 1.7   | ----- | 8.6   | D3.1  | 0    | 0     | 0    | .1   | .1    |
| 30    | 0     | 0     | .5   | *164  | ----- | 6.0   | D2.5  | 0    | .1    | 0    | .2   | 0     |
| 31    | 0     | ----- | 1.4  | *295  | ----- | 3.4   | ----- | 0    | ----- | *.1  | .1   | ----- |
| TOTAL | 291.6 | 1.3   | 43.3 | 469.2 | 200.2 | 124.1 | 206.9 | 8.5  | 0.6   | 5.6  | 4.9  | 4.6   |
| MEAN  | 9.41  | 0.04  | 1.40 | 15.1  | 7.15  | 4.00  | 6.90  | 0.27 | 0.02  | 0.18 | 0.16 | 0.15  |
| MAX   | 230   | 0.7   | 18   | 295   | 71    | 31    | 51    | 2.1  | 0.2   | 0.9  | 0.4  | 0.6   |
| MIN   | 0     | 0     | 0    | 0     | 0.4   | 0     | 1.2   | 0    | 0     | 0    | 0    | 0     |
| AC-FT | 578   | 2.6   | 86   | 931   | 397   | 246   | 410   | 17   | 1.2   | 11   | 9.7  | 9.1   |

CALENDAR YEAR 1962: MAX 230 MIN 0 MEAN 2.50 AC-FT 1,810  
WATER YEAR 1962-63: MAX 295 MIN 0 MEAN 3.73 AC-FT 2,700

## Peak discharge (base, 75 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1400 | 6.30        | 530       | 3-16 | 0900 | 4.38        | 115       |
| 1-31  | 1200 | 6.25        | 515       | 3-27 | 2130 | 4.58        | 141       |
| 2-9   | 1630 | 4.13        | 87        | 4-6  | 1230 | 4.04        | 78        |
| 2-12  | 2400 | 4.51        | 131       | 4-14 | 0630 | 4.63        | 149       |

\* Discharge measurement or observation of no flow made on this day.

D Doubtful gage-height record.

## GUADALUPE RIVER BASIN

11-1680. Los Gatos Creek at Los Gatos, Calif.

Location.--Lat 37°12'30", long 121°59'15", in NE $\frac{1}{4}$  sec.29, T.8 S., R.1 W., on left bank 0.3 mile downstream from Trout Creek, 0.5 mile downstream from Lexington Reservoir, and 1.0 mile south of Los Gatos.

Drainage area.--38.6 sq mi.

Records available.--October 1929 to September 1944, October 1953 to September 1963. Yearly estimate for water year 1930 (incomplete) and monthly discharge only for June to September 1944, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 460 ft (from topographic map). Prior to Oct. 1, 1943, water-stage recorder, with concrete control after October 1934, at site 1 mile downstream and October 1943 to May 1944 at site 0.5 mile downstream at different datums.

Average discharge.--25 years, 47.5 cfs (34,390 acre-ft per year), adjusted for diversion.

Extremes.--Maximum discharge during year, 1,660 cfs Feb. 2 (gage height, 7.77 ft); minimum daily, 0.4 cfs Oct. 1.

1929-44, 1953-63: Maximum discharge, 7,110 cfs Feb. 27, 1940 (gage height, 14.71 ft, site and datum then in use), from rating curve extended above 2,300 cfs; no flow for part of most years.

Remarks.--Records good. Flow regulated by Lexington Reservoir and Lake Elsman (see p. 315). Several diversions for irrigation above station and diversion by San Jose Water Works.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 13 to Jan. 3, Apr. 10-27,  
Aug. 9 to Sept. 24)

|     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-------|
| 2.9 | 0.1 | 3.9 | 30  | 5.5 | 300   |
| 3.0 | .5  | 4.3 | 64  | 6.0 | 495   |
| 3.1 | 1.4 | 4.7 | 115 | 7.0 | 1,070 |
| 3.3 | 4.5 | 5.0 | 170 | 8.0 | 1,850 |
| 3.5 | 10  |     |     |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.   | MAR.  | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|-------|-------|-------|---------|--------|-------|--------|-------|-------|-------|-------|-------|
| 1     | 0.4   | 4.0   | 4.2   | 4.3     | 530    | 65    | A105   | 112   | 60    | 87    | 74    | 71    |
| 2     | *.5   | 4.0   | 4.2   | 4.3     | *1,130 | 72    | A85    | 106   | 45    | 85    | 74    | 71    |
| 3     | .6    | 4.0   | 4.2   | 21      | 687    | 63    | A75    | 102   | 48    | 71    | 74    | 71    |
| 4     | .6    | 4.0   | 4.2   | *89     | 560    | 60    | A80    | 103   | 52    | 64    | 74    | 70    |
| 5     | .6    | 3.8   | 4.2   | 112     | 239    | 63    | A60    | 97    | 52    | 78    | 68    | 70    |
| 6     | .6    | 3.8   | 56    | 109     | 202    | 59    | 173    | 95    | 69    | 91    | *64   | *70   |
| 7     | .6    | 3.7   | 71    | 109     | 281    | 68    | 500    | *53   | 77    | 91    | 38    | 70    |
| 8     | .6    | 3.7   | 68    | 108     | 278    | 67    | 332    | 23    | 77    | 90    | 26    | 68    |
| 9     | .6    | *3.7  | 67    | 108     | 306    | 65    | 275    | 71    | 77    | 90    | 37    | 75    |
| 10    | .7    | 3.7   | 67    | 80      | 473    | 57    | 262    | 85    | *77   | *82   | 60    | 77    |
| 11    | 1.1   | 3.7   | 67    | 71      | 374    | 66    | 221    | 118   | 77    | 79    | 66    | 76    |
| 12    | 5.1   | 3.7   | 49    | 82      | 328    | 67    | 190    | 150   | 79    | 79    | 66    | 60    |
| 13    | 114   | 3.7   | 7.8   | 82      | 560    | 66    | 181    | 148   | 61    | 79    | 65    | 60    |
| 14    | 28    | 3.7   | 5.3   | 80      | *486   | *62   | 539    | 43    | 51    | 79    | 65    | 65    |
| 15    | 2.5   | 3.3   | 6.5   | 80      | 378    | 34    | 555    | 12    | 60    | 75    | 61    | 64    |
| 16    | .7    | 3.1   | 6.8   | 71      | 314    | 116   | 375    | 12    | 79    | 73    | 59    | 68    |
| 17    | 7.3   | 3.3   | 6.8   | 68      | 270    | 127   | 307    | 12    | 82    | 74    | 70    | 68    |
| 18    | 32    | 3.3   | 5.5   | 73      | 229    | 85    | 267    | 12    | 88    | 80    | 83    | 68    |
| 19    | 17    | 3.3   | 5.0   | 82      | 202    | 63    | 335    | 12    | 95    | 82    | 80    | 70    |
| 20    | 20    | 3.3   | *4.3  | 86      | 185    | 50    | 300    | 53    | 102   | 82    | 75    | 71    |
| 21    | 20    | 3.3   | 4.3   | 91      | 160    | 39    | 270    | 104   | 100   | 82    | 76    | 68    |
| 22    | 20    | 3.5   | 4.3   | 87      | 141    | 87    | 224    | 117   | 99    | 82    | 76    | 62    |
| 23    | 20    | 3.5   | 4.3   | 82      | 122    | 308   | 202    | 117   | 99    | 71    | 76    | 60    |
| 24    | 12    | 3.7   | 4.3   | 81      | 114    | 162   | 181    | 117   | 99    | 62    | 76    | 60    |
| 25    | 4.8   | 3.7   | 4.3   | 81      | 112    | 112   | 170    | 53    | 99    | 75    | 72    | A59   |
| 26    | 4.8   | 3.8   | 4.3   | 81      | 81     | 80    | *158   | 37    | 91    | 80    | 72    | A59   |
| 27    | 4.8   | 4.2   | 4.3   | 75      | 75     | 164   | 139    | 52    | 88    | 80    | 81    | A60   |
| 28    | 4.3   | 4.2   | 4.3   | 75      | 72     | 484   | 132    | 60    | 88    | 76    | 77    | A60   |
| 29    | 4.3   | 4.2   | 4.3   | 47      | -----  | *276  | 124    | 60    | 88    | 74    | 72    | A62   |
| 30    | 4.2   | 4.2   | 4.3   | 66      | -----  | A240  | 118    | 60    | 91    | 73    | 68    | A64   |
| 31    | 4.0   | ----- | 4.3   | 241     | -----  | A180  | -----  | 60    | ----- | 73    | 67    | ----- |
| TOTAL | 336.7 | 111.1 | 561.3 | 2,526.6 | 8,889  | 3,507 | 6,935  | 2,256 | 2,350 | 2,439 | 2,092 | 1,997 |
| MEAN  | 10.9  | 3.70  | 18.1  | 81.5    | 317    | 113   | 231    | 72.8  | 78.3  | 78.7  | 67.5  | 66.6  |
| MAX   | 114   | 4.2   | 71    | 241     | 1,130  | 484   | 555    | 150   | 102   | 91    | 83    | 77    |
| MIN   | 0.4   | 3.1   | 4.2   | 4.3     | 72     | 34    | 60     | 12    | 45    | 62    | 26    | 59    |
| AC-FT | 688   | 220   | 1,110 | 5,010   | 17,630 | 6,960 | 13,760 | 4,470 | 4,660 | 4,840 | 4,150 | 3,960 |
| (+)   | 484   | 250   | 290   | 249     | 571    | 610   | 998    | 1,250 | 1,160 | 1,160 | 1,730 | 909   |

Calendar year 1962: Max 141 Min 0.4 Mean 30.6 Ac-ft 22,150 †9,250  
Water year 1962-63: Max 1,130 Min 0.4 Mean 93.2 Ac-ft 67,440 †9,660

\* Discharge measurement made on this day.

† Diversion, in acre-feet, furnished by San Jose Water Works.

A No gage-height record.

11-1690. Guadalupe River at San Jose, Calif.

Location.--Lat 37°20'00", long 121°54'00", at San Jose, Santa Clara County, on right bank 100 ft downstream from Los Gatos Creek.

Drainage area.--146 sq mi.

Records available.--October 1929 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Prior to 1945, published as Guadalupe Creek at San Jose.

Gage.--Water-stage recorder and concrete control. Datum of gage is 72.00 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 6,300 cfs Oct. 13 (gage height, 10.86 ft); no flow for many days.  
1929-63: Maximum discharge, 9,150 cfs Apr. 2, 1958 (gage height, 16.55 ft); no flow for many days each year.

Remarks.--Records good. Flow regulated by Calero, Almaden, Guadalupe and Lexington Reservoirs, and Lake Elsman (see p.315 ) with water released during summer for percolation in spreading basins on tributaries. Diversions by San Jose Water Works for urban use (see Los Gatos Creek at Los Gatos, preceding page). Diversion of 1,400 acre-ft into Alamitos Percolation Ponds from Coyote Creek basin during year.

Rating table (gage height, in feet, and discharge in cubic feet per second)  
(Shifting-control method used Dec. 18)

|      |     |     |       |
|------|-----|-----|-------|
| 0.45 | 0   | 1.8 | 64    |
| .5   | .1  | 2.0 | 105   |
| .6   | 1.2 | 2.5 | 270   |
| 1.0  | 8.6 | 3.0 | 510   |
| 1.4  | 21  | 9.0 | 4,900 |
| 1.6  | 36  |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.    | FEB.     | MAR.    | APR.   | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|-------|---------|----------|---------|--------|-------|-------|------|------|-------|
| 1     | 0       | 0     | 0     | 0       | 2,580    | 5.5     | 162    | 90    | 0     | 0    | 0    | 0     |
| 2     | *0      | 0     | 0     | 4.3     | *1,350   | 1.2     | 92     | 79    | 0     | 0    | 0    | 0     |
| 3     | 0       | 0     | 0     | 1.5     | 924      | 2.0     | 98     | 74    | 1.0   | 8.4  | 0    | *0    |
| 4     | 0       | 0     | 0     | 0       | 571      | 3.1     | 54     | 72    | 0     | 5.3  | 0    | 0     |
| 5     | 0       | 0     | 2.4   | 0       | 366      | 2.9     | *51    | 62    | .8    | 16   | 0    | 0     |
| 6     | 0       | 0     | 1.4   | 0       | 94       | 3.1     | 212    | 56    | 0     | 6.9  | 0    | 0     |
| 7     | 0       | 0     | 0     | 0       | 160      | 3.3     | 563    | *47   | 0     | 0    | 0    | 0     |
| 8     | 0       | 0     | 0     | 0       | 241      | 16      | 365    | 39    | 0     | 0    | 0    | 0     |
| 9     | 0       | *0    | .2    | .7      | 349      | 8.8     | 270    | 25    | 0     | 1.7  | 0    | 1.1   |
| 10    | 0       | 0     | .3    | 1.3     | 450      | 4.7     | 286    | 33    | 0     | *4.5 | 0    | 1.2   |
| 11    | 0       | 0     | 1.8   | *.8     | *333     | 5.7     | 242    | 29    | 0     | .9   | 0    | .5    |
| 12    | .68     | 0     | 1.0   | 0       | 304      | 6.9     | 199    | 83    | *0    | 1.8  | 0    | 4.1   |
| 13    | 2,460   | 0     | .3    | 0       | 615      | *7.6    | 188    | 97    | 0     | 1.7  | 0    | .4    |
| 14    | 1,140   | 0     | .6    | .8      | 440      | 4.9     | 912    | 68    | 0     | .1   | 0    | 0     |
| 15    | *194    | 0     | 26    | 1.4     | 319      | 4.5     | 858    | 8.6   | 0     | 0    | 0    | 0     |
| 16    | 96      | 0     | 108   | 1.6     | 266      | 200     | 510    | 6.2   | 0     | 0    | 0    | 0     |
| 17    | 28      | 1.0   | 32    | 1.9     | 213      | 128     | 395    | 12    | 0     | 0    | 0    | 0     |
| 18    | 5.7     | 0     | *4.0  | 1.9     | 160      | 64      | 324    | 14    | 0     | 0    | 0    | 0     |
| 19    | 1.8     | 0     | .8    | 1.6     | 118      | 17      | 405    | 5.3   | 0     | .9   | 0    | 0     |
| 20    | 0       | 0     | *0    | 0       | 98       | 12      | 428    | 5.5   | .5    | 3.8  | .1   | 0     |
| 21    | 0       | 0     | 0     | 1.9     | 81       | 2.6     | 360    | 5.1   | .9    | 5.5  | 0    | 0     |
| 22    | 0       | 0     | 0     | 2.3     | 61       | 67      | 290    | 4.3   | 2.2   | 4.5  | 0    | 0     |
| 23    | 0       | 0     | 0     | 2.3     | 48       | 355     | 246    | 3.1   | 0     | 2.6  | 0    | 0     |
| 24    | *.5     | 0     | 0     | 2.5     | 33       | 199     | 230    | 2.2   | .2    | 0    | 0    | 0     |
| 25    | .1      | 0     | 0     | 2.0     | 38       | 120     | 209    | .1    | 8.8   | 0    | 0    | 0     |
| 26    | 0       | .6    | 0     | 1.1     | 26       | 79      | 199    | 0     | 7.5   | 0    | 0    | 0     |
| 27    | 0       | 4.2   | 0     | 0       | 16       | 267     | 164    | .6    | .6    | .6   | 0    | 0     |
| 28    | 0       | .9    | 0     | 5.1     | 9.6      | 751     | 136    | 1.5   | 0     | 1.5  | 0    | 0     |
| 29    | *0      | .8    | 0     | 5.8     | -----    | 405     | 118    | 1.8   | 0     | 1.5  | 0    | 0     |
| 30    | 0       | *.2   | 0     | 1,450   | -----    | 274     | 101    | 0     | 0     | 2.1  | 0    | 0     |
| 31    | 0       | ----- | 0     | *4,370  | -----    | 216     | -----  | 1.0   | ----- | *1.4 | 0    | ----- |
| TOTAL | 3,994.1 | 7.7   | 178.8 | 5,860.8 | 10,263.6 | 3,236.8 | 8,667  | 925.3 | 22.5  | 71.7 | 0.1  | 7.3   |
| MEAN  | 129     | 0.26  | 5.77  | 189     | 367      | 104     | 289    | 29.8  | 0.75  | 2.31 | 0    | 0.24  |
| MAX   | 2,460   | 4.2   | 108   | 4,370   | 2,580    | 751     | 912    | 97    | 8.8   | 16   | 0.1  | 4.1   |
| MIN   | 0       | 0     | 0     | 0       | 9.6      | 1.2     | 51     | 0     | 0     | 0    | 0    | 0     |
| AC-FT | 7,920   | 15    | 355   | 11,620  | 20,360   | 6,420   | 17,190 | 1,840 | 45    | 142  | 0.2  | 14    |

CALENDAR YEAR 1962: MAX 2,460 MIN 0 MEAN 23.6 AC-FT 17,100  
 WATER YEAR 1962-63: MAX 4,370 MIN 0 MEAN 91.1 AC-FT 65,920

\* Discharge measurement or observation of no flow made on this day.

11-1695. Saratoga Creek at Saratoga, Calif.

Location.--Lat 37°15'15", long 122°02'25", in Quito Grant, on right bank on downstream side of private road bridge, 0.5 mile southwest of Saratoga, Santa Clara County, and 0.7 mile downstream from diversion dam.

Drainage area.--9.22 sq mi.

Records available.--October 1933 to September 1963. Prior to October 1951, published as Campbell Creek at Saratoga.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 500 ft (from topographic map).

Average discharge.--30 years, 9.65 cfs (6,990 acre-ft per year), combined flow of Saratoga Creek and diversion by San Jose Water Works.

Extremes.--Maximum discharge during year, 1,160 cfs Jan. 31 (gage height, 5.68 ft); no flow at times.

1933-63: Maximum discharge, 2,730 cfs Dec. 22, 1955 (gage height, 6.40 ft), from rating curve extended above 510 cfs on basis of slope-area measurement of peak flow; no flow for part of each water year except possibly 1941, 1943, 1945.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Water is diverted for municipal use by San Jose Water Works at diversion dam above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 21 to Jan. 30)

| Oct. 1 to Mar. 27 |     |     |     |     | Mar. 28 to Sept. 30 |     |     |     |     |
|-------------------|-----|-----|-----|-----|---------------------|-----|-----|-----|-----|
| 1.32              | 0   | 1.8 | 7.0 | 2.7 | 85                  | 1.0 | 0   | 1.6 | 6.0 |
| 1.4               | .2  | 1.9 | 12  | 3.0 | 129                 | 1.2 | .1  | 1.8 | 14  |
| 1.5               | .6  | 2.0 | 17  | 3.5 | 241                 | 1.3 | .4  | 2.0 | 26  |
| 1.6               | 1.8 | 2.2 | 30  | 4.0 | 390                 | 1.4 | 1.4 | 2.4 | 59  |
| 1.7               | 4.0 | 2.4 | 49  | 5.0 | 795                 | 1.5 | 3.3 | 2.8 | 109 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC. | JAN.  | FEB.    | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|------|-------|---------|-------|-------|-------|-------|------|------|-------|
| 1     | 0     | 0.1   | 0    | 0.6   | 365     | 8.4   | 31    | *17   | 3.8   | 0.4  | 0.2  | 0.1   |
| 2     | *0    | .1    | 0    | .2    | 149     | 8.8   | 27    | 18    | A3.5  | .5   | .5   | .1    |
| 3     | 0     | .1    | .1   | .2    | 99      | 13    | 24    | 16    | A3.5  | .3   | .4   | *.2   |
| 4     | 0     | .1    | .1   | .2    | *72     | 12    | *23   | 14    | A3.5  | .3   | .5   | .7    |
| 5     | 0     | .1    | 0    | .2    | 60      | 9.7   | 16    | 14    | A3.2  | .4   | .5   | .3    |
| 6     | 0     | .1    | .1   | .2    | A51     | 9.7   | 41    | 17    | A3.0  | .3   | .4   | .2    |
| 7     | 0     | .1    | .1   | .2    | A30     | 9.7   | 47    | 15    | A2.5  | .4   | .3   | .1    |
| 8     | 0     | .1    | 0    | .2    | A23     | 12    | 36    | 14    | A2.0  | .3   | .3   | .1    |
| 9     | 0     | *.1   | 0    | .2    | 44      | 8.4   | 32    | 13    | A1.5  | .2   | .2   | 0     |
| 10    | 0     | .1    | 0    | .2    | 58      | 6.4   | 33    | 18    | *1.2  | *.3  | .6   | .2    |
| 11    | 1.1   | .1    | *0   | *.2   | 47      | 5.8   | 27    | 18    | 1.2   | .6   | .1   | .1    |
| 12    | 30    | .1    | 0    | .4    | 45      | *6.6  | 25    | 12    | 1.9   | .5   | .2   | .4    |
| 13    | 370   | .1    | 0    | .2    | 72      | 4.3   | 25    | 9.7   | .7    | .5   | .2   | .2    |
| 14    | 71    | .1    | .1   | .2    | 49      | 7.5   | 83    | 12    | 0     | .5   | .2   | .2    |
| 15    | *19   | .1    | 6.2  | .2    | 39      | 7.0   | 75    | 12    | .1    | .5   | .2   | .2    |
| 16    | 11    | .1    | 18   | .2    | A35     | 34    | *57   | 8.6   | 0     | .4   | .2   | .2    |
| 17    | 8.4   | .1    | 27   | .1    | A32     | 16    | 47    | 10    | .3    | .6   | .3   | .1    |
| 18    | 6.7   | .1    | 11   | .2    | A30     | 11    | 42    | 7.1   | .7    | .6   | .3   | .1    |
| 19    | A5.8  | .1    | 7.9  | .1    | A27     | 6.7   | 56    | 6.4   | .4    | .3   | .2   | .1    |
| 20    | A4.9  | .1    | *4.0 | .2    | A25     | 6.7   | 52    | 6.0   | .6    | .3   | .2   | .1    |
| 21    | A3.7  | .1    | 2.2  | .2    | A22     | 5.8   | 47    | 6.0   | 1.0   | .5   | .3   | .1    |
| 22    | A4.3  | .1    | 1.3  | .2    | A20     | 21    | 42    | 6.0   | .6    | .3   | .6   | .1    |
| 23    | A3.7  | .1    | .6   | .2    | A17     | 32    | 37    | 5.7   | 1.2   | .4   | .3   | 0     |
| 24    | A.5   | .1    | .4   | .2    | A16     | 20    | 35    | 5.4   | .4    | .4   | .3   | 0     |
| 25    | .4    | .1    | .3   | .2    | A14     | 18    | 35    | 4.5   | .4    | .3   | .2   | .1    |
| 26    | .4    | .8    | .2   | .2    | 13      | 16    | 32    | 4.0   | .3    | .5   | .2   | 0     |
| 27    | .2    | 1.8   | .2   | .2    | 11      | 52    | 27    | 4.0   | .5    | .3   | .3   | 0     |
| 28    | .2    | .1    | .2   | .2    | 9.3     | 78    | 22    | 4.0   | .5    | .3   | .3   | 0     |
| 29    | .2    | 0     | .2   | 1.3   | -----   | 53    | 19    | 4.0   | .2    | .3   | .8   | .1    |
| 30    | .2    | 0     | .2   | 276   | -----   | 39    | 18    | 3.5   | .3    | .3   | .1   | .1    |
| 31    | .2    | ----- | .8   | 651   | -----   | 35    | ----- | 2.6   | ----- | *.3  | .3   | ----- |
| TOTAL | 541.9 | 5.2   | 81.2 | 934.3 | 1,474.3 | 573.5 | 1,113 | 307.5 | 39.0  | 12.1 | 9.7  | 4.2   |
| MEAN  | 17.5  | 0.17  | 2.62 | 30.1  | 52.7    | 18.5  | 37.1  | 9.92  | 1.30  | 0.39 | 0.31 | 0.14  |
| MAX   | 370   | 1.8   | 27   | 651   | 365     | 78    | 83    | 18    | 3.8   | 0.6  | 0.8  | 0.7   |
| MIN   | 0     | 0     | 0    | 0.1   | 9.3     | 4.3   | 16    | 2.6   | 0     | 0.2  | 0.1  | 0     |
| AC-FT | 1,070 | 10    | 161  | 1,850 | 2,930   | 1,140 | 2,210 | 610   | 77    | 24   | 19   | 8.3   |
| (+)   | 69    | 134   | 145  | 131   | 22      | 154   | 58    | 338   | 319   | 285  | 231  | 145   |

Calendar year 1962: Max 370 Min 0 Mean 7.71 Ac-ft 5,570 † 1,240  
Water year 1962-63: Max 651 Min 0 Mean 14.0 Ac-ft 10,110 † 2,030

## Peak discharge (base, 110 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1530 | 4.78        | 696       | 3-27 | 2000 | 3.08        | 144       |
| 1-31  | 1200 | 5.68        | 1,160     | 4-14 | 1430 | 2.96        | 135       |
| 2-12  | 2330 | 3.00        | 129       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

† Diversion, in acre-feet, furnished by San Jose Water Works.

A No gage-height record.



## Reservoirs in Guadalupe River basin, Calif.

- 11-1666.7. Almaden Reservoir.--Lat 37°09'54", long 121°49'39", in San Vicente Grant, at center of dam on Alamitos Creek, 0.7 mile southwest of New Almaden, Santa Clara County, and 7 miles south of Edenvale. Drainage area, 12.0 sq mi. Records available, January 1936 to September 1963. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents during year, 2,150 acre-ft Jan. 31 (elevation, 610.24 ft, from floodmarks); minimum observed, 71 acre-ft Oct. 1 (elevation, 546.33 ft). Maximum contents during period 1936-63, that of Jan. 31, 1963; no contents for part of each year except 1942, 1943, 1962-63.
- Reservoir is formed by earth-fill dam completed in 1936. Capacity, 1,960 acre-ft between elevations 533.1 (invert of outlet tunnel) and 607 ft (crest of spillway). Water released down Alamitos Creek for ground-water recharge by percolation and minor irrigation. Up to 100 cfs diverted to Calero Reservoir at times. Record of contents furnished by Santa Clara Valley Water Conservation District.
- 11-1667.4. Calero Reservoir.--Lat 37°11'00", long 121°47'28", in San Vicente Grant, at center of dam on Arroyo Calero, 1.7 miles northeast of New Almaden, Santa Clara County, and 6 miles southeast of Edenvale. Drainage area, 6.95 sq mi. Records available, January 1936 to September 1963. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 9,760 acre-ft Mar. 28 (elevation, 484.32 ft); minimum observed, 192 acre-ft Oct. 1 (elevation, 417.02 ft). Maximum contents observed during period 1936-63, that of Mar. 28, 1963; no contents for part of each year except 1942-45, 1963.
- Reservoir is formed by earth-fill dam completed to crest elevation 482.55 ft in 1936 and raised to 483.90 ft in 1962. Capacity, 9,630 acre-ft between elevations 393.7 (center of outlet tunnel) and 483.90 ft (crest of spillway). Water released down Arroyo Calero for ground-water recharge by percolation and minor irrigation. Up to 100 cfs diverted from Almaden Reservoir to Calero Reservoir at times. Record of contents furnished by Santa Clara Valley Water Conservation District.
- 11-1673.7. Guadalupe Reservoir.--Lat 37°11'57", long 121°52'42", in Los Capitancillos Grant, at center of dam on Guadalupe Creek, 3.6 miles northwest of New Almaden, Santa Clara County, and 5.0 miles southeast of Los Gatos. Drainage area, 5.94 sq mi. Records available, January 1936 to September 1963. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents during year, 3,610 acre-ft Feb. 1 (elevation 619.26 ft, from floodmarks); minimum observed, 33 acre-ft Oct. 9 (elevation, 520.72 ft). Maximum contents during period 1936-63, that of Feb. 1, 1963; no contents for part of each year except 1941-43, 1962-63.
- Reservoir is formed by earth-fill dam completed in 1936. Capacity, 3,460 acre-ft between elevations 506.8 (invert of outlet tunnel) and 617.0 ft (crest of spillway). Water released down Guadalupe Creek for irrigation and ground-water recharge by percolation. Record of contents furnished by Santa Clara Valley Water Conservation District.
- 11-1679.5. Lake Elsmán.--Lat 37°07'51", long 121°55'47", in SE $\frac{1}{4}$  sec.23, T.9 S., R.1 W., at center of Austrian Dam on Los Gatos Creek and 7.3 miles southeast of Los Gatos. Drainage area, 9.78 sq mi. Records available, February 1951 to September 1963. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by San Jose Water Works). Maximum contents observed during year, 6,640 acre-ft Jan. 31 (elevation, 1,115.1 ft); minimum observed, 2,070 acre-ft Oct. 12 (elevation, 1,056.3 ft). Maximum contents observed during period 1951-63, that of Jan. 31, 1963; minimum observed, 169 acre-ft Dec. 29, 1956 (elevation, 996.8 ft).
- Reservoir is formed by earth-fill dam completed in 1951. Usable capacity, 6,090 acre-ft between elevations 944 (elevation of outlet gates) and 1,110 ft (crest of spillway). Dead storage, 60 acre-ft. Water released down Los Gatos Creek for domestic and industrial use. Record of contents furnished by San Jose Water Works.
- 11-1679.8. Lexington Reservoir.--Lat 37°12'06", long 121°59'17", in SE $\frac{1}{4}$  sec.29, T.8 S., R.1 W., at center of dam on Los Gatos Creek and 1.7 miles south of Los Gatos. Drainage area, 37.0 sq mi. Records available, December 1952 to September 1963. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents during year, 22,240 acre-ft Feb. 2 (elevation, 651.84 ft, from floodmarks); minimum observed, 14 acre-ft Oct. 8 (elevation, 521.02 ft). Maximum contents observed during period 1952-63, 22,760 acre-ft Apr. 13, 1958 (elevation, 652.96 ft); no contents for part of each year except 1963.
- Reservoir is formed by earth-fill dam completed in 1952. Capacity, 21,430 acre-ft between elevations 519 (invert at outlet tunnel) and 650 ft (crest of spillway). Dead storage, 31 acre-ft. Water released down Los Gatos Creek for irrigation and ground-water recharge by percolation. Record of contents furnished by Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1962 to September 1963

| Date          | Almaden Reservoir† | Calero Reservoir† | Guadalupe Reservoir† | Lake Elsmán†† | Lexington Reservoir† |
|---------------|--------------------|-------------------|----------------------|---------------|----------------------|
| Sept. 30..... | 70                 | 192               | 36                   | 2,400         | 17                   |
| Oct. 31.....  | 266                | 2,910             | 2,350                | 6,160         | 7,190                |
| Nov. 30.....  | 83                 | 2,790             | 2,310                | 6,190         | 7,950                |
| Dec. 31.....  | 385                | 2,260             | 2,210                | 6,210         | 8,800                |
| Jan. 31.....  | 2,050              | 5,020             | 3,460                | 6,640         | 20,310               |
| Feb. 28.....  | 1,680              | 9,110             | 3,490                | 6,210         | 21,640               |
| Mar. 31.....  | 1,970              | 9,680             | 3,490                | 6,210         | 21,420               |
| Apr. 30.....  | 1,960              | 9,670             | 3,490                | 6,360         | 21,520               |
| May 31.....   | 1,960              | 9,490             | 3,240                | 6,350         | 20,310               |
| June 30.....  | 1,890              | 8,160             | 2,620                | 6,220         | 16,370               |
| July 31.....  | 1,680              | 6,280             | 1,950                | 5,750         | 11,640               |
| Aug. 31.....  | 641                | 5,330             | 1,420                | 4,320         | 7,990                |
| Sept. 30..... | 424                | 3,740             | 531                  | 3,700         | 4,260                |

† Contents at 0800 hours on first day of following month.

†† Contents at 0800 hours on last day of month.

## COYOTE CREEK BASIN

11-1698. Coyote Creek near Gilroy, Calif.

Location.--Lat 37°04'27", long 121°29'55", in SW $\frac{1}{4}$  sec.11, T.10 S., R.4 E., on right bank 1.1 miles downstream from Bear Creek, 4.6 miles upstream from Coyote Creek Dam and 6 miles northeast of Gilroy.

Drainage area.--110 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 870 ft (from topographic map).

Extremes.--Maximum discharge during year, 10,100 cfs Jan. 31 (gage height, 12.60 ft), from rating curve extended above 3,200 cfs on basis of slope-area measurement of peak flow; no flow Oct. 1-12.  
1960-63: Maximum discharge, that of Jan. 31, 1963; no flow at times in each year.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. No regulation or diversion above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 13, Feb. 22 to Mar. 27, Aug. 19 to Sept. 30)

Oct. 1 to Jan. 31

Feb. 1 to Sept. 30

|     |     |     |     |      |       |     |     |     |     |     |       |
|-----|-----|-----|-----|------|-------|-----|-----|-----|-----|-----|-------|
| 3.9 | 0   | 4.7 | 29  | 6.5  | 790   | 4.4 | 0.1 | 5.0 | 21  | 6.5 | 445   |
| 4.0 | .1  | 5.0 | 57  | 7.0  | 1,340 | 4.5 | .2  | 5.2 | 43  | 7.0 | 840   |
| 4.1 | 1.0 | 5.2 | 89  | 8.0  | 2,700 | 4.6 | .6  | 5.5 | 90  | 7.5 | 1,390 |
| 4.2 | 3.9 | 5.5 | 165 | 9.0  | 4,470 | 4.7 | 1.6 | 5.7 | 132 | 8.0 | 2,120 |
| 4.4 | 1.1 | 6.0 | 390 | 10.0 | 6,160 | 4.8 | 4.8 | 6.0 | 216 | 9.0 | 4,050 |
|     |     |     |     |      |       | 4.9 | 12  |     |     |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.   | MAR.  | APR.   | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|--------|-------|--------|-------|-------|------|------|-------|
| 1     | 0     | 0.1   | 0.6   | 2.1     | *3,180 | 19    | 90     | *60   | 12    | *3.5 | 0.6  | 0.5   |
| 2     | 0     | .2    | .6    | 2.1     | a500   | 19    | *70    | 51    | 11    | 3.5  | .6   | .4    |
| 3     | *0    | .3    | .8    | 2.1     | a300   | 18    | 62     | 49    | 11    | 3.2  | .6   | .4    |
| 4     | 0     | .4    | .8    | 2.1     | a200   | 17    | 54     | 46    | 9.8   | 2.9  | .6   | *.5   |
| 5     | 0     | .4    | 1.0   | 2.4     | a150   | 16    | 49     | 42    | 9.8   | 2.6  | .5   | .5    |
| 6     | 0     | .4    | 1.0   | 2.1     | a110   | *16   | 559    | 39    | *8.4  | 2.6  | .6   | .5    |
| 7     | 0     | .4    | 1.0   | 2.1     | a95    | 17    | 1,350  | 37    | 8.4   | 2.2  | .6   | .5    |
| 8     | 0     | .4    | 1.0   | 1.8     | a90    | 16    | *350   | 39    | 8.4   | 1.6  | .6   | .4    |
| 9     | 0     | .5    | 1.0   | 1.8     | a510   | 16    | 224    | 41    | 8.4   | 1.4  | .6   | .4    |
| 10    | 0     | .5    | 1.0   | *1.8    | a450   | 15    | 243    | 35    | 8.4   | 1.4  | .6   | .4    |
| 11    | 0     | .5    | 1.0   | 1.8     | a300   | 14    | 197    | 36    | 8.4   | 1.3  | .6   | .4    |
| 12    | 0     | .5    | 1.0   | 1.2     | a600   | 14    | 149    | 31    | 8.4   | 1.2  | .6   | .5    |
| 13    | 20    | .5    | 1.0   | 1.0     | *1,030 | *13   | 121    | 29    | 8.4   | 1.0  | .6   | .6    |
| 14    | 313   | .5    | 1.0   | 1.0     | *a500  | 13    | 351    | 28    | 8.4   | 1.0  | .6   | .5    |
| 15    | 28    | .5    | 1.8   | 1.0     | a300   | 17    | 547    | 26    | 8.4   | 1.0  | .6   | .5    |
| 16    | *9.5  | .6    | 13    | 1.2     | a180   | 25    | 331    | 25    | 8.4   | 1.0  | .6   | .4    |
| 17    | 4.6   | .6    | 44    | 1.2     | a130   | 43    | 227    | 24    | 7.7   | .9   | .6   | .4    |
| 18    | 2.4   | .6    | 25    | 1.2     | a95    | 33    | *170   | 23    | 7.0   | .9   | .5   | .4    |
| 19    | 1.0   | *.6   | *15   | 1.2     | a70    | 25    | 210    | 22    | 7.0   | .9   | .6   | .4    |
| 20    | .5    | .6    | 9.5   | 1.2     | *a55   | 22    | 456    | 21    | 6.2   | .9   | .5   | .3    |
| 21    | .2    | .6    | 7.2   | 1.5     | a48    | 20    | 487    | 21    | 5.5   | .9   | .6   | .3    |
| 22    | .1    | .6    | 5.9   | 1.2     | 42     | 21    | 300    | 20    | 4.8   | .8   | .6   | .3    |
| 23    | .1    | .5    | 4.9   | 1.2     | 36     | 307   | 216    | 20    | 5.5   | .8   | .6   | .2    |
| 24    | .1    | .5    | 3.9   | 1.5     | 30     | 159   | 164    | 19    | 5.5   | .8   | .6   | .2    |
| 25    | .1    | .5    | 3.0   | 1.5     | *28    | 104   | 142    | 19    | 4.8   | .7   | .5   | .2    |
| 26    | .1    | .6    | 2.4   | 1.5     | 27     | 62    | 125    | 18    | 4.5   | .6   | .5   | .1    |
| 27    | .1    | .6    | 2.4   | 1.8     | 24     | 109   | 100    | 17    | 4.5   | .6   | .5   | .1    |
| 28    | .1    | .5    | 2.1   | 1.8     | 21     | *882  | 85     | 16    | 4.2   | .6   | .5   | .1    |
| 29    | .1    | .5    | 2.1   | 2.1     | -----  | 266   | 76     | 16    | 3.5   | *.6  | .5   | .1    |
| 30    | .1    | .5    | 2.1   | 5.46    | -----  | 151   | 70     | 15    | 3.5   | .6   | .5   | *.1   |
| 31    | .1    | ----- | 2.1   | 5,490   | -----  | 112   | -----  | 14    | ----- | .6   | .5   | ----- |
| TOTAL | 380.2 | 14.5  | 159.2 | 6,082.5 | 9,101  | 2,581 | 7,575  | 899   | 220.2 | 42.6 | 17.6 | 10.6  |
| MEAN  | 12.3  | 0.48  | 5.14  | 196     | 325    | 83.3  | 253    | 29.0  | 7.34  | 1.37 | 0.57 | 0.35  |
| MAX   | 313   | 0.6   | 44    | 5,490   | 3,180  | 882   | 1,350  | 60    | 12    | 3.5  | 0.6  | 0.6   |
| MIN   | 0     | 0.1   | 0.6   | 1.0     | 21     | 13    | 49     | 14    | 3.5   | 0.6  | 0.5  | 0.1   |
| AC-FT | 754   | 29    | 316   | 12,060  | 18,050 | 5,120 | 15,020 | 1,780 | 437   | 84   | 35   | 21    |

CALENDAR YEAR 1962: MAX 5,490 MIN 0 MEAN 40.1 AC-FT 29,060  
WATER YEAR 1962-63: MAX 2,980 MIN 0 MEAN 74.2 AC-FT 53,710

Peak discharge (base, 90 cfs)

| Date  | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|---------|-------------|-----------|------|------|-------------|-----------|
| 10-14 | 0030    | 7.06        | 1,410     | 3-28 | 0330 | 7.48        | 1,370     |
| 1-31  | 2300    | 12.60       | 10,100    | 4- 6 | 2130 | 8.19        | 2,440     |
| 2- 9  | unknown | -           | unknown   | 4-15 | 0630 | 6.78        | 639       |
| 2-13  | 1400    | 7.25        | 1,400     | 4-20 | 1930 | 6.94        | 783       |
| 3-23  | 1400    | 6.42        | 445       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## COYOTE CREEK BASIN

317

11-1700. Coyote Creek near Madrone, Calif.

Location.--Lat 37°10'06", long 121°38'55", near southeast corner of La Laguna Seca Grant, on right bank 1.2 miles downstream from Anderson Dam and 1.8 miles northeast of Madrone, Santa Clara County.

Drainage area.--196 sq mi (revised).

Records available.--October 1902 to September 1912, December 1916 to September 1963. Records for water years 1917-19 incomplete, yearly estimates published in WSP 1315-B. Published as Coyote River near Madrone 1902-12, 1916-26.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 375 ft (from topographic map). Prior to Mar. 1, 1950, staff gages and water-stage recorders at various sites within 1.4 miles upstream at different datums.

Average discharge.--57 years, 67.9 cfs (49,160 acre-ft per year); median of yearly mean discharges, 56 cfs (40,500 acre-ft per year).

Extremes.--Maximum discharge during year, 245 cfs July 17 (gage height, 3.05 ft); no flow Oct. 1-12.

1902-12, 1916-63: Maximum discharge, 25,000 cfs probably Mar. 7, 1911 (record furnished by Duryea, Hachl & Gilman); no flow at times.

Remarks.--Records good. Flow regulated by Coyote and Anderson Lakes (see p. 319); water released during summer. Water is diverted to Main Avenue percolation ponds by Santa Clara Valley Water Conservation District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Aug. 3-8)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.0 | 0   | 2.0 | 9.2 |
| 1.2 | .4  | 2.1 | 16  |
| 1.4 | .8  | 2.2 | 28  |
| 1.5 | 1.0 | 2.3 | 45  |
| 1.7 | 1.8 | 2.5 | 95  |
| 1.8 | 2.8 | 2.8 | 186 |
| 1.9 | 4.6 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 0     | 1.6   | 1.3  | 1.0   | 2.1   | 26    | 12    | *34   | 82    | *154  | 92    | 87    |
| 2     | 0     | 1.6   | 1.2  | 1.0   | .8    | 26    | *12   | 27    | 85    | 139   | 90    | 85    |
| 3     | *0    | 1.6   | 1.2  | 1.0   | .6    | 26    | 12    | 44    | *90   | 142   | 90    | 85    |
| 4     | 0     | 1.6   | 1.2  | 1.0   | .6    | 26    | 12    | 50    | 90    | 139   | 92    | *87   |
| 5     | 0     | 1.6   | 1.1  | 1.0   | .5    | 26    | 13    | 50    | 90    | 133   | *92   | 85    |
| 6     | 0     | 1.6   | 1.0  | 1.0   | 24    | 26    | 13    | 58    | 90    | 121   | 92    | 79    |
| 7     | 0     | 1.6   | 1.0  | 1.0   | 42    | 26    | 13    | 62    | 90    | 127   | 90    | 79    |
| 8     | 0     | 1.6   | 1.0  | 1.0   | 43    | 20    | 13    | 62    | 95    | 118   | 87    | 79    |
| 9     | 0     | 7.7   | 1.0  | 1.0   | 27    | 13    | 13    | 49    | 95    | 101   | 90    | 79    |
| 10    | 0     | 1.6   | 1.0  | *.9   | 3.0   | 13    | 12    | 40    | 95    | 90    | 92    | 79    |
| 11    | 0     | 1.3   | .9   | .8    | 2.2   | 12    | 12    | 42    | 95    | 82    | 92    | 77    |
| 12    | 0     | 1.3   | 1.0  | .8    | 31    | 10    | 12    | 45    | 95    | 79    | 90    | 77    |
| 13    | 2.5   | 1.3   | 1.0  | .8    | 9.6   | 12    | 12    | 43    | 95    | 87    | 79    | 77    |
| 14    | 1.0   | 1.3   | 1.0  | .9    | 19    | 13    | 12    | 47    | 95    | 87    | 82    | 77    |
| 15    | 6.9   | 1.3   | 1.1  | .9    | 45    | 14    | 12    | 47    | 95    | 87    | 82    | 74    |
| 16    | 14    | 1.3   | 1.4  | .9    | 34    | 15    | 12    | 64    | 101   | 95    | 82    | 74    |
| 17    | 25    | 1.3   | 1.3  | .9    | 30    | 14    | 10    | 74    | 112   | 97    | 85    | 74    |
| 18    | 50    | 1.3   | 1.2  | .9    | 30    | 14    | 10    | 72    | 136   | 92    | 85    | 72    |
| 19    | 50    | 1.2   | 1.2  | .9    | 26    | 14    | 15    | 64    | 145   | 87    | 85    | 72    |
| 20    | 50    | 1.2   | 1.1  | .9    | 26    | 14    | 35    | 64    | 145   | 87    | 85    | 72    |
| 21    | 47    | 1.2   | 1.1  | .9    | 26    | 14    | 42    | 59    | 145   | 90    | 82    | 72    |
| 22    | 10    | 1.3   | 1.1  | .9    | 26    | 14    | 43    | 59    | 154   | 87    | 85    | 72    |
| 23    | 1.5   | 1.3   | 1.1  | 1.0   | 26    | 14    | 45    | 59    | 164   | 92    | 85    | 74    |
| 24    | 1.3   | 1.3   | 1.1  | 1.0   | 26    | 14    | 43    | 59    | 160   | 90    | 87    | 77    |
| 25    | 1.2   | 1.3   | 1.1  | 1.0   | 26    | 14    | 38    | 57    | 160   | 82    | 90    | 77    |
| 26    | 1.0   | 1.2   | 1.1  | .7    | 26    | 14    | 40    | 59    | 157   | 74    | 82    | 77    |
| 27    | 1.0   | 1.3   | 1.0  | .6    | 26    | 12    | 43    | 67    | 157   | 72    | 72    | 79    |
| 28    | 1.0   | 1.3   | 1.0  | .6    | *26   | 8.9   | 43    | 67    | 157   | 72    | 74    | 82    |
| 29    | 1.0   | *1.3  | 1.0  | ----- | ----- | 12    | 42    | 69    | 157   | 82    | 74    | 82    |
| 30    | 7.4   | 1.3   | 1.0  | 5.6   | ----- | 12    | 42    | 72    | 157   | 92    | 77    | *79   |
| 31    | 1.6   | ----- | 1.0  | 1.2   | ----- | 12    | ----- | 82    | ----- | 95    | 79    | ----- |
| Total | 287.8 | 162.9 | 33.8 | 43.7  | 604.4 | 500.9 | 688   | 1,747 | 3,584 | 3,072 | 2,641 | 2,341 |
| Mean  | 9.28  | 5.43  | 1.09 | 1.41  | 21.6  | 16.2  | 22.9  | 56.4  | 119   | 99.1  | 85.2  | 78.0  |
| Max   | 50    | 16    | 1.4  | 12    | 45    | 26    | 45    | 82    | 164   | 154   | 92    | 87    |
| Min   | 0     | 1.2   | 0.9  | 0.6   | 0.5   | 8.9   | 10    | 27    | 82    | 72    | 72    | 72    |
| Ac-ft | 571   | 323   | 67   | 87    | 1,200 | 994   | 1,360 | 3,470 | 7,110 | 6,090 | 5,240 | 4,640 |
| (+)   | 0     | 0     | 0    | 0     | 0     | 73    | 298   | 352   | 399   | 238   | 84    | 53    |

Calendar year 1962: Max 167 Min 0 Mean 41.8 Ac-ft 30,280 †987  
Water year 1962-63: Max 164 Min 0 Mean 43.0 Ac-ft 31,150 †1,500

\* Discharge measurement or observation of no flow made on this day.

† Diversion, in acre-feet, to Main Avenue percolation ponds, furnished by Santa Clara Valley Water Conservation District.

11-1721. Upper Penitencia Creek at San Jose, Calif.

Location.--Lat 37°23'43", long 121°49'38", on north boundary of San Jose Pala Grant, on left bank at downstream side of county road bridge, 0.1 mile upstream from Dutard Creek, near northeast limits of San Jose, Santa Clara County.

Drainage area.--21.5 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder and, since Sept. 12, 1963, concrete control. Altitude of gage is 270 ft (from topographic map). Prior to Aug. 3, 1962, at site 0.4 mile downstream at different datum.

Extremes.--Maximum discharge during year, 295 cfs Mar. 28 (gage height, 3.53 ft); no flow Sept. 17, 21, 22, 28.

1961-63: Maximum discharge, that of Mar. 28, 1963; no flow at times in each year.

Maximum stage known since at least 1935, 5.37 ft Apr. 2, 1958, site and datum then in use, from information furnished by Santa Clara Valley Water Conservation District.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Flow partly regulated by Cherry Flat Reservoir (capacity, 500 acre-ft).

Cooperation.--One discharge measurement furnished by Santa Clara Valley Water Conservation District.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 0.1  | 0.4   | 0.4  | 0.3  | 2.7   | 1.0   | 6.5   | *6.2 | 0.6   |      |      | 0.1   |
| 2     | *1.1 | .4    | .4   | .3   | 8.1   | 1.0   | 4.9   | 5.2  | .6    | (*)  |      | .1    |
| 3     | .1   | .4    | .4   | .3   | 3.8   | .9    | 3.8   | 4.9  | .6    |      |      | *.1   |
| 4     | .1   | .4    | *.4  | .3   | 2.6   | .8    | 3.0   | 4.0  | .5    |      |      | .1    |
| 5     | .1   | .4    | *.3  | .3   | 1.8   | .8    | 2.6   | 3.4  | .5    |      |      | .1    |
| 6     | .1   | .4    | .3   | .3   | 1.4   | .8    | 7.1   | 3.0  | .5    |      |      | .1    |
| 7     | .1   | .4    | .3   | .3   | 1.1   | .7    | 6.5   | 2.8  | .5    |      |      | .1    |
| 8     | .1   | .3    | .3   | .3   | *.9   | .8    | *2.9  | 3.6  | .4    |      |      | .1    |
| 9     | .1   | .3    | .3   | .3   | 2.4   | .9    | 1.5   | 3.6  | .4    |      |      | .1    |
| 10    | .1   | .3    | .3   | .3   | 4.9   | .8    | 1.2   | 5.1  | *.5   |      |      | .1    |
| 11    | .1   | .3    | .3   | *.2  | 3.4   | .8    | 9.3   | 6.8  | .5    | (**) |      | .1    |
| 12    | .7   | .3    | .3   | .3   | 6.2   | .7    | 6.8   | 3.8  | .4    |      | (**) | *.1   |
| 13    | 7.5  | .3    | .3   | .3   | 4.8   | *.6   | 6.2   | 3.0  | *.4   |      |      | .1    |
| 14    | 1.2  | .3    | .3   | .3   | *1.5  | .7    | 6.9   | 2.5  | .4    |      |      | .1    |
| 15    | .3   | .3    | .7   | .3   | 6.2   | .8    | 8.1   | 2.0  | .3    | 0.1  | 0.1  | .1    |
| 16    | *.2  | .3    | 1.8  | .3   | 4.2   | 2.9   | 5.0   | 1.8  | .3    |      |      | .1    |
| 17    | .5   | .3    | .8   | .3   | 3.6   | 2.8   | *3.0  | 1.7  | .3    |      |      | 0     |
| 18    | .4   | .3    | *.6  | .3   | 2.6   | 1.8   | 2.1   | 1.5  | .3    |      |      | .2    |
| 19    | .4   | .3    | .6   | .3   | 2.3   | 1.4   | *3.5  | 1.4  | .2    | (*)  |      | .2    |
| 20    | .4   | .3    | .5   | .3   | 1.7   | 1.1   | 6.5   | 1.3  | .2    |      |      | .1    |
| 21    | .4   | *.3   | .5   | .3   | *1.4  | 1.0   | 7.9   | 1.2  | .2    |      |      | 0     |
| 22    | .4   | .4    | .4   | .3   | 1.2   | 2.1   | 5.2   | 1.2  | .2    |      |      | 0     |
| 23    | .4   | .4    | .4   | .3   | .9    | 7.2   | 3.5   | 1.1  | .2    |      |      | .3    |
| 24    | .4   | .4    | .4   | .3   | .8    | 6.5   | 2.4   | 1.0  | .2    |      |      | .1    |
| 25    | .4   | .4    | .4   | .3   | .8    | 3.8   | 2.0   | 1.0  | .2    |      |      | .1    |
| 26    | .4   | .5    | .4   | .3   | .8    | 3.0   | 1.7   | .9   | .2    |      |      | .1    |
| 27    | .4   | .6    | .4   | .3   | .8    | 1.0   | 1.4   | .9   | .1    |      |      | .1    |
| 28    | .4   | .3    | .3   | .3   | 1.2   | *1.23 | 1.1   | .8   | .1    |      |      | 0     |
| 29    | .4   | .4    | .3   | .4   | ----- | *2.0  | 8.8   | .8   | .1    |      |      | .1    |
| 30    | .4   | .5    | .3   | 2.6  | ----- | 1.0   | 7.2   | .7   | .1    |      |      | .1    |
| 31    | .4   | ----- | .3   | *1.6 | ----- | 8.4   | ----- | .7   | ----- | (*)  |      | ----- |
| Total | 17.1 | 10.9  | 13.7 | 27.3 | 155.1 | 217.1 | 854.1 | 77.9 | 10.0  | 3.1  | 3.1  | 3.0   |
| Mean  | 0.55 | 0.36  | 0.44 | 0.88 | 5.54  | 7.00  | 28.5  | 2.51 | 0.33  | 0.1  | 0.1  | 0.10  |
| Max   | 7.5  | 0.6   | 1.8  | 1.6  | 4.8   | 12.3  | 8.1   | 6.8  | 0.6   | -    | -    | 0.3   |
| Min   | 0.1  | 0.3   | 0.3  | 0.2  | 0.8   | 0.6   | 2.6   | 0.7  | 0.1   | -    | -    | 0     |
| Ac-ft | 34   | 22    | 27   | 54   | 308   | 431   | 1,690 | 155  | 20    | 6.1  | 6.1  | 6.0   |

Calendar year 1962: Max 94

Min 0

Mean 2.51

Ac-ft 1,820

Water year 1962-63: Max 123

Min 0

Mean 3.81

Ac-ft 2,760

Peak discharge (base, 30 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1630 | 3.62        | 130       | 4-6  | 2030 | 3.34        | 211       |
| 1-31  | 2230 | 3.45        | 56        | 4-14 | 0930 | 3.25        | 178       |
| 2-13  | 0300 | 3.26        | 107       | 4-20 | 2000 | 3.05        | 117       |
| 3-28  | 0500 | 3.53        | 295       |      |      |             |           |

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

Note.--No gage-height record Oct. 1, May 14 to Sept. 12.

## Reservoirs in Coyote Creek basin, Calif.

11-1698.5. Coyote Lake.--Lat 37°07'06", long 121°32'55", in SE $\frac{1}{4}$  sec.29, T.9 S., R.4 E., at center of dam on Coyote Creek, 3.8 miles northeast of San Martin. Drainage area, 120 sq mi. Records available, February 1936 to September 1963. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 25,070 acre-ft Apr. 23, 24 (elevation, 777.88 ft); no contents Sept. 25-30. Maximum contents observed during period 1936-63, 28,120 acre-ft Dec. 8, 1950 (elevation, 782.5 ft); no contents at times.

Reservoir is formed by rock- and earth-fill dam completed in 1936. Capacity, 24,510 acre-ft between elevations 693.3 (invert of outlet tunnel) and 777 ft (crest of spillway). Water released down Coyote Creek for storage in Anderson Lake. Record of contents furnished by Santa Clara Valley Water Conservation District.

11-1699.2. Anderson Lake.--Lat 37°09'56", long 121°37'42", in southeast corner of La Laguna Seca Grant, at center of dam on Coyote Creek, 2.5 miles northeast of Madrone, Santa Clara County. Drainage area, 194 sq mi. Records available, December 1950 to September 1963. Monthly contents prior to October 1959, published in WSP 1735. Staff gage read once daily. Datum of gage is at mean sea level (levels by Santa Clara Valley Water Conservation District). Maximum contents observed during year, 30,450 acre-ft May 29 (elevation, 556.62 ft); minimum observed, 151 acre-ft Jan. 22 (elevation, 445.13 ft). Maximum contents during period 1950-63 (revised), 95,990 acre-ft Apr. 3, 1958 (elevation, 628.67 ft, from floodmarks); no contents at times in 1960-62.

Reservoir is formed by earth- and rock-fill dam completed in 1950. Capacity, 91,310 acre-ft between elevations 439 (invert of outlet tunnel) and 625 ft (crest of spillway). Water released down Coyote Creek for irrigation and ground-water recharge by percolation. Record of contents furnished by Santa Clara Valley Water Conservation District.

Month-end contents, in acre-feet, water year October 1962 to September 1963

| Date          | Coyote Lake† | Anderson Lake† |
|---------------|--------------|----------------|
| Sept. 30..... | 520          | 297            |
| Oct. 31.....  | 128          | 589            |
| Nov. 30.....  | 263          | 246            |
| Dec. 31.....  | 473          | 205            |
| Jan. 31.....  | 15,240       | 4,200          |
| Feb. 28.....  | 16,060       | 15,420         |
| Mar. 31.....  | 15,950       | 21,350         |
| Apr. 30.....  | 24,540       | 29,340         |
| May 31.....   | 22,290       | 30,430         |
| June 30.....  | 18,720       | 27,400         |
| July 31.....  | 14,720       | 25,040         |
| Aug. 31.....  | 10,840       | 22,940         |
| Sept. 30..... | 0            | 28,170         |

† Contents at 0800 hours on first day of following month.

## ALAMEDA CREEK BASIN

11-1740. San Antonio Creek near Sunol, Calif.

Location.--Lat 37°34'39", long 121°51'24", in Valle de San Jose Grant, on right bank 0.4 mile upstream from Calaveras Road Bridge, 0.85 mile above mouth, and 2 miles southeast of Sunol, Alameda County.

Drainage area.--37.0 sq mi.

Records available.--January 1912 to September 1930, February 1960 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control. Datum of gage is 271.56 ft above mean sea level (levels by city of San Francisco). Prior to Feb. 8, 1960, at site 0.6 mile upstream at different datum.

Average discharge.--21 years, 10.3 cfs (7,460 acre-ft per year).

Extremes.--Maximum discharge during year, 1,970 cfs Jan. 31 (gage height, 7.16 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of peak flow; no flow at times.

1912-30, 1960-63: Maximum daily discharge, 1,460 cfs Jan. 3, 1916; no flow for part of most years.

Flood of Dec. 23, 1955, 5,810 cfs (by slope-area measurement of peak flow).

Remarks.--Records good. Minor regulation due to construction of Turner Dam 0.5 mile upstream.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 2.5 | 0   | 3.1 | 3.4 | 3.8 | 56  |
| 2.6 | .1  | 3.2 | 6.0 | 4.0 | 92  |
| 2.7 | .2  | 3.3 | 10  | 4.2 | 142 |
| 2.8 | .6  | 3.4 | 16  | 4.5 | 234 |
| 2.9 | 1.1 | 3.6 | 32  | 5.0 | 435 |
| 3.0 | 2.0 |     |     |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar.  | Apr.    | May   | June  | July | Aug. | Sept. |
|-------|------|-------|------|-------|-------|-------|---------|-------|-------|------|------|-------|
| 1     | 0    | 0     | 0.1  | 0.4   | 362   | * 3.4 | 20      | 12    | 3.0   | 0.9  | 0.4  | 0.3   |
| 2     | 0    | 0     | .1   | .4    | 64    | 3.4   | * 15    | * 11  | 2.8   | *.8  | .4   | .2    |
| 3     | 0    | 0     | .1   | .4    | 31    | 3.3   | 13      | 10    | 2.4   | .5   | .3   | *.2   |
| 4     | 0    | 0     | .1   | .4    | 18    | 3.0   | 11      | 9.2   | 2.4   | .7   | .3   | .2    |
| 5     | 0    | 0     | .1   | .4    | 12    | 2.8   | 9.2     | 8.8   | 1.6   | .7   | .3   | .3    |
| 6     | 0    | 0     | .1   | .4    | *9.2  | 2.8   | 34      | 7.6   | .9    | .6   | .3   | .4    |
| 7     | 0    | 0     | .1   | .4    | 7.2   | 2.8   | 73      | 7.2   | .9    | .4   | .3   | .5    |
| 8     | 0    | 0     | .1   | *.4   | 5.7   | 2.7   | 47      | 8.4   | 1.0   | .3   | .3   | .8    |
| 9     | 0    | 0     | .1   | .4    | 5.8   | 2.7   | 38      | 8.4   | 1.1   | .3   | .3   | .9    |
| 10    | 0    | 0     | .1   | .4    | 13    | 2.4   | 39      | 9.6   | 1.0   | .3   | .3   | .5    |
| 11    | 0    | 0     | .1   | .4    | 7.2   | 2.2   | 41      | 15    | 1.3   | .3   | .3   | .3    |
| 12    | 0    | 0     | .1   | .4    | 18    | 2.1   | 30      | 10    | 1.1   | .3   | .3   | .3    |
| 13    | 16   | 0     | .1   | .4    | 163   | *1.9  | 25      | 8.4   | 1.3   | .2   | .3   | .3    |
| 14    | 41   | .1    | .1   | .4    | 57    | 2.1   | 161     | 9.2   | 1.2   | .2   | .3   | .3    |
| 15    | *3.2 | 0     | .1   | .4    | 29    | 2.7   | 162     | 7.2   | .8    | .2   | .3   | .2    |
| 16    | .4   | .1    | .2   | .4    | 21    | 20    | *109    | 6.0   | .8    | .1   | .2   | .2    |
| 17    | .1   | .1    | .3   | .4    | 17    | 14    | 62      | 6.8   | .9    | 0    | .2   | .4    |
| 18    | .1   | .1    | .4   | .4    | 13    | 6.8   | 46      | 5.5   | .8    | 0    | .2   | .3    |
| 19    | .1   | *.1   | .4   | .4    | 11    | 5.5   | 74      | 5.2   | .6    | .1   | .2   | .3    |
| 20    | .1   | .1    | *.3  | .4    | 9.6   | 4.7   | 104     | 5.5   | .9    | .4   | .2   | .2    |
| 21    | .1   | .1    | .3   | .4    | 7.6   | 4.4   | 86      | 5.2   | 1.4   | .4   | .2   | .2    |
| 22    | .1   | .1    | .3   | .4    | 6.8   | 5.3   | 56      | 5.0   | 1.0   | .4   | .2   | .2    |
| 23    | .1   | .1    | .2   | *.4   | 6.0   | 25    | 43      | 5.0   | .5    | .3   | .2   | .2    |
| 24    | .1   | .1    | .3   | .4    | 5.5   | 17    | 34      | 4.4   | .4    | .4   | .2   | .2    |
| 25    | .1   | .1    | .3   | .4    | 5.0   | 12    | 31      | 4.2   | .3    | .4   | .2   | .2    |
| 26    | .1   | .1    | .3   | .4    | 4.4   | 9.6   | 27      | 3.9   | .5    | .4   | .4   | .2    |
| 27    | .1   | .1    | .3   | .4    | 4.4   | 25    | 21      | 3.1   | .7    | .5   | .4   | .2    |
| 28    | .1   | .1    | .3   | .4    | 3.9   | 199   | 18      | 1.9   | .7    | .5   | .3   | .2    |
| 29    | .1   | .1    | .3   | .4    | ----- | 56    | 15      | 2.2   | .6    | *.5  | .3   | .1    |
| 30    | 0    | .1    | .3   | 1.5   | ----- | 32    | 14      | 3.0   | .7    | .4   | .5   | .2    |
| 31    | 0    | ----- | .4   | *390  | ----- | 23    | -----   | *3.4  | ----- | .4   | .4   | ----- |
| Total | 61.9 | 1.6   | 6.4  | 403.1 | 917.3 | 499.6 | 1,458.2 | 212.3 | 33.6  | 11.9 | 9.0  | 9.0   |
| Mean  | 2.00 | 0.05  | 0.21 | 13.0  | 32.8  | 16.1  | 48.6    | 6.85  | 1.12  | 0.38 | 0.29 | 0.30  |
| Max   | 41   | 0.1   | 0.4  | 390   | 362   | 199   | 162     | 15    | 3.0   | 0.9  | 0.5  | 0.9   |
| Min   | 0    | 0     | 0.1  | 0.4   | 3.9   | 1.9   | 9.2     | 1.9   | 0.3   | 0    | 0.2  | 0.1   |
| Ac-ft | 123  | 3.2   | 13   | 800   | 1,820 | 990   | 2,890   | 421   | 67    | 24   | 18   | 18    |

Calendar year 1962: Max 325 Min 0 Mean 6.06 Ac-ft 4,390

Water year 1962-63: Max 390 Min 0 Mean 9.93 Ac-ft 7,190

Peak discharge (base, 70 cfs, revised)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 2100 | 4.25        | 156       | 3-28 | 0200 | 4.89        | 386       |
| 1-31  | 2330 | 7.16        | 1,970     | 4-6  | 2300 | 4.07        | 109       |
| 2-13  | 1100 | 5.03        | 450       | 4-14 | 0900 | 5.00        | 435       |

## ALAMEDA CREEK BASIN

321

11-1762. Arroyo Mocho near Pleasanton, Calif.

Location.--Lat 37°41'19", long 121°52'41", in Santa Rita Grant, on left bank 320 ft downstream from Santa Rita Road, 0.7 mile upstream from Tassajara Creek, and 1.8 miles north of Pleasanton, Alameda County.

Drainage area.--143 sq mi.

Records available.--September 1962 to September 1963.

Gage.--Water-stage recorder and concrete control. Datum of gage is 328.55 ft above mean sea level (levels by Alameda County Flood Control and Water Conservation District).

Extremes.--1962-63: Maximum discharge during period, 1,760 cfs Feb. 1 (gage height, 8.60 ft), from rating curve extended above 41 cfs on basis of slope-area measurement of peak flow; no flow for many days.

Remarks.--Records good except those above 75 cfs, which are fair. Natural flow of stream affected by imported water from Delta-Mendota Canal by way of Arroyo Las Positas and South Bay Aqueduct. During periods of high flows, no water imported.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|      |     |     |     |
|------|-----|-----|-----|
| 1.05 | 0   | 1.7 | 14  |
| 1.1  | .1  | 1.8 | 21  |
| 1.2  | .6  | 2.0 | 38  |
| 1.3  | 1.6 | 2.5 | 98  |
| 1.4  | 3.3 | 3.0 | 186 |
| 1.5  | 5.9 | 4.0 | 416 |
| 1.6  | 9.5 | 6.0 | 980 |

Discharge, in cubic feet per second, 1962

| Day                      | Discharge | Day    | Discharge | Day    | Discharge | Day    | Discharge |
|--------------------------|-----------|--------|-----------|--------|-----------|--------|-----------|
| Sept. 1....              | 48        | 9....  | 71        | 17.... | 52        | 25.... | 80        |
| 2....                    | 74        | 10.... | 55        | 18.... | 3.3       | 26.... | 27        |
| 3....                    | 74        | 11.... | 5.4       | 19.... | 28        | 27.... | 28        |
| 4....                    | 58        | 12.... | 31        | 20.... | 30        | 28.... | 28        |
| 5....                    | 5.1       | 13.... | 31        | 21.... | 30        | 29.... | 44        |
| 6....                    | 29        | 14.... | 30        | 22.... | 47        | 30.... | 67        |
| 7....                    | 31        | 15.... | 47        | 23.... | 70        |        |           |
| 8....                    | 47        | 16.... | 71        | 24.... | 49        |        |           |
| Total.....               |           |        |           |        |           |        | 1,290.8   |
| Mean.....                |           |        |           |        |           |        | 43.0      |
| Max.....                 |           |        |           |        |           |        | 80        |
| Min.....                 |           |        |           |        |           |        | 3.3       |
| Runoff in acre-feet..... |           |        |           |        |           |        | 2,560     |

## ALAMEDA CREEK BASIN

1762. Arroyo Mocho near Pleasanton, Calif.--Continued

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec. | Jan.  | Feb.    | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|---------|-------|------|-------|---------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 51      | 15    | 0.2  | 3.3   | *926    | 4.2   | 0.7   | 2.3   | 19    | 30    | *28   | 23    |
| 2     | 29      | 15    | 0    | 2.1   | 62      | 23    | .8    | 1.6   | 40    | 30    | 4.9   | 27    |
| 3     | 28      | 28    | 0    | 0     | 4.3     | 38    | *.9   | 2.3   | 29    | *34   | 33    | 22    |
| 4     | 29      | 43    | *0   | 0     | 1.4     | 26    | 1.3   | 1.6   | 9.8   | 27    | 27    | *28   |
| 5     | 28      | 30    | 0    | 0     | 2.1     | *11   | 1.6   | 1.1   | 12    | 32    | 27    | 27    |
| 6     | 45      | .3    | 0    | 0     | 1.9     | 19    | 6.6   | *.2   | 14    | 32    | 31    | 29    |
| 7     | 67      | 13    | 0    | *0    | 1.9     | 20    | 27    | 2.6   | 9.9   | 30    | 28    | 22    |
| 8     | 51      | 14    | 0    | *0    | 1.2     | 17    | 12    | 3.1   | 24    | 9.6   | 28    | 27    |
| 9     | 3.1     | 14    | 0    | 0     | 0       | 33    | 2.8   | 2.8   | 36    | 4.6   | 23    | 27    |
| 10    | 27      | 28    | 0    | 0     | 1.2     | 46    | 0     | 4.1   | *30   | 25    | 31    | 23    |
| 11    | 31      | 42    | 0    | 0     | .4      | 33    | 0     | 2.8   | 11    | 33    | 31    | 27    |
| 12    | 30      | 29    | *0   | 8.8   | 20      | 3.9   | 0     | .9    | 15    | 27    | 29    | 24    |
| 13    | 188     | .2    | 0    | 40    | 241     | *.1   | 0     | 1.5   | 1.7   | 7.6   | 29    | 25    |
| 14    | 86      | 14    | 0    | 29    | 33      | 3.4   | 36    | 3.6   | 1.3   | 7.0   | 33    | 24    |
| 15    | 85      | 19    | 0    | .4    | 3.3     | 6.6   | 34    | 3.1   | 14    | 26    | 28    | 26    |
| 16    | 3.3     | 20    | 6.0  | .4    | .1      | 36    | 23    | 3.0   | 27    | 26    | 30    | 24    |
| 17    | .4      | 30    | 6.3  | 2.4   | 0       | 3.6   | *14   | 2.6   | 19    | 3.6   | 32    | 25    |
| 18    | *0      | 46    | 4.6  | 15    | 0       | .5    | 5.9   | 3.3   | 18    | 2.3   | 29    | 24    |
| 19    | 23      | 33    | 3.6  | 26    | 0       | 13    | 5.9   | 3.1   | 11    | 1.7   | 27    | 26    |
| 20    | 46      | 15    | *3.6 | 41    | 0       | 15    | 20    | 1.1   | 18    | 16    | 31    | 34    |
| 21    | 70      | *14   | 3.6  | 30    | 0       | 17    | 27    | 2.6   | 14    | 27    | 32    | 35    |
| 22    | 50      | 25    | 3.3  | 1.3   | 0       | 15    | 13    | 3.0   | 25    | 27    | 33    | 36    |
| 23    | 5.3     | 30    | 3.3  | *.4   | 0       | 32    | 7.7   | 3.1   | 41    | 23    | 27    | 16    |
| 24    | 33      | 27    | 3.3  | 0     | 0       | 38    | *.43  | 3.0   | 29    | 2.9   | 29    | 0     |
| 25    | 33      | 40    | 3.3  | 0     | 0       | 26    | 5.2   | 20    | 15    | 4.6   | 29    | 28    |
| 26    | 33      | 29    | 3.3  | 0     | 0       | 11    | 6.6   | 38    | 11    | 21    | 32    | 36    |
| 27    | 54      | .2    | 3.3  | 0     | 0       | 9.7   | 3.1   | 28    | 13    | 5.2   | 27    | 38    |
| 28    | 75      | 14    | 3.3  | 0     | 0       | 65    | 1.4   | 14    | 14    | 26    | 27    | 37    |
| 29    | 58      | 14    | 3.3  | 0     | -----   | 11    | 2.4   | 9.3   | 16    | 21    | 26    | 38    |
| 30    | 4.6     | 8.4   | 3.3  | 9.9   | -----   | .2    | 2.1   | 25    | 32    | 5.1   | 27    | 39    |
| 31    | *27     | ----- | 3.3  | 37.4  | -----   | 0     | ----- | 28    | ----- | 29    | 27    | ----- |
| Total | 1,293.7 | 650.1 | 60.9 | 584.0 | 1,299.8 | 577.2 | 265.3 | 220.7 | 569.7 | 596.2 | 875.9 | 817   |
| Mean  | 41.7    | 21.7  | 1.96 | 18.8  | 46.4    | 18.6  | 8.84  | 7.12  | 19.0  | 19.2  | 28.3  | 27.2  |
| Max   | 188     | 46    | 6.3  | 37.4  | 926     | 65    | 36    | 38    | 41    | 34    | 33    | 39    |
| Min   | 0       | 0.2   | 0    | 0     | 0       | 0     | 0     | 0.2   | 1.3   | 1.7   | 4.9   | 0     |
| Ac-ft | 2,570   | 1,290 | 121  | 1,160 | 2,580   | 1,140 | 526   | 438   | 1,130 | 1,180 | 1,740 | 1,620 |

Calendar year 1962: Max - Min - Mean - Ac-ft -  
 Water year 1962-63: Max 926 Min 0 Mean 21.4 Ac-ft 15,500

Peak discharge (base, 100 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 2000 | 3.50        | 296       | 3-28 | 1000 | 2.66        | 124       |
| 2-1   | 0130 | 8.60        | 1,760     | 4-14 | 1300 | 2.58        | 111       |
| 2-13  | 0230 | 3.93        | 399       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.



11-1765. Arroyo Valle near Livermore, Calif.

Location.--Lat 37°37'24", long 121°45'28", in Valle de San Jose Grant, on right bank 900 ft downstream from highway bridge, 1.1 miles upstream from Dry Creek, 4.1 miles south of Livermore, Alameda County, and 6.9 miles southeast of Pleasanton.

Drainage area.--147 sq mi.

Records available.--January 1912 to September 1930, October 1957 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Published as Arroyo del Valle near Livermore, 1912-29.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 500 ft (from topographic map). Prior to November 1914, at site 900 ft upstream at different datum. Nov. 1, 1914, to Sept. 30, 1930, at site 300 ft upstream at different datum.

Average discharge.--24 years, 31.0 cfs (22,440 acre-ft per year); median of yearly mean discharges, 22 cfs (15,900 acre-ft per year).

Extremes.--Maximum discharge during year, 8,810 cfs Feb. 1 (gage height, 9.34 ft); no flow Oct. 1-12, Oct. 16 to Dec. 15.

1912-30, 1957-63: Maximum discharge, 12,200 cfs Apr. 2, 1958 (gage height, 10.91 ft); no flow at times each year.

Flood of Dec. 23, 1955, reached a stage of 13.93 ft, from floodmarks (discharge, 18,200 cfs on basis of contracted-opening and slope-area measurement of peak flow).

Remarks.--Records good except those for period of indefinite stage-discharge relation, which are fair. No regulation or diversion.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-------|
| 2.0 | 0   | 2.6 | 21  | 4.0 | 420   |
| 2.1 | .3  | 2.8 | 41  | 4.5 | 745   |
| 2.2 | 1.6 | 3.0 | 71  | 5.0 | 1,210 |
| 2.3 | 4.2 | 3.3 | 137 | 6.0 | 2,510 |
| 2.4 | 8.2 | 3.6 | 230 | 7.0 | 4,190 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov. | Dec. | Jan.    | Feb.   | Mar.    | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|------|------|---------|--------|---------|-------|-------|-------|------|------|-------|
| 1     | 0    |      | 0    | 0.4     | 3,560  | 13      | 58    | 34    | 6.2   | 2.0  | 0.6  | 0.2   |
| 2     | 0    |      | 0    | .8      | 472    | 12      | *44   | *32   | 5.8   | *1.6 | .6   | .1    |
| 3     | *0   |      | 0    | .9      | 167    | 11      | 33    | 30    | 5.4   | 1.6  | .8   | .1    |
| 4     | 0    |      | 0    | 1.1     | 93     | 9.9     | 28    | 28    | 5.0   | 2.0  | .8   | *.2   |
| 5     | 0    |      | 0    | 1.2     | 59     | *8.8    | 25    | 26    | 4.6   | 1.6  | .7   | .2    |
| 6     | 0    |      | 0    | 1.2     | 41     | 8.8     | 43    | 25    | 5.4   | 1.4  | .7   | .1    |
| 7     | 0    |      | 0    | 1.4     | 31     | 8.2     | 349   | 23    | 5.4   | 2.2  | .6   | .1    |
| 8     | 0    |      | 0    | 1.4     | 26     | 8.2     | 219   | 24    | 5.0   | 1.4  | 1.4  | .1    |
| 9     | 0    |      | 0    | 1.4     | 23     | 7.8     | 145   | 25    | 4.6   | 1.2  | .9   | e.1   |
| 10    | 0    |      | 0    | 1.4     | 45     | 7.8     | 110   | 24    | 4.6   | .9   | .8   | e.1   |
| 11    | 0    |      | 0    | 1.6     | 55     | 7.4     | 92    | 27    | 3.8   | 1.1  | .7   | e.1   |
| 12    | 0    |      | 0    | 1.4     | 44     | 7.4     | 71    | 26    | 3.5   | 1.1  | .7   | e.1   |
| 13    | .4   |      | 0    | 1.4     | 537    | *7.0    | 57    | 24    | 4.2   | .8   | .5   | e.1   |
| 14    | .2   |      | 0    | 1.4     | 314    | 7.4     | 146   | 20    | 4.2   | 1.2  | .1   | e.1   |
| 15    | *.2  |      | 0    | 1.2     | *159   | 9.4     | 284   | 19    | 3.5   | 1.1  | .4   | e.1   |
| 16    | 0    |      | .2   | 1.2     | 105    | 15      | 212   | 18    | 3.8   | 1.1  | .5   | e.1   |
| 17    | 0    |      | .2   | 1.2     | 75     | 23      | *157  | 18    | 2.6   | .8   | .5   | e.1   |
| 18    | 0    |      | .2   | 1.2     | 55     | 23      | 117   | 15    | 2.6   | .7   | .6   | e.1   |
| 19    | 0    | (*)  | *.1  | 1.2     | 42     | 22      | 132   | 15    | 2.6   | .8   | .5   | e.1   |
| 20    | 0    |      | .1   | 1.2     | 34     | 19      | 157   | 14    | 2.6   | .6   | .4   | e.1   |
| 21    | 0    |      | .1   | 1.2     | 29     | 17      | 186   | 13    | 2.4   | 1.1  | .4   | e.1   |
| 22    | 0    |      | .1   | 1.4     | 26     | 16      | 151   | 13    | 2.9   | 1.1  | .5   | e.1   |
| 23    | 0    |      | .1   | 1.2     | 21     | 28      | 122   | 13    | 2.9   | .6   | .5   | e.1   |
| 24    | 0    |      | .1   | *1.2    | 20     | 48      | 97    | 12    | 2.2   | .8   | .4   | e.1   |
| 25    | 0    |      | .1   | .9      | 18     | 36      | 82    | 11    | 2.0   | .7   | .3   | e.1   |
| 26    | 0    |      | .1   | .9      | 16     | 26      | 75    | 9.4   | 1.8   | .6   | .3   | e.1   |
| 27    | 0    |      | .1   | 1.4     | 15     | 24      | 61    | 8.8   | 2.0   | .5   | .3   | e.1   |
| 28    | 0    |      | .2   | 1.4     | 15     | 351     | 51    | 7.8   | 2.0   | .7   | .2   | e.1   |
| 29    | 0    |      | .1   | 1.3     | -----  | 178     | 44    | 7.0   | 2.0   | *.7  | .2   | e.1   |
| 30    | 0    |      | .1   | 1.8     | -----  | 101     | 38    | 6.6   | 2.2   | .6   | .2   | **e.1 |
| 31    | 0    |      | .2   | 1.420   | -----  | 69      | ----- | *6.6  | ----- | .6   | .3   | ----- |
| Total | 0.8  | 0    | 2.1  | 1,456.9 | 6,097  | 1,130.1 | 3,386 | 575.2 | 107.8 | 33.2 | 16.4 | 3.3   |
| Mean  | 0.03 | 0    | 0.07 | 47.0    | 218    | 36.5    | 113   | 18.6  | 3.59  | 1.07 | 0.53 | 0.11  |
| Max   | 0.4  | 0    | 0.2  | 1,420   | 3,560  | 351     | 349   | 34    | 6.2   | 2.2  | 1.4  | 0.2   |
| Min   | 0    | 0    | 0    | 0.4     | 15     | 7.0     | 25    | 6.6   | 1.8   | 0.5  | 0.1  | 0.1   |
| Ac-ft | 1.6  | 0    | 4.2  | 2,890   | 12,090 | 2,240   | 6,720 | 1,140 | 214   | 66   | 33   | 6.5   |

Calendar year 1962: Max 1,950 Min 0 Mean 29.9 Ac-ft 21,640  
 Water year 1962-63: Max 3,560 Min 0 Mean 35.1 Ac-ft 25,410

Peak discharge (base, 200 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-1  | 0130 | 9.34        | 8,810     | 4-7  | 0800 | 4.11        | 481       |
| 2-13 | 1230 | 4.61        | 834       | 4-15 | 1400 | 3.82        | 325       |
| 3-28 | 0800 | 4.10        | 475       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

\*\* Field estimate made on this day.

e Stage-discharge relation indefinite.

## ALAMEDA CREEK BASIN

11-1766. Arroyo Valle at Pleasanton, Calif.

Location.--Lat 37°40'02", long 121°53'02", in Valle de San Jose Grant, on right bank 0.4 mile northwest of Pleasanton, Alameda County, and 5.8 miles west of Livermore.

Drainage area.--171 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map).

Average discharge.--6 years, 31.9 cfs (23,090 acre-ft per year).

Extremes.--Maximum discharge during year, 8,860 cfs Feb. 1 (gage height, 23.70 ft), from rating curve extended above 1,900 cfs; no flow for several months.

1957-63: Maximum discharge, 11,300 cfs Apr. 3, 1958 (gage height, 25.36 ft); no flow for several months in each year.

Remarks.--Records good. Pumping for irrigation above station during periods of low flow.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan. | Feb.    | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|------|-------|------|------|---------|-------|-------|-------|-------|------|------|-------|
| 1     | 0    | (*)   |      | 0    | 4,360   | 0     | 50    | 31    |       |      |      |       |
| 2     | 0    |       |      | 0    | *680    | 0     | *37   | *25   |       | (*)  |      |       |
| 3     | 0    |       |      | 0    | 229     | 0     | 29    | 22    |       |      |      |       |
| 4     | 0    |       |      | 0    | *109    | 0     | 21    | 17    |       |      |      | (*)   |
| 5     | 0    |       |      | 0    | *64     | *0    | 18    | 14    |       |      |      |       |
| 6     | 0    |       |      | 0    | 44      | 0     | 18    | 12    |       |      |      |       |
| 7     | 0    |       |      | 0    | 30      | 0     | 211   | 11    |       |      |      |       |
| 8     | 0    |       |      | 0    | 14      | 0     | 228   | 12    |       |      |      |       |
| 9     | 0    |       |      | 0    | 9.8     | 0     | 140   | 12    |       |      |      |       |
| 10    | 0    |       |      | 0    | 9.8     | 0     | 104   | 12    |       |      |      |       |
| 11    | 0    |       |      | 0    | *36     | 0     | 86    | 12    |       |      |      |       |
| 12    | 0    |       |      | 0    | 38      | 0     | *68   | 12    |       |      |      |       |
| 13    | 4.5  |       |      | 0    | 385     | 0     | 54    | 10    |       |      |      |       |
| 14    | .2   |       |      | 0    | *498    | 0     | 81    | 8.2   |       |      |      |       |
| 15    | 0    |       |      | 0    | 206     | 0     | 245   | 5.5   |       |      |      |       |
| 16    | 0    |       |      | 0    | 105     | 0     | 230   | 3.8   |       |      |      |       |
| 17    | 0    |       |      | 0    | 72      | 0     | 154   | 2.2   |       |      |      |       |
| 18    | 0    |       |      | 0    | 53      | 0     | 114   | 1.0   |       |      |      |       |
| 19    | *0   | (*)   | (*)  | 0    | 40      | .6    | 111   | 0     |       |      |      |       |
| 20    | 0    |       |      | 0    | 28      | 4.9   | 146   | 0     |       |      |      |       |
| 21    | 0    |       |      | 0    | 21      | 3.8   | 176   | 0     |       |      |      |       |
| 22    | 0    |       |      | 0    | 15      | 4.3   | 150   | 0     |       |      |      |       |
| 23    | 0    |       |      | *0   | 8.2     | 4.9   | 116   | 0     |       |      |      |       |
| 24    | 0    |       |      | 0    | 3.8     | 16    | 95    | 0     |       |      |      |       |
| 25    | 0    |       |      | 0    | 1.5     | 25    | 81    | 0     |       |      |      |       |
| 26    | 0    |       |      | 0    | .7      | 18    | 71    | 0     |       |      |      |       |
| 27    | 0    |       |      | 0    | .1      | 23    | 61    | 0     |       |      |      |       |
| 28    | 0    |       |      | 0    | 0       | 191   | 49    | 0     |       |      |      |       |
| 29    | 0    |       |      | 0    | -----   | 200   | 41    | 0     |       | (*)  |      |       |
| 30    | 0    |       |      | 0    | -----   | 96    | 37    | 0     |       |      |      |       |
| 31    | 0    | ----- |      | 454  | -----   | 62    | ----- | *0    | ----- |      |      | ----- |
| Total | 4.7  | 0     | 0    | 454  | 7,060.9 | 649.5 | 3,022 | 222.7 | 0     | 0    | 0    | 0     |
| Mean  | 0.15 | 0     | 0    | 14.6 | 252     | 21.0  | 101   | 7.18  | 0     | 0    | 0    | 0     |
| Max   | 4.5  | 0     | 0    | 454  | 4,360   | 200   | 245   | 31    | 0     | 0    | 0    | 0     |
| Min   | 0    | 0     | 0    | 0    | 0       | 0     | 18    | 0     | 0     | 0    | 0    | 0     |
| Ac-ft | 9.3  | 0     | 0    | 900  | 14,010  | 1,290 | 5,990 | 442   | 0     | 0    | 0    | 0     |

Calendar year 1962: Max 1,640 Min 0 Mean 24.8 Ac-ft 17,930

Water year 1962-63: Max 4,360 Min 0 Mean 31.3 Ac-ft 22,640

Peak discharge (base, 200 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 2-1  | 0400 | 23.70       | 8,860     | 4-7  | 1230 | 8.24        | 333       |
| 2-13 | 2000 | 9.84        | 799       | 4-15 | 2100 | 8.08        | 300       |
| 3-28 | 1830 | 8.33        | 352       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

11-1790. Alameda Creek near Niles, Calif.

Location.--Lat 37°35'14", long 121°57'35", in NW¼ sec.15, T.4 S., R.1 W, on right bank 0.3 mile downstream from railroad bridge and 1.2 miles northeast of Niles.

Drainage area.--633 sq mi.

Records available.--January 1891 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Published as "at Niles Dam" 1891-1900, and as "at Sunol Glen" 1901-21.

Gage.--Water-stage recorder and concrete control. Datum of gage is 85.65 ft above mean sea level, datum of 1929. Prior to 1901, staff gage at site 1 mile upstream at different datum. 1901 to Sept. 30, 1916, staff gage to 1914 and water-stage recorder thereafter at site 4.5 miles upstream at different datum. Oct. 1, 1916, to Dec. 17, 1923, at site 800 ft upstream at different datum.

Average discharge.--72 years, 122 cfs (88,320 acre-ft per year).

Extremes.--Maximum discharge during year, 11,500 cfs Feb. 1 (gage height, 10.48 ft); minimum daily, 1.4 cfs Dec. 7, 8.  
1891-1963: Maximum discharge, 29,000 cfs Dec. 23, 1955 (gage height, 14.9 ft); no flow at times.

Remarks.--Records good. Flow regulated by Calaveras Reservoir (usable capacity, 96,800 acre-ft, most of which is diverted for San Francisco water supply) beginning in 1916 although dam not completed until 1925. Other diversions from ground water basin for irrigation of 9,000 acres above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |      |        |
|-----|-----|-----|-----|------|--------|
| 2.1 | 0.6 | 3.0 | 34  | 5.0  | 980    |
| 2.2 | 1.5 | 3.2 | 57  | 6.0  | 1,980  |
| 2.3 | 2.6 | 3.4 | 95  | 7.0  | 3,400  |
| 2.4 | 4.0 | 3.7 | 180 | 8.0  | 5,300  |
| 2.5 | 6.0 | 4.0 | 300 | 9.0  | 7,650  |
| 2.6 | 9.0 | 4.5 | 600 | 10.0 | 10,200 |
| 2.8 | 19  |     |     |      |        |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.      | Nov.    | Dec.      | Jan.         | Feb.   | Mar.    | Apr.   | May   | June  | July  | Aug.  | Sept. |
|---------------------|-----------|---------|-----------|--------------|--------|---------|--------|-------|-------|-------|-------|-------|
| 1                   | 36        | *15     | 11        | 5.6          | 7,890  | *15     | 93     | 54    | 21    | *34   | *32   | 29    |
| 2                   | 17        | 16      | 4.4       | 5.6          | 1,910  | 20      | 72     | 49    | 39    | 32    | 20    | 26    |
| 3                   | *14       | 17      | 3.2       | 5.4          | 581    | 50      | 54     | 45    | 44    | 33    | 18    | *27   |
| 4                   | 13        | 41      | 2.3       | 3.7          | 218    | 50      | 43     | 42    | 20    | 36    | 33    | 24    |
| 5                   | 14        | 43      | 1.9       | 2.7          | 122    | 22      | 40     | 35    | 16    | 30    | 28    | 31    |
| 6                   | 14        | 18      | 1.7       | 2.3          | 78     | 27      | 96     | 30    | 18    | 34    | 28    | 27    |
| 7                   | 33        | *5.0    | 1.4       | *2.3         | 57     | 29      | 390    | 32    | 18    | 32    | 32    | 28    |
| 8                   | 36        | 12      | 1.4       | 2.3          | 42     | 26      | 401    | 34    | 16    | 26    | 29    | 23    |
| 9                   | 17        | 13      | 1.8       | 2.3          | 37     | 31      | 257    | 40    | 38    | 11    | 26    | 26    |
| 10                  | 4.6       | 14      | *2.4      | 2.2          | 129    | 56      | 194    | 41    | *43   | 12    | 30    | 26    |
| 11                  | 12        | 40      | 1.9       | 2.0          | 57     | 54      | *170   | 49    | 21    | 32    | 31    | 22    |
| 12                  | 17        | 41      | 1.8       | 1.8          | 142    | 24      | 131    | 39    | 17    | 34    | 30    | 25    |
| 13                  | 693       | 17      | 2.0       | 16           | 1,210  | 12      | 98     | 32    | 20    | 22    | 32    | 26    |
| 14                  | 617       | 5.2     | 1.6       | 40           | 766    | 9.9     | 622    | 28    | 8.7   | 9.9   | 31    | 24    |
| 15                  | 67        | 13      | 2.1       | 17           | 324    | 16      | 873    | 27    | 7.8   | 14    | 32    | 22    |
| 16                  | 25        | 23      | 6.8       | 5.2          | 174    | 66      | 624    | 24    | 25    | 32    | 29    | 25    |
| 17                  | 15        | 18      | 26        | 3.4          | 126    | 53      | 382    | 22    | *30   | 20    | 31    | 23    |
| 18                  | 10        | 43      | 1.6       | 3.2          | 89     | 16      | 254    | 20    | 20    | 9.0   | 32    | 26    |
| 19                  | 5.8       | *45     | 11        | 14           | 78     | 13      | 326    | 19    | 20    | 7.2   | 32    | 25    |
| 20                  | 12        | 18      | *8.1      | 37           | 60     | 25      | 508    | 17    | 17    | 7.0   | 29    | 22    |
| 21                  | 41        | 17      | 7.5       | 41           | 47     | 28      | 536    | 15    | 21    | 24    | 32    | 33    |
| 22                  | 43        | 16      | 6.9       | 19           | 41     | 30      | 350    | 14    | 19    | 32    | 32    | 34    |
| 23                  | *18       | 39      | 6.6       | 6.0          | 32     | 63      | 260    | 15    | 40    | 28    | 31    | 35    |
| 24                  | 5.5       | 18      | 6.3       | 3.9          | 28     | 71      | 198    | 12    | 42    | 23    | 25    | 11    |
| 25                  | 16        | 41      | 6.0       | 3.2          | 24     | 71      | 173    | 12    | 22    | 7.8   | 32    | 5.9   |
| 26                  | 16        | 42      | 6.3       | 2.5          | 22     | 40      | 180    | 40    | 19    | 13    | 29    | 31    |
| 27                  | 16        | 19      | 5.8       | 2.3          | 19     | 57      | 128    | 44    | 16    | 16    | 31    | 36    |
| 28                  | 41        | 6.0     | 5.6       | 2.0          | 17     | 939     | 100    | 22    | 18    | 15    | 28    | 36    |
| 29                  | 43        | 15      | 5.2       | 2.2          | -----  | 443     | 78     | *20   | 18    | 25    | 28    | 37    |
| 30                  | 19        | 15      | 5.2       | 6.7          | -----  | 205     | 62     | 18    | 28    | 18    | 26    | 37    |
| 31                  | 6.0       | -----   | 5.4       | 1,820        | -----  | 126     | -----  | 43    | ----- | 16    | 30    | ----- |
| Total               | 1,936.9   | 685.2   | 175.6     | 2,082.8      | 14,320 | 2,687.9 | 7,693  | 934   | 702.5 | 684.9 | 909   | 802.9 |
| Mean                | 62.5      | 22.8    | 5.66      | 67.2         | 511    | 86.7    | 256    | 30.1  | 23.4  | 22.1  | 29.3  | 26.8  |
| Max                 | 693       | 45      | 26        | 1,820        | 7,890  | 939     | 873    | 54    | 44    | 36    | 33    | 37    |
| Min                 | 4.6       | 5.0     | 1.4       | 1.8          | 17     | 9.9     | 40     | 12    | 7.8   | 7.0   | 18    | 5.9   |
| Ac-ft               | 3,840     | 1,360   | 348       | 4,130        | 28,400 | 5,330   | 15,260 | 1,850 | 1,390 | 1,360 | 1,800 | 1,590 |
| Calendar year 1962: | Max 2,370 | Min 0.1 | Mean 55.7 | Ac-ft 40,290 |        |         |        |       |       |       |       |       |
| Water year 1962-63: | Max 7,890 | Min 1.4 | Mean 92.1 | Ac-ft 66,660 |        |         |        |       |       |       |       |       |

\* Discharge measurement made on this day.

## ALAMEDA CREEK BASIN

11-1805. Dry Creek at Union City, Calif.

Location.--Lat 37°36'22", long 122°01'22", in Arroyo de la Alameda Grant, on right bank 900 ft downstream from bridge on State Highway 9 in Decoto District in Union City, Alameda County, and 1.7 miles upstream from mouth.

Drainage area.--9.41 sq mi.

Records available.--October 1916 to September 1919 (published as "near Decoto"), April 1959 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 80 ft (from topographic map). Prior to Apr. 1, 1959, at site 1.4 miles downstream at different datum.

Average discharge.--7 years, 1.16 cfs (840 acre-ft per year).

Extremes.--Maximum discharge during year, 930 cfs Oct. 13 (gage height, 5.27 ft from outside gage), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; no flow most of year.

1916-19, 1959-63: Maximum discharge, that of Oct. 13, 1962; no flow most of each year.

Revisions.--The maximum discharge for the water year 1962 has been revised to 260 cfs Feb. 14, 1962 (gage height, 3.50 ft), superseding figure published in 1962 Basic Data Release.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 1.1 | 0   | 1.6 | 2.0 | 2.2 | 30  |
| 1.2 | .1  | 1.7 | 3.4 | 2.4 | 52  |
| 1.3 | .3  | 1.8 | 6.0 | 2.6 | 79  |
| 1.4 | .6  | 1.9 | 10  | 2.8 | 112 |
| 1.5 | 1.1 | 2.0 | 15  | 3.0 | 148 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan. | Feb.  | Mar. | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|-------|-------|------|------|-------|------|-------|------|-------|------|------|-------|
| 1     | 0     | 0     | 0    | 0.1  | 6.4   | *1.4 | *3.1  | 2.8  | 0.6   | *0.1 |      |       |
| 2     | 0     | 0     | 0    | .1   | 21    | 1.2  | 2.7   | 2.6  | .5    | .1   |      |       |
| 3     | 0     | 0     | 0    | .1   | 13    | .9   | 2.3   | *2.3 | .5    | .1   |      | (*)   |
| 4     | 0     | 0     | 0    | 0    | 8.0   | .9   | 1.9   | 2.1  | .5    | .1   |      |       |
| 5     | 0     | 0     | 0    | .1   | 5.7   | .8   | 1.8   | 1.9  | .5    | .1   |      |       |
| 6     | 0     | *0    | *0   | 0    | 5.5   | .9   | 2.2   | 1.6  | .5    | .1   |      |       |
| 7     | 0     | 0     | 0    | 0    | 3.1   | 1.4  | 1.4   | 1.4  | .4    | 0    |      |       |
| 8     | 0     | 0     | 0    | *.1  | 2.7   | .9   | 8.8   | 1.8  | .4    | 0    |      |       |
| 9     | 0     | 0     | 0    | 0    | 11    | .8   | 7.2   | 1.2  | .4    | 0    |      |       |
| 10    | 0     | 0     | 0    | 0    | 12    | .8   | 6.4   | 1.4  | .4    | 0    |      |       |
| 11    | 0     | 0     | 0    | 0    | 5.6   | .6   | *5.2  | 1.1  | .4    | 0    |      |       |
| 12    | .9    | 0     | 0    | 0    | 21    | .5   | 3.9   | 1.1  | .4    | 0    |      | (*)   |
| 13    | *148  | 0     | 0    | 0    | 40    | *.6  | 3.9   | 1.6  | .3    | 0    |      |       |
| 14    | *34   | 0     | 0    | 0    | 18    | .8   | 38    | 1.3  | .3    | 0    |      |       |
| 15    | 7.0   | 0     | .2   | 0    | 12    | .8   | 26    | 1.1  | .3    | 0    |      |       |
| 16    | 1.7   | 0     | 2.7  | 0    | 9.6   | 2.8  | *15   | 1.0  | .3    | 0    |      |       |
| 17    | 1.0   | 0     | 3.0  | 0    | 8.8   | 1.7  | 11    | .9   | .2    | 0    |      |       |
| 18    | .9    | 0     | 2.7  | 0    | 6.0   | 1.0  | 8.4   | .9   | .2    | 0    |      |       |
| 19    | .8    | 0     | 1.6  | 0    | 5.2   | .8   | 16    | .9   | .2    | 0    |      |       |
| 20    | .7    | *0    | 1.0  | 0    | 4.2   | .7   | 31    | .8   | .2    | 0    |      |       |
| 21    | .6    | 0     | *.7  | 0    | 3.4   | .7   | 20    | 1.1  | .3    | 0    |      |       |
| 22    | 0     | 0     | .5   | 0    | 3.1   | .9   | 14    | 1.0  | .3    | 0    |      |       |
| 23    | 0     | 0     | .5   | *0   | 2.7   | 2.4  | 11    | 1.0  | .2    | 0    |      |       |
| 24    | 0     | 0     | .3   | 0    | 2.4   | 1.3  | *8.4  | .8   | .1    | 0    |      |       |
| 25    | 0     | 0     | .2   | 0    | 2.0   | .9   | 8.8   | .8   | .1    | 0    |      |       |
| 26    | 0     | .1    | .2   | 0    | 1.8   | .8   | 8.0   | .8   | .1    | 0    |      |       |
| 27    | 0     | .2    | .1   | 0    | 1.7   | 4.5  | 5.2   | .7   | .1    | 0    |      |       |
| 28    | 0     | 0     | .1   | 0    | 1.6   | *20  | 4.4   | .7   | .1    | 0    |      |       |
| 29    | 0     | 0     | .1   | 0    | ----- | 8.0  | 3.4   | *.7  | .1    | *0   |      |       |
| 30    | 0     | 0     | .1   | 1.5  | ----- | 5.0  | 3.0   | .7   | .1    | 0    |      |       |
| 31    | 0     | ----- | .1   | 56   | ----- | 3.9  | ----- | .6   | ----- | 0    |      |       |
| Total | 195.6 | 0.3   | 14.1 | 58.0 | 295.1 | 68.7 | 314.8 | 38.7 | 9.0   | 0.6  | 0    | 0     |
| Mean  | 6.31  | 0.01  | 0.45 | 1.87 | 10.5  | 2.22 | 10.5  | 1.25 | 0.30  | 0.02 | 0    | 0     |
| Max   | 148   | 0.2   | 3.0  | 56   | 64    | 20   | 38    | 2.8  | 0.6   | 0.1  | 0    | 0     |
| Min   | 0     | 0     | 0    | 0    | 1.6   | 0.5  | 1.8   | 0.6  | 0.1   | 0    | 0    | 0     |
| Ac-ft | 388   | 0.6   | 28   | 115  | 585   | 136  | 624   | 77   | 18    | 1.2  | 0    | 0     |

Calendar year 1962: Max 148 Min 0 Mean 2.03 Ac-ft 1,470

Water year 1962-63: Max 148 Min 0 Mean 2.73 Ac-ft 1,970

Peak discharge (base, 15 cfs, revised)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-14 | 1600 | 5.27        | 930       | 3-28 | 0300 | 2.24        | 34        |
| 1-31  | 2000 | 3.20        | 190       | 4-6  | 0930 | 2.29        | 39        |
| 2-9   | 2130 | 2.30        | 40        | 4-14 | 1630 | 2.92        | 134       |
| 2-13  | 2300 | 2.67        | 90        | 4-20 | 1400 | 2.32        | 42        |

\* Discharge measurement or observation of no flow made on this day.

11-1807. Patterson Creek at Union City, Calif.

Location.--Lat 37°35'03", long 122°02'56", in Portero de Los Cerritos Grant, on right bank 75 ft upstream from bridge on State Highway 17 (Nimitz Freeway), 0.3 mile below effluence, and 1.9 miles southeast of Alvarado District in Union City, Alameda County.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 4.13 ft (revised) above mean sea level, datum of 1929.

Average discharge.--5 years, 23.1 cfs (16,720 acre-ft per year).

Extremes.--Maximum discharge during year, 10,500 cfs Feb. 1 (gage height, 20.4 ft, from floodmarks); no flow most of year.  
1958-63: Maximum discharge, that of Feb. 1, 1963; no flow for most of each year.

Remarks.--Records good. This stream is a distributary of Alameda Creek (see Remarks for Alameda Creek near Niles)

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC. | JAN.  | FEB.     | MAR.    | APR.    | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|------|-------|----------|---------|---------|------|-------|------|------|-------|
| 1     | 0       |       |      | 0     | *7,340   | 0.1     | *53     | *20  |       | (*)  |      |       |
| 2     | 0       |       |      | 0     | 1,660    | .1      | 39      | 15   |       |      |      |       |
| 3     | 0       |       |      | 0     | 494      | .8      | 6.9     | 6.8  |       |      |      | (*)   |
| 4     | 0       |       |      | 0     | *162     | .4      | .3      | 8.4  |       |      |      |       |
| 5     | 0       |       |      | 0     | *71      | .1      | .1      | 4.7  |       |      |      |       |
| 6     | 0       |       |      | 0     | 14       | 0       | 32      | 3.5  |       |      |      |       |
| 7     | 0       |       |      | 0     | 4.1      | 0       | 275     | 3.2  |       |      |      |       |
| 8     | 0       |       |      | 0     | 2.0      | 0       | 357     | 3.5  |       |      |      |       |
| 9     | 0       |       |      | 0     | 8.2      | 0       | 233     | 4.1  |       |      |      |       |
| 10    | 0       |       |      | 0     | 64       | 0       | 156     | 3.2  |       |      |      |       |
| 11    | 0       |       |      | 0     | 13       | 0       | 123     | 3.7  |       |      |      |       |
| 12    | 0       |       |      | 0     | 17       | 0       | *82     | 2.3  |       |      |      |       |
| 13    | 882     |       |      | 0     | 808      | *0      | 48      | 2.3  |       |      |      |       |
| 14    | 823     |       |      | 0     | 631      | 0       | 408     | 2.9  |       |      |      |       |
| 15    | 203     |       |      | 0     | 272      | 0       | 800     | 2.3  |       |      |      |       |
| 16    | 41      |       |      | 0     | 138      | .1      | 569     | 1.4  |       |      |      |       |
| 17    | *3.2    |       |      | 0     | 80       | 9.3     | 346     | .6   |       |      |      |       |
| 18    | 0       |       |      | 0     | 45       | .1      | 218     | 0    |       | (*)  |      |       |
| 19    | 0       |       |      | 0     | 27       | 0       | 262     | 0    |       |      |      |       |
| 20    | 0       | (*)   |      | 0     | 22       | 0       | 400     | 0    |       |      |      |       |
| 21    | 0       |       | (*)  | 0     | 6.4      | 0       | 500     | 0    |       |      |      |       |
| 22    | 17      |       |      | 0     | 2.5      | 0       | 313     | 0    |       |      |      |       |
| 23    | 1.3     |       |      | *0    | 1.0      | 0       | 227     | 0    |       |      |      |       |
| 24    | 0       |       |      | 0     | .8       | .1      | *177    | 0    |       |      |      |       |
| 25    | 0       |       |      | 0     | .5       | 0       | 127     | 0    |       |      |      |       |
| 26    | 0       |       |      | 0     | .2       | 0       | 135     | 0    |       |      |      |       |
| 27    | 0       |       |      | 0     | .2       | .7      | 95      | 0    |       |      |      |       |
| 28    | 0       |       |      | 0     | *.1      | 571     | 58      | 0    |       |      |      |       |
| 29    | 0       |       |      | 0     | -----    | 410     | 50      | *0   |       | (*)  |      |       |
| 30    | 0       |       |      | 0     | -----    | 198     | 24      | 0    |       |      |      |       |
| 31    | 0       | ----- |      | 575   | -----    | 87      | -----   | 0    | ----- |      |      | ----- |
| TOTAL | 1,970.5 | 0     | 0    | 575   | 11,884.0 | 1,277.8 | 6,114.3 | 87.9 | 0     | 0    | 0    | 0     |
| MEAN  | 63.6    | 0     | 0    | 18.5  | 424      | 41.2    | 204     | 2.84 | 0     | 0    | 0    | 0     |
| MAX   | 882     | 0     | 0    | 575   | 7,340    | 571     | 800     | 20   | 0     | 0    | 0    | 0     |
| MIN   | 0       | 0     | 0    | 0     | 0.1      | 0       | 0.1     | 0    | 0     | 0    | 0    | 0     |
| AC-FT | 3,910   | 0     | 0    | 1,140 | 23,570   | 2,530   | 12,130  | 174  | 0     | 0    | 0    | 0     |

CALENDAR YEAR 1962: MAX 2,340

MIN 0

MEAN 36.7

AC-FT 26,550

WATER YEAR 1962-63: MAX 7,340

MIN 0

MEAN 60.0

AC-FT 43,450

\* Discharge measurement or observation of no flow made on this day.

## ALAMEDA CREEK BASIN

11-1807.5. Alameda Creek at Union City, Calif.

Location.--Lat 37°35'46", long 122°03'15", in Arroyo de la Alameda Grant, on left bank 5 ft downstream from bridge on Baker Road, 1 mile downstream from Dry Creek, and 1.4 miles east of Alvarado District in Union City, Alameda County.

Drainage area.--653 sq mi (revised).

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Alameda County Flood Control and Water Conservation District).

Average discharge.--5 years, 1.64 cfs (1,190 acre-ft per year).

Extremes.--Maximum discharge during year, 1,770 cfs Feb. 1 (gage height, 19.25 ft, from floodmarks); no flow for most of year. 1958-63: Maximum discharge, that of Feb. 1, 1963; no flow for most of each year.

Remarks.--Records fair. For total flow in Alameda Creek, add flow of Patterson Creek at Union City (see Remarks for Alameda Creek near Niles). Diversion of 10,000 acre-ft to percolation ponds during the year between stations near Niles and at Union City.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct.  | Nov.  | Dec.      | Jan.        | Feb.    | Mar. | Apr.  | May | June | July | Aug. | Sept. |
|-------------------------|-------|-------|-----------|-------------|---------|------|-------|-----|------|------|------|-------|
| 1                       | 0     |       |           | 0           | *1,280  | 0    | *0    | (*) |      | (*)  |      |       |
| 2                       | 0     |       |           | 0           | *298    | 0    | 0     |     |      |      |      |       |
| 3                       | 0     |       |           | 0           | 7.7     | 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    | 0     |     |      |      |      |       |
| 12                      | 0     |       |           | 0           | 0       | 0    | 0     |     |      |      |      |       |
| 13                      | 93    |       |           | 0           | 47      | 0    | 0     |     |      |      |      |       |
| 14                      | *59   |       |           | 0           | 20      | 0    | 8.5   |     |      |      |      |       |
| 15                      | *0    |       |           | 0           | 0       | 0    | 17    |     |      |      |      |       |
| 16                      | 0     |       |           | 0           | 0       | 0    | *.6   |     |      |      |      |       |
| 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    | 1.0   |     |      |      |      |       |
| 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      | *15  | 0     |     |      |      |      |       |
| 29                      | 0     |       |           | 0           | -----   | 0    | 0     | (*) |      | (*)  |      |       |
| 30                      | 0     |       |           | 0           | -----   | 0    | 0     |     |      |      |      |       |
| 31                      | 0     |       |           | 98          | -----   | 0    | ----- |     |      |      |      |       |
| Total                   | 152   | 0     | 0         | 98          | 1,652.7 | 15   | 27.1  | 0   | 0    | 0    | 0    | 0     |
| Mean                    | 4.9   | 0     | 0         | 3.2         | 59.0    | 0.5  | 0.90  | 0   | 0    | 0    | 0    | 0     |
| Max                     | 93    | 0     | 0         | 98          | 1,280   | 15   | 17    | 0   | 0    | 0    | 0    | 0     |
| Min                     | 0     | 0     | 0         | 0           | 0       | 0    | 0     | 0   | 0    | 0    | 0    | 0     |
| Ac-ft                   | 301   | 0     | 0         | 194         | 3,280   | 30   | 54    | 0   | 0    | 0    | 0    | 0     |
| Calendar year 1962: Max | 283   | Min 0 | Mean 2.21 | Ac-ft 1,600 |         |      |       |     |      |      |      |       |
| Water year 1962-63: Max | 1,280 | Min 0 | Mean 5.33 | Ac-ft 3,860 |         |      |       |     |      |      |      |       |

\* Discharge measurement or observation of no flow made on this day.

11-1810. San Lorenzo Creek at Hayward, Calif.

Location.--Lat 37°41'11", long 122°03'44", in San Lorenzo Grant, on right bank at bridge on B Street, just outside city limits of Hayward, Alameda County, 0.5 mile downstream from Crow Creek.

Drainage area.--37.5 sq mi.

Records available.--October 1939 to September 1940, October 1946 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder and concrete control (control ineffective since 1952 due to gravel fill). Datum of gage is 133.16 ft above mean sea level, datum of 1929. January to September 1940 wire-weight gage on bridge at present site and datum.

Average discharge.--18 years, 14.6 cfs (10,570 acre-ft per year); median of yearly mean discharges, 6.4 cfs (4,600 acre-ft per year).

Extremes.--Maximum discharge during year, 7,460 cfs Oct. 13 (gage height, 19.73 ft, from floodmarks), extended above 2,700 cfs on basis of slope-area measurement of peak flow; no flow Oct. 1-9.

1939-40, 1946-63: Maximum discharge, that of Oct. 13, 1962; maximum gage height, 20.82 ft, from floodmarks, Dec. 22, 1955; no flow at times each year.

Remarks.--Records good except those for period of no gage-height record, which are poor. A few very small diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0       | 6.2   | 4.0   | 5.3   | 639   | 16    | 28    | 24    | 6.4   | 3.9  | 0.8  | 2.6   |
| 2     | 0       | *6.0  | 3.8   | 5.3   | 175   | 16    | 24    | 23    | 6.1   | 3.7  | 1.0  | 2.5   |
| 3     | 0       | 6.7   | 5.7   | 5.1   | 88    | 16    | 22    | *22   | 5.8   | *3.7 | 1.0  | 2.2   |
| 4     | 0       | 6.5   | 4.6   | 4.8   | 63    | 14    | 21    | 21    | 5.8   | 3.4  | 1.0  | 2.3   |
| 5     | 0       | 6.2   | 4.0   | 4.2   | 45    | *15   | *20   | 19    | 5.8   | 3.4  | 1.0  | 2.3   |
| 6     | 0       | 4.2   | 4.0   | 4.6   | 38    | 17    | 130   | 16    | 5.8   | 3.2  | .9   | *2.2  |
| 7     | 0       | 4.6   | 3.8   | *4.6  | 32    | 16    | 78    | a15   | *5.8  | 2.8  | .9   | 2.0   |
| 8     | 0       | 4.4   | 3.7   | 4.6   | *31   | 14    | 42    | a16   | 6.4   | 2.5  | 1.0  | 2.0   |
| 9     | *0      | 4.8   | 3.8   | 4.4   | 74    | 14    | 56    | a18   | 6.4   | *2.3 | 1.2  | 2.0   |
| 10    | .1      | 4.6   | 4.4   | 3.8   | 66    | 14    | 42    | a19   | 6.7   | 2.0  | 1.2  | 1.9   |
| 11    | .9      | 4.2   | 3.8   | 3.0   | 35    | 15    | 34    | a24   | 7.0   | 1.9  | 1.0  | 1.9   |
| 12    | 162     | 4.2   | *3.8  | 3.0   | 91    | 14    | 28    | a20   | 6.4   | 1.9  | .9   | 2.4   |
| 13    | *2,600  | 4.0   | 3.7   | 3.0   | 152   | 14    | 32    | a17   | 6.4   | 1.7  | .8   | 1.3   |
| 14    | *226    | 3.8   | 3.7   | 3.1   | *67   | 17    | 157   | a15   | 6.4   | 1.7  | .7   | 1.2   |
| 15    | 85      | 3.5   | 18    | 3.1   | 50    | 15    | 103   | a13   | 6.1   | 1.6  | .7   | 1.2   |
| 16    | 30      | 3.7   | 46    | 3.2   | 47    | 50    | 66    | a12   | 5.8   | 1.3  | 2.7  | 1.2   |
| 17    | *25     | 4.4   | *35   | 3.4   | 39    | 19    | 53    | a12   | 5.2   | 1.4  | 7.0  | 1.2   |
| 18    | 22      | 4.0   | 25    | 3.2   | 32    | 15    | 42    | a11   | 4.8   | 1.0  | 6.4  | 1.7   |
| 19    | 20      | 3.7   | 16    | 3.0   | 31    | 14    | 94    | a10   | 4.5   | 1.2  | 5.8  | 2.5   |
| 20    | 19      | *3.8  | 10    | 2.7   | 27    | 14    | 98    | 10    | 4.5   | 1.7  | 5.5  | 2.3   |
| 21    | 17      | 4.2   | 7.7   | 9.0   | 25    | 14    | 65    | 10    | 4.5   | 1.2  | 4.8  | 2.3   |
| 22    | 16      | 4.0   | 7.5   | 8.4   | 22    | 17    | 50    | 10    | 4.5   | 1.3  | 4.1  | 2.2   |
| 23    | 15      | 4.0   | 7.2   | 2.5   | 21    | 34    | 44    | 10    | 4.3   | 1.3  | 3.2  | 2.2   |
| 24    | 12      | 3.7   | 7.0   | *2.5  | 20    | 16    | 39    | 9.3   | 4.1   | 1.1  | 3.2  | 1.9   |
| 25    | *9.0    | 3.7   | 6.7   | 2.5   | 19    | 15    | 44    | 8.2   | 3.9   | .7   | 3.2  | 1.7   |
| 26    | 8.0     | 7.0   | 6.2   | 2.5   | 18    | 15    | 44    | 7.9   | 4.1   | .7   | 3.2  | 1.6   |
| 27    | 7.5     | 9.2   | 6.2   | 2.7   | 18    | 82    | 32    | 7.9   | 4.1   | .6   | 3.0  | 1.5   |
| 28    | 7.2     | 3.8   | 5.7   | 3.0   | 17    | 181   | 29    | 7.3   | 4.1   | .7   | 2.8  | 1.5   |
| 29    | 7.5     | 3.4   | 4.9   | 5.0   | ----- | 63    | 27    | 7.3   | 3.9   | .8   | 2.6  | 1.5   |
| 30    | 7.2     | 3.8   | 5.3   | 67    | ----- | 38    | 26    | 7.6   | 4.1   | .7   | 2.8  | 1.5   |
| 31    | 6.7     | ----- | 5.5   | *806  | ----- | 35    | ----- | 7.0   | ----- | *.8  | 2.8  | ----- |
| TOTAL | 3,303.1 | 140.3 | 276.7 | 988.5 | 1,982 | 849   | 1,570 | 429.5 | 159.7 | 56.2 | 77.2 | 56.8  |
| MEAN  | 107     | 4.68  | 8.93  | 31.9  | 70.8  | 27.4  | 52.3  | 13.9  | 5.32  | 1.81 | 2.49 | 1.89  |
| MAX   | 2,600   | 9.2   | 46    | 806   | 639   | 181   | 157   | 24    | 7.0   | 3.9  | 7.0  | 2.6   |
| MIN   | 0       | 3.4   | 3.7   | 2.5   | 17    | 14    | 20    | 7.0   | 3.9   | 0.6  | 0.7  | 1.2   |
| AC-FT | 6,550   | 278   | 549   | 1,960 | 3,930 | 1,680 | 3,110 | 852   | 317   | 111  | 153  | 113   |

Calendar year 1962: Max 2,600 Min 0 Mean 18.5 Ac-ft 13,400  
 Water year 1962-63: Max 2,600 Min 0 Mean 27.1 Ac-ft 19,600

Peak discharge (base, 350 cfs)

| Date  | Time  | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|-------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | †1700 | 19.73       | 7,460     | 3-27 | 2400 | 7.16        | 382       |
| 1-31  | 2100  | 14.38       | 3,630     |      |      |             |           |

† About.

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record.

## RHEEM CREEK BASIN

11-1820.3. Rheem Creek at San Pablo, Calif.

Location.--Lat 37°58'32", long 122°21'00", in San Pablo Grant, on left bank 0.6 mile downstream from San Pablo Avenue in San Pablo, Contra Costa County, and 0.9 mile upstream from mouth.

Drainage area.--1.35 sq mi.

Records available.--December 1960 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 21.37 ft above mean sea level (levels by Corps of Engineers).

Extremes.--Maximum discharge during year, 315 cfs Jan. 31 (gage height, 3.30 ft), from rating curve extended above 140 cfs on basis of slope-area measurement of peak flow; no flow at times.

1960-63: Maximum discharge, that of Jan. 31, 1963; no flow at times in each year.

Remarks.--Records poor. Continuous leakage and infrequent releases from off-stream North Reservoir affect flow.

Revisions (water years).--1962 Basic Data Report: 1961(M).

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.0 | 0   | 0.4 | 9.5 |
| .1  | .6  | .6  | 20  |
| .2  | 2.4 | 1.0 | 49  |
| .3  | 5.5 | 1.5 | 97  |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day  | Oct.  | Nov.  | Dec.  | Jan.    | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|--|-------|-------|-------|---------|-------|-------|-------|------|-------|------|------|-------|
| 1  | 0     | 0.1   | 0     | 0.1     | a 2.0 | 0.2   | 0.5   | 0.2  | 0.2   | 0.1  | 0.1  | 0.1   |
| 2  | 0     | 0     | 0     | .1      | a 5.0 | .2    | .2    | .3   | .2    | .1   | .1   | .2    |
| 3  | 0     | 0     | .3    | .1      | a 1.0 | .1    | .1    | .2   | *.2   | .1   | 0    | .3    |
| 4  | 0     | .1    | 0     | .1      | a.8   | .1    | *.1   | .1   | .1    | .1   | .1   | .1    |
| 5  | 0     | 0     | 0     | .1      | .6    | .1    | 1.2   | .1   | .1    | .1   | .1   | *.4   |
| 6  | 0     | 0     | 0     | .1      | .4    | .9    | 37    | .1   | .1    | .1   | .1   | .2    |
| 7  | 0     | 0     | 0     | .3      | .4    | .3    | 2.5   | *.3  | .1    | .1   | .2   | .1    |
| 8  | 0     | .1    | 0     | *.7     | 1.4   | .4    | 1.3   | 2.4  | .1    | .1   | .3   | .2    |
| 9  | .1    | .1    | 0     | .2      | 23    | .1    | .7    | .2   | 0     | .2   | .1   | .2    |
| 10   | 3.9   | .1    | 0     | .1      | 3.0   | .1    | 6.7   | .6   | 0     | *.4  | .2   | .3    |
| 11   | 20    | 0     | 0     | .1      | .9    | .1    | .7    | .2   | .1    | .1   | .2   | .4    |
| 12   | * 55  | 0     | 0     | .1      | 28    | .1    | .6    | .2   | .2    | .2   | .2   | 2.1   |
| 13   | 67    | 0     | .3    | .1      | 6.5   | .1    | 10    | .2   | .1    | .1   | .4   | .3    |
| 14   | a 1.2 | .1    | 0     | .1      | .9    | 23    | 23    | .2   | .2    | .1   | .5   | .3    |
| 15   | a.7   | 0     | 17    | .1      | .6    | 0     | 1.6   | .2   | .1    | .1   | .6   | .2    |
| 16   | a.5   | 0     | 15    | .1      | .7    | 19    | 2.8   | .2   | .1    | .1   | .6   | .1    |
| 17   | .3    | .2    | 18    | .1      | .4    | .4    | .2    | .1   | .1    | .1   | .2   | .1    |
| 18   | .1    | 0     | * 2.0 | .1      | .4    | .3    | 4.6   | .1   | .1    | .1   | .4   | .2    |
| 19   | .1    | 0     | .5    | .1      | .4    | .3    | * 4.3 | .1   | .1    | .1   | .4   | .3    |
| 20   | 0     | 0     | .3    | .1      | .3    | .3    | 4.0   | .1   | .1    | .1   | .6   | .5    |
| 21   | 0     | 0     | .3    | .2      | .3    | .3    | .4    | .1   | .1    | 0    | .6   | .4    |
| 22   | 0     | 0     | .2    | .1      | .3    | 14    | .3    | .1   | .1    | .1   | .6   | .4    |
| 23   | * 0   | 0     | .2    | .1      | .3    | 2.5   | .2    | .3   | 0     | .1   | .6   | .4    |
| 24   | .1    | 0     | .1    | .1      | .3    | .4    | .1    | .2   | 0     | .2   | .3   | .5    |
| 25   | .1    | .1    | .1    | a.1     | .3    | .4    | 6.9   | .2   | .1    | .2   | .7   | .5    |
| 26   | .1    | * 6.8 | .1    | a.1     | .2    | .5    | .5    | .2   | 0     | .3   | .7   | .4    |
| 27   | 0     | .2    | .1    | a.1     | .2    | 48    | .2    | .1   | .1    | 0    | .7   | .2    |
| 28   | .1    | 0     | .1    | a.1     | *.1   | 20    | .2    | .1   | .1    | 0    | .6   | .2    |
| 29   | .1    | 0     | .1    | a 5.0   | ----- | * 1.4 | .2    | .1   | .1    | 0    | .1   | .2    |
| 30   | .2    | 0     | .1    | * a 4.0 | ----- | .6    | .2    | .1   | .1    | *.1  | .2   | .1    |
| 31   | .1    | ----- | .1    | * 85    | ----- | .4    | ----- | .2   | ----- | .1   | .1   | ----- |
| Total  | 149.7 | 7.9   | 54.9  | 133.8   | 96.7  | 113.9 | 111.3 | 7.8  | 3.0   | 3.6  | 10.6 | 9.9   |
| Mean   | 4.83  | 0.26  | 1.77  | 4.32    | 3.45  | 3.67  | 3.71  | 0.25 | 0.10  | 0.12 | 0.34 | 0.33  |
| Max  | 67    | 6.8   | 18    | 85      | 28    | 48    | 37    | 2.4  | 0.2   | 0.4  | 0.7  | 2.1   |
| Min  | 0     | 0     | 0     | 0.1     | 0.1   | 0     | 0.1   | 0.1  | 0     | 0    | 0    | 0.1   |
| Ac-ft  | 297   | 16    | 109   | 265     | 192   | 226   | 221   | 15   | 6.0   | 7.1  | 21   | 20    |
| Calendar year 1962: Max 67 Min 0 Mean 1.23 Ac-ft 893   |       |       |       |         |       |       |       |      |       |      |      |       |
| Water year 1962-63: Max 85 Min 0 Mean 1.93 Ac-ft 1,400 |       |       |       |         |       |       |       |      |       |      |      |       |

Peak discharge (base, 100 cfs, revised)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1745 | 2.74        | 242       | 3-27 | 1830 | 2.38        | 198       |
| 1-31  | 0715 | 3.30        | 315       | 4-6  | 0430 | 1.82        | 132       |
| 2-12  | 2030 | 1.94        | 145       | 4-14 | 0415 | 2.39        | 199       |
| 3-22  | 1945 | 1.89        | 140       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

a No gage-height record.



PINOLE CREEK BASIN

331

11-1821. Pinole Creek at Pinole, Calif.

Location.--Lat 37°58'21", long 122°14'43", in Pinole Grant, on left bank 0.2 mile downstream from county bridge on Pinole Valley Road, 0.8 mile upstream from Pinole city boundary, Contra Costa County.

Drainage area.--10.0 sq mi.

Records available.--December 1938 to September 1963. Monthly discharge only for water years 1939-59, published in WSP 1735.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 170 ft (from topographic map).

Average discharge.--24 years (1939-63), 3.59 cfs (2,600 acre-ft per year); median of yearly mean discharges, 1.6 cfs (1,200 acre-ft per year).

Extremes.--Maximum discharge during year, 797 cfs Oct. 13 (gage height, 7.18 ft); no flow Oct. 1-11.  
1938-63: Maximum discharge, 1,660 cfs Apr. 2, 1958 (gage height, 11.63 ft); no flow at times.

Remarks.--No storage or diversion except for minor stock ponds.

Cooperation.--Records furnished by East Bay Municipal Utility District and reviewed by Geological Survey.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used June 3 to Sept. 27)

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 0.8 | 0   | 1.8 | 4.7 | 2.8 | 68  |
| 1.0 | .2  | 2.0 | 9.8 | 3.0 | 96  |
| 1.2 | .6  | 2.3 | 26  | 4.0 | 259 |
| 1.4 | 1.3 | 2.6 | 49  | 5.0 | 418 |
| 1.6 | 2.6 |     |     |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec. | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0     | 0.5   | 0.6  | 1.0   | 191   | 4.1   | 6.4   | 5.1   | 1.8   | 0.8  | 0.5  | 0.3   |
| 2     | 0     | .5    | .6   | 1.0   | 38    | 4.0   | 5.4   | 5.0   | 1.7   | .8   | .5   | .3    |
| 3     | 0     | .5    | .9   | 1.0   | 20    | 3.8   | 5.0   | 4.8   | 1.5   | .8   | .5   | .3    |
| 4     | 0     | .5    | .7   | .8    | 13    | 3.5   | 4.7   | 4.8   | 1.5   | .8   | .5   | .3    |
| 5     | 0     | .5    | .7   | .8    | 9.4   | 3.4   | a 4.8 | 4.7   | 1.6   | .8   | .5   | .3    |
| 6     | 0     | .5    | .7   | .8    | 7.1   | 3.8   | a 9.3 | 4.7   | 1.6   | .8   | .4   | .3    |
| 7     | 0     | .5    | .6   | .8    | 6.3   | 3.6   | a 3.2 | 4.8   | 1.6   | .8   | .4   | .3    |
| 8     | 0     | .5    | .6   | .8    | 5.8   | 3.4   | a 1.1 | 5.6   | 1.6   | .8   | .4   | .3    |
| 9     | 0     | .5    | .6   | .8    | 6.3   | 3.4   | a 7.7 | 5.0   | 1.5   | .7   | .4   | .3    |
| 10    | 0     | .6    | .6   | .8    | 22    | 3.2   | a 2.0 | 4.7   | 1.5   | .7   | .4   | .3    |
| 11    | 0     | .5    | .6   | .8    | 9.0   | 3.5   | a 1.1 | 4.7   | 1.5   | .6   | .4   | .3    |
| 12    | 20    | .5    | .6   | .8    | 50    | 3.2   | 6.6   | 4.2   | 1.5   | .6   | .4   | .3    |
| 13    | 316   | .6    | .6   | .8    | 49    | 2.7   | 1.5   | 4.1   | 1.5   | .6   | .4   | .4    |
| 14    | 64    | .6    | .6   | .8    | 14    | 3.2   | 88    | 3.9   | 1.5   | .6   | .4   | .4    |
| 15    | 6.0   | .5    | 2.7  | .8    | 10    | 3.0   | 3.6   | 3.4   | 1.4   | .6   | .4   | .4    |
| 16    | 2.7   | .5    | 2.7  | .8    | 9.4   | 19    | 23    | 3.3   | 1.4   | .5   | .4   | .3    |
| 17    | 1.4   | .6    | 1.0  | .8    | 7.7   | 3.9   | 1.5   | 3.0   | 1.3   | .5   | .4   | .3    |
| 18    | 1.1   | .6    | 1.0  | .8    | 6.6   | 3.1   | a 1.9 | 2.7   | 1.2   | .5   | .4   | .3    |
| 19    | .9    | .5    | 1.0  | .8    | 6.0   | 3.0   | a 3.1 | 2.7   | 1.2   | .5   | .4   | .3    |
| 20    | .8    | .5    | 1.0  | .7    | 5.6   | 3.0   | a 2.6 | 2.7   | 1.2   | .5   | .4   | .3    |
| 21    | .7    | .6    | 1.0  | .7    | 5.2   | 2.8   | a 2.5 | 3.1   | 1.2   | .5   | .4   | .3    |
| 22    | .7    | .6    | 1.0  | .7    | 5.1   | 9.7   | a 1.8 | 3.1   | 1.1   | .5   | .4   | .3    |
| 23    | .7    | .6    | 1.0  | .7    | 4.8   | 13    | a 1.3 | 2.7   | 1.1   | .5   | .4   | .3    |
| 24    | .7    | .5    | 1.0  | .8    | 4.7   | 4.0   | a 8.6 | 2.7   | 1.1   | .5   | .4   | .2    |
| 25    | .7    | .5    | 1.0  | .8    | 4.5   | 3.5   | a 1.6 | 2.3   | 1.1   | .5   | .4   | .2    |
| 26    | .7    | 1.1   | 1.0  | .8    | 4.2   | 3.2   | a 1.1 | 2.3   | 1.0   | .5   | .4   | .2    |
| 27    | .7    | 1.6   | 1.0  | .8    | 4.1   | 82    | 6.6   | 2.3   | * 1.0 | .5   | .4   | .2    |
| 28    | .6    | .8    | 1.0  | .8    | 4.1   | 107   | 5.8   | 2.1   | 1.0   | .5   | .4   | .2    |
| 29    | .6    | .6    | 1.0  | 2.1   | ----- | 20    | 5.4   | 2.1   | .9    | .5   | .3   | .3    |
| 30    | .6    | .6    | 1.0  | 190   | ----- | 11    | 5.3   | 1.9   | .9    | .5   | .3   | .3    |
| 31    | .5    | ----- | 1.0  | 352   | ----- | 8.3   | ----- | 1.9   | ----- | .5   | .3   | ----- |
| Total | 420.1 | 18.0  | 29.4 | 566.7 | 579.6 | 348.3 | 575.3 | 110.4 | 40.0  | 18.8 | 12.6 | 8.8   |
| Mean  | 13.6  | 0.60  | 0.95 | 18.3  | 20.7  | 11.2  | 19.2  | 3.56  | 1.33  | 0.61 | 0.41 | 0.29  |
| Max   | 316   | 1.6   | 2.7  | 352   | 191   | 107   | 93    | 5.6   | 1.8   | 0.8  | 0.5  | 0.4   |
| Min   | 0     | 0.5   | 0.6  | 0.7   | 4.1   | 2.7   | 4.7   | 1.9   | 0.9   | 0.5  | 0.3  | 0.2   |
| Ac-ft | 833   | 36    | 58   | 1,120 | 1,150 | 691   | 1,140 | 219   | 79    | 37   | 25   | 17    |

Calendar year 1962: Max 316 Min 0 Mean 3.20 Ac-ft 2,320  
Water year 1962-63: Max 352 Min 0 Mean 7.47 Ac-ft 5,400

Peak discharge (base, 80 cfs, revised)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1500 | 7.18        | 797       | 3-28 | 0400 | 4.86        | 398       |
| 1-30  | 1800 | 6.30        | 639       | 4- 6 | 0630 | 4.01        | 261       |
| 2- 9  | 1730 | 4.32        | 314       | 4-14 | 1600 | 3.75        | 215       |
| 2-12  | 2230 | 3.80        | 224       | 4-18 | 2400 | 3.37        | 150       |

\* Discharge measurement made on this day.  
a No gage-height record.

## PACHECO CREEK BASIN

11-1825. San Ramon Creek at San Ramon, Calif.

Location---Lat 37°46'20", long 121°59'40", in sec.8, T.2 S., R.1 W., on right bank 0.2 mile downstream from Bollinger Creek and 1.0 mile southwest of San Ramon.

Drainage area--5.89 sq mi.

Records available--October 1952 to September 1963.

Gage--Water-stage recorder, tipping-bucket rain gage, and concrete control. Altitude of gage is 530 ft (from topographic map).

Average discharge--11 years, 2.81 cfs (2,030 acre-ft per year); median of mean annual discharges, 1.1 cfs (800 acre-ft per year).

Extremes---Maximum discharge during year, 1,600 cfs Oct. 13 (gage height, 16.98 ft), from rating curve extended above 90 cfs on basis of indirect measurements of peak flow through culvert at gage heights 12.09 and 16.98 ft; no flow Oct. 1-10, Sept. 26-30.

1952-63: Maximum discharge, that of Oct. 13, 1962; no flow for parts of each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used July 2-25, Sept. 13-30)

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 1.5 | 0   | 1.9 | 2.8 | 2.5 | 37  |
| 1.6 | .1  | 2.0 | 6.2 | 3.0 | 96  |
| 1.7 | .4  | 2.1 | 10  | 6.0 | 540 |
| 1.8 | 1.1 | 2.3 | 21  |     |     |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC. | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0     | 1.1   | 0.9  | 1.4   | *151  | 5.7   | 5.3   | 7.0   | 2.0   | 0.8  | 0.3  | 0.2   |
| 2     | 0     | 1.1   | 1.2  | 1.2   | 34    | 5.7   | 4.4   | 6.6   | 2.0   | .7   | .3   | .1    |
| 3     | 0     | 1.1   | 1.4  | 1.2   | 20    | 5.7   | 4.1   | *6.6  | 1.8   | *.9  | .4   | .1    |
| 4     | 0     | 1.0   | 1.1  | 1.1   | 16    | 4.8   | *3.8  | 6.6   | 1.7   | .9   | .4   | .1    |
| 5     | 0     | 1.0   | 1.1  | 1.1   | 14    | 4.8   | 4.4   | 6.2   | 1.7   | 1.1  | .3   | *.1   |
| 6     | 0     | .9    | 1.1  | 1.1   | 12    | *5.7  | 36    | 5.7   | 1.7   | 1.0  | .3   | .2    |
| 7     | 0     | 1.0   | 1.2  | 1.1   | 12    | 4.4   | 19    | 5.7   | *1.7  | 1.0  | .3   | .2    |
| 8     | 0     | 1.0   | 1.1  | 1.1   | 12    | 4.1   | 11    | 7.0   | 1.8   | 1.1  | .3   | .1    |
| 9     | *0    | 1.1   | 1.1  | 1.1   | 17    | 4.1   | 19    | 5.7   | 1.5   | 1.2  | .4   | .1    |
| 10    | 0     | 1.1   | 1.1  | 1.1   | 13    | 3.8   | 11    | 6.6   | 1.5   | 1.0  | .3   | .2    |
| 11    | .7    | 1.1   | 1.1  | 1.0   | 10    | 3.5   | 8.9   | 5.7   | 1.4   | 1.0  | .2   | .1    |
| 12    | 27    | 1.1   | 1.1  | 1.0   | 26    | 3.5   | 8.1   | 4.8   | 1.2   | 1.0  | .2   | .2    |
| 13    | *411  | 1.2   | 1.1  | 1.0   | 21    | 3.3   | 11    | 4.4   | 1.2   | 1.1  | .2   | .2    |
| 14    | 46    | 1.1   | 1.1  | 1.0   | *12   | 3.8   | 41    | 4.4   | 1.1   | 1.1  | .2   | .2    |
| 15    | 9.2   | 1.0   | 5.1  | 1.0   | 11    | 3.5   | 21    | 4.1   | 1.1   | 1.1  | .2   | .2    |
| 16    | *4.8  | .9    | 9.3  | 1.0   | 11    | 9.2   | 16    | 3.8   | 1.2   | 1.1  | .2   | .1    |
| 17    | 3.8   | 1.0   | *7.7 | 1.0   | 9.6   | 3.5   | 14    | 3.5   | 1.0   | 1.1  | .2   | .2    |
| 18    | 3.3   | .9    | 4.8  | 1.0   | 8.9   | 3.3   | 14    | 3.3   | 1.0   | 1.1  | .3   | .2    |
| 19    | 2.6   | .8    | 3.0  | 1.0   | 8.5   | 3.0   | 23    | 3.0   | .9    | 1.0  | .3   | .1    |
| 20    | 2.4   | *.8   | 2.6  | 1.0   | 8.1   | 2.8   | 22    | 3.0   | .9    | .8   | .2   | .1    |
| 21    | 2.2   | .8    | 2.4  | 1.0   | 7.7   | 2.8   | 14    | 3.0   | .9    | .7   | .2   | .1    |
| 22    | 1.7   | .8    | 2.2  | 1.0   | 7.3   | 3.3   | 12    | 3.3   | .7    | .6   | .2   | .1    |
| 23    | *1.7  | .8    | 2.2  | 1.0   | 7.0   | 6.0   | 12    | 3.0   | .6    | .5   | .3   | .1    |
| 24    | 1.4   | .7    | 2.0  | *1.1  | 6.6   | 3.0   | 11    | 3.0   | .6    | .4   | .3   | .1    |
| 25    | 1.4   | .8    | 1.8  | 1.1   | 7.0   | 2.8   | 13    | 2.8   | .6    | .3   | .2   | .1    |
| 26    | 1.4   | 1.6   | 1.7  | 1.1   | 6.6   | 2.6   | 11    | 2.6   | .7    | .3   | .2   | 0     |
| 27    | 1.4   | 2.0   | 1.7  | 1.1   | 6.2   | 22    | 9.6   | 2.6   | .8    | .3   | .2   | 0     |
| 28    | 1.2   | 1.0   | 1.5  | 1.1   | 5.7   | *20   | 8.5   | 2.4   | .8    | .3   | .2   | 0     |
| 29    | 1.2   | .9    | 1.5  | 1.5   | ----- | 8.5   | 8.1   | 2.4   | .9    | .3   | .1   | 0     |
| 30    | 1.1   | .9    | 1.5  | 33    | ----- | 6.2   | 7.3   | 2.4   | .9    | .3   | .2   | 0     |
| 31    | 1.2   | ----- | 1.4  | *327  | ----- | 5.7   | ----- | 2.2   | ----- | *.3  | .2   | ----- |
| TOTAL | 526.7 | 30.6  | 68.1 | 391.5 | 481.2 | 171.1 | 403.5 | 133.4 | 35.9  | 24.4 | 7.8  | 3.5   |
| MEAN  | 17.0  | 1.02  | 2.20 | 12.6  | 17.2  | 5.52  | 13.5  | 4.30  | 1.20  | 0.79 | 0.25 | 0.12  |
| MAX   | 411   | 2.0   | 9.3  | 327   | 151   | 22    | 41    | 7.0   | 2.0   | 1.2  | 0.4  | 0.2   |
| MIN   | 0     | 0.7   | 0.9  | 1.0   | 5.7   | 2.6   | 3.8   | 2.2   | 0.6   | 0.3  | 0.1  | 0     |
| AC-FT | 1,040 | 61    | 135  | 777   | 954   | 339   | 800   | 265   | 71    | 48   | 15   | 6.9   |
| (+)   | 11.5  | 0.7   | 1.7  | 7.7   | 2.5   | 4.4   | 5.2   | 0.8   | 0     | 0    | 0    | 0.1   |

Calendar year 1962: Max 411 Min 0 Mean 3.63 Ac-ft 2,620  
Water year 1962-63: Max 411 Min 0 Mean 6.24 Ac-ft 4,510

## Peak discharge (base, 100 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1500 | 16.98       | 1,600     | 4-14 | 0630 | 3.11        | 110       |
| 1-31  | 1930 | 12.09       | 1,250     |      |      |             |           |

\* Discharge measurement made on this day.

† Precipitation, in inches.

11-1830. San Ramon Creek at Walnut Creek, Calif.

Location.--Lat 37°53'04", long 122°03'00", on boundary between Arroyo de las Nueces y Bolbones and San Ramon Grants, on left bank 0.3 mile downstream from small tributary, 1.1 miles south of town of Walnut Creek, Contra Costa County, and 1.2 miles upstream from confluence with Las Trampas Creek.

Drainage area.--50.8 sq mi.

Records available.--October 1952 to September 1963.

Gage.--Water-stage recorder and, since Dec. 4, 1962, concrete control. Altitude of gage is 170 ft (from topographic map).

Average discharge.--11 years, 13.9 cfs (10,060 acre-ft per year); median of yearly mean discharges, 4.0 cfs (2,900 acre-ft per year).

Extremes.--Maximum discharge during year, 7,980 cfs Jan. 31 (gage height, 14.40 ft), from rating curve extended above 2,200 cfs on basis of computed discharge at gage height 13.16 ft; no flow Oct. 1-4, Aug. 27-30, Sept. 3-6.  
1952-63: Maximum discharge, that of Jan. 31, 1963; maximum gage height, 14.55 ft Dec. 23, 1955; no flow at times in most years.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Pumping for irrigation above station during periods of low flow.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 13, 14)

Oct. 1 to Dec. 3

Dec. 4 to Sept. 30

|     |     |     |     |     |       |      |     |     |     |      |       |
|-----|-----|-----|-----|-----|-------|------|-----|-----|-----|------|-------|
| 0.8 | 0   | 1.5 | 18  | 4.0 | 405   | 0.82 | 0   | 1.6 | 9.5 | 3.5  | 240   |
| .9  | .3  | 2.0 | 38  | 5.0 | 770   | 1.0  | .2  | 1.8 | 17  | 4.0  | 375   |
| 1.0 | 1.2 | 2.5 | 72  | 6.0 | 1,240 | 1.1  | .6  | 2.0 | 27  | 6.0  | 1,180 |
| 1.1 | 2.9 | 3.0 | 136 | 8.0 | 2,530 | 1.2  | 1.3 | 2.2 | 40  | 8.0  | 2,240 |
| 1.2 | 5.4 | 3.5 | 257 |     |       | 1.3  | 2.5 | 2.5 | 67  | 10.0 | 3,690 |
|     |     |     |     |     |       | 1.4  | 4.2 | 3.0 | 137 |      |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.  | Jan.    | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|---------|-------|-------|---------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0       | 2.8   | 2.2   | 3.1     | 1,140 | 13    | 16    | 22    | 8.6   | 3.8  | 0.3  | 0.2   |
| 2     | 0       | 2.8   | 2.2   | 3.4     | 132   | 12    | 14    | 22    | 8.3   | 3.8  | .3   | .1    |
| 3     | 0       | 2.8   | *2.7  | 3.1     | 62    | 12    | 13    | 20    | *8.1  | 4.4  | .4   | 0     |
| 4     | 0       | 2.8   | 1.8   | 2.9     | 45    | 12    | 13    | 19    | 7.8   | 4.0  | .3   | 0     |
| 5     | .1      | 2.6   | 2.5   | 2.8     | 36    | 11    | *12   | 16    | 7.5   | 4.0  | .6   | 0     |
| 6     | .1      | 2.6   | 2.1   | 2.8     | 31    | *10   | 137   | *15   | 7.5   | 3.2  | .5   | *0    |
| 7     | .1      | 2.6   | 2.1   | 2.9     | 26    | 11    | 134   | 20    | 6.9   | 4.4  | .5   | .2    |
| 8     | .2      | 2.6   | 2.3   | 2.9     | 25    | 11    | 45    | 24    | 6.6   | *4.0 | .3   | .3    |
| 9     | *.1     | 2.8   | 2.5   | 2.8     | 69    | 9.5   | 25    | 20    | 6.4   | 4.0  | .4   | .2    |
| 10    | .2      | 2.8   | 3.2   | 5.5     | 77    | 8.6   | 50    | 22    | 6.4   | 3.4  | .4   | .1    |
| 11    | 2.0     | 3.0   | 2.5   | 9.9     | 30    | 8.3   | 30    | 18    | 4.4   | 2.3  | .1   | .1    |
| 12    | 148     | 3.0   | 1.4   | 3.1     | 192   | 8.6   | 25    | 16    | 4.4   | 1.6  | .5   | .2    |
| 13    | *2,030  | 3.0   | .9    | 2.6     | 192   | 8.1   | 30    | 14    | 4.2   | 3.4  | .4   | .3    |
| 14    | 365     | 3.0   | .5    | 2.8     | 41    | 7.8   | 283   | 13    | 4.7   | 3.4  | .1   | .1    |
| 15    | 60      | 2.8   | 2.3   | 2.8     | 31    | 8.1   | 130   | 12    | 4.9   | 3.8  | .1   | .1    |
| 16    | *15     | 2.6   | 2.3   | 2.3     | 29    | 38    | 60    | 12    | 4.7   | 3.8  | .1   | .1    |
| 17    | 14      | 2.6   | *30   | 1.3     | 28    | 15    | 40    | 12    | 4.7   | 2.5  | .1   | .1    |
| 18    | 13      | 2.4   | 18    | 1.9     | 23    | 11    | 30    | 11    | 4.2   | 3.0  | .1   | .1    |
| 19    | 12      | 2.2   | 10    | 1.8     | 20    | 9.8   | 60    | 11    | 3.4   | 4.2  | .1   | .1    |
| 20    | 11      | *2.1  | 5.9   | 1.5     | 19    | 8.6   | 120   | 10    | 3.4   | 2.5  | .1   | .1    |
| 21    | 10      | 2.1   | 5.2   | 1.9     | *18   | 8.1   | 60    | 10    | 3.4   | 3.2  | .3   | .1    |
| 22    | 9.0     | 2.1   | 4.7   | 1.8     | 17    | 10    | 40    | 11    | 3.4   | 2.2  | .1   | .1    |
| 23    | 7.0     | 2.1   | 4.4   | 1.7     | 16    | 27    | 35    | 11    | 3.6   | 2.1  | .1   | .1    |
| 24    | 5.0     | 2.0   | 4.0   | *3.4    | 15    | 13    | 35    | 9.8   | 3.2   | 1.2  | .1   | .1    |
| 25    | *4.0    | 2.0   | 3.6   | 2.2     | 15    | 9.8   | 40    | 9.8   | 2.9   | .4   | .1   | .1    |
| 26    | 3.5     | 4.0   | 2.2   | 1.9     | 14    | 9.5   | 35    | 9.8   | 2.2   | .6   | .1   | .1    |
| 27    | 3.5     | 6.0   | 2.5   | 1.8     | 14    | 140   | 30    | 9.5   | 1.9   | 1.7  | 0    | .1    |
| 28    | 3.0     | 3.5   | 3.2   | 1.9     | 13    | 202   | 28    | 8.9   | 2.8   | 2.5  | 0    | .1    |
| 29    | 3.0     | 2.5   | 3.1   | 2.5     | ----- | *31   | 26    | 8.9   | 3.4   | .8   | 0    | .1    |
| 30    | *2.9    | 2.2   | 2.9   | *354    | ----- | 20    | 24    | 8.9   | 3.8   | 1.5  | 0    | .2    |
| 31    | 2.9     | ----- | 3.1   | *2,950  | ----- | 19    | ----- | 8.6   | ----- | *1.2 | .4   | ----- |
| Total | 2,724.6 | 82.4  | 157.0 | 3,385.3 | 2,370 | 722.8 | 1,620 | 435.2 | 147.7 | 86.9 | 6.9  | 3.5   |
| Mean  | 87.9    | 2.75  | 5.06  | 109     | 84.6  | 23.3  | 54.0  | 14.0  | 4.92  | 2.80 | 0.22 | 0.12  |
| Max   | 2,030   | 6.0   | 30    | 2,950   | 1,140 | 202   | 283   | 22    | 8.6   | 4.4  | 0.6  | 0.3   |
| Min   | 0       | 2.0   | 0.5   | 1.3     | 13    | 7.8   | 12    | 8.6   | 1.9   | 0.4  | 0    | 0     |
| Ac-ft | 5,400   | 163   | 311   | 6,710   | 4,700 | 1,430 | 3,210 | 863   | 293   | 172  | 14   | 6.9   |

Calendar year 1962: Max 2,030 Min 0 Mean 17.1 Ac-ft 12,400  
Water year 1962-63: Max 2,950 Min 0 Mean 32.2 Ac-ft 23,270

Peak discharge (base, 500 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1500 | 9.02        | 4,500     | 3-27 | 2300 | 4.90        | 700       |
| 1-31  | 2100 | 14.40       | 7,980     | 4-14 | 1600 | 4.58        | 578       |
| 2-12  | 2200 | 4.78        | 652       |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 15 to Dec. 3, Apr. 8-13, Apr. 15 to May 14, Aug. 2-6.

11-1835. Walnut Creek at Walnut Creek, Calif.

Location.--Lat 37°54'21", long 122°03'22", in Arroyo de las Nueces y Bolbones Grant, on right bank at Southern Pacific Railroad bridge at town of Walnut Creek, Contra Costa County, 0.7 mile downstream from confluence of San Ramon and Las Trampas Creeks.

Drainage area.--79.2 sq mi.

Records available.--October 1952 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 120 ft (from topographic map). Prior to June 20, 1957, at site 0.6 mile upstream at different datum.

Average discharge.--11 years, 27.6 cfs (19,980 acre-ft per year); median of yearly mean discharges, 11 cfs (8,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,900 cfs Oct. 13 (gage height, 13.68 ft), from rating curve extended above 3,200 cfs; no flow part of Oct. 1.

1952-63: Maximum discharge, 12,200 cfs Apr. 2, 1958 (gage height, 20.2 ft); no flow July 29 to Nov. 7, 1954, part of July 10, 1957, Oct. 1, 1962.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Flow slightly regulated by storage in Lafayette Reservoir. Some small diversions for irrigation above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1-12 |     |     |     | Oct. 13 to Sept. 30 |     |     |       |
|-----------|-----|-----|-----|---------------------|-----|-----|-------|
| 1.3       | 0   | 1.8 | 2.4 | 2.7                 | 47  | 1.3 | 0.4   |
| 1.4       | .2  | 1.9 | 3.4 | 3.0                 | 83  | 1.4 | 1.2   |
| 1.5       | .5  | 2.0 | 5.0 | 3.5                 | 181 | 1.5 | 2.6   |
| 1.6       | 1.0 | 2.2 | 11  | 4.0                 | 355 | 1.6 | 5.0   |
| 1.7       | 1.6 | 2.4 | 23  | 4.5                 | 665 | 1.7 | 8.6   |
|           |     |     |     |                     |     |     | 3.0   |
|           |     |     |     |                     |     |     | 14    |
|           |     |     |     |                     |     |     | 26    |
|           |     |     |     |                     |     |     | 45    |
|           |     |     |     |                     |     |     | 84    |
|           |     |     |     |                     |     |     | 190   |
|           |     |     |     |                     |     |     | 3.5   |
|           |     |     |     |                     |     |     | 4.0   |
|           |     |     |     |                     |     |     | 5.0   |
|           |     |     |     |                     |     |     | 7.0   |
|           |     |     |     |                     |     |     | 9.0   |
|           |     |     |     |                     |     |     | 345   |
|           |     |     |     |                     |     |     | 565   |
|           |     |     |     |                     |     |     | 1,170 |
|           |     |     |     |                     |     |     | 2,790 |
|           |     |     |     |                     |     |     | 4,750 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.  | Jan.    | Feb.   | Mar.  | Apr.  | May   | June  | July  | Aug. | Sept. |
|-------|---------|-------|-------|---------|--------|-------|-------|-------|-------|-------|------|-------|
| 1     | 0.1     | 6.6   | 12    | 5.9     | *1,590 | 26    | 30    | 40    | 16    | 8.6   | 2.3  | 2.3   |
| 2     | .1      | 6.4   | 12    | 6.6     | 213    | 24    | 26    | 37    | 15    | 8.2   | 3.0  | 1.8   |
| 3     | .1      | 6.2   | 22    | 5.9     | 110    | 27    | 25    | 34    | *14   | 9.6   | 2.8  | 1.8   |
| 4     | .1      | 6.0   | 11    | 5.9     | 77     | 24    | *22   | 31    | 15    | 8.2   | 2.1  | 1.8   |
| 5     | .2      | 5.6   | 7.0   | 5.6     | 64     | 24    | 22    | 28    | 13    | 7.8   | 3.0  | *1.8  |
| 6     | .2      | 5.4   | 6.6   | 5.3     | 53     | *24   | 237   | *26   | 12    | 7.4   | 2.6  | 1.2   |
| 7     | .2      | 5.2   | 6.3   | 5.3     | 48     | 23    | 142   | 27    | 12    | 7.8   | 2.3  | 1.5   |
| 8     | .4      | 5.4   | 6.6   | 5.9     | 46     | 21    | 55    | 45    | 15    | *7.4  | 2.3  | 2.0   |
| 9     | *.3     | 5.6   | 6.3   | 5.0     | 140    | 18    | 99    | 40    | 11    | 7.4   | 3.0  | 1.9   |
| 10    | 4.8     | 6.0   | 7.8   | 7.1     | 133    | 18    | 80    | 46    | 13    | 7.0   | 2.4  | 1.9   |
| 11    | 4.9     | 6.2   | 7.0   | 16      | 54     | 18    | 60    | 42    | 10    | 5.3   | 1.9  | 1.4   |
| 12    | 530     | 6.2   | 5.3   | 5.0     | 286    | 18    | 55    | 36    | 9.6   | 3.9   | 1.9  | 6.6   |
| 13    | 4,150   | 6.4   | 4.1   | 4.4     | 318    | 18    | 80    | 30    | 8.6   | 5.3   | 1.8  | 3.7   |
| 14    | 537     | 6.6   | 4.4   | 4.4     | 87     | 18    | 379   | 25    | 10    | 5.3   | 2.1  | 2.7   |
| 15    | 83      | 6.4   | 4.4   | 3.9     | 64     | 18    | 185   | 22    | 12    | 6.3   | 1.8  | 2.7   |
| 16    | *33     | 5.8   | 11.9  | 4.4     | 59     | 122   | 75    | 21    | 12    | 6.3   | 1.8  | 1.9   |
| 17    | 27      | 5.4   | 126   | 3.9     | 54     | 30    | 60    | 32    | 13    | 5.3   | 1.8  | 1.4   |
| 18    | 23      | 5.0   | *4.9  | 5.0     | 44     | 22    | 53    | 40    | 12    | 5.9   | 1.6  | 1.4   |
| 19    | 23      | 4.8   | 21    | 3.9     | 41     | 20    | 176   | 23    | 11    | 6.6   | 1.4  | 2.2   |
| 20    | 21      | 4.6   | 14    | 3.7     | 38     | 20    | 174   | 23    | 12    | 4.4   | 1.9  | 2.1   |
| 21    | 20      | 4.6   | 12    | 5.0     | 35     | 17    | 79    | 24    | 11    | 5.9   | 2.1  | 1.9   |
| 22    | 18      | 4.4   | 9.6   | 5.0     | 33     | 39    | 70    | 30    | 11    | 5.3   | 2.3  | 1.8   |
| 23    | 18      | 4.2   | 9.6   | 4.1     | 32     | 69    | 66    | 37    | 12    | 5.0   | 2.6  | 1.4   |
| 24    | 17      | 4.0   | 10    | *6.5    | 31     | 22    | 62    | 34    | 10    | 4.6   | 5.9  | 1.2   |
| 25    | *15     | 4.0   | 7.8   | 5.3     | 30     | 20    | 70    | 22    | 9.6   | 2.4   | 3.4  | 1.7   |
| 26    | 14      | *18   | 5.6   | 4.4     | 29     | 20    | 64    | 21    | 8.2   | 2.4   | 3.0  | 1.3   |
| 27    | 8.3     | 20    | 5.6   | 4.1     | 27     | 261   | 58    | 21    | 7.0   | 3.3   | 1.8  | 1.4   |
| 28    | 10      | 7.4   | 7.0   | 4.1     | 27     | 266   | 50    | 21    | 11    | 5.8   | 1.6  | 1.4   |
| 29    | 7.3     | 6.6   | 6.6   | 34      | -----  | *53   | 46    | 20    | 8.2   | 2.8   | 1.6  | .9    |
| 30    | 7.0     | 7.4   | 5.9   | 998     | -----  | 40    | 44    | 22    | 8.6   | *3.9  | 1.4  | 1.0   |
| 31    | 6.8     | ----- | 6.6   | *3,540  | -----  | 35    | ----- | 24    | ----- | 3.4   | 1.5  | ----- |
| Total | 5,623.9 | 196.4 | 577.7 | 4,723.6 | 3,763  | 1,375 | 2,644 | 924   | 342.8 | 178.8 | 71.0 | 58.1  |
| Mean  | 181     | 6.55  | 18.6  | 152     | 134    | 44.4  | 88.1  | 29.8  | 11.4  | 5.77  | 2.29 | 1.94  |
| Max   | 4,150   | 20    | 126   | 3,540   | 1,590  | 266   | 379   | 46    | 16    | 9.6   | 5.9  | 6.6   |
| Min   | 0.1     | 4.0   | 4.1   | 3.7     | 27     | 17    | 22    | 20    | 7.0   | 2.4   | 1.4  | 0.9   |
| Ac-ft | 11,150  | 390   | 1,150 | 9,370   | 7,460  | 2,730 | 5,240 | 1,830 | 680   | 355   | 141  | 115   |

Calendar year 1962: Max 4,150 Min 0.1 Mean 37.2 Ac-ft 26,900  
 Water year 1962-63: Max 4,150 Min 0.1 Mean 56.1 Ac-ft 40,610

Peak discharge (base, 600 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1430 | 13.68       | 10,900    | 3-27 | 2130 | 5.00        | 1,170     |
| 1-31  | 2000 | 12.55       | 9,180     | 4-14 | 1630 | 4.23        | 682       |
| 2-12  | 2200 | 4.82        | 1,040     |      |      |             |           |

\* Discharge measurement made on this day.  
 Note.--No gage-height record Oct. 15-17, Oct. 31 to Nov. 25, Feb. 5, Mar. 30 to Apr. 3, Apr. 10-13, 22-25, Apr. 27 to May 9, May 11-13, Aug. 19, 30, 31.

11-4560. Napa River near St. Helena, Calif.

Location.--Lat 38°29'40", long 122°25'50", in SE $\frac{1}{4}$  sec. 32, T.8 N., R.5 W., on right bank 0.2 mile upstream from highway bridge, 1.3 miles northeast of Zinfandel, and 2.5 miles east of St. Helena.

Drainage area.--81.1 sq mi.

Records available.--October 1929 to September 1932, October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 200 ft (from topographic map). Prior to Nov. 22, 1958, at datum 1.00 ft higher.

Average discharge.--27 years, 88.5 cfs (64,070 acre-ft per year); median of yearly mean discharges, 66 cfs (47,800 acre-ft per year).

Extremes.--Maximum discharge during year, 12,300 cfs Jan. 31 (gage height, 15.30 ft); no flow Sept. 11-15, 28, 29.

1929-32, 1939-63: Maximum discharge, 12,600 cfs Dec. 22, 1955 (gage height, 16.17 ft, present datum); no flow at times in 1947-49, 1952-57, 1959-63.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-11, Aug. 25 to Sept. 30)

Oct. 1 to Jan. 31

Feb. 1 to Sept. 30

|     |     |     |     |      |       |     |     |     |     |     |       |
|-----|-----|-----|-----|------|-------|-----|-----|-----|-----|-----|-------|
| 0.2 | 0   | 1.0 | 15  | 3.0  | 335   | 0.1 | 0   | 0.7 | 6.2 | 2.5 | 196   |
| .3  | .4  | 1.2 | 26  | 4.0  | 750   | .2  | .2  | .8  | 9.0 | 3.0 | 334   |
| .4  | 1.0 | 1.5 | 47  | 6.0  | 1,870 | .3  | .5  | 1.0 | 17  | 3.5 | 530   |
| .5  | 2.0 | 2.0 | 102 | 8.0  | 3,530 | .4  | 1.2 | 1.3 | 33  | 4.0 | 780   |
| .6  | 3.5 | 2.5 | 192 | 12.0 | 7,760 | .5  | 2.4 | 1.7 | 67  | 6.0 | 1,940 |
| .8  | 7.8 |     |     |      |       | .6  | 4.0 | 2.0 | 104 | 8.0 | 3,530 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.  | Jan.   | Feb.   | Mar.  | Apr.   | May   | June  | July  | Aug. | Sept. |
|-------|---------|-------|-------|--------|--------|-------|--------|-------|-------|-------|------|-------|
| 1     | *0.3    | 17    | 13    | 44     | 2,920  | *60   | 266    | 78    | 24    | 6.8   | 3.7  | 2.7   |
| 2     | .2      | 16    | 15    | 42     | *967   | 59    | 213    | 70    | 23    | 6.8   | 3.4  | 2.3   |
| 3     | .2      | 16    | 104   | 41     | 626    | 55    | *156   | 66    | 22    | 7.0   | 3.0  | 2.2   |
| 4     | .2      | 16    | 46    | 38     | 341    | 52    | 134    | 63    | 22    | 6.5   | 3.0  | *1.9  |
| 5     | .1      | 15    | 33    | 36     | *241   | 50    | 163    | 61    | 20    | 6.0   | 3.8  | 2.2   |
| 6     | .1      | 15    | 27    | 34     | 201    | 50    | 1,570  | 58    | 18    | 6.5   | *2.5 | 1.9   |
| 7     | .1      | 14    | 22    | 33     | 174    | 49    | 962    | 56    | 18    | 7.0   | 3.7  | 1.9   |
| 8     | .1      | *14   | 21    | 32     | 183    | 47    | 516    | 58    | 18    | 5.5   | 3.7  | 2.0   |
| 9     | .8      | 14    | 19    | *31    | 424    | 50    | 368    | 56    | 17    | 5.5   | 4.2  | 1.9   |
| 10    | 2.3     | 13    | 18    | 30     | 674    | 43    | 428    | 59    | 17    | *4.8  | 2.4  | 1.3   |
| 11    | 37      | 13    | 17    | 28     | 310    | 40    | 346    | 67    | 16    | 4.1   | 1.6  | 0     |
| 12    | 1,520   | 13    | 16    | 26     | 533    | 39    | 274    | 55    | *15   | 3.5   | 1.3  | 0     |
| 13    | 2,330   | 12    | *19   | 25     | 962    | 37    | 325    | 52    | 15    | 2.7   | 1.6  | 0     |
| 14    | 833     | 12    | 29    | 25     | 436    | 42    | 1,120  | 48    | 14    | 2.7   | 1.4  | 0     |
| 15    | *261    | 11    | 551   | 24     | 334    | 39    | 875    | 44    | 14    | 3.2   | 1.4  | 0     |
| 16    | 105     | 11    | 433   | 24     | 254    | 153   | 508    | 42    | 14    | 5.1   | 1.9  | 1.6   |
| 17    | 68      | 12    | 992   | 24     | 215    | 76    | 362    | 40    | 13    | 5.1   | 2.3  | .5    |
| 18    | 52      | 11    | *704  | 23     | 185    | 55    | 280    | 37    | a13   | 5.5   | 2.9  | .2    |
| 19    | 41      | 11    | 339   | 21     | 150    | 50    | 310    | 38    | a12   | 4.2   | 3.5  | .2    |
| 20    | 37      | 11    | 188   | 20     | 147    | 46    | 289    | 36    | a12   | 2.4   | 3.0  | .2    |
| 21    | 33      | 11    | 145   | 21     | 147    | 42    | 271    | 36    | a11   | 3.0   | 3.0  | .9    |
| 22    | 29      | 11    | 118   | 20     | 122    | 60    | 218    | 36    | a10   | 3.0   | 3.5  | .8    |
| 23    | 27      | 11    | 99    | 20     | 94     | 101   | 181    | 35    | a10   | 3.2   | 3.2  | 2.4   |
| 24    | 25      | 10    | 85    | 20     | 86     | 72    | 156    | 33    | a9.5  | 3.0   | 2.8  | 2.4   |
| 25    | 24      | 10    | 72    | 19     | 82     | 57    | 168    | 32    | a9    | 3.2   | 1.3  | 2.2   |
| 26    | 22      | 18    | 64    | 18     | a76    | 53    | 154    | 31    | a8    | 3.4   | 1.1  | 1.9   |
| 27    | 21      | 33    | 60    | 18     | a70    | 1,050 | 117    | 30    | 7.6   | 3.0   | 1.1  | .7    |
| 28    | 20      | 18    | 56    | 18     | a67    | 1,300 | 104    | 29    | 7.6   | 2.4   | 2.0  | 0     |
| 29    | 19      | 14    | 52    | 27     | -----  | 530   | 94     | 27    | 6.8   | 2.6   | 2.0  | 0     |
| 30    | 18      | 13    | 50    | 2,020  | -----  | 353   | *88    | 26    | 6.2   | 2.7   | 2.4  | .9    |
| 31    | 18      | ----- | 46    | 7,160  | -----  | 319   | -----  | *25   | ----- | 3.4   | 2.4  | ----- |
| Total | 5,544.4 | 416   | 4,453 | 9,962  | 11,021 | 5,029 | 11,016 | 1,424 | 422.7 | 133.8 | 79.1 | 35.2  |
| Mean  | 179     | 13.9  | 144   | 321    | 394    | 162   | 367    | 45.9  | 14.1  | 4.32  | 2.55 | 1.17  |
| Max   | 2,330   | 33    | 992   | 7,160  | 2,920  | 1,300 | 1,570  | 78    | 24    | 7.0   | 4.2  | 2.7   |
| Min   | .01     | 10    | 13    | 18     | 67     | 37    | 88     | 25    | 6.2   | 2.4   | 1.1  | 0     |
| Ac-ft | 11,000  | 825   | 8,830 | 19,760 | 21,860 | 9,970 | 21,850 | 2,820 | 838   | 265   | 157  | 70    |

Calendar year 1962: Max 3,230 Min 0 Mean 93.7 Ac-ft 67,810

Water year 1962-63: Max 7,160 Min 0 Mean 136 Ac-ft 98,250

Peak discharge (base, 2,300 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1630 | 8.55        | 4,050     | 3-27 | 2030 | 7.78        | 3,330     |
| 1-31  | 1730 | 15.30       | 12,300    | 4-6  | 0600 | 7.47        | 3,050     |

\* Discharge measurement made on this day.  
a No gage-height record.

## NAPA RIVER BASIN

11-4560. Napa River near St. Helena, Calif.--Continued.

Records available.--Water temperatures: October 1961 to September 1963.

Extremes.--Maximum temperature during year, 82°F June 17; minimum, 46°F Jan. 12, 13.

1961-63: Maximum temperature, that of June 17, 1963; minimum, 41°F Jan. 22, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 65   | 64  | 62    | 61    | 56   | 53  | 51   | 50  | 56    | 56    | 62   | 58  | 59    | 56    | 69  | 60  | 74    | 66    | 75   | 67  | 69   | 68  | 71    | 69    |
| 2   | 65   | 64  | 62    | 61    | 56   | 56  | 51   | 50  | 56    | 56    | 61   | 56  | 59    | 56    | 70  | 60  | 74    | 66    | 73   | 65  | 69   | 67  | 72    | 70    |
| 3   | 64   | 63  | 61    | 60    | 57   | 56  | 51   | 51  | 56    | 56    | 60   | 56  | 59    | 57    | 68  | 62  | 73    | 64    | 73   | 65  | 67   | 66  | 72    | 70    |
| 4   | 63   | 61  | 61    | 60    | 56   | 55  | 51   | 51  | 58    | 56    | 60   | 54  | 63    | 58    | 66  | 63  | 74    | 65    | 72   | 64  | 70   | 68  | 73    | 72    |
| 5   | 62   | 61  | 61    | 60    | 56   | 55  | 51   | 50  | 58    | 57    | 58   | 56  | 63    | 61    | 67  | 63  | 74    | 66    | 72   | 66  | 70   | 68  | 73    | 72    |
| 6   | 61   | 60  | 60    | 58    | 56   | 55  | 51   | 50  | 60    | 58    | 57   | 55  | 62    | 60    | 67  | 63  | 75    | 67    | 71   | 64  | 75   | 68  | 71    | 69    |
| 7   | 60   | 60  | 59    | 57    | 55   | 55  | 50   | 49  | 60    | 58    | 62   | 57  | 60    | 59    | 67  | 65  | 75    | 67    | 70   | 64  | 73   | 71  | 71    | 70    |
| 8   | 61   | 60  | 58    | 57    | 55   | 54  | 50   | 49  | 60    | 60    | 60   | 56  | 59    | 58    | 64  | 61  | 75    | 67    | 71   | 62  | 72   | 71  | 71    | 70    |
| 9   | 62   | 61  | 59    | 58    | 54   | 54  | 52   | 50  | 60    | 58    | 61   | 56  | 60    | 58    | 63  | 58  | 75    | 68    | 71   | 63  | 72   | 70  | 71    | 69    |
| 10  | 64   | 61  | 60    | 58    | 54   | 53  | 52   | 52  | 58    | 58    | 62   | 59  | 59    | 58    | 62  | 59  | 75    | 67    | 71   | 62  | 74   | 70  | 70    | 68    |
| 11  | 63   | 62  | 60    | 59    | 53   | 53  | 52   | 48  | 59    | 58    | 62   | 57  | 58    | 57    | 63  | 58  | 75    | 67    | 71   | 64  | 74   | 71  | 71    | 64    |
| 12  | 62   | 61  | 60    | 58    | 54   | 53  | 48   | 46  | 58    | 58    | 61   | 57  | 59    | 58    | 66  | 59  | 73    | 67    | 71   | 63  | 74   | 71  | 67    | 63    |
| 13  | 61   | 59  | 58    | 57    | 56   | 54  | 47   | 46  | 58    | 58    | 60   | 56  | 60    | 59    | 63  | 60  | 75    | 68    | 69   | 63  | 73   | 69  | 71    | 63    |
| 14  | 59   | 58  | 58    | 57    | 55   | 54  | 48   | 47  | 58    | 57    | 59   | 56  | 60    | 59    | 69  | 60  | 76    | 68    | 70   | 64  | 73   | 69  | 71    | 63    |
| 15  | 58   | 57  | 57    | 55    | 55   | 55  | 48   | 47  | 57    | 57    | 58   | 54  | 60    | 59    | 71  | 62  | 78    | 69    | 70   | 65  | 73   | 70  | 67    | 62    |
| 16  | 59   | 57  | 56    | 55    | 55   | 55  | 49   | 48  | 57    | 57    | 58   | 52  | 60    | 58    | 74  | 63  | 78    | 70    | 69   | 64  | 73   | 71  | 64    | 61    |
| 17  | 61   | 57  | 56    | 55    | 55   | 55  | 49   | 48  | 58    | 56    | 58   | 52  | 60    | 56    | 76  | 67  | 82    | 72    | 68   | 62  | 72   | 70  | 66    | 63    |
| 18  | 61   | 58  | 55    | 54    | 55   | 54  | 49   | 48  | 59    | 57    | 60   | 54  | 60    | 57    | 76  | 68  | 80    | 73    | 70   | 63  | 72   | 69  | 66    | 63    |
| 19  | 61   | 59  | 55    | 54    | 55   | 54  | 49   | 47  | 58    | 58    | 62   | 55  | 60    | 59    | 74  | 68  | 78    | 72    | 70   | 65  | 72   | 69  | 65    | 63    |
| 20  | 61   | 60  | 55    | 54    | 54   | 53  | 48   | 47  | 60    | 58    | 64   | 57  | 59    | 57    | 72  | 68  | 79    | 71    | 68   | 64  | 72   | 69  | 65    | 62    |
| 21  | 61   | 60  | 56    | 55    | 53   | 52  | 48   | 47  | 59    | 58    | 62   | 59  | 59    | 56    | 68  | 67  | 79    | 70    | 68   | 63  | 72   | 70  | 64    | 63    |
| 22  | 62   | 60  | 56    | 55    | 53   | 53  | 49   | 47  | 59    | 56    | 61   | 58  | 62    | 58    | 69  | 66  | 73    | 68    | 68   | 63  | 71   | 71  | 64    | 63    |
| 23  | 62   | 62  | 56    | 55    | 53   | 53  | 50   | 49  | 60    | 56    | 61   | 57  | 64    | 58    | 68  | 67  | 76    | 68    | 69   | 66  | 71   | 70  | 64    | 63    |
| 24  | 62   | 61  | 56    | 56    | 53   | 49  | 51   | 50  | 60    | 57    | 63   | 55  | 64    | 58    | 67  | 66  | 78    | 69    | 68   | 64  | 70   | 69  | 63    | 62    |
| 25  | 61   | 61  | 56    | 55    | 49   | 47  | 51   | 51  | 62    | 58    | 63   | 57  | 61    | 60    | 70  | 65  | 80    | 70    | 68   | 64  | 70   | 68  | 64    | 63    |
| 26  | 61   | 61  | 56    | 55    | 48   | 47  | 51   | 51  | 61    | 58    | 62   | 58  | 62    | 59    | 70  | 66  | 79    | 70    | 69   | 65  | 71   | 68  | 65    | 64    |
| 27  | 63   | 61  | 56    | 55    | 48   | 47  | 51   | 51  | 61    | 56    | 62   | 59  | 64    | 58    | 73  | 66  | 74    | 70    | 70   | 67  | 72   | 69  | 66    | 64    |
| 28  | 63   | 62  | 55    | 54    | 48   | 47  | 52   | 52  | 62    | 57    | 59   | 59  | 67    | 59    | 70  | 67  | 75    | 68    | 69   | 67  | 72   | 70  | 64    | 60    |
| 29  | 62   | 61  | 55    | 52    | 48   | 47  | 52   | 52  | ----- | ----- | 59   | 59  | 68    | 60    | 72  | 66  | 76    | 67    | 68   | 66  | 72   | 70  | 63    | 59    |
| 30  | 62   | 61  | 53    | 52    | 49   | 48  | 52   | 52  | ----- | ----- | 60   | 59  | 69    | 60    | 74  | 67  | 76    | 67    | 68   | 66  | 71   | 70  | 63    | 59    |
| 31  | 62   | 61  | ----- | ----- | 51   | 49  | 56   | 52  | ----- | ----- | 60   | 59  | ----- | ----- | 73  | 67  | ----- | ----- | 69   | 68  | 71   | 71  | ----- | ----- |
| Avg | 62   | 60  | 58    | 56    | 53   | 52  | 50   | 49  | 59    | 57    | 61   | 57  | 61    | 58    | 69  | 64  | 76    | 68    | 70   | 64  | 72   | 69  | 68    | 65    |

## NAPA RIVER BASIN

337

11-4570. Dry Creek near Napa, Calif.

Location.--Lat 38°21'23", long 122°21'50", in Napa Grant, on right bank 3.7 miles upstream from mouth and 5.5 miles northwest of Napa, Napa County.

Drainage area.--17.4 sq mi.

Records available.--January 1951 to September 1963.

Gage.--Water-stage recorder and, since June 14, 1955, concrete control. Altitude of gage is 190 ft (from topographic map). Prior to June 14, 1955, at site 350 ft downstream at different datum.

Average discharge.--12 years, 21.0 cfs (15,200 acre-ft per year); median of yearly mean discharges, 16 cfs (11,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,230 cfs Jan. 31 (gage height, 6.88 ft); no flow Oct. 1-9.

1951-63: Maximum discharge, 3,460 cfs Feb. 24, 1958 (gage height, 8.11 ft); no flow for many days in each year.

Remarks.--Records good. Several small diversions for irrigation above station. Occasional diversion around station through 6-inch pipe for domestic use on farm below station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 2 to Sept. 30)

|     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-------|
| 1.9 | 0   | 2.4 | 4.2 | 3.6 | 90    |
| 2.0 | .2  | 2.6 | 8.2 | 4.0 | 202   |
| 2.1 | .7  | 2.8 | 14  | 4.5 | 430   |
| 2.2 | 1.5 | 3.0 | 23  | 5.0 | 735   |
| 2.3 | 2.8 | 3.3 | 45  | 6.0 | 1,450 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.    | FEB.  | MAR.    | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|-------|---------|-------|---------|-------|-------|-------|------|------|-------|
| 1     | *0      | 4.2   | 3.8   | 9.3     | 675   | *16     | 65    | 23    | 7.5   | 2.7  | 0.8  | 0.2   |
| 2     | 0       | 3.9   | 4.2   | 9.0     | 236   | 16      | 55    | 21    | 7.5   | 2.7  | .7   | .1    |
| 3     | 0       | 3.9   | 21    | 8.5     | 133   | 14      | *51   | 20    | 7.1   | 2.5  | .7   | .1    |
| 4     | 0       | 3.9   | 7.3   | 8.0     | 90    | 13      | 45    | 19    | 7.1   | 2.4  | .7   | .1    |
| 5     | 0       | 3.5   | 5.3   | 7.5     | *69   | 13      | 46    | 17    | 6.9   | 2.4  | *.7  | *.1   |
| 6     | 0       | 3.5   | 4.7   | 7.1     | 57    | 12      | 190   | 16    | 6.2   | 2.1  | .6   | .1    |
| 7     | 0       | 3.4   | 4.2   | 6.9     | 50    | 12      | 147   | 15    | 6.0   | 2.0  | .6   | .1    |
| 8     | 0       | 3.2   | 4.1   | 6.7     | 49    | 12      | 103   | 15    | 5.8   | 1.7  | .6   | .1    |
| 9     | 0       | *3.2  | 3.9   | *6.4    | 79    | 11      | 79    | 14    | 5.5   | *1.7 | .6   | .1    |
| 10    | .3      | 3.2   | 3.8   | 6.2     | 97    | 10      | 74    | 14    | 5.1   | 1.6  | .5   | .1    |
| 11    | 14      | 3.1   | 3.6   | 6.0     | 66    | 9.9     | 63    | 14    | 4.6   | 1.5  | .5   | .1    |
| 12    | 348     | 3.1   | 3.6   | 5.6     | 105   | 9.3     | 57    | 13    | *4.4  | 1.4  | .4   | .2    |
| 13    | 447     | 2.9   | 4.1   | 5.5     | 142   | 9.0     | 56    | 12    | 4.2   | 1.4  | .4   | .3    |
| 14    | 170     | 2.8   | *4.1  | 5.5     | 94    | 9.9     | 127   | 12    | 4.2   | 1.3  | .4   | .2    |
| 15    | 56      | 2.8   | 58    | 5.6     | 76    | 9.3     | 105   | 11    | 4.1   | 1.3  | .3   | .1    |
| 16    | 33      | 2.7   | 49    | 5.3     | 68    | 63      | 86    | 11    | 4.1   | 1.3  | .3   | .1    |
| 17    | 23      | 2.7   | 152   | 5.3     | 57    | 24      | 76    | 11    | 3.9   | 1.2  | .3   | .1    |
| 18    | 17      | 2.5   | 95    | 5.3     | 50    | 17      | 63    | 10    | *3.8  | 1.2  | .3   | .2    |
| 19    | 13      | 2.4   | 55    | 5.1     | 44    | 15      | 69    | 10    | 3.8   | 1.2  | .2   | .2    |
| 20    | 11      | 2.4   | 43    | 4.7     | 41    | 14      | 63    | 10    | 3.6   | 1.0  | .2   | .2    |
| 21    | 9.6     | 2.4   | 34    | 4.7     | 36    | 13      | 56    | 9.6   | 3.6   | 1.0  | .2   | .2    |
| 22    | 8.5     | 2.4   | 28    | 4.7     | 32    | 19      | 50    | 9.6   | 3.5   | 1.0  | .2   | .2    |
| 23    | 7.5     | 3.0   | 24    | 4.7     | 28    | 28      | 46    | 9.3   | 3.5   | .8   | .3   | .2    |
| 24    | 6.9     | 3.2   | 20    | 4.7     | 26    | 21      | 41    | 9.0   | 3.4   | .8   | .3   | .2    |
| 25    | 6.4     | 3.2   | 17    | 4.7     | 24    | 18      | 41    | 9.0   | 3.2   | .8   | .2   | .2    |
| 26    | 6.0     | 5.6   | 15    | 4.7     | 21    | 16      | 38    | 8.5   | 3.2   | .8   | .2   | .1    |
| 27    | 5.6     | 7.5   | 13    | 4.7     | 20    | 197     | 33    | 8.5   | 2.9   | .8   | .1   | .1    |
| 28    | 5.1     | 4.6   | 13    | 4.7     | 18    | 304     | 32    | 8.5   | 2.9   | .8   | .1   | .1    |
| 29    | 4.9     | 4.1   | 11    | 5.8     | ----- | 150     | 28    | 8.0   | 2.8   | .8   | .2   | .1    |
| 30    | 4.7     | 3.9   | 11    | 408     | ----- | 99      | *25   | 8.0   | 2.8   | .8   | .2   | .1    |
| 31    | 4.4     | ----- | 10    | 1,340   | ----- | 81      | ----- | 7.5   | ----- | .8   | .2   | ----- |
| TOTAL | 1,201.9 | 103.2 | 725.7 | 1,920.9 | 2,483 | 1,255.4 | 2,010 | 383.5 | 137.2 | 43.8 | 12.0 | 4.3   |
| MEAN  | 38.8    | 3.44  | 23.4  | 62.0    | 88.7  | 40.5    | 67.0  | 12.4  | 4.57  | 1.41 | 0.39 | 0.14  |
| MAX   | 447     | 7.5   | 152   | 1,340   | 675   | 304     | 190   | 23    | 7.5   | 2.7  | 0.8  | 0.3   |
| MIN   | 0       | 2.4   | 3.6   | 4.7     | 18    | 9.0     | 25    | 7.5   | 2.8   | 0.8  | 0.1  | 0.1   |
| AC-FT | 2,380   | 205   | 1,440 | 3,810   | 4,920 | 2,490   | 3,990 | 761   | 272   | 87   | 24   | 8.5   |

CALENDAR YEAR 1962: MAX 626 MIN 0 MEAN 21.4 AC-FT 15,480

WATER YEAR 1962-63: MAX 1,340 MIN 0 MEAN 28.2 AC-FT 20,390

Peak discharge (base, 450 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1530 | 5.30        | 940       | 3-27 | 1930 | 4.83        | 624       |
| 1-31  | 1700 | 6.88        | 2,230     |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

11-4580. Napa River near Napa, Calif.

Location.--Lat 38°22'06", long 122°18'08", in Yajome Grant, on left bank at downstream side of Oak Knoll Avenue bridge, 0.4 mile downstream from Dry Creek and 5 miles north of Napa, Napa County.

Drainage area.--218 sq mi.

Records available.--October 1929 to September 1932, October 1959 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 24.72 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--7 years, 124 cfs (89,770 acre-ft per year).

Extremes.--Maximum discharge during year, 16,900 cfs Jan. 31 (gage height, 27.59 ft); no flow Oct. 1-10.  
1929-32, 1959-63: Maximum discharge, that of Jan. 31, 1963; no flow at times in each year.

Remarks.--Records good. Numerous diversions for irrigation above station. Flow slightly regulated by Lake Hennessey beginning in December 1945 (capacity, 31,000 acre-ft).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 11 to Jan. 30, Feb. 4-9, 13)

Oct. 1 to Feb. 12

Feb. 13 to Sept. 30

|     |     |     |     |      |        |     |     |     |     |      |       |
|-----|-----|-----|-----|------|--------|-----|-----|-----|-----|------|-------|
| 3.9 | 0   | 4.5 | 9.0 | 8.0  | 720    | 3.2 | 0.2 | 4.0 | 29  | 7.0  | 750   |
| 4.0 | .2  | 4.6 | 16  | 10.0 | 1,570  | 3.3 | .7  | 4.3 | 56  | 9.0  | 1,520 |
| 4.1 | .5  | 4.8 | 32  | 14.0 | 3,700  | 3.4 | 2.0 | 4.6 | 96  | 11.0 | 2,380 |
| 4.2 | 1.0 | 5.0 | 54  | 19.0 | 7,800  | 3.5 | 4.3 | 5.0 | 168 | 13.0 | 3,350 |
| 4.3 | 2.2 | 6.0 | 202 | 23.0 | 12,000 | 3.7 | 12  | 6.0 | 430 |      |       |
| 4.4 | 4.7 | 7.0 | 412 |      |        |     |     |     |     |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.     | NOV.  | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|----------|-------|--------|--------|--------|--------|--------|-------|-------|-------|------|-------|
| 1     | *0       | 44    | 22     | 90     | *9,820 | *160   | 712    | 197   | 55    | 10    | 2.6  | 0.2   |
| 2     | 0        | 42    | 22     | 87     | *2,950 | 154    | *586   | 177   | 53    | 10    | 2.8  | .3    |
| 3     | 0        | 41    | 126    | 85     | 1,600  | 143    | 466    | 164   | 47    | 10    | 3.8  | .4    |
| 4     | 0        | 37    | 73     | 80     | 898    | 134    | 400    | 156   | 46    | 11    | 3.8  | .5    |
| 5     | 0        | 35    | 50     | 76     | *690   | 121    | 379    | 150   | 42    | 9.7   | *3.5 | *.6   |
| 6     | 0        | 33    | 41     | 75     | 637    | 117    | 2,390  | 143   | 40    | 8.5   | 3.3  | .7    |
| 7     | 0        | 33    | 35     | 73     | 462    | 112    | 2,140  | 139   | 37    | 9.7   | 3.0  | 1.1   |
| 8     | 0        | 32    | 32     | 71     | 435    | 106    | 1,320  | 143   | 37    | 10    | 3.0  | 1.1   |
| 9     | 0        | *30   | 28     | *65    | 788    | 109    | 966    | 143   | 37    | *8.2  | 3.3  | .7    |
| 10    | 0        | 27    | 27     | 59     | 1,480  | 99     | 963    | 137   | 35    | *7.1  | 3.3  | .7    |
| 11    | 2.5      | 26    | 26     | 55     | 663    | 93     | *855   | 158   | 33    | 6.8   | 3.3  | 2.0   |
| 12    | 2,140    | 26    | 25     | 52     | 838    | 86     | .688   | 148   | 32    | 4.3   | 2.6  | 3.3   |
| 13    | 4,470    | 25    | 27     | 52     | 2,240  | 78     | 765    | 134   | *33   | 3.0   | 1.7  | 3.0   |
| 14    | *2,050   | 24    | *33    | 52     | 1,260  | 81     | 2,330  | 121   | 28    | 2.2   | 1.3  | 2.6   |
| 15    | 588      | 23    | 546    | 50     | 938    | 83     | 2,120  | 112   | 28    | 1.7   | 1.0  | 2.6   |
| 16    | 243      | 22    | 580    | 50     | 740    | 349    | 1,360  | 104   | 27    | 2.4   | .8   | 2.6   |
| 17    | 140      | 23    | 1,430  | 50     | 601    | 208    | 994    | 98    | 26    | 5.4   | .9   | 2.4   |
| 18    | 112      | 23    | *1,350 | 50     | 487    | 137    | 753    | 93    | 25    | 4.7   | .8   | 2.4   |
| 19    | 93       | 22    | 621    | 50     | 403    | 116    | 900    | 90    | 23    | 4.7   | .7   | 2.6   |
| 20    | 76       | 21    | 368    | 50     | *362   | 101    | 750    | 89    | 21    | 4.3   | .7   | 2.4   |
| 21    | 69       | 22    | 266    | 50     | 336    | 90     | 811    | 86    | 20    | 2.0   | .4   | 2.6   |
| 22    | 61       | 21    | 216    | 50     | 294    | 99     | 595    | 80    | 18    | 1.9   | .5   | 2.6   |
| 23    | 56       | 20    | 185    | 50     | 248    | 186    | 496    | 78    | 18    | 2.4   | .7   | 2.6   |
| 24    | 53       | 19    | 157    | 50     | 229    | 144    | 415    | 76    | 17    | 2.4   | 1.4  | 1.9   |
| 25    | 50       | 19    | 136    | 50     | 212    | 117    | 409    | 73    | 16    | 3.3   | 1.1  | 2.2   |
| 26    | 48       | 22    | 125    | 50     | 197    | 106    | 406    | 72    | 15    | 3.0   | 1.1  | 2.0   |
| 27    | 46       | 53    | 110    | 50     | 186    | 1,100  | 317    | 69    | 14    | 2.6   | .5   | .6    |
| 28    | 44       | *23   | 109    | 50     | 170    | 3,350  | 276    | 66    | 12    | 2.6   | .3   | .5    |
| 29    | 43       | 25    | 103    | 34     | -----  | 1,700  | 246    | 62    | 11    | 2.6   | .2   | .7    |
| 30    | 42       | 23    | 99     | 3,000  | -----  | 1,150  | *219   | 60    | 9.7   | 2.4   | .2   | *.4   |
| 31    | 43       | ----- | 96     | 11,100 | -----  | 884    | -----  | 56    | ----- | 2.4   | .3   | ----- |
| TOTAL | 10,469.5 | 847   | 7,066  | 15,806 | 30,164 | 11,513 | 26,027 | 3,474 | 855.7 | 161.3 | 52.9 | 46.3  |
| MEAN  | 338      | 28.2  | 228    | 510    | 1,077  | 371    | 868    | 112   | 28.5  | 5.20  | 1.71 | 1.61  |
| MAX   | 4,470    | 53    | 1,430  | 11,100 | 9,820  | 3,350  | 2,390  | 197   | 55    | 11    | 3.8  | 3.3   |
| MIN   | 0        | 19    | 22     | 34     | 170    | 78     | 219    | 56    | 9.7   | 1.7   | 0.2  | 0.2   |
| AC-FT | 20,770   | 1,680 | 14,020 | 31,350 | 59,830 | 22,840 | 51,620 | 6,890 | 1,700 | 320   | 105  | 96    |

CALENDAR YEAR 1962: MAX 5,690 MIN 0 MEAN 189 AC-FT 137,100

WATER YEAR 1962-63: MAX 11,100 MIN 0 MEAN 292 AC-FT 211,220

Peak discharge (base, 2,500 cfs)

\* Discharge measurement or observation of no flow made on this day.

| Date  | Time  | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|-------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | †2100 | 17.75       | 6,580     | 3-28 | 0100 | 15.95       | 5,120     |
| 1-31  | 2230  | 27.59       | 16,900    | 4-6  | 1000 | 13.93       | 3,890     |
| 2-13  | 0200  | 13.21       | 3,230     | 4-14 | 2300 | 12.17       | 2,960     |

† About.



11-4582. Redwood Creek near Napa, Calif.

Location.--Lat 38°19'05", long 122°20'35", in Napa Grant, on right bank 2.9 miles upstream from confluence with Browns Valley Creek and 3.4 miles northwest of Napa, Napa County.

Drainage area.--9.81 sq mi.

Records available.--July 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 170 ft (from topographic map).

Average discharge.--5 years, 7.40 cfs (5,360 acre-ft per year).

Extremes.--Maximum discharge during year, 1,330 cfs Jan. 31 (gage height, 9.90 ft), from rating curve extended above 270 cfs on basis of slope-area measurement at gage height 8.60 ft; no flow for many days.  
1958-63: Maximum discharge, that of Jan. 31, 1963; no flow for many days in each year.

Remarks.--Records good. Small storage and release affects summer flow.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.    | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|---------|-------|-------|-------|-------|------|------|-------|
| 1     | *0    | 1.2   | 1.2   | 3.9     | *334    | 7.4   | 33    | 14    | 4.6   | 0.7  | 0.2  | 0     |
| 2     | 0     | 1.1   | 1.5   | 3.3     | *115    | 6.7   | *28   | 13    | 4.3   | .7   | .2   | 0     |
| 3     | 0     | 1.2   | 20    | 3.1     | 65      | 6.1   | 24    | 12    | 4.2   | .7   | .1   | 0     |
| 4     | 0     | 1.1   | 4.5   | 3.0     | *46     | 5.9   | 21    | 12    | 4.2   | .6   | .1   | 0     |
| 5     | 0     | 1.1   | 2.9   | 2.8     | 30      | 5.7   | 27    | 12    | 4.0   | .6   | *.1  | *0    |
| 6     | 0     | 1.0   | 2.2   | 2.7     | 22      | 5.4   | 206   | 11    | 5.3   | .5   | .1   | 0     |
| 7     | 0     | 1.1   | 1.8   | 2.4     | 16      | 5.7   | 144   | 11    | 8.4   | .5   | .1   | 0     |
| 8     | 0     | .9    | 1.7   | 2.4     | 16      | 5.4   | 77    | 13    | 4.0   | .5   | .1   | 0     |
| 9     | 0     | .9    | 1.6   | *2.3    | 54      | 5.4   | 55    | 11    | 3.5   | *.5  | .1   | 0     |
| 10    | 0     | .9    | 1.5   | 2.3     | 51      | 5.2   | 52    | 11    | 2.9   | .5   | .1   | 0     |
| 11    | .3    | .9    | 1.5   | 2.2     | 30      | 4.8   | 36    | 10    | 2.2   | .4   | .1   | 0     |
| 12    | 216   | .9    | 1.5   | 2.1     | .78     | 4.5   | 30    | 8.7   | 1.8   | .3   | .1   | 0     |
| 13    | 275   | .8    | 1.8   | 2.1     | 84      | 4.3   | 43    | 8.0   | *1.5  | .3   | .1   | 0     |
| 14    | *53   | .8    | *1.7  | 2.1     | 44      | 4.6   | 139   | 8.0   | 1.5   | .3   | .1   | 0     |
| 15    | 26    | .8    | 68    | 2.1     | 33      | 4.5   | 67    | 7.4   | 1.4   | .4   | .1   | 0     |
| 16    | 9.0   | .8    | 41    | 2.1     | 29      | 50    | 55    | 7.4   | 1.3   | 1.4  | .1   | 0     |
| 17    | 6.3   | .9    | 104   | 2.1     | 26      | 12    | 44    | 7.0   | 2.3   | .4   | .1   | 0     |
| 18    | 4.3   | .9    | *56   | 2.1     | 23      | 7.7   | 62    | 6.3   | 1.2   | .6   | 0    | 0     |
| 19    | 3.6   | .9    | 28    | 2.0     | 20      | 6.5   | 114   | 6.1   | 1.1   | .3   | 0    | 0     |
| 20    | 2.9   | .9    | 18    | 1.9     | *17     | 6.1   | 79    | 6.1   | 1.1   | .3   | 0    | 0     |
| 21    | 2.5   | .9    | 14    | 1.9     | 16      | 5.9   | 58    | 6.7   | 1.1   | .3   | 0    | 0     |
| 22    | 2.1   | .9    | 11    | 1.9     | 14      | 8.0   | 47    | 7.2   | 1.0   | .3   | 0    | 0     |
| 23    | 1.9   | .9    | 9.3   | 1.9     | 12      | 12    | 39    | 10    | 1.0   | .2   | 0    | 0     |
| 24    | 1.8   | .9    | 7.4   | 1.9     | 11      | 8.7   | 33    | 5.7   | .9    | .2   | 0    | 0     |
| 25    | 1.7   | .9    | 6.5   | 1.9     | 9.7     | 7.4   | 36    | 5.7   | .9    | .2   | 0    | 0     |
| 26    | 1.6   | 2.2   | 5.9   | 1.9     | 9.0     | 6.5   | 29    | 5.7   | .8    | .2   | 0    | 0     |
| 27    | 1.5   | 4.2   | 5.4   | 1.8     | 8.0     | 172   | 24    | 5.4   | .9    | .2   | 0    | 0     |
| 28    | 1.5   | *1.7  | 5.2   | 1.8     | *7.7    | 175   | 20    | 5.2   | .8    | .2   | 0    | .5    |
| 29    | 1.5   | 1.4   | 4.6   | 2.5     | -----   | 86    | 18    | 5.0   | .8    | .2   | 0    | 0     |
| 30    | 1.4   | 1.3   | 4.5   | 297     | -----   | 58    | *15   | 4.8   | .8    | .2   | 0    | *0    |
| 31    | 1.3   | ----- | 4.3   | 775     | -----   | 43    | ----- | 4.8   | ----- | .2   | 0    | ----- |
| TOTAL | 625.2 | 34.4  | 438.5 | 1,138.5 | 1,220.4 | 746.4 | 1,655 | 261.2 | 69.8  | 12.9 | 1.9  | 0.5   |
| MEAN  | 20.2  | 1.15  | 14.1  | 36.7    | 43.6    | 24.1  | 55.2  | 8.43  | 2.33  | 0.42 | 0.06 | 0.02  |
| MAX   | 275   | 4.2   | 104   | 775     | 334     | 175   | 206   | 14    | 8.4   | 1.4  | 0.2  | 0.5   |
| MIN   | 0     | 0.8   | 1.2   | 1.8     | 7.7     | 4.3   | 15    | 4.8   | 0.8   | 0.2  | 0    | 0     |
| AC-FT | 1,240 | 68    | 870   | 2,260   | 2,420   | 1,480 | 3,280 | 518   | 138   | 26   | 3.8  | 1.0   |

Calendar year 1962: Max 300 Min 0 Mean 11.1 Ac-ft 8,050  
Water year 1962-63: Max 775 Min 0 Mean 17.0 Ac-ft 12,300

## Peak discharge (base, 200 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1500 | 6.15        | 585       | 3-27 | 1800 | 6.02        | 560       |
| 12-15 | 1130 | 4.34        | 247       | 4-6  | 0400 | 4.96        | 359       |
| 1-31  | 1600 | 9.90        | 1,330     | 4-14 | 0500 | 4.67        | 307       |
| 2-12  | 2000 | 4.95        | 357       | 4-18 | 2300 | 5.51        | 463       |

\* Discharge measurement or observation of no flow made on this day.

## SONOMA CREEK BASIN

11-4585. Sonoma Creek at Boyes Hot Springs, Calif.

Location.--Lat 38°18'49", long 122°29'09", in Agua Caliente Grant, on left bank 10 ft downstream from county highway bridge at Boyes Hot Springs, Sonoma County, and 2.2 miles northwest of Sonoma.

Drainage area.--62.2 sq mi.

Records available.--February 1955 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 75 ft (from topographic map).

Average discharge.--8 years, 71.3 cfs (51,620 acre-ft per year).

Extremes.--Maximum discharge during year, 4,710 cfs Jan. 31 (gage height, 12.17 ft); no flow for part of each day Oct. 1-3, 6-10. 1955-63: Maximum discharge, 8,880 cfs Dec. 22, 1955 (gage height, 17.10 ft), from rating curve extended above 4,100 cfs on basis of slope-area measurement of peak flow; no flow at times in each year.

Remarks.--Records good except those for period of no gage-height record, which are fair. Some regulation during summer months at swimming pools above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.    | JAN.    | FEB.   | MAR.  | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|---------|-------|---------|---------|--------|-------|--------|-------|-------|-------|------|-------|
| 1     | *0.1    | 11    | 5.4     | 26      | 1,510  | 43    | 190    | 64    | 11    | 7.4   | 3.0  | 1.5   |
| 2     | .7      | 10    | 7.7     | 25      | 480    | 39    | 154    | *60   | 11    | 7.1   | 3.0  | 1.3   |
| 3     | .1      | 10    | 95      | 25      | 295    | 37    | 133    | 58    | a11   | 6.7   | 3.4  | 1.3   |
| 4     | .1      | 10    | 28      | 23      | 205    | 34    | 118    | 55    | a10   | 5.4   | 3.2  | 1.2   |
| 5     | .1      | 9.5   | 17      | 21      | 158    | 32    | 157    | 51    | a10   | 4.2   | 2.9  | 1.0   |
| 6     | .1      | 9.0   | 15      | 20      | 135    | 32    | 1,170  | 45    | a9.2  | 4.2   | 3.4  | *1.2  |
| 7     | .1      | *9.0  | 13      | 18      | 122    | 34    | 584    | 44    | a8.8  | 4.2   | 3.6  | 1.2   |
| 8     | .1      | 9.5   | 11      | 16      | 124    | 32    | 364    | 45    | a8.7  | 4.2   | 4.0  | 1.3   |
| 9     | .1      | 9.5   | 7.8     | 15      | 218    | 34    | 277    | 41    | a8.6  | 4.2   | 3.6  | 1.2   |
| 10    | .9      | 10    | 7.8     | 15      | 248    | 31    | 253    | 41    | a8.5  | 4.4   | 3.0  | 1.0   |
| 11    | 40      | 8.6   | *8.2    | 15      | 147    | 30    | 200    | 41    | *8.6  | 4.7   | 2.7  | .9    |
| 12    | 1,040   | 8.2   | 7.4     | 13      | 439    | 30    | 170    | 34    | 9.0   | 3.6   | 2.7  | 1.0   |
| 13    | 1,950   | 8.2   | 13      | 13      | 491    | 29    | 200    | 30    | 8.2   | 3.2   | 2.4  | 1.0   |
| 14    | 476     | 7.8   | 13      | *13     | 250    | 31    | 611    | 29    | 9.5   | 3.0   | 2.3  | .8    |
| 15    | 149     | 7.4   | 376     | 13      | 188    | 30    | 409    | 26    | 12    | 3.0   | 2.4  | .6    |
| 16    | 78      | 7.4   | 243     | 13      | 168    | 222   | 289    | 23    | 9.0   | 3.6   | 2.3  | .6    |
| 17    | 48      | 7.8   | *584    | 12      | 142    | 66    | 230    | 21    | 8.2   | 3.8   | 2.3  | .7    |
| 18    | 36      | 7.4   | 372     | 12      | *118   | 43    | 217    | 20    | 7.1   | 3.8   | 2.5  | .7    |
| 19    | 28      | 7.1   | 193     | 10      | 100    | 37    | 288    | 20    | 7.4   | 3.8   | 2.5  | .7    |
| 20    | 24      | 7.1   | 127     | 10      | 92     | 34    | 220    | 20    | 6.7   | 3.0   | 2.0  | .8    |
| 21    | 21      | 7.1   | 92      | 10      | 79     | 32    | 190    | 19    | 6.0   | 3.6   | 2.1  | .8    |
| 22    | 18      | 7.1   | 74      | 11      | 71     | 56    | 160    | 19    | 5.2   | 3.4   | 2.3  | .8    |
| 23    | 17      | 7.1   | 63      | 12      | 64     | 92    | 151    | 18    | 5.7   | 3.0   | 2.4  | .8    |
| 24    | 16      | 6.4   | 55      | 10      | 60     | 54    | 133    | 18    | 5.4   | *3.2  | 2.3  | 1.0   |
| 25    | 15      | 6.4   | 45      | 10      | 54     | *43   | 151    | 15    | 5.4   | 2.9   | 2.3  | .9    |
| 26    | 15      | 14    | 40      | 10      | 50     | 37    | 140    | 16    | 4.9   | 2.7   | 2.3  | .8    |
| 27    | 13      | 30    | 37      | 10      | 48     | 1,060 | 110    | 16    | 5.4   | 3.6   | 2.3  | .6    |
| 28    | 13      | 9.5   | 34      | 9.5     | 43     | 902   | 94     | 15    | 6.7   | 3.0   | 2.3  | .8    |
| 29    | 13      | 6.0   | 31      | 21      | -----  | 445   | 83     | 15    | 7.8   | 3.2   | 1.9  | 1.1   |
| 30    | 11      | 5.4   | 29      | 1,650   | -----  | 289   | 73     | 13    | 7.4   | 3.0   | 1.9  | 1.1   |
| 31    | 11      | ----- | 27      | 3,330   | -----  | 240   | -----  | 11    | ----- | 2.9   | 1.8  | ----- |
| TOTAL | 4,033.8 | 273.5 | 2,671.3 | 5,411.5 | 6,099  | 4,150 | 7,519  | 943   | 242.4 | 122.0 | 81.1 | 28.7  |
| MEAN  | 130     | 9.12  | 86.2    | 175     | 218    | 134   | 251    | 30.4  | 8.08  | 3.94  | 2.62 | 0.96  |
| MAX   | 1,950   | 30    | 584     | 3,330   | 1,510  | 1,060 | 1,170  | 64    | 12    | 7.4   | 4.0  | 1.5   |
| MIN   | 0.1     | 5.4   | 5.4     | 9.5     | 43     | 29    | 73     | 11    | 4.9   | 2.7   | 1.8  | 0.6   |
| AC-FT | 8,000   | 542   | 5,300   | 10,730  | 12,100 | 8,230 | 14,910 | 1,870 | 481   | 242   | 161  | 57    |

CALENDAR YEAR 1962: MAX 2,610 MIN 0 MEAN 72.2 AC-FT 52,270

WATER YEAR 1962-63: MAX 3,330 MIN 0.1 MEAN 86.5 AC-FT 62,620

Peak discharge (base 1,400 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1600 | 10.85       | 3,800     | 3-27 | 1900 | 10.02       | 3,260     |
| 1-31  | 1700 | 12.17       | 4,710     | 4-6  | 0500 | 8.68        | 2,450     |
| 2-12  | 2100 | 7.62        | 1,860     |      |      |             |           |

\* Discharge measurement made on this day.  
a No gage-height record.

PETALUMA RIVER BASIN

341

11-4590. Petaluma River at Petaluma, Calif.

Location.--Lat 38°15'40", long 122°39'35", in Roblar de la Miseria Grant, on right bank 70 ft downstream from county highway bridge in Petaluma, Sonoma County, and 1.3 miles downstream from Lichau Creek.

Drainage area.--30.9 sq mi.

Records available.--October 1948 to September 1963 (discontinued). Prior to October 1958, published as Petaluma Creek near Petaluma.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--15 years, 17.0 cfs (12,310 acre-ft per year); median of yearly mean discharges, 11 cfs (8,000 acre-ft per year)..

Extremes.--Maximum discharge during year, 1,320 cfs Jan. 31 (gage height, 10.76 ft); no flow for several months.

1948-63; Maximum discharge, 1,860 cfs Dec. 22, 26, 1955, Jan. 14, 1956; maximum gage height, 13.55 ft Dec. 22, 1955; no flow for several months in each year.

Remarks.--Records fair. No regulation or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.    | FEB.    | MAR.    | APR.    | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|---------|---------|---------|---------|------|-------|------|------|-------|
| 1     | 0     | 0     | 0     | 2.0     | 490     | 2.2     | 22      | 2.6  | 0.1   |      |      |       |
| 2     | 0     | 0     | 0     | 2.0     | 91      | 1.9     | 15      | 2.0  | 0     |      |      |       |
| 3     | 0     | 0     | 0     | 2.0     | 49      | 1.5     | 11      | 1.8  | 0     |      |      |       |
| 4     | 0     | 0     | 0     | 1.9     | 32      | .9      | 9.3     | 1.6  | 0     |      |      |       |
| 5     | 0     | 0     | 0     | 1.7     | 22      | .9      | 47      | 1.7  | 0     |      |      |       |
| 6     | 0     | *0    | 0     | 1.3     | 17      | 1.0     | 393     | 1.3  | 0     |      |      |       |
| 7     | 0     | 0     | 0     | .9      | 15      | 1.7     | 141     | 1.2  | 0     |      |      |       |
| 8     | 0     | 0     | 0     | .8      | 25      | 1.5     | 41      | 1.3  | 0     |      |      |       |
| 9     | 0     | 0     | 0     | .9      | 100     | 3.8     | 32      | 1.8  | 0     |      |      |       |
| 10    | 0     | 0     | 0     | .9      | 163     | 2.3     | 37      | 1.5  | *0    |      |      | (*)   |
| 11    | 0     | 0     | *0    | 1.0     | 52      | 1.3     | 23      | 2.0  | 0     |      |      |       |
| 12    | 11    | 0     | .1    | .8      | 236     | .9      | 13      | 1.1  | 0     |      |      |       |
| 13    | 264   | 0     | .1    | .6      | 383     | .6      | 17      | .7   | 0     |      |      |       |
| 14    | 83    | 0     | .1    | .6      | 56      | .8      | 238     | .5   | 0     |      |      |       |
| 15    | *9.8  | 0     | *33   | *.5     | 28      | 1.7     | 179     | .4   | 0     |      |      |       |
| 16    | 2.8   | 0     | 34    | .5      | 29      | 51      | 38      | .3   | 0     |      |      |       |
| 17    | 1.0   | 0     | *170  | .5      | 36      | 25      | 19      | .2   | 0     |      |      |       |
| 18    | *.4   | 0     | 87    | .6      | 17      | 7.3     | 10      | .2   | 0     |      |      |       |
| 19    | .2    | 0     | 27    | .6      | 13      | 4.0     | 93      | .2   | 0     |      |      |       |
| 20    | .1    | 0     | 15    | .6      | 11      | 3.3     | 30      | .2   | 0     |      |      |       |
| 21    | .1    | 0     | 10    | .5      | *8.4    | 2.8     | 35      | .2   | 0     |      |      |       |
| 22    | .1    | 0     | 8.2   | .4      | 6.6     | 3.0     | 14      | .3   | 0     |      |      |       |
| 23    | .1    | 0     | 7.3   | .4      | 5.3     | 13      | 8.4     | .3   | 0     | (*)  |      |       |
| 24    | .1    | 0     | 5.9   | .5      | 4.2     | 8.4     | 6.2     | .3   | 0     |      |      |       |
| 25    | .1    | 0     | 3.8   | .6      | 4.0     | 3.8     | 13      | .3   | 0     |      |      |       |
| 26    | .1    | .1    | 3.0   | .6      | 3.4     | *2.3    | 28      | .2   | 0     |      |      |       |
| 27    | .1    | .1    | 2.6   | .7      | 2.8     | 255     | 9.1     | .1   | 0     |      |      |       |
| 28    | .1    | .1    | 2.5   | .6      | 2.2     | 446     | 5.5     | .1   | 0     |      |      |       |
| 29    | .1    | .1    | 2.2   | 1.8     | -----   | 121     | 4.4     | .1   | 0     |      |      |       |
| 30    | 0     | .2    | 2.0   | 668     | -----   | 43      | *3.6    | .1   | 0     |      |      |       |
| 31    | 0     | ----- | 2.0   | 977     | -----   | 28      | -----   | .1   | ----- |      |      | ----- |
| TOTAL | 373.2 | 0.6   | 415.8 | 1,671.8 | 1,901.9 | 1,039.9 | 1,535.5 | 24.7 | 0.1   | 0    | 0    | 0     |
| MEAN  | 12.0  | 0.02  | 13.4  | 53.9    | 67.9    | 33.5    | 51.2    | 0.80 | 0.003 | 0    | 0    | 0     |
| MAX   | 264   | 0.2   | 170   | 977     | 490     | 446     | 393     | 2.6  | 0.1   | 0    | 0    | 0     |
| MIN   | 0     | 0     | 0     | 0.4     | 2.2     | 0.6     | 3.6     | 0.1  | 0     | 0    | 0    | 0     |
| AC-FT | 740   | 1.2   | 825   | 3,320   | 3,770   | 2,060   | 3,050   | 49   | 0.2   | 0    | 0    | 0     |

CALENDAR YEAR 1962: MAX 799 MIN 0 MEAN 14.8

AC-FT 10,720

WATER YEAR 1962-63: MAX 977

MIN 0

MEAN 19.1

AC-FT 13,820

Peak discharge (base, 400 cfs)

\* Discharge measurement or observation of no flow made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1700 | 7.01        | 587       | 3-28 | 0200 | 8.81        | 929       |
| 1-31  | 1900 | 10.76       | 1,320     | 4-6  | 0700 | 7.43        | 667       |
| 2-12  | 2400 | 9.17        | 999       | 4-14 | 1900 | 6.13        | 428       |

## NOVATO CREEK BASIN

11-4595. Novato Creek near Novato, Calif.

Location.--Lat 38°06'45", long 122°35'05", in Novato Grant, on right bank 500 ft downstream from highway bridge and 1 mile west of U. S. Highway 101 in Novato, Marin County.

Drainage area.--17.5 sq mi.

Records available.--October 1946 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 45 ft (from topographic map).

Average discharge.--17 years, 9.41 cfs (6,810 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 733 cfs Jan. 30 (gage height, 5.77 ft); no flow Oct. 1-11, Aug. 10 to Sept. 30. 1946-63: Maximum discharge, 1,190 cfs Feb. 24, 1958 (gage height, 8.24 ft); no flow for several months in each year.

Remarks.--Records fair. Flow regulated by Stafford Lake beginning Dec. 1, 1951 (capacity, 4,500 acre-ft since Oct. 18, 1954); contents, 2,300 acre-ft Sept. 30, 1962, and 3,350 acre-ft Sept. 30, 1963. Diversion from Stafford Lake for municipal water supply began Apr. 25, 1952, and amounted to 1,620 acre-ft for water year 1963.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 14, Dec. 18 to Jan. 30, Aug. 5-15)

| Oct. 1-13 |     |     |     | Oct. 14 to Dec. 17 |     |     |     | Dec. 18 to Sept. 30 |     |     |     |
|-----------|-----|-----|-----|--------------------|-----|-----|-----|---------------------|-----|-----|-----|
| 0.4       | 0   | 1.0 | 11  | 0.5                | 0.4 | 0.9 | 6.2 | 0                   | 0   | 0.9 | 11  |
| .5        | .5  | 1.4 | 31  | .6                 | 1.0 | 1.1 | 13  | .1                  | .1  | 1.2 | 23  |
| .6        | 1.5 | 1.9 | 73  | .7                 | 2.2 | 1.5 | 35  | .2                  | .3  | 1.5 | 41  |
| .7        | 3.2 | 2.6 | 162 | .8                 | 3.9 | 2.0 | 72  | .3                  | .8  | 2.0 | 84  |
| .8        | 5.5 |     |     |                    |     |     |     | .4                  | 1.5 | 2.5 | 142 |
|           |     |     |     |                    |     |     |     | .5                  | 2.5 | 3.0 | 217 |
|           |     |     |     |                    |     |     |     | .7                  | 5.7 | 4.0 | 397 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.    | MAR.  | APR.  | MAY  | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|-------|---------|-------|-------|------|-------|------|------|-------|
| 1     | 0     | 0.6   | 0.6   | 1.6   | 216     | 7.5   | *19   | *4.8 | 1.2   | 0.8  | 0.2  |       |
| 2     | 0     | .6    | .6    | 1.6   | 134     | 6.9   | 16    | 4.1  | 1.1   | .8   | .2   |       |
| 3     | 0     | .6    | .7    | 1.5   | 82      | 5.2   | 13    | 3.6  | .9    | .8   | .2   |       |
| 4     | 0     | .7    | .6    | 1.4   | *59     | 4.7   | 12    | 3.9  | .9    | .8   | .2   |       |
| 5     | *0    | .7    | .6    | 1.3   | 45      | 4.6   | 13    | 3.3  | 1.0   | .8   | .1   | (*)   |
| 6     | 0     | .7    | .5    | 1.3   | 35      | 5.8   | 65    | 2.5  | .9    | .8   | *.1  |       |
| 7     | 0     | .7    | .5    | 1.3   | 28      | 5.9   | 58    | 2.5  | .9    | .8   | .1   |       |
| 8     | 0     | .7    | .5    | *1.3  | 28      | 5.7   | 39    | 2.6  | 1.1   | *.9  | .1   |       |
| 9     | 0     | .7    | .5    | 1.4   | 79      | 5.7   | 32    | 2.4  | 1.0   | .8   | *.1  |       |
| 10    | 0     | .7    | .5    | 1.4   | 85      | 4.1   | 33    | 3.1  | .9    | .8   | 0    |       |
| 11    | 0     | .7    | .5    | 1.3   | 57      | 4.3   | 26    | 3.1  | *.9   | .8   | 0    |       |
| 12    | 39    | .7    | *.7   | 1.3   | 94      | 3.9   | 21    | 2.2  | .9    | .8   | 0    |       |
| 13    | 159   | .7    | .0    | 1.3   | 105     | 3.6   | 22    | 1.9  | 1.1   | .7   | 0    |       |
| 14    | 52    | .6    | .7    | 1.3   | 67      | 5.0   | 75    | 2.0  | .9    | .7   | 0    |       |
| 15    | *9.2  | .6    | 4.5   | 1.3   | 52      | 4.8   | 63    | 1.8  | .9    | .7   | 0    |       |
| 16    | 4.7   | .6    | 6.9   | 1.3   | 43      | 26    | 43    | 1.6  | .8    | .7   | 0    |       |
| 17    | 3.9   | .7    | *37   | 1.3   | 35      | 13    | 32    | 1.5  | .8    | .7   | 0    |       |
| 18    | 3.0   | .7    | 16    | 1.2   | 29      | 7.5   | 27    | 1.5  | .8    | .5   | 0    |       |
| 19    | 2.0   | .6    | 7.1   | 1.2   | *26     | 5.7   | 34    | 1.4  | .8    | .5   | 0    |       |
| 20    | .9    | .6    | 5.0   | 1.2   | 21      | 5.0   | 32    | 1.4  | .8    | .6   | 0    |       |
| 21    | .8    | .6    | 4.1   | 1.2   | 18      | 4.6   | 27    | 1.5  | .9    | .4   | 0    |       |
| 22    | .8    | .6    | 3.6   | 1.2   | 16      | 6.8   | 22    | 1.5  | .9    | .3   | 0    |       |
| 23    | .8    | .6    | 2.9   | 1.2   | 14      | 8.7   | 20    | 1.6  | .8    | .3   | 0    |       |
| 24    | .7    | .5    | 2.5   | 1.2   | 12      | 5.0   | 16    | 1.6  | .9    | .2   | 0    |       |
| 25    | .7    | .5    | 2.3   | 1.2   | 11      | 4.4   | 19    | 1.4  | .8    | .2   | 0    |       |
| 26    | .7    | .7    | 2.3   | 1.2   | 10      | 3.5   | 21    | 1.4  | .8    | .2   | 0    |       |
| 27    | .6    | *.7   | 2.2   | 1.2   | 9.5     | 60    | 17    | 1.4  | .8    | .2   | 0    |       |
| 28    | .6    | .5    | 1.8   | 1.1   | *8.6    | 123   | 12    | 1.4  | .7    | .2   | 0    |       |
| 29    | .6    | .5    | 1.7   | 7.9   | -----   | 47    | *8.9  | 1.4  | .7    | .2   | 0    |       |
| 30    | .6    | .5    | 1.8   | 2.41  | -----   | 30    | 7.5   | 1.3  | .8    | .2   | 0    | (*)   |
| 31    | .6    | ----- | 1.7   | *323  | -----   | 25    | ----- | 1.2  | ----- | .2   | 0    | ----- |
| TOTAL | 281.2 | 18.9  | 111.7 | 608.2 | 1,419.1 | 452.9 | 845.4 | 66.9 | 26.7  | 17.4 | 1.3  | 0     |
| MEAN  | 9.07  | 0.63  | 3.60  | 19.6  | 50.7    | 14.6  | 28.2  | 2.16 | 0.89  | 0.56 | 0.04 | 0     |
| MAX   | 159   | 0.7   | 37    | 323   | 216     | 123   | 75    | 4.8  | 1.2   | 0.9  | 0.2  | 0     |
| MIN   | 0     | 0.5   | 0.5   | 1.1   | 8.6     | 3.5   | 7.5   | 1.2  | 0.7   | 0.2  | 0    | 0     |
| AC-FT | 558   | 37    | 222   | 1,210 | 2,810   | 898   | 1,680 | 133  | 53    | 35   | 2.6  | 0     |

CALENDAR YEAR 1962: MAX 218 MIN 0 MEAN 6.45 AC-FT 4,670  
WATER YEAR 1962-63: MAX 323 MIN 0 MEAN 10.5 AC-FT 7,640

\* Discharge measurement or observation of no flow made on this day.

11-4600. Corte Madera Creek at Ross, Calif.

Location.--Lat 37°57'45", long 122°33'20", in Punta de Quentin Grant, on left bank behind fire station at Ross, Marin County, 1.7 miles southwest of San Rafael and 4 miles upstream from mouth.

Drainage area.--18.1 sq mi.

Records available.--February 1951 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 8 ft (from topographic map).

Average discharge.--12 years, 27.0 cfs (19,550 acre-ft per year); median of yearly mean discharges, 20 cfs (14,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,460 cfs Jan. 30 (gage height, 15.24 ft); no flow for part of Oct. 1.

1951-63: Maximum discharge, 3,620 cfs Dec. 22, 1955 (gage height, 17.45 ft), from rating curve extended above 1,600 cfs; no flow at times in most years.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Flow regulated by Phoenix Lake (capacity, 612 acre-ft). Diversion on tributary above station by Marin Municipal Water District.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 14 to Nov. 7, Dec. 1-15, Dec. 18 to Jan. 29, Feb. 4 to Mar. 27, Sept. 27-30)

|     |     |      |       |
|-----|-----|------|-------|
| 4.2 | 0   | 4.8  | 19    |
| 4.3 | .2  | 5.0  | 39    |
| 4.4 | 1.0 | 6.0  | 175   |
| 4.5 | 3.1 | 8.0  | 534   |
| 4.6 | 6.6 | 13.0 | 1,790 |
| 4.7 | 12  |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.    | JAN.    | FEB.    | MAR.    | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|---------|---------|---------|---------|-------|-------|-------|------|------|-------|
| 1     | 0.1     | 2.9   | 1.9     | 6.2     | 651     | 8.0     | *34   | 12    | 4.0   | 1.3  | 0.6  | 0.4   |
| 2     | .1      | 2.9   | 3.6     | 6.2     | a350    | 7.5     | 19    | 11    | 4.0   | 1.3  | .6   | .4    |
| 3     | .1      | 2.9   | 6.2     | 5.8     | a150    | 7.1     | 19    | 9.5   | 3.7   | 1.3  | .7   | .3    |
| 4     | .1      | 2.9   | 4.4     | 5.1     | *60     | 6.6     | 18    | 9.0   | 3.4   | 1.2  | .7   | .3    |
| 5     | **1     | 2.9   | 3.7     | 4.7     | 40      | 6.2     | 18    | 8.5   | 3.4   | 1.2  | .6   | .4    |
| 6     | .1      | 2.9   | 3.4     | 4.7     | 29      | 8.5     | 196   | 8.0   | 3.1   | 1.2  | *.6  | *.3   |
| 7     | .1      | 2.9   | 3.1     | 4.7     | 23      | 6.6     | 127   | 8.5   | 2.9   | 1.2  | .6   | .3    |
| 8     | .1      | 3.1   | 4.5     | *12     | 26      | 6.2     | 77    | 11    | 2.9   | *1.2 | .7   | .3    |
| 9     | .1      | 3.4   | 4.7     | 8.5     | 171     | 5.8     | 51    | 7.5   | 2.9   | 1.0  | .8   | .3    |
| 10    | 8.8     | 3.4   | 2.9     | 7.7     | 175     | 5.8     | 90    | 8.5   | 2.9   | 1.0  | .5   | .4    |
| 11    | 43      | 3.4   | 2.4     | 4.4     | 82      | 5.8     | 52    | 7.1   | *2.9  | 1.0  | .5   | .4    |
| 12    | 301     | 3.4   | *3.1    | 4.0     | 143     | 5.4     | 29    | 6.2   | 2.9   | .9   | .5   | 2.5   |
| 13    | 564     | 3.1   | 21      | 3.7     | 165     | 5.1     | 64    | 6.2   | 6.3   | .9   | .5   | 5.0   |
| 14    | 180     | 2.9   | 24      | 3.7     | 85      | 8.0     | 175   | 5.8   | 2.9   | .9   | .5   | .1    |
| 15    | *41     | 2.6   | 235     | 4.4     | 56      | 5.3     | 117   | 5.4   | 2.6   | .8   | .5   | .1    |
| 16    | 17      | 2.6   | 167     | 3.7     | 45      | 132     | 81    | 5.1   | 2.1   | .8   | .4   | .1    |
| 17    | 11      | 2.6   | *248    | 3.4     | 34      | 31      | 59    | 4.7   | 2.1   | .8   | .4   | .2    |
| 18    | 8.0     | a2.6  | 120     | 3.4     | 26      | 21      | 72    | 4.4   | 1.9   | .8   | .4   | .2    |
| 19    | 5.6     | a2.6  | 56      | 3.4     | *23     | 17      | 129   | 4.4   | 1.9   | .8   | .4   | .2    |
| 20    | 4.7     | a2.7  | 36      | 3.1     | 19      | 14      | 89    | 4.7   | 1.9   | .8   | .5   | .2    |
| 21    | 4.4     | a2.8  | 26      | 3.4     | 17      | 13      | 64    | 4.4   | 1.9   | .7   | .6   | .3    |
| 22    | 4.0     | a2.8  | 22      | 3.1     | 16      | 32      | 49    | 4.4   | 1.9   | .7   | .4   | .3    |
| 23    | 3.7     | a2.8  | 19      | 3.1     | 13      | 19      | 39    | 4.4   | 1.9   | .7   | .4   | .3    |
| 24    | 3.4     | a2.9  | 16      | 3.1     | 12      | 14      | 30    | 4.0   | 1.9   | .7   | .4   | .3    |
| 25    | 3.4     | a3.0  | 13      | 3.1     | 11      | 12      | 36    | 4.0   | 1.7   | .7   | .4   | .3    |
| 26    | 3.4     | a10   | 11      | 3.1     | 10      | 11      | 26    | 4.0   | 1.7   | .6   | .3   | *.4   |
| 27    | 3.4     | *3.7  | 10      | 3.1     | 10      | 333     | 21    | 4.0   | 1.7   | .6   | .3   | .3    |
| 28    | 3.1     | 2.6   | 9.0     | 2.9     | *9.0    | a800    | 18    | 4.0   | 1.5   | .6   | .3   | .4    |
| 29    | 3.1     | 2.1   | 8.0     | 105     | -----   | a200    | *15   | 3.7   | 1.5   | .6   | .3   | .4    |
| 30    | 3.1     | 2.4   | 7.5     | *1,380  | -----   | a100    | 13    | 3.4   | 1.5   | .6   | .3   | *.4   |
| 31    | 2.9     | ----- | 6.6     | 1,620   | -----   | a53     | ----- | 3.7   | ----- | .6   | .4   | ----- |
| TOTAL | 1,223.1 | 93.8  | 1,098.3 | 3,232.7 | 2,451.0 | 1,900.4 | 1,837 | 191.5 | 77.9  | 27.5 | 15.1 | 15.8  |
| MEAN  | 39.5    | 3.13  | 35.4    | 104     | 87.5    | 61.3    | 61.2  | 6.18  | 2.60  | 0.89 | 0.49 | 0.53  |
| MAX   | 564     | 10    | 248     | 1,620   | 651     | 800     | 196   | 12    | 6.3   | 1.3  | 0.8  | 5.0   |
| MIN   | 0.1     | 2.1   | 1.9     | 2.9     | 9.0     | 5.1     | 13    | 3.4   | 1.5   | 0.6  | 0.3  | 0.1   |
| AC-FT | 2,430   | 186   | 2,180   | 6,410   | 4,860   | 3,770   | 3,640 | 280   | 155   | 55   | 30   | 31    |

Calendar year 1962: Max 1,400 Min 0 Mean 27.0 Ac-ft 19,560  
Water year 1962-63: Max 1,620 Min 0.1 Mean 33.3 Ac-ft 24,130

## Peak discharge (base, 1,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time    | Gage height | Discharge |
|-------|------|-------------|-----------|------|---------|-------------|-----------|
| 10-13 | 1530 | 10.29       | 1,070     | 3-28 | unknown | 11.84       | 1,470     |
| 1-30  | 1300 | 15.24       | 2,460     |      |         |             |           |

\* Discharge measurement made on this day.

\*\* Field estimate made on this day.

a No gage-height record.

## WALKER CREEK BASIN

11-4608. Walker Creek near Tomales, Calif.

Location.--Lat 38°12'35", long 122°51'35", in Nicasio Grant, on left bank 1,300 ft upstream from Chileno Creek, and 3.5 miles south-east of Tomales, Marin County.

Drainage area.--37.1 sq mi.

Records available.--June 1959 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 70 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,210 cfs Jan. 31 (gage height, 17.89 ft); no flow for many days.

1959-63: Maximum discharge, 3,430 cfs Jan. 31, 1961, Feb. 13, 1962; maximum gage height, 18.18 ft Jan. 31, 1961; no flow for several months in each year.

Flood of Feb. 24, 1958, reached a stage of 19.8 ft, from floodmarks.

Remarks.--Records good. No storage. Small diversions for irrigation and stock watering above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 27)

|     |     |      |       |
|-----|-----|------|-------|
| 4.2 | 0   | 5.1  | 29    |
| 4.3 | .1  | 5.5  | 73    |
| 4.4 | .3  | 6.0  | 146   |
| 4.5 | 1.0 | 7.0  | 312   |
| 4.6 | 3.0 | 9.0  | 680   |
| 4.7 | 5.5 | 12.0 | 1,380 |
| 4.9 | 14  | 15.0 | 2,250 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.    | JAN.    | FEB.  | MAR.    | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|---------|---------|-------|---------|-------|-------|-------|------|------|-------|
| 1     | 0       | 4.0   | 2.6     | 15      | 1,100 | 20      | 69    | 38    | 5.0   | 0.4  | 0.1  | 0.1   |
| 2     | 0       | 4.3   | 2.6     | 14      | 336   | 18      | 57    | 33    | 4.5   | .4   | .1   | .1    |
| 3     | 0       | 4.3   | 10      | 14      | 183   | 17      | 52    | 30    | 4.0   | .4   | .1   | a.1   |
| 4     | 0       | 4.3   | 7.9     | 13      | 120   | 15      | 47    | 27    | 3.8   | .5   | .1   | a.1   |
| 5     | * 0     | 4.0   | 5.0     | 12      | 87    | 14      | 62    | 25    | 3.5   | .5   | .1   | a.1   |
| 6     | 0       | *3.3  | 4.0     | 11      | 71    | 14      | 676   | 22    | 3.5   | .5   | .1   | a0    |
| 7     | 0       | 3.3   | 3.8     | 13      | 63    | 14      | 369   | 21    | 3.3   | .4   | .1   | a0    |
| 8     | 0       | 3.0   | 3.5     | 10      | 66    | 13      | 225   | 20    | 2.8   | .3   | .1   | a0    |
| 9     | 0       | 3.3   | 3.3     | 10      | 141   | 13      | 160   | 20    | 2.8   | .3   | .1   | *0    |
| 10    | 0       | 4.0   | 3.0     | 9.5     | 215   | 12      | 151   | 19    | *2.6  | .3   | .1   | 0     |
| 11    | .2      | 3.5   | 3.0     | 8.7     | 126   | 11      | 111   | 18    | 2.4   | .3   | .1   | 0     |
| 12    | 271     | 3.0   | *3.0    | 8.3     | 318   | 10      | 83    | 16    | 2.2   | .3   | .1   | 0     |
| 13    | 1,420   | 2.8   | 10      | 7.9     | 439   | 9.5     | 94    | 15    | 2.2   | .2   | .1   | 0     |
| 14    | *481    | 2.6   | 22      | 7.9     | 217   | 10      | 474   | 14    | 2.2   | .2   | .1   | 0     |
| 15    | 115     | 2.4   | *284    | *7.5    | 146   | 11      | 317   | 13    | 2.0   | .2   | .1   | 0     |
| 16    | 59      | 2.0   | 268     | 7.5     | 117   | 53      | 196   | 12    | 1.8   | .2   | .1   | 0     |
| 17    | 40      | 2.2   | 434     | 7.1     | 94    | 25      | 140   | 11    | 1.6   | .1   | 0    | 0     |
| 18    | *30     | 2.2   | 270     | 6.7     | 71    | 15      | 109   | 10    | 1.4   | .1   | 0    | 0     |
| 19    | 23      | 1.8   | 140     | 6.3     | 62    | 13      | 154   | 10    | 1.0   | .1   | 0    | 0     |
| 20    | 17      | 1.8   | 89      | 5.5     | 56    | 12      | 121   | 10    | .9    | .1   | 0    | 0     |
| 21    | 13      | 1.8   | 67      | 5.3     | *49   | 11      | 102   | 10    | .9    | .1   | 0    | 0     |
| 22    | 11      | 1.8   | 58      | 5.3     | 42    | 13      | 80    | 10    | .7    | .1   | .1   | 0     |
| 23    | 9.5     | 1.8   | 48      | 5.3     | 38    | 21      | 69    | 9.5   | .7    | *.1  | .1   | 0     |
| 24    | 7.9     | 1.6   | 39      | 5.0     | 35    | 18      | 62    | 9.1   | .7    | .1   | .1   | 0     |
| 25    | 7.1     | 1.4   | 33      | 5.0     | 31    | 14      | 97    | 8.7   | .7    | .1   | .1   | a0    |
| 26    | 6.7     | 2.4   | 27      | 5.0     | 27    | *13     | 99    | 8.3   | .7    | .1   | .1   | a0    |
| 27    | 5.9     | 9.5   | 25      | 5.0     | 24    | *397    | 65    | 7.5   | .7    | .1   | .1   | a0    |
| 28    | 5.3     | 4.5   | 22      | 4.8     | 22    | 495     | 58    | 7.1   | .6    | .1   | .1   | a0    |
| 29    | 4.8     | 2.8   | 20      | 7.9     | ----- | 188     | 52    | 6.7   | .5    | .1   | .1   | a0    |
| 30    | 4.8     | 2.6   | 18      | 1,200   | ----- | 117     | *45   | 6.3   | .4    | .1   | .1   | a0    |
| 31    | 4.5     | ----- | 16      | 2,210   | ----- | 90      | ----- | 5.5   | ----- | .1   | .1   | ----- |
| TOTAL | 2,536.7 | 92.3  | 1,941.7 | 3,653.5 | 4,296 | 1,696.5 | 4,386 | 472.7 | 60.1  | 6.9  | 2.6  | 0.5   |
| MEAN  | 81.8    | 3.08  | 62.6    | 118     | 153   | 54.7    | 146   | 15.2  | 2.00  | 0.22 | 0.08 | 0.02  |
| MAX   | 1,420   | 9.5   | 434     | 2,210   | 1,100 | 495     | 676   | 38    | 5.0   | 0.5  | 0.1  | 0.1   |
| MIN   | 0       | 1.4   | 2.6     | 4.8     | 22    | 9.5     | 45    | 5.5   | 0.4   | 0.1  | 0    | 0     |
| AC-FT | 5,030   | 103   | 3,850   | 7,250   | 8,520 | 3,360   | 8,700 | 938   | 119   | 14   | 5.2  | 1.0   |

CALENDAR YEAR 1962: MAX 2,040 MIN 0 MEAN 44.6 AC-FT 32,280  
WATER YEAR 1962-63: MAX 2,210 MIN 0 MEAN 52.5 AC-FT 37,970

## Peak discharge (base, 1,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1600 | 15.23       | 2,330     | 3-27 | 2100 | 12.36       | 1,470     |
| 1-31  | 2000 | 17.89       | 3,210     | 4-6  | 0600 | 11.72       | 1,300     |
| 2-12  | 2100 | 10.60       | 1,030     |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.  
a No gage-height record.

## SALMON CREEK BASIN

345

11-4609.2. Salmon Creek at Bodega, Calif.

Location.--Lat 38°20'54", long 122°58'45", in Estero Americano Grant, on left bank 100 ft upstream from private road bridge, 0.3 mile upstream from unnamed tributary, and 0.4 mile northwest of Bodega, Sonoma County.

Drainage area.--15.7 sq mi.

Records available.--July 1962 to September 1963.

Gage.--Water-stage recorder (digital). Altitude of gage is 80 ft (from topographic map).

Extremes.--1962: No flow July 18 to Sept. 30.

1962-63: Maximum discharge during water year, 1,430 cfs Jan. 31 (gage height, 15.56 ft); no flow Oct. 1-10, Aug. 15 to Sept. 30.

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

Rating table (gage height, in feet, and discharge in cubic feet per second)  
(Shifting-control method used Dec. 5-12)

|     |     |     |     |      |     |
|-----|-----|-----|-----|------|-----|
| 3.6 | 0   | 4.1 | 1.9 | 5.5  | 62  |
| 3.7 | .1  | 4.3 | 4.8 | 6.0  | 102 |
| 3.8 | .2  | 4.5 | 9.4 | 7.0  | 214 |
| 3.9 | .5  | 4.7 | 15  | 9.0  | 470 |
| 4.0 | 1.0 | 5.0 | 29  | 12.0 | 880 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.    | Jan.    | Feb.    | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|---------|---------|---------|-------|-------|-------|-------|------|------|-------|
| 1     | 0     | 1.8   | 1.5     | 6.4     | 226     | 7.0   | 25    | 12    | 2.5   | 0.7  | 0.3  |       |
| 2     | 0     | 1.7   | 2.1     | 6.0     | 82      | 6.5   | 18    | *10   | 2.4   | .6   | .3   |       |
| 3     | 0     | 1.6   | 2.4     | 5.7     | 54      | 5.9   | 22    | 9.2   | 2.1   | .6   | .3   |       |
| 4     | *0    | 1.7   | 6.1     | 5.2     | 38      | 5.0   | 18    | 9.2   | 2.0   | .6   | .3   |       |
| 5     | 0     | 1.6   | 3.5     | 4.7     | 29      | 4.8   | 152   | 10    | 1.7   | .7   | .2   |       |
| 6     | 0     | *1.5  | 2.8     | 4.5     | 29      | 5.4   | 522   | 8.7   | 1.4   | .7   | .2   |       |
| 7     | 0     | 1.5   | 2.4     | 4.3     | 23      | 5.4   | 139   | 10    | 1.5   | .6   | .2   |       |
| 8     | 0     | 1.4   | 2.3     | 4.2     | 34      | 5.0   | 84    | 10    | 1.4   | .4   | .2   |       |
| 9     | 0     | 1.8   | 2.1     | 4.1     | 74      | 5.6   | 66    | 9.4   | 1.3   | .5   | .2   |       |
| 10    | 0     | 2.0   | 2.3     | 4.2     | 75      | 5.0   | 63    | 12    | *1.4  | .5   | .2   |       |
| 11    | 32    | 1.6   | 2.3     | 4.0     | 45      | 4.4   | 40    | 11    | 1.6   | .4   | .2   |       |
| 12    | *235  | 1.7   | *2.5    | 3.9     | 280     | 4.0   | 30    | 8.2   | 1.9   | .4   | .2   |       |
| 13    | *224  | 1.5   | 2.6     | 4.3     | 166     | 3.8   | 48    | 7.5   | 1.7   | .4   | .1   |       |
| 14    | *77   | 1.3   | 2.9     | *3.7    | 66      | 4.4   | 218   | 6.5   | 1.9   | .4   | .1   | (*)   |
| 15    | 19    | 1.2   | *2.97   | 3.7     | 45      | 4.6   | 80    | 5.9   | 1.8   | .3   | 0    |       |
| 16    | 9.7   | 1.2   | 2.22    | 3.7     | 43      | 4.3   | 50    | 5.2   | 1.5   | .4   | 0    |       |
| 17    | 6.2   | 1.2   | *1.88   | 3.7     | 34      | 1.4   | 37    | 4.8   | 1.4   | .3   | 0    |       |
| 18    | *4.5  | 1.3   | 9.2     | 3.6     | *2.4    | 8.9   | 50    | 4.4   | 1.2   | .3   | 0    |       |
| 19    | 3.8   | 1.2   | 4.7     | 3.3     | 21      | 7.2   | 100   | 4.4   | 1.3   | .3   | 0    |       |
| 20    | 3.3   | 1.2   | 31      | 2.8     | 18      | 6.5   | 77    | 4.4   | 1.4   | .3   | 0    |       |
| 21    | 3.0   | 1.2   | 23      | 2.9     | 15      | 6.1   | 56    | 4.4   | .9    | .2   | 0    |       |
| 22    | 2.8   | 1.2   | 18      | 2.9     | 14      | 1.4   | 37    | 4.4   | 1.0   | .2   | 0    |       |
| 23    | 2.6   | 1.2   | 15      | 2.9     | 12      | 2.3   | 30    | 4.1   | 1.0   | *.2  | 0    |       |
| 24    | 2.4   | 1.2   | 13      | 3.0     | 11      | 1.2   | 24    | 4.4   | .8    | .2   | 0    |       |
| 25    | 2.3   | 1.0   | 11      | 3.0     | 10      | 9.4   | 43    | 4.1   | .6    | .2   | 0    |       |
| 26    | 2.3   | 1.8   | 9.1     | 3.1     | 9.2     | *7.9  | 30    | 4.1   | .8    | .1   | 0    |       |
| 27    | 2.1   | 4.8   | 8.3     | 3.0     | 8.4     | 346   | 20    | 4.1   | .9    | .1   | 0    |       |
| 28    | 2.1   | 1.9   | 7.5     | 2.9     | 7.7     | 189   | 17    | 3.7   | .9    | .2   | 0    |       |
| 29    | 2.0   | 1.4   | 6.9     | 2.6     | -----   | 60    | 14    | 3.7   | .9    | .2   | 0    |       |
| 30    | 1.9   | 1.4   | 6.5     | 5.67    | -----   | 38    | 13    | 3.2   | .8    | .2   | 0    |       |
| 31    | 1.8   | ----- | 7.0     | 7.97    | -----   | 36    | ----- | 2.7   | ----- | .3   | 0    | ----- |
| Total | 639.8 | 47.1  | 1,111.2 | 1,499.7 | 1,493.3 | 897.8 | 2,123 | 205.7 | 42.0  | 11.5 | 3.0  | 0     |
| Mean  | 20.6  | 1.57  | 35.8    | 48.4    | 53.3    | 29.0  | 70.8  | 6.64  | 1.40  | 0.37 | 0.10 | 0     |
| Max   | 235   | 4.8   | 297     | 797     | 280     | 346   | 522   | 12    | 2.5   | 0.7  | 0.3  | 0     |
| Min   | 0     | 1.0   | 1.5     | 2.8     | 7.7     | 3.8   | 13    | 2.7   | 0.6   | 0.1  | 0    | 0     |
| Ac-ft | 1,270 | 93    | 2,200   | 2,970   | 2,960   | 1,780 | 4,210 | 408   | 83    | 22   | 6.0  | 0     |

Calendar year 1962: Max - Min - Mean - Ac-ft -  
Water year 1962-63: Max 797 Min 0 Mean 22.1 Ac-ft 16,000

Peak discharge (base, 750 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 12-15 | 1000 | 11.52       | 813       | 3-27 | 1900 | 11.76       | 846       |
| 1-31  | 1200 | 15.56       | 1,430     | 4-6  | 0500 | 14.49       | 1,260     |
| 2-12  | 2000 | 12.19       | 908       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

## RUSSIAN RIVER BASIN

11-4610. Russian River near Ukiah, Calif.

Location.--Lat 39°12'07", long 123°11'55", in Yokayo Rancho Grant, on left bank 200 ft downstream from York Creek, 0.7 mile upstream from East Fork, and 3.6 miles north of Ukiah, Mendocino County.

Drainage area.--99.6 sq mi.

Records available.--August 1911 to September 1913, October 1952 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 612.02 ft above mean sea level (levels by Corps of Engineers). Prior to October 1952, staff gage at bridge 0.6 mile downstream at different datum. Oct. 1, 1952, to Feb. 16, 1959, at datum 2.00 ft higher. Feb. 17, 1959, to Sept. 30, 1961, at datum 1.00 ft higher.

Average discharge.--13 years, 174 cfs (126,000 acre-ft per year); median of yearly mean discharges, 150 cfs (109,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,800 cfs Jan. 31 (gage height, 15.43 ft); minimum daily, 0.1 cfs Sept. 29.

1911-13, 1952-63: Maximum discharge, 18,900 cfs Dec. 21, 1955 (gage height, 21.0 ft, present datum), from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; no flow at times in 1911, 1952-53, 1960-61.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Small diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May   | June  | July  | Aug. | Sept. |
|-------|---------|-------|--------|--------|--------|--------|--------|-------|-------|-------|------|-------|
| 1     | 0.3     | 17    | 58     | 51     | 2,690  | 63     | 779    | 188   | 24    | 9.1   | 2.7  | 0.3   |
| 2     | .3      | 17    | 2,180  | *49    | 941    | 58     | 597    | 196   | 22    | 8.1   | 1.2  | .5    |
| 3     | .3      | 17    | 1,380  | 47     | 537    | 54     | 797    | 194   | 20    | 9.1   | 2.0  | .7    |
| 4     | .2      | 17    | 405    | 44     | 383    | 52     | 558    | 200   | 18    | 9.1   | 3.8  | .5    |
| 5     | .2      | 17    | 237    | 43     | *320   | 49     | 1,030  | 204   | 18    | 8.6   | 2.6  | .5    |
| 6     | .3      | 16    | 174    | 37     | 263    | 54     | 2,070  | 202   | 17    | 7.6   | 3.4  | .6    |
| 7     | .3      | 16    | *137   | 35     | 223    | 54     | 1,370  | 198   | 17    | 7.2   | 2.0  | .8    |
| 8     | .3      | 16    | 115    | 34     | 230    | 49     | 1,020  | 184   | 16    | 7.2   | 1.1  | .7    |
| 9     | .3      | 17    | 95     | 33     | 298    | 51     | 1,050  | 166   | 15    | 6.7   | 1.1  | .6    |
| 10    | .4      | 18    | 82     | 32     | 314    | 46     | 1,520  | 168   | 14    | 5.9   | 1.5  | .4    |
| 11    | 434     | 18    | 72     | 31     | 225    | 43     | 1,010  | 166   | 14    | 5.9   | 1.7  | .4    |
| 12    | 2,030   | 18    | 66     | 31     | 359    | 39     | 1,060  | 129   | 13    | 5.9   | 1.5  | .3    |
| 13    | 758     | 18    | 285    | 29     | 383    | *36    | 1,040  | 99    | 12    | 5.2   | *.9  | .4    |
| 14    | 562     | 18    | 198    | 29     | 266    | 41     | 1,290  | 86    | 12    | 4.8   | .8   | .3    |
| 15    | 214     | 18    | 759    | 29     | 223    | 44     | 1,130  | 76    | 14    | 4.8   | 1.2  | .5    |
| 16    | 119     | 17    | 530    | 29     | 204    | 157    | *847   | 69    | 14    | 4.5   | 1.1  | .5    |
| 17    | 75      | 17    | 446    | 28     | 184    | 132    | 669    | 60    | 13    | 5.5   | 1.2  | .3    |
| 18    | 54      | 17    | 298    | 28     | 157    | 100    | 565    | 55    | 12    | 5.5   | 1.2  | .2    |
| 19    | 45      | 16    | 219    | 27     | 147    | 81     | 730    | 51    | 11    | 4.8   | 1.0  | .7    |
| 20    | 33      | 17    | 178    | 27     | a138   | 70     | 625    | 48    | 11    | 5.5   | 1.0  | .6    |
| 21    | 27      | 18    | 144    | 27     | a126   | 61     | 544    | *47   | 11    | 5.9   | .9   | .4    |
| 22    | 25      | 18    | 118    | 27     | a110   | 91     | 443    | 43    | 13    | 4.8   | 1.0  | .5    |
| 23    | *22     | 18    | 102    | 27     | a100   | 572    | 368    | 43    | 13    | 5.2   | .6   | .3    |
| 24    | 20      | 18    | 88     | 27     | a90    | 307    | 338    | 41    | 12    | 4.5   | .5   | .6    |
| 25    | 20      | 18    | 75     | 27     | a82    | 198    | 368    | 38    | 11    | 4.1   | .6   | *a .3 |
| 26    | 19      | 706   | 67     | 27     | a76    | 157    | 341    | 36    | 10    | 4.1   | 1.0  | a .2  |
| 27    | 18      | 351   | 63     | 27     | a71    | 1,530  | 278    | 31    | *10   | 3.8   | .8   | a .2  |
| 28    | 18      | *138  | 58     | 27     | a67    | 1,500  | 244    | 28    | 9.6   | 3.8   | .5   | a .2  |
| 29    | 18      | 81    | 56     | 31     | -----  | *1,150 | 223    | 28    | 9.1   | 3.4   | .5   | a .1  |
| 30    | 18      | 59    | 54     | 1,210  | -----  | 1,270  | 208    | 26    | 9.6   | 2.3   | .3   | a .2  |
| 31    | 18      | ----- | 54     | 4,790  | -----  | 1,010  | -----  | 25    | ----- | 2.6   | .3   | ----- |
| Total | 4,549.9 | 1,767 | 8,793  | 6,940  | 9,207  | 9,119  | 23,112 | 3,125 | 415.3 | 175.5 | 40.0 | 12.8  |
| Mean  | 147     | 58.9  | 284    | 224    | 329    | 294    | 770    | 101   | 13.8  | 5.66  | 1.29 | 0.43  |
| Max   | 2,030   | 706   | 2,180  | 4,790  | 2,690  | 1,530  | 2,070  | 204   | 24    | 9.1   | 3.8  | 0.8   |
| Min   | 0.2     | 16    | 54     | 27     | 67     | 36     | 208    | 25    | 9.1   | 2.3   | 0.3  | 0.1   |
| Ac-ft | 9,020   | 3,500 | 17,440 | 13,770 | 18,260 | 18,090 | 45,840 | 6,200 | 824   | 348   | 79   | 25    |

Calendar year 1962: Max 3,780 Min 0.1 Mean 148 Ac-ft 106,800  
 Water year 1962-63: Max 4,790 Min 0.1 Mean 184 Ac-ft 133,400

Peak discharge (base, 4,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 10.74       | 5,940     | 1-31 | 1700 | 15.43       | 11,800    |
| 12-2  | 2000 | 11.55       | 6,810     |      |      |             |           |

\* Discharge measurement made on this day.  
 a No gage-height record.



11-4615. East Fork Russian River near Calpella, Calif.

Location.--Lat 39°14'35", long 123°08'10", in NW¼ sec.13, T.16 N., R.12 W., on left bank 0.5 mile downstream from Cold Creek and 3.6 miles east of Calpella.

Drainage area.--93.0 sq mi.

Records available.--October 1941 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 800 ft (from topographic map). Prior to May 28, 1957, at site 0.9 mile downstream at different datum.

Average discharge.--22 years, 328 cfs (237,500 acre-ft per year).

Extremes.--Maximum discharge during year, 7,940 cfs Jan. 31 (gage height, 12.49 ft), from rating curve extended above 3,200 cfs; minimum daily, 132 cfs July 20.

1941-63: Maximum discharge, 13,300 cfs Dec. 21, 1955 (gage height, 15.06 ft, site and datum then in use), from rating curve extended above 8,600 cfs; minimum daily, 3.8 cfs Oct. 30, 31, 1959.

Remarks.--Records good. Flow greatly affected by diversion from Eel River through Potter Valley powerhouse (see p. 372). Small diversion for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |       |
|-----|-----|-----|-------|
| 1.5 | 119 | 5.0 | 1,400 |
| 2.0 | 216 | 7.0 | 2,720 |
| 3.0 | 495 | 9.0 | 4,350 |
| 4.0 | 900 |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE   | JULY   | AUG.   | SEPT.  |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1     | 171    | 316    | 328    | 358    | 1,920  | 373    | 686    | 412    | 272    | 220    | 184    | 220    |
| 2     | 188    | 313    | 1,710  | *349   | 869    | 370    | 574    | 409    | 282    | *216   | 188    | 227    |
| 3     | 223    | 313    | 834    | 334    | 686    | 370    | 770    | 403    | 310    | 220    | 204    | 202    |
| 4     | 184    | 313    | 467    | 334    | 562    | 367    | 574    | 397    | 272    | 229    | 223    | 188    |
| 5     | 190    | 316    | 433    | 328    | 516    | 361    | 882    | 400    | 247    | 220    | 204    | 186    |
| 6     | 223    | 313    | 406    | 325    | *474   | 361    | 1,530  | 397    | 225    | 208    | 198    | 192    |
| 7     | 229    | 313    | 373    | 325    | 454    | 361    | 1,230  | 397    | 220    | 210    | 192    | 192    |
| 8     | 229    | 313    | 364    | 322    | 471    | 355    | 914    | 388    | 225    | 200    | 184    | 200    |
| 9     | 231    | 316    | 343    | 322    | 631    | 358    | 1,000  | 385    | 220    | 194    | 182    | 200    |
| 10    | 289    | 316    | 337    | 245    | 646    | 352    | 1,580  | 403    | 218    | 196    | 186    | 204    |
| 11    | 546    | 313    | 334    | 307    | 495    | 355    | 896    | 400    | 210    | 190    | 198    | 196    |
| 12    | 1,490  | 313    | 334    | 322    | 586    | 340    | 864    | 391    | 204    | 186    | 198    | 204    |
| 13    | 597    | 313    | 367    | 322    | 574    | *242   | 806    | 385    | 214    | 192    | 200    | 220    |
| 14    | 634    | 313    | 364    | 325    | 495    | 253    | 1,460  | 382    | 204    | 200    | *200   | 214    |
| 15    | 391    | 313    | 717    | 322    | 460    | 242    | 1,090  | 382    | 208    | 200    | 196    | 234    |
| 16    | 343    | 313    | 622    | 322    | 454    | 379    | *833   | 379    | 208    | 202    | 196    | 229    |
| 17    | 331    | 313    | 778    | 325    | 445    | 300    | 682    | 376    | 227    | 204    | 194    | 229    |
| 18    | 325    | 313    | 530    | 328    | 433    | 265    | 666    | 370    | 253    | 214    | 196    | 216    |
| 19    | 322    | 313    | 445    | 325    | 424    | 258    | 833    | 367    | 198    | 180    | 200    | 180    |
| 20    | 316    | 313    | 427    | 325    | 418    | 262    | 654    | 367    | 190    | 132    | 229    | 154    |
| 21    | 316    | 313    | 418    | 325    | 403    | 249    | 590    | 358    | 192    | 135    | 218    | 170    |
| 22    | 313    | 313    | 415    | 325    | 394    | 270    | 546    | 358    | 198    | 135    | 218    | 184    |
| 23    | *313   | 313    | 412    | 325    | 394    | 710    | 513    | *358   | 198    | 141    | 194    | 178    |
| 24    | 313    | 313    | 406    | 322    | 394    | 502    | 485    | 358    | 198    | 208    | 194    | *174   |
| 25    | 313    | 313    | 394    | 322    | 394    | 424    | 499    | 358    | 196    | 200    | 198    | 202    |
| 26    | 302    | 839    | 385    | 322    | 391    | 379    | 471    | 358    | 198    | 188    | 192    | 212    |
| 27    | 319    | 436    | 376    | 322    | 388    | 1,700  | 451    | 355    | 210    | 198    | 178    | 204    |
| 28    | 319    | *343   | 373    | 322    | 382    | 1,550  | 436    | 355    | 210    | 198    | 184    | 212    |
| 29    | 319    | 313    | 373    | 334    | -----  | 1,120  | 430    | 316    | 218    | 190    | 190    | 218    |
| 30    | 316    | 328    | 364    | 1,130  | -----  | 1,140  | 424    | 240    | 225    | 184    | 202    | 200    |
| 31    | 307    | -----  | 364    | 3,960  | -----  | 905    | -----  | 253    | -----  | 186    | 200    | -----  |
| TOTAL | 10,902 | 10,096 | 14,793 | 14,474 | 15,153 | 15,473 | 23,369 | 11,457 | 6,650  | 5,976  | 6,120  | 6,041  |
| MEAN  | 352    | 337    | 477    | 467    | 541    | 499    | 779    | 370    | 222    | 193    | 197    | 201    |
| MAX   | 1,490  | 839    | 1,710  | 3,960  | 1,920  | 1,700  | 1,580  | 412    | 310    | 229    | 229    | 234    |
| MIN   | 171    | 313    | 328    | 245    | 382    | 242    | 424    | 240    | 190    | 132    | 178    | 154    |
| AC-FT | 21,620 | 20,030 | 29,340 | 28,710 | 30,060 | 30,690 | 46,350 | 22,720 | 13,190 | 11,850 | 12,140 | 11,980 |

CALENDAR YEAR 1962: MAX 3,100

MIN 9.9

MEAN 344

AC-FT 248,800

WATER YEAR 1962-63: MAX 3,960

MIN 132

MEAN 385

AC-FT 278,700

Peak discharge (base, 3,300 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 8.10        | 3,580     | 1-31 | 1600 | 12.49       | 7,940     |
| 12- 2 | 2000 | 9.54        | 4,840     |      |      |             |           |

11-4620. East Fork Russian River near Ukiah, Calif.

Location.--Lat 39°11'45", long 123°11'30", in Yokayo Rancho Grant, on right bank of outlet channel, 500 ft downstream from Coyote Dam, 1,300 ft upstream from mouth, and 3.2 miles northeast of Ukiah, Mendocino County.

Drainage area.--105 sq mi.

Records available.--August 1911 to September 1913, October 1951 to June 1956, October 1957 to September 1963.

Gage.--Water-stage recorder (digital). Datum of gage is 614.43 ft above mean sea level (levels by Corps of Engineers). Prior to October 1951, staff gage at site half a mile upstream at different datum. October 1951 to June 1956, water-stage recorder at site 1.0 mile upstream at different datum.

Average discharge.--12 years (1911-13, 1951-55, 1957-63), 332 cfs (240,400 acre-ft per year).

Extremes.--Maximum discharge during year, 4,200 cfs Dec. 19 (gage height, 9.14 ft); minimum daily, 13 cfs Dec. 25-27.

1911-13, 1951-56, 1957-63: Maximum discharge, 13,300 cfs Dec. 21, 1955 (gage height, 16.86 ft, site and datum then in use), from rating curve extended above 1,700 cfs on basis of peak flow at station upstream which was defined to 8,600 cfs; no flow Aug. 13-15, 1913.

Remarks.--Records excellent except those for period of no gage-height record, which are good. Flow affected by diversion from Eel River through Potter Valley powerhouse (see p. 372) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft). Small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1 to Feb. 2 |     |     |       | Feb. 2 to Sept. 30 |     |     |       |
|------------------|-----|-----|-------|--------------------|-----|-----|-------|
| 0.9              | 9.0 | 3.0 | 390   | 1.0                | 17  | 4.0 | 820   |
| 1.0              | 14  | 4.0 | 740   | 1.2                | 35  | 5.0 | 1,290 |
| 1.1              | 19  | 5.0 | 1,190 | 1.5                | 74  | 7.0 | 2,550 |
| 1.2              | 26  | 7.0 | 2,370 | 2.0                | 175 | 9.0 | 4,220 |
| 1.4              | 47  | 9.0 | 4,050 | 3.0                | 445 |     |       |
| 2.0              | 145 |     |       |                    |     |     |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June   | July   | Aug.   | Sept.  |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1     | 211    | 315    | 57     | a 16   | 507    | 46     | 1,340  | 361    | 278    | 180    | 180    | 260    |
| 2     | 212    | 315    | 51     | *a 17  | 2,830  | 64     | 336    | 360    | 278    | *180   | 183    | 260    |
| 3     | 212    | 315    | 1,150  | 17     | 3,920  | 64     | 336    | 360    | 215    | 180    | 180    | 260    |
| 4     | 212    | 315    | 1,650  | 17     | 3,210  | 65     | 845    | 359    | 159    | 180    | 180    | 260    |
| 5     | 212    | 315    | 1,100  | 17     | *3,360 | 65     | 678    | 360    | 161    | 180    | 180    | 260    |
| 6     | 212    | 315    | 694    | 17     | 2,500  | 65     | 496    | 361    | 164    | 180    | 180    | 260    |
| 7     | 212    | 314    | 57     | 1,880  | 332    | 22     | 1,030  | 361    | 164    | 180    | 180    | 260    |
| 8     | 213    | 315    | 57     | 3,220  | 223    | 155    | 1,610  | 867    | 164    | 180    | 180    | 260    |
| 9     | 201    | 316    | 57     | 1,060  | 222    | 364    | 1,820  | 1,270  | 164    | 180    | 180    | 260    |
| 10    | 212    | 316    | 471    | 29     | 223    | 364    | 659    | 1,100  | 164    | 178    | 180    | 260    |
| 11    | 191    | 315    | 702    | 33     | 268    | 364    | 1,610  | 1,010  | 164    | 178    | 180    | 260    |
| 12    | 36     | 315    | 712    | 48     | 309    | 364    | 1,690  | 1,000  | 164    | 178    | 180    | 260    |
| 13    | 121    | 315    | 463    | 48     | 308    | *362   | 1,180  | 699    | 164    | 178    | *180   | 260    |
| 14    | 60     | 315    | 55     | 48     | 308    | 361    | 273    | 397    | 164    | 180    | 180    | 260    |
| 15    | 60     | 315    | 56     | 48     | 257    | 308    | 842    | 65     | 164    | 180    | 180    | 260    |
| 16    | 60     | 315    | 57     | 48     | 220    | 277    | *1,360 | 65     | 164    | 180    | 180    | 260    |
| 17    | 60     | 315    | 1,160  | 62     | 220    | 277    | 1,360  | 65     | 178    | 180    | 180    | 260    |
| 18    | 60     | 315    | 1,640  | 73     | 940    | 277    | 966    | 65     | 205    | 180    | 180    | 260    |
| 19    | 60     | 315    | 2,520  | 73     | 2,090  | *244   | 823    | 65     | 223    | 180    | 180    | 260    |
| 20    | 60     | 315    | 3,220  | 73     | 488    | 218    | 878    | 65     | 228    | 180    | 180    | 260    |
| 21    | 60     | 315    | 1,300  | 73     | 26     | 217    | 877    | *67    | 223    | 180    | 185    | 260    |
| 22    | 83     | 315    | 14     | 73     | 25     | 217    | 522    | 67     | 208    | 180    | 205    | 263    |
| 23    | *94    | 315    | 14     | 73     | 24     | 218    | 114    | 86     | 208    | 180    | 213    | 260    |
| 24    | 168    | 315    | 14     | 73     | 22     | 218    | 65     | 93     | 208    | 180    | 213    | *240   |
| 25    | 204    | 315    | 13     | 94     | 22     | 374    | 65     | 93     | 208    | 180    | 213    | 230    |
| 26    | 194    | 448    | a 13   | 106    | 22     | 726    | 174    | 93     | 208    | 180    | 220    | 230    |
| 27    | 314    | 1,630  | a 13   | 106    | 22     | 624    | 245    | 118    | 203    | 180    | 230    | 235    |
| 28    | 315    | 1,560  | a 14   | 106    | 22     | 1,020  | 245    | 218    | 190    | 180    | 235    | 240    |
| 29    | 265    | *488   | a 14   | 107    | -----  | 1,970  | 397    | 278    | 180    | 180    | 243    | 240    |
| 30    | 315    | 57     | a 15   | 68     | -----  | 1,970  | 397    | 278    | 180    | 180    | 248    | 240    |
| 31    | 315    | -----  | a 15   | 17     | -----  | 1,950  | -----  | 278    | -----  | 180    | 260    | -----  |
| Total | 5,204  | 12,059 | 17,368 | 7,740  | 22,920 | 13,830 | 23,233 | 10,924 | 5,745  | 5,572  | 6,068  | 7,638  |
| Mean  | 168    | 402    | 560    | 250    | 819    | 446    | 774    | 352    | 192    | 180    | 196    | 255    |
| Max   | 315    | 1,630  | 3,220  | 3,220  | 3,920  | 1,970  | 1,820  | 1,270  | 278    | 180    | 260    | 263    |
| Min   | 36     | 57     | 13     | 16     | 22     | 22     | 65     | 65     | 159    | 178    | 180    | 230    |
| Ac-ft | 10,320 | 23,920 | 34,450 | 15,350 | 45,460 | 27,430 | 46,080 | 21,670 | 11,400 | 11,050 | 12,040 | 15,150 |

Calendar year 1962: Max 3,220 Min 13 Mean 338 Ac-ft 244,500  
 Water year 1962-63: Max 3,920 Min 13 Mean 379 Ac-ft 274,300

\* Discharge measurement made on this day.  
 a No gage-height record.

11-4625. Russian River near Hopland, Calif.

Location---Lat 39°01'35", long 123°07'45", in Rancho de Sanel Grant, on right bank at abandoned highway bridge, 0.2 mile downstream from McNab Creek, 4 miles north of Hopland, Mendocino County, and 17 miles upstream from Sulphur Creek.

Drainage area---362 sq mi.

Records available---October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage---Water-stage recorder (digital). Datum of gage is 497.43 ft above mean sea level, datum of 1929. Prior to Sept. 9, 1943, wire-weight gage at same site and datum.

Average discharge---24 years, 704 cfs (509,700 acre-ft per year).

Extremes---Maximum discharge during year, 21,200 cfs Jan. 31 (gage height, 19.24 ft); minimum daily, 121 cfs Jan. 6, 15-17.

1939-63: Maximum discharge, 45,000 cfs Dec. 22, 1955 (gage height, 27.00 ft); minimum daily, 26 cfs Dec. 18, 1943, June 26, 1949.

Flood in December 1937 reached a stage of 30.0 ft, from floodmarks.

Remarks---Records good except those for period of doubtful gage-height record, which are fair. Small diversions for irrigation above station. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft).

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 29 to Dec. 2, Feb. 3-6,  
Apr. 8, 11, 13, Apr. 15 to May 14, May 23 to Sept. 30)

|     |     |     |       |      |        |
|-----|-----|-----|-------|------|--------|
| 4.6 | 115 | 6.0 | 500   | 10.0 | 3,650  |
| 4.9 | 148 | 7.0 | 1,000 | 12.0 | 6,300  |
| 5.2 | 216 | 8.0 | 1,660 | 15.0 | 11,300 |
| 5.5 | 304 |     |       |      |        |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.   | Feb.    | Mar.   | Apr.    | May    | June   | July   | Aug.   | Sept.  |
|-------|--------|--------|--------|--------|---------|--------|---------|--------|--------|--------|--------|--------|
| 1     | 208    | 360    | 156    | 137    | 8,780   | 244    | 3,070   | 785    | 324    | *190   | 160    | 240    |
| 2     | 211    | 360    | 2,530  | 131    | 4,850   | 265    | 1,640   | 765    | 321    | 189    | 161    | 241    |
| 3     | 211    | 360    | 4,110  | 128    | *5,260  | 262    | 1,460   | 755    | 292    | 188    | 163    | 240    |
| 4     | 208    | 356    | 2,540  | *124   | 4,510   | 253    | 1,730   | 755    | 230    | 186    | 164    | 240    |
| 5     | 206    | 360    | 1,610  | 122    | 3,770   | 244    | 1,920   | 770    | 222    | 188    | 162    | 241    |
| 6     | 206    | 360    | 1,320  | 121    | *3,700  | 247    | 4,380   | 750    | 219    | 185    | 159    | 241    |
| 7     | 206    | 360    | 435    | 1,070  | 1,510   | 247    | 3,750   | 750    | 213    | 186    | 158    | 243    |
| 8     | 213    | 360    | 311    | 3,300  | 1,080   | 227    | 3,520   | 945    | 211    | 187    | 157    | 244    |
| 9     | 213    | 364    | 259    | 1,650  | 1,250   | 491    | 3,910   | 1,450  | 211    | 182    | 159    | 247    |
| 10    | 236    | 364    | 476    | 220    | 1,380   | 496    | 4,080   | 1,460  | 208    | 174    | 159    | 244    |
| 11    | 499    | 360    | 874    | 140    | 1,110   | 496    | 3,530   | 1,360  | 206    | 173    | 160    | 243    |
| 12    | 3,770  | 360    | 901    | 131    | 1,260   | *486   | 4,250   | 1,280  | 203    | 173    | 162    | 243    |
| 13    | 2,200  | 360    | 1,090  | 126    | 1,430   | 482    | 3,590   | 1,000  | 200    | 174    | 161    | 241    |
| 14    | 1,240  | 360    | 486    | 123    | 1,150   | 496    | 4,000   | 884    | 200    | 177    | *161   | 240    |
| 15    | 690    | 360    | 1,370  | 121    | 978     | 482    | 3,490   | 450    | 198    | 178    | 161    | 245    |
| 16    | 399    | 360    | 1,200  | 121    | 874     | 660    | 3,370   | 4350   | 195    | 174    | 159    | 247    |
| 17    | 280    | 360    | 1,910  | 121    | 805     | 626    | 2,930   | 4305   | 198    | 172    | 161    | 246    |
| 18    | 224    | 356    | 2,480  | 125    | 1,110   | 522    | 2,350   | 4265   | 208    | 170    | 163    | 248    |
| 19    | 188    | 356    | 2,510  | 125    | 2,380   | 468    | *2,250  | 4240   | 216    | 169    | 164    | 246    |
| 20    | 159    | 356    | 3,850  | 124    | 1,040   | 415    | 2,090   | 4225   | 227    | 169    | 163    | 246    |
| 21    | 145    | 360    | 2,300  | 124    | 455     | 395    | 1,960   | 4210   | 230    | 172    | 165    | 250    |
| 22    | 142    | 360    | 522    | 123    | 383     | 435    | 1,640   | *4192  | 216    | 173    | 180    | 253    |
| 23    | 150    | 360    | 331    | 122    | 345     | 1,290  | 1,060   | 195    | 219    | 167    | 191    | *250   |
| 24    | *165   | 356    | 259    | 122    | 318     | 967    | 846     | 206    | 219    | 166    | 194    | 237    |
| 25    | 241    | 356    | 211    | 125    | 295     | 800    | 810     | 203    | 216    | 165    | 195    | 220    |
| 26    | 215    | 1,440  | 185    | 135    | 277     | 940    | 840     | 198    | 216    | 165    | 200    | 219    |
| 27    | 335    | 1,940  | 176    | 135    | 262     | 4,510  | 830     | 203    | 213    | 166    | 207    | 219    |
| 28    | 356    | 1,990  | 161    | 135    | 250     | 4,690  | 785     | 253    | 203    | 169    | 210    | 224    |
| 29    | 314    | *857   | 150    | 150    | -----   | 4,820  | 805     | 324    | 190    | 167    | 220    | 227    |
| 30    | 349    | 211    | 143    | 3,070  | -----   | 4,960  | 862     | 328    | 193    | 163    | 226    | 226    |
| 31    | 356    | -----  | 140    | 10,500 | -----   | 4,230  | -----   | 324    | -----  | 161    | 237    | -----  |
| Total | 14,535 | 15,422 | 34,996 | 23,001 | 50,612  | 36,146 | 71,748  | 18,180 | 6,617  | 5,418  | 5,442  | 7,191  |
| Mean  | 469    | 514    | 1,129  | 742    | 1,808   | 1,166  | 2,392   | 586    | 221    | 175    | 176    | 240    |
| Max   | 3,770  | 1,990  | 4,110  | 10,500 | 8,780   | 4,960  | 4,380   | 1,460  | 324    | 190    | 237    | 253    |
| Min   | 142    | 211    | 140    | 121    | 250     | 227    | 785     | 192    | 190    | 161    | 157    | 219    |
| Ac-ft | 28,830 | 30,590 | 69,410 | 45,620 | 100,400 | 71,690 | 142,300 | 36,060 | 13,120 | 10,750 | 10,790 | 14,260 |

Calendar year 1962: Max 9,020 Min 117 Mean 669 Ac-ft 484,300  
Water year 1962-63: Max 10,500 Min 121 Mean 793 Ac-ft 573,800

Peak discharge (base, 9,600 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2100 | 14.26       | 9,970     | 1-31 | 2200 | 19.24       | 21,200    |
| 12-2  | 2300 | 14.58       | 10,500    |      |      |             |           |

\* Discharge measurement made on this day.  
d Doubtful gage-height record.

## RUSSIAN RIVER BASIN

11-4627. Feliz Creek near Hopland, Calif.

Location.--Lat 38°58'20", long 123°08'30", in Rancho de Sanel Grant, on left bank just upstream from county road bridge, 0.1 mile upstream from Johnson Creek, and 1.4 miles west of Hopland, Mendocino County.

Drainage area.--31.1 sq mi.

Records available.--August 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Average discharge.--5 years, 41.2 cfs (29,830 acre-ft per year).

Extremes.--Maximum discharge during year, 2,910 cfs Jan. 31 (gage height, 13.43 ft); no flow for many days in October, August, and September.

1958-63: Maximum discharge, that of Jan. 31, 1963; no flow for several months in each year.

Flood of Dec. 23, 1955, reached a stage of 13.60 ft, from floodmarks, (discharge, 2,710 cfs on basis of slope-area measurement of peak flow).

Remarks.--Records fair. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.    | JAN.    | FEB.  | MAR.  | APR.   | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|---------|---------|-------|-------|--------|-------|-------|------|------|-------|
| 1     | 0       | 2.2   | 10      | 11      | 723   | 23    | 187    | 27    | 11    | 1.6  | 0.1  |       |
| 2     | 0       | 2.0   | 244     | 10      | 288   | 21    | 116    | 26    | 10    | *1.3 | .1   |       |
| 3     | 0       | 2.0   | 240     | 9.5     | 163   | 20    | 103    | 24    | 9.5   | 2.4  | .3   |       |
| 4     | 0       | 2.0   | 73      | *9.0    | 109   | 18    | 80     | 24    | 9.0   | 2.4  | .7   |       |
| 5     | 0       | 1.8   | 41      | 8.5     | 83    | 17    | 172    | 59    | 9.0   | 1.8  | .6   |       |
| 6     | 0       | 2.0   | 28      | 8.0     | *71   | 17    | 555    | 31    | 8.5   | 1.1  | .2   |       |
| 7     | 0       | 1.8   | *21     | 7.5     | 60    | 15    | 393    | 30    | 7.5   | 2.0  | 0    |       |
| 8     | 0       | 1.8   | 17      | 7.5     | 96    | 17    | 399    | 26    | 7.0   | 1.4  | 0    |       |
| 9     | 0       | 2.2   | 13      | 7.5     | 268   | 18    | 339    | 24    | 7.0   | 1.4  | 0    |       |
| 10    | 0       | 2.4   | 11      | 7.0     | 215   | 14    | 607    | 51    | 6.5   | 1.3  | .1   |       |
| 11    | 105     | 2.4   | 9.5     | 6.5     | 126   | 13    | 393    | 43    | 6.0   | 1.3  | .5   |       |
| 12    | 880     | 2.2   | 9.5     | 6.0     | 329   | 12    | 679    | 31    | 5.6   | 1.3  | .5   |       |
| 13    | 242     | 2.2   | 130     | 5.6     | 235   | 11    | 531    | 27    | 5.1   | 1.0  | .2   |       |
| 14    | 156     | 2.0   | 69      | 6.0     | 143   | 12    | 873    | 25    | 3.9   | 1.1  | *.1  |       |
| 15    | 52      | 2.0   | 532     | 5.6     | 106   | *13   | 474    | 24    | 2.2   | 1.0  | 0    |       |
| 16    | 26      | 1.8   | 221     | 5.6     | 91    | 65    | 295    | 23    | 2.9   | .6   | 0    |       |
| 17    | 17      | 2.0   | 245     | 5.1     | 76    | 43    | 187    | 21    | 3.2   | .7   | .1   |       |
| 18    | 12      | 1.8   | 118     | 5.1     | 65    | 30    | 138    | 20    | 2.7   | .4   | .6   |       |
| 19    | 9.0     | 1.6   | 63      | 5.1     | 58    | 25    | *145   | 20    | 3.5   | .9   | .7   |       |
| 20    | 7.0     | 1.6   | 43      | 4.7     | 52    | 24    | 124    | 19    | 2.9   | .9   | .4   |       |
| 21    | 5.6     | 1.6   | 33      | 4.7     | 46    | 22    | 102    | 18    | 2.2   | .8   | .1   |       |
| 22    | *5.1    | 1.6   | 27      | 4.7     | 42    | 91    | 82     | 18    | 2.7   | .9   | 0    |       |
| 23    | 4.3     | 1.6   | 24      | 4.7     | 38    | 228   | 69     | *18   | 2.9   | .9   | .2   |       |
| 24    | 3.9     | 1.4   | 21      | 4.7     | 35    | 80    | 60     | 17    | 2.9   | .6   | .3   |       |
| 25    | 3.5     | 1.4   | 18      | 4.3     | 31    | 60    | 60     | 16    | 2.2   | .5   | .2   |       |
| 26    | 3.2     | 203   | 15      | 4.3     | 27    | 49    | 50     | 15    | 2.0   | 1.1  | .2   |       |
| 27    | 2.9     | 76    | 14      | 4.3     | 27    | 902   | 43     | 14    | 2.0   | 1.0  | .2   |       |
| 28    | 2.7     | 25    | 13      | 3.9     | 24    | 461   | 38     | 14    | 1.6   | 1.0  | 0    |       |
| 29    | 2.7     | *13   | 12      | 39      | ----- | *456  | 33     | 13    | 2.0   | .7   | 0    |       |
| 30    | 2.4     | 10    | 12      | 1,030   | ----- | 414   | 30     | 12    | 1.8   | .2   | 0    |       |
| 31    | 2.2     | ----- | 12      | 1,690   | ----- | 330   | -----  | 12    | ----- | 0    | 0    | ----- |
| TOTAL | 1,544.5 | 374.4 | 2,339.0 | 2,935.4 | 3,627 | 3,521 | 7,348  | 742   | 145.3 | 33.6 | 6.4  | 0     |
| MEAN  | 49.8    | 12.5  | 75.5    | 94.7    | 130   | 114   | 245    | 23.9  | 4.84  | 1.08 | 0.21 | 0     |
| MAX   | 880     | 203   | 532     | 1,690   | 723   | 902   | 873    | 59    | 11    | 2.4  | 0.7  | 0     |
| MIN   | 0       | 1.4   | 9.5     | 3.9     | 24    | 11    | 30     | 12    | 1.6   | 0    | 0    | 0     |
| AC-FT | 3,060   | 743   | 4,640   | 5,820   | 7,190 | 6,980 | 14,570 | 1,470 | 288   | 67   | 13   | 0     |

CALENDAR YEAR 1962: MAX 1,420 MIN 0 MEAN 49.1 AC-FT 35,560

WATER YEAR 1962-63: MAX 1,690 MIN 0 MEAN 62.0 AC-FT 44,840

Peak discharge (base, 2,000 cfs).--Oct. 12 (1600) 2,190 cfs (11.80 ft); Jan. 31 (1300) 2,910 cfs (13.43 ft).

\* Discharge measurement or observation of no flow made on this day.

11-4630. Russian River near Cloverdale, Calif.

Location.--Lat 38°52'55", long 123°03'15", in SW $\frac{1}{4}$  sec.14, T.12 N., R.11 W., on left bank at Lambert Ranch, 400 ft downstream from Cummins Creek and 5 miles northwest of Cloverdale.

Drainage area.--502 sq mi.

Records available.--July 1951 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 373.44 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--12 years, 989 cfs (716,000 acre-ft per year); median of yearly mean discharges, 880 cfs (637,000 acre-ft per year).

Extremes.--Maximum discharge during year, 25,200 cfs Jan. 31 (gage height, 21.75 ft); minimum daily, 138 cfs Jan. 6.

1951-63: Maximum discharge, 53,000 cfs Dec. 22, 1955 (gage height, 30.9 ft, from floodmarks), from rating curve extended above 21,000 cfs on basis of determination of peak flow at upstream and downstream stations; minimum daily, 81 cfs Nov. 24, 1958.

Remarks.--Records good. Small diversions for irrigation above station. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft).

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |        |        |        |         |         |        |         |        |        |        |        |        |
|--|--------|--------|--------|---------|---------|--------|---------|--------|--------|--------|--------|--------|
| Day  | Oct.   | Nov.   | Dec.   | Jan.    | Feb.    | Mar.   | Apr.    | May    | June   | July   | Aug.   | Sept.  |
| 1  | 212    | 300    | 300    | 177     | 14,700  | 260    | 4,140   | 912    | 436    | * 203  | 168    | 245    |
| 2  | 212    | 294    | 1,400  | 165     | 6,410   | 268    | 2,480   | 858    | 436    | 200    | 168    | 245    |
| 3  | 212    | 294    | 5,150  | 159     | * 6,380 | 264    | 1,970   | 828    | 414    | 198    | 170    | 245    |
| 4  | 212    | 291    | 3,020  | 151     | 5,340   | 253    | 2,430   | 822    | 311    | 203    | 173    | 245    |
| 5  | 209    | 291    | 1,940  | 143     | 4,020   | 245    | 2,530   | 930    | 293    | 206    | 173    | 242    |
| 6  | 209    | 291    | 1,670  | 138     | 4,440   | 242    | 6,380   | 828    | 284    | 200    | 168    | 242    |
| 7  | 209    | 288    | 608    | 552     | 1,630   | 249    | 5,560   | 822    | 280    | 198    | 165    | 242    |
| 8  | 212    | 288    | 392    | * 3,440 | * 1,440 | 216    | 4,900   | 907    | 271    | 198    | 165    | 245    |
| 9  | 217    | 291    | 315    | 2,210   | 1,950   | 442    | 5,100   | 1,530  | 268    | 192    | 168    | 249    |
| 10   | 222    | 294    | 354    | 357     | 2,200   | 522    | 5,690   | 1,690  | 260    | 186    | 168    | 249    |
| 11   | 581    | 294    | 835    | 243     | 1,590   | 528    | 4,540   | 1,650  | 253    | 184    | 173    | 249    |
| 12   | 6,300  | 294    | 890    | 206     | 2,350   | * 528  | 5,880   | 1,480  | 249    | 184    | 175    | 245    |
| 13   | 4,350  | 294    | 1,470  | 190     | 2,530   | 522    | 4,970   | 1,220  | 238    | 184    | 173    | 245    |
| 14   | 1,960  | 294    | 830    | 177     | 1,790   | 534    | 7,370   | 1,150  | 235    | 186    | 173    | 245    |
| 15   | 930    | 294    | 2,800  | 169     | 1,490   | 552    | 5,180   | 570    | 232    | 186    | * 170  | 249    |
| 16   | 540    | 294    | 2,440  | 162     | 1,280   | 966    | 4,500   | 480    | 228    | 181    | 168    | 249    |
| 17   | 368    | 300    | 2,980  | 156     | 1,170   | 882    | 3,700   | 436    | 222    | 181    | 165    | 245    |
| 18   | 291    | 300    | 3,510  | 164     | 1,160   | 684    | 3,000   | 398    | 232    | 178    | 170    | 249    |
| 19   | 243    | 294    | 2,600  | 164     | 2,820   | 600    | * 2,890 | 370    | 238    | 175    | 170    | 249    |
| 20   | 209    | 294    | 4,170  | 162     | 1,500   | 504    | 2,670   | 350    | 245    | 173    | 173    | 245    |
| 21   | 185    | 300    | 3,030  | 159     | 738     | 464    | 2,520   | 330    | 249    | 175    | 173    | 249    |
| 22   | * 172  | 300    | 800    | 159     | 570     | 570    | 2,130   | 320    | 238    | 178    | 184    | 253    |
| 23   | 175    | 300    | 520    | 156     | 469     | 1,870  | 1,420   | * 311  | 238    | 173    | 198    | * 256  |
| 24   | 167    | 303    | 378    | 156     | 408     | 1,400  | 1,150   | 325    | 238    | 173    | 203    | 245    |
| 25   | 228    | 303    | 303    | 154     | 360     | 1,070  | 1,090   | 311    | 232    | 170    | 203    | 225    |
| 26   | 217    | 1,390  | 267    | 169     | 325     | 1,130  | 1,090   | 302    | 232    | 170    | 203    | 222    |
| 27   | 243    | 2,330  | 243    | 177     | 298     | 7,080  | 1,050   | 293    | 228    | 173    | 212    | 219    |
| 28   | 288    | 2,460  | 220    | 177     | 275     | 7,220  | 972     | 320    | 222    | 175    | 216    | 219    |
| 29   | 288    | 1,140  | 206    | 206     | -----   | 6,440  | 948     | 436    | 209    | 178    | 222    | 225    |
| 30   | 270    | * 424  | 190    | 6,090   | -----   | 6,470  | 1,030   | 447    | 206    | 170    | 228    | 225    |
| 31   | 300    | -----  | 185    | 16,200  | -----   | 5,520  | -----   | 442    | -----  | 168    | 242    | -----  |
| Total  | 20,431 | 15,124 | 44,016 | 33,088  | 69,633  | 48,495 | 99,280  | 22,068 | 7,917  | 5,699  | 5,680  | 7,257  |
| Mean   | 659    | 504    | 1,420  | 1,067   | 2,487   | 1,564  | 3,309   | 712    | 264    | 184    | 183    | 242    |
| Max  | 6,300  | 2,460  | 5,150  | 16,200  | 14,700  | 7,220  | 7,370   | 1,690  | 436    | 206    | 242    | 256    |
| Min  | 167    | 288    | 185    | 138     | 275     | 216    | 948     | 293    | 206    | 168    | 165    | 219    |
| Ac-ft  | 40,520 | 30,000 | 87,300 | 65,630  | 138,100 | 96,190 | 196,900 | 43,770 | 15,700 | 11,300 | 11,270 | 14,390 |

Calendar year 1962: Max 14,800 Min 114 Mean 870 Ac-ft 629,800

Water year 1962-63: Max 16,200 Min 138 Mean 1,038 Ac-ft 751,100

Peak discharge (base, 12,400 cfs).--Jan. 31 (1900) 25,200 cfs (21.75 ft); Mar. 27 (1900) 13,900 cfs (16.91 ft).

\* Discharge measurement made on this day.

## RUSSIAN RIVER BASIN

11-4632. Big Sulphur Creek near Cloverdale, Calif.

Location.--Lat 38°49'25", long 122°59'05", in NW¼ sec.10, T.11 N., R.10 W., on right bank 500 ft downstream from unnamed tributary, 1.9 miles upstream from mouth, and 3.1 miles northeast of Cloverdale.

Drainage area.--82.3 sq mi.

Records available.--July 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 380 ft (from topographic map).

Average discharge.--6 years, 184 cfs (133,200 acre-ft per year).

Extremes.--Maximum discharge during year, 8,680 cfs Jan. 31 (gage height, 13.65 ft), from rating curve extended above 2,900 cfs as explained below; minimum, 4.6 cfs Oct. 6, 7.

1957-63: Maximum discharge, 9,960 cfs Feb. 24, 1958 (gage height, 14.46 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurement at gage height 22.2 ft (flood of Dec. 22, 1955); minimum, 2.5 cfs Sept. 1, 2, 1959.

Flood of Dec. 22, 1955, reached a stage of 22.2 ft, from floodmarks, present datum (discharge, 20,000 cfs on basis of slope-area measurement of peak flow).

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-10, Oct. 15 to Nov. 26,  
Feb. 23 to Mar. 22, Mar. 26)

|     |     |     |     |      |       |
|-----|-----|-----|-----|------|-------|
| 2.4 | 4.0 | 3.1 | 37  | 5.0  | 660   |
| 2.5 | 6.0 | 3.4 | 70  | 6.0  | 1,220 |
| 2.6 | 8.9 | 3.7 | 131 | 8.0  | 2,720 |
| 2.7 | 12  | 4.0 | 225 | 10.0 | 4,550 |
| 2.8 | 17  | 4.5 | 420 | 12.0 | 6,700 |
| 2.9 | 22  |     |     |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 5.8     | 38    | 38     | 93     | 2,870  | 140    | 625    | 204    | 82    | 32    | 13    | 8.6   |
| 2     | 5.4     | 38    | 112    | 85     | 1,500  | 131    | 506    | 194    | 79    | 31    | 13    | 8.3   |
| 3     | 5.2     | 36    | 399    | 82     | 1,050  | 121    | 452    | 184    | 77    | *31   | 14    | 8.0   |
| 4     | 5.2     | 35    | 222    | 75     | 670    | 109    | 389    | 190    | 75    | 31    | 14    | 8.0   |
| 5     | 5.0     | 34    | 169    | 69     | 483    | 107    | 421    | 367    | 73    | 31    | 14    | 8.3   |
| 6     | 4.8     | 33    | 140    | 66     | 429    | 107    | 2,050  | 267    | 70    | 30    | 13    | 8.9   |
| 7     | 4.8     | 31    | 117    | 64     | 393    | 101    | 1,300  | 253    | 69    | 30    | 12    | 8.6   |
| 8     | 5.0     | 29    | 103    | *61    | *461   | 103    | 893    | 232    | 67    | 28    | 12    | 8.6   |
| 9     | 5.4     | 30    | 97     | 60     | 726    | 99     | 680    | 215    | 65    | 26    | 13    | 8.6   |
| 10    | 20      | 30    | 87     | 57     | 735    | 87     | 843    | 260    | 64    | 25    | 13    | 8.9   |
| 11    | 690     | 28    | 79     | 55     | 555    | 84     | 675    | 288    | 60    | 24    | 12    | 8.9   |
| 12    | 3,990   | 28    | 77     | 52     | 885    | *80    | 585    | 236    | 60    | 24    | 11    | 8.9   |
| 13    | 1,510   | 27    | 290    | 50     | 957    | 77     | 790    | 218    | 58    | 23    | 11    | 9.3   |
| 14    | 840     | 26    | 295    | 49     | 615    | 85     | 2,560  | 201    | 56    | 22    | 11    | 9.3   |
| 15    | 277     | 26    | 1,870  | 48     | 515    | 84     | 1,480  | 184    | 54    | 21    | *10   | 8.9   |
| 16    | 160     | 25    | 1,500  | 47     | 461    | 257    | 1,020  | 172    | 53    | 21    | 10    | 8.9   |
| 17    | 114     | 25    | 1,490  | 46     | 407    | 151    | 675    | 160    | 48    | 21    | 10    | 8.9   |
| 18    | 95      | 25    | 898    | 45     | 363    | 114    | 525    | 148    | 47    | 20    | 9.6   | 8.9   |
| 19    | 80      | 25    | 483    | 42     | 327    | 112    | 555    | 140    | 45    | 20    | 9.6   | 8.9   |
| 20    | 70      | 24    | 339    | 42     | 295    | 112    | 479    | 131    | 43    | 19    | 9.6   | 8.6   |
| 21    | 62      | 24    | 264    | 41     | 264    | 107    | 425    | 126    | 42    | 19    | 9.6   | 8.9   |
| 22    | *58     | 24    | 222    | 41     | 239    | 181    | 375    | 124    | 42    | 17    | 10    | 8.9   |
| 23    | 56      | 25    | 197    | 41     | 218    | 461    | 343    | *119   | 42    | 17    | 10    | *10   |
| 24    | 54      | 25    | 169    | 40     | 201    | 299    | *311   | 117    | 41    | 16    | 10    | 10    |
| 25    | 52      | 26    | 157    | 39     | 184    | 236    | 327    | 112    | 38    | 16    | 10    | 9.6   |
| 26    | 49      | 255   | 140    | 37     | 172    | 197    | 307    | 107    | 35    | 15    | 10    | 8.9   |
| 27    | 47      | 215   | 126    | 37     | 160    | 1,980  | 271    | 103    | 35    | 14    | 9.6   | 8.3   |
| 28    | 44      | 61    | 114    | 36     | 148    | 1,560  | 253    | 99     | 35    | 14    | 8.9   | 8.0   |
| 29    | 43      | 48    | 105    | 53     | -----  | 1,140  | 232    | 95     | 33    | 15    | 8.9   | 8.3   |
| 30    | 42      | *42   | 103    | 2,810  | -----  | 1,010  | 218    | 89     | 32    | 15    | 8.9   | 8.3   |
| 31    | 39      | ----- | 103    | 5,820  | -----  | 785    | -----  | 85     | ----- | 14    | 8.9   | ----- |
| TOTAL | 8,438.6 | 1,338 | 10,505 | 10,183 | 16,283 | 10,217 | 20,565 | 5,420  | 1,620 | 682   | 339.6 | 263.5 |
| MEAN  | 272     | 44.6  | 339    | 328    | 582    | 330    | 686    | 175    | 54.0  | 22.0  | 11.0  | 8.78  |
| MAX   | 3,990   | 255   | 1,870  | 5,820  | 2,870  | 1,980  | 2,560  | 367    | 82    | 32    | 14    | 10    |
| MIN   | 4.8     | 24    | 38     | 36     | 148    | 77     | 218    | 85     | 32    | 14    | 8.9   | 8.0   |
| AC-FT | 16,740  | 2,650 | 20,840 | 20,200 | 32,300 | 20,270 | 40,790 | 10,750 | 3,210 | 1,350 | 674   | 523   |

Calendar year 1962: Max 4,270 Min 3.4 Mean 179 Ac-ft 129,700

Water year 1962-63: Max 5,820 Min 4.8 Mean 235 Ac-ft 170,300

## Peak discharge (base, 3,200 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 0900 | 11.30       | 5,930     | 3-27 | 1800 | 10.07       | 4,620     |
| 12-15 | 1000 | 9.15        | 3,760     | 4- 6 | 0400 | 9.28        | 3,870     |
| 1-31  | 1500 | 13.65       | 8,680     | 4-14 | 0500 | 9.38        | 3,960     |

\* Discharge measurement made on this day.

11-4639. Maacama Creek near Kellogg, Calif.

Location---Lat 38°38'25", long 122°45'45", in SW $\frac{1}{4}$  sec.9, T.9 N., R.8 W., on right bank 0.5 mile downstream from Redwood Creek, 4.4 miles west of Kellogg.

Drainage area---43.4 sq mi.

Records available---Occasional low-flow measurements and annual maximum, water years 1958-60. December 1960 to September 1963.

Gage---Water-stage recorder. Altitude of gage is 200 ft (from topographic map). Prior to Dec. 20, 1960, crest-stage gage only at site 700 ft upstream at different datum.

Extremes---Maximum discharge during year, 7,700 cfs Jan. 31 (gage height, 17.15 ft), from rating curve extended above 1,900 cfs; minimum, 0.3 cfs Oct. 3, 4, 5.

1958-63: Maximum discharge, 8,100 cfs Feb. 24, 1958 (gage height, 20.6 ft, from floodmarks, site and datum then in use), from rating curve extended above 1,900 cfs.

1960-63: Minimum discharge, 0.2 cfs Sept. 26, 1961, many days in August and September 1962.

Remarks---Records good except those for period of no gage-height record, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.  | Jan.   | Feb.   | Mar.  | Apr.   | May   | June  | July  | Aug. | Sept. |
|-------|---------|-------|-------|--------|--------|-------|--------|-------|-------|-------|------|-------|
| 1     | 0.6     | 16    | 19    | 40     | 1,020  | 47    | 230    | 85    | 31    | 11    | 4.8  | 2.0   |
| 2     | *.5     | 15    | 51    | 35     | 442    | 43    | 183    | *78   | 29    | 10    | 4.3  | 2.0   |
| 3     | .3      | 15    | 137   | 33     | 298    | 38    | 156    | 74    | 28    | 10    | 4.5  | 2.0   |
| 4     | .3      | 14    | 57    | 31     | 221    | 36    | 134    | 80    | 26    | 9.4   | 4.5  | 1.8   |
| 5     | .4      | *14   | 38    | 29     | 175    | 36    | 257    | 141   | 26    | 9.0   | 4.5  | 1.7   |
| 6     | .4      | 13    | 32    | 28     | 152    | 37    | 1,380  | 94    | 24    | 9.0   | 3.8  | *1.5  |
| 7     | .5      | 13    | 28    | 28     | 125    | 38    | 597    | 92    | 23    | 8.7   | 3.6  | 1.4   |
| 8     | .7      | 13    | 25    | 27     | 130    | 39    | 393    | 89    | 23    | 8.4   | 3.8  | 1.5   |
| 9     | .8      | 13    | 23    | 26     | 185    | 39    | 306    | 80    | 22    | 8.2   | 4.0  | 1.7   |
| 10    | 6.2     | 13    | *22   | 25     | 205    | 36    | 477    | 97    | 21    | 7.9   | 3.8  | 1.8   |
| 11    | 351     | 12    | 20    | 23     | 145    | 32    | 318    | 112   | 20    | 7.9   | 3.6  | 2.0   |
| 12    | 2,280   | 12    | 20    | 22     | 280    | 31    | 252    | 86    | *19   | 7.9   | 3.4  | 2.2   |
| 13    | 1,000   | 12    | 115   | 21     | 295    | 31    | 371    | 78    | 19    | 7.6   | 3.3  | 2.2   |
| 14    | 421     | 11    | 147   | 21     | 200    | 32    | 1,040  | 72    | 20    | 7.3   | 3.1  | 2.0   |
| 15    | 168     | 11    | 1,090 | *21    | 165    | 34    | 563    | 66    | 17    | 7.3   | 2.9  | 2.0   |
| 16    | 98      | 11    | 695   | 20     | 145    | 100   | 393    | 61    | 18    | 7.0   | 2.9  | 2.0   |
| 17    | 68      | 11    | 609   | 20     | 130    | 52    | 294    | 56    | 17    | 6.8   | 3.1  | 1.8   |
| 18    | 51      | 10    | 334   | 20     | 115    | 43    | 247    | 53    | 16    | 6.5   | 3.1  | 1.7   |
| 19    | 42      | 10    | 213   | 18     | 105    | 41    | 260    | 51    | 16    | 6.2   | 2.9  | 1.7   |
| 20    | 35      | 10    | 156   | 17     | *97    | 38    | 221    | 49    | 15    | 6.2   | 2.7  | 2.0   |
| 21    | 31      | 10    | 123   | 17     | 88     | 36    | 196    | 48    | 15    | 5.7   | 2.4  | 1.8   |
| 22    | 28      | 9.7   | 99    | 17     | 81     | 51    | 168    | 47    | 14    | 5.7   | 2.4  | 2.4   |
| 23    | 25      | 9.7   | 85    | 17     | 74     | 81    | 146    | 45    | 14    | 5.5   | 2.7  | 2.5   |
| 24    | 24      | 9.7   | 69    | 17     | 67     | 61    | 130    | 44    | 13    | 5.2   | 2.7  | 2.5   |
| 25    | 23      | 9.4   | 60    | 17     | 60     | 50    | 169    | 42    | 13    | *5.2  | 2.5  | 2.4   |
| 26    | 22      | 140   | 54    | 16     | 56     | *46   | 141    | 41    | 12    | 5.2   | 2.5  | 2.2   |
| 27    | 20      | 83    | 50    | 16     | 56     | 961   | 118    | 40    | 12    | 6.5   | 2.2  | 2.0   |
| 28    | 20      | 31    | 47    | 16     | 52     | 567   | 108    | 38    | 11    | 4.8   | 2.0  | 1.8   |
| 29    | 18      | 23    | 43    | 47     | -----  | 458   | 99     | 36    | 11    | 5.0   | 2.0  | 1.8   |
| 30    | 17      | 21    | 41    | 1,580  | -----  | 358   | 91     | 35    | 11    | 5.0   | 1.8  | 2.0   |
| 31    | 17      | ----- | 41    | 4,110  | -----  | 306   | -----  | 32    | ----- | 5.0   | 1.8  | ----- |
| Total | 4,769.7 | 595.5 | 4,543 | 6,375  | 5,164  | 3,798 | 9,438  | 2,042 | 556   | 221.1 | 97.6 | 58.4  |
| Mean  | 154     | 19.9  | 147   | 206    | 184    | 123   | 315    | 65.9  | 18.5  | 7.13  | 3.15 | 1.95  |
| Max   | 2,280   | 140   | 1,090 | 4,110  | 1,020  | 961   | 1,380  | 141   | 31    | 11    | 4.8  | 2.5   |
| Min   | 0.3     | 9.4   | 19    | 16     | 52     | 31    | 91     | 32    | 11    | 4.8   | 1.8  | 1.4   |
| Ac-ft | 9,460   | 1,180 | 9,010 | 12,640 | 10,240 | 7,530 | 18,720 | 4,050 | 1,100 | 439   | 194  | 116   |

Calendar year 1962: Max 2,490 Min 0.2 Mean 86.8 Ac-ft 62,820

Water year 1962-63: Max 4,110 Min 0.3 Mean 103 Ac-ft 74,680

Peak discharge (base, 1,300 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 0700 | 13.80       | 4,580     | 3-27 | 1700 | 10.73       | 2,480     |
| 12-15 | 0900 | 11.72       | 3,070     | 4-6  | 0300 | 12.76       | 3,770     |
| 1-31  | 1000 | 17.15       | 7,700     | 4-14 | 0700 | 9.65        | 1,840     |

\* Discharge measurement made on this day.

Note---No gage-height record Feb. 7 to Mar. 15.

## RUSSIAN RIVER BASIN

11-4640. Russian River near Healdsburg, Calif.

Location.--Lat 38°36'48", long 122°50'07", in Sotoyome Grant, on left bank 2 miles east of Healdsburg, Sonoma County, and 3.5 miles upstream from Dry Creek.

Drainage area.--793 sq mi.

Records available.--October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 76.84 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--24 years, 1,404 cfs (1,016,000 acre-ft per year).

Extremes.--Maximum discharge during year, 41,800 cfs Feb. 1 (gage height, 20.10 ft); minimum daily, 155 cfs Aug. 7, 8.

1939-63: Maximum discharge, 67,000 cfs Feb. 28, 1940 (gage height, 30.0 ft); minimum daily, 38 cfs July 2, 1950.

Flood in December 1937 reached a stage of 30.8 ft, from floodmarks.

Remarks.--Records fair. Several small diversions for irrigation above station. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations) and since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft).

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May    | June   | July   | Aug.   | Sept.  |
|-------|--------|--------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| 1     | 191    | 434    | 515     | 508     | 31,600  | 793     | 5,710   | *1,500 | 565    | *250   | 160    | 225    |
| 2     | 188    | 424    | 420     | 486     | 10,500  | 769     | 3,770   | 1,400  | 555    | 250    | 160    | 230    |
| 3     | 179    | 434    | *4,260  | *470    | 8,600   | 757     | 2,560   | 1,340  | *550   | 250    | 160    | *235   |
| 4     | 174    | 434    | 2,780   | 454     | 7,250   | 727     | 2,740   | 1,310  | 520    | 250    | 165    | 235    |
| 5     | *181   | *429   | 1,880   | 434     | 5,480   | 697     | 2,560   | 1,570  | 460    | 250    | *160   | 235    |
| 6     | 184    | 424    | 1,390   | 426     | 5,820   | 685     | 9,580   | 1,530  | 435    | 240    | 160    | 230    |
| 7     | 186    | 424    | 944     | 414     | 3,690   | 685     | 8,840   | 1,420  | 415    | 230    | 155    | 230    |
| 8     | 188    | 424    | 570     | 1,920   | 2,920   | 668     | 6,580   | 1,380  | 395    | 225    | 155    | 230    |
| 9     | 191    | 424    | 456     | 2,570   | 3,510   | 703     | 6,400   | 1,740  | 380    | 220    | 160    | 225    |
| 10    | 208    | 424    | 388     | 1,110   | 4,710   | 831     | 7,420   | 2,090  | 370    | 210    | 160    | 220    |
| 11    | 368    | 424    | 485     | 615     | 3,420   | 844     | 5,880   | 2,440  | 360    | 205    | 165    | 220    |
| 12    | 10,800 | 420    | 632     | 512     | 4,330   | 831     | 6,480   | 2,060  | 345    | 200    | 165    | 220    |
| 13    | 13,900 | 420    | 1,110   | 470     | 6,480   | 818     | 6,580   | 1,930  | 330    | 195    | 165    | 215    |
| 14    | 4,710  | 416    | 1,330   | 458     | 3,890   | 831     | 12,900  | 1,620  | 320    | 190    | 165    | 215    |
| 15    | 2,170  | 416    | 5,730   | 438     | 3,060   | 864     | 9,160   | 1,270  | 315    | 190    | 165    | 215    |
| 16    | 1,240  | 412    | 6,990   | 418     | 2,590   | 1,300   | 7,040   | 1,020  | 300    | 180    | 160    | 215    |
| 17    | 910    | 412    | 6,170   | 406     | 2,350   | 1,350   | 5,710   | 919    | 295    | 180    | 160    | 215    |
| 18    | 728    | 412    | 6,060   | 392     | 2,010   | 1,090   | 4,720   | 857    | 300    | 180    | 160    | 213    |
| 19    | 609    | 408    | 3,860   | 389     | 2,850   | 982     | 4,420   | 805    | 305    | 175    | 160    | 198    |
| 20    | 540    | 408    | 4,560   | 378     | *2,820  | 919     | 3,950   | 763    | 310    | 175    | 160    | 198    |
| 21    | 485    | 408    | 4,000   | 375     | 1,680   | 857     | 3,700   | 745    | 320    | 175    | 165    | 198    |
| 22    | 438    | 408    | 2,040   | 372     | 1,330   | 850     | 3,230   | 727    | 310    | 175    | 170    | 198    |
| 23    | 396    | 404    | 1,260   | 368     | 1,180   | 1,790   | 2,590   | 703    | 305    | 170    | 180    | 203    |
| 24    | 384    | 404    | 1,020   | 361     | 1,080   | 1,900   | 2,110   | 691    | 305    | 165    | 185    | 200    |
| 25    | 373    | 400    | 850     | 361     | 1,000   | *1,570  | 2,030   | 691    | 300    | 160    | 190    | 193    |
| 26    | 404    | 540    | 751     | 358     | 940     | 1,460   | 2,000   | 680    | 300    | 160    | 190    | 183    |
| 27    | 392    | 2,240  | 685     | 364     | 884     | 6,720   | 1,800   | 641    | 290    | 160    | 195    | 181    |
| 28    | 412    | 1,970  | 630     | 364     | 837     | 13,200  | 1,670   | 615    | 280    | 165    | 200    | 177    |
| 29    | 442    | 1,280  | 585     | 382     | -----   | 8,390   | 1,550   | 580    | 270    | 170    | 205    | 175    |
| 30    | 429    | 806    | 553     | 8,960   | -----   | 8,010   | 1,560   | 575    | 260    | 165    | 210    | *208   |
| 31    | 429    | -----  | 522     | 27,500  | -----   | 7,250   | -----   | 570    | -----  | 160    | 220    | -----  |
| Total | 42,429 | 17,283 | 63,426  | 53,033  | 126,811 | 69,141  | 145,240 | 36,182 | 10,765 | 6,070  | 5,330  | 6,335  |
| Mean  | 1,369  | 576    | 2,046   | 1,711   | 4,529   | 2,230   | 4,841   | 1,167  | 359    | 196    | 172    | 211    |
| Max   | 13,900 | 2,240  | 6,990   | 27,500  | 31,600  | 13,200  | 12,900  | 2,440  | 565    | 250    | 220    | 235    |
| Min   | 174    | 400    | 388     | 358     | 837     | 668     | 1,550   | 570    | 260    | 160    | 155    | 175    |
| Ac-ft | 84,160 | 34,280 | 125,800 | 105,200 | 251,500 | 137,100 | 288,100 | 71,770 | 21,350 | 12,040 | 10,570 | 12,570 |

Calendar year 1962: Max 23,800 Min 120 Mean 1,344 Ac-ft 973,200

Water year 1962-63: Max 31,600 Min 155 Mean 1,595 Ac-ft 1,154,000

Peak discharge (base, 19,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0200 | 13.88       | 21,500    | 3-28 | 0200 | 13.11       | 19,300    |
| 2-1   | 0200 | 20.10       | 41,800    |      |      |             |           |



## RUSSIAN RIVER BASIN

355

11-4645. Dry Creek near Cloverdale, Calif.

Location.--Lat 38°44'59", long 123°05'28", in NE 1/4 sec. 5, T.10 N., R.11 W., on left bank 500 ft downstream from Smith Creek and 5 miles southwest of Cloverdale.

Drainage area.--87.8 sq mi.

Records available.--October 1941 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 320 ft (from topographic map).

Average discharge.--22 years, 155 cfs (112,200 acre-ft per year); median of yearly mean discharges, 140 cfs (101,400 acre-ft per year).

Extremes.--Maximum discharge during year, 17,700 cfs Jan. 31 (gage height, 17.91 ft); minimum, 0.2 cfs Oct. 6-8.

1941-63: Maximum discharge, that of Jan. 31, 1963; minimum, 0.1 cfs several days in 1944, 1949, 1951-53, 1962.

Flood in December 1937 reached a stage of about 18 ft, from floodmarks.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-11, Oct. 15 to Nov. 26, Dec. 5-12,  
May 13, June 4 to July 13)

|     |     |     |     |      |       |
|-----|-----|-----|-----|------|-------|
| 2.5 | 0   | 3.2 | 28  | 5.5  | 690   |
| 2.6 | .6  | 3.5 | 60  | 6.0  | 1,000 |
| 2.7 | 2.2 | 4.0 | 147 | 7.0  | 1,800 |
| 2.8 | 5.0 | 4.5 | 276 | 9.0  | 4,000 |
| 3.0 | 14  | 5.0 | 456 | 13.0 | 9,800 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.   | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|---------|-------|-------|--------|--------|--------|--------|-------|-------|-------|------|-------|
| 1     | 0.4     | 18    | 88    | 50     | 3,860  | 106    | a500   | 141   | 47    | 16    | 4.7  | 2.5   |
| 2     | .4      | 18    | 239   | 48     | 1,230  | 104    | a430   | 133   | 44    | 15    | 4.4  | 2.8   |
| 3     | .4      | 17    | 228   | 46     | 690    | 101    | a380   | 129   | 43    | 15    | 4.4  | *2.0  |
| 4     | .4      | 16    | 114   | 44     | 482    | 97     | a350   | 127   | 40    | 15    | 4.7  | 1.9   |
| 5     | *.4     | 15    | 88    | 41     | 374    | 95     | 347    | 161   | 38    | 15    | 4.2  | 1.9   |
| 6     | .2      | 15    | 74    | 40     | 322    | 94     | 1,150  | 135   | 37    | 15    | 3.9  | 2.0   |
| 7     | .2      | 13    | 67    | 38     | 286    | 94     | a800   | 129   | 36    | 15    | 3.9  | 2.0   |
| 8     | .2      | *13   | 60    | 38     | 353    | 101    | a650   | 119   | 35    | 13    | 3.9  | 2.0   |
| 9     | .4      | 15    | 55    | 37     | 556    | 99     | a590   | 114   | 33    | 12    | 4.4  | 2.0   |
| 10    | 4.4     | 15    | *50   | 35     | 518    | 92     | a630   | 127   | 32    | 11    | 3.9  | 2.0   |
| 11    | 198     | 15    | 46    | 33     | 371    | 88     | a560   | 123   | *29   | 9.8   | 3.6  | 2.0   |
| 12    | 1,920   | 15    | 47    | 32     | 670    | 87     | a600   | 110   | 28    | 10    | 3.3  | 2.0   |
| 13    | 578     | 13    | 133   | 31     | 655    | 85     | a800   | 103   | 27    | 10    | 3.0  | 1.9   |
| 14    | 311     | 13    | 110   | 31     | 440    | 90     | a1,800 | 99    | 27    | 10    | 3.0  | 1.9   |
| 15    | 165     | 12    | 496   | *30    | 349    | 88     | a1,150 | 94    | 26    | 8.7   | 3.3  | 1.7   |
| 16    | 112     | 12    | 302   | 30     | 289    | 249    | a750   | 90    | 24    | 8.3   | 3.0  | 1.7   |
| 17    | 85      | 12    | 308   | 30     | 243    | 133    | a470   | 85    | 24    | 8.3   | 3.0  | 1.6   |
| 18    | 70      | 12    | 222   | 29     | 212    | 116    | a400   | 82    | 22    | 8.3   | 2.8  | 1.6   |
| 19    | 59      | 12    | 152   | 28     | 189    | 110    | a420   | 77    | 21    | 6.1   | 2.8  | 1.6   |
| 20    | 52      | 12    | 118   | 27     | 170    | 106    | a340   | 77    | 21    | 6.5   | 2.5  | 1.7   |
| 21    | 47      | 12    | 97    | 27     | *159   | 103    | a290   | 74    | 20    | 7.6   | 2.5  | 1.9   |
| 22    | 39      | 12    | 85    | 26     | 152    | 153    | a250   | 71    | 21    | 7.6   | 2.5  | 1.9   |
| 23    | 35      | 12    | 79    | 26     | 141    | 276    | a210   | 70    | 21    | 7.2   | 2.5  | 2.5   |
| 24    | 32      | 12    | 73    | 26     | 133    | 170    | 194    | 67    | 21    | 6.5   | 2.5  | 1.7   |
| 25    | 27      | 11    | 66    | 25     | 125    | 147    | 194    | 66    | 20    | *6.1  | 2.8  | 1.6   |
| 26    | 26      | 234   | 60    | 25     | 121    | *137   | 182    | 63    | 19    | 5.0   | 2.5  | 1.2   |
| 27    | 24      | 170   | 59    | 24     | 116    | 1,860  | 168    | 60    | 19    | 5.0   | 2.0  | 1.2   |
| 28    | 33      | 116   | 55    | 24     | 112    | 1,280  | 158    | 56    | 17    | 5.0   | 2.2  | 1.1   |
| 29    | 32      | 101   | 53    | 47     | -----  | 775    | 149    | 55    | 14    | 5.0   | 2.0  | 1.1   |
| 30    | 26      | 94    | 50    | 1,910  | -----  | 650    | *145   | 52    | 17    | 5.0   | 2.2  | 1.1   |
| 31    | 19      | ----- | 56    | 8,880  | -----  | 563    | -----  | 48    | ----- | 4.7   | 2.8  | ----- |
| TOTAL | 3,897.4 | 1,057 | 3,730 | 11,758 | 13,318 | 8,249  | 15,057 | 2,937 | 823   | 292.7 | 99.2 | 54.1  |
| MEAN  | 126     | 35.2  | 120   | 379    | 476    | 266    | 502    | 94.7  | 27.4  | 9.44  | 3.20 | 1.80  |
| MAX   | 1,920   | 234   | 496   | 8,880  | 3,860  | 1,860  | 1,800  | 161   | 47    | 16    | 4.7  | 2.8   |
| MIN   | 0.2     | 11    | 46    | 24     | 112    | 85     | 145    | 48    | 14    | 4.7   | 2.0  | 1.1   |
| AC-FT | 7,730   | 2,100 | 7,400 | 23,320 | 26,420 | 16,360 | 29,870 | 5,830 | 1,630 | 581   | 197  | 107   |

CALENDAR YEAR 1962: MAX 6,430 MIN 0.1 MEAN 152 AC-FT 109,700  
WATER YEAR 1962-63: MAX 8,880 MIN 0.2 MEAN 168 AC-FT 121,500

Peak discharge (base, 3,300 cfs)

\* Discharge measurement made on this day.  
a No gage-height record.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1600 | 10.13       | 5,480     | 3-27 | 1700 | 9.19        | 4,250     |
| 1-31  | 1500 | 17.91       | 17,700    |      |      |             |           |

## RUSSIAN RIVER BASIN

11-4652. Dry Creek near Geyserville, Calif.

Location.--Lat 38°41'55", long 122°57'25", in Tzabaco Grant, on left bank pier of bridge, 0.3 mile downstream from Pena Creek and 3 miles west of Geyserville, Sonoma County.

Drainage area.--162 sq mi.

Records available.--October 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map).

Extremes.--Maximum discharge during year, 25,800 cfs Jan. 31 (gage height, 16.50 ft); no flow Oct. 1-10.  
1959-63: Maximum discharge, that of Jan. 31, 1963; no flow at times in each year.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. No regulation. Small diversions for orchard irrigation in summer above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.  | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG.  | SEPT. |
|-------|--------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 0      | 45    | 79     | 136    | 9,180  | 183    | 998    | 281    | 95    | 25    | 6.2   | 2.8   |
| 2     | 0      | 41    | 288    | 126    | 2,730  | 177    | 848    | *262   | 91    | 25    | 6.2   | 2.8   |
| 3     | 0      | 37    | 851    | 119    | 1,780  | 166    | 792    | 249    | 87    | 25    | 6.6   | 2.6   |
| 4     | 0      | 35    | 362    | 109    | 1,400  | 152    | 710    | 243    | g83   | 26    | 6.2   | 2.8   |
| 5     | *0     | 31    | 228    | 100    | 1,170  | 142    | 726    | 355    | g79   | 28    | 6.2   | 2.8   |
| 6     | 0      | 29    | 172    | 94     | 1,020  | 144    | 2,650  | 291    | g75   | 25    | 5.8   | *2.6  |
| 7     | 0      | 28    | 136    | 92     | 860    | 142    | 1,820  | 268    | g73   | 25    | 5.0   | 2.4   |
| 8     | 0      | *28   | 109    | 87     | 1,020  | 152    | 1,470  | 246    | g69   | 22    | 5.8   | 2.2   |
| 9     | 0      | 28    | 94     | 85     | 1,490  | 174    | 1,270  | 225    | 65    | 21    | 6.2   | 2.2   |
| 10    | 0      | 28    | *81    | 81     | 1,800  | 134    | 1,400  | 258    | 61    | 20    | 6.6   | 2.0   |
| 11    | 457    | 29    | 77     | 75     | 1,350  | 119    | 1,130  | 281    | *59   | 18    | 5.8   | 2.0   |
| 12    | 4,690  | 29    | 72     | 72     | 1,990  | 112    | 1,250  | 228    | 55    | 17    | 5.0   | 1.8   |
| 13    | 1,830  | 28    | 389    | 66     | 2,000  | 104    | 1,590  | 208    | 52    | 17    | 4.3   | 1.8   |
| 14    | 866    | 27    | 390    | 66     | 1,400  | 114    | 4,000  | 202    | 49    | 17    | 4.0   | 1.6   |
| 15    | 453    | 25    | 1,730  | *62    | 1,070  | 116    | 2,300  | 195    | 46    | 17    | 3.6   | 1.3   |
| 16    | 293    | 24    | 1,220  | 57     | 836    | 545    | 1,530  | 185    | 43    | 15    | 3.3   | 1.5   |
| 17    | 219    | 24    | 1,310  | 57     | 670    | 279    | 1,140  | 175    | 40    | 14    | 3.3   | 1.5   |
| 18    | 174    | 24    | 1,020  | 54     | 556    | 195    | 938    | 170    | 37    | 13    | 3.1   | 1.5   |
| 19    | 142    | 23    | 670    | 52     | 475    | 169    | 974    | 160    | 35    | 13    | 3.1   | 1.3   |
| 20    | 119    | 22    | 511    | 48     | 418    | 152    | 786    | 160    | 32    | 13    | 3.1   | 1.0   |
| 21    | 102    | 22    | 398    | 45     | *374   | 142    | 690    | 150    | 30    | 13    | 2.8   | 1.0   |
| 22    | 92     | 22    | 330    | 44     | 330    | 194    | 605    | 150    | 31    | 12    | 2.8   | .9    |
| 23    | 79     | 21    | 286    | 42     | 307    | 734    | 539    | 145    | 31    | 12    | 2.8   | .7    |
| 24    | 73     | 21    | 247    | 42     | 282    | 410    | 489    | 140    | 31    | 12    | 2.8   | .4    |
| 25    | 72     | 21    | 216    | 41     | 251    | 326    | 485    | 135    | 29    | *9.7  | 2.8   | .4    |
| 26    | 66     | 309   | 195    | 41     | 228    | *289   | 467    | 130    | 29    | 9.1   | 2.8   | .3    |
| 27    | 62     | 373   | 177    | 40     | 216    | 3,890  | 391    | 125    | 29    | 7.5   | 2.8   | .3    |
| 28    | 62     | 160   | 163    | 37     | 201    | 3,090  | 355    | 120    | 29    | 8.5   | 2.8   | .2    |
| 29    | 64     | 114   | 149    | 108    | -----  | 1,750  | 329    | 115    | 28    | 8.0   | 2.8   | .2    |
| 30    | 60     | 92    | 139    | 5,900  | -----  | 1,430  | 304    | 105    | 25    | 7.0   | 2.8   | .1    |
| 31    | 51     | ----- | 155    | 15,300 | -----  | 1,210  | -----  | 100    | ----- | 6.6   | 3.1   | ----- |
| TOTAL | 10,026 | 1,740 | 12,244 | 23,278 | 35,404 | 16,936 | 32,976 | 6,057  | 1,518 | 501.4 | 130.5 | 45.0  |
| MEAN  | 323    | 58.0  | 395    | 751    | 1,264  | 546    | 1,099  | 195    | 50.6  | 16.2  | 4.21  | 1.50  |
| MAX   | 4,690  | 373   | 1,730  | 15,300 | 9,180  | 3,890  | 4,000  | 355    | 95    | 28    | 6.6   | 2.8   |
| MIN   | 0      | 21    | 72     | 37     | 201    | 104    | 304    | 100    | 25    | 6.6   | 2.8   | .1    |
| AC-FT | 19,890 | 3,450 | 24,290 | 46,170 | 70,220 | 33,590 | 65,410 | 12,010 | 3,010 | 995   | 259   | 89    |

CALENDAR YEAR 1962: MAX 13,100 MIN 0 MEAN 305 AC-FT 221,200  
WATER YEAR 1962-63: MAX 15,300 MIN 0 MEAN 386 AC-FT 279,400

## Peak discharge (base, 4,500 cfs)

| Date  | Time | Gage height | Discharge | Date | Time    | Gage height | Discharge |
|-------|------|-------------|-----------|------|---------|-------------|-----------|
| 10-12 | 1800 | 9.60        | 9,800     | 3-27 | Unknown | 9.00        | 8,600     |
| 1-31  | 1600 | 16.50       | 25,800    | 4-14 | 0700    | 7.60        | 5,880     |

\* Discharge measurement or observation of no flow made on this day.

g Computed from twice-daily staff gage readings.

Note.--No gage-height record May 14 to June 3, June 9-23, Sept. 26-30.

11-4658. Santa Rosa Creek near Santa Rosa, Calif.

Location.--Lat 38°27'25", long 122°37'50", in Los Guillicos Grant, on left bank 500 ft downstream from highway bridge, 1,500 ft upstream from unnamed tributary, and 4.6 miles east of Santa Rosa, Sonoma County.

Drainage area.--12.5 sq mi.

Records available.--July 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 335 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,250 cfs Jan. 31 (gage height, 9.53 ft), from rating curve extended above 390 cfs as explained below; no flow for part of Oct. 7.

1959-63: Maximum discharge, 3,200 cfs Feb. 8, 1960 (gage height, 13.35 ft, from floodmarks), from rating curve extended above 390 cfs on basis of slope-area measurements at gage heights 11.0 and 13.35 ft; no flow at times in each year.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.    | JAN.    | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|---------|---------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.2     | 3.5   | 2.5     | 11      | 374   | 14    | 38    | 21    | 6.4   | 2.2  | 0.9  | 0.4   |
| 2     | *.2     | 3.4   | 3.1     | 10      | 123   | 13    | 31    | 20    | 6.1   | 2.2  | .9   | .4    |
| 3     | .2      | 3.4   | 3.9     | 9.8     | 81    | 13    | 28    | 19    | 5.6   | 2.1  | .9   | .4    |
| 4     | .2      | 3.4   | 12      | 9.2     | 58    | 12    | 25    | 19    | 5.6   | 2.1  | .9   | .4    |
| 5     | .1      | 3.2   | 8.5     | 8.5     | 45    | 11    | 54    | 18    | 5.3   | 2.1  | .9   | .4    |
| 6     | .1      | 3.1   | 6.7     | 8.1     | 38    | 12    | 386   | 16    | 5.0   | 2.0  | .9   | .3    |
| 7     | .1      | *2.9  | 5.6     | 7.8     | 33    | 12    | 151   | 16    | 4.8   | 2.0  | .9   | .3    |
| 8     | .1      | 2.9   | 5.0     | 7.5     | 35    | 12    | 89    | 16    | 4.8   | 1.9  | .9   | .3    |
| 9     | .1      | 3.2   | 4.6     | 7.2     | 51    | 12    | 67    | 15    | 4.6   | 1.8  | .9   | *.3   |
| 10    | .6      | 3.1   | 4.2     | 7.0     | 56    | 11    | 65    | 17    | 4.6   | 1.6  | .9   | .3    |
| 11    | 48      | 2.9   | *3.8    | 6.7     | 39    | 9.8   | 54    | 16    | *4.6  | 1.6  | .8   | .3    |
| 12    | 509     | 2.8   | 3.8     | 6.1     | 77    | 9.5   | 45    | 14    | 4.4   | 1.5  | .8   | .4    |
| 13    | 525     | 2.8   | 6.1     | 5.8     | 81    | 9.5   | 50    | 13    | 4.4   | 1.5  | .7   | .4    |
| 14    | 143     | 2.8   | 7.0     | *5.6    | 53    | 10    | a200  | 12    | 4.4   | 1.5  | .7   | .4    |
| 15    | 41      | 2.6   | 170     | 5.3     | 43    | 9.8   | 101   | 12    | 4.2   | 1.4  | .7   | .4    |
| 16    | 26      | 2.5   | 87      | 5.3     | 39    | 58    | 75    | 12    | 4.0   | 1.4  | .7   | .4    |
| 17    | 18      | 2.8   | *189    | 5.0     | 35    | 22    | 61    | 11    | 3.5   | 1.3  | .6   | .4    |
| 18    | 14      | 2.5   | 130     | 4.8     | *31   | 16    | 51    | 10    | 3.4   | 1.3  | .6   | .4    |
| 19    | 11      | 2.3   | 65      | 4.6     | 28    | 14    | a53   | 10    | 3.4   | 1.2  | .6   | .4    |
| 20    | 9.5     | 2.3   | 45      | 4.4     | 26    | 12    | a51   | 9.8   | 3.2   | 1.2  | .6   | .4    |
| 21    | 8.1     | 2.3   | 35      | 4.4     | 24    | 12    | 49    | 9.8   | 3.2   | 1.2  | .6   | .4    |
| 22    | 7.2     | 2.3   | 29      | 4.4     | 22    | 14    | 42    | 9.5   | 3.2   | 1.1  | .6   | .5    |
| 23    | 6.4     | 2.2   | 24      | 4.2     | 20    | 21    | 38    | 9.2   | 3.4   | 1.1  | .6   | .6    |
| 24    | *6.1    | 2.1   | 21      | 4.2     | 18    | 17    | 34    | 9.2   | 3.1   | *1.1 | .6   | .5    |
| 25    | 5.8     | 2.1   | 18      | 4.2     | 17    | *15   | 37    | 8.8   | 2.8   | 1.1  | .6   | .5    |
| 26    | 5.6     | 6.3   | 16      | 4.0     | 16    | 14    | 33    | 8.8   | 2.6   | 1.0  | .5   | .4    |
| 27    | 5.0     | 6.4   | 16      | 4.0     | 16    | 216   | 28    | 8.5   | 2.6   | 1.0  | .5   | .4    |
| 28    | 4.8     | 3.1   | 14      | 3.8     | 15    | 178   | 26    | 8.1   | 2.6   | 1.0  | .5   | .4    |
| 29    | 4.6     | 2.6   | 12      | 6.1     | ----- | 81    | 24    | 7.8   | 2.5   | 1.0  | .5   | .4    |
| 30    | 4.0     | 2.5   | 12      | 289     | ----- | 53    | *23   | 7.0   | 2.3   | 1.0  | .5   | .4    |
| 31    | 3.8     | ----- | 12      | 771     | ----- | 48    | ----- | 6.7   | ----- | .9   | .5   | ----- |
| TOTAL | 1,407.8 | 90.3  | 1,006.9 | 1,239.0 | 1,500 | 961.6 | 2,009 | 390.2 | 120.6 | 45.4 | 21.8 | 11.9  |
| MEAN  | 45.4    | 3.01  | 32.5    | 40.0    | 53.6  | 31.0  | 67.0  | 12.6  | 4.02  | 1.46 | 0.70 | 0.40  |
| MAX   | 525     | 6.4   | 189     | 771     | 374   | 216   | 386   | 21    | 6.4   | 2.2  | 0.9  | 0.6   |
| MIN   | 0.1     | 2.1   | 2.5     | 3.8     | 15    | 9.5   | 23    | 6.7   | 2.3   | 0.9  | 0.5  | 0.3   |
| AC-FT | 2,790   | 179   | 2,000   | 2,460   | 2,980 | 1,910 | 3,980 | 774   | 239   | 90   | 43   | 24    |

Calendar year 1962: Max 525 Min 0 Mean 19.1 Ac-ft 13,840  
 Water year 1962-63: Max 771 Min 0.1 Mean 24.1 Ac-ft 17,470

## Peak discharge (base, 500 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 9.45        | 1,220     | 3-27 | 1800 | 7.47        | 591       |
| 1-31  | 1000 | 9.53        | 1,250     | 4-6  | 0200 | 8.68        | 958       |

\* Discharge measurement made on this day.  
 a No gage-height record.

11-4670. Russian River near Guerneville, Calif.

Location.--Lat 38°30'00", long 122°56'05", in NE¼ sec.35, T.8 N., R.10 W., on left bank 0.6 mile downstream from Hobson Creek and 3.4 miles east of Guerneville.

Drainage area.--1,340 sq mi (revised)

Records available.--October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1954, published as "at Guerneville."

Gage.--Water-stage recorder. Altitude of gage is 70 ft (from topographic map). Prior to Oct. 1, 1954, wire-weight gage at bridge 5.3 miles downstream at different datum. Supplementary water-stage recorder 2.1 miles downstream used during periods of low flow 1948-54.

Average discharge.--24 years, 2,230 cfs (1,614,000 acre-ft per year); median of yearly mean discharges, 1,840 cfs (1,330,000 acre-ft per year).

Extremes.--Maximum discharge during year, 71,800 cfs Feb. 1 (gage height, 43.70 ft); minimum daily, 128 cfs Aug. 21, 22. 1939-63: Maximum discharge, 90,100 cfs Dec. 23, 1955 (gage height, 49.7 ft, from floodmarks); minimum daily, 61 cfs July 4, 1950.

Remarks.--Records good. Many diversions above station for irrigation. Flow also affected by diversion into basin (see Remarks for East Fork Russian River stations), since November 1958 by storage in Lake Mendocino (capacity, 122,500 acre-ft), and by diversion at Wohler pumping plant beginning in May 1959.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.   | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May    | June   | July   | Aug.  | Sept.  |
|-------|---------|--------|---------|---------|---------|---------|---------|--------|--------|--------|-------|--------|
| 1     | 193     | 529    | 765     | 740     | 68,400  | 1,100   | 10,100  | *2,210 | 612    | 278    | 151   | 190    |
| 2     | 185     | 513    | 648     | 700     | 39,100  | 1,040   | 7,600   | 2,010  | 594    | 268    | 146   | 202    |
| 3     | 182     | 517    | 5,010   | 658     | 18,900  | 995     | 5,670   | 1,880  | 572    | 261    | 149   | 196    |
| 4     | *177    | 517    | 4,520   | 630     | 13,300  | 935     | 5,320   | 1,800  | 554    | 258    | 154   | *190   |
| 5     | 177     | 505    | 3,250   | 604     | 9,970   | 860     | 4,940   | 2,020  | 521    | 264    | 151   | 199    |
| 6     | 177     | 493    | 2,330   | 576     | 9,140   | 825     | 16,500  | 2,150  | 501    | 261    | 146   | 199    |
| 7     | 182     | *493   | 1,790   | 554     | 7,260   | 825     | 18,700  | 1,870  | 493    | 258    | 146   | 202    |
| 8     | 188     | 489    | 1,060   | 1,400   | 5,560   | 805     | 13,500  | 1,800  | 485    | 247    | 144   | 202    |
| 9     | 188     | 489    | 845     | 2,970   | 6,410   | 855     | 11,800  | 2,020  | 469    | 237    | 144   | 210    |
| 10    | 207     | 489    | 730     | 1,730   | 9,660   | 950     | 12,600  | 2,500  | *465   | 231    | 142   | 202    |
| 11    | 278     | 489    | 740     | 810     | 7,500   | 950     | 11,000  | 3,100  | 453    | 219    | 139   | 231    |
| 12    | 13,800  | 481    | 940     | 671     | 8,040   | 925     | 10,400  | 2,620  | 441    | 204    | 142   | 222    |
| 13    | 25,500  | 481    | 1,520   | 612     | 15,900  | 900     | 11,500  | 2,390  | 441    | 202    | 142   | 219    |
| 14    | 13,700  | 473    | *2,770  | *576    | 9,840   | 900     | 21,400  | 2,020  | 429    | 204    | 139   | 219    |
| 15    | 7,090   | 465    | 8,850   | 545     | 7,200   | 950     | 19,600  | 1,730  | 425    | 202    | 132   | 210    |
| 16    | 3,690   | 465    | 13,200  | 521     | 5,710   | 1,940   | 13,600  | 1,230  | 417    | 193    | 132   | 210    |
| 17    | 2,240   | 461    | 11,500  | 505     | 4,820   | 2,310   | 10,400  | 1,070  | 417    | 188    | 134   | 219    |
| 18    | 1,480   | 461    | 12,200  | 489     | 3,940   | 1,640   | 8,500   | 960    | *401   | 182    | 137   | 225    |
| 19    | 1,080   | 457    | 8,300   | 473     | *4,180  | 1,350   | 8,410   | 900    | 389    | 177    | 134   | 234    |
| 20    | 885     | 453    | 6,970   | 465     | 4,680   | 1,190   | 7,350   | 830    | 377    | 172    | 130   | 244    |
| 21    | 775     | 449    | 6,490   | 457     | 3,080   | 1,060   | 6,990   | 790    | 369    | 172    | 128   | 225    |
| 22    | 700     | 449    | 4,250   | 445     | 2,300   | 1,030   | 6,070   | 745    | 357    | 146    | 128   | 222    |
| 23    | 617     | 445    | 2,440   | 441     | 1,960   | 2,560   | 5,010   | 710    | 342    | 151    | 132   | 228    |
| 24    | 568     | 445    | 1,870   | 433     | 1,740   | 3,210   | 4,000   | 685    | 328    | *156   | 144   | 222    |
| 25    | 533     | 445    | 1,470   | 425     | 1,580   | 2,290   | 3,640   | 680    | 331    | 154    | 156   | 213    |
| 26    | 537     | 521    | 1,220   | 421     | 1,440   | 1,950   | 3,730   | 666    | 320    | 151    | 161   | 199    |
| 27    | 521     | 2,960  | 1,060   | 425     | 1,300   | 9,110   | 3,150   | 635    | 310    | 146    | 159   | 185    |
| 28    | 517     | 2,510  | 945     | 429     | 1,210   | 27,700  | 2,820   | 586    | 306    | 149    | 159   | 179    |
| 29    | 545     | 2,040  | 855     | 457     | -----   | 17,600  | 2,520   | 550    | 303    | 151    | 164   | 179    |
| 30    | 541     | 1,180  | 805     | 14,700  | -----   | 14,300  | 2,380   | 630    | 289    | 154    | 169   | 193    |
| 31    | 521     | -----  | 765     | 45,300  | -----   | 12,400  | -----   | 626    | -----  | 151    | 174   | -----  |
| Total | 77,974  | 21,164 | 110,108 | 80,162  | 274,120 | 115,455 | 269,200 | 44,413 | 12,711 | 6,187  | 4,508 | 6,270  |
| Mean  | 2,515   | 705    | 3,552   | 2,586   | 9,790   | 3,724   | 8,973   | 1,433  | 424    | 200    | 145   | 209    |
| Max   | 25,500  | 2,960  | 13,200  | 45,300  | 68,400  | 27,700  | 21,400  | 3,100  | 612    | 278    | 174   | 244    |
| Min   | 177     | 445    | 648     | 421     | 1,210   | 805     | 2,380   | 550    | 289    | 146    | 128   | 179    |
| Ac-ft | 154,700 | 41,980 | 218,400 | 159,000 | 543,700 | 229,000 | 534,000 | 88,090 | 25,210 | 12,270 | 8,940 | 12,440 |

Calendar year 1962: Max 49,500 Min 94 Mean 2,283 Ac-ft 1,653,000

Water year 1962-63: Max 68,400 Min 128 Mean 2,801 Ac-ft 2,028,000

Peak discharge (base, 23,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0500 | 28.56       | 30,800    | 3-28 | 0700 | 28.87       | 31,400    |
| 2-1   | 0800 | 43.70       | 71,800    | 3-14 | 1800 | 26.03       | 26,100    |

11-4672. Austin Creek near Cazadero, Calif.

Location.--Lat 38°30'05", long 123°04'05", on left bank 0.6 mile downstream from confluence of Big Austin and East Austin Creeks, 2.3 miles southeast of Cazadero, Sonoma County, and 3.4 miles upstream from mouth.

Drainage area.--63.1 sq mi.

Records available.--May 1959 to September 1963.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 40 ft (from topographic map).

Extremes.--Maximum discharge during year, 11,500 cfs Jan. 31 (gage height, 17.35 ft); minimum daily, 0.4 cfs Oct. 3-7.

1959-63: Maximum discharge, 15,100 cfs Feb. 13, 1962 (gage height, 20.6 ft, crest-stage gage); no flow Aug. 19 to Sept. 17, 1959.

Remarks.--Records good except those for periods of no gage-height record or indefinite stage-discharge relation, which are poor. No storage or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May   | June  | July  | Aug.  | Sept. |
|-------|---------|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 0.6     | 20    | 35     | 77     | 2,800  | 90     | 251    | 137   | 43    | 14    | 6.0   | 2.3   |
| 2     | .5      | 19    | 110    | 69     | 1,300  | 82     | 230    | 128   | 41    | 14    | 6.0   | 2.4   |
| 3     | *.4     | 19    | 650    | 66     | 940    | 76     | 210    | 123   | 38    | 13    | 6.0   | 2.4   |
| 4     | .4      | 19    | 250    | 61     | 733    | 70     | 190    | 123   | 38    | 13    | 6.0   | *2.3  |
| 5     | .4      | 18    | 150    | 55     | 610    | 66     | 390    | 164   | 36    | 13    | 6.0   | 2.3   |
| 6     | .4      | *18   | 90     | 53     | 470    | 64     | 2,300  | 128   | 36    | 14    | 5.5   | 2.3   |
| 7     | .4      | 17    | 65     | 50     | 370    | 65     | 1,300  | 123   | 35    | 14    | 5.0   | 2.2   |
| 8     | 3.5     | 17    | 52     | 50     | 400    | 72     | 800    | 112   | 34    | 13    | 5.0   | 2.2   |
| 9     | 8.6     | 17    | 43     | 47     | 1,100  | 92     | 650    | 101   | 34    | 12    | 4.8   | 2.2   |
| 10    | 11      | 18    | 37     | 46     | 1,400  | 65     | 640    | 126   | *32   | 11    | 4.6   | 2.1   |
| 11    | 588     | 17    | 33     | 43     | 700    | 55     | 540    | 112   | 31    | 12    | 4.3   | 2.1   |
| 12    | 2,630   | 17    | 33     | 42     | 1,050  | 50     | 500    | 99    | 30    | 12    | 4.1   | 2.1   |
| 13    | 707     | 17    | *535   | 39     | 1,450  | 46     | 660    | 92    | 27    | 11    | 3.9   | 2.1   |
| 14    | 300     | 17    | 339    | *39    | 800    | 54     | 1,900  | 87    | 33    | 11    | 3.8   | 2.1   |
| 15    | 143     | 16    | 1,980  | 39     | 550    | 62     | 1,100  | 80    | 26    | 11    | 3.6   | 2.1   |
| 16    | 82      | 16    | 945    | 38     | 450    | 550    | 660    | 77    | 28    | 10    | 3.4   | 2.0   |
| 17    | 59      | 16    | 869    | 37     | 351    | 250    | 560    | 73    | 22    | 10    | 3.2   | 2.0   |
| 18    | 48      | 16    | 678    | 36     | 290    | 200    | 490    | 69    | 22    | 9.5   | 3.1   | 2.0   |
| 19    | 42      | 15    | 431    | 35     | *251   | 120    | 800    | 68    | 21    | 9.5   | 3.0   | 1.9   |
| 20    | 37      | 15    | 310    | 34     | 223    | 105    | 540    | 64    | 21    | 9.0   | 3.0   | 1.9   |
| 21    | 33      | 15    | 251    | 33     | 199    | 92     | 450    | 64    | 16    | 9.0   | 3.0   | 2.0   |
| 22    | 30      | 15    | 203    | 32     | 174    | 155    | 370    | 62    | 17    | 9.0   | 2.9   | 2.1   |
| 23    | 28      | 15    | 174    | 31     | 160    | 510    | 310    | 59    | 22    | *8.6  | 2.9   | 2.3   |
| 24    | 26      | 15    | 149    | 31     | 140    | 270    | 270    | 56    | 23    | 8.0   | 2.7   | 2.4   |
| 25    | 26      | 15    | 131    | 30     | 130    | *144   | 251    | 56    | 20    | 7.5   | 2.6   | 2.4   |
| 26    | 24      | 120   | 114    | 30     | 115    | 135    | 227    | 55    | 18    | 7.0   | 2.5   | 2.3   |
| 27    | 24      | 180   | 104    | 29     | 105    | *3,370 | 203    | 52    | 16    | 6.5   | 2.5   | 2.1   |
| 28    | 22      | 50    | 94     | 29     | 100    | 1,690  | 190    | 51    | 15    | 6.5   | 2.5   | 1.9   |
| 29    | 22      | 38    | 87     | 125    | -----  | 755    | 174    | 50    | 15    | 6.5   | 2.4   | 1.9   |
| 30    | 21      | 37    | 78     | 3,650  | -----  | 455    | *152   | 47    | 14    | 6.5   | 2.3   | 1.9   |
| 31    | 20      | ----- | 84     | 6,820  | -----  | 335    | -----  | 46    | ----- | 6.0   | 2.3   | ----- |
| Total | 4,938.2 | 844   | 9,104  | 11,796 | 17,361 | 10,145 | 17,308 | 2,684 | 804   | 317.1 | 118.9 | 64.3  |
| Mean  | 159     | 28.1  | 294    | 381    | 620    | 327    | 577    | 86.6  | 26.8  | 10.2  | 3.84  | 2.14  |
| Max   | 2,630   | 180   | 1,980  | 6,820  | 2,800  | 3,370  | 2,300  | 164   | 43    | 14    | 6.0   | 2.4   |
| Min   | 0.4     | 1.5   | 33     | 29     | 100    | 46     | 152    | 46    | 14    | 6.0   | 2.3   | 1.9   |
| Ac-ft | 9,790   | 1,670 | 18,060 | 23,400 | 34,440 | 20,120 | 34,330 | 5,320 | 1,590 | 629   | 236   | 128   |

Calendar year 1962: Max 7,970 Min 0.4 Mean 193 Ac-ft 139,500  
 Water year 1962-63: Max 6,820 Min 0.4 Mean 207 Ac-ft 149,700

Peak discharge (base, 4,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 10.70       | 4,400     | 1-31 | 1800 | 17.35       | 11,500    |
| 12-15 | 1000 | 10.80       | 4,500     | 3-27 | 1700 | 12.45       | 6,150     |

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1, 2, Nov. 26, 27, Dec. 1-13, Feb. 6-16, Feb. 23 to Mar. 26, Apr. 2-24. Stage-discharge relation indefinite June 25 to Sept. 30.

## GUALALA RIVER BASIN

11-4675. South Fork Gualala River near Annapolis, Calif.

Location.--Lat 38°42'14", long 123°25'13", in German Grant, on left bank 2,700 ft downstream from Wheatfield Fork Gualala River and 3.1 miles southwest of Annapolis, Sonoma County.

Drainage area.--161 sq mi.

Records available.--October 1950 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 70 ft, revised (from topographic map). Prior to Aug. 30, 1962, at site 1,700 ft upstream at different datum.

Average discharge.--13 years, 438 cfs (317,100 acre-ft per year).

Extremes.--Maximum discharge during year, 23,000 cfs Jan. 31 (gage height, 16.86 ft), from rating curve extended above 5,400 cfs on basis of slope-area measurement at gage height 12.13 ft; minimum 5.9 cfs Sept. 18-21, 28-30.

1950-63: Maximum discharge, 55,000 cfs Dec. 22, 1955 (gage height, 24.57 ft, site and datum then in use), from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.4 cfs Sept. 13, 1951.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.     | NOV.  | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|----------|-------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 13       | 45    | 67     | 105    | 5,780  | 174    | 856    | 275   | 65    | 29    | 15    | 7.2   |
| 2     | 11       | 44    | 214    | 85     | *2,180 | 160    | 692    | 250   | 61    | 29    | 14    | 7.2   |
| 3     | *9.2     | 42    | 1,360  | 76     | 1,440  | 149    | 612    | 235   | 59    | 28    | 14    | 7.7   |
| 4     | 8.7      | 41    | 454    | 70     | 1,060  | 135    | 538    | 225   | 57    | 27    | 15    | 7.2   |
| 5     | 8.2      | 39    | 270    | 63     | 829    | 126    | 1,010  | 300   | 57    | 28    | 15    | 7.2   |
| 6     | 7.7      | 38    | 182    | 57     | 716    | 126    | 6,660  | *255  | 56    | 28    | 15    | 7.2   |
| 7     | 7.2      | 37    | 132    | 54     | 612    | 123    | 3,100  | 225   | 56    | 28    | 13    | 7.2   |
| 8     | 8.7      | 36    | 103    | 52     | 724    | 139    | 1,860  | 194   | 54    | 27    | 13    | 7.2   |
| 9     | 9.8      | 39    | 85     | 49     | 1,840  | 178    | 1,620  | 174   | 54    | 25    | 13    | 6.7   |
| 10    | 25       | 45    | 72     | 47     | 2,530  | 126    | 1,670  | 215   | 54    | 23    | 13    | 6.7   |
| 11    | 801      | 41    | 63     | 44     | 1,380  | 108    | 1,350  | 230   | 52    | 23    | 12    | 6.7   |
| 12    | *6,030   | 39    | 63     | 41     | 1,980  | 98     | 1,210  | 178   | 52    | 25    | 11    | 6.7   |
| 13    | *2,860   | 39    | 1,420  | 38     | 2,800  | 90     | 1,570  | 160   | 52    | 24    | 11    | 6.7   |
| 14    | 1,390    | 36    | *937   | 38     | 1,530  | 103    | 4,510  | 146   | 51    | 22    | 11    | 6.3   |
| 15    | 580      | 33    | *4,300 | 37     | 1,100  | 120    | 2,420  | 135   | 52    | 22    | 9.8   | 6.3   |
| 16    | 340      | 32    | 1,910  | 36     | 919    | 1,080  | 1,600  | 126   | 51    | 21    | 9.8   | 6.7   |
| 17    | *225     | 32    | 1,430  | 34     | 764    | 496    | 1,280  | 117   | 47    | 21    | 9.2   | *6.3  |
| 18    | 167      | 32    | 1,130  | 33     | 628    | 300    | 1,060  | 111   | *45   | 20    | 9.2   | 5.9   |
| 19    | 129      | 30    | 756    | 33     | 545    | 230    | 1,800  | 103   | 44    | 20    | 8.7   | 5.9   |
| 20    | 111      | 29    | 538    | 30     | 468    | 198    | 1,150  | 100   | 42    | 19    | 8.7   | 5.9   |
| 21    | 95       | 29    | 384    | 29     | 412    | 174    | 973    | 98    | 41    | 19    | 8.7   | 5.9   |
| 22    | 83       | 29    | 295    | 29     | 352    | 298    | 788    | 98    | 39    | 18    | 8.7   | 6.3   |
| 23    | 74       | *29   | 235    | 29     | 310    | 1,040  | 668    | 95    | 38    | 18    | 8.7   | 7.2   |
| 24    | 67       | 29    | 194    | 28     | 275    | 559    | 566    | 93    | 36    | 16    | 8.2   | 7.7   |
| 25    | 63       | 29    | 153    | 28     | 250    | 419    | 552    | 90    | 34    | 16    | 7.7   | 7.7   |
| 26    | 61       | 412   | 126    | 27     | 225    | 346    | 503    | 88    | 33    | 15    | 7.7   | 7.2   |
| 27    | 57       | 493   | 111    | 27     | 206    | 4,930  | 426    | 83    | 32    | 15    | 7.7   | 6.3   |
| 28    | 54       | 163   | 100    | 25     | *190   | *3,950 | 370    | 80    | 32    | 15    | 7.7   | 5.9   |
| 29    | 52       | 100   | 88     | 30     | -----  | 1,670  | 328    | 78    | 30    | *15   | 7.2   | 5.9   |
| 30    | 51       | 76    | 80     | 6,290  | -----  | 1,210  | 295    | 74    | 29    | 15    | 7.2   | 5.9   |
| 31    | 47       | ----- | 114    | 13,000 | -----  | 1,070  | -----  | 70    | ----- | 15    | 7.2   | ----- |
| TOTAL | 13,445.5 | 2,138 | 17,366 | 20,564 | 32,045 | 19,925 | 42,037 | 4,701 | 1,405 | 666   | 327.1 | 200.9 |
| MEAN  | 434      | 71.3  | 560    | 663    | 1,144  | 643    | 1,401  | 152   | 46.8  | 21.5  | 10.6  | 6.70  |
| MAX   | 6,030    | 493   | 4,300  | 13,000 | 5,780  | 4,930  | 6,660  | 300   | 65    | 29    | 15    | 7.7   |
| MIN   | 7.2      | 29    | 63     | 25     | 190    | 90     | 295    | 70    | 29    | 15    | 7.2   | 5.9   |
| AC-FT | 26,670   | 4,240 | 34,440 | 40,790 | 63,560 | 39,520 | 83,380 | 9,320 | 2,790 | 1,320 | 649   | 398   |

CALENDAR YEAR 1962: MAX 20,500 MIN 4.2 MEAN 400 AC-FT 289,600

WATER YEAR 1962-63: MAX 13,000 MIN 5.9 MEAN 424 AC-FT 307,100

Peak discharge (base, 10,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2000 | 12.13       | 11,800    | 3-27 | 1900 | 11.83       | 11,200    |
| 1-31  | 1800 | 16.86       | 23,000    | 4-6  | 0500 | 12.39       | 12,300    |

11-4676. Garcia River near Point Arena, Calif.

Location.--Lat 38°55'35", long 123°37'45", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.3, T.12 N., R.16 W., on left bank 0.9 mile downstream from North Fork Garcia River and 3.5 miles northeast of town of Point Arena.

Drainage area.--98.5 sq mi.

Records available.--Occasional low-flow measurements, water years 1951-56, and annual maximum, water years 1952-56. August 1962 to September 1963.

Gage.--Water-stage recorder (digital). Altitude of gage is 50 ft (from topographic map). July 17, 1951, to Jan. 31, 1956, crest-stage gage only, at site 15 ft upstream at different datum.

Extremes.--Maximum and minimum discharges for the water years 1952-56, 1962-63 are contained in the following table:

| Water year | Maximum       |                 |                    | Minimum           |                 |
|------------|---------------|-----------------|--------------------|-------------------|-----------------|
|            | Date          | Discharge (cfs) | Gage height (feet) | Date              | Discharge (cfs) |
| 1952       | Dec. 26, 1951 | 19,400          | +18.81             | -                 | -               |
| 1953       | Dec. 7, 1952  | 17,300          | +18.32             | -                 | -               |
| 1954       | Jan. 17, 1954 | 22,200          | +19.7              | -                 | -               |
| 1955       | Apr. 21, 1955 | 4,970           | +13.35             | -                 | -               |
| 1956       | Dec. 22, 1955 | 26,300          | +20.75             | -                 | -               |
| 1962†      | Aug. 9, 1962  | 32              | 3.64               | Sept. 13-26, 1962 | 14              |
| 1963       | Jan. 31, 1963 | 23,900          | +15.11             | Oct. 5-7, 1962    | 15              |

† Site and datum then in use.

‡ Period August to September.

†† From high-water marks in well.

1951-56, 1962-63: Maximum discharge, 26,300 cfs Dec. 22, 1955 (gage height, 20.75 ft, from gage; 20.78 ft, from high-water profile, site and datum then in use), from rating curve extended above 4,200 cfs on basis of slope-area measurement of peak flow. A discharge of 10.1 cfs was measured on Sept. 25, 1951.

Remarks.--Records good except those above 7,000 cfs, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, 1962

| Day                      | Aug. | Sept. | Day | Aug. | Sept. | Day | Aug. | Sept. | Day | Aug. | Sept. | Day | Aug.  | Sept. |
|--------------------------|------|-------|-----|------|-------|-----|------|-------|-----|------|-------|-----|-------|-------|
| 1                        | *19  | 15    | 7   | 22   | *15   | 13  | 20   | 14    | 19  | 17   | 14    | 25  | 16    | 14    |
| 2                        | 19   | 15    | 8   | 24   | 15    | 14  | 19   | 14    | 20  | 17   | 14    | 26  | 16    | 14    |
| 3                        | 18   | 15    | 9   | 29   | 15    | 15  | 19   | 14    | 21  | 17   | 14    | 27  | 15    | 15    |
| 4                        | 19   | 15    | 10  | 27   | 15    | 16  | 18   | 14    | 22  | 16   | 14    | 28  | 15    | 17    |
| 5                        | 19   | 15    | 11  | 23   | 15    | 17  | 17   | 14    | 23  | 16   | 14    | 29  | 15    | 23    |
| 6                        | 19   | 15    | 12  | 21   | 15    | 18  | 17   | 14    | 24  | 16   | 14    | 30  | 15    | 21    |
|                          |      |       |     |      |       |     |      |       |     |      |       | 31  | 15    |       |
| Total.....               |      |       |     |      |       |     |      |       |     |      |       |     | 575   | 452   |
| Mean.....                |      |       |     |      |       |     |      |       |     |      |       |     | 18.5  | 15.1  |
| Max.....                 |      |       |     |      |       |     |      |       |     |      |       |     | 29    | 23    |
| Min.....                 |      |       |     |      |       |     |      |       |     |      |       |     | 15    | 14    |
| Runoff in acre-feet..... |      |       |     |      |       |     |      |       |     |      |       |     | 1,140 | 897   |

\* Discharge measurement made on this day.

## GARCIA RIVER BASIN

11-4676. Garcia River near Point Arena, Calif.--Continued

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.  | Dec.   | Jan.    | Feb.   | Mar.   | Apr.   | May    | June  | July  | Aug.  | Sept. |
|-------|--------|-------|--------|---------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 17     | 45    | 137    | 170     | *6,030 | 178    | 562    | 280    | 117   | 49    | 27    | 19    |
| 2     | 17     | 44    | 652    | 158     | 1,670  | 166    | 444    | 265    | 111   | 47    | 29    | 19    |
| 3     | 17     | 43    | 1,450  | 154     | 1,090  | 158    | 384    | 255    | 108   | 45    | 27    | 19    |
| 4     | 16     | 42    | 588    | 147     | 802    | 150    | 325    | 250    | 105   | 45    | 27    | 19    |
| 5     | 15     | 42    | 384    | 141     | 639    | 141    | 438    | 342    | 102   | 45    | 26    | 18    |
| 6     | 15     | 41    | 274    | 135     | 555    | 174    | 2,750  | *305   | 99    | 45    | 25    | 18    |
| 7     | 15     | 40    | 208    | 129     | 478    | 158    | 1,700  | 295    | 93    | 44    | 24    | 19    |
| 8     | 16     | 39    | 165    | 126     | 632    | 170    | 1,310  | 270    | 90    | 42    | 23    | 18    |
| 9     | 21     | 43    | 138    | 123     | 821    | 190    | 1,090  | 255    | 88    | 41    | 25    | 18    |
| 10    | 80     | 47    | 120    | 120     | 1,140  | 150    | 1,200  | 285    | 85    | 39    | 24    | 18    |
| 11    | 838    | 43    | 105    | 114     | 842    | 138    | 982    | 295    | 83    | 38    | 23    | 18    |
| 12    | 2,540  | 44    | 141    | 111     | 920    | 129    | 1,620  | 260    | 80    | 38    | 22    | 18    |
| 13    | *1,370 | 45    | 1,020  | 105     | 1,090  | 123    | 2,800  | 250    | 78    | 38    | 21    | 19    |
| 14    | 720    | 42    | 684    | 102     | 831    | 129    | 5,020  | 235    | 75    | 38    | 21    | 19    |
| 15    | 430    | 39    | *1,990 | 102     | 660    | 132    | 2,680  | 226    | 73    | 39    | 20    | 19    |
| 16    | *279   | 37    | 1,410  | 99      | 576    | 541    | 1,610  | 214    | 73    | 38    | 20    | 19    |
| 17    | 195    | 36    | 937    | 96      | 499    | 366    | 1,130  | 206    | 68    | 39    | 21    | *18   |
| 18    | 139    | 36    | *724   | 96      | 426    | 275    | 919    | 198    | *63   | 39    | 20    | 18    |
| 19    | 113    | 35    | 590    | 93      | 378    | 230    | 1,060  | 186    | 61    | 39    | 20    | 18    |
| 20    | 96     | 34    | 506    | 90      | 342    | 206    | 874    | 178    | 61    | 41    | 19    | 18    |
| 21    | 85     | 33    | 432    | 88      | 310    | 186    | 756    | 174    | 59    | 41    | 19    | 19    |
| 22    | 77     | 33    | 378    | 85      | 290    | 240    | 660    | 166    | 59    | 39    | 19    | 19    |
| 23    | 71     | *33   | 330    | 85      | 265    | 492    | 583    | 162    | 59    | 38    | 19    | 19    |
| 24    | 66     | 32    | 295    | 83      | 245    | 372    | 520    | 158    | 55    | 38    | 20    | 18    |
| 25    | 63     | 32    | 265    | 83      | 230    | 320    | 527    | 150    | 55    | 36    | 20    | 17    |
| 26    | 60     | 1,150 | 235    | 80      | 214    | 300    | 438    | 147    | 53    | 35    | 19    | 17    |
| 27    | 57     | 731   | 214    | 80      | 202    | 3,480  | 384    | 141    | 51    | 35    | 19    | 17    |
| 28    | 55     | 331   | 198    | 78      | *190   | *2,670 | 354    | 135    | 51    | 33    | 19    | 16    |
| 29    | 51     | 207   | 186    | 93      | -----  | 1,200  | 325    | 132    | 51    | *30   | 19    | 16    |
| 30    | 48     | 157   | 178    | 3,530   | -----  | 812    | 300    | 123    | 49    | 30    | 19    | 16    |
| 31    | 46     | ----- | 182    | *12,000 | -----  | 692    | -----  | 120    | ----- | 29    | 19    | ----- |
| Total | 7,628  | 3,556 | 15,116 | 18,696  | 22,367 | 14,668 | 33,745 | 6,658  | 2,255 | 1,213 | 675   | 543   |
| Mean  | 246    | 119   | 488    | 603     | 799    | 473    | 1,125  | 215    | 75.2  | 39.1  | 21.8  | 18.1  |
| Max   | 2,540  | 1,150 | 1,990  | 12,000  | 6,030  | 3,480  | 5,020  | 342    | 117   | 49    | 29    | 19    |
| Min   | 15     | 32    | 105    | 78      | 190    | 123    | 300    | 120    | 49    | 29    | 19    | 16    |
| Ac-ft | 15,130 | 7,050 | 29,980 | 37,080  | 44,360 | 29,090 | 66,930 | 13,210 | 4,470 | 2,410 | 1,340 | 1,080 |

Calendar year 1962: Max - Min - Mean - Ac-ft -  
 Water year 1962-63: Max 12,000 Min 15 Mean 348 Ac-ft 252,100

Peak discharge (base, 5,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1900 | 8.82        | 5,740     | 3-27 | 1800 | 9.51        | 7,190     |
| 1-31  | 2100 | †15.11      | 23,900    | 4-14 | 0800 | 9.37        | 6,880     |

† From high-water marks in well.



11-4678. Rancheria Creek near Boonville, Calif.

Location.--Lat 38°59'35", long 123°26'00", in SE $\frac{1}{4}$  sec.7, T.13 N., R.14 W., on left bank at county road bridge, 100 ft downstream from Minnie Creek and 3.7 miles west of Boonville.

Drainage area.--65.6 sq mi (revised).

Records available.--August 1959 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 427 ft above mean sea level, unadjusted (by Topographic Division).

Extremes.--Maximum discharge during year, 13,900 cfs Jan. 31 (gage height, 18.30 ft), from rating curve extended above 4,200 cfs; minimum, 1.7 cfs Oct. 5-9.

1959-63: Maximum discharge, that of Jan. 31, 1963; minimum, 0.9 cfs Aug. 31 to Sept. 7, 1959, Nov. 3, 1960.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.    | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|---------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 2.4     | 8.8     | 57     | 66     | 3,630  | 84     | 484    | 125   | 40    | 16    | 7.6   | 5.3   |
| 2     | 2.4     | 8.2     | 455    | 64     | 1,370  | 81     | *408   | 118   | 38    | 16    | 8.6   | 5.3   |
| 3     | 2.1     | 7.0     | 586    | 60     | 880    | 74     | 381    | 113   | 37    | 15    | 7.6   | 5.0   |
| 4     | 1.9     | 6.4     | 257    | 58     | 692    | 71     | 333    | 111   | 36    | 15    | 7.2   | 5.0   |
| 5     | 1.7     | 6.4     | 171    | 55     | 585    | 67     | 364    | 188   | 35    | 14    | 6.9   | 5.0   |
| 6     | 1.7     | 5.9     | 123    | 52     | 560    | 81     | 1,220  | 155   | 33    | 14    | 7.6   | 4.7   |
| 7     | 1.7     | 5.9     | 104    | 50     | 507    | 70     | 810    | *143  | 33    | 14    | 7.6   | 4.7   |
| 8     | 1.7     | 5.3     | 86     | 50     | 686    | 81     | 686    | 123   | 31    | 14    | 7.2   | 4.7   |
| 9     | 1.9     | 5.9     | 73     | 49     | 1,010  | 82     | 565    | 109   | 30    | 13    | 7.6   | 4.7   |
| 10    | 18      | 5.9     | 64     | 47     | 775    | 68     | 692    | 173   | 30    | 13    | 7.6   | 4.4   |
| 11    | 346     | 5.9     | 57     | 44     | 493    | 64     | 511    | 155   | 28    | 12    | 7.6   | 4.4   |
| 12    | 1,740   | 5.9     | 68     | 43     | 680    | 59     | 740    | 123   | 28    | 12    | 7.2   | 4.4   |
| 13    | 650     | 5.3     | 351    | 41     | 585    | 57     | 905    | 109   | 27    | 12    | 7.2   | 4.1   |
| 14    | 393     | 4.8     | 245    | 41     | 408    | 61     | 2,060  | 103   | 26    | 12    | 7.2   | 3.8   |
| 15    | 179     | 4.4     | 954    | 40     | 321    | 62     | 1,050  | 93    | 23    | 11    | 6.9   | 3.8   |
| 16    | *106    | 4.4     | 525    | 38     | 284    | 270    | 590    | 88    | 24    | 11    | 6.9   | 3.8   |
| 17    | 73      | 3.9     | 428    | 37     | 253    | 135    | 426    | 82    | 23    | 10    | 6.9   | 4.1   |
| 18    | 53      | 3.9     | 316    | 36     | 225    | 103    | 361    | 76    | 23    | 10    | 6.5   | 3.8   |
| 19    | 41      | 3.9     | *245   | 34     | 200    | 90     | 381    | 73    | 22    | 10    | 6.5   | *3.8  |
| 20    | 33      | 3.9     | 197    | 33     | 179    | 82     | 321    | 68    | *22   | 8.6   | 6.2   | 3.5   |
| 21    | 27      | 3.9     | 160    | 32     | 161    | 76     | 291    | 65    | 21    | 8.3   | 6.2   | 3.5   |
| 22    | 23      | 3.9     | 142    | 32     | 146    | 140    | 253    | 64    | 21    | 9.3   | 6.2   | 3.8   |
| 23    | 19      | 3.9     | 128    | 31     | 133    | 341    | 228    | 61    | 20    | 9.0   | 6.2   | 3.8   |
| 24    | 17      | 3.9     | 112    | 31     | 120    | 194    | 204    | 57    | 20    | 9.0   | 6.2   | 3.8   |
| 25    | 14      | 3.9     | 98     | 31     | 111    | 158    | 204    | 56    | 19    | 8.6   | 5.9   | 3.3   |
| 26    | 13      | 428     | 90     | 31     | 101    | 140    | 194    | 52    | 19    | 8.6   | 5.9   | 3.3   |
| 27    | 13      | 215     | 84     | 30     | *97    | 2,400  | 167    | 49    | 18    | 7.9   | 5.9   | 3.0   |
| 28    | 11      | *102    | 79     | 30     | 90     | *1,560 | 152    | 47    | 17    | 7.9   | 5.6   | 3.0   |
| 29    | 9.5     | 71      | 75     | 57     | -----  | 936    | 143    | 45    | 17    | *7.6  | 5.6   | 3.0   |
| 30    | 9.5     | 58      | 69     | *2,110 | -----  | 722    | 133    | 44    | 17    | 7.9   | 5.6   | 3.0   |
| 31    | 8.8     | -----   | 69     | 7,970  | -----  | 632    | -----  | 41    | ----- | 7.6   | 5.3   | ----- |
| TOTAL | 3,814.3 | 1,005.5 | 6,468  | 11,323 | 15,282 | 9,041  | 15,257 | 2,909 | 778   | 344.3 | 209.2 | 121.8 |
| MEAN  | 123     | 33.5    | 209    | 365    | 546    | 292    | 509    | 93.8  | 25.9  | 11.1  | 6.75  | 4.06  |
| MAX   | 1,740   | 428     | 954    | 7,970  | 3,630  | 2,400  | 2,060  | 188   | 40    | 16    | 8.6   | 5.3   |
| MIN   | 1.7     | 3.9     | 57     | 30     | 90     | 57     | 133    | 41    | 17    | 7.6   | 5.3   | 3.0   |
| AC-FT | 7,570   | 1,990   | 12,830 | 22,460 | 30,310 | 17,930 | 30,260 | 5,770 | 1,540 | 683   | 415   | 242   |

CALENDAR YEAR 1962: MAX 4,790 MIN 1.7 MEAN 130 AC-FT 93,780  
 WATER YEAR 1962-63: MAX 7,970 MIN 1.7 MEAN 182 AC-FT 132,000

Peak discharge (base, 2,000 cfs)

\* Discharge measurement made on this day

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1800 | 9.32        | 3,690     | 4-6  | 0400 | 7.97        | 2,170     |
| 1-31  | 1400 | 18.30       | 13,900    | 4-14 | 0600 | 9.01        | 3,160     |
| 3-27  | 1500 | 10.15       | 4,300     |      |      |             |           |

## NAVARRO RIVER BASIN

11-4680. Navarro River near Navarro, Calif.

Location.--Lat 39°10'15", long 123°39'55", in SE¼ sec.7, T.15 N., R.16 W., on left bank 2.7 miles downstream from North Fork, 5.4 miles upstream from mouth, and 6.6 miles west of Navarro.

Drainage area.--303 sq mi (revised).

Records available.--October 1950 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 20 ft (from topographic map).

Average discharge.--13 years, 525 cfs (380,100 acre-ft per year); median of yearly mean discharges, 470 cfs (340,000 acre-ft per year).

Extremes.--Maximum discharge during year, 33,100 cfs Jan. 31 (gage height, 34.34 ft); minimum, 11 cfs Sept. 9, 30.

1950-63: Maximum discharge, 64,500 cfs Dec. 22, 1955 (gage height, 40.60 ft), from rating curve extended above 19,000 cfs on basis of slope-area measurement of peak flow; minimum, 4.7 cfs Aug. 26, 27, 1959.

Flood in December 1937 reached a stage of 38.2 ft, from floodmarks.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.  | DEC.   | JAN.   | FEB.   | MAR.   | APR.    | MAY    | JUNE  | JULY  | AUG. | SEPT. |
|-------|--------|-------|--------|--------|--------|--------|---------|--------|-------|-------|------|-------|
| 1     | 21     | 54    | 210    | 171    | 14,000 | 261    | 2,290   | 518    | 124   | 57    | 23   | 12    |
| 2     | 18     | 52    | 971    | 158    | 3,920  | 249    | 1,770   | 480    | 117   | 55    | 21   | 12    |
| 3     | 18     | 50    | 3,990  | 151    | 2,260  | 237    | *1,460  | 445    | 115   | 54    | 20   | 12    |
| 4     | 17     | 47    | 1,250  | 146    | 1,530  | 225    | 1,230   | 399    | 112   | 54    | 21   | 12    |
| 5     | 15     | 47    | 778    | 136    | 1,140  | 216    | 1,090   | 396    | 110   | 54    | 21   | 12    |
| 6     | 15     | 47    | 546    | 127    | 884    | 225    | 2,050   | 384    | 108   | 52    | 20   | 12    |
| 7     | 15     | 45    | 399    | 122    | 730    | 273    | 2,820   | 366    | 106   | 52    | 18   | 12    |
| 8     | 18     | 43    | 327    | 117    | 846    | 222    | 2,920   | 351    | 103   | 50    | 20   | 12    |
| 9     | 26     | 47    | 282    | 112    | 1,130  | 291    | 2,840   | *336   | 92    | 50    | 20   | 13    |
| 10    | 55     | 54    | 249    | 110    | 1,960  | 243    | 2,850   | 369    | 95    | 45    | 20   | 13    |
| 11    | 184    | 54    | 219    | 106    | 1,350  | 219    | 2,950   | 515    | 92    | 42    | 18   | 13    |
| 12    | 3,170  | 50    | 202    | 101    | 1,170  | 205    | 2,880   | 390    | 90    | 42    | 18   | 13    |
| 13    | 3,130  | 52    | 491    | 97     | 1,670  | 192    | 3,090   | 363    | 88    | 42    | 17   | 13    |
| 14    | 1,220  | 48    | 525    | 92     | 1,190  | 194    | 5,310   | 339    | 86    | 40    | 15   | 13    |
| 15    | 617    | 47    | 1,490  | 90     | 956    | 222    | 4,310   | 315    | 82    | 38    | 15   | 13    |
| 16    | 372    | 45    | 1,510  | 88     | 802    | 781    | 2,880   | 297    | 78    | 38    | 15   | 13    |
| 17    | 279    | 45    | 1,210  | 86     | 746    | 670    | 2,200   | 279    | 76    | 36    | 14   | *13   |
| 18    | *219   | 45    | 965    | 84     | 606    | 480    | 1,660   | 264    | *74   | 36    | 14   | 13    |
| 19    | 171    | 42    | *730   | 82     | 536    | 393    | 1,560   | 243    | 72    | 35    | 13   | 13    |
| 20    | 139    | 40    | 571    | 78     | 487    | 354    | 1,470   | 234    | 70    | 35    | 13   | 12    |
| 21    | 117    | *40   | 452    | 76     | 434    | 324    | 1,420   | 225    | 68    | 33    | 13   | 12    |
| 22    | 103    | 40    | 384    | 76     | 396    | 324    | 1,220   | 213    | 66    | 32    | 13   | 13    |
| 23    | 95     | 40    | 333    | 76     | 372    | 951    | 1,060   | 207    | 66    | 30    | 13   | 13    |
| 24    | 82     | 40    | 297    | 74     | 345    | 818    | 915     | 197    | 66    | 30    | 14   | 14    |
| 25    | 78     | 38    | 264    | 72     | 324    | 634    | 850     | 187    | 64    | 30    | 14   | 13    |
| 26    | 72     | 632   | 234    | 72     | *306   | 546    | 838     | 179    | 63    | 29    | 14   | 13    |
| 27    | 68     | 1,070 | 213    | 72     | 291    | 3,110  | 758     | 163    | 61    | 29    | 14   | 12    |
| 28    | 64     | 387   | 197    | 70     | 276    | 5,630  | 670     | 158    | 61    | 27    | 13   | 15    |
| 29    | 63     | 273   | 184    | *74    | -----  | 3,590  | 606     | 148    | 59    | 27    | 13   | 13    |
| 30    | 59     | 219   | 174    | 2,170  | -----  | 2,970  | 553     | 136    | 57    | *24   | 13   | 12    |
| 31    | 55     | ----- | 174    | 15,000 | -----  | 2,680  | -----   | 129    | ----- | 23    | 13   | ----- |
| TOTAL | 10,575 | 3,733 | 19,821 | 20,086 | 40,657 | 27,729 | 58,520  | 9,225  | 2,521 | 1,221 | 503  | 381   |
| MEAN  | 341    | 124   | 639    | 648    | 1,452  | 894    | 1,951   | 298    | 84.0  | 39.4  | 16.2 | 12.7  |
| MAX   | 3,170  | 1,070 | 3,990  | 15,000 | 14,000 | 5,630  | 5,310   | 518    | 124   | 57    | 23   | 15    |
| MIN   | 15     | 38    | 174    | 70     | 276    | 192    | 553     | 129    | 57    | 23    | 13   | 12    |
| AC-FT | 20,980 | 7,400 | 39,310 | 39,840 | 80,640 | 55,000 | 116,100 | 18,300 | 5,000 | 2,420 | 998  | 756   |

CALENDAR YEAR 1962: MAX 12,400 MIN 7.1 MEAN 417 AC-FT 301,700

WATER YEAR 1962-63: MAX 15,000 MIN 12 MEAN 534 AC-FT 386,700

Peak discharge (base, 7,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2200 | 17.78       | 8,980     | 3-27 | 2300 | 17.42       | 8,620     |
| 1-31  | 2100 | 34.34       | 33,100    | 4-14 | 1100 | 16.50       | 7,700     |

## ALBION RIVER BASIN

365

11-4680.1. Albion River near Comptche, Calif.

Location.--Lat 39°15'40", long 123°37'00", in SW<sup>1</sup>/<sub>4</sub> sec.11, T.16 N., R.16 W., on right bank 2,000 ft downstream from Morrison Gulch and 1.7 miles west of Comptche.

Drainage area.--14.5 sq mi.

Records available.--July 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 150 ft (from topographic map).

Extremes.--Maximum discharge during year, 729 cfs Jan. 31 (gage height, 7.53 ft); no flow Aug. 19 to Sept. 30.

1961-63: Maximum discharge, 960 cfs Feb. 13, 1962 (gage height, 8.30 ft), from rating curve extended above 390 cfs; no flow for many days in each year.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| 1.6 | 0   | 2.4 | 3.8 | 3.6 | 61  |
| 1.8 | .2  | 2.5 | 5.6 | 4.0 | 95  |
| 1.9 | .3  | 2.6 | 8.0 | 4.5 | 143 |
| 2.0 | .6  | 2.8 | 15  | 5.0 | 206 |
| 2.1 | 1.0 | 3.0 | 24  | 6.0 | 374 |
| 2.2 | 1.6 | 3.3 | 41  | 7.0 | 586 |
| 2.3 | 2.5 |     |     |     |     |

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.    | JAN.  | FEB.    | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|---------|-------|---------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.1   | 1.0   | 14      | 5.9   | 283     | 6.1   | 58    | 10    | 1.8   | 0.4  | 0.1  |       |
| 2     | .1    | .9    | 189     | 5.3   | 122     | 5.7   | 43    | 9.5   | 1.7   | .4   | .1   |       |
| 3     | .1    | .9    | 197     | 4.9   | 71      | 5.3   | *43   | 8.9   | 1.5   | .4   | .1   |       |
| 4     | .1    | .8    | 70      | 4.3   | 51      | 4.9   | 31    | 8.6   | 1.5   | .4   | .1   |       |
| 5     | .1    | .8    | 39      | 4.0   | 37      | 4.5   | 84    | 8.6   | 1.5   | .4   | .1   |       |
| 6     | .1    | .8    | 26      | 3.7   | 32      | 6.9   | 290   | 7.3   | 1.4   | .4   | .1   |       |
| 7     | .1    | .7    | 19      | 3.5   | 24      | 5.7   | 169   | 7.3   | 1.4   | .4   | .1   |       |
| 8     | .1    | .7    | 16      | 3.4   | 29      | 6.3   | 167   | 6.5   | 1.3   | .3   | .1   |       |
| 9     | .3    | .9    | 12      | 3.2   | 47      | 6.3   | 151   | *5.9  | 1.3   | .3   | .1   |       |
| 10    | 3.1   | 1.3   | 10      | 3.1   | 58      | 5.1   | 206   | 8.6   | 1.2   | .3   | .1   |       |
| 11    | 22    | 1.2   | 8.9     | 2.8   | 46      | 4.5   | 131   | 8.9   | 1.2   | .3   | .1   |       |
| 12    | 107   | 1.5   | 8.9     | 2.6   | 53      | 4.0   | 121   | 6.3   | 1.2   | .2   | .1   |       |
| 13    | 70    | 1.7   | 12      | 2.5   | 60      | 3.7   | 117   | 5.7   | 1.2   | .2   | .1   |       |
| 14    | *47   | 1.3   | 9.8     | 2.5   | 51      | 4.9   | 156   | 5.3   | 1.1   | .2   | .1   |       |
| 15    | 24    | 1.1   | 84      | 2.5   | 41      | 5.3   | 130   | 4.5   | 1.1   | .2   | .1   |       |
| 16    | 14    | 1.0   | 67      | 2.4   | 36      | 53    | 95    | 4.3   | .9    | .2   | .1   |       |
| 17    | 8.9   | 1.0   | 46      | 2.4   | 30      | 33    | 67    | 3.8   | .8    | .2   | .1   |       |
| 18    | *6.3  | 1.0   | 33      | 2.3   | 23      | 23    | 53    | 3.5   | .8    | .2   | .1   |       |
| 19    | 4.5   | .9    | *25     | 2.3   | 19      | 18    | 63    | 3.5   | .8    | .2   | 0    |       |
| 20    | 3.4   | .8    | 20      | 2.2   | 17      | 14    | 65    | 3.4   | *.7   | .2   | 0    | (*)   |
| 21    | 2.8   | *.8   | 17      | 2.2   | 15      | 12    | 60    | 3.5   | .6    | .2   | 0    |       |
| 22    | 2.4   | .8    | 14      | 2.2   | 13      | 16    | 49    | 3.4   | .6    | .1   | 0    |       |
| 23    | 2.1   | .8    | 12      | 2.1   | 11      | 27    | 40    | 3.2   | .7    | .1   | 0    |       |
| 24    | 1.8   | .8    | 10      | 2.0   | 10      | 22    | 31    | 3.0   | .6    | .1   | 0    |       |
| 25    | 1.7   | .8    | 8.9     | 2.0   | 8.9     | 19    | 33    | 2.7   | .6    | .1   | 0    |       |
| 26    | 1.5   | 57    | 7.5     | 2.0   | *8.0    | 18    | 24    | 2.6   | .6    | .1   | 0    |       |
| 27    | 1.4   | 45    | 6.8     | 2.0   | 7.5     | 116   | 18    | 2.5   | .6    | .1   | 0    |       |
| 28    | 1.3   | 25    | 6.1     | 1.9   | 6.8     | 162   | 16    | 2.4   | .6    | .1   | 0    |       |
| 29    | 1.2   | 16    | 5.5     | 3.2   | -----   | 115   | 14    | 2.3   | .5    | .1   | 0    |       |
| 30    | 1.1   | 14    | 5.5     | *127  | -----   | 95    | 12    | 2.0   | .5    | *.1  | 0    |       |
| 31    | 1.1   | ----- | 7.0     | 426   | -----   | 78    | ----- | 1.8   | ----- | .1   | 0    | ----- |
| TOTAL | 329.7 | 181.3 | 1,006.9 | 638.4 | 1,210.2 | 900.2 | 2,537 | 159.8 | 30.3  | 7.0  | 1.8  | 0     |
| MEAN  | 10.6  | 6.04  | 32.5    | 20.6  | 43.2    | 29.0  | 84.6  | 5.15  | 1.01  | 0.23 | 0.06 | 0     |
| MAX   | 107   | 57    | 197     | 426   | 283     | 162   | 290   | 10    | 1.8   | 0.4  | 0.1  | 0     |
| MIN   | 0.1   | 0.7   | 5.5     | 1.9   | 6.8     | 3.7   | 12    | 1.8   | 0.5   | 0.1  | 0    | 0     |
| AC-FT | 654   | 360   | 2,000   | 1,270 | 2,400   | 1,790 | 5,030 | 317   | 60    | 14   | 3.6  | 0     |

CALENDAR YEAR 1962: MAX 502 MIN 0 MEAN 16.0 AC-FT 11,560

WATER YEAR 1962-63: MAX 426 MIN 0 MEAN 19.2 AC-FT 13,900

Peak discharge (base, 350 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 12- 2 | 2000 | 6.51        | 478       | 4-6  | 0400 | 5.94        | 362       |
| 1-31  | 1500 | 7.53        | 729       |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

## BIG RIVER BASIN

11-4680.7. South Fork Big River near Comptche, Calif.

Location.--Lat 39°13'45", long 123°27'55", in sec.19, T.16 N., R.14 W., on left bank 250 ft downstream from Daugherty Creek and 7.2 miles east of Comptche.

Drainage area.--36.3 sq mi.

Records available.--August 1960 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,930 cfs Jan. 31 (gage height, 10.77 ft); minimum, 0.9 cfs Sept. 19.  
1960-63: Maximum discharge that of Jan. 31, 1963; minimum, 0.6 cfs many days in September 1960.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.    | FEB.  | MAR.  | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|---------|-------|-------|---------|-------|-------|--------|-------|-------|-------|------|-------|
| 1     | 1.2     | 9.8   | 16    | 20      | 784   | 23    | 258    | 38    | 13    | 4.5   | 2.2  | 1.4   |
| 2     | 1.2     | 9.2   | 507   | 17      | 296   | 23    | *190   | 36    | 12    | 4.5   | 2.1  | 1.4   |
| 3     | 1.3     | 8.9   | 443   | 17      | 201   | 23    | 185    | 35    | 12    | 4.3   | 2.1  | 1.3   |
| 4     | 1.3     | 8.6   | 157   | 16      | 160   | 22    | 143    | 33    | 12    | 4.3   | 2.1  | 1.3   |
| 5     | 1.2     | 8.0   | 103   | 15      | 132   | 22    | 219    | 31    | 11    | 4.3   | 2.1  | 1.2   |
| 6     | 1.2     | 7.7   | 86    | 14      | 105   | 25    | 639    | 29    | 11    | 4.1   | 2.1  | 1.2   |
| 7     | 1.3     | 7.4   | 77    | 13      | 93    | 23    | 405    | 29    | 10    | 4.0   | 2.1  | 1.2   |
| 8     | 2.1     | 6.9   | 70    | 13      | 93    | 23    | 285    | *28   | 9.8   | 4.0   | 2.0  | 1.2   |
| 9     | 2.5     | 7.2   | 64    | 13      | 99    | 23    | 272    | 27    | 9.5   | 4.0   | 2.0  | 1.2   |
| 10    | 9.4     | 7.4   | 59    | 12      | 85    | 22    | 429    | 31    | 8.9   | 3.8   | 2.0  | 1.2   |
| 11    | 126     | 6.4   | 54    | 12      | 69    | 22    | 298    | 31    | 8.3   | 3.8   | 2.0  | 1.1   |
| 12    | 463     | 6.4   | 52    | 12      | 78    | 21    | 266    | 26    | 8.0   | 3.8   | 2.0  | 1.1   |
| 13    | 183     | 5.9   | 52    | 12      | 73    | 21    | 280    | 25    | 8.0   | 3.6   | 1.9  | 1.0   |
| 14    | 129     | 5.7   | 44    | 12      | 62    | 22    | 405    | 24    | 7.4   | 3.4   | 1.8  | 1.0   |
| 15    | 62      | 5.2   | 88    | 11      | 55    | 22    | 396    | 22    | 7.2   | 3.4   | 1.8  | 1.2   |
| 16    | 37      | 4.9   | 82    | 11      | 52    | 60    | 276    | 22    | 6.9   | 3.3   | 1.8  | 1.2   |
| 17    | 26      | 4.7   | 87    | 11      | 47    | 44    | 203    | 21    | 6.4   | 3.3   | 1.8  | 1.2   |
| 18    | 20      | 4.5   | 75    | 11      | 43    | 37    | 152    | 20    | 6.2   | 3.1   | 1.8  | 1.1   |
| 19    | *18     | 4.3   | 62    | 11      | 38    | 34    | 148    | 19    | 5.9   | 3.1   | 1.7  | *1.2  |
| 20    | 17      | 4.0   | 52    | 11      | 36    | 30    | 132    | 19    | *5.4  | 3.0   | 1.7  | 1.2   |
| 21    | 15      | *3.8  | *47   | 10      | 33    | 28    | 123    | 18    | 5.4   | 2.8   | 1.7  | 1.3   |
| 22    | 14      | 3.8   | 42    | 10      | 31    | 35    | 106    | 18    | 5.2   | 2.8   | 1.7  | 1.4   |
| 23    | 14      | 3.8   | 37    | 10      | 29    | 104   | 93     | 17    | 5.2   | 2.8   | 1.7  | 1.5   |
| 24    | 13      | 3.8   | 32    | 10      | 28    | 79    | 78     | 17    | 5.2   | 2.8   | 1.7  | 1.6   |
| 25    | 12      | 3.8   | 28    | 8.3     | 26    | 63    | 76     | 16    | 5.2   | 2.7   | 1.5  | 1.6   |
| 26    | 12      | 118   | 25    | 9.2     | *25   | 52    | 66     | 15    | 4.9   | 2.7   | 1.5  | 1.6   |
| 27    | 12      | 50    | 23    | 8.9     | 25    | 354   | 55     | 15    | 4.9   | 2.5   | 1.5  | 1.7   |
| 28    | 11      | 24    | 22    | 8.0     | 24    | 579   | 50     | 14    | 4.9   | 2.5   | 1.5  | 1.8   |
| 29    | 11      | 17    | 21    | *8.6    | ----- | 475   | 46     | 14    | 4.9   | 2.4   | 1.5  | 1.8   |
| 30    | 10      | 14    | 20    | 104     | ----- | 461   | 41     | 14    | 4.7   | *2.4  | 1.5  | 1.9   |
| 31    | 10      | ----- | 20    | 1,240   | ----- | 378   | -----  | 13    | ----- | 2.2   | 1.4  | ----- |
| TOTAL | 1,237.7 | 375.1 | 2,547 | 1,691.0 | 2,822 | 3,150 | 6,315  | 717   | 229.4 | 104.2 | 56.3 | 40.1  |
| MEAN  | 39.9    | 12.5  | 82.2  | 54.5    | 101   | 102   | 211    | 23.1  | 7.65  | 3.36  | 1.82 | 1.34  |
| MAX   | 463     | 118   | 507   | 1,240   | 784   | 579   | 639    | 38    | 13    | 4.5   | 2.2  | 1.9   |
| MIN   | 1.2     | 3.8   | 16    | 8.0     | 24    | 21    | 41     | 13    | 4.7   | 2.2   | 1.4  | 1.0   |
| AC-FT | 2,450   | * 744 | 5,050 | 3,350   | 5,600 | 6,250 | 12,530 | 1,420 | 455   | 207   | 112  | 80    |

CALENDAR YEAR 1962: MAX 1,050 MIN 0.7 MEAN 46.6 AC-FT 33,700

WATER YEAR 1962-63: MAX 1,240 MIN 1.0 MEAN 52.8 AC-FT 38,250

Peak discharge (base, 700 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1600 | 8.52        | 1,640     | 3-27 | 1700 | 6.58        | 732       |
| 12-2  | 2000 | 8.52        | 1,640     | 4-6  | 0500 | 6.96        | 884       |
| 1-31  | 1500 | 10.77       | 2,930     |      |      |             |           |

11-4685. Noyo River near Fort Bragg, Calif.

Location.--Lat 39°25'41", Long 123°44'10", in SW $\frac{1}{4}$  sec.10, T.18 N., R.17 W., on right bank 0.7 mile downstream from South Fork and 3.5 miles east of Fort Bragg.

Drainage area.--106 sq mi (revised).

Records available.--August 1951 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 12.1 ft above mean sea level (planetable survey).

Average discharge.--12 years, 222 cfs (160,700 acre-ft per year); median of yearly mean discharges, 190 cfs (138,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,050 cfs Jan. 31 (gage height, 15.83 ft); minimum, 5.1 cfs Sept. 15-20.  
1951-63: Maximum discharge, 22,000 cfs Dec. 22, 1955 (gage height, 25.64 ft), from rating curve extended above 3,600 cfs on basis of slope-conveyance study; minimum, 2.4 cfs several days in August and September 1959.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.   | JAN.  | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|--------|-------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 11      | 26    | 176    | 82    | 3,110  | 96     | 914    | 169   | 51    | 25    | 12    | 7.2   |
| 2     | 9.6     | 24    | 1,210  | 76    | 1,500  | 92     | 671    | 150   | 51    | 24    | 12    | 7.2   |
| 3     | 9.6     | 24    | 2,410  | 71    | 898    | 89     | *581   | 142   | 49    | 24    | 12    | 6.9   |
| 4     | 8.9     | 23    | 965    | 67    | 634    | 85     | 485    | 139   | 47    | 24    | 11    | 6.9   |
| 5     | 8.5     | 24    | 555    | 64    | 470    | 81     | 713    | 133   | 46    | 24    | 11    | 6.6   |
| 6     | 7.8     | 23    | 383    | 60    | 370    | 79     | 2,410  | 126   | 46    | 23    | 11    | 6.3   |
| 7     | 7.1     | 22    | 290    | 58    | 302    | 82     | 1,920  | 124   | 44    | 23    | 11    | 6.3   |
| 8     | 16      | 21    | 232    | 56    | 286    | 79     | 1,710  | 118   | 43    | 22    | 11    | 6.0   |
| 9     | 47      | 24    | 194    | 54    | 278    | 79     | 1,440  | *112  | 42    | 22    | 12    | 6.0   |
| 10    | 272     | 28    | 162    | 53    | 294    | 74     | 1,510  | 116   | 39    | 21    | 12    | 6.0   |
| 11    | 539     | 27    | 144    | 51    | 260    | 70     | 1,340  | 128   | 39    | 20    | 12    | 5.7   |
| 12    | 1,180   | 32    | 136    | 49    | 306    | 67     | 1,260  | 113   | 38    | 19    | 12    | 5.7   |
| 13    | 1,090   | 36    | 197    | 47    | 443    | 65     | 1,290  | 107   | 36    | 19    | 11    | 5.7   |
| 14    | 512     | 32    | 195    | 45    | 400    | 68     | 1,440  | 100   | 36    | 18    | 11    | 5.4   |
| 15    | 354     | 28    | 633    | 44    | 334    | 72     | 1,490  | 95    | 35    | 18    | 11    | 5.1   |
| 16    | 234     | 26    | 733    | 43    | 298    | 168    | 1,190  | 90    | 34    | 17    | 11    | 5.1   |
| 17    | 154     | 26    | 550    | 43    | 270    | 156    | 875    | 87    | 33    | 17    | 11    | 5.1   |
| 18    | *110    | 24    | 420    | 42    | 235    | 124    | 650    | 78    | 31    | 17    | 11    | *5.1  |
| 19    | 84      | 23    | 336    | 41    | 211    | 107    | 608    | 78    | *30   | 17    | 10    | 5.1   |
| 20    | 69      | *22   | *270   | 39    | 194    | 97     | 572    | 77    | 30    | 16    | 9.9   | 5.1   |
| 21    | 58      | 22    | 228    | 37    | 174    | 91     | 557    | 76    | 29    | 16    | 9.5   | 5.4   |
| 22    | 51      | 22    | 197    | 37    | 159    | 93     | 479    | 75    | 29    | 16    | 9.1   | 5.4   |
| 23    | 47      | 22    | 174    | 36    | 147    | 135    | 408    | 73    | 30    | 16    | 8.7   | 5.7   |
| 24    | 42      | 22    | 153    | 36    | 135    | 147    | 356    | 70    | 29    | 15    | 8.7   | 5.7   |
| 25    | 39      | 22    | 132    | 36    | 126    | 135    | 329    | 67    | 27    | 14    | 8.3   | 5.7   |
| 26    | 36      | 608   | 117    | 36    | 117    | 129    | 291    | 64    | 26    | 14    | 8.0   | 5.7   |
| 27    | 34      | 694   | 108    | 35    | *110   | 627    | 248    | 63    | 26    | 14    | 8.0   | 5.7   |
| 28    | 33      | 352   | 101    | 33    | 102    | 1,530  | 220    | 59    | 26    | 13    | 8.0   | 5.7   |
| 29    | 31      | 227   | 91     | *41   | -----  | 1,230  | 191    | 58    | 26    | 13    | 7.2   | 5.4   |
| 30    | 29      | 176   | 88     | 366   | -----  | 1,080  | 175    | 55    | 25    | 13    | 7.2   | 5.4   |
| 31    | 28      | ----- | 85     | 2,630 | -----  | 1,100  | -----  | 54    | ----- | *12   | 7.2   | ----- |
| TOTAL | 5,151.5 | 2,682 | 11,665 | 4,408 | 12,163 | 8,127  | 26,323 | 2,996 | 1,073 | 566   | 314.8 | 174.3 |
| MEAN  | 166     | 89.4  | 376    | 142   | 434    | 262    | 877    | 96.6  | 35.8  | 18.3  | 10.2  | 5.81  |
| MAX   | 1,180   | 694   | 2,410  | 2,630 | 3,110  | 1,530  | 2,410  | 169   | 51    | 25    | 12    | 7.2   |
| MIN   | 7.1     | 21    | 85     | 33    | 102    | 65     | 175    | 54    | 25    | 12    | 7.2   | 5.1   |
| AC-FT | 10,220  | 5,320 | 23,140 | 8,740 | 24,120 | 16,120 | 52,210 | 5,940 | 2,130 | 1,120 | 624   | 346   |

CALENDAR YEAR 1962: MAX 3,170 MIN 2.8 MEAN 170 AC-FT 123,000

WATER YEAR 1962-63: MAX 3,110 MIN 5.1 MEAN 207 AC-FT 150,000

Peak discharge (base, 2,400 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time      | Gage height | Discharge |
|-------|------|-------------|-----------|------|-----------|-------------|-----------|
| 12- 2 | 2400 | 14.15       | 4,130     | 4-6  | 0900-1000 | 11.19       | 2,830     |
| 1-31  | 2100 | 15.83       | 5,050     |      |           |             |           |

## COTTONEVA CREEK BASIN

11-4688.5. Dunn Creek near Rockport, Calif.

Location.--Lat 39°47'56", long 123°49'11", in SE $\frac{1}{4}$  sec.35, T.23 N., R.18 W., on State Highway 1, on right bank just upstream from highway culvert 4.2 miles north of Rockport.

Drainage area.--1.88 sq mi.

Records available.--August 1961 to September 1963.

Gage.--Water-stage recorder and tipping-bucket rain gage. Altitude of gage is 350 ft (from topographic map).

Extremes.--Maximum discharge during year, 86 cfs Apr. 6 (gage height, 6.32 ft), from rating curve extended above 10 cfs on basis of indirect measurement of peak flow through culvert at gage height 4.89 ft; minimum, 0.4 cfs many days in August and September.  
1961-63: Maximum discharge, that of Apr. 6, 1963; no flow Aug. 16-26, 1961.

Remarks.--Records fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec.  | Jan. | Feb.  | Mar.  | Apr.  | May  | June  | July | Aug. | Sept. |
|-------|------|-------|-------|------|-------|-------|-------|------|-------|------|------|-------|
| 1     | 0.7  | 1.9   | 2.8   | 2.1  | 6.1   | 2.4   | 10    | 4.1  | 1.6   | 0.9  | 0.6  | 0.4   |
| 2     | .8   | 1.8   | 1.5   | 2.0  | 4.9   | 2.4   | 8.4   | 3.8  | 1.6   | .9   | .6   | .5    |
| 3     | .8   | 1.8   | 2.5   | 1.9  | 4.7   | 2.4   | 7.8   | 3.7  | 1.6   | .9   | .6   | .5    |
| 4     | .8   | 1.9   | 9.0   | 1.8  | 4.9   | 2.4   | *7.0  | 3.6  | 1.6   | .9   | .6   | .4    |
| 5     | .8   | 2.0   | 5.2   | 1.7  | 4.9   | 2.4   | 4.5   | 3.5  | 1.6   | .9   | .5   | .4    |
| 6     | .8   | 1.9   | 4.1   | 1.6  | 5.2   | 2.4   | 7.1   | 3.3  | 1.6   | .9   | .5   | .4    |
| 7     | .8   | 1.9   | 3.7   | 1.6  | *5.5  | 2.5   | 4.3   | 3.3  | 1.5   | .9   | .5   | .4    |
| 8     | .9   | 1.9   | 3.2   | 1.6  | 5.5   | 2.5   | 3.0   | 3.2  | 1.5   | .9   | .5   | .4    |
| 9     | 1.5  | 2.0   | 2.9   | 1.5  | 5.3   | 2.5   | 2.0   | 3.0  | 1.5   | .9   | .5   | .4    |
| 10    | 3.5  | 2.0   | 2.8   | 1.4  | 5.2   | 2.4   | 1.6   | *2.9 | 1.3   | .8   | .5   | .4    |
| 11    | 4.7  | 2.3   | 2.8   | 1.4  | 5.0   | 2.4   | 1.4   | 2.9  | 1.3   | .8   | .5   | .4    |
| 12    | 1.1  | 2.3   | 2.8   | 1.3  | 4.9   | 2.5   | 1.7   | 2.7  | 1.3   | .8   | .5   | .4    |
| 13    | 7.8  | 1.8   | 3.2   | 1.3  | 4.6   | 2.4   | 2.2   | 2.7  | 1.3   | .8   | .5   | .4    |
| 14    | 5.9  | 1.5   | 3.1   | 1.3  | 4.4   | 2.5   | 3.2   | 2.6  | 1.2   | .8   | .5   | .4    |
| 15    | 4.6  | 1.2   | 4.6   | 1.2  | 4.3   | 2.7   | 2.7   | 2.6  | 1.2   | .8   | .5   | .4    |
| 16    | 3.5  | 1.1   | 5.8   | 1.2  | 4.3   | 3.7   | 1.9   | 2.4  | 1.2   | .8   | .5   | .4    |
| 17    | 2.9  | 1.2   | 5.2   | 1.2  | 4.0   | 3.2   | 1.5   | 2.3  | 1.2   | .8   | .5   | .4    |
| 18    | *2.5 | 1.1   | 4.3   | 1.2  | 3.8   | 2.9   | 1.2   | 2.3  | 1.1   | .8   | .5   | *.4   |
| 19    | 2.2  | 1.1   | 4.0   | 1.1  | 3.8   | 2.9   | 9.2   | 2.3  | *1.1  | .8   | .5   | .4    |
| 20    | 2.0  | *1.2  | *3.7  | 1.1  | 3.6   | 2.9   | 8.4   | 2.1  | 1.0   | .7   | .5   | .4    |
| 21    | 1.9  | 1.2   | 3.3   | 1.0  | 3.3   | 2.9   | 7.4   | 2.1  | 1.0   | .7   | .6   | .4    |
| 22    | 1.9  | 1.3   | 3.1   | 1.0  | 3.1   | 3.2   | 6.9   | 2.1  | 1.1   | .7   | .6   | .4    |
| 23    | 1.9  | 1.3   | 2.9   | 1.0  | 2.8   | 3.3   | 6.6   | 2.0  | 1.1   | .7   | .6   | .4    |
| 24    | 1.9  | 1.3   | 2.8   | .9   | 2.6   | 3.3   | 6.2   | 2.0  | 1.0   | .7   | .6   | .5    |
| 25    | 1.9  | 1.3   | 2.5   | .9   | *2.5  | 3.2   | 5.8   | 1.9  | 1.0   | .7   | .5   | .5    |
| 26    | 1.9  | 7.4   | 2.4   | .9   | 2.5   | 3.6   | 5.5   | 1.9  | .9    | .7   | .5   | .5    |
| 27    | 1.8  | 5.9   | 2.4   | .8   | 2.4   | 6.9   | 5.2   | 1.8  | .9    | .7   | .5   | .5    |
| 28    | 1.9  | 3.7   | 2.3   | *.8  | 2.4   | 9.4   | 4.9   | 1.8  | .9    | .7   | .5   | .6    |
| 29    | 1.9  | 2.8   | 2.2   | .9   | ----- | 1.1   | 4.7   | 1.7  | .9    | .7   | .4   | .6    |
| 30    | 1.9  | 2.8   | 2.3   | 1.2  | ----- | 1.3   | 4.3   | 1.6  | .9    | .6   | .4   | .6    |
| 31    | 1.9  | ----- | 2.1   | 4.0  | ----- | 1.3   | ----- | 1.6  | ----- | *.6  | .4   | ----- |
| Total | 79.3 | 62.9  | 141.5 | 42.9 | 116.5 | 125.2 | 491.3 | 79.8 | 37.0  | 24.3 | 16.0 | 13.2  |
| Mean  | 2.56 | 2.10  | 4.56  | 1.38 | 4.16  | 4.04  | 16.4  | 2.57 | 1.23  | 0.78 | 0.52 | 0.44  |
| Max   | 1.1  | 7.4   | 2.5   | 4.0  | 6.1   | 1.3   | 7.1   | 4.1  | 1.6   | 0.9  | 0.6  | 0.6   |
| Min   | 0.7  | 1.1   | 2.1   | 0.8  | 2.4   | 2.4   | 4.3   | 1.6  | 0.9   | 0.6  | 0.4  | 0.4   |
| Ac-ft | 157  | 125   | 281   | 85   | 231   | 248   | 974   | 158  | 73    | 48   | 32   | 26    |
| (†)   | 13.2 | 7.3   | 6.9   | 4.0  | 3.3   | 9.0   | 13.2  | 1.2  | 0.1   | 0    | 0    | 0     |

Calendar year 1962: Max 25 Min 0.2 Mean 2.39 Ac-ft 1,730  
Water year 1962-63: Max 71 Min 0.4 Mean 3.37 Ac-ft 2,440

Peak discharge (base, 20 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 12-2 | 2100 | 5.79        | 45        | 4-14 | 2300 | 5.26        | 34        |
| 4-6  | 0400 | 6.32        | 86        |      |      |             |           |

\* Discharge measurement made on this day.

† Precipitation, in inches

## MATTOLE RIVER BASIN

369

11-4690. Mattole River near Petrolia, Calif.

Location.--Lat 40°18'40", long 124°16'10", in NW¼ sec. 11, T.2 S., R.2 W., on right bank 0.2 mile downstream from Clear Creek, 1.2 miles southeast of Petrolia, and 1.3 miles upstream from North Fork.

Drainage area.--240 sq mi (revised).

Records available.--October 1911 to December 1913, October 1950 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 40 ft (from topographic map). November 1911 to December 1913, staff or chain gages at several sites upstream within 0.7 mile of present site at various datums. Dec. 11, 1950, to July 14, 1955, water-stage recorder at site 0.7 mile upstream at datum 7.48 ft higher.

Average discharge.--15 years, 1,368 cfs (990,400 acre-ft per year).

Extremes.--Maximum discharge during year, 28,000 cfs Jan. 31 (gage height, 18.32 ft); minimum, 36 cfs Sept. 30.

1911-13, 1950-63: Maximum discharge, 90,400 cfs Dec. 22, 1955 (gage height, 29.60 ft), from rating curve extended above 24,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 20 cfs Sept. 1, 2, 15-30, Oct. 27-31, 1913.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 20 to Sept. 30)

|     |     |      |        |
|-----|-----|------|--------|
| 4.2 | 30  | 6.0  | 950    |
| 4.3 | 45  | 7.0  | 2,000  |
| 4.5 | 80  | 8.0  | 3,440  |
| 4.7 | 135 | 10.0 | 7,110  |
| 5.0 | 255 | 12.0 | 11,100 |
| 5.5 | 555 | 15.0 | 17,700 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.    | DEC.    | JAN.   | FEB.    | MAR.    | APR.    | MAY    | JUNE   | JULY  | AUG.  | SEPT. |
|-------|--------|---------|---------|--------|---------|---------|---------|--------|--------|-------|-------|-------|
| 1     | *85    | 290     | 1,800   | 753    | 14,000  | *865    | 5,420   | 899    | 355    | 153   | 80    | 47    |
| 2     | 80     | 270     | 7,840   | 690    | *7,070  | 841     | 3,990   | 857    | 344    | 149   | 78    | 47    |
| 3     | 95     | 255     | 9,110   | 660    | 6,900   | 809     | 3,620   | 891    | 327    | 142   | 76    | 47    |
| 4     | 83     | 246     | 4,570   | 615    | 6,520   | 729     | *2,780  | 925    | 322    | 146   | 76    | 45    |
| 5     | 74     | 237     | 2,960   | 570    | 6,520   | 690     | 4,310   | 3,930  | 311    | 149   | 74    | 44    |
| 6     | 66     | 224     | 2,210   | 541    | 6,560   | 668     | 9,240   | 3,790  | 300    | 146   | 74    | 44    |
| 7     | 64     | 210     | 1,760   | 513    | 5,360   | 645     | 8,320   | 3,360  | 290    | 142   | 70    | 44    |
| 8     | 135    | 206     | 1,470   | 492    | 4,970   | 608     | 7,700   | 2,760  | 280    | 135   | 68    | 44    |
| 9     | 1,460  | 295     | 1,260   | 466    | 4,230   | 593     | 7,110   | 2,270  | 265    | 132   | 70    | 44    |
| 10    | 2,810  | 378     | 1,090   | 453    | 3,960   | 541     | 6,540   | 1,980  | 260    | 129   | 68    | 44    |
| 11    | 5,530  | 1,570   | 977     | 427    | 3,140   | 527     | 5,450   | 1,810  | 255    | 123   | 68    | 43    |
| 12    | 9,270  | 6,260   | 1,290   | 396    | 3,910   | 506     | 15,100  | 1,560  | 251    | 120   | 66    | 44    |
| 13    | 8,000  | 3,800   | 3,390   | 384    | 5,060   | 472     | 13,600  | 1,380  | 237    | 117   | 64    | 44    |
| 14    | 5,570  | 1,990   | 2,710   | 372    | 3,890   | 541     | 17,200  | 1,250  | 228    | 114   | 60    | 43    |
| 15    | 3,220  | 1,400   | 8,790   | 360    | 3,090   | 600     | *9,920  | 1,120  | 224    | 114   | 59    | 43    |
| 16    | 2,200  | 1,120   | 6,150   | 349    | 3,500   | 1,310   | 6,270   | 1,040  | 219    | 111   | 57    | 43    |
| 17    | 1,600  | 995     | 4,750   | *338   | 3,500   | 968     | 4,340   | 959    | 210    | 111   | 56    | 42    |
| 18    | 1,200  | 841     | 2,820   | 327    | 2,940   | 777     | 3,380   | 891    | 202    | 111   | 54    | 42    |
| 19    | *933   | 737     | 2,210   | 316    | 2,490   | 675     | 3,570   | 825    | 190    | 108   | 54    | 42    |
| 20    | 833    | 660     | 1,840   | 300    | 2,200   | 630     | 3,000   | 777    | 186    | 105   | 53    | 42    |
| 21    | 721    | 615     | 1,580   | 295    | 1,880   | 615     | 2,570   | 745    | 186    | 105   | 51    | 42    |
| 22    | 638    | 585     | 1,370   | 290    | 1,670   | 675     | 2,220   | 698    | 194    | 103   | 51    | 45    |
| 23    | 563    | 534     | 1,220   | 280    | 1,500   | 1,080   | 1,920   | *653   | 190    | 103   | 51    | 53    |
| 24    | 506    | 485     | 1,090   | 275    | 1,360   | 1,170   | 1,680   | 608    | 182    | 100   | 51    | 50    |
| 25    | 472    | 653     | 977     | 270    | 1,240   | 1,010   | 1,610   | 555    | 170    | *100  | 50    | 45    |
| 26    | 427    | 15,200  | 891     | 265    | 1,130   | 2,370   | 1,420   | 520    | 170    | 95    | *48   | 44    |
| 27    | 396    | 7,420   | 833     | 255    | 1,050   | 11,200  | 1,270   | 479    | 167    | 90    | 48    | 43    |
| 28    | 372    | 4,100   | 769     | *251   | 977     | 11,300  | 1,160   | 440    | *163   | 88    | 50    | 41    |
| 29    | 349    | 2,780   | 713     | 303    | -----   | 9,460   | *1,060  | *408   | 163    | 88    | 48    | 41    |
| 30    | 322    | *2,200  | 857     | 2,080  | -----   | 9,340   | 968     | 390    | 160    | 85    | 48    | *39   |
| 31    | 300    | -----   | *925    | 15,100 | -----   | 7,540   | -----   | 372    | -----  | 80    | 48    | ----- |
| TOTAL | 48,374 | 56,556  | 80,222  | 28,986 | 110,617 | 69,755  | 156,738 | 39,142 | 7,001  | 3,594 | 1,869 | 1,321 |
| MEAN  | 1,560  | 1,885   | 2,588   | 935    | 3,951   | 2,250   | 5,225   | 1,263  | 233    | 116   | 60.3  | 44.0  |
| MAX   | 9,270  | 15,200  | 9,110   | 15,100 | 14,000  | 11,300  | 17,200  | 3,930  | 355    | 153   | 80    | 53    |
| MIN   | 64     | 206     | 713     | 251    | 977     | 472     | 968     | 372    | 160    | 80    | 48    | 39    |
| AC-FT | 95,950 | 112,200 | 159,100 | 57,490 | 219,400 | 138,400 | 310,900 | 77,640 | 13,890 | 7,130 | 3,710 | 2,620 |

CALENDAR YEAR 1962: MAX 15,200 MIN 48 MEAN 1,159 AC-FT 839,000

WATER YEAR 1962-63: MAX 17,200 MIN 39 MEAN 1,656 AC-FT 1,198,000

Peak discharge (base, 10,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1900 | 14.57       | 16,700    | 1-31 | 1700 | 18.32       | 28,000    |
| 11-26 | 1000 | 17.07       | 23,600    | 3-27 | 1800 | 14.46       | 16,400    |
| 12-2  | 2000 | 13.90       | 15,100    | 4-14 | 0600 | 16.51       | 21,900    |
| 12-15 | 1200 | 11.90       | 10,900    |      |      |             |           |

11-4700. Lake Pillsbury near Potter Valley, Calif.

Location.--Lat 39°24'30", long 122°57'30", on line between secs.14 and 23, T.18 N., R.10 W., at Scott Dam near right bank of Eel River, 0.3 mile downstream from Rice Fork, and 10.2 miles northeast of town of Potter Valley.

Drainage area.--289 sq mi.

Records available.--October 1922 to September 1928 (daily gage heights only), October 1928 to September 1963. Month-end contents only for some periods, published in WSP 1315-B. Prior to October 1953, published as "at Hullville."

Gage.--Water-stage recorder. Datum of gage is 81.7 ft below mean sea level (river-profile survey). Prior to Jan. 26, 1950, staff gage at same site and datum.

Extremes.--Maximum contents during year, 86,800 acre-ft May 30 to June 3 (gage height, 1,910.00 ft); minimum, 40,200 acre-ft Oct. 10 (gage height, 1,884.37 ft).

1922-63: Maximum contents, 95,600 acre-ft May 13, 16, 1925 (gage height, 1,910.8 ft); minimum, 10 acre-ft Dec. 9, 10, 1931 (gage height, 1,822.5 ft).

Remarks.--Reservoir is formed by concrete overflow type dam; storage began in December 1921. Usable capacity, 86,400 acre-ft between gage heights 1,822.4 (sill of outlet gate) and 1,910.0 ft (top of spillway gates); dead storage, 397 acre-ft; spillway at gage height 1,900.0 ft. Water is released down Eel River to Van Arsdale Reservoir, from which it is diverted through tunnel to Potter Valley powerhouse; part is then used for irrigation and remainder flows into East Fork Russian River. Records given herein represent total contents.

Cooperation.--Record of contents furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Capacity table (gage height, in feet, and contents, in acre-feet)

|       |        |       |        |
|-------|--------|-------|--------|
| 1,883 | 38,400 | 1,895 | 56,700 |
| 1,886 | 42,500 | 1,897 | 60,200 |
| 1,889 | 46,900 | 1,900 | 65,800 |
| 1,891 | 50,000 | 1,905 | 75,800 |
| 1,893 | 53,300 | 1,910 | 86,800 |

Contents, in thousands of acre-feet, at 2400 hours, water year October 1962 to September 1963

| Day | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-----|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1   | 43.3    | 61.5    | 55.2    | 65.4    | 70.4    | 66.0    | 84.3    | 84.8    | 86.8    | 81.9    | 71.4    | 57.9    |
| 2   | 42.9    | 61.1    | 62.0    | 65.2    | 69.4    | 65.9    | 84.3    | 84.7    | 86.8    | 81.6    | 71.0    | 57.5    |
| 3   | 42.6    | 60.6    | 67.3    | 64.9    | 68.6    | 65.8    | 84.5    | 84.7    | 86.8    | 81.2    | 70.6    | 57.1    |
| 4   | 42.2    | 60.1    | 67.2    | 64.8    | 68.0    | 65.8    | 84.4    | 84.6    | 86.7    | 80.9    | 70.2    | 56.7    |
| 5   | 41.9    | 59.6    | 67.0    | 64.6    | 68.0    | 65.9    | 84.9    | 84.8    | 86.7    | 80.6    | 69.8    | 56.3    |
| 6   | 41.6    | 59.1    | 66.5    | 64.4    | 68.0    | 65.9    | 84.5    | 84.7    | 86.7    | 80.2    | 69.4    | 55.9    |
| 7   | 41.2    | 58.6    | 66.3    | 64.1    | 68.0    | 66.0    | 84.2    | 84.7    | 86.6    | 79.8    | 69.0    | 55.4    |
| 8   | 40.9    | 58.2    | 66.1    | 63.9    | 68.0    | 66.0    | 84.6    | 84.5    | 86.6    | 79.5    | 68.6    | 55.0    |
| 9   | 40.6    | 57.7    | 65.9    | 63.6    | 67.9    | 66.0    | 84.4    | 84.4    | 86.6    | 79.1    | 68.2    | 54.7    |
| 10  | 40.2    | 57.3    | 65.8    | 63.5    | 67.9    | 66.1    | 84.7    | 84.4    | 86.5    | 78.7    | 67.8    | 54.3    |
| 11  | 43.0    | 56.8    | 65.8    | 63.3    | 67.9    | 66.0    | 84.0    | 84.3    | 86.4    | 78.8    | 67.4    | 53.8    |
| 12  | 48.9    | 56.4    | 65.8    | 62.9    | 67.9    | 66.0    | 83.9    | 84.3    | 86.2    | 78.4    | 66.9    | 53.3    |
| 13  | 54.6    | 55.9    | 66.3    | 62.6    | 67.9    | 66.0    | 84.6    | 84.2    | 86.0    | 78.1    | 66.7    | 52.9    |
| 14  | 67.4    | 55.4    | 66.4    | 62.3    | 67.9    | 66.2    | 84.6    | 84.4    | 85.9    | 77.7    | 66.5    | 52.4    |
| 15  | 67.3    | 55.0    | 68.7    | 61.9    | 67.8    | 66.6    | 84.7    | 84.4    | 85.9    | 77.4    | 65.8    | 52.0    |
| 16  | 67.1    | 54.5    | 67.9    | 61.6    | 67.7    | 67.4    | 84.4    | 84.4    | 85.6    | 77.0    | 65.3    | 51.6    |
| 17  | 66.9    | 54.0    | 68.3    | 61.3    | 67.4    | 67.5    | 84.2    | 84.5    | 85.4    | 76.6    | 64.8    | 51.2    |
| 18  | 66.5    | 53.5    | 67.7    | 60.9    | 67.1    | 67.5    | 83.6    | 84.6    | 85.3    | 76.3    | 64.4    | 50.8    |
| 19  | 66.1    | 53.1    | 67.1    | 60.5    | 67.1    | 67.6    | 84.4    | 84.6    | 85.1    | 76.0    | 63.9    | 50.4    |
| 20  | 65.8    | 52.6    | 66.8    | 60.1    | 66.8    | 67.9    | 84.5    | 84.9    | 84.8    | 75.7    | 63.4    | 50.1    |
| 21  | 65.6    | 52.1    | 66.5    | 59.8    | 66.6    | 68.2    | 84.3    | 85.4    | 84.5    | 75.5    | 63.0    | 49.8    |
| 22  | 65.4    | 51.6    | 66.4    | 59.4    | 66.5    | 68.8    | 84.1    | 85.8    | 84.3    | 75.3    | 62.2    | 49.4    |
| 23  | 65.0    | 51.1    | 66.2    | 58.9    | 66.4    | 70.5    | 84.2    | 86.0    | 84.1    | 75.0    | 61.8    | 49.1    |
| 24  | 64.8    | 50.8    | 66.1    | 58.5    | 66.3    | 71.2    | 84.4    | 86.2    | 83.9    | 74.5    | 61.5    | 48.8    |
| 25  | 64.4    | 50.5    | 66.0    | 58.1    | 66.3    | 71.9    | 84.2    | 86.3    | 83.6    | 74.1    | 61.1    | 48.5    |
| 26  | 64.1    | 51.3    | 65.9    | 57.7    | 66.2    | 72.7    | 84.1    | 86.4    | 83.4    | 73.7    | 60.5    | 48.1    |
| 27  | 63.7    | 54.5    | 65.8    | 57.3    | 66.1    | 84.3    | 84.1    | 86.4    | 83.1    | 73.3    | 60.2    | 47.7    |
| 28  | 63.3    | 55.4    | 65.8    | 57.0    | 66.0    | 84.5    | 84.0    | 86.5    | 82.8    | 72.9    | 59.8    | 47.3    |
| 29  | 62.9    | 55.4    | 65.8    | 56.6    | -       | 84.5    | 84.4    | 86.6    | 82.6    | 72.5    | 59.3    | 47.0    |
| 30  | 62.4    | 55.4    | 65.7    | 55.2    | -----   | 82.5    | 84.7    | 86.8    | 82.3    | 72.1    | 58.8    | 46.5    |
| 31  | 62.0    | -----   | 65.5    | 75.6    | -----   | 84.4    | -----   | 86.8    | -----   | 71.7    | 58.4    | -----   |
| (†) | 1898.00 | 1894.27 | 1899.86 | 1904.90 | 1900.15 | 1908.95 | 1909.08 | 1910.00 | 1908.00 | 1903.01 | 1896.00 | 1888.75 |
| (‡) | +18,500 | -6,600  | +10,100 | +10,100 | -9,600  | +18,400 | +300    | +2,100  | -4,500  | -10,600 | -13,300 | -11,900 |

Calendar year 1962..... † +23,400

Water year 1962-63..... † +3,000

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

‡ Change in contents, in acre-feet.



11-4705. Eel River below Scott Dam, near Potter Valley, Calif.

Location.--Lat 39°24'30", long 122°58'15", in SE<sup>1</sup>/<sub>4</sub> sec.15, T.18 N., R.10 W., on left bank 0.4 mile upstream from Soda Creek, 0.7 mile downstream from Scott Dam, and 9.7 miles northeast of town of Potter Valley.

Drainage area.--290 sq mi.

Records available.--October 1922 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as South Eel River at Hullville, and October 1929 to September 1953 as "at Hullville."

Gage.--Water-stage recorder. Altitude of gage is 1,740 ft (from topographic map). Prior to Dec. 15, 1930, at datum 3.00 ft higher.

Average discharge.--41 years, 518 cfs (375,000 acre-ft per year).

Extremes.--Maximum discharge during year, 29,700 cfs Jan. 31 (gage height, 19.45 ft), from rating curve extended above 9,400 cfs on basis of computed flow over Scott Dam at various stages; minimum daily, 160 cfs Mar. 21.

1922-63: Maximum discharge, 41,100 cfs Dec. 11, 1937 (gage height, 22.9 ft, from floodmarks), from rating curve extended above 2,900 cfs on basis of computed flow over Scott Dam; minimum daily, 0.1 cfs Sept. 8, 1924.

Remarks.--Records good. Flow regulated by Lake Pillsbury (see preceding page). No diversion above station.

Cooperation.--Water-stage-recorder graph and 9 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |       |      |        |
|-----|-----|-----|-------|------|--------|
| 3.4 | 153 | 6.0 | 940   | 12.0 | 8,380  |
| 4.0 | 262 | 7.0 | 1,710 | 14.0 | 12,400 |
| 5.0 | 515 | 9.0 | 3,860 | 17.0 | 20,400 |

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.    | MAR.   | APR.    | MAY    | JUNE   | JULY   | AUG.   | SEPT.  |
|-------|--------|--------|--------|--------|---------|--------|---------|--------|--------|--------|--------|--------|
| 1     | 199    | 327    | 299    | 332    | 18,200  | 398    | *2,680  | 875    | 264    | 252    | 260    | 248    |
| 2     | 199    | 327    | 256    | *315   | 7,170   | 383    | 2,050   | 916    | 268    | 256    | 258    | 248    |
| 3     | 199    | 327    | 530    | 295    | 4,470   | 368    | 1,920   | 916    | 244    | 256    | 258    | 248    |
| 4     | 199    | 327    | 1,370  | 295    | 3,160   | 320    | 1,640   | 916    | 229    | 256    | 254    | 246    |
| 5     | 220    | 327    | *1,120 | 299    | 2,360   | 282    | 2,420   | 940    | 228    | 258    | 252    | 246    |
| 6     | 244    | 327    | 825    | 303    | 1,820   | 293    | 7,950   | 1,050  | 226    | 260    | 252    | 246    |
| 7     | 244    | 329    | 634    | 303    | 1,480   | 286    | 6,770   | 1,050  | 226    | 260    | 250    | 248    |
| 8     | 244    | 332    | 509    | 303    | 1,360   | 284    | 4,110   | 1,010  | 226    | 260    | 250    | 248    |
| 9     | 244    | 332    | 434    | 265    | 1,410   | 284    | 3,500   | 855    | 226    | 260    | 250    | 248    |
| 10    | 244    | 329    | 380    | 224    | 2,920   | 293    | 3,440   | 805    | 226    | 260    | 250    | 246    |
| 11    | 256    | 329    | 356    | 303    | 2,290   | 308    | 3,170   | 744    | 226    | 258    | 250    | 246    |
| 12    | 278    | 329    | 344    | 310    | 1,970   | 248    | 3,020   | 699    | 256    | 258    | 252    | 250    |
| 13    | 278    | 329    | 440    | 315    | 2,380   | 190    | 3,080   | 617    | 266    | 258    | 252    | 252    |
| 14    | 1,120  | 327    | 645    | 315    | 1,890   | 177    | 7,180   | 554    | 246    | 256    | 250    | 252    |
| 15    | 1,190  | 327    | 1,720  | 315    | 1,530   | 174    | 4,890   | 550    | 246    | 256    | 250    | 252    |
| 16    | *762   | 327    | 2,250  | 313    | 1,300   | 175    | 3,650   | 550    | 238    | 254    | 250    | 252    |
| 17    | 543    | 327    | 2,090  | 317    | 1,170   | 175    | 2,740   | 550    | 231    | 254    | 252    | 252    |
| 18    | 405    | 327    | 1,900  | 320    | 976     | 174    | 2,550   | 550    | 250    | 254    | 254    | 250    |
| 19    | 334    | 327    | 1,330  | 320    | 840     | 172    | 1,690   | 550    | 268    | 233    | 254    | 208    |
| 20    | 303    | 327    | 976    | 320    | *790    | 167    | 1,650   | 430    | 258    | 188    | 254    | 183    |
| 21    | 305    | 327    | 776    | 322    | 711     | 160    | 1,550   | 297    | 246    | 174    | 254    | 188    |
| 22    | 301    | 327    | 659    | 322    | 645     | 162    | 1,350   | 358    | 246    | 172    | 252    | 195    |
| 23    | 301    | 327    | 578    | 327    | 596     | 167    | 1,100   | *383   | 246    | 206    | 252    | 195    |
| 24    | 313    | 325    | 488    | 327    | 550     | 167    | 982     | 358    | 246    | 258    | 252    | 204    |
| 25    | 322    | 325    | 423    | 327    | 509     | 167    | 1,240   | 358    | 246    | 258    | 252    | 229    |
| 26    | 317    | 274    | 393    | 327    | 476     | 167    | 970     | 358    | 246    | 256    | 252    | 244    |
| 27    | 320    | 183    | 363    | 329    | 443     | 590    | 898     | 339    | 246    | 260    | 252    | 242    |
| 28    | 325    | 208    | 346    | 329    | 418     | 6,040  | 886     | 310    | 246    | 264    | 250    | 248    |
| 29    | 322    | 268    | 337    | 332    | -----   | 4,460  | 723     | 262    | 246    | 262    | 250    | 256    |
| 30    | 322    | 299    | 334    | 346    | -----   | 4,780  | 731     | 228    | 246    | 262    | *250   | 258    |
| 31    | *325   | -----  | 332    | 12,600 | -----   | 4,210  | -----   | 240    | -----  | 260    | 248    | -----  |
| TOTAL | 11,178 | 9,423  | 23,437 | 21,970 | 63,834  | 26,221 | 80,530  | 18,618 | 7,308  | 7,679  | 7,816  | 7,128  |
| MEAN  | 361    | 314    | 756    | 709    | 2,280   | 846    | 2,684   | 601    | 244    | 248    | 252    | 238    |
| MAX   | 1,190  | 332    | 2,250  | 12,600 | 18,200  | 6,040  | 7,950   | 1,050  | 268    | 264    | 260    | 258    |
| MIN   | 199    | 183    | 256    | 224    | 418     | 160    | 723     | 228    | 226    | 172    | 248    | 183    |
| AC-FT | 22,170 | 18,690 | 46,490 | 43,580 | 126,600 | 52,010 | 159,700 | 36,930 | 14,500 | 15,230 | 15,500 | 14,140 |

CALENDAR YEAR 1962: MAX 7,170 MIN 23 MEAN 503 AC-FT 364,100  
WATER YEAR 1962-63: MAX 18,200 MIN 160 MEAN 781 AC-FT 565,500

\* Discharge measurement made on this day.

## EEL RIVER BASIN

11-4710. Potter Valley powerhouse tailrace near Potter Valley, Calif.

Location.--Lat 39°21'35", long 123°07'35", in NW¼ sec.6, T.17 N., R.11 W., on right bank 100 ft downstream from powerhouse of Pacific Gas & Electric Co. and 3 miles northwest of town of Potter Valley.

Records available.--December 1909 to September 1963. Prior to October 1922, monthly discharge only, published in WSP 1315-B. Prior to October 1931, published as Snow Mountain Water and Power Co.'s tailrace near Potter Valley.

Gage.--Water-stage recorder and concrete Parshall flume. Altitude of gage is 1,000 ft (from topographic map). No gage prior to Dec. 1, 1922. Dec. 1, 1922, to Sept. 30, 1923, float gage and Oct. 1, 1923, to Apr. 12, 1950, water-stage recorder, at site 50 ft upstream at different datum.

Average discharge.--53 years (1910-63), 195 cfs (141,200 acre-ft per year).

Extremes.--1922-63: Maximum daily discharge, 348 cfs Apr. 24, 1953; no flow at times in several years.

Remarks.--Records excellent. Water is diverted from Eel River above Van Arsdale Dam. After passing through powerhouse, part of it is used for irrigation in Potter Valley and remainder flows into East Fork Russian River. Water for irrigation diverted from tailrace is included in figures of discharge.

Cooperation.--Water-stage-recorder graph and eight discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission project.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June   | July   | Aug.   | Sept.  |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1     | 172    | 318    | 305    | 302    | 287    | 302    | 298    | 303    | 256    | 212    | 217    | 217    |
| 2     | 208    | 316    | 304    | *300   | 296    | 302    | *298   | 302    | 269    | 213    | 214    | 217    |
| 3     | 221    | 315    | 250    | 305    | 303    | 302    | 298    | 300    | 247    | 213    | 212    | 217    |
| 4     | 184    | 315    | 304    | 305    | 303    | 302    | 298    | 299    | 221    | 213    | 213    | 217    |
| 5     | 198    | 315    | *304   | 304    | 305    | 300    | 298    | 300    | 215    | 211    | 214    | 217    |
| 6     | 234    | 314    | 304    | 302    | 305    | 300    | 299    | 299    | 213    | 209    | 217    | 216    |
| 7     | 237    | 314    | 302    | 302    | 303    | 300    | 299    | 299    | 211    | 209    | 212    | 217    |
| 8     | 236    | 314    | 302    | 301    | 302    | 300    | 300    | 299    | 212    | 206    | 209    | 223    |
| 9     | 238    | 314    | 297    | 293    | 302    | 300    | 302    | 299    | 213    | 208    | 209    | 218    |
| 10    | 304    | 314    | 304    | 202    | 302    | 302    | 302    | 300    | 212    | 208    | 216    | 218    |
| 11    | 296    | 314    | 304    | 308    | 302    | 306    | 302    | 300    | 210    | *209   | 217    | 218    |
| 12    | 326    | 312    | 302    | 306    | 305    | 267    | 302    | 300    | 208    | *212   | 216    | 217    |
| 13    | 320    | 312    | 274    | 306    | 306    | 185    | 302    | 302    | 208    | 212    | 217    | 218    |
| 14    | 319    | 312    | 308    | 306    | 306    | 194    | 303    | 302    | 209    | 212    | 217    | 217    |
| 15    | 319    | 312    | 307    | 306    | 306    | 181    | 303    | 302    | 211    | 212    | 217    | 217    |
| 16    | 317    | 312    | 305    | 306    | 306    | 210    | 302    | 303    | 211    | 213    | 217    | 217    |
| 17    | *316   | 312    | 305    | 308    | 305    | 194    | 300    | 302    | 246    | 217    | 217    | 216    |
| 18    | 316    | 312    | 305    | 308    | 305    | 181    | 300    | 300    | 252    | 220    | 217    | 214    |
| 19    | 316    | 312    | 305    | 308    | 305    | 185    | 300    | 300    | 209    | 181    | 218    | 186    |
| 20    | 314    | 311    | 305    | 308    | *303   | 195    | 300    | 300    | 207    | 147    | 217    | 158    |
| 21    | 313    | 309    | 304    | 308    | 302    | 182    | 300    | 299    | 212    | 146    | 219    | 167    |
| 22    | 312    | 309    | 304    | 308    | 303    | 198    | 300    | 299    | 211    | 146    | 219    | 166    |
| 23    | 312    | 311    | 304    | 308    | 303    | 305    | 300    | 299    | 210    | 168    | 219    | 166    |
| 24    | 312    | 312    | 304    | 306    | 303    | 303    | 300    | *301   | 210    | 218    | 219    | 186    |
| 25    | 312    | 311    | 304    | 306    | 303    | 284    | 300    | 302    | 210    | 217    | 218    | 208    |
| 26    | 305    | 310    | 304    | 306    | 303    | 270    | 302    | 303    | 210    | 206    | 215    | 219    |
| 27    | 321    | 307    | 305    | 306    | 302    | 302    | 303    | 305    | 212    | 225    | 218    | 209    |
| 28    | 320    | 290    | 308    | 304    | 302    | 303    | 305    | 305    | 217    | 219    | 218    | 217    |
| 29    | 319    | 284    | 305    | 304    | -----  | 300    | 306    | 284    | 215    | 217    | 219    | 220    |
| 30    | 319    | 305    | 302    | 304    | -----  | 300    | 305    | 227    | 215    | 218    | 218    | 219    |
| 31    | 305    | -----  | 302    | 272    | -----  | 299    | -----  | 237    | -----  | 217    | 219    | -----  |
| Total | 8,841  | 9,318  | 9,342  | 9,318  | 8,478  | 8,154  | 9,027  | 9,172  | 6,562  | 6,334  | 6,704  | 6,232  |
| Mean  | 285    | 311    | 301    | 301    | 303    | 263    | 301    | 296    | 219    | 204    | 216    | 208    |
| Max   | 326    | 318    | 308    | 308    | 306    | 306    | 306    | 305    | 269    | 225    | 219    | 223    |
| Min   | 172    | 284    | 250    | 202    | 287    | 181    | 298    | 227    | 207    | 146    | 209    | 158    |
| Ac-ft | 17,540 | 18,480 | 18,530 | 19,480 | 16,820 | 16,170 | 17,900 | 18,190 | 13,020 | 12,560 | 13,300 | 12,360 |

Calendar year 1962: Max 326 Min 28 Mean 252 Ac-ft 182,700  
 Water year 1962-63: Max 326 Min 146 Mean 267 Ac-ft 193,400

\* Discharge measurement made on this day.

11-4715. Eel River at Van Arsdale Dam, near Potter Valley, Calif.

Location.--Lat 39°23'25", long 123°06'55", in NE $\frac{1}{4}$  sec.30, T.18 N., R.11 W., on left bank 500 ft downstream from Van Arsdale Dam and 5 miles north of town of Potter Valley.

Drainage area.--349 sq mi.

Records available.--November 1909 to September 1922 (combined monthly discharge only, of Eel River at this station and Snow Mountain Water & Power Co.'s tailrace near Potter Valley), October 1922 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1929, published as South Eel River at Van Arsdale Dam, near Potter Valley.

Gage.--Water-stage recorder. Altitude of gage is 1,400 ft (from topographic map). Nov. 18, 1909, to Mar. 3, 1927, recorder in reservoir 800 ft upstream from Van Arsdale Dam at different datum. Oct. 1, 1927, to Feb. 28, 1937, staff gage at present site and datum.

Average discharge.--54 years (1909-63), 614 cfs (444,500 acre-ft per year), combined flow of Eel River at Van Arsdale Dam and Potter Valley powerhouse tailrace.

Extremes.--Maximum discharge during year, 27,900 cfs Jan. 31 (gage height, 24.10 ft); minimum daily, 0.4 cfs Sept. 26.

1909-63: Maximum discharge, 48,600 cfs Dec. 22, 1955 (gage height, 31.4 ft, from floodmarks), from rating curve extended above 11,000 cfs on basis of computed flow over Van Arsdale Dam; no flow Nov. 1, 1945, Sept. 13, 14, 1953.

Remarks.--Records good. Flow regulated by Lake Pillsbury (see p. 370). Water is diverted from Van Arsdale Reservoir through tunnel to Potter Valley powerhouse (see preceding page), after which part is used for irrigation and remainder flows into East Fork Russian River. Records given herein show only flow passing dam down Eel River.

Cooperation.--Water-stage-recorder graph and 10 discharge measurements furnished by Pacific Gas & Electric Co. in connection with a Federal Power Commission project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.   | JAN.     | FEB.    | MAR.   | APR.    | MAY     | JUNE  | JULY | AUG. | SEPT. |
|-------|---------|-------|--------|----------|---------|--------|---------|---------|-------|------|------|-------|
| 1     | 4.8     | *3.9  | 26     | 49       | *17,600 | 205    | 3,030   | 497     | 2.7   | 0.9  | 3.7  | 1.7   |
| 2     | 5.2     | 5.5   | 948    | *41      | 7,480   | 178    | *2,080  | 497     | 3.2   | 2.5  | 2.0  | 1.7   |
| 3     | 4.2     | 6.2   | 1,030  | 7.8      | 4,690   | 156    | 1,880   | 491     | 2.0   | 2.5  | 2.7  | 2.3   |
| 4     | 5.2     | 6.2   | 1,250  | 4.2      | 3,200   | 111    | 1,600   | 491     | 2.7   | 2.7  | 2.7  | 2.3   |
| 5     | 7.8     | 6.2   | *935   | 3.4      | 2,260   | 13     | 2,150   | 513     | 3.9   | 2.3  | 2.9  | 2.0   |
| 6     | 2.9     | 5.2   | 647    | 7.8      | 1,650   | 17     | 8,350   | 608     | 3.4   | 2.1  | 2.3  | 2.3   |
| 7     | 2.5     | 3.4   | 430    | 6.6      | 1,260   | 22     | 7,370   | 608     | 2.9   | 2.0  | 1.6  | 2.0   |
| 8     | 2.5     | 3.2   | 294    | 6.6      | 1,070   | 18     | 4,560   | 602     | 3.2   | 2.1  | 2.1  | 1.6   |
| 9     | 7.0     | 6.2   | 212    | 5.2      | 1,090   | 18     | 3,810   | 513     | 2.3   | 3.2  | 2.1  | 1.5   |
| 10    | 52      | 11    | 135    | 2.3      | 2,640   | 17     | 3,780   | 475     | 2.5   | 3.4  | 1.9  | 1.4   |
| 11    | 461     | 10    | 92     | 2.7      | 2,080   | 19     | 3,350   | 445     | 2.5   | *3.2 | 1.7  | 1.9   |
| 12    | 1,150   | 9.7   | 76     | 1.4      | 1,690   | 21     | 3,190   | 395     | 3.7   | 2.9  | 1.9  | 1.9   |
| 13    | 377     | 7.8   | 227    | 2.5      | 2,230   | 23     | 3,120   | 342     | 2.7   | 2.7  | 1.9  | 2.0   |
| 14    | 843     | 6.2   | 366    | 2.7      | 1,660   | 21     | 6,900   | 274     | 2.9   | 2.5  | 2.1  | 2.1   |
| 15    | 879     | 5.9   | 1,470  | 2.9      | 1,280   | 21     | 5,440   | 270     | 3.4   | 2.5  | 1.9  | 1.9   |
| 16    | 460     | 3.7   | 2,130  | 2.9      | 1,070   | 15     | 3,860   | 266     | 3.2   | 2.3  | 2.0  | 1.7   |
| 17    | *246    | 2.7   | 1,840  | 2.5      | 958     | 20     | 2,700   | 266     | 2.9   | 2.1  | 2.1  | 1.7   |
| 18    | 129     | 2.9   | 1,710  | 2.5      | 804     | 38     | 2,300   | 266     | 2.3   | 2.7  | 2.9  | 1.5   |
| 19    | 51      | 3.4   | 1,100  | 2.7      | 693     | 36     | 1,760   | 262     | 5.9   | 2.7  | 2.5  | 1.5   |
| 20    | 9.7     | 2.9   | 764    | 2.5      | *628    | 31     | 1,450   | 193     | 2.9   | 2.9  | 2.9  | 1.4   |
| 21    | 6.6     | 1.4   | 565    | 2.9      | 577     | 20     | 1,270   | 20      | 2.7   | 3.2  | 2.9  | 1.3   |
| 22    | 2.3     | 2.1   | 430    | 2.7      | 497     | 20     | 1,100   | 38      | 2.5   | 2.9  | 2.5  | 1.0   |
| 23    | 2.0     | 1.9   | 342    | 2.5      | 440     | 158    | 818     | 67      | 2.9   | 2.1  | 2.9  | .8    |
| 24    | 2.0     | 1.3   | 266    | 2.9      | 390     | 76     | 738     | *67     | 2.7   | 1.9  | 2.9  | .7    |
| 25    | 2.1     | .8    | 185    | 3.7      | 342     | 21     | 777     | 65      | 2.3   | 2.0  | 3.2  | .5    |
| 26    | 16      | 404   | 140    | 3.9      | 303     | 21     | 706     | 61      | 2.5   | 1.9  | 3.2  | .4    |
| 27    | 2.0     | 91    | 106    | 3.9      | 266     | 852    | 621     | 41      | 1.9   | 1.6  | 3.2  | .5    |
| 28    | 2.0     | 1.0   | 79     | 2.9      | 235     | 6,630  | 602     | 17      | 1.1   | 2.9  | 2.9  | .9    |
| 29    | 2.1     | 3.9   | 63     | 7.8      | -----   | 5,050  | 491     | 2.7     | .9    | 2.7  | 2.1  | .8    |
| 30    | 2.3     | 23    | 58     | 484      | -----   | 5,490  | 435     | 1.2     | .9    | 2.1  | *1.9 | 2.0   |
| 31    | 2.5     | ----- | 56     | 11,500   | -----   | 4,840  | -----   | 2.1     | ----- | 2.7  | 1.9  | ----- |
| TOTAL | 4,741.7 | 642.6 | 17,972 | 12,176.4 | 59,083  | 24,178 | 80,238  | 8,656.0 | 81.6  | 76.2 | 75.5 | 45.3  |
| MEAN  | 153     | 21.4  | 580    | 393      | 2,110   | 780    | 2,675   | 279     | 2.72  | 2.46 | 2.44 | 1.51  |
| MAX   | 1,150   | 404   | 2,130  | 11,500   | 17,600  | 6,630  | 8,350   | 608     | 5.9   | 3.4  | 3.7  | 2.3   |
| MIN   | 2.0     | 0.8   | 26     | 1.4      | 235     | 13     | 435     | 1.2     | 0.9   | 0.9  | 1.6  | 0.4   |
| AC-FT | 9,410   | 1,270 | 35,650 | 24,150   | 117,200 | 47,960 | 159,100 | 17,170  | 162   | 151  | 150  | 90    |

CALENDAR YEAR 1962: MAX 7,710 MIN 0.7 MEAN 316 AC-FT 228,800

WATER YEAR 1962-63: MAX 17,600 MIN 0.4 MEAN 570 AC-FT 412,500

\* Discharge measurement made on this day.

## EEL RIVER BASIN

11-4722. Outlet Creek near Longvale, Calif.

Location---Lat 39°37'05", long 123°21'20", in NE¼ sec.1, T.20 N., R.14 W., on right bank 0.2 mile downstream from Bloody Run Creek, 0.9 mile upstream from mouth, and 8.2 miles downstream from Longvale.

Drainage area---162 sq mi.

Records available---October 1956 to September 1963.

Gage---Water-stage recorder. Altitude of gage is 1,020 ft (from topographic map).

Average discharge---7 years, 419 cfs (303,300 acre-ft per year).

Extremes---Maximum discharge during year, 19,100 cfs Jan. 31 (gage height, 17.03 ft); minimum, 1.0 cfs Oct. 6.

1956-63: Maximum discharge, 26,500 cfs Feb. 8, 1960 (gage height, 20.27 ft), from rating curve extended above 9,900 cfs; no flow Aug. 15-17, 1959.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.     | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.    | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|----------|--------|--------|--------|--------|--------|---------|-------|-------|-------|------|-------|
| 1     | 1.5      | 30     | 298    | 142    | 9,730  | 114    | 1,770   | 247   | 47    | 14    | 3.5  | 2.4   |
| 2     | 1.3      | 28     | 6,150  | 120    | *4,330 | 108    | 1,040   | 222   | 44    | 14    | 3.3  | 2.4   |
| 3     | 1.2      | 27     | 4,570  | 108    | 2,470  | 105    | 1,570   | 209   | 42    | 13    | 3.3  | 2.2   |
| 4     | 1.2      | 26     | 2,120  | 99     | 1,400  | 96     | 1,100   | 203   | 39    | 12    | 3.3  | 2.1   |
| 5     | 1.2      | 25     | 924    | 90     | 835    | *89    | 3,210   | 235   | 38    | 12    | 3.1  | 2.1   |
| 6     | 1.1      | 24     | 456    | 83     | 665    | 94     | 4,690   | 211   | 37    | 11    | 3.1  | 2.1   |
| 7     | 1.1      | 23     | 334    | 80     | 532    | 112    | 3,950   | 205   | 34    | 11    | 2.9  | 2.0   |
| 8     | 1.7      | 23     | 274    | 74     | 585    | 98     | *3,130  | 186   | 32    | 10    | *2.9 | 2.0   |
| 9     | 11       | 23     | 222    | 71     | 645    | 99     | 2,760   | 160   | 31    | 9.8   | 2.9  | 2.0   |
| 10    | 823      | 39     | 186    | 68     | 990    | 90     | 3,330   | 192   | 30    | 9.4   | 2.9  | 2.0   |
| 11    | 3,170    | 41     | 162    | 64     | 540    | 81     | 2,250   | 298   | 28    | 9.8   | 2.7  | 2.0   |
| 12    | 5,640    | 53     | 171    | 58     | 1,030  | 78     | 2,690   | 226   | 27    | 9.8   | 2.7  | 2.1   |
| 13    | 2,950    | 74     | 930    | 51     | 1,090  | 73     | 2,530   | 186   | 26    | 6.4   | 2.6  | 2.2   |
| 14    | 2,120    | 50     | 504    | 51     | 650    | 81     | 3,280   | 160   | 24    | 6.7   | 2.4  | 2.2   |
| 15    | 918      | 39     | 2,790  | 51     | 492    | 112    | 2,880   | 141   | 23    | 6.4   | 2.4  | 2.1   |
| 16    | 370      | 34     | 1,690  | 50     | 440    | 231    | 2,000   | *125  | 22    | 5.8   | 2.4  | 2.1   |
| 17    | 233      | 33     | 1,010  | 50     | 406    | 398    | 1,280   | 112   | 20    | 5.8   | 2.2  | *2.6  |
| 18    | 166      | 34     | *660   | 48     | 317    | 288    | 984     | 105   | 19    | 5.5   | 2.1  | 2.7   |
| 19    | 129      | 30     | 460    | 47     | 272    | 213    | 1,360   | 99    | 20    | 5.5   | 2.1  | 2.4   |
| 20    | 101      | 28     | 359    | 43     | 259    | 172    | 1,100   | 92    | 18    | 5.5   | 2.0  | 2.2   |
| 21    | 85       | 27     | 301    | 43     | 235    | 146    | 966     | 89    | 18    | 5.2   | 2.1  | 2.1   |
| 22    | 73       | 26     | 254    | 42     | 203    | 189    | 769     | 85    | 19    | 4.6   | 2.1  | 2.1   |
| 23    | 64       | 26     | 224    | 42     | 180    | 856    | 645     | 83    | 19    | 4.6   | 2.1  | 2.4   |
| 24    | 60       | 25     | 198    | 41     | 164    | 654    | 524     | 81    | 18    | 4.3   | 2.2  | 2.4   |
| 25    | 54       | 24     | 168    | 41     | 150    | 348    | 540     | 76    | 16    | 4.3   | 2.2  | 2.2   |
| 26    | 50       | 3,680  | 148    | 39     | 142    | 259    | 508     | 71    | *16   | 4.3   | 2.2  | 2.1   |
| 27    | 46       | 2,130  | 137    | 38     | 131    | 3,860  | 420     | 64    | 16    | 4.0   | 2.2  | 2.1   |
| 28    | 42       | 896    | 129    | 38     | 125    | 4,270  | 355     | 61    | 16    | 4.0   | 2.2  | 2.1   |
| 29    | 39       | 334    | 118    | 56     | -----  | 3,650  | 314     | 58    | 16    | 3.6   | 2.2  | 2.0   |
| 30    | *34      | 245    | 114    | 2,880  | -----  | 3,950  | 272     | 54    | 15    | 3.6   | 2.4  | 2.0   |
| 31    | 31       | -----  | 133    | 11,900 | -----  | 3,090  | -----   | 50    | ----- | 3.5   | 2.4  | ----- |
| TOTAL | 17,219.3 | 8,097  | 26,194 | 16,608 | 29,008 | 24,004 | 52,217  | 4,386 | 770   | 229.4 | 79.1 | 65.4  |
| MEAN  | 555      | 270    | 845    | 536    | 1,036  | 774    | 1,741   | 141   | 25.7  | 7.40  | 2.55 | 2.18  |
| MAX   | 5,640    | 3,680  | 6,150  | 11,900 | 9,730  | 4,270  | 4,690   | 298   | 47    | 14    | 3.5  | 2.7   |
| MIN   | 1.1      | 23     | 114    | 38     | 125    | 73     | 272     | 50    | 15    | 3.5   | 2.0  | 2.0   |
| AC-FT | 34,150   | 16,060 | 51,960 | 32,940 | 57,540 | 47,610 | 103,600 | 8,700 | 1,530 | 455   | 157  | 130   |

Calendar year 1962: Max 6,500 Min 0.7 Mean 387 Ac-ft 279,900

Water year 1962-63: Max 11,900 Min 1.1 Mean 490 Ac-ft 354,800

## Peak discharge (base, 5,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 12.35       | 10,400    | 1-31 | 1600 | 17.03       | 19,100    |
| 11-26 | 1100 | 12.00       | 9,800     | 3-27 | 1600 | 9.94        | 6,770     |
| 12- 2 | 1700 | 13.85       | 12,800    | 4- 6 | 0400 | 9.52        | 6,210     |

\* Discharge measurement made on this day.

11-4725. Eel River above Dos Rios, Calif.

Location.--Lat 39°41'20", long 123°21'30", in SW $\frac{1}{4}$  sec.7, T.21 N., R.13 W., on left bank 1.8 miles upstream from Middle Fork and 2.1 miles south of Dos Rios.

Drainage area.--705 sq mi.

Records available.--December 1950 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 950 ft (from topographic map).

Average discharge.--12 years (1951-63), 1,454 cfs (1,053,000 acre-ft per year); median of yearly mean discharges, 1,290 cfs (934,000 acre-ft per year).

Extremes.--Maximum discharge during year, 59,600 cfs Jan. 31 (gage height, 32.40 ft); minimum daily, 5.5 cfs Sept. 30.

1950-63: Maximum discharge, 123,000 cfs Dec. 22, 1955 (gage height, 45.4 ft, from floodmarks), from rating curve extended above 27,000 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.8 cfs Sept. 11, 1955.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by Lake Pillsbury (see p. 370) and by diversion through Potter Valley powerhouse (see p. 372).

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.       | Nov.    | Dec.       | Jan.            | Feb.    | Mar.    | Apr.    | May    | June  | July  | Aug.  | Sept. |
|---------------------|------------|---------|------------|-----------------|---------|---------|---------|--------|-------|-------|-------|-------|
| 1                   | 16         | *g85    | g548       | 440             | 39,700  | g432    | 6,480   | 1,120  | 182   | 50    | 16    | 8.9   |
| 2                   | 13         | g81     | g9,880     | 402             | *16,400 | a400    | 4,240   | 1,160  | 174   | 47    | 15    | 8.9   |
| 3                   | 12         | g80     | g8,640     | g352            | 9,590   | g378    | 4,210   | 1,130  | 170   | 45    | 14    | 8.3   |
| 4                   | 11         | g78     | g4,340     | g302            | 6,380   | g296    | 3,540   | 1,100  | 163   | 44    | 15    | 7.8   |
| 5                   | 10         | g76     | g2,750     | g276            | 4,360   | *g288   | 6,440   | 1,160  | 154   | 44    | 15    | 7.8   |
| 6                   | 10         | g73     | g1,820     | g268            | 3,360   | g258    | 16,400  | 1,180  | 149   | 44    | 14    | 7.8   |
| 7                   | 10         | g69     | g1,310     | g256            | 2,660   | g258    | 14,800  | 1,240  | 143   | 43    | 13    | 7.2   |
| 8                   | 15         | g69     | g1,050     | g252            | 2,490   | g236    | 11,700  | 1,190  | 134   | 42    | *13   | 7.0   |
| 9                   | 23         | g71     | g825       | g244            | 2,480   | g248    | *10,200 | 1,060  | 123   | 40    | 13    | 7.8   |
| 10                  | 1,040      | g86     | g670       | g236            | 4,210   | a220    | 11,400  | 996    | 118   | 38    | 13    | 7.8   |
| 11                  | 4,880      | g106    | g582       | g225            | 3,610   | g204    | 9,220   | 1,180  | 113   | 36    | 12    | 7.0   |
| 12                  | 10,700     | g143    | g500       | g214            | 3,440   | a196    | 9,540   | 937    | 106   | 37    | 12    | 7.2   |
| 13                  | 5,840      | g160    | g1,490     | g204            | 4,210   | g190    | 9,360   | 849    | 102   | 29    | 11    | 7.5   |
| 14                  | 4,210      | g111    | g1,340     | g207            | 3,260   | g220    | 13,300  | 691    | 96    | 32    | 10    | 7.2   |
| 15                  | 2,920      | g90     | g5,130     | a203            | 2,500   | a270    | 11,800  | 649    | 90    | 29    | 9.5   | 7.0   |
| 16                  | 1,600      | g83     | g4,680     | g200            | 2,230   | a350    | 7,670   | *614   | 84    | 28    | 8.6   | 6.8   |
| 17                  | 950        | g81     | g3,750     | a195            | 2,040   | a500    | 5,260   | 582    | 80    | 27    | 7.8   | *7.2  |
| 18                  | 624        | g73     | *g3,270    | a190            | 1,710   | a440    | 4,270   | 554    | 75    | 26    | 7.5   | 9.2   |
| 19                  | 443        | g71     | 2,420      | g187            | 1,470   | a390    | 4,630   | 537    | 73    | 26    | 7.5   | 12    |
| 20                  | 331        | g66     | 1,810      | a184            | 1,330   | g402    | 3,590   | 515    | 69    | 25    | 7.0   | 12    |
| 21                  | 260        | g61     | 1,410      | g181            | g906    | g356    | 3,330   | 395    | 69    | 24    | 6.5   | 11    |
| 22                  | 232        | g59     | 1,150      | a180            | a850    | g356    | 2,910   | 307    | 66    | 23    | 6.8   | 10    |
| 23                  | 213        | g58     | 960        | g178            | g805    | a1,000  | 2,330   | 324    | 71    | 23    | 8.3   | 9.5   |
| 24                  | a190       | g57     | 809        | a176            | g725    | a910    | 2,060   | 329    | 69    | 23    | 8.3   | 9.2   |
| 25                  | a170       | g57     | 674        | g174            | g660    | a650    | 2,060   | 302    | 65    | 22    | 9.2   | 8.6   |
| 26                  | a155       | g5,160  | 582        | a172            | g593    | a550    | 1,970   | 289    | *60   | 21    | 8.9   | 7.8   |
| 27                  | a145       | g3,600  | 518        | g171            | g530    | 7,730   | 1,590   | 272    | 56    | 20    | 9.2   | 7.5   |
| 28                  | a130       | g1,490  | 473        | a170            | g482    | 14,100  | 1,450   | 252    | 55    | 19    | 9.5   | 6.5   |
| 29                  | a118       | g721    | 428        | g168            | -----   | 11,400  | 1,330   | 229    | 54    | 18    | 8.9   | 6.0   |
| 30                  | a108       | g512    | 408        | 4,130           | -----   | 12,300  | *1,040  | 205    | 53    | 17    | 8.9   | 5.5   |
| 31                  | a100       | -----   | 435        | 28,900          | -----   | 10,900  | -----   | 192    | ----- | 15    | 8.9   | ----- |
| Total               | 35,479     | 13,527  | 64,652     | 39,637          | 123,081 | 66,428  | 188,120 | 21,540 | 3,016 | 957   | 327.3 | 244.0 |
| Mean                | 1,144      | 451     | 2,086      | 1,279           | 4,396   | 2,143   | 6,271   | 695    | 101   | 30.9  | 10.6  | 8.13  |
| Max                 | 10,700     | 5,160   | 9,880      | 28,900          | 39,700  | 14,100  | 16,400  | 1,240  | 182   | 50    | 16    | 12    |
| Min                 | 10         | 57      | 408        | 168             | 482     | 190     | 1,040   | 192    | 53    | 15    | 6.5   | 5.5   |
| Ac-ft               | 70,370     | 26,830  | 128,200    | 78,620          | 244,100 | 131,800 | 373,100 | 42,720 | 5,980 | 1,900 | 649   | 484   |
| Calendar year 1962: | Max 18,800 | Min 3.4 | Mean 1,078 | Ac-ft 780,400   |         |         |         |        |       |       |       |       |
| Water year 1962-63: | Max 39,700 | Min 5.5 | Mean 1,526 | Ac-ft 1,105,000 |         |         |         |        |       |       |       |       |

Peak discharge (base, 14,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1900 | 19.87       | 18,600    | 3-28 | 0900 | 18.70       | 15,800    |
| 12-2  | 2000 | 21.3        | 22,300    | 4-6  | 0800 | 20.87       | 21,200    |
| 1-31  | 2300 | 32.40       | 59,600    | 4-14 | 1800 | 19.27       | 17,100    |

\* Discharge measurement made on this day.

a No gage-height record.

g Computed from once-daily staff gage readings.

11-4725. Eel River above Dos Rios, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature recorded during year, 82°F June 16-18; minimum recorded, 44°F Jan. 11-30.

1960-63: Maximum temperature recorded, 83°F June 25, Aug. 8-10, 1961; minimum recorded, 40°F Jan. 23-27, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 63   | 61  | 55    | 54    | -    | -   | 45   | 45  | 49    | 48    | 50   | 49  | 50    | 50    | 56  | 55  | 70    | 66    | 75   | 70  | 75   | 70  | 74    | 70    |
| 2   | 63   | 62  | 55    | 55    | -    | -   | 45   | 45  | 48    | 48    | 50   | 49  | 50    | 49    | 56  | 55  | 69    | 66    | 73   | 69  | 76   | 72  | 75    | 70    |
| 3   | 62   | 60  | 56    | 55    | -    | -   | 45   | 45  | 49    | 48    | 49   | 48  | 50    | 49    | 56  | 55  | 67    | 63    | 73   | 68  | 75   | 71  | 77    | 71    |
| 4   | 60   | 59  | 56    | 56    | -    | -   | 45   | 45  | 50    | 49    | 48   | 47  | 51    | 50    | 57  | 56  | 67    | 64    | 73   | 70  | 77   | 71  | 78    | 73    |
| 5   | 59   | 57  | 56    | 56    | -    | -   | 45   | 45  | 50    | 50    | 47   | 47  | 52    | 51    | 56  | 56  | 68    | 64    | 74   | 71  | 77   | 72  | 75    | 73    |
| 6   | 58   | 56  | 56    | 55    | -    | -   | 45   | 45  | 51    | 50    | 47   | 46  | 52    | 51    | 56  | 56  | 67    | 64    | 73   | 70  | 78   | 72  | 76    | 70    |
| 7   | 57   | 56  | 55    | 54    | -    | -   | 45   | 45  | 52    | 51    | 47   | 46  | 51    | 51    | 58  | 56  | 67    | 64    | 71   | 69  | 79   | 73  | 76    | 71    |
| 8   | 57   | 56  | 54    | 54    | -    | -   | 46   | 45  | 52    | 51    | 46   | 46  | 51    | 51    | 57  | 56  | 70    | 67    | 71   | 68  | 77   | 74  | 75    | 70    |
| 9   | 58   | 57  | 54    | 54    | -    | -   | 46   | 45  | 53    | 52    | 47   | 46  | 51    | 50    | 56  | 53  | 71    | 69    | 72   | 69  | 78   | 74  | 73    | 71    |
| 10  | 58   | 57  | 54    | 54    | -    | -   | 46   | 45  | 52    | 52    | 48   | 47  | 50    | 50    | 53  | 53  | 71    | 68    | 73   | 69  | 79   | 73  | 74    | 70    |
| 11  | 57   | 55  | -     | -     | -    | -   | 45   | 44  | 52    | 52    | 48   | 47  | 50    | 50    | 53  | 52  | 72    | 69    | 74   | 69  | 79   | 74  | 73    | 71    |
| 12  | 55   | 54  | -     | -     | -    | -   | 44   | 44  | 52    | 51    | 48   | 48  | 50    | 50    | 55  | 53  | 74    | 71    | 77   | 71  | 78   | 73  | 72    | 71    |
| 13  | 54   | 54  | -     | -     | -    | -   | 44   | 44  | 51    | 51    | 48   | 48  | 51    | 50    | 56  | 54  | 76    | 73    | 79   | 73  | 77   | 72  | 72    | 69    |
| 14  | 54   | 53  | -     | -     | -    | -   | 44   | 44  | 51    | 51    | 48   | 48  | 51    | 50    | 59  | 55  | 77    | 74    | 79   | 74  | 76   | 72  | 73    | 70    |
| 15  | 53   | 52  | -     | -     | -    | -   | 44   | 44  | 51    | 51    | 48   | 47  | 50    | 50    | 61  | 57  | 81    | 77    | 77   | 73  | 76   | 70  | 71    | 69    |
| 16  | 52   | 52  | -     | -     | -    | -   | 44   | 44  | 51    | 50    | 47   | 46  | 50    | 50    | 63  | 57  | 82    | 78    | 75   | 71  | 76   | 71  | 70    | 67    |
| 17  | 52   | 52  | -     | -     | -    | -   | 44   | 44  | 50    | 50    | 46   | 46  | 50    | 50    | 65  | 61  | 82    | 78    | 74   | 70  | 75   | 70  | 70    | 67    |
| 18  | 52   | 52  | -     | -     | -    | -   | 44   | 44  | 50    | 50    | 46   | 46  | 50    | 49    | 65  | 61  | 82    | 80    | 74   | 69  | 74   | 70  | 68    | 66    |
| 19  | 52   | 52  | -     | -     | 50   | 50  | 44   | 44  | 51    | 50    | 47   | 46  | 49    | 49    | 67  | 62  | 81    | 77    | 75   | 71  | 73   | 69  | 70    | 66    |
| 20  | 53   | 52  | -     | -     | 50   | 50  | 44   | 44  | 51    | 50    | 49   | 47  | 49    | 49    | 67  | 65  | 77    | 75    | 74   | 70  | 73   | 69  | 70    | 67    |
| 21  | 54   | 53  | -     | -     | 50   | 50  | 44   | 44  | 51    | 51    | 49   | 49  | 49    | 49    | 68  | 65  | 75    | 73    | 74   | 70  | 73   | 69  | 69    | 67    |
| 22  | 55   | 54  | -     | -     | 50   | 49  | 44   | 44  | 51    | 50    | 49   | 48  | 49    | 48    | 67  | 65  | 74    | 71    | 74   | 70  | 74   | 69  | 68    | 67    |
| 23  | 56   | 55  | -     | -     | 49   | 49  | 44   | 44  | 50    | 50    | 49   | 48  | 52    | 49    | 67  | 65  | 71    | 69    | 74   | 70  | 73   | 69  | 67    | 64    |
| 24  | 56   | 55  | -     | -     | 49   | 49  | 44   | 44  | 50    | 50    | 49   | 49  | 52    | 51    | 69  | 65  | 73    | 70    | 73   | 69  | 73   | 69  | 69    | 65    |
| 25  | 55   | 55  | -     | -     | 49   | 47  | 44   | 44  | 50    | 50    | 49   | 49  | 52    | 51    | 69  | 67  | 73    | 70    | 73   | 68  | 73   | 69  | 70    | 65    |
| 26  | 55   | 55  | -     | -     | 47   | 46  | 44   | 44  | 51    | 50    | 49   | 49  | 51    | 50    | 70  | 67  | 78    | 71    | 75   | 69  | 74   | 69  | 70    | 67    |
| 27  | 55   | 55  | -     | -     | 46   | 45  | 44   | 44  | 51    | 50    | 49   | 49  | 52    | 50    | 72  | 66  | 77    | 73    | 77   | 71  | 74   | 69  | 70    | 68    |
| 28  | 55   | 55  | -     | -     | 45   | 45  | 44   | 44  | 50    | 50    | 49   | 49  | 55    | 52    | 72  | 69  | 74    | 72    | 79   | 72  | 75   | 70  | 71    | 68    |
| 29  | 55   | 55  | -     | -     | 45   | 45  | 44   | 44  | ----- | ----- | 50   | 49  | 56    | 54    | 70  | 67  | 73    | 69    | 78   | 72  | 74   | 70  | 71    | 68    |
| 30  | 55   | 55  | -     | -     | 45   | 45  | 45   | 44  | ----- | ----- | 50   | 50  | 56    | 55    | 69  | 66  | 75    | 70    | 78   | 72  | 73   | 71  | 70    | 67    |
| 31  | 55   | 55  | ----- | ----- | 45   | 45  | 50   | 45  | ----- | ----- | 50   | 50  | ----- | ----- | 70  | 67  | ----- | ----- | 76   | 71  | 74   | 71  | ----- | ----- |
| Avg | 56   | 55  | -     | -     | -    | -   | 45   | 44  | 51    | 50    | 48   | 48  | 51    | 50    | 62  | 60  | 74    | 70    | 75   | 70  | 75   | 71  | 72    | 69    |

11-4729. Black Butte River near Covelo, Calif.

Location.--Lat 39°49'10", long 123°04'40", in SE 1/4 sec. 28, T. 23 N., R. 11 W., on right bank 600 ft upstream from highway bridge, 0.6 mile upstream from mouth, and 9.5 miles east of Covelo.

Drainage area.--162 sq mi.

Records available.--Occasional low-flow measurements, water years 1951-56 and annual maximum, water years 1954-57, October 1958 to September 1963.

Gage.--Water-stage recorder and crest-stage gage. Altitude of gage is 1,490 ft (from topographic map). Sept. 10, 1953, to Sept. 30, 1957, crest-stage gage only at site 0.1 mile downstream at different datum.

Average discharge.--5 years, 227 cfs (164,300 acre-ft per year).

Extremes.--Maximum discharge during year, 14,900 cfs Jan. 31 (gage height, 17.77 ft); minimum, 3.5 cfs Oct. 6, 7.  
1953-57, 1958-63: Maximum discharge, 25,000 cfs Dec. 21, 1955 (gage height, 35.8 ft, from floodmarks, site and datum then in use), on basis of slope-area measurement of peak flow.  
1958-63: Minimum discharge, 1.2 cfs Sept. 11, 1959.  
Flood of Dec. 11, 1937, reached a stage of 36.2 ft, from floodmarks at crest-stage gage site (discharge, 26,000 cfs).

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 4.3     | 26    | 197    | 110    | *5,430 | 183    | 841    | 648    | 185   | 51    | 15    | 6.6   |
| 2     | 4.0     | 26    | 3,310  | 103    | 2,180  | 177    | 660    | 632    | 172   | 49    | 15    | 6.2   |
| 3     | 3.8     | 24    | 2,450  | 101    | 1,550  | 170    | 652    | 636    | 160   | 47    | 14    | 5.9   |
| 4     | 3.8     | 24    | 720    | 97     | 1,010  | 158    | 652    | 592    | 150   | 45    | 14    | 5.5   |
| 5     | 3.8     | 24    | 462    | 88     | 740    | 152    | 1,610  | 684    | 143   | 46    | 13    | 5.5   |
| 6     | 3.5     | 23    | 345    | 84     | 620    | *152   | 3,720  | 664    | 137   | 44    | 12    | 5.3   |
| 7     | 3.5     | 22    | 274    | 80     | 520    | 150    | 3,440  | 696    | 127   | 43    | *12   | 5.3   |
| 8     | 4.8     | 21    | 226    | 75     | 513    | 148    | 1,980  | 624    | 121   | 41    | 11    | 5.0   |
| 9     | 7.3     | 23    | 192    | 74     | 678    | 150    | *1,440 | 528    | 115   | 39    | 11    | 4.8   |
| 10    | 83      | 52    | 170    | 69     | 1,330  | 139    | 1,400  | 510    | 109   | 37    | 11    | 4.5   |
| 11    | 617     | 35    | 150    | 61     | 841    | 132    | 1,120  | 493    | 103   | 36    | 11    | 4.3   |
| 12    | 3,040   | 36    | 137    | 58     | 783    | 124    | 1,290  | 469    | 97    | 34    | 9.9   | 4.3   |
| 13    | 1,110   | 38    | 313    | 66     | 810    | 119    | 1,830  | 442    | 94    | 32    | 9.0   | 4.5   |
| 14    | 723     | 30    | 291    | 66     | 628    | 129    | 3,510  | 442    | 90    | 30    | 8.7   | 4.5   |
| 15    | 364     | 27    | 636    | 61     | 548    | 121    | 2,550  | *438   | 84    | 29    | 8.0   | 4.5   |
| 16    | 230     | 26    | 564    | 56     | 510    | 145    | 1,650  | 445    | 80    | 28    | 7.6   | 4.5   |
| 17    | 160     | 26    | 486    | 54     | 472    | 134    | 1,170  | 462    | 79    | 27    | 7.3   | 4.8   |
| 18    | 122     | 26    | 415    | 52     | 412    | 130    | 965    | 452    | 75    | 27    | 6.9   | *5.3  |
| 19    | 102     | 25    | 340    | 50     | 376    | 143    | 909    | 442    | 72    | 27    | 6.9   | 5.9   |
| 20    | 85      | 24    | *300   | 47     | 370    | 172    | 778    | 449    | 69    | 26    | 6.6   | 6.2   |
| 21    | 73      | 24    | 253    | 49     | 336    | 181    | 692    | 428    | 68    | 24    | 6.9   | 6.2   |
| 22    | 62      | 24    | 226    | 49     | 291    | 166    | 632    | 402    | 67    | 23    | 6.9   | 5.9   |
| 23    | 54      | 23    | 206    | 47     | 263    | 240    | 612    | 370    | 67    | 23    | 7.3   | 5.5   |
| 24    | 49      | 23    | 181    | 45     | 245    | 226    | 604    | 345    | 66    | 21    | 7.3   | 5.9   |
| 25    | 45      | 23    | 160    | 44     | 233    | 216    | 600    | 318    | *63   | 21    | 7.6   | 5.3   |
| 26    | 42      | 738   | 145    | 43     | 218    | 211    | 548    | 288    | 60    | 21    | 7.6   | 5.0   |
| 27    | 38      | 513   | 139    | 42     | 206    | 2,810  | 517    | 263    | 57    | 19    | 7.3   | 4.8   |
| 28    | 35      | 240   | 130    | 42     | 194    | 2,620  | 556    | 248    | 56    | 18    | 6.9   | 4.3   |
| 29    | 32      | 156   | 121    | 47     | -----  | 1,570  | 612    | 230    | 54    | 17    | 6.9   | 3.8   |
| 30    | 30      | 132   | 116    | *909   | -----  | 1,500  | 648    | 214    | 53    | 17    | 6.9   | 3.8   |
| 31    | *29     | ----- | 118    | 7,580  | -----  | 1,260  | -----  | 197    | ----- | 16    | 6.9   | ----- |
| TOTAL | 7,163.8 | 2,454 | 13,773 | 10,349 | 22,307 | 13,928 | 38,188 | 14,051 | 2,873 | 958   | 288.4 | 153.9 |
| MEAN  | 231     | 81.8  | 444    | 334    | 797    | 449    | 1,273  | 453    | 95.8  | 30.9  | 9.30  | 5.13  |
| MAX   | 3,040   | 738   | 3,310  | 7,580  | 5,430  | 2,810  | 3,720  | 696    | 185   | 51    | 15    | 6.6   |
| MIN   | 3.5     | 21    | 116    | 42     | 194    | 119    | 517    | 197    | 53    | 16    | 6.6   | 3.8   |
| AC-FT | 14,210  | 4,870 | 27,320 | 20,530 | 44,250 | 27,630 | 75,740 | 27,870 | 5,700 | 1,900 | 572   | 305   |

CALENDAR YEAR 1962: MAX 3,310 MIN 1.7 MEAN 231 AC-FT 167,200

WATER YEAR 1962-63: MAX 7,580 MIN 3.5 MEAN 347 AC-FT 250,900

Peak discharge (base, 5,500 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1800 | 14.48       | 9,020     | 1-31 | 1700 | 17.77       | 14,900    |
| 12- 2 | 2000 | 14.10       | 8,450     | 3-27 | 1800 | 12.80       | 6,660     |

11-4730. Middle Fork Eel River below Black Butte River, near Covelo, Calif.

Location.--Lat 39°49'35", long 123°05'30", in NW¼ sec.28, T.23 N., R.11 W., on right bank 0.2 mile downstream from Black Butte River and 8.6 miles east of Covelo.

Drainage area.--367 sq mi.

Records available.--August 1951 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 1,434.33 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--12 years, 1,046 cfs (757,300 acre-ft per year); median of yearly mean discharges, 910 cfs (658,800 acre-ft per year).

Extremes.--Maximum discharge during year, 60,500 cfs Jan. 31 (gage height, 20.24 ft), from rating curve extended above 19,000 cfs, as explained below; minimum, 12 cfs Oct. 1, 6, 7, Sept. 30.

1951-63: Maximum discharge, 89,100 cfs Dec. 21, 1955 (gage height, 25.0 ft, from floodmarks), from rating curve extended above 19,000 cfs on basis of slope-area measurement of peak flow; minimum, 4.4 cfs Sept. 22-26, 1951.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.    | Jan.   | Feb.    | Mar.   | Apr.    | May    | June   | July  | Aug.  | Sept. |
|-------|--------|--------|---------|--------|---------|--------|---------|--------|--------|-------|-------|-------|
| 1     | 12     | 153    | 951     | 372    | *21,300 | 475    | 2,270   | 2,150  | 618    | 115   | 34    | 20    |
| 2     | 13     | 148    | 12,000  | 340    | 6,510   | 450    | 1,810   | 2,090  | 545    | 110   | 33    | 19    |
| 3     | 14     | 143    | 8,930   | 328    | 5,150   | 432    | 1,750   | 2,100  | 485    | 106   | 32    | 19    |
| 4     | 13     | 136    | 3,110   | 313    | 3,280   | 420    | 1,750   | 1,930  | 436    | 103   | 31    | 18    |
| 5     | 13     | 136    | 1,920   | 285    | 2,340   | 400    | 5,760   | 2,430  | 408    | 105   | 29    | 17    |
| 6     | 12     | 130    | 1,440   | 270    | 1,970   | *392   | 13,300  | 2,420  | 384    | 100   | 28    | 17    |
| 7     | 12     | 124    | 1,180   | 255    | 1,680   | 380    | 8,560   | 2,580  | 348    | 98    | 27    | 17    |
| 8     | 15     | 118    | 990     | 240    | 1,670   | 380    | 5,330   | 2,300  | 328    | 93    | 27    | 16    |
| 9     | 112    | 132    | 847     | 234    | 2,050   | 385    | *3,830  | 1,840  | 310    | 90    | 27    | 15    |
| 10    | 2,340  | 185    | 714     | 220    | 3,410   | 350    | 3,350   | 1,650  | 292    | 85    | 26    | 15    |
| 11    | 5,410  | 178    | 630     | 198    | 2,100   | 330    | 2,630   | 1,550  | 273    | 81    | 26    | 15    |
| 12    | 13,700 | 279    | 578     | 173    | 2,080   | 315    | 3,080   | 1,450  | 258    | 77    | 25    | 15    |
| 13    | 5,700  | 285    | 1,380   | 188    | 2,210   | 300    | 5,240   | 1,370  | 246    | 73    | 24    | 15    |
| 14    | 2,940  | 210    | 1,120   | 195    | 1,760   | 330    | 9,750   | 1,340  | 231    | 68    | 24    | 14    |
| 15    | 1,740  | 180    | 3,850   | 190    | 1,520   | 310    | 6,200   | *1,410 | 223    | 65    | 23    | 14    |
| 16    | 1,250  | 169    | 2,860   | 178    | 1,350   | 370    | 4,040   | 1,560  | 205    | 63    | 23    | 14    |
| 17    | 951    | 163    | 2,000   | 169    | 1,270   | 345    | 2,940   | 1,750  | 200    | 61    | 23    | 14    |
| 18    | 768    | 159    | 1,630   | 165    | 1,100   | 330    | 2,460   | 1,810  | 188    | 61    | 23    | *16   |
| 19    | 630    | 150    | 1,320   | 159    | 1,040   | 350    | 2,280   | 1,760  | 173    | 60    | 22    | 16    |
| 20    | 518    | 141    | *1,110  | 153    | 977     | 440    | 2,020   | 1,870  | 163    | 58    | 22    | 16    |
| 21    | 428    | 140    | 951     | *155   | 905     | 460    | 1,810   | 1,820  | 155    | 55    | 22    | 16    |
| 22    | 364    | 136    | 866     | 152    | 810     | 430    | 1,640   | 1,640  | 159    | 52    | 22    | 16    |
| 23    | 317    | 133    | 786     | 147    | 750     | 580    | 1,580   | 1,470  | 167    | 52    | 22    | 16    |
| 24    | 282    | 127    | 690     | 143    | 702     | 528    | 1,640   | 1,350  | 159    | 48    | 22    | 15    |
| 25    | 258    | 124    | 612     | 138    | 636     | 528    | 1,580   | 1,210  | *145   | 48    | 22    | 15    |
| 26    | 228    | 4,980  | 545     | 135    | 589     | 540    | 1,450   | 1,090  | 135    | 47    | 22    | 14    |
| 27    | 210    | 2,670  | 512     | 130    | 551     | 6,280  | 1,380   | 964    | 130    | 44    | 21    | 13    |
| 28    | 198    | 1,250  | 465     | 130    | 518     | 5,840  | 1,600   | 899    | 125    | 41    | 20    | 13    |
| 29    | 183    | 866    | 424     | 145    | -----   | 3,710  | 1,940   | 834    | 124    | 39    | 20    | 13    |
| 30    | 169    | 738    | 404     | 2,650  | -----   | 4,170  | 2,130   | 774    | 122    | 38    | 20    | 12    |
| 31    | *161   | -----  | 396     | 30,000 | -----   | 3,650  | -----   | 696    | -----  | 36    | 21    | ----- |
| Total | 39,961 | 14,483 | 55,211  | 38,550 | 70,228  | 34,200 | 105,100 | 50,107 | 7,735  | 2,172 | 763   | 465   |
| Mean  | 1,257  | 483    | 1,781   | 1,244  | 2,508   | 1,103  | 3,503   | 1,616  | 258    | 70.1  | 24.6  | 15.5  |
| Max   | 13,700 | 4,980  | 12,000  | 30,000 | 21,300  | 6,280  | 13,300  | 2,580  | 618    | 115   | 34    | 20    |
| Min   | 12     | 118    | 396     | 130    | 518     | 300    | 1,380   | 696    | 122    | 36    | 20    | 12    |
| Ac-ft | 77,280 | 28,730 | 109,500 | 76,460 | 139,300 | 67,830 | 208,500 | 99,390 | 15,340 | 4,310 | 1,510 | 922   |

Calendar year 1962: Max 13,700 Min 7.0 Mean 797 Ac-ft 576,700

Water year 1962-63: Max 30,000 Min 12 Mean 1,145 Ac-ft 829,100

Peak discharge (base, 10,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1900 | 15.55       | 32,400    | 3-27 | 1900 | 12.42       | 13,400    |
| 11-26 | 1500 | 11.07       | 10,200    | 4-6  | 0500 | 13.27       | 19,200    |
| 12-2  | 2000 | 15.08       | 29,600    | 4-14 | 0900 | 12.12       | 13,800    |
| 1-31  | 1700 | 20.24       | 60,500    |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record Mar. 7-23, July 1 to Aug. 16.



11-4730. Middle Fork Eel River below Black Butte River, near Covelo, Calif.--Continued.

Records available.--July 1961 to September 1963 (fragmentary).

Extremes.--Maximum temperature recorded during year, 80°F Sept. 4; minimum recorded, 40°F Nov. 29, 30.

1961-63: Maximum temperature recorded, 80°F Aug. 4, 5, 7, 9, 1961, Sept. 4, 1963; minimum recorded, that of Nov. 29, 30, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov. |     | Dec. |     | Jan. |     | Feb. |     | Mar. |     | Apr. |     | May |     | June |     | July |     | Aug. |     | Sept. |     |
|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|-----|-----|------|-----|------|-----|------|-----|-------|-----|
|     | max  | min | max  | min | max  | min | max  | min | max  | min | max  | min | max  | min | max | min | max  | min | max  | min | max  | min | max   | min |
| 1   |      |     | -    | -   | 45   | 44  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 78    | 66  |
| 2   |      |     | -    | -   | 48   | 45  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 79    | 67  |
| 3   |      |     | -    | -   | 48   | 47  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 79    | 66  |
| 4   |      |     | -    | -   | 47   | 46  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 80    | 67  |
| 5   |      |     | -    | -   | 46   | 46  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 75    | 70  |
| 6   |      |     | -    | -   | 46   | 46  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 79    | 68  |
| 7   |      |     | -    | -   | 47   | 46  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 79    | 67  |
| 8   |      |     | -    | -   | 46   | 46  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 76    | 68  |
| 9   |      |     | -    | -   | 46   | 46  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 79    | 68  |
| 10  |      |     | 50   | 48  | 46   | 45  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 78    | 66  |
| 11  |      |     | 50   | 50  | 45   | 44  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 75    | 66  |
| 12  |      |     | 51   | 50  | 45   | 45  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 76    | 66  |
| 13  |      |     | 50   | 47  | 48   | 45  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 77    | 64  |
| 14  |      |     | 47   | 46  | 49   | 48  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 77    | 65  |
| 15  |      |     | 46   | 45  | 50   | 49  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 75    | 66  |
| 16  |      |     | 47   | 46  | 49   | 48  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 73    | 62  |
| 17  |      |     | 47   | 46  | 48   | 48  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 69    | 63  |
| 18  |      |     | 46   | 44  | 48   | 46  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 79   | 67  | 66    | 61  |
| 19  |      |     | 46   | 44  | 46   | 44  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 78   | 66  | 69    | 61  |
| 20  |      |     | 47   | 44  | 44   | 44  |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 78   | 65  | 72    | 60  |
| 21  |      |     | 48   | 46  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 78   | 66  | 70    | 61  |
| 22  |      |     | 50   | 47  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 78   | 67  | 66    | 62  |
| 23  |      |     | 48   | 47  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 77   | 67  | 70    | 58  |
| 24  |      |     | 47   | 46  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 77   | 65  | 70    | 57  |
| 25  |      |     | 46   | 45  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 76   | 64  | 70    | 57  |
| 26  |      |     | 48   | 46  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 77   | 64  | 72    | 59  |
| 27  |      |     | 48   | 45  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 78   | 65  | 73    | 63  |
| 28  |      |     | 45   | 43  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 79   | 67  | 73    | 62  |
| 29  |      |     | 43   | 40  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 76   | 67  | 73    | 61  |
| 30  |      |     | 44   | 40  | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 76   | 68  | 73    | 61  |
| 31  |      |     | -    | -   | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | 78   | 67  | -     | -   |
| Avg |      |     | -    | -   | -    | -   |      |     |      |     |      |     |      |     |     |     |      |     |      |     | -    | -   | 74    | 64  |

## EEL RIVER BASIN

11-4731. Williams Creek near Covelo, Calif.

Location.--Lat 39°49'30", long 123°08'25", in SW 1/4 sec. 25, T.23 N., R.12 W., on right bank 1.0 mile upstream from mouth and 6.1 miles northeast of Covelo.

Drainage area.--30.4 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,480 ft (from topographic map).

Extremes.--Maximum discharge during year, 5,900 cfs Jan. 31 (gage height, 8.87 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.2 cfs Oct. 5-8.

1961-63: Maximum discharge, that of Jan. 31, 1963; minimum, 0.1 cfs Sept. 20-29, 1962.

Revisions.--The maximum discharge for the water year 1962 has been revised to 2,530 cfs Feb. 13, 1962 (gage height, 5.32 ft), superseding figure published in 1962 Basic Data Release.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.   | Jan.    | Feb.   | Mar.   | Apr.   | May   | June  | July  | Aug. | Sept. |
|-------|---------|---------|--------|---------|--------|--------|--------|-------|-------|-------|------|-------|
| 1     | 0.6     | 9.4     | 75     | 23      | 1,850  | 28     | 333    | 104   | 26    | 6.1   | *1.2 | 0.4   |
| 2     | .4      | 8.9     | 1,960  | 21      | 699    | *27    | 216    | 100   | 24    | 5.9   | 1.2  | .4    |
| 3     | .3      | 8.4     | 1,010  | 20      | 379    | 26     | *203   | 92    | 22    | 5.9   | 1.2  | .4    |
| 4     | .3      | 8.2     | 285    | 19      | 234    | 24     | 172    | 88    | 20    | 5.9   | 1.2  | .4    |
| 5     | .2      | 9.1     | 163    | 18      | 160    | 23     | 1,110  | 120   | 20    | 5.7   | 1.1  | *.4   |
| 6     | .2      | 8.4     | 116    | 17      | 143    | 23     | 1,970  | 116   | 18    | 5.5   | 1.0  | .4    |
| 7     | .2      | 7.9     | 87     | 16      | 116    | 22     | 1,630  | 139   | 17    | 5.4   | .9   | .4    |
| 8     | .2      | *7.1    | 70     | *16     | *122   | 21     | 889    | 120   | 15    | 5.2   | .9   | .5    |
| 9     | 56      | 8.9     | 57     | 14      | 101    | 21     | *546   | 90    | 14    | 5.1   | .9   | .5    |
| 10    | 476     | 9.8     | 48     | 14      | 95     | 20     | 526    | 83    | 14    | 5.0   | .9   | .5    |
| 11    | 1,180   | 16      | *42    | 13      | 75     | 20     | 273    | 80    | 13    | 4.8   | .8   | .5    |
| 12    | 1,780   | 27      | 48     | 12      | 144    | 19     | 238    | 71    | 12    | 4.4   | .7   | .5    |
| 13    | 645     | 20      | 106    | 12      | 134    | 18     | 375    | 65    | 12    | 4.2   | .7   | .5    |
| 14    | 429     | 14      | 65     | 11      | 102    | 21     | 871    | *64   | 12    | 4.1   | .8   | .5    |
| 15    | 139     | 12      | 706    | 11      | 87     | 20     | 535    | 67    | 11    | 3.9   | .7   | .5    |
| 16    | *106    | 11      | 282    | 11      | 83     | 38     | 305    | 72    | 9.9   | 3.7   | .7   | .6    |
| 17    | 71      | 12      | 186    | 10      | 74     | 31     | 202    | 78    | 9.6   | 3.5   | .7   | .6    |
| 18    | 52      | 10      | 132    | 10      | 66     | 29     | 176    | 78    | 9.0   | 3.4   | .6   | .6    |
| 19    | 40      | 9.2     | 101    | 10      | 59     | 34     | 169    | 74    | 8.5   | 3.2   | .6   | .6    |
| 20    | 33      | 8.4     | 80     | 9.5     | 59     | 37     | 139    | 75    | 7.9   | 3.0   | .6   | .6    |
| 21    | 28      | 8.2     | 68     | 9.3     | 52     | 34     | 124    | 71    | 7.9   | 2.9   | .6   | .6    |
| 22    | 24      | 8.1     | 58     | 9.3     | 47     | 32     | 109    | 64    | 8.6   | 2.8   | .5   | .7    |
| 23    | 21      | 7.4     | 50     | 9.1     | 42     | 66     | 102    | 58    | 8.9   | 2.6   | .5   | .9    |
| 24    | 18      | 7.0     | 44     | 8.9     | 38     | 62     | 97     | 53    | 7.9   | 2.3   | .5   | .7    |
| 25    | 17      | 7.1     | 38     | 8.9     | 35     | 57     | 92     | 48    | 7.2   | 2.2   | .5   | .7    |
| 26    | 15      | 1,490   | 36     | 8.7     | 34     | 56     | 81     | 44    | *6.8  | 2.1   | .5   | .7    |
| 27    | 13      | 268     | 32     | 8.4     | 31     | 1,040  | 76     | 39    | 6.7   | 1.9   | .5   | .7    |
| 28    | 13      | 116     | 29     | 8.4     | 30     | 1,150  | 86     | 36    | 6.5   | 1.7   | .5   | .7    |
| 29    | 12      | 76      | 27     | 25      | -----  | 1,180  | 98     | 34    | 6.5   | 1.6   | .5   | .7    |
| 30    | 11      | 68      | 26     | 1,190   | -----  | 1,340  | 106    | 31    | 6.4   | 1.4   | .4   | .7    |
| 31    | 9.8     | -----   | 25     | *3,520  | -----  | 841    | -----  | 28    | ----- | 1.2   | .4   | ----- |
| Total | 5,191.2 | 2,281.5 | 6,052  | 5,093.5 | 5,091  | 6,360  | 11,849 | 2,282 | 3,683 | 116.6 | 22.8 | 16.9  |
| Mean  | 168     | 76.1    | 195    | 164     | 182    | 205    | 395    | 73.6  | 12.3  | 3.76  | 0.74 | 0.56  |
| Max   | 1,780   | 1,490   | 1,960  | 3,520   | 1,850  | 1,340  | 1,970  | 139   | 26    | 6.1   | 1.2  | 0.9   |
| Min   | 0.2     | 7.0     | 25     | 8.4     | 30     | 18     | 76     | 28    | 6.4   | 1.2   | 0.4  | 0.4   |
| Ac-ft | 10,300  | 4,520   | 12,000 | 10,100  | 10,100 | 12,620 | 23,500 | 4,530 | 731   | 231   | 45   | 34    |

Calendar year 1962: Max 1,990 Min 0.1 Mean 95.6 Ac-ft 69,160  
 Water year 1962-63: Max 3,520 Min 0.2 Mean 123 Ac-ft 88,710

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-8, July 2 to Sept. 30.

11-4735.3. Mill Creek below Alder Creek, near Covelo, Calif.

Location.--Lat 39°50'30", long 123°16'35", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.23, T.23 N., R.8 E., on left bank 0.8 mile downstream from Alder Creek and 3.6 miles north of Covelo.

Drainage area.--17.1 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,450 ft (from topographic map).

Extremes.--Maximum discharge during year, 2,200 cfs Jan. 31 (gage height, 17.73 ft), from rating curve extended above 370 cfs on basis of slope-area measurement of peak flow; minimum, 0.5 cfs Sept. 27.  
1961-63: Maximum discharge, that of Jan. 31, 1963; minimum, 0.1 cfs Sept. 10, 1962.

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.  | Jan.    | Feb.  | Mar.  | Apr.   | May   | June  | July | Aug. | Sept. |
|-------|---------|-------|-------|---------|-------|-------|--------|-------|-------|------|------|-------|
| 1     | 0.8     | 3.8   | 19    | 10      | 550   | *17   | 160    | 39    | 9.3   | 4.1  | *1.5 | 0.8   |
| 2     | .7      | 3.5   | 494   | 10      | 278   | 16    | *107   | 38    | 9.4   | 4.0  | 1.4  | .8    |
| 3     | .9      | 3.3   | 166   | 10      | 214   | 16    | 109    | 37    | 9.2   | 3.9  | 1.4  | .8    |
| 4     | .9      | 3.2   | 52    | 9.7     | 134   | 15    | 78     | 36    | 8.5   | 3.8  | 1.4  | *.7   |
| 5     | .8      | 2.9   | 30    | 9.2     | 92    | 15    | 346    | 35    | 8.4   | 3.5  | 1.3  | .7    |
| 6     | .8      | 2.9   | 23    | 8.7     | 66    | 15    | 388    | 33    | 8.3   | 3.4  | 1.1  | .8    |
| 7     | .9      | 2.8   | 20    | 8.5     | *58   | 15    | 346    | 31    | 7.8   | 3.4  | 1.1  | .7    |
| 8     | 1.7     | *2.8  | 19    | *8.2    | 56    | 15    | 262    | 30    | 7.5   | 3.1  | 1.1  | .6    |
| 9     | 5.8     | 2.8   | 18    | 8.0     | 58    | 15    | 216    | 29    | 7.0   | 2.9  | 1.4  | .7    |
| 10    | 4.8     | 2.8   | 17    | 7.9     | 70    | 14    | *241   | 28    | 6.8   | 2.6  | 1.3  | .8    |
| 11    | 300     | 2.9   | 17    | 7.6     | 55    | 13    | 181    | 26    | 6.5   | 2.5  | 1.1  | .8    |
| 12    | 516     | 3.3   | *17   | 7.2     | 155   | 13    | 377    | 26    | 6.3   | 2.3  | 1.1  | .8    |
| 13    | 156     | 3.7   | 51    | 6.8     | 140   | 13    | 353    | *23   | 6.1   | 1.8  | 1.1  | .8    |
| 14    | 140     | 3.8   | 22    | 6.6     | 80    | 14    | 418    | 21    | 5.4   | 1.7  | 1.1  | .8    |
| 15    | 36      | 3.7   | 235   | 6.4     | 40    | 15    | 311    | 20    | 5.1   | 1.5  | 1.1  | .8    |
| 16    | 22      | 3.5   | 98    | 6.3     | 31    | 21    | 199    | 19    | 5.0   | 1.5  | .9   | .8    |
| 17    | *19     | 3.4   | 42    | 6.2     | 27    | 22    | 134    | 18    | 5.0   | 1.4  | .9   | .9    |
| 18    | 17      | 3.4   | 27    | 6.1     | 25    | 21    | 112    | 17    | 4.7   | 1.5  | .9   | .9    |
| 19    | 13      | 3.3   | 20    | 5.8     | 23    | 21    | 122    | 16    | 4.4   | 1.4  | .9   | .9    |
| 20    | 11      | 3.1   | 17    | 5.7     | 22    | 20    | 89     | 16    | 4.5   | 1.4  | .9   | .8    |
| 21    | 9.7     | 3.1   | 15    | 5.7     | 21    | 18    | 69     | 15    | 4.7   | 1.4  | 1.0  | .8    |
| 22    | 8.5     | 3.0   | 14    | 5.6     | 21    | 19    | 62     | 15    | 5.2   | 1.4  | 1.0  | .9    |
| 23    | 7.5     | 2.8   | 13    | 5.5     | 20    | 55    | 60     | 15    | 5.3   | 1.4  | 1.0  | 1.1   |
| 24    | 6.7     | 2.8   | 12    | 5.5     | 19    | 32    | 57     | 14    | 5.0   | 1.4  | 1.0  | 1.0   |
| 25    | 5.8     | 2.8   | 12    | 5.4     | 19    | 25    | 53     | 13    | 4.8   | 1.5  | .9   | .8    |
| 26    | 5.4     | 452   | 11    | 5.3     | 18    | 26    | 50     | 13    | *4.6  | 1.6  | .8   | .8    |
| 27    | 5.0     | 66    | 11    | 5.3     | 18    | 572   | 46     | 12    | 4.5   | 1.5  | .8   | .7    |
| 28    | 4.7     | 24    | 11    | 5.3     | 17    | 379   | 43     | 12    | 4.5   | 1.4  | .8   | .7    |
| 29    | 4.5     | 19    | 11    | 25      | ----- | 499   | 42     | 11    | 4.4   | 1.5  | .8   | .7    |
| 30    | 4.2     | 18    | 10    | 333     | ----- | 502   | 40     | 11    | 4.3   | 1.5  | .8   | .8    |
| 31    | 4.0     | ----- | 10    | *1,120  | ----- | 283   | -----  | 10    | ----- | 1.4  | .8   | ----- |
| Total | 1,357.3 | 658.4 | 1,534 | 1,676.5 | 2,327 | 2,736 | 5,071  | 679   | 182.5 | 67.7 | 32.7 | 24.0  |
| Mean  | 43.8    | 21.9  | 49.5  | 54.1    | 83.1  | 88.3  | 169    | 21.9  | 6.08  | 2.18 | 1.05 | 0.80  |
| Max   | 516     | 452   | 494   | 1,120   | 550   | 572   | 418    | 39    | 9.4   | 4.1  | 1.5  | 1.1   |
| Min   | 0.7     | 2.8   | 10    | 5.3     | 17    | 13    | 40     | 10    | 4.3   | 1.4  | 0.8  | 0.6   |
| Ac-ft | 2,690   | 1,310 | 3,040 | 3,320   | 4,620 | 5,430 | 10,060 | 1,350 | 362   | 134  | 65   | 48    |

Calendar year 1962: Max 586 Min 0.2 Mean 32.9 Ac-ft 23,790  
Water year 1962-63: Max 1,120 Min 0.6 Mean 44.8 Ac-ft 32,430

\* Discharge measurement made on this day.

Note.--No gage-height record Feb. 9-28.

## EEL RIVER BASIN

11-4736. Short Creek near Covelo, Calif.

Location.--Lat 39°49'50", long 123°10'50", in NE $\frac{1}{4}$  sec.27, T.23 N., R.12 W., on left bank 0.4 mile downstream from unnamed tributary, 0.7 mile upstream from wooden bridge, and 4.5 miles northeast of Covelo.

Drainage area.--15.2 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,480 ft (from topographic map).

Average discharge.--5 years, 19.2 cfs (13,900 acre-ft per year).

Extremes.--Maximum discharge during year, 1,460 cfs Jan. 31 (gage height, 6.99 ft); no flow Oct. 1-10, Sept. 5-30.

1958-63: Maximum discharge, 1,630 cfs Feb. 8, 1960 (gage height, 7.55 ft); no flow for several months in each year.

Flood of Dec. 21, 1955, reached a stage of 10.56 ft, from floodmarks (discharge, 3,780 cfs on basis of slope-area measurement of peak flow).

Remarks.--No regulation or diversion above station.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.    | Jan.    | Feb.    | Mar.    | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|---------|---------|---------|---------|-------|-------|-------|------|------|-------|
| 1     | 0     | 0.5   | 18      | 7.4     | 36.3    | *8.1    | 10.7  | 1.9   | 4.0   | 0.6  | *0.1 | 0.1   |
| 2     | 0     | .5    | 45.5    | 6.8     | 14.7    | 8.3     | *7.3  | 1.7   | 3.6   | .5   | .1   | .1    |
| 3     | 0     | .6    | 15.4    | 6.2     | 11.1    | 7.8     | 7.5   | 1.7   | 3.5   | .4   | .1   | .1    |
| 4     | 0     | .6    | 6.4     | 5.5     | 7.9     | 7.2     | 5.7   | 1.6   | 3.3   | .4   | .1   | *.1   |
| 5     | 0     | .8    | 4.0     | 5.0     | 5.8     | 6.8     | 26.4  | 1.5   | 3.4   | .4   | .1   | 0     |
| 6     | 0     | .8    | 2.6     | 4.7     | 5.0     | 7.9     | 33.0  | 1.4   | 3.2   | .5   | .1   | 0     |
| 7     | 0     | .9    | 2.0     | 4.4     | 4.2     | 7.7     | 26.7  | 1.4   | 2.9   | .5   | .1   | 0     |
| 8     | 0     | *.9   | 1.6     | *4.0    | *4.1    | 7.8     | 23.8  | 1.3   | 2.6   | .4   | .1   | 0     |
| 9     | 0     | 1.1   | 1.2     | 3.8     | 3.6     | 8.3     | *20.2 | 1.2   | 2.4   | .4   | .1   | 0     |
| 10    | 0     | 1.0   | 1.0     | 3.5     | 4.0     | 7.0     | 25.2  | 1.2   | 2.2   | .4   | .1   | 0     |
| 11    | 14.3  | 1.2   | *8.4    | 3.1     | 3.1     | 6.7     | 15.6  | 1.3   | 2.1   | .4   | .2   | 0     |
| 12    | 31.6  | 1.5   | 8.3     | 2.6     | 7.7     | 6.6     | 12.9  | 1.1   | 1.9   | .3   | .2   | 0     |
| 13    | 10.5  | 2.7   | 3.1     | 2.3     | 6.9     | 6.3     | 14.6  | 9.8   | 1.8   | .3   | .2   | 0     |
| 14    | 9.6   | 1.9   | 1.8     | 2.2     | 4.3     | 9.3     | 25.0  | *8.7  | 1.5   | .3   | .2   | 0     |
| 15    | 3.4   | 1.7   | 17.7    | 2.2     | 3.3     | 9.5     | 17.2  | 8.3   | 1.3   | .3   | .2   | 0     |
| 16    | *1.5  | 1.6   | 8.4     | 2.2     | 3.1     | 2.6     | 10.5  | 7.7   | 1.1   | .3   | .2   | 0     |
| 17    | 8.2   | 1.5   | 5.7     | 2.1     | 2.7     | 2.2     | 7.8   | 7.6   | 1.1   | .3   | .1   | 0     |
| 18    | 5.5   | 1.3   | 4.0     | 2.0     | 2.3     | 1.9     | 7.2   | 7.0   | 1.0   | .3   | .1   | 0     |
| 19    | 3.4   | 1.2   | 2.9     | 1.8     | 2.0     | 1.7     | 7.9   | 6.8   | 1.0   | .2   | .1   | 0     |
| 20    | 2.2   | 1.1   | 2.4     | 1.6     | 2.0     | 1.6     | 6.5   | 6.5   | .9    | .2   | .1   | 0     |
| 21    | 1.8   | .9    | 2.0     | 1.5     | 1.7     | 1.5     | 5.3   | 6.4   | .9    | .2   | .1   | 0     |
| 22    | 1.3   | .9    | 1.7     | 1.5     | 1.6     | 1.5     | 4.6   | 6.2   | .9    | .2   | .1   | 0     |
| 23    | 1.1   | .9    | 1.6     | 1.4     | 1.4     | 3.6     | 4.0   | 6.5   | .9    | .2   | .1   | 0     |
| 24    | .9    | .8    | 1.3     | 1.3     | 1.3     | 3.2     | 3.5   | 6.2   | .9    | .2   | .1   | 0     |
| 25    | .8    | .7    | 1.1     | 1.3     | 1.1     | 2.4     | 3.5   | 5.8   | *.8   | .2   | .1   | 0     |
| 26    | .7    | 28.6  | 1.0     | 1.3     | 1.0     | 2.3     | 3.0   | 5.5   | .7    | .2   | .1   | 0     |
| 27    | .8    | 7.3   | 9.4     | 1.3     | 9.5     | 32.0    | 2.6   | 5.0   | .7    | .2   | .1   | 0     |
| 28    | .6    | 3.5   | 8.5     | 1.4     | 8.5     | 35.6    | 2.4   | 4.8   | .7    | .2   | .1   | 0     |
| 29    | .5    | 2.2   | 8.0     | 9.3     | -----   | 29.2    | 2.2   | 4.8   | .6    | .1   | .1   | 0     |
| 30    | .5    | 1.8   | 7.8     | 23.8    | -----   | 32.9    | 2.0   | 4.7   | .6    | .1   | .1   | 0     |
| 31    | .5    | ----- | 7.8     | 7.54    | -----   | 20.7    | ----- | 4.3   | ----- | .1   | .1   | ----- |
| Total | 737.8 | 461.6 | 1,420.2 | 1,085.7 | 1,440.0 | 1,864.3 | 3,448 | 295.6 | 52.5  | 9.3  | 3.7  | 0.4   |
| Mean  | 23.8  | 15.4  | 45.8    | 35.0    | 51.4    | 60.1    | 11.5  | 9.54  | 1.75  | 0.30 | 0.12 | 0.01  |
| Max   | 31.6  | 28.6  | 45.5    | 75.4    | 36.3    | 35.6    | 33.0  | 1.9   | 4.0   | 0.6  | 0.2  | 0.1   |
| Min   | 0     | 0.5   | 7.8     | 1.3     | 8.5     | 6.3     | 2.0   | 4.3   | 0.6   | 0.1  | 0.1  | 0     |
| Ac-ft | 1,460 | 916   | 2,820   | 2,150   | 2,860   | 3,700   | 6,840 | 586   | 104   | 18   | 7.3  | 0.8   |

Calendar year 1962: Max 496 Min 0 Mean 21.7 Ac-ft 15,690  
 Water year 1962-63: Max 754 Min 0 Mean 29.6 Ac-ft 21,460

\* Discharge measurement made on this day.

11-4737. Mill Creek near Covelo, Calif.

Location--Lat 39°44'45", long 123°10'15", in SW $\frac{1}{4}$  sec.23, T.22 N., R.12 W., on right bank 50 ft upstream from unnamed tributary, 0.65 mile downstream from county road bridge, and 5.2 miles southeast of Covelo.

Drainage area--96.9 sq mi.

Records available--September 1956 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 1,280 ft (from topographic map).

Average discharge--7 years, 146 cfs (105,700 acre-ft per year).

Extremes--Maximum discharge during year, 8,950 cfs Jan. 31 (gage height, 14.50 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement of peak flow; no flow for many days.

1956-63: Maximum discharge, 10,000 cfs (revised) Feb. 8, 1960 (gage height, 15.15 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurement at gage height 14.50 ft; no flow for several months in each year.

Revisions--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

| WSP                | Water year | Date          | Discharge (cfs) | Gage height (feet) |
|--------------------|------------|---------------|-----------------|--------------------|
| 1715               | 1960       | Feb. 8, 1960  | 10,000          | 15.15              |
| Basic Data Release | 1961       | Feb. 11, 1961 | 5,820           | 12.11              |
| Basic Data Release | 1962       | Feb. 13, 1962 | 5,620           | 11.94              |

Remarks--No regulation or diversion above station.

Cooperation--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Revisions--Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1960-62, superseding figures published in WSP 1715 and Basic Data Release for 1961 and 1962, are given herewith:

| Date   | Discharge | Date      | Discharge | Date      | Discharge | Date    | Discharge |
|--------|-----------|-----------|-----------|-----------|-----------|---------|-----------|
| 1960   |           | 1960-Con. |           | 1961-Con. |           | 1962    |           |
| Feb. 7 | 4,610     | Mar. 12   | 1,290     | Feb. 2    | 1,560     | Jan. 19 | 1,510     |
| 8      | 6,870     | Dec. 1    | 2,520     | 9         | 1,880     | Feb. 13 | 2,820     |
| 9      | 3,930     | 17        | 2,290     | 11        | 3,580     | 14      | 1,410     |
| Mar. 4 | 1,290     |           |           | Mar. 15   | 1,770     | 15      | 2,280     |
| 5      | 1,920     | 1961      |           | 17        | 1,800     | Mar. 6  | 2,170     |
| 7      | 2,370     | Jan. 31   | 2,340     |           |           |         |           |

| Month                   | Cfs-days | Maximum | Minimum | Mean | Runoff in acre-feet |
|-------------------------|----------|---------|---------|------|---------------------|
| February 1960.....      | 22,714   | 6,870   | 42      | 783  | 45,050              |
| March.....              | 13,472   | 2,370   | 40      | 435  | 26,720              |
| Water year 1959-60..... | -        | 6,870   | 0       | 114  | 82,680              |
| December 1960.....      | 8,284    | 2,520   | 21      | 267  | 16,430              |
| Calendar year 1960..... | -        | 6,870   | 0       | 138  | 100,500             |
| January 1961.....       | 3,943    | 2,340   | 11      | 127  | 7,820               |
| February.....           | 15,548   | 3,580   | 103     | 555  | 30,840              |
| March.....              | 14,439   | 1,800   | 91      | 466  | 28,640              |
| Water year 1960-61..... | -        | 3,580   | 0       | 133  | 96,160              |
| Calendar year 1961..... | -        | 3,580   | 0       | 116  | 84,320              |
| January 1962.....       | 2,795.0  | 1,510   | 8.5     | 90.2 | 5,540               |
| February.....           | 16,283   | 2,820   | 12      | 582  | 32,300              |
| March.....              | 12,087   | 2,170   | 130     | 390  | 23,970              |
| Water year 1961-62..... | -        | 2,820   | 0       | 99.6 | 72,080              |

Revised peak discharge.--1959-60: Feb. 8 (8 a.m.) 10,000 cfs (15.15 ft); Mar. 7 (7 a.m.) 5,420 cfs (11.76 ft).

1960-61: Dec. 1 (8 a.m.) 4,380 cfs (10.77 ft); Jan. 31 (9 a.m.) 4,950 cfs (11.33 ft); Feb. 11 (5 a.m.) 5,820 cfs (12.11 ft); Mar. 14 (9 p.m.) 4,210 cfs (10.60 ft).

11-4737. Mill Creek near Covelo, Calif.--Continued.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day  | Oct.    | Nov.  | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May   | June  | July | Aug. | Sept. |
|--|---------|-------|--------|--------|--------|--------|--------|-------|-------|------|------|-------|
| 1  | 0       | 0     | 30     | 41     | 2,750  | 58     | 673    | 164   | 16    | 0.8  | 0.1  |       |
| 2  | 0       | 0     | 2,350  | 36     | 1,000  | *56    | 388    | 152   | 15    | .8   | .1   |       |
| 3  | 0       | 0     | 838    | 34     | 715    | 54     | *356   | 140   | 14    | .7   | .1   |       |
| 4  | 0       | 0     | 285    | 30     | 420    | 52     | 248    | 128   | 14    | .9   | .1   |       |
| 5  | 0       | 0     | 174    | 26     | 317    | 49     | 1,580  | 116   | 13    | .7   | .1   |       |
| 6  | 0       | 0     | 124    | 25     | 257    | 48     | 1,810  | 106   | 13    | .7   | .1   |       |
| 7  | 0       | 0     | 97     | *23    | 205    | 50     | 1,500  | 96    | 12    | 1.0  | .1   |       |
| 8  | 0       | *0    | 78     | 21     | *232   | 50     | 1,300  | 87    | 11    | .9   | .1   |       |
| 9  | 0       | 0     | 64     | 21     | 208    | 50     | 1,060  | 81    | 10    | .9   | .1   |       |
| 10   | 0       | 0     | *50    | 19     | 303    | 49     | 1,540  | 78    | 9.9   | .8   | .1   |       |
| 11   | 568     | 0     | 40     | 17     | 177    | 46     | *784   | 74    | 8.8   | .8   | .1   |       |
| 12   | 1,850   | 0     | 35     | 15     | 521    | 43     | 934    | 69    | 8.4   | .8   | .1   |       |
| 13   | 511     | 0     | 149    | 14     | 500    | 41     | 976    | 64    | 7.7   | .7   | 0    |       |
| 14   | 526     | 0     | 101    | 14     | 257    | 41     | 1,460  | *62   | 6.7   | .7   | 0    |       |
| 15   | 158     | 0     | 738    | 14     | 197    | 50     | 1,170  | 61    | 6.3   | .6   | 0    |       |
| 16   | 69      | 0     | 344    | 15     | 182    | 111    | 713    | 60    | 5.5   | .6   | 0    |       |
| 17   | *29     | 0     | 240    | 14     | 166    | 122    | 501    | 56    | 4.7   | .6   | 0    |       |
| 18   | 14      | 0     | 166    | 14     | 133    | 86     | 452    | 48    | 2.5   | .6   | 0    |       |
| 19   | 7.9     | 0     | 126    | 13     | 119    | 73     | 566    | 43    | 5.7   | .6   | 0    |       |
| 20   | 3.3     | 0     | 106    | 12     | 116    | 69     | 433    | 39    | 5.9   | .5   | 0    |       |
| 21   | 1.4     | 0     | 92     | 13     | 101    | 66     | 343    | 37    | 3.1   | .4   | 0    |       |
| 22   | .8      | 0     | 85     | 13     | 88     | 61     | 324    | 34    | 1.7   | .4   | 0    |       |
| 23   | .5      | 0     | 79     | 13     | 82     | 183    | 300    | 31    | 1.5   | .3   | 0    |       |
| 24   | .5      | 0     | 71     | 13     | 76     | 150    | 269    | 29    | 1.1   | .3   | 0    |       |
| 25   | .4      | 0     | 60     | 13     | 71     | 97     | 245    | 26    | 1.2   | .3   | 0    |       |
| 26   | .3      | 1,410 | 51     | 13     | 68     | 83     | 229    | 23    | *1.5  | .3   | 0    |       |
| 27   | .3      | 313   | 47     | 13     | 64     | 2,070  | 210    | 20    | 1.2   | .2   | 0    |       |
| 28   | 0       | 101   | 43     | 14     | 61     | 2,000  | 197    | 19    | 1.1   | .2   | 0    |       |
| 29   | 0       | 52    | 38     | 26     | -----  | 2,030  | 187    | 18    | .9    | .2   | 0    |       |
| 30   | 0       | 28    | 39     | 1,420  | -----  | 2,400  | 176    | 18    | .8    | .1   | 0    |       |
| 31   | 0       | ----- | 46     | *5,200 | -----  | 1,300  | -----  | 17    | ----- | *.1  | 0    | ----- |
| Total  | 3,740.4 | 1,904 | 6,786  | 7,169  | 9,386  | 11,638 | 20,924 | 1,996 | 204.2 | 17.5 | 1.2  | 0     |
| Mean   | 121     | 63.5  | 219    | 231    | 335    | 375    | 697    | 64.4  | 6.81  | 0.56 | 0.04 | 0     |
| Max  | 1,850   | 1,410 | 2,350  | 5,200  | 2,750  | 2,400  | 1,810  | 164   | 16    | 1.0  | 0.1  | 0     |
| Min  | 0       | 0     | 30     | 12     | 61     | 41     | 176    | 17    | 0.8   | 0.1  | 0    | 0     |
| Ac-ft  | 7,420   | 3,780 | 13,460 | 14,220 | 18,620 | 23,080 | 41,500 | 3,960 | 405   | 35   | 2.4  | 0     |
| Calendar year 1962: Max 2,820 Min 0 Mean 125 Ac-ft 90,720  |         |       |        |        |        |        |        |       |       |      |      |       |
| Water year 1962-63: Max 5,200 Min 0 Mean 175 Ac-ft 126,500 |         |       |        |        |        |        |        |       |       |      |      |       |

\* Discharge measurement made on this day.

11-4740. Eel River below Dos Rios, Calif.

Location.--Lat 39°44'15", long 123°22'15", in NE<sup>1</sup>/<sub>4</sub> sec.25, T.22 N., R.14 W., on left bank 1.1 miles downstream from Burger Creek, 1.7 miles northwest of Dos Rios, and 2.2 miles downstream from Middle Fork.

Drainage area.--1,484 sq mi.

Records available.--October 1911 to December 1913, October 1951 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Published as "near Laytonville" 1911 and as "at Two Rivers" 1912-13.

Gage.--Water-stage recorder. Altitude of gage is 800 ft (from topographic map). Prior to Dec. 30, 1913, staff gage at bridge 500 ft downstream from Middle Fork at different datum.

Average discharge.--14 years, 3,172 cfs (2,296,000 acre-ft per year); median of yearly mean discharges, 2,700 cfs (1,950,000 acre-ft per year).

Extremes.--Maximum discharge during year, 159,000 cfs Jan. 31 (gage height, 36.60 ft); minimum, 24 cfs Sept. 17.

1911-13, 1951-63: Maximum discharge, 283,000 cfs Dec. 22, 1955 (gage height, 49.86 ft), from rating curve extended above 120,000 cfs on basis of a slope-conveyance study; minimum, 5.2 cfs Sept. 13, 1955.

Remarks.--Records good. Flow partly regulated by Lake Pillsbury (see p. 370) and by diversion through Potter Valley powerhouse (see p. 372).

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day  | Oct.    | Nov.   | Dec.    | Jan.    | Feb.     | Mar.    | Apr.     | May     | June   | July  | Aug.  | Sept. |
|--|---------|--------|---------|---------|----------|---------|----------|---------|--------|-------|-------|-------|
| 1  | 48      | * 316  | 1,950   | 1,170   | * 95,400 | 1,410   | * 13,200 | * 4,350 | 984    | 231   | 72    | 32    |
| 2  | 39      | 295    | 24,500  | 1,040   | 37,100   | 1,290   | 8,960    | 4,190   | 904    | 222   | 72    | 33    |
| 3  | 33      | 281    | 28,300  | 960     | 22,600   | 1,220   | 8,540    | 4,210   | 832    | 213   | 70    | 32    |
| 4  | 32      | 266    | 10,100  | 880     | 15,600   | 1,130   | 7,770    | 3,890   | 760    | 210   | 66    | 32    |
| 5  | 31      | 258    | 6,080   | 792     | 11,800   | 1,010   | 14,400   | 4,370   | 725    | 207   | 66    | 30    |
| 6  | 31      | 253    | 4,290   | 732     | 9,190    | 936     | 40,800   | 4,810   | 690    | 201   | 65    | 29    |
| 7  | 31      | 240    | 3,270   | 690     | 7,670    | 944     | 32,700   | 4,900   | 644    | 201   | 61    | 28    |
| 8  | 39      | 227    | 2,660   | 660     | 7,220    | * 888   | 23,100   | 4,810   | 607    | 198   | 57    | 27    |
| 9  | 67      | 221    | 2,250   | 630     | 6,950    | 896     | 18,400   | 3,800   | 577    | 192   | * 56  | 26    |
| 10   | 3,470   | 308    | 1,960   | 610     | 11,800   | 832     | 19,800   | 3,380   | 548    | 184   | 54    | 26    |
| 11   | 10,300  | 348    | 1,700   | 572     | 9,090    | 760     | 14,900   | 3,640   | 516    | 176   | 54    | 25    |
| 12   | 33,100  | 436    | 1,520   | 532     | 8,750    | 718     | 15,500   | 3,050   | 495    | 170   | 50    | 25    |
| 13   | 21,200  | 605    | 3,360   | 508     | 10,600   | 678     | 17,200   | 2,750   | 465    | 156   | 49    | 25    |
| 14   | 10,500  | 453    | 3,170   | 512     | 8,080    | 711     | 29,100   | 2,480   | 445    | 150   | 46    | 25    |
| 15   | 6,240   | 363    | 10,700  | 520     | 6,650    | 832     | 25,700   | 2,450   | 415    | 148   | 43    | 25    |
| 16   | 3,820   | 319    | 10,300  | 504     | 5,700    | 1,180   | 16,900   | 2,520   | 396    | 142   | 42    | 25    |
| 17   | 2,640   | 303    | 7,430   | 488     | 5,320    | 1,680   | 11,900   | 2,680   | 370    | 139   | 40    | * 25  |
| 18   | 2,020   | 295    | * 6,220 | 472     | 4,440    | 1,370   | 9,400    | 2,810   | 353    | 132   | 38    | 26    |
| 19   | 1,600   | 271    | 4,800   | 464     | 3,850    | 1,230   | 9,900    | 2,690   | 333    | 129   | 36    | 29    |
| 20   | 1,260   | 247    | 3,780   | 446     | 3,500    | 1,250   | 7,820    | 2,800   | 318    | 129   | 35    | 32    |
| 21   | 1,020   | 240    | 3,130   | 439     | 3,170    | 1,240   | 6,980    | 2,620   | 300    | 124   | 34    | 32    |
| 22   | 856     | 232    | 2,710   | 439     | 2,780    | 1,150   | 6,240    | 2,340   | 297    | 116   | 34    | 30    |
| 23   | 732     | 227    | 2,410   | 432     | 2,470    | 3,360   | 5,380    | 2,130   | 318    | 111   | 34    | 30    |
| 24   | 642     | 216    | 2,140   | 425     | 2,210    | 3,100   | 5,020    | 1,990   | 311    | 109   | 34    | 29    |
| 25   | 576     | 211    | 1,870   | 418     | 2,010    | 2,120   | 4,900    | 1,770   | 294    | 104   | 34    | 30    |
| 26   | 520     | 12,500 | 1,680   | 408     | 1,860    | 1,800   | 4,680    | 1,630   | * 271  | 102   | 33    | 29    |
| 27   | 488     | 9,620  | 1,530   | 400     | 1,680    | 20,500  | 3,940    | 1,470   | 258    | 97    | 34    | 28    |
| 28   | 436     | 3,670  | 1,390   | 397     | 1,540    | 30,500  | 3,850    | 1,340   | 246    | 92    | 34    | 27    |
| 29   | 387     | 2,180  | 1,240   | 442     | -----    | 23,100  | 4,170    | 1,270   | 243    | 88    | 33    | 26    |
| 30   | 363     | 1,710  | 1,140   | 8,770   | -----    | 25,100  | 4,140    | 1,140   | 240    | 83    | 33    | 26    |
| 31   | 336     | -----  | 1,190   | 77,500  | -----    | 21,100  | -----    | 1,060   | -----  | 79    | 33    | ----- |
| Total  | 102,857 | 37,111 | 158,770 | 103,252 | 309,030  | 154,035 | 395,290  | 89,340  | 14,155 | 4,635 | 1,442 | 844   |
| Mean   | 3,318   | 1,237  | 5,122   | 3,331   | 11,040   | 4,969   | 13,180   | 2,882   | 472    | 150   | 46.5  | 28.1  |
| Max  | 33,100  | 12,500 | 28,300  | 77,500  | 95,400   | 30,500  | 40,800   | 4,900   | 984    | 231   | 72    | 33    |
| Min  | 31      | 211    | 1,140   | 397     | 1,540    | 678     | 3,850    | 1,060   | 240    | 79    | 33    | 25    |
| Ac-ft  | 204,000 | 73,610 | 314,900 | 204,800 | 613,000  | 305,500 | 784,000  | 177,200 | 28,080 | 9,190 | 2,860 | 1,670 |
| Calendar year 1962: Max 37,300 Min 14 Mean 2,621 Ac-ft 1,897,000 |         |        |         |         |          |         |          |         |        |       |       |       |
| Water year 1962-63: Max 95,400 Min 25 Mean 3,756 Ac-ft 2,719,000 |         |        |         |         |          |         |          |         |        |       |       |       |

Peak discharge (base, 22,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2200 | 24.15       | 63,500    | 3-27 | 2100 | 20.87       | 43,300    |
| 11-26 | 1900 | 17.75       | 27,900    | 4- 6 | 0800 | 22.28       | 51,700    |
| 12- 2 | 2200 | 24.18       | 63,700    | 4-14 | 1800 | 19.35       | 35,200    |
| 1-31  | 2000 | 36.60       | 159,000   |      |      |             |           |

## EEL RIVER BASIN

11-4744. Halls Creek near Covelo, Calif.

Location.--Lat 39°54'50", long 123°14'55", in sec.25, T.24 N., R.13 W., on right bank at downstream side of highway bridge, 6.8 miles southeast of Mina and 8.3 miles north of Covelo.

Drainage area.--25.9 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,570 ft (from topographic map).

Extremes.--Maximum discharge during year, 5,300 cfs Jan. 31 (gage height, 10.50 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of peak flow; no flow for many days.

1961-63: Maximum discharge, that of Jan. 31, 1963; no flow for many days in each year.

Revisions.--The maximum discharge for the water year 1962 has been revised to 2,580 cfs Feb. 13, 1962 (gage height, 7.76 ft), superseding figure published in 1962 Basic Data Release.

Remarks.--No known regulation or diversion above station.

Cooperation.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day  | Oct.    | Nov.    | Dec.  | Jan.    | Feb.  | Mar.  | Apr.   | May   | June  | July | Aug. | Sept. |
|--|---------|---------|-------|---------|-------|-------|--------|-------|-------|------|------|-------|
| 1  | 0       | 5.2     | 6.9   | 20      | 1,000 | 25    | 328    | 74    | 15    | 2.7  | *0.2 |       |
| 2  | 0       | 4.8     | 98.4  | 19      | 418   | *24   | *222   | 70    | 14    | 2.6  | .2   |       |
| 3  | 0       | 4.6     | 520   | 18      | 350   | 23    | 212    | 65    | 13    | 2.5  | .2   |       |
| 4  | 0       | 4.5     | 201   | 17      | 256   | 21    | 175    | 61    | 13    | 2.2  | .2   |       |
| 5  | 0       | 4.5     | 117   | 15      | 157   | 20    | 634    | 99    | 12    | 2.3  | .1   | (*)   |
| 6  | 0       | 4.2     | 83    | 14      | 134   | 20    | 975    | 77    | 12    | 2.2  | .1   |       |
| 7  | 0       | 4.1     | 64    | 13      | 97    | 19    | 706    | 96    | 11    | 2.2  | .1   |       |
| 8  | .1      | *4.0    | 51    | *12     | 137   | 19    | 516    | 73    | 10    | 2.0  | .1   |       |
| 9  | .8      | 4.4     | 42    | 12      | *112  | 18    | 395    | 58    | 9.6   | 1.9  | .1   |       |
| 10   | 268     | 5.2     | 36    | 12      | 130   | 16    | 360    | 63    | 9.1   | 1.8  | .1   |       |
| 11   | 762     | 6.3     | *30   | 12      | 85    | 15    | *278   | 83    | 8.5   | 1.5  | .1   |       |
| 12   | 1,200   | 20      | 59    | 15      | 221   | 14    | 559    | 69    | 8.0   | 1.4  | .1   |       |
| 13   | 420     | 13      | 290   | 13      | 200   | 13    | 581    | 58    | 7.5   | 1.2  | .1   |       |
| 14   | 381     | 8.3     | 113   | 11      | 123   | 16    | 1,080  | *53   | 6.8   | 1.1  | .1   |       |
| 15   | 136     | 6.7     | 731   | 9.4     | 93    | 16    | 646    | 51    | 6.2   | 1.0  | .1   |       |
| 16   | 73      | 6.2     | 326   | 8.5     | 87    | 26    | 373    | 49    | 5.8   | .9   | .1   |       |
| 17   | *48     | 6.3     | 205   | 9.2     | 76    | 31    | 255    | 48    | 5.2   | .8   | 0    |       |
| 18   | 35      | 5.9     | 133   | 12      | 65    | 33    | 201    | 45    | 5.0   | .8   | 0    |       |
| 19   | 26      | 5.4     | 98    | 12      | 57    | 38    | 199    | 41    | 4.6   | .8   | 0    |       |
| 20   | 20      | 5.1     | 77    | 12      | 58    | 43    | 159    | 39    | 4.2   | .7   | 0    |       |
| 21   | 16      | 5.0     | 64    | 11      | 49    | 40    | 132    | 37    | 4.1   | .7   | 0    |       |
| 22   | 14      | 4.8     | 55    | 7.8     | 43    | 45    | 120    | 33    | 4.7   | .6   | 0    |       |
| 23   | 12      | 4.6     | 48    | 5.6     | 39    | 123   | 109    | 30    | 5.2   | .6   | 0    |       |
| 24   | 11      | 4.3     | 40    | 5.6     | 36    | 94    | 101    | 27    | 4.3   | .5   | 0    |       |
| 25   | 9.3     | 5.0     | 36    | 6.9     | 33    | 72    | 96     | 25    | *3.9  | .4   | 0    |       |
| 26   | 8.3     | 920     | 32    | 7.6     | 30    | 69    | 84     | 23    | 3.6   | .4   | 0    |       |
| 27   | 8.0     | 237     | 28    | 7.1     | 28    | 1,550 | 75     | 21    | 3.4   | .4   | 0    |       |
| 28   | 6.9     | 95      | 26    | 6.1     | 26    | 761   | 76     | 19    | 3.3   | .3   | 0    |       |
| 29   | 6.4     | 61      | 23    | 67      | ----- | 527   | 76     | 18    | 3.1   | .3   | 0    |       |
| 30   | 5.9     | 60      | 22    | 922     | ----- | 526   | 77     | 17    | 3.0   | .3   | 0    |       |
| 31   | 5.6     | -----   | 22    | *2,450  | ----- | 567   | -----  | 16    | ----- | .2   | 0    | ----- |
| Total  | 3,473.3 | 1,525.4 | 4,625 | 3,762.8 | 4,140 | 4,824 | 9,800  | 1,538 | 219.1 | 37.3 | 2.0  | 0     |
| Mean   | 112     | 508     | 149   | 121     | 148   | 156   | 327    | 49.6  | 7.30  | 1.20 | 0.06 | 0     |
| Max  | 1,200   | 920     | 984   | 2,450   | 1,000 | 1,550 | 1,080  | 99    | 15    | 2.7  | 0.2  | 0     |
| Min  | 0       | 4.0     | 22    | 5.6     | 26    | 13    | 75     | 16    | 3.0   | 0.2  | 0    | 0     |
| Ac-ft  | 6,890   | 3,030   | 9,170 | 7,460   | 8,210 | 9,570 | 19,440 | 3,050 | 435   | 74   | 4.0  | 0     |
| Calendar year 1962: Max 1,440 Min 0 Mean 73.7 Ac-ft 53,370 |         |         |       |         |       |       |        |       |       |      |      |       |
| Water year 1962-63: Max 2,450 Min 0 Mean 93.0 Ac-ft 67,330 |         |         |       |         |       |       |        |       |       |      |      |       |

\* Discharge measurement or observation of no flow made on this day.



11-4745. North Fork Eel River near Mina, Calif.

Location.--Lat 39°56'15", long 123°20'45", in SW $\frac{1}{4}$  sec.8, T.24 N., R.13 W., on right bank 1.2 miles upstream from Asbill Creek, 2 miles south of Mina, and 8.8 miles northeast of Nashmead.

Drainage area.--250 sq mi.

Records available.--August 1953 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,030 ft (from topographic map). Aug. 27, 1953, to Jan. 15, 1954, water-stage recorder and Jan. 16 to June 22, 1954, wire-weight gage, at bridge 0.2 mile downstream at different datum.

Average discharge.--10 years, 601 cfs (435,100 acre-ft per year); median of yearly mean discharges, 480 cfs (348,000 acre-ft per year).

Extremes.--Maximum discharge during year, 26,600 cfs Jan. 31 (gage height, 19.25 ft), from rating curve extended above 8,000 cfs as explained below; minimum daily, 2.6 cfs Sept. 29.

1953-63: Maximum discharge, 58,400 cfs Dec. 22, 1955 (gage height, 24.00 ft), from rating curve extended above 8,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.1 cfs Aug. 30, 31, 1959.

Flood in December 1937 reached a stage of about 30.7 ft (former site and datum), from information by local resident.

Remarks.--Records good except those for period of doubtful or no gage-height record, which are fair.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.     | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.    | MAY    | JUNE  | JULY  | AUG.  | SEPT. |
|-------|----------|--------|--------|--------|--------|--------|---------|--------|-------|-------|-------|-------|
| 1     | d3.7     | 54     | 679    | 158    | 8,670  | 204    | 2,730   | 493    | 96    | 31    | 7.6   | 3.7   |
| 2     | d3.2     | 51     | 6,850  | 145    | 3,390  | 194    | 1,790   | 455    | 91    | 29    | 7.3   | 3.7   |
| 3     | d5.1     | 50     | 5,080  | 139    | 2,680  | 190    | 1,610   | 448    | 88    | 27    | 6.7   | 3.5   |
| 4     | d4.8     | 47     | 1,830  | 131    | 1,830  | 176    | 1,360   | 430    | 83    | 27    | 6.4   | 3.3   |
| 5     | d4.6     | 46     | 1,120  | 119    | 1,480  | 165    | 3,510   | 493    | 82    | 25    | 6.7   | 3.2   |
| 6     | d5.1     | 45     | 786    | 110    | 1,160  | 160    | 6,310   | 472    | 79    | 26    | 6.4   | 3.2   |
| 7     | d4.6     | 43     | 592    | 104    | 910    | *158   | 5,510   | 524    | 76    | 25    | 6.1   | 3.2   |
| 8     | d5.1     | 41     | 469    | 98     | 975    | 149    | 4,300   | 458    | 73    | 25    | *5.5  | 3.0   |
| 9     | a1.00    | 40     | 386    | 94     | 853    | 150    | 3,210   | 395    | 70    | 24    | 5.8   | 2.9   |
| 10    | a1,200   | 53     | 317    | 91     | 920    | 136    | *2,820  | 395    | 67    | 23    | 5.8   | 2.7   |
| 11    | a3,000   | 75     | 273    | 85     | 676    | 128    | 2,150   | 512    | 64    | 22    | 5.5   | 2.9   |
| 12    | 8,280    | 456    | 248    | 72     | 977    | 122    | 3,600   | 430    | 60    | 20    | 5.5   | 3.2   |
| 13    | 3,370    | 320    | 990    | 77     | 1,400  | 114    | 4,630   | 365    | 59    | 19    | 5.1   | 3.2   |
| 14    | 3,030    | 167    | 624    | 76     | 975    | 125    | 6,260   | 326    | 56    | 18    | 4.6   | 3.2   |
| 15    | 1,270    | 123    | 2,740  | 78     | 777    | 149    | 5,280   | *295   | 51    | 16    | 4.6   | 3.2   |
| 16    | 668      | 103    | 1,660  | 74     | 732    | 188    | 3,330   | 275    | 49    | 15    | 4.4   | 3.2   |
| 17    | 430      | 95     | 1,140  | 70     | 777    | 243    | 2,260   | 255    | 45    | 15    | 4.2   | 3.2   |
| 18    | 303      | 91     | 813    | 67     | 616    | 222    | 1,720   | 240    | 43    | 15    | 4.2   | *3.3  |
| 19    | 230      | 79     | *612   | 66     | 548    | 214    | 1,770   | 220    | 40    | 14    | 4.0   | 3.3   |
| 20    | 185      | 70     | 493    | 62     | 532    | 233    | 1,510   | 212    | 39    | 14    | 4.0   | 3.3   |
| 21    | 157      | 67     | 416    | 62     | 451    | 228    | 1,300   | 210    | 38    | 13    | 4.0   | 3.2   |
| 22    | 136      | 64     | 362    | *62    | 399    | 204    | 1,130   | 188    | 39    | 12    | 4.0   | 3.0   |
| 23    | 116      | 62     | 314    | 61     | 356    | 682    | 995     | 176    | 48    | 12    | 3.7   | 3.0   |
| 24    | 102      | 57     | 278    | 59     | 314    | 692    | 895     | 164    | 43    | 11    | 3.7   | 3.2   |
| 25    | 91       | 54     | 238    | 57     | 288    | 486    | 862     | 152    | *39   | 11    | 3.5   | 3.2   |
| 26    | 84       | 6,280  | 212    | 55     | 265    | 399    | 781     | 137    | 36    | 11    | 3.5   | 3.0   |
| 27    | 78       | 2,270  | 196    | 53     | 243    | 6,650  | 668     | 128    | 34    | 11    | 3.5   | 2.9   |
| 28    | 72       | 971    | 179    | 53     | 222    | 6,290  | 608     | 122    | 31    | 9.7   | 3.5   | 2.7   |
| 29    | 67       | 604    | 169    | 90     | -----  | 5,560  | 568     | 116    | 31    | 8.9   | 3.5   | 2.6   |
| 30    | 61       | 497    | 160    | 2,240  | -----  | 6,280  | 528     | 111    | 31    | 8.2   | 3.5   | 2.7   |
| 31    | *57      | -----  | 177    | 12,500 | -----  | 4,510  | -----   | 102    | ----- | 7.6   | 3.7   | ----- |
| TOTAL | 23,123.2 | 12,975 | 30,403 | 17,208 | 33,416 | 35,401 | 73,995  | 9,299  | 1,681 | 545.4 | 150.5 | 93.9  |
| MEAN  | 746      | 433    | 981    | 555    | 1,193  | 1,142  | 2,467   | 300    | 56.0  | 17.6  | 4.85  | 3.13  |
| MAX   | 8,280    | 6,280  | 6,850  | 12,500 | 8,670  | 6,650  | 6,310   | 524    | 96    | 31    | 7.6   | 3.7   |
| MIN   | 3.2      | 40     | 160    | 53     | 222    | 114    | 528     | 102    | 31    | 7.6   | 3.5   | 2.6   |
| AC-FT | 45,860   | 25,740 | 60,300 | 34,130 | 66,280 | 70,220 | 146,800 | 18,440 | 3,330 | 1,080 | 299   | 186   |

CALENDAR YEAR 1962: MAX 8,280 MIN 1.2 MEAN 496 AC-FT 359,000

WATER YEAR 1962-63: MAX 12,500 MIN 2.6 MEAN 653 AC-FT 472,700

Peak discharge (base, 8,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1800 | 16.63       | 15,900    | 3-27 | 1800 | 15.68       | 12,900    |
| 11-26 | 1300 | 16.50       | 15,500    | 4-6  | 0600 | 13.62       | 8,090     |
| 12-2  | 1900 | 17.18       | 17,800    | 4-14 | 0800 | 13.58       | 8,020     |
| 1-31  | 1600 | 19.25       | 26,600    |      |      |             |           |

\* Discharge measurement made on this day.

a No gage-height record.

d Doubtful gage-height record.

11-4750. Eel River at Alderpoint, Calif.

Location.--Lat 40°10'35", long 123°36'20", in NW $\frac{1}{4}$  sec.27, T.3 S., R.5 E., on left bank at Alderpoint, 600 ft downstream from Carter Creek and 11.4 miles northeast of Garberville.

Drainage area.--2,079 sq mi.

Records available.--September 1955 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 270 ft (from topographic map).

Average discharge.--8 years, 4,713 cfs (3,412,000 acre-ft per year).

Extremes.--Maximum discharge during year, 195,000 cfs Jan. 31 (gage height, 52.60 ft); minimum, 34 cfs Sept. 16.

1955-63: Maximum discharge, 376,000 cfs Dec. 22, 1955 (gage height, 72.5 ft, from floodmarks), from rating curve extended above 110,000 cfs on basis of slope-area measurement of peak flow; minimum, 12 cfs Aug. 17, 1959.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow slightly regulated by Lake Pillsbury (see p. 370) and by diversion through Potter Valley powerhouse (see p. 372).

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.     | Mar.    | Apr.    | May     | June   | July   | Aug.  | Sept. |
|-------|---------|---------|---------|---------|----------|---------|---------|---------|--------|--------|-------|-------|
| 1     | 55      | 421     | 3,590   | 1,590   | *121,000 | 1,950   | 21,600  | *5,530  | 1,200  | 300    | 102   | 46    |
| 2     | *63     | 397     | *23,500 | 1,480   | 47,100   | 1,820   | 14,900  | 5,510   | 1,120  | 280    | 99    | 46    |
| 3     | 76      | 385     | 49,500  | 1,380   | 28,500   | 1,720   | 12,700  | 5,440   | 960    | 270    | 95    | 46    |
| 4     | 63      | 368     | 16,700  | 1,300   | 20,000   | 1,640   | 12,100  | 5,230   | 881    | 260    | 91    | 46    |
| 5     | 55      | 352     | 9,870   | 1,210   | 15,200   | 1,530   | 16,400  | 5,190   | 814    | 250    | 88    | 46    |
| 6     | 50      | 341     | 6,620   | 1,120   | 11,200   | 1,430   | 48,000  | 6,000   | 742    | 240    | 86    | 45    |
| 7     | 50      | 330     | 4,900   | 1,080   | *8,960   | 1,390   | 43,400  | 5,720   | 681    | 220    | 86    | 42    |
| 8     | 57      | 320     | 3,890   | 1,040   | 7,640    | 1,360   | 35,300  | 6,040   | 647    | 210    | 84    | 39    |
| 9     | 274     | 315     | 3,220   | 1,000   | 7,320    | 1,340   | 27,900  | 5,170   | 574    | 200    | 81    | 39    |
| 10    | 5,480   | 310     | *2,740  | 980     | 10,200   | 1,300   | 26,200  | 4,470   | 527    | 190    | 79    | 36    |
| 11    | 13,100  | 433     | *2,400  | 950     | 10,100   | 1,220   | 23,100  | 4,720   | 500    | 180    | 77    | 35    |
| 12    | 47,200  | 752     | 2,140   | 890     | 8,230    | 1,140   | 25,600  | 4,310   | 470    | 170    | 74    | 35    |
| 13    | 39,000  | 944     | 3,670   | 834     | 12,800   | 1,100   | 28,200  | 3,800   | 450    | 170    | 72    | 35    |
| 14    | 17,100  | 752     | 4,990   | 814     | 9,630    | 1,120   | 36,600  | 3,560   | 430    | 160    | 70    | 35    |
| 15    | 9,500   | 589     | 11,900  | 814     | 7,460    | 1,260   | 40,800  | 3,320   | 410    | 160    | 66    | 35    |
| 16    | 5,010   | 510     | 16,300  | 814     | 6,440    | 1,650   | 27,600  | 3,300   | 400    | 150    | 60    | 35    |
| 17    | 3,100   | 471     | 10,600  | 805     | 6,280    | 2,330   | 20,100  | 3,320   | 390    | 150    | 59    | 35    |
| 18    | 2,210   | 458     | 8,210   | 787     | 5,320    | 2,200   | 15,900  | 3,400   | 370    | 150    | 56    | 35    |
| 19    | 1,690   | 427     | 6,300   | 760     | 4,660    | 1,920   | 14,600  | 3,290   | 360    | 140    | 52    | 35    |
| 20    | 1,370   | 397     | 4,900   | 742     | 4,240    | 1,840   | 12,600  | 3,290   | 350    | 140    | 51    | 35    |
| 21    | 1,130   | 374     | 4,090   | 724     | 3,970    | 1,840   | 11,200  | 3,300   | 350    | 135    | 50    | 35    |
| 22    | 962     | 358     | 3,430   | 715     | 3,560    | 1,750   | 9,680   | 2,970   | 340    | 135    | 47    | 42    |
| 23    | 845     | 346     | 3,080   | 706     | 3,290    | 3,110   | 8,320   | 2,740   | 350    | 132    | 47    | 43    |
| 24    | 760     | 336     | 2,760   | 698     | 3,000    | 5,440   | 7,300   | 2,560   | 380    | 132    | 46    | 44    |
| 25    | 698     | 336     | 2,410   | 690     | 2,740    | 3,720   | 7,500   | 2,350   | *410   | 128    | 46    | 43    |
| 26    | 631     | 19,000  | 2,140   | 681     | 2,500    | 2,970   | 7,300   | 2,080   | 400    | 126    | 46    | 42    |
| 27    | 589     | 20,800  | *1,930  | 672     | *2,290   | 18,700  | 5,910   | *1,850  | 360    | 124    | *46   | 39    |
| 28    | 549     | 7,640   | 1,770   | 656     | 2,100    | 48,100  | 5,530   | 1,710   | 340    | 116    | 46    | 38    |
| 29    | 510     | 4,500   | 1,670   | 698     | -----    | *36,800 | 5,530   | 1,600   | 320    | *110   | 46    | 36    |
| 30    | 471     | 3,510   | 1,560   | *5,250  | -----    | 39,900  | 5,440   | 1,470   | 310    | 106    | 46    | 35    |
| 31    | 445     | -----   | 1,590   | 76,400  | -----    | 34,200  | -----   | 1,330   | -----  | 99     | 46    | ----- |
| Total | 153,093 | 66,472  | 222,370 | 108,280 | 375,730  | 227,790 | 577,310 | 114,570 | 15,836 | 5,333  | 2,040 | 1,178 |
| Mean  | 4,938   | 2,216   | 7,173   | 3,493   | 13,420   | 7,348   | 19,240  | 3,696   | 528    | 117    | 65.8  | 39.3  |
| Max   | 47,200  | 20,800  | 49,500  | 76,400  | 121,000  | 48,100  | 48,000  | 6,040   | 1,200  | 300    | 102   | 46    |
| Min   | 50      | 310     | 1,560   | 656     | 2,100    | 1,100   | 5,440   | 1,330   | 310    | 99     | 46    | 35    |
| Ac-ft | 303,700 | 131,800 | 441,100 | 214,800 | 745,200  | 451,800 | *1,145  | 227,200 | 31,410 | 10,580 | 4,050 | 2,340 |

Calendar year 1962: Max 49,500 Min 13 Mean 3,669 Ac-ft 2,656,000  
 Water year 1962-63: Max 121,000 Min 35 Mean 5,123 Ac-ft 3,709,000

Peak discharge (base, 41,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time  | Gage height | Discharge |
|-------|------|-------------|-----------|------|-------|-------------|-----------|
| 10-13 | 0100 | 29.80       | 74,800    | 3-28 | 0200  | 25.43       | 59,500    |
| 12-3  | 0200 | 30.66       | 77,800    | 4-6  | 11500 | 25.70       | 60,400    |
| 1-31  | 2400 | 52.60       | 195,000   | 4-15 | 10600 | 21.50       | 45,800    |

\* Discharge measurement made on this day.

† Expressed in thousands.

Note.--Computed from once-daily telemark readings Apr. 5 to May 1. No gage-height record June 11 to July 22.

† About.

11-4750. Eel River at Alderpoint, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature during year, 81°F Aug. 7, 11; minimum, 37°F Jan. 14, 15.

1960-63: Maximum temperature, 82°F July 11-13, 1961; minimum, 37°F Jan. 5-8, 1961, Jan. 14, 15, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 71   | 67  | 61    | 60    | 49   | 49  | 42   | 40  | 50    | 50    | 52   | 52  | 48    | 47    | -   | -   | 67    | 64    | 71   | 67  | 77   | 68  | 75    | 67    |
| 2   | 68   | 66  | 61    | 60    | 51   | 49  | 43   | 42  | 50    | 50    | 52   | 51  | -     | -     | 54  | 54  | 67    | 64    | 72   | 67  | 78   | 69  | 77    | 69    |
| 3   | 68   | 66  | 61    | 60    | 51   | 51  | 44   | 43  | 51    | 50    | 52   | 50  | -     | -     | 54  | 53  | 65    | 64    | 72   | 67  | 76   | 70  | 79    | 70    |
| 4   | 66   | 64  | 60    | 60    | 51   | 51  | 44   | 44  | 51    | 51    | 50   | 48  | -     | -     | 53  | 53  | 64    | 64    | 72   | 68  | 78   | 70  | 79    | 70    |
| 5   | 67   | 63  | 61    | 60    | 51   | 50  | 44   | 44  | 51    | 51    | 49   | 48  | -     | -     | 53  | 53  | 64    | 63    | 74   | 70  | 78   | 70  | 74    | 70    |
| 6   | 66   | 63  | 60    | 59    | 50   | 50  | 44   | 43  | 52    | 51    | 48   | 48  | -     | -     | 53  | 53  | 65    | 64    | 72   | 70  | 79   | 70  | 79    | 70    |
| 7   | 64   | 62  | 59    | 58    | 50   | 50  | 43   | 43  | 53    | 52    | 49   | 48  | -     | -     | 54  | 53  | 66    | 64    | 71   | 68  | 81   | 71  | 79    | 70    |
| 8   | 67   | 61  | 58    | 57    | 50   | 49  | 43   | 43  | 53    | 53    | 49   | 48  | -     | -     | 53  | 53  | 67    | 64    | 72   | 69  | 75   | 73  | 79    | 70    |
| 9   | 66   | 65  | 57    | 57    | 49   | 49  | 43   | 43  | 53    | 53    | 50   | 48  | -     | -     | 53  | 52  | 68    | 66    | 73   | 68  | 78   | 72  | 77    | 70    |
| 10  | 65   | 63  | 58    | 57    | 49   | 48  | 43   | 43  | 53    | 53    | 51   | 50  | -     | -     | 52  | 52  | 68    | 65    | 73   | 68  | 80   | 71  | 78    | 69    |
| 11  | 63   | 60  | 57    | 57    | 48   | 47  | 43   | 41  | 53    | 53    | 51   | 50  | -     | -     | 52  | 51  | 70    | 66    | 74   | 68  | 81   | 72  | 75    | 69    |
| 12  | 60   | 60  | 57    | 57    | 47   | 47  | 41   | 39  | 53    | 53    | 50   | 50  | -     | -     | 51  | 50  | 73    | 68    | 76   | 70  | 79   | 72  | 75    | 70    |
| 13  | 60   | 58  | 57    | 56    | 48   | 47  | 39   | 38  | 53    | 53    | 51   | 50  | -     | -     | 52  | 50  | 73    | 70    | 77   | 72  | 77   | 71  | 76    | 68    |
| 14  | 58   | 57  | 56    | 55    | 49   | 48  | 38   | 37  | 53    | 53    | 51   | 50  | -     | -     | 53  | 52  | 75    | 71    | 77   | 72  | 77   | 70  | 75    | 69    |
| 15  | 57   | 57  | 55    | 54    | 50   | 49  | 38   | 37  | 53    | 52    | 50   | 50  | -     | -     | 55  | 53  | 77    | 70    | 75   | 72  | 78   | 69  | 72    | 68    |
| 16  | 57   | 55  | 54    | 54    | 50   | 49  | 39   | 38  | 52    | 52    | 50   | 49  | -     | -     | 55  | 53  | 78    | 72    | 75   | 70  | 77   | 69  | 71    | 66    |
| 17  | 55   | 54  | 54    | 54    | 50   | 50  | 40   | 39  | 52    | 52    | 49   | 48  | -     | -     | 59  | 55  | 78    | 74    | 75   | 70  | 77   | 69  | 72    | 65    |
| 18  | 55   | 55  | 54    | 54    | 50   | 50  | 40   | 40  | 52    | 52    | 49   | 48  | -     | -     | 60  | 59  | 77    | 74    | 76   | 71  | 75   | 67  | 72    | 66    |
| 19  | 56   | 55  | 54    | 54    | 50   | 48  | 40   | 40  | 52    | 52    | 50   | 49  | -     | -     | 60  | 59  | 75    | 72    | 75   | 71  | 75   | 68  | 73    | 65    |
| 20  | 58   | 56  | 54    | 54    | 48   | 48  | 40   | 39  | 53    | 52    | 51   | 50  | -     | -     | 59  | 59  | 74    | 70    | 74   | 71  | 75   | 68  | 73    | 67    |
| 21  | 58   | 57  | 54    | 54    | 48   | 47  | 40   | 39  | 53    | 53    | 51   | 51  | -     | -     | 59  | 59  | 72    | 68    | 74   | 71  | 75   | 68  | 71    | 67    |
| 22  | 59   | 58  | 54    | 54    | 47   | 47  | 40   | 39  | 53    | 53    | 51   | 50  | -     | -     | 59  | 59  | 70    | 68    | 76   | 72  | 75   | 68  | 67    | 67    |
| 23  | 60   | 59  | 54    | 54    | 47   | 46  | 40   | 39  | 53    | 52    | 50   | 49  | -     | -     | 60  | 59  | 71    | 67    | 75   | 70  | 74   | 67  | 72    | 67    |
| 24  | 60   | 60  | 54    | 54    | 46   | 44  | 40   | 40  | 52    | 52    | 50   | 49  | -     | -     | 60  | 59  | 71    | 69    | 76   | 70  | 74   | 67  | 74    | 67    |
| 25  | 60   | 60  | 54    | 54    | 44   | 41  | 41   | 40  | 52    | 52    | 49   | 49  | -     | -     | 62  | 60  | 72    | 69    | 76   | 70  | 74   | 66  | 74    | 67    |
| 26  | 60   | 60  | 54    | 54    | 41   | 40  | 41   | 40  | 52    | 52    | 49   | 49  | -     | -     | 62  | 62  | 74    | 68    | 77   | 70  | 74   | 66  | 75    | 67    |
| 27  | 61   | 60  | 54    | 53    | 40   | 39  | 42   | 41  | 53    | 52    | 49   | 49  | -     | -     | 66  | 62  | 72    | 69    | 80   | 70  | 76   | 67  | 75    | 68    |
| 28  | 62   | 60  | 53    | 51    | 39   | 39  | 42   | 42  | 52    | 52    | 49   | 48  | -     | -     | 66  | 65  | 71    | 67    | 78   | 72  | 75   | 68  | 73    | 67    |
| 29  | 63   | 62  | 51    | 49    | 39   | 39  | 42   | 42  | ----- | ----- | 48   | 48  | -     | -     | 65  | 64  | 71    | 66    | 77   | 71  | 73   | 68  | 73    | 67    |
| 30  | 63   | 62  | 49    | 49    | 39   | 39  | 45   | 42  | ----- | ----- | 48   | 48  | -     | -     | 66  | 64  | 72    | 67    | 77   | 70  | 70   | 63  | 72    | 67    |
| 31  | 62   | 61  | ----- | ----- | 40   | 39  | 50   | 45  | ----- | ----- | 48   | 48  | ----- | ----- | 67  | 65  | ----- | ----- | 76   | 70  | 72   | 68  | ----- | ----- |
| Avg | 62   | 60  | 56    | 55    | 47   | 46  | 42   | 41  | 52    | 52    | 50   | 49  | -     | -     | -   | -   | 71    | 68    | 75   | 70  | 76   | 69  | 75    | 68    |

## EEL RIVER BASIN

11-4755. South Fork Eel River near Branscomb, Calif.

Location.--Lat 39°43'09", long 123°39'06", in NW $\frac{1}{4}$  sec.32, T.22 N., R.16 W., on right bank 0.4 mile upstream from Jack of Hearts Creek and 4.7 miles north of Branscomb.

Drainage area.--43.9 sq mi.

Records available.--October 1946 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 1,380 ft (from topographic map).

Average discharge.--17 years, 170 cfs (123,100 acre-ft per year); median of yearly mean discharges, 155 cfs (112,200 acre-ft per year).

Extremes.--Maximum discharge during year, 7,090 cfs Dec. 2 (gage height, 10.14 ft); minimum, 2.7 cfs many days in September.

1946-63: Maximum discharge, 20,100 cfs Dec. 22, 1955 (gage height, 16.20 ft), from rating curve extended above 4,600 cfs on basis of slope-area measurement of peak flow; minimum, 1.3 cfs Sept. 10, 1959, Oct. 24, 1961.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |     |     |       |
|-----|-----|-----|-----|-----|-------|
| 0.8 | 1.3 | 1.4 | 42  | 4.0 | 880   |
| .9  | 3.2 | 1.7 | 94  | 5.0 | 1,430 |
| 1.0 | 6.4 | 2.0 | 164 | 6.0 | 2,170 |
| 1.1 | 12  | 3.0 | 470 | 7.0 | 3,000 |
| 1.2 | 19  |     |     |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.   | JAN.  | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|--------|-------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 6.4     | 39    | 241    | 78    | 2,280  | 83     | 704    | 114   | 32    | 17    | 8.3   | 4.0   |
| 2     | 6.0     | *38   | 2,790  | 74    | 1,060  | 80     | 505    | 108   | 30    | 17    | 7.8   | 3.7   |
| 3     | 7.3     | 37    | 1,990  | *69   | 646    | 80     | 526    | 102   | 29    | 17    | 7.8   | 3.5   |
| 4     | 6.0     | 36    | 820    | 65    | 509    | 74     | 419    | 96    | 29    | 17    | 7.8   | 3.2   |
| 5     | 5.3     | 34    | 523    | 63    | 409    | 71     | 1,360  | 96    | 28    | 17    | 7.8   | 3.2   |
| 6     | 5.0     | 33    | 384    | 58    | 358    | 69     | 2,330  | 90    | 28    | 17    | 7.3   | 3.2   |
| 7     | 5.0     | 32    | 298    | 58    | *301   | 67     | 1,480  | 90    | 27    | 17    | 6.8   | 3.0   |
| 8     | 27      | 30    | 238    | 56    | 283    | 65     | 1,040  | 85    | 26    | 17    | 6.8   | 3.0   |
| 9     | 132     | 34    | 198    | 53    | 256    | 63     | 855    | 80    | 26    | 16    | *6.4  | 3.0   |
| 10    | 797     | 39    | 167    | 52    | 241    | 60     | 850    | 78    | 25    | 15    | 6.0   | 3.0   |
| 11    | 1,160   | 45    | 143    | 52    | 209    | 60     | 670    | 81    | 24    | 14    | 5.3   | 3.0   |
| 12    | 2,060   | 94    | 146    | 50    | 256    | 58     | 820    | 74    | 23    | 14    | 5.0   | 3.0   |
| 13    | 1,240   | 87    | 274    | 47    | 307    | 55     | 845    | 71    | 23    | 14    | 4.6   | 3.2   |
| 14    | 855     | 65    | 226    | 45    | 280    | *58    | 955    | *67   | 23    | 13    | 4.6   | 3.2   |
| 15    | 540     | 55    | 604    | 45    | 250    | 62     | 980    | 63    | 22    | 13    | 4.3   | 3.2   |
| 16    | 368     | 50    | 530    | 45    | 232    | 80     | 771    | 60    | 22    | 12    | 4.3   | *3.2  |
| 17    | 262     | 47    | *412   | 44    | 206    | 100    | *582   | 55    | 21    | 12    | 4.0   | 3.2   |
| 18    | 192     | 45    | 329    | 44    | 181    | 89     | 477    | 53    | 19    | 12    | 4.0   | 3.0   |
| 19    | 151     | 41    | 268    | 42    | 164    | 81     | 451    | 50    | 19    | 12    | 4.0   | 3.0   |
| 20    | 121     | 39    | 223    | 41    | 151    | 78     | 384    | 48    | 18    | 11    | 4.0   | 3.0   |
| 21    | 102     | 39    | 192    | 39    | 136    | 74     | 339    | 47    | 18    | 11    | 3.7   | 3.0   |
| 22    | 89      | 37    | 170    | 39    | 128    | 74     | 295    | 47    | 18    | 11    | 4.0   | 3.2   |
| 23    | 80      | 36    | 148    | 39    | 116    | 155    | 256    | 45    | 19    | 9.9   | 4.0   | 4.3   |
| 24    | 71      | 33    | 133    | 38    | 110    | 146    | 220    | 44    | *18   | 9.4   | 4.0   | 4.0   |
| 25    | 62      | 34    | 121    | 37    | 104    | 126    | 217    | 42    | 18    | 8.8   | 4.3   | 3.5   |
| 26    | 56      | 1,370 | 108    | 37    | 98     | 119    | 189    | 41    | 17    | 8.3   | 4.3   | 3.2   |
| 27    | 53      | 749   | 104    | 36    | 90     | 627    | 167    | 39    | 17    | 8.3   | 4.0   | 3.2   |
| 28    | 48      | 428   | 94     | 36    | 89     | 890    | 146    | 38    | 17    | 8.3   | 3.7   | 3.0   |
| 29    | 47      | 301   | 89     | 37    | -----  | 795    | 131    | 37    | 17    | 8.8   | 3.5   | 3.0   |
| 30    | 44      | 244   | 87     | 260   | -----  | 1,050  | 121    | 34    | 17    | 8.8   | 3.7   | 3.0   |
| 31    | 41      | ----- | 85     | 2,080 | -----  | 1,060  | -----  | 33    | ----- | 8.3   | 3.7   | ----- |
| TOTAL | 8,639.0 | 4,191 | 12,135 | 3,759 | 9,450  | 6,549  | 19,085 | 2,008 | 670   | 394.9 | 159.8 | 97.2  |
| MEAN  | 279     | 140   | 391    | 121   | 338    | 211    | 636    | 64.8  | 22.3  | 12.7  | 5.15  | 3.24  |
| MAX   | 2,060   | 1,370 | 2,790  | 2,080 | 2,280  | 1,060  | 2,330  | 114   | 32    | 17    | 8.3   | 4.3   |
| MIN   | 5.0     | 30    | 85     | 36    | 89     | 55     | 121    | 33    | 17    | 8.3   | 3.5   | 3.0   |
| AC-FT | 17,140  | 8,310 | 24,070 | 7,460 | 18,740 | 12,990 | 37,850 | 3,980 | 1,330 | 783   | 317   | 193   |

CALENDAR YEAR 1962: MAX 2,790 MIN 1.9 MEAN 155 AC-FT 112,300

WATER YEAR 1962-63: MAX 2,790 MIN 3.0 MEAN 184 AC-FT 133,200

Peak discharge (base, 2,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1800 | 7.87        | 3,910     | 1-31 | 2400 | 8.03        | 4,090     |
| 11-26 | 1200 | 7.18        | 3,180     | 4-6  | 0400 | 7.21        | 3,210     |
| 12-2  | 1800 | 10.14       | 7,090     |      |      |             |           |

11-4755. South Fork Eel River near Branscomb, Calif.--Continued.

Records available.--Water temperatures: October 1960 to September 1963.

Extremes.--Maximum temperature during year, 74°F June 17, 18, Aug. 7; minimum, 38°F Jan. 12-22.

1960-63: Maximum temperature recorded, 82°F Aug. 7, 1961; minimum recorded, 37°F Nov. 17, 18, 1961.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 62   | 57  | 54    | 53    | 50   | 50  | 45   | 44  | 48    | 48    | 48   | 48  | 48    | 48    | 53  | 51  | 65    | 61    | 63   | 58  | 72   | 63  | 66    | 60    |
| 2   | 60   | 59  | 54    | 54    | 52   | 50  | 45   | 45  | 48    | 48    | 48   | 47  | 48    | 47    | 53  | 52  | 65    | 62    | 62   | 58  | 71   | 63  | 68    | 61    |
| 3   | 59   | 57  | 54    | 54    | 52   | 51  | 46   | 45  | 50    | 48    | 47   | 45  | 48    | 47    | 52  | 52  | 63    | 60    | 61   | 58  | 71   | 63  | 70    | 62    |
| 4   | 58   | 55  | 54    | 54    | 52   | 52  | 46   | 46  | 50    | 50    | 46   | 44  | 50    | 48    | 52  | 52  | 63    | 60    | 62   | 59  | 72   | 63  | 70    | 63    |
| 5   | 57   | 54  | 54    | 54    | 52   | 52  | 46   | 44  | 50    | 50    | 45   | 45  | 49    | 49    | 52  | 51  | 64    | 61    | 63   | 60  | 73   | 63  | 70    | 65    |
| 6   | 56   | 55  | 55    | 54    | 53   | 52  | 44   | 44  | 50    | 50    | 45   | 44  | 49    | 49    | 53  | 52  | 64    | 60    | 62   | 60  | 73   | 63  | 70    | 63    |
| 7   | 56   | 54  | 54    | 53    | 53   | 53  | 44   | 44  | 50    | 48    | 47   | 44  | 49    | 49    | 56  | 52  | 64    | 61    | 63   | 60  | 74   | 65  | 69    | 62    |
| 8   | 57   | 54  | 53    | 52    | 53   | 52  | 44   | 43  | 50    | 48    | 47   | 46  | 49    | 49    | 55  | 52  | 66    | 62    | 64   | 58  | 70   | 67  | 69    | 63    |
| 9   | 57   | 57  | 53    | 52    | 52   | 52  | 43   | 42  | 50    | 50    | 48   | 46  | 49    | 49    | 52  | 50  | 67    | 64    | 66   | 59  | 71   | 67  | 69    | 63    |
| 10  | 57   | 57  | 53    | 53    | 52   | 51  | 42   | 42  | 50    | 50    | 48   | 47  | 49    | 49    | 52  | 51  | 66    | 63    | 67   | 62  | 71   | 65  | 67    | 62    |
| 11  | 57   | 57  | 53    | 53    | 51   | 51  | 42   | 40  | 50    | 50    | 48   | 46  | 49    | 49    | 52  | 50  | 67    | 63    | 70   | 62  | 72   | 65  | 66    | 62    |
| 12  | 57   | 57  | 54    | 53    | 51   | 51  | 40   | 38  | 50    | 50    | 47   | 45  | 49    | 49    | 54  | 50  | 69    | 65    | 71   | 63  | 70   | 63  | 67    | 65    |
| 13  | 57   | 57  | 54    | 54    | 52   | 51  | 38   | 38  | 50    | 50    | 47   | 45  | 49    | 49    | 54  | 52  | 70    | 67    | 72   | 65  | 69   | 62  | 67    | 63    |
| 14  | 57   | 56  | 54    | 51    | 53   | 52  | 38   | 38  | 50    | 50    | 47   | 46  | 49    | 49    | 58  | 52  | 70    | 66    | 72   | 65  | 70   | 61  | 67    | 62    |
| 15  | 56   | 55  | 51    | 50    | 53   | 53  | 38   | 38  | 50    | 50    | 46   | 44  | 49    | 49    | 60  | 55  | 71    | 67    | 70   | 63  | 71   | 62  | 66    | 63    |
| 16  | 55   | 54  | 50    | 50    | 53   | 53  | 38   | 38  | 50    | 50    | 45   | 42  | 49    | 48    | 62  | 57  | 72    | 68    | 68   | 62  | 71   | 62  | 63    | 60    |
| 17  | 54   | 54  | 50    | 50    | 53   | 52  | 38   | 38  | 50    | 50    | 46   | 43  | 48    | 47    | 62  | 57  | 74    | 70    | 68   | 62  | 70   | 62  | 62    | 58    |
| 18  | 54   | 54  | 50    | 50    | 52   | 52  | 38   | 38  | 50    | 50    | 46   | 44  | 48    | 48    | 62  | 58  | 74    | 71    | 70   | 61  | 69   | 62  | 62    | 58    |
| 19  | 55   | 54  | 50    | 49    | 52   | 50  | 38   | 38  | 50    | 50    | 48   | 45  | 48    | 48    | 63  | 58  | 72    | 69    | 70   | 62  | 68   | 62  | 63    | 58    |
| 20  | 55   | 55  | 49    | 48    | 50   | 49  | 38   | 38  | 50    | 50    | 49   | 47  | 48    | 48    | 63  | 61  | 70    | 67    | 70   | 62  | 69   | 61  | 62    | 58    |
| 21  | 55   | 55  | 50    | 48    | 49   | 49  | 38   | 38  | 50    | 50    | 49   | 48  | 48    | 48    | 62  | 59  | 68    | 66    | 69   | 62  | 69   | 62  | 62    | 57    |
| 22  | 55   | 55  | 50    | 50    | 49   | 49  | 39   | 38  | 50    | 49    | 48   | 48  | 50    | 48    | 60  | 58  | 66    | 64    | 70   | 62  | 68   | 61  | 61    | 60    |
| 23  | 55   | 55  | 50    | 50    | 49   | 48  | 40   | 39  | 49    | 48    | 48   | 46  | 52    | 49    | 61  | 58  | 66    | 62    | 69   | 62  | 66   | 60  | 63    | 59    |
| 24  | 55   | 55  | 50    | 50    | 48   | 46  | 41   | 40  | 48    | 48    | 47   | 46  | 52    | 50    | 64  | 60  | 66    | 63    | 68   | 61  | 64   | 58  | 64    | 58    |
| 25  | 55   | 55  | 50    | 50    | 46   | 44  | 41   | 41  | 48    | 48    | 48   | 46  | 50    | 50    | 64  | 61  | 66    | 62    | 70   | 60  | 65   | 57  | 63    | 58    |
| 26  | 55   | 55  | 52    | 50    | 44   | 44  | 41   | 40  | 48    | 48    | 48   | 48  | 50    | 50    | 64  | 61  | 66    | 62    | 72   | 62  | 65   | 57  | 65    | 59    |
| 27  | 55   | 55  | 52    | 52    | 44   | 44  | 41   | 40  | 48    | 47    | 48   | 48  | 52    | 49    | 64  | 60  | 65    | 60    | 73   | 63  | 66   | 59  | 64    | 59    |
| 28  | 55   | 54  | 52    | 51    | 44   | 44  | 41   | 41  | 48    | 47    | 48   | 48  | 53    | 50    | 64  | 61  | 60    | 57    | 73   | 63  | 68   | 60  | 64    | 58    |
| 29  | 54   | 54  | 51    | 48    | 44   | 44  | 41   | 41  | ----- | ----- | 48   | 48  | 54    | 51    | 64  | 61  | 61    | 56    | 73   | 62  | 68   | 61  | 63    | 58    |
| 30  | 54   | 54  | 51    | 50    | 44   | 44  | 44   | 41  | ----- | ----- | 48   | 48  | 54    | 52    | 64  | 61  | 63    | 58    | 72   | 62  | 66   | 62  | 62    | 56    |
| 31  | 54   | 53  | ----- | ----- | 44   | 44  | 48   | 44  | ----- | ----- | 48   | 48  | ----- | ----- | 65  | 62  | ----- | ----- | 72   | 62  | 67   | 63  | ----- | ----- |
| Avg | 56   | 55  | 52    | 51    | 50   | 49  | 41   | 41  | 49    | 49    | 47   | 46  | 50    | 49    | 59  | 56  | 67    | 63    | 68   | 61  | 69   | 62  | 65    | 60    |

11-4757. Tenmile Creek near Laytonville, Calif.

Location.--Lat 39°45'45", long 123°32'30", in NW $\frac{1}{4}$  sec.16, T.22 N., R.15 W., on right bank 0.1 mile downstream from Step Gulch Creek and 6.0 miles northwest of Laytonville.

Drainage area.--50.3 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,450 ft (from topographic map).

Average discharge.--6 years, 153 cfs (110,800 acre-ft per year).

Extremes.--Maximum discharge during year, 9,530 cfs Jan. 31 (gage height, 16.63 ft), from rating curve extended above 4,300 cfs as explained below; minimum, 0.6 cfs Sept. 8,9.

1957-63: Maximum discharge, 12,200 cfs Feb. 8, 1960 (gage height, 19.14 ft, from floodmarks), from rating curve extended above 4,300 cfs on basis of slope-area measurement at gage height 22.9 ft; no flow at times in each year except 1960, 1963.

Flood of Dec. 22, 1955, reached a stage of 22.9 ft, from floodmarks (discharge, 16,300 cfs by slope-area measurement of peak flow).

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

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG. | SEPT. |
|-------|---------|-------|--------|--------|--------|--------|--------|-------|-------|-------|------|-------|
| 1     | 2.9     | 21    | 165    | 62     | 2,770  | 65     | 513    | 94    | 19    | 7.0   | 1.3  | 1.0   |
| 2     | 2.3     | *19   | 2,860  | 58     | *1,140 | 63     | 352    | 88    | 18    | 6.7   | 1.4  | 1.0   |
| 3     | 1.9     | 19    | 1,040  | *54    | 737    | 59     | 593    | 84    | 16    | 6.7   | 1.5  | .9    |
| 4     | 1.6     | 19    | 458    | 50     | 571    | 56     | 349    | 81    | 17    | 7.0   | 2.0  | .8    |
| 5     | 1.5     | 18    | 290    | 46     | 425    | 54     | 1,260  | 106   | 16    | 7.9   | 1.9  | .7    |
| 6     | 1.3     | 18    | 208    | 44     | 366    | 56     | 1,340  | 88    | 16    | 7.0   | 1.5  | .7    |
| 7     | 1.5     | 17    | 164    | 43     | *257   | 56     | 1,060  | 90    | 15    | 7.3   | 1.5  | .7    |
| 8     | 3.7     | 17    | 137    | 41     | 282    | 53     | 748    | 77    | 14    | 6.7   | 2.3  | .6    |
| 9     | 31      | 18    | 118    | 40     | 254    | 50     | 748    | 70    | 14    | 5.6   | *2.9 | .6    |
| 10    | 4.08    | 21    | 102    | 38     | 242    | 47     | 870    | 81    | 13    | 4.8   | 2.6  | .7    |
| 11    | 1,540   | 32    | 91     | 36     | 177    | 45     | 523    | 93    | 12    | 4.3   | 1.5  | .8    |
| 12    | 2,150   | 59    | 139    | 33     | 493    | 43     | 1,050  | 71    | 12    | 4.3   | 1.2  | .9    |
| 13    | 695     | 42    | 439    | 31     | 407    | 41     | 932    | 64    | 12    | 3.5   | 1.1  | .9    |
| 14    | 641     | 29    | 208    | 31     | 247    | *53    | 996    | *59   | 12    | 3.7   | 1.2  | .8    |
| 15    | 182     | 27    | 1,010  | 30     | 200    | 49     | 880    | 53    | 11    | 3.5   | 1.2  | .7    |
| 16    | 167     | 24    | 449    | 30     | 212    | 130    | 601    | 49    | 11    | 2.9   | 1.3  | *.7   |
| 17    | 118     | 25    | *321   | 29     | 191    | 121    | *428   | 47    | 9.9   | 3.1   | 1.2  | .9    |
| 18    | 84      | 22    | 225    | 27     | 157    | 92     | 407    | 43    | 8.8   | 3.7   | 1.1  | 1.5   |
| 19    | 66      | 20    | 173    | 26     | 142    | 74     | 507    | 39    | 8.2   | 3.3   | 1.0  | 2.0   |
| 20    | 54      | 19    | 147    | 25     | 139    | 65     | 368    | 38    | 7.3   | 2.9   | .9   | 1.2   |
| 21    | 46      | 19    | 130    | 25     | 122    | 56     | 293    | 36    | 8.2   | 2.6   | .9   | 1.0   |
| 22    | 42      | 19    | 116    | 25     | 110    | 83     | 242    | 35    | 9.5   | 2.6   | .9   | 1.1   |
| 23    | 39      | 18    | 107    | 24     | 100    | 339    | 206    | 34    | 9.9   | 2.2   | .9   | 1.3   |
| 24    | 35      | 18    | 93     | 23     | 92     | 162    | 173    | 32    | *8.8  | 2.3   | 1.3  | 1.4   |
| 25    | 33      | 19    | 82     | 23     | 84     | 116    | 193    | 31    | 8.5   | 2.2   | 1.0  | 1.2   |
| 26    | 30      | 2,190 | 84     | 22     | 79     | 156    | 164    | 29    | 7.6   | 2.3   | 1.3  | 1.1   |
| 27    | 28      | 487   | 71     | 22     | 73     | 1,730  | 141    | 27    | 7.9   | 1.7   | 1.5  | 1.0   |
| 28    | 26      | 240   | 67     | 21     | 70     | 1,150  | 125    | 25    | 7.9   | 2.0   | 1.1  | .8    |
| 29    | 25      | 151   | 62     | 50     | -----  | 1,070  | 113    | 25    | 7.9   | 2.2   | 1.1  | .7    |
| 30    | 23      | 128   | 71     | 1,120  | -----  | 1,380  | 103    | 21    | 7.9   | 1.3   | .9   | .7    |
| 31    | 22      | ----- | 73     | 5,290  | -----  | 884    | -----  | 20    | ----- | 1.9   | .9   | ----- |
| TOTAL | 6,501.7 | 3,775 | 9,700  | 7,419  | 10,139 | 8,398  | 16,278 | 1,730 | 346.3 | 125.2 | 42.4 | 28.4  |
| MEAN  | 210     | 126   | 313    | 239    | 362    | 271    | 543    | 55.8  | 11.5  | 4.04  | 1.37 | 0.95  |
| MAX   | 2,150   | 2,190 | 2,860  | 5,290  | 2,770  | 1,730  | 1,340  | 106   | 19    | 7.9   | 2.9  | 2.0   |
| MIN   | 1.3     | 17    | 62     | 21     | 70     | 41     | 103    | 20    | 7.3   | 1.3   | 0.9  | 0.6   |
| AC-FT | 12,900  | 7,490 | 19,240 | 14,720 | 20,110 | 16,660 | 32,290 | 3,430 | 687   | 248   | 84   | 56    |

CALENDAR YEAR 1962: MAX 2,860 MIN 0 MEAN 135 AC-FT 97,650

WATER YEAR 1962-63: MAX 5,290 MIN 0.6 MEAN 177 AC-FT 127,900

Peak discharge (base, 5,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date  | Time | Gage height | Discharge |
|-------|------|-------------|-----------|-------|------|-------------|-----------|
| 10-12 | 1700 | 12.23       | 5,130     | 12- 2 | 1800 | 13.36       | 6,260     |
| 11-26 | 0900 | 13.45       | 6,350     | 1-31  | 1400 | 16.63       | 9,530     |

11-4765. South Fork Eel River near Miranda, Calif.

Location.--Lat 40°10'55", long 123°46'30", in NW 1/4 sec.30, T.3 S., R.4 E., on right bank at Sylvaldale Campgrounds on U. S. Highway 101, 0.5 mile upstream from Rocky Glen Creek, 4.3 miles southeast of Miranda, and 20 miles upstream from mouth.

Drainage area.--537 sq mi.

Records available.--October 1939 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 217.29 ft above mean sea level (levels by California Division of Highways). Prior to Nov. 2, 1940, staff gage at site 200 ft upstream at datum 0.8 ft higher. Nov. 2, 1940, to Oct. 31, 1944, staff gage at present site and datum.

Average discharge.--24 years, 1,839 cfs (1,331,000 acre-ft per year).

Extremes.--Maximum discharge during year, 64,500 cfs Jan. 31 (gage height, 25.20 ft); minimum daily, 49 cfs Sept. 30.

1940-63: Maximum discharge, 173,000 cfs Dec. 22, 1955 (gage height, 42.7 ft, from floodmarks), from rating curve extended above 52,000 cfs on basis of slope-area measurement of peak flow; minimum observed, 9 cfs Oct. 17, 1944.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No diversion. Occasional storage and release for recreation use during summer months at Benbow Dam.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.   | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May    | June   | July  | Aug.  | Sept. |
|-------|---------|--------|---------|---------|---------|---------|---------|--------|--------|-------|-------|-------|
| 1     |         | 420    | *2,350  | 990     | *37,000 | 1,010   | 8,350   | 1,360  | 430    | 180   | 106   | 61    |
| 2     | (*)     | 400    | 13,700  | 900     | 14,100  | 955     | 5,880   | 1,270  | 410    | 180   | 104   | 60    |
| 3     |         | 370    | 21,400  | 852     | 8,890   | 900     | *5,130  | 1,230  | 376    | 180   | 101   | 60    |
| 4     | 85      | 360    | 8,340   | *796    | 6,790   | 850     | 4,270   | 1,180  | 360    | 180   | 101   | 59    |
| 5     |         | 340    | 5,060   | 732     | 5,980   | 800     | 7,600   | 1,490  | 352    | 180   | 98    | 59    |
| 6     |         | 330    | 3,720   | 688     | *5,300  | 750     | 17,900  | 1,420  | 340    | 180   | 96    | 59    |
| 7     |         | 320    | 3,000   | 658     | 4,380   | 730     | 14,400  | *1,380 | 328    | 170   | 95    | 58    |
| 8     |         | 310    | 2,570   | 635     | 4,110   | 691     | *11,700 | 1,300  | 312    | 170   | 91    | 57    |
| 9     | 250     | *340   | 2,230   | 610     | 3,570   | 673     | 9,490   | 1,180  | 296    | 160   | 94    | 57    |
| 10    | 4,000   | 500    | 1,970   | 590     | 3,450   | 637     | 9,020   | 1,140  | 276    | 160   | 101   | 56    |
| 11    | 22,000  | 800    | 1,750   | 565     | 2,850   | *610    | 7,240   | 1,260  | 264    | 160   | 92    | 57    |
| 12    | 27,000  | 1,100  | 1,730   | *540    | 3,140   | 583     | 11,800  | 1,150  | 264    | 160   | 89    | 57    |
| 13    | *16,200 | 1,200  | 3,290   | 526     | 4,860   | 547     | 12,400  | 1,050  | *292   | 150   | 86    | 57    |
| 14    | 8,760   | 1,000  | *3,010  | 508     | *3,710  | 592     | 14,200  | 988    | 356    | 150   | 83    | 57    |
| 15    | 5,270   | 840    | 7,880   | 500     | 3,160   | 664     | 12,600  | 922    | 360    | 150   | 80    | 57    |
| 16    | *3,490  | 700    | 6,540   | 490     | 3,230   | 1,230   | *9,410  | *860   | 344    | 140   | 78    | 170   |
| 17    | *2,600  | 600    | 4,500   | 482     | 3,030   | 1,180   | 6,800   | 820    | 320    | 140   | 76    | 150   |
| 18    | 2,080   | 540    | 3,490   | *468    | 2,530   | 955     | 5,100   | 770    | 288    | 140   | 76    | 137   |
| 19    | 1,600   | 500    | 2,890   | 459     | 2,210   | *840    | 5,060   | 730    | 268    | 130   | 75    | 58    |
| 20    | 1,400   | 450    | 2,520   | 446     | 2,050   | 750     | 4,000   | 720    | 229    | 130   | 73    | 52    |
| 21    | 1,200   | 420    | 2,230   | 434     | 1,890   | 700     | 3,450   | 700    | 149    | 130   | 73    | 52    |
| 22    | 1,000   | 390    | 1,990   | 426     | 1,690   | 673     | 3,030   | 680    | 151    | 130   | 72    | 52    |
| 23    | 920     | 370    | 1,800   | 422     | 1,550   | 1,250   | *2,600  | 650    | 217    | 124   | 70    | 52    |
| 24    | 800     | 350    | 1,620   | 410     | 1,440   | 1,660   | 2,310   | *620   | *226   | 124   | 68    | 53    |
| 25    | 740     | 400    | 1,440   | 402     | 1,320   | 1,220   | 2,170   | 600    | 217    | 119   | 67    | 53    |
| 26    | 680     | 3,000  | 1,320   | 390     | *1,230  | 1,600   | 2,090   | 580    | 205    | 109   | 67    | 52    |
| 27    | 620     | 20,000 | 1,220   | 382     | 1,150   | *8,810  | 1,810   | 560    | 193    | 109   | *67   | 52    |
| 28    | 560     | *4,400 | *1,110  | *378    | 1,080   | 14,500  | 1,680   | 540    | 187    | 107   | 65    | 50    |
| 29    | 520     | 3,500  | 1,000   | 468     | -----   | 13,700  | 1,550   | 520    | 187    | *107  | 64    | 50    |
| 30    | 480     | 2,900  | 1,120   | 2,740   | -----   | 16,000  | *1,430  | 492    | 185    | 110   | 63    | 49    |
| 31    | 450     | -----  | 1,160   | *31,100 | -----   | 12,600  | -----   | 465    | -----  | 107   | 62    | ----- |
| Total | 103,300 | 47,150 | 117,950 | 49,987  | 135,690 | 88,660  | 204,470 | 28,627 | 8,382  | 4,466 | 2,533 | 1,953 |
| Mean  | 3,332   | 1,572  | 3,805   | 1,612   | 4,846   | 2,860   | 6,816   | 923    | 279    | 144   | 81.7  | 65.1  |
| Max   | 27,000  | 20,000 | 21,400  | 31,100  | 37,000  | 16,000  | 17,900  | 1,490  | 430    | 180   | 106   | 170   |
| Min   | ---     | 310    | 1,000   | 378     | 1,080   | 547     | 1,430   | 465    | 149    | 107   | 62    | 49    |
| Ac-ft | 204,900 | 93,520 | 234,000 | 99,150  | 269,100 | 175,900 | 405,600 | 56,780 | 16,630 | 8,860 | 5,020 | 3,870 |

Calendar year 1962: Max 27,000 Min - Mean 1,694 Ac-ft 1,227,000

Water year 1962-63: Max 37,000 Min 49 Mean 2,173 Ac-ft 1,573,000

Peak discharge (base, 28,000 cfs)

| Date  | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|---------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | Unknown | 18.00       | 33,500    | 1-31 | 2200 | 25.20       | 64,500    |
| 12-3  | 0100    | 19.05       | 37,200    |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1 to Dec. 1, May 20-29, July 1-22.

11-4765. South Fork Eel River near Miranda, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature recorded during year, 90°F July 27; minimum, 34°F Jan. 20, 21.

1960-63: Maximum temperature recorded, 92°F July 10, 1961; minimum recorded, that of Jan. 20, 21, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |     |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-----|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min |
| 1   | -    | -   | 65    | 58    | 50   | 49  | 54   | 49  | 56    | 55    | 54   | 48  | 48    | 44    | 59  | 55  | 68    | 64    | 70   | 60  |      |     |       |     |
| 2   | -    | -   | 63    | 57    | 54   | 50  | 49   | 48  | 55    | 54    | 50   | 46  | 50    | 44    | 57  | 56  | 66    | 63    | 72   | 59  |      |     |       |     |
| 3   | -    | -   | 63    | 57    | 56   | 52  | 49   | 47  | 57    | 53    | 52   | 43  | 54    | 49    | 57  | 56  | 66    | 60    | 68   | 60  |      |     |       |     |
| 4   | -    | -   | 60    | 56    | 55   | 51  | 50   | 44  | 56    | 54    | 52   | 42  | 57    | 52    | 57  | 56  | 65    | 59    | 74   | 63  |      |     |       |     |
| 5   | -    | -   | 64    | 57    | 54   | 50  | 50   | 42  | 54    | 50    | 48   | 44  | 54    | 54    | 57  | 56  | 64    | 61    | 74   | 64  |      |     |       |     |
| 6   | -    | -   | 60    | 54    | 56   | 52  | 50   | 43  | 57    | 52    | 46   | 43  | 55    | 53    | 58  | 56  | 66    | 60    | 69   | 64  |      |     |       |     |
| 7   | -    | -   | 59    | 52    | 55   | 51  | 49   | 44  | 54    | 51    | 52   | 44  | 53    | 51    | 60  | 56  | 66    | 60    | 70   | 63  |      |     |       |     |
| 8   | -    | -   | 57    | 50    | 53   | 51  | 50   | 44  | 54    | 51    | 48   | 44  | 51    | 49    | 58  | 56  | 68    | 61    | 72   | 62  |      |     |       |     |
| 9   | -    | -   | 55    | 54    | 52   | 51  | 49   | 46  | 54    | 52    | 50   | 46  | 51    | 50    | 60  | 54  | 68    | 62    | 72   | 64  |      |     |       |     |
| 10  | -    | -   | 58    | 52    | 52   | 49  | 49   | 43  | 56    | 51    | 50   | 47  | 50    | 48    | 56  | 55  | 70    | 60    | 70   | 62  |      |     |       |     |
| 11  | -    | -   | 55    | 54    | 50   | 48  | 47   | 41  | 57    | 51    | 50   | 47  | 51    | 49    | 56  | 54  | 74    | 62    | 74   | 62  |      |     |       |     |
| 12  | -    | -   | 56    | 52    | 50   | 48  | 48   | 40  | 52    | 51    | 50   | 45  | 52    | 50    | 58  | 52  | 73    | 63    | 81   | 63  |      |     |       |     |
| 13  | -    | -   | 55    | 50    | 54   | 50  | 46   | 38  | 55    | 52    | 52   | 44  | 52    | 51    | 60  | 53  | 81    | 66    | 84   | 68  |      |     |       |     |
| 14  | -    | -   | 54    | 49    | 56   | 54  | 48   | 39  | 52    | 50    | 48   | 44  | 54    | 52    | 62  | 55  | 79    | 68    | 76   | 68  |      |     |       |     |
| 15  | -    | -   | 52    | 48    | 56   | 55  | 48   | 42  | 52    | 49    | 47   | 43  | 52    | 48    | 64  | 54  | 86    | 68    | 73   | 66  |      |     |       |     |
| 16  | -    | -   | 54    | 50    | 57   | 55  | 50   | 44  | 50    | 49    | 46   | 41  | 50    | 48    | 70  | 60  | 86    | 69    | 71   | 64  |      |     |       |     |
| 17  | 64   | 53  | 53    | 49    | 55   | 54  | 50   | 43  | 52    | 48    | 48   | 41  | 49    | 46    | 74  | 65  | 86    | 70    | 72   | 64  |      |     |       |     |
| 18  | 64   | 54  | 55    | 50    | 54   | 51  | 43   | 37  | 52    | 50    | 52   | 42  | 48    | 46    | 71  | 64  | 80    | 69    | 75   | 62  |      |     |       |     |
| 19  | 65   | 55  | 56    | 50    | 54   | 49  | 44   | 36  | 53    | 51    | 56   | 46  | 48    | 46    | 70  | 64  | 75    | 66    | 72   | 64  |      |     |       |     |
| 20  | 64   | 57  | 56    | 49    | 54   | 50  | 44   | 34  | 56    | 51    | 57   | 49  | 47    | 45    | 69  | 66  | 72    | 66    | 72   | 66  |      |     |       |     |
| 21  | 66   | 58  | 56    | 52    | 51   | 50  | 43   | 34  | 55    | 50    | 55   | 51  | 48    | 46    | 66  | 64  | 72    | 62    | 76   | 63  |      |     |       |     |
| 22  | 67   | 58  | 54    | 52    | 53   | 49  | 42   | 36  | 55    | 48    | 54   | 50  | 51    | 47    | 64  | 62  | 69    | 60    | 76   | 66  |      |     |       |     |
| 23  | 69   | 59  | 54    | 52    | 53   | 42  | 42   | 38  | 56    | 48    | 51   | 48  | 54    | 48    | 66  | 61  | 72    | 63    | 80   | 63  |      |     |       |     |
| 24  | 60   | 58  | 55    | 51    | 51   | 43  | 48   | 41  | 56    | 48    | 52   | 48  | 52    | 50    | 66  | 62  | 75    | 64    | 82   | 68  |      |     |       |     |
| 25  | 58   | 56  | 53    | 51    | 47   | 41  | 48   | 40  | 53    | 48    | 55   | 47  | 51    | 49    | 70  | 61  | 74    | 61    | 80   | 66  |      |     |       |     |
| 26  | 63   | 55  | 55    | 53    | 47   | 40  | 46   | 40  | 53    | 50    | 51   | 49  | 50    | 48    | 67  | 62  | 78    | 60    | 85   | 64  |      |     |       |     |
| 27  | 66   | 58  | 54    | 49    | 48   | 41  | 48   | 40  | 54    | 46    | 52   | 46  | 54    | 46    | 69  | 60  | 69    | 63    | 90   | 67  |      |     |       |     |
| 28  | 67   | 58  | 50    | 44    | 50   | 42  | 44   | 41  | 53    | 46    | 48   | 46  | 56    | 49    | 67  | 61  | 68    | 60    | 82   | 68  |      |     |       |     |
| 29  | 67   | 58  | 46    | 42    | 50   | 42  | 45   | 44  | ----- | ----- | 47   | 46  | 59    | 51    | 67  | 61  | 69    | 57    | 82   | 67  |      |     |       |     |
| 30  | 64   | 58  | 49    | 46    | 45   | 43  | 50   | 45  | ----- | ----- | 48   | 46  | 60    | 54    | 69  | 62  | 72    | 61    | 82   | 66  |      |     |       |     |
| 31  | 65   | 57  | ----- | ----- | 49   | 45  | 55   | 50  | ----- | ----- | 48   | 46  | ----- | ----- | 69  | 62  | ----- | ----- | 79   | 66  |      |     |       |     |
| Avg | -    | -   | 56    | 51    | 52   | 48  | 48   | 42  | 54    | 50    | 51   | 46  | 52    | 49    | 64  | 59  | 73    | 63    | 76   | 64  |      |     |       |     |



11-4766. Bull Creek near Weott, Calif.

Location.--Lat 40°21'05", long 124°00'10", in NW $\frac{1}{4}$  sec.30, T.1 S., R.1 E., on right bank 0.2 mile downstream from Albee Creek, 4.5 miles northwest of Weott, and 4.6 miles upstream from mouth.

Drainage area.--28.1 sq mi.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 262.23 ft above mean sea level (levels by California Division of Beaches and Parks).

Extremes.--Maximum discharge during year, 4,120 cfs Jan. 31 (gage height, 16.12 ft); minimum daily, not determined.

1960-63: Maximum discharge, that of Jan. 31, 1962; maximum gage height, 16.88 ft Feb. 10, 1961; minimum daily discharge, 2.2 cfs Sept. 17, 18, 26, 1962.

Remarks.--Records fair except those for periods of no gage-height record or shifting control, which are poor. Some regulation at low flow by log pond above station. Minor diversions above station for domestic use.

Cooperation.--Twenty-nine discharge measurements and once-daily staff gage readings furnished by California Division of Beaches and Parks.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.   | Jan.  | Feb.   | Mar.   | Apr.   | May   | June  | July  | Aug.       | Sept.  |
|-------|---------|-------|--------|-------|--------|--------|--------|-------|-------|-------|------------|--------|
| 1     | * a 4.5 | 41    | 205    | g 64  | *1,590 | 92     | 750    | 90    | 40    | 15    | a 8        |        |
| 2     | 8.0     | 37    | 828    | *g 60 | 1,070  | 86     | *510   | 84    | 39    | 14    |            |        |
| 3     | 10      | 36    | *580   | g 58  | 903    | 80     | *408   | 91    | 38    | 14    |            |        |
| 4     | 7.5     | 34    | 450    | g 54  | 980    | 73     | 308    | 111   | 36    | 14    |            |        |
| 5     | 5.6     | 32    | *395   | g 54  | 784    | *67    | 352    | 485   | 35    | 14    |            |        |
| 6     | 5.6     | 30    | 345    | g 52  | *658   | 64     | 452    | 380   | 33    | 13    | a 7        |        |
| 7     | 6.0     | 29    | 272    | a 50  | 370    | 60     | 545    | *352  | 32    | 13    |            |        |
| 8     | 25      | 28    | 216    | *g 48 | 385    | 58     | 585    | 300   | 31    | 12    |            |        |
| 9     | 78      | 36    | 169    | a 48  | 340    | 53     | *535   | 260   | 30    | 11    |            |        |
| 10    | 206     | 29    | 140    | g 48  | 300    | 48     | 565    | 232   | *29   | 11    |            |        |
| 11    | 547     | 114   | *122   | g 46  | 236    | *47    | 470    | 211   | 27    | 11    | a 6<br>(*) | (*)a 4 |
| 12    | 1,110   | 207   | 198    | g 46  | 480    | 45     | *1,520 | 175   | 27    | 10    |            |        |
| 13    | *703    | *118  | 244    | g 43  | 580    | 41     | *1,420 | 155   | 25    | 9.4   |            |        |
| 14    | 445     | 102   | *223   | a 39  | 460    | 52     | 1,680  | *135  | 24    | 9.4   |            |        |
| 15    | a 350   | 100   | 931    | *34   | 355    | 52     | *1,240 | 121   | 23    | 9.4   |            |        |
| 16    | *a 265  | 86    | 670    | 34    | 455    | 86     | 894    | 110   | 22    | 9.4   | a 5        |        |
| 17    | *202    | 76    | 450    | *32   | 350    | 71     | 585    | 98    | 20    | 9.7   |            |        |
| 18    | 138     | 64    | *292   | 31    | 300    | 60     | 460    | 90    | 20    | 10    |            |        |
| 19    | a 110   | 56    | 212    | 29    | 248    | *56    | 400    | 82    | 19    | *9.4  |            |        |
| 20    | g 98    | *50   | 172    | 28    | 219    | 53     | 348    | 78    | 20    | 10    |            |        |
| 21    | g 71    | 46    | 140    | 27    | 192    | 52     | 296    | 74    | 19    | 10    | a 4        | a 3    |
| 22    | g 52    | 45    | 120    | *27   | 172    | 58     | 244    | 70    | 20    | 9.1   |            |        |
| 23    | g 67    | 42    | 104    | 26    | 157    | 104    | 217    | *65   | 18    | 9.7   |            |        |
| 24    | g 71    | 41    | 96     | 26    | 140    | 98     | 193    | 62    | *18   | 10    |            |        |
| 25    | *g 66   | 86    | 90     | 25    | 128    | 90     | 175    | 58    | 17    | *9.7  |            |        |
| 26    | a 62    | 982   | g 80   | 25    | 120    | 328    | 158    | 56    | 17    |       | a 9<br>(*) |        |
| 27    | a 58    | 550   | g 78   | 25    | *110   | 1,650  | 135    | 52    | 17    |       |            |        |
| 28    | a 54    | 360   | *g 78  | 22    | 100    | 1,410  | 123    | 50    | 17    |       |            |        |
| 29    | a 50    | 272   | g 75   | 56    | -----  | 1,970  | *108   | 47    | 16    |       |            |        |
| 30    | 46      | *230  | g 94   | 287   | -----  | 1,780  | *98    | 44    | 16    |       |            |        |
| 31    | *43     | ----- | g 75   | 1,920 | -----  | 1,100  | -----  | 42    | ----- | ----- |            | (*)    |
| Total | 4,964.2 | 3,959 | 8,144  | 3,364 | 12,182 | 9,884  | 15,774 | 4,260 | 745   | 331.2 | 174        | 110    |
| Mean  | 160     | 132   | 263    | 109   | 435    | 319    | 526    | 137   | 24.8  | 10.7  | 5.61       | 3.67   |
| Max   | 1,110   | 982   | 931    | 1,920 | 1,590  | 1,970  | 1,680  | 485   | 40    | 15    | -          | -      |
| Min   | 4.5     | 28    | 75     | 22    | 100    | 41     | 98     | 42    | 16    | -     | -          | -      |
| Ac-ft | 9,850   | 7,850 | 16,150 | 6,670 | 24,160 | 19,600 | 31,290 | 8,450 | 1,480 | 657   | 345        | 218    |

Calendar year 1962: Max 1,140 Min 2.2 Mean 108 Ac-ft 77,890

Water year 1962-63: Max 1,970 Min - Mean 175 Ac-ft 126,700

Peak discharge (base, 1,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 15.50       | 3,100     | 1-31 | 1200 | 16.12       | 4,120     |
| 11-26 | 0500 | 14.92       | 2,160     | 3-27 | 1300 | 15.02       | 2,430     |
| 12-2  | 1400 | 14.55       | 1,860     | 3-29 | 1500 | 14.84       | 2,210     |
| 12-15 | 0600 | 13.38       | 1,070     | 4-12 | 1300 | 15.01       | 2,180     |

\* Discharge measurement made on this day.

a No gage-height record.

g Computed from once-daily staff gage readings.

Note.--Shifting-control method used Oct. 17, 18, 20-24, Oct. 30 to Dec. 4, Dec. 6 to Jan. 6, Jan. 8, 10-13, Jan. 15 to Feb. 25, Apr. 5-12.

## EEL RIVER BASIN

11-4767. Larabee Creek near Holmes, Calif.

Location.--Lat 40°24'30", long 123°54'00", in SW $\frac{1}{4}$  sec.1, T.1 S., R.2 E., on left bank 50 ft downstream from Balcom Creek, 2.8 miles upstream from mouth and 2.8 miles east of Holmes.

Drainage area.--84.1 sq mi.

Records available.--July 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 160 ft (from topographic map).

Extremes.--Maximum discharge during year, 7,300 cfs Dec. 2 (gage height, 11.00 ft); minimum, 10 cfs Sept. 27-30.

1959-63: Maximum discharge, 10,000 cfs Feb. 8, 1960 (gage height, 12.40 ft), from rating curve extended above 5,000 cfs; minimum, 5.7 cfs Sept. 11-13, 1959.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 18 to Jan. 30, Feb. 4-8,  
Feb. 15 to Apr. 12)

|     |     |     |       |
|-----|-----|-----|-------|
| 2.4 | 9.0 | 4.0 | 260   |
| 2.6 | 20  | 5.0 | 650   |
| 2.8 | 36  | 6.0 | 1,200 |
| 3.0 | 57  | 7.0 | 2,000 |
| 3.2 | 82  | 9.0 | 4,200 |
| 3.5 | 135 |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG. | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|------|-------|
| 1     | 12     | 85     | 611    | 121    | 2,760  | 137    | 1,280  | 188    | 85    | 32    | 18   | 14    |
| 2     | *12    | 81     | 3,370  | 111    | 1,410  | 129    | 936    | 175    | 82    | 32    | 18   | 13    |
| 3     | 26     | 78     | 2,130  | 106    | 1,380  | 123    | 835    | 230    | 78    | 31    | 18   | 12    |
| 4     | 17     | 76     | 1,090  | *101   | 1,040  | 113    | 700    | 225    | 74    | 31    | 18   | 11    |
| 5     | 13     | 77     | *700   | 93     | 840    | 108    | *1,280 | 979    | 73    | 30    | 18   | 11    |
| 6     | 12     | 74     | 520    | 90     | 795    | 102    | 1,580  | 670    | 72    | 29    | 17   | 11    |
| 7     | 12     | 72     | 412    | 85     | 615    | 101    | 1,520  | *680   | 68    | 28    | 16   | 11    |
| 8     | 34     | 69     | 328    | 82     | 592    | 97     | 1,970  | 544    | 67    | 27    | 16   | 11    |
| 9     | a500   | 78     | 281    | 79     | a490   | 97     | 1,660  | 452    | 64    | 26    | 18   | 11    |
| 10    | a1,400 | 101    | 248    | 77     | a430   | 90     | 1,660  | 420    | 63    | 26    | 17   | 11    |
| 11    | a2,600 | 437    | 223    | 73     | a350   | 85     | 1,210  | 504    | 61    | 26    | 16   | 11    |
| 12    | a4,000 | 1,060  | 223    | 68     | a500   | 81     | 2,730  | 400    | 57    | 25    | 15   | 11    |
| 13    | a3,000 | 532    | 480    | 64     | a800   | 78     | 2,730  | 340    | 54    | 24    | 15   | 11    |
| 14    | a2,100 | 328    | 334    | 64     | *a600  | 96     | 2,950  | 299    | 52    | 24    | 15   | 11    |
| 15    | a1,000 | 254    | 1,690  | 63     | 416    | 110    | 2,100  | 266    | 50    | 23    | 14   | 11    |
| 16    | *560   | 220    | 894    | 62     | 565    | 225    | 1,340  | 239    | 48    | 23    | 14   | 11    |
| 17    | 408    | 213    | 580    | 61     | 512    | 210    | 948    | 218    | 46    | 22    | 14   | 12    |
| 18    | 299    | 188    | 440    | *59    | 440    | 170    | 780    | 195    | 44    | 21    | 14   | 12    |
| 19    | 236    | 165    | 348    | 58     | 372    | 168    | 860    | 175    | 43    | 21    | 14   | 12    |
| 20    | 198    | 153    | 290    | 56     | 340    | 165    | 725    | 165    | 41    | 22    | 13   | 11    |
| 21    | 173    | 145    | 257    | 55     | 296    | 168    | 625    | 155    | 41    | 23    | 13   | 10    |
| 22    | 155    | 141    | 223    | 54     | 260    | 141    | 548    | 147    | 41    | 22    | 13   | 11    |
| 23    | 141    | 133    | 205    | 53     | 230    | 380    | 480    | 139    | 41    | 22    | 13   | 13    |
| 24    | 121    | 125    | 185    | 52     | 208    | 324    | 416    | *129   | *39   | 22    | 13   | 12    |
| 25    | 121    | 133    | 163    | 50     | 190    | 248    | 384    | 123    | 37    | *21   | 13   | 12    |
| 26    | 115    | 3,690  | 147    | 50     | *173   | 565    | 344    | 117    | 36    | 20    | *13  | 11    |
| 27    | 108    | 1,330  | 135    | 48     | 158    | 2,900  | 290    | 111    | 34    | 19    | 12   | 11    |
| 28    | 102    | *740   | 129    | 47     | 147    | 3,010  | 254    | 104    | 34    | 19    | 12   | 10    |
| 29    | 96     | 544    | 119    | *58    | -----  | 3,490  | 225    | 101    | 33    | 19    | 12   | 10    |
| 30    | 91     | 548    | 135    | 518    | -----  | 3,180  | *203   | 94     | 33    | 19    | 12   | *10   |
| 31    | 88     | -----  | 143    | 3,200  | -----  | 2,030  | -----  | 90     | ----- | 18    | 14   | ----- |
| TOTAL | 17,750 | 11,870 | 17,033 | 5,758  | 16,909 | 18,921 | 33,563 | 8,674  | 1,591 | 747   | 458  | 339   |
| MEAN  | 573    | 396    | 549    | 186    | 604    | 610    | 1,119  | 280    | 53.0  | 24.1  | 14.8 | 11.3  |
| MAX   | 4,000  | 3,690  | 3,370  | 3,200  | 2,760  | 3,490  | 2,950  | 979    | 85    | 32    | 18   | 14    |
| MIN   | 12     | 69     | 119    | 47     | 147    | 78     | 203    | 90     | 33    | 18    | 12   | 10    |
| AC-FT | 35,210 | 23,540 | 33,780 | 11,420 | 33,540 | 37,530 | 66,570 | 17,200 | 3,160 | 1,480 | 908  | 672   |

CALENDAR YEAR 1962: MAX 4,000 MIN 7.8 MEAN 286 AC-FT 207,200  
WATER YEAR 1962-63: MAX 4,000 MIN 10 MEAN 366 AC-FT 265,000

## Peak discharge (base, 3,000 cfs)

| Date  | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|---------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | Unknown | 10.70       | 6,760     | 1-31 | 1600 | 10.28       | 6,050     |
| 11-26 | 1000    | 10.94       | 7,190     | 3-27 | 1600 | 8.94        | 4,380     |
| 12- 2 | 1700    | 11.00       | 7,300     | 4-12 | 0900 | 8.64        | 3,770     |
| 12-15 | 1000    | 8.06        | 3,070     |      |      |             |           |

\* Discharge measurement made on this day.  
a No gage-height record.

## EEL RIVER BASIN

397

11-4770. Eel River at Scotia, Calif.

Location.--Lat 40°29'30", long 124°05'55", in SW<sup>1</sup>/<sub>4</sub> sec.5, T.1 N., R.1 E., near center of span in left pier of bridge on U. S. Highway 101, 0.5 mile north of Scotia and 6 miles upstream from Van Duzen River.

Drainage area.--3,113 sq mi.

Records available.--October 1910 to September 1963. Monthly discharge only for some periods and yearly estimates for 1915-16, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 36.15 ft above mean sea level, datum of 1929. Prior to September 1934, staff gage at same site and datum. September 1934 to Dec. 12, 1940, wire-weight gage at same site and datum.

Average discharge.--53 years, 7,010 cfs (5,075,000 acre-ft per year).

Extremes.--Maximum discharge during year, 252,000 cfs Feb. 1 (gage height, 47.00 ft); minimum, 126 cfs Sept. 30.

1910-63: Maximum discharge, 541,000 cfs Dec. 22, 1955 (gage height, 61.90 ft), from rating curve extended above 200,000 cfs; minimum observed, 10 cfs Aug. 12-14, 1924.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow slightly regulated by Lake Pillsbury (see p. 370) and by diversion through Potter Valley powerhouse (see p. 372).

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1 to Dec. 3 |       |      |         | Dec. 3 to Sept. 30 |       |      |         |
|------------------|-------|------|---------|--------------------|-------|------|---------|
| 8.2              | 135   | 11.0 | 3,800   | 8.0                | 110   | 12.0 | 6,300   |
| 8.4              | 190   | 13.0 | 8,700   | 8.2                | 160   | 15.0 | 16,300  |
| 8.7              | 340   | 15.0 | 15,300  | 8.4                | 250   | 22.0 | 49,700  |
| 9.0              | 610   | 20.0 | 39,500  | 8.7                | 460   | 31.0 | 108,000 |
| 9.5              | 1,230 | 29.0 | 100,000 | 9.0                | 760   | 44.0 | 221,000 |
|                  |       |      |         | 10.0               | 2,150 |      |         |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.     | Mar.    | Apr.      | May     | June   | July   | Aug.   | Sept. |
|-------|---------|---------|---------|---------|----------|---------|-----------|---------|--------|--------|--------|-------|
| 1     | 255     | 1,440   | *7,660  | 4,020   | *212,000 | 4,020   | *44,700   | 8,030   | 2,550  | 760    | 268    | 160   |
| 2     | 235     | 1,340   | 22,000  | 3,560   | 92,900   | 3,840   | 28,900    | 7,850   | 2,370  | 738    | 262    | 157   |
| 3     | 226     | 1,240   | 96,300  | 3,360   | *53,700  | 3,660   | 22,500    | 7,700   | 2,240  | 716    | 262    | 151   |
| 4     | 218     | 1,200   | 40,300  | 3,160   | 38,200   | 3,520   | 21,500    | 7,670   | 2,100  | 694    | 256    | 148   |
| 5     | 214     | 1,120   | 23,700  | 2,860   | 30,600   | 3,400   | 21,100    | 10,200  | 1,990  | 694    | 250    | 145   |
| 6     | 206     | 1,090   | 16,500  | 2,660   | *23,800  | 3,300   | 69,100    | 10,600  | 1,910  | 683    | 245    | 145   |
| 7     | 190     | 1,020   | 12,200  | 2,400   | 20,100   | 3,200   | 70,800    | 10,200  | 1,810  | 672    | 245    | 145   |
| 8     | 194     | 986     | 9,500   | 2,330   | 17,500   | 3,030   | 63,400    | 9,990   | 1,720  | 640    | 240    | 142   |
| 9     | 328     | 1,020   | 7,730   | 2,190   | 16,600   | 2,870   | 48,600    | 8,870   | 1,670  | 600    | 235    | 139   |
| 10    | 10,600  | 1,080   | 6,500   | 2,120   | 17,400   | 2,760   | 44,600    | 7,520   | 1,610  | 590    | 235    | 136   |
| 11    | 21,700  | 1,480   | 5,700   | 2,020   | 18,700   | 2,690   | 40,400    | 7,670   | 1,540  | 590    | 230    | 133   |
| 12    | 74,900  | 4,730   | 5,080   | 1,960   | 16,300   | *2,560  | 51,800    | 7,400   | 1,500  | 560    | 225    | 130   |
| 13    | 95,300  | 5,100   | 7,070   | 1,830   | 19,100   | 2,510   | 55,600    | 6,420   | 1,420  | 541    | 215    | 130   |
| 14    | 40,500  | 3,800   | 10,900  | 1,750   | 19,800   | 2,510   | 65,800    | 5,880   | 1,380  | 505    | 205    | 130   |
| 15    | 25,900  | 2,960   | 18,800  | 1,700   | 15,800   | 2,820   | 72,300    | *5,400  | 1,320  | 478    | 196    | 130   |
| 16    | 15,000  | 2,480   | 32,900  | 1,690   | 13,900   | 3,810   | 51,300    | 5,120   | 1,250  | 460    | 200    | 130   |
| 17    | 9,750   | 2,260   | 21,900  | 1,670   | 13,700   | 4,590   | 36,300    | 5,050   | 1,190  | 436    | 192    | 130   |
| 18    | 6,990   | 2,100   | 16,800  | *1,640  | 11,500   | 4,610   | 27,200    | 5,050   | 1,110  | 428    | 184    | 210   |
| 19    | 5,300   | 1,880   | 13,600  | 1,570   | 9,900    | 4,110   | 25,900    | 5,050   | 1,070  | 412    | 180    | 200   |
| 20    | 4,360   | 1,700   | 10,600  | 1,530   | 8,700    | 3,810   | 22,800    | 4,850   | 1,010  | 396    | 172    | 180   |
| 21    | 3,700   | 1,600   | 8,660   | 1,500   | 7,720    | 3,690   | 19,400    | 4,850   | 966    | 396    | 164    | 142   |
| 22    | 3,300   | 1,520   | 7,340   | 1,460   | 6,910    | 3,650   | 16,800    | *4,690  | 859    | 388    | 160    | 133   |
| 23    | 3,010   | 1,440   | 6,350   | 1,420   | 6,130    | 4,490   | 14,800    | 4,430   | 815    | 380    | *164   | 136   |
| 24    | 2,650   | 1,360   | 5,650   | 1,400   | 5,640    | 9,020   | 12,600    | 4,250   | 882    | 366    | 160    | 136   |
| 25    | 2,310   | 1,340   | 4,970   | 1,390   | 5,170    | 6,950   | *11,600   | 4,050   | 918    | 338    | 160    | 139   |
| 26    | 2,150   | 30,500  | 4,470   | 1,380   | 4,840    | 6,450   | *11,300   | 3,750   | 882    | *338   | 160    | 139   |
| 27    | *1,960  | 52,300  | 4,300   | 1,340   | 4,510    | 23,600  | 9,990     | 3,490   | 859    | 331    | 157    | 139   |
| 28    | 1,860   | 19,800  | 4,160   | 1,320   | *4,240   | 80,000  | 8,780     | 3,250   | *826   | 317    | 154    | 136   |
| 29    | 1,750   | 11,500  | 4,060   | 1,360   | -----    | 70,100  | 8,390     | 3,030   | 804    | 304    | 154    | 130   |
| 30    | 1,640   | 8,360   | 4,160   | 4,480   | -----    | 75,000  | 8,300     | 2,890   | 740    | 292    | 154    | 128   |
| 31    | 1,520   | -----   | *4,160  | *61,600 | -----    | 65,900  | -----     | 2,710   | -----  | 280    | 160    | ----- |
| Total | 338,216 | 169,746 | 444,020 | 124,670 | 715,360  | 416,470 | *1,006,56 | 187,910 | 41,311 | 15,323 | 6,244  | 4,329 |
| Mean  | 10,910  | 5,658   | 14,320  | 4,022   | 25,550   | 13,430  | 33,550    | 6,062   | 1,377  | 494    | 201    | 144   |
| Max   | 95,300  | 52,300  | 96,300  | 61,600  | 212,000  | 80,000  | 72,300    | 10,600  | 2,550  | 760    | 268    | 210   |
| Min   | 190     | 986     | 4,060   | 1,320   | 4,240    | 2,510   | 8,300     | 2,710   | 740    | 280    | 154    | 128   |
| Ac-ft | 670,800 | 336,700 | 880,700 | 247,300 | *1,419   | 826,100 | *1,996    | 372,700 | 81,940 | 30,390 | 12,380 | 8,590 |

Calendar year 1962: Max 96,300 Min 101 Mean 7,002 Ac-ft 5,070,000  
 Water year 1962-63: Max 212,000 Min 128 Mean 9,507 Ac-ft 6,883,000

Peak discharge (base, 72,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0700 | 32.48       | 128,000   | 3-28 | 0900 | 28.55       | 90,800    |
| 12-3  | 1000 | 32.89       | 132,000   | 4-6  | 2000 | 28.12       | 87,800    |
| 2-1   | 0700 | 47.00       | 252,000   | 4-15 | 0900 | 26.50       | 76,800    |

\* Discharge measurement made on this day.

\* Expressed in thousands.

Note.--No gage-height record Oct. 21-29, Dec. 27 to Jan. 6, Feb. 16 to Mar. 12.

11-4770. Eel River at Scotia, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature during year, 72°F July 22; minimum, 38°F Jan. 13, 14.

1960-63: Maximum temperature, 76°F Aug. 16, 1962; minimum, that of Jan. 13, 14, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | -    | -   | -     | -     | 48   | 48  | 46   | 44  | 52    | 50    | 52   | 51  | 51    | 51    | 58  | 58  | 65    | 65    | -    | -   | 70   | 68  | 67    | 64    |
| 2   | 68   | 66  | 57    | 57    | 48   | 48  | 46   | 46  | 53    | 52    | 52   | 52  | 51    | 50    | 58  | 58  | 65    | 65    | 68   | 68  | 68   | 65  | 70    | 66    |
| 3   | 67   | 66  | 57    | 57    | 49   | 48  | 48   | 46  | 54    | 53    | 52   | 52  | 50    | 50    | 58  | 58  | 65    | 64    | 68   | 66  | 68   | 67  | 70    | 66    |
| 4   | 67   | 65  | 57    | 57    | 50   | 49  | 48   | 47  | 54    | 54    | 52   | 51  | 51    | 49    | 58  | 58  | 64    | 64    | 68   | 66  | 67   | 64  | 70    | 67    |
| 5   | 66   | 63  | 58    | 57    | 50   | 50  | 47   | 45  | 54    | 54    | 51   | 51  | 51    | 50    | 58  | 58  | 64    | 61    | 68   | 68  | 67   | 64  | 68    | 67    |
| 6   | 65   | 63  | 58    | 57    | 50   | 50  | 46   | 45  | -     | -     | 51   | 51  | 51    | 51    | 58  | 58  | 61    | 61    | 68   | 68  | 68   | 66  | 70    | 67    |
| 7   | 65   | 61  | 57    | 56    | 50   | 50  | 46   | 44  | -     | -     | 51   | 51  | 51    | 51    | 58  | 58  | 62    | 61    | 68   | 66  | 68   | 67  | 70    | 66    |
| 8   | 64   | 61  | 56    | 56    | 50   | 50  | 45   | 44  | -     | -     | 51   | 51  | 51    | 51    | 58  | 58  | 63    | 61    | 69   | 68  | 70   | 67  | 70    | 66    |
| 9   | 64   | 64  | 56    | 55    | 50   | 50  | 45   | 44  | -     | -     | 51   | 51  | 51    | 51    | 58  | 57  | 62    | 62    | 68   | 66  | 67   | 66  | 69    | 67    |
| 10  | 64   | 63  | 55    | 55    | 50   | 50  | 44   | 43  | -     | -     | 51   | 51  | 51    | 51    | 57  | 57  | 63    | 62    | 68   | 66  | 69   | 67  | 70    | 65    |
| 11  | 63   | 62  | 55    | 55    | 50   | 50  | 43   | 42  | -     | -     | 51   | 51  | 51    | 49    | 57  | 56  | 64    | 63    | 68   | 65  | 69   | 67  | 70    | 66    |
| 12  | 63   | 62  | 55    | 55    | 50   | 50  | 42   | 39  | -     | -     | 51   | 51  | 49    | 49    | 56  | 56  | 66    | 64    | 70   | 67  | 70   | 68  | 69    | 68    |
| 13  | 62   | 60  | 55    | 54    | 50   | 50  | 40   | 38  | -     | -     | 52   | 51  | 50    | 49    | 56  | 55  | 67    | 66    | 71   | 68  | 68   | 67  | 70    | 67    |
| 14  | 61   | 60  | 54    | 53    | 50   | 50  | 40   | 38  | -     | -     | 52   | 52  | 51    | 50    | 55  | 55  | 68    | 66    | 71   | 69  | 69   | 66  | 70    | 67    |
| 15  | 61   | 60  | 53    | 52    | 51   | 50  | 40   | 39  | 52    | 52    | 52   | 51  | 51    | 51    | 57  | 55  | 69    | 68    | 70   | 67  | 69   | 66  | 68    | 65    |
| 16  | 60   | 59  | 52    | 52    | 51   | 51  | 41   | 40  | 52    | 52    | 52   | 50  | 50    | 50    | 58  | 57  | 69    | 69    | 69   | 67  | 69   | 67  | 67    | 65    |
| 17  | 60   | 58  | 52    | 52    | 51   | 51  | 42   | 41  | 52    | 52    | 50   | 50  | 50    | 50    | 62  | 58  | 69    | 66    | 68   | 66  | 68   | 66  | 68    | 64    |
| 18  | 58   | 58  | 52    | 52    | 51   | 51  | 44   | 42  | 52    | 52    | 50   | 50  | 50    | 50    | 62  | 62  | 68    | 66    | 69   | 66  | 68   | 66  | 67    | 64    |
| 19  | 58   | 58  | 52    | 52    | 51   | 51  | 44   | 43  | 52    | 52    | 52   | 50  | 50    | 50    | 62  | 61  | 66    | 66    | 69   | 66  | 69   | 67  | 68    | 65    |
| 20  | 59   | 58  | 52    | 52    | 51   | 50  | 43   | 42  | 53    | 52    | 54   | 52  | 50    | 50    | 61  | 61  | 66    | 65    | 66   | 65  | 69   | 66  | 68    | 66    |
| 21  | 59   | 58  | 52    | 52    | 50   | 49  | 43   | 42  | 53    | 53    | 54   | 54  | 50    | 50    | 61  | 60  | 65    | 65    | 68   | 64  | 69   | 66  | 67    | 64    |
| 22  | 62   | 59  | 52    | 52    | 50   | 50  | 44   | 43  | 53    | 53    | 54   | 54  | 51    | 50    | 60  | 60  | 65    | 65    | 68   | 68  | 69   | 66  | 66    | 64    |
| 23  | 62   | 61  | 52    | 52    | 50   | 49  | 45   | 44  | 53    | 53    | 54   | 54  | 52    | 51    | 60  | 60  | 65    | 65    | 68   | 66  | 68   | 66  | 69    | 64    |
| 24  | 62   | 62  | 52    | 52    | 49   | 47  | 46   | 45  | 53    | 53    | 54   | 52  | 52    | 52    | 60  | 60  | 65    | 65    | 69   | 67  | 68   | 65  | 68    | 64    |
| 25  | 62   | 62  | 52    | 52    | 47   | 45  | 46   | 45  | 53    | 53    | 52   | 51  | 52    | 52    | 64  | 60  | 65    | 64    | 69   | 67  | 69   | 65  | 68    | 64    |
| 26  | 62   | 60  | 52    | 52    | 45   | 44  | 47   | 45  | 53    | 53    | 51   | 51  | 53    | 52    | 64  | 60  | 64    | 64    | 71   | 69  | 70   | 65  | 68    | 64    |
| 27  | -    | -   | 52    | 52    | 44   | 43  | 47   | 46  | 53    | 53    | 51   | 51  | 53    | 53    | 64  | 64  | 64    | 64    | 72   | 69  | 70   | 66  | 68    | 64    |
| 28  | -    | -   | 52    | 50    | 43   | 43  | 47   | 45  | 51    | 51    | 51   | 51  | 55    | 53    | 64  | 64  | 64    | 62    | 71   | 69  | 68   | 66  | 67    | 64    |
| 29  | -    | -   | 50    | 48    | 44   | 43  | 46   | 46  | ----- | ----- | 51   | 51  | 57    | 55    | 64  | 64  | -     | -     | 71   | 69  | 68   | 66  | 67    | 63    |
| 30  | -    | -   | -     | -     | 43   | 43  | 48   | 46  | ----- | ----- | 51   | 51  | 58    | 57    | 66  | 64  | -     | -     | 71   | 69  | 66   | 64  | 67    | 64    |
| 31  | -    | -   | ----- | ----- | 44   | 43  | 50   | 48  | ----- | ----- | 51   | 51  | ----- | ----- | 66  | 64  | ----- | ----- | 71   | 68  | 66   | 64  | ----- | ----- |
| Avg | -    | -   | -     | -     | 49   | 48  | 45   | 43  | -     | -     | 52   | 51  | 52    | 51    | 60  | 59  | -     | -     | -    | -   | 68   | 66  | 68    | 65    |

11-4777. South Fork Van Duzen River near Bridgeville, Calif.

Location.--Lat 40°26'40", long 123°39'15", in SE $\frac{1}{4}$  sec.19, T.1 N., R.5 E., on right bank 0.2 mile upstream from Butte Creek, 3 miles upstream from mouth, and 7.8 miles east of Bridgeville.

Drainage area.--36.2 sq mi.

Records available.--Occasional low-flow measurements, water years 1951-58 and annual maximum, water years 1954-57. September 1958 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 2,350 ft (from topographic map). Sept. 25, 1953, to Aug. 31, 1957, crest-stage gage only, at site 0.1 mile upstream at different datum.

Average discharge.--5 years, 147 cfs (106,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,120 cfs Jan. 31 (gage height, 12.20 ft); minimum, 2.7 cfs Sept. 27, 28.

1953-57, 1958-63: Maximum discharge, 8,990 cfs Dec. 22, 1955 (gage height, 11.91 ft, from floodmarks, site and datum then in use), on basis of slope-area measurement of peak flow.

1958-63: Minimum discharge, 2.0 cfs Sept. 24, 25, 1962.

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

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |         |        |        |       |        |        |        |        |       |       |       |       |
|--|---------|--------|--------|-------|--------|--------|--------|--------|-------|-------|-------|-------|
| Day  | Oct.    | Nov.   | Dec.   | Jan.  | Feb.   | Mar.   | Apr.   | May    | June  | July  | Aug.  | Sept. |
| 1  | 5.8     | 32     | 38.7   | 75    | 2,060  | 80     | 616    | 166    | 54    | a19   | 8.0   | 5.4   |
| 2  | 7.3     | 31     | 2,260  | 70    | * 962  | 78     | 428    | *173   | 52    | a18   | 7.8   | 5.5   |
| 3  | 12      | 29     | *1,330 | 69    | 752    | 76     | 392    | 245    | 51    | a18   | 7.5   | 5.2   |
| 4  | 7.8     | 29     | 632    | 65    | 701    | 71     | 338    | 233    | 50    | a18   | 7.3   | 4.6   |
| 5  | 6.6     | 32     | 434    | 59    | 536    | 69     | 1,020  | 559    | 49    | a18   | 7.0   | 4.4   |
| 6  | 5.8     | 28     | *310   | 56    | 530    | 67     | 1,310  | 404    | 47    | a17   | 6.6   | 4.4   |
| 7  | 6.0     | 27     | 241    | 54    | 395    | 65     | 1,140  | 452    | 44    | a17   | 6.6   | 4.2   |
| 8  | 29      | 26     | 193    | 51    | 392    | 65     | 936    | 330    | 42    | a16   | 6.6   | 3.8   |
| 9  | 366     | 40     | 163    | 49    | 333    | 63     | 712    | 261    | 40    | a16   | 7.0   | 3.8   |
| 10   | 771     | 44     | 142    | 47    | 303    | 58     | 588    | 251    | 37    | a15   | 6.8   | 3.8   |
| 11   | 1,430   | 312    | 129    | 45    | 239    | 57     | 464    | 253    | 35    | a15   | 6.4   | 3.6   |
| 12   | 2,420   | 682    | 125    | 41    | 386    | 56     | 1,300  | 211    | 35    | a14   | 6.2   | 3.6   |
| 13   | 1,320   | 281    | 270    | 40    | 434    | 54     | 1,360  | 185    | 34    | a14   | 6.0   | 4.0   |
| 14   | 1,040   | 159    | 181    | 39    | 290    | 58     | 1,700  | 171    | 32    | a14   | 5.8   | 4.4   |
| 15   | *539    | 124    | 839    | 38    | 241    | 58     | 1,100  | 160    | 30    | a13   | 5.6   | 5.0   |
| 16   | 298     | 106    | 434    | 37    | 278    | 67     | 728    | 157    | 28    | a13   | 5.4   | 5.0   |
| 17   | 190     | 96     | 308    | 35    | 247    | 71     | 509    | 159    | 26    | a13   | 5.2   | 5.2   |
| 18   | 146     | 84     | 239    | 35    | 223    | 76     | 404    | 150    | 26    | a12   | 5.2   | 5.2   |
| 19   | 11.7    | 74     | 190    | 32    | 190    | 85     | 374    | 142    | 25    | 12    | 5.4   | 5.0   |
| 20   | 94      | 68     | 163    | 31    | 184    | 92     | 305    | 141    | 25    | 12    | 6.4   | 4.8   |
| 21   | 80      | 63     | 142    | *31   | 160    | 90     | 271    | 130    | 24    | 11    | 6.2   | 4.0   |
| 22   | 70      | 62     | 133    | 30    | 143    | 90     | 251    | 125    | 26    | 10    | 5.8   | 4.6   |
| 23   | 62      | 58     | 117    | 29    | 128    | 168    | 239    | 111    | 25    | 10    | 5.4   | 5.2   |
| 24   | 57      | 54     | 105    | 28    | 117    | 148    | 223    | 100    | 24    | 10    | 4.6   | 4.0   |
| 25   | 52      | 67     | 96     | 27    | 107    | 128    | 207    | 91     | 23    | 10    | 5.0   | 3.4   |
| 26   | 48      | 2,260  | 88     | 27    | 101    | *321   | 184    | 84     | *22   | 10    | 4.8   | 3.2   |
| 27   | 46      | 795    | 83     | 26    | 93     | 1,550  | 169    | 78     | a21   | 9.3   | 4.8   | 3.0   |
| 28   | 43      | 440    | *78    | *26   | *85    | 1,290  | 171    | *73    | a21   | 9.0   | *5.2  | 2.9   |
| 29   | 40      | 300    | 74     | 33    | -----  | 1,820  | 176    | 69     | a20   | 8.8   | 5.4   | 3.0   |
| 30   | 37      | 313    | 91     | 370   | -----  | 1,850  | 174    | 64     | a20   | *8.5  | 5.4   | 3.0   |
| 31   | 35      | -----  | 87     | 2,760 | -----  | 1,060  | -----  | 61     | ----- | 8.3   | 5.4   | ----- |
| Total  | 9,381.3 | 6,716  | 10,064 | 4,355 | 10,610 | 9,881  | 17,789 | 5,789  | 988   | 408.9 | 186.8 | 127.2 |
| Mean   | 303     | 224    | 325    | 140   | 379    | 319    | 593    | 187    | 32.9  | 13.2  | 6.03  | 4.24  |
| Max  | 2,420   | 2,260  | 2,260  | 2,760 | 2,060  | 1,850  | 1,700  | 559    | 54    | 19    | 8.0   | 5.5   |
| Min  | 5.8     | 26     | 74     | 26    | 85     | 54     | 169    | 61     | 20    | 8.3   | 4.6   | 2.9   |
| Ac-ft  | 18,610  | 13,320 | 19,960 | 8,640 | 21,040 | 19,600 | 35,280 | 11,480 | 1,960 | 811   | 371   | 252   |
| Calendar year 1962: Max 1,700 Min 2.1 Mean 150 Ac-ft 108,500                   |         |        |        |       |        |        |        |        |       |       |       |       |
| Water year 1962-63: Max 2,760 Min 2.9 Mean 209 Ac-ft 151,300                   |         |        |        |       |        |        |        |        |       |       |       |       |

Peak discharge (base, 2,800 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 11.52       | 4,420     | 12-2 | 1600 | 11.54       | 4,440     |
| 11-26 | 0800 | 11.62       | 4,520     | 1-31 | 1400 | 12.20       | 5,120     |

\* Discharge measurement made on this day.  
a No gage-height record.

## EEL RIVER BASIN

11-4777. South Fork Van Duzen River near Bridgeville, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature during year, 74°F July 12-14, 19, 27, 28; minimum, 37°F Jan. 21, 22, 26-29.  
 1960-63: Maximum temperature, 81°F July 13, 1961; minimum, 32°F Feb. 27 to Mar. 1, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 62   | 56  | 53    | 52    | 45   | 45  | 44   | 44  | 45    | 43    | 46   | 45  | 45    | 44    | 52  | 46  | 60    | 52    | 67   | 58  | 72   | 63  | 69    | 64    |
| 2   | 61   | 57  | 53    | 52    | 46   | 45  | 44   | 44  | 46    | 45    | 46   | 44  | 45    | 44    | 48  | 47  | 59    | 52    | 68   | 60  | 72   | 65  | 72    | 66    |
| 3   | 59   | 56  | 53    | 52    | 46   | 46  | 45   | 44  | 47    | 46    | 44   | 42  | 46    | 43    | 47  | 46  | 58    | 50    | 64   | 58  | 72   | 65  | 72    | 66    |
| 4   | 59   | 55  | 52    | 52    | 47   | 46  | 45   | 44  | 48    | 47    | 44   | 42  | 46    | 46    | 48  | 46  | 55    | 49    | 67   | 60  | 72   | 64  | 72    | 67    |
| 5   | 57   | 53  | 52    | 52    | 48   | 47  | 44   | 44  | 48    | 47    | 44   | 43  | 47    | 46    | 48  | 48  | 56    | 52    | 68   | 60  | 72   | 64  | 72    | 67    |
| 6   | 57   | 54  | 52    | 51    | 49   | 48  | 44   | 44  | 49    | 48    | 43   | 43  | 47    | 46    | 49  | 47  | 60    | 51    | 65   | 62  | 73   | 64  | 71    | 68    |
| 7   | 56   | 52  | 52    | 50    | 49   | 49  | 44   | 44  | 48    | 47    | 46   | 42  | 46    | 44    | 50  | 48  | 59    | 51    | 62   | 60  | 75   | 66  | 72    | 66    |
| 8   | 57   | 53  | 51    | 50    | 49   | 49  | 44   | 43  | 48    | 47    | 46   | 44  | 46    | 44    | 48  | 46  | 62    | 54    | 67   | 57  | 73   | 69  | 72    | 68    |
| 9   | 57   | 56  | 51    | 50    | 49   | 49  | 44   | 43  | 47    | 47    | 47   | 44  | 46    | 44    | 50  | 44  | 62    | 54    | 70   | 61  | 70   | 68  | 72    | 68    |
| 10  | 56   | 54  | 50    | 49    | 49   | 48  | 43   | 42  | 47    | 47    | 47   | 46  | 45    | 44    | 46  | 46  | 63    | 54    | 69   | 61  | 72   | 65  | 69    | 65    |
| 11  | 55   | 53  | 50    | 49    | 49   | 48  | 42   | 40  | 47    | 46    | 46   | 44  | 45    | 44    | 47  | 46  | 63    | 55    | 71   | 60  | 73   | 66  | 68    | 66    |
| 12  | 56   | 54  | 50    | 49    | 48   | 48  | 40   | 38  | 47    | 47    | 46   | 43  | 45    | 44    | 50  | 45  | 67    | 57    | 74   | 63  | 72   | 66  | 68    | 66    |
| 13  | 56   | 52  | 50    | 47    | 50   | 48  | 38   | 38  | 47    | 46    | 45   | 42  | 46    | 45    | 52  | 44  | 69    | 60    | 74   | 66  | 70   | 64  | 68    | 64    |
| 14  | 53   | 52  | 47    | 46    | 50   | 50  | 39   | 38  | 47    | 46    | 45   | 42  | 46    | 46    | 55  | 46  | 70    | 61    | 74   | 65  | 69   | 62  | 67    | 65    |
| 15  | 55   | 53  | 47    | 46    | 51   | 50  | 39   | 38  | 46    | 46    | 42   | 41  | 46    | 44    | 56  | 48  | 72    | 62    | 72   | 64  | 70   | 62  | 66    | 64    |
| 16  | 53   | 50  | 47    | 46    | 51   | 50  | 40   | 39  | 46    | 46    | 42   | 39  | 46    | 44    | 58  | 49  | 73    | 63    | 70   | 63  | 70   | 63  | 64    | 61    |
| 17  | 52   | 50  | 46    | 46    | 50   | 50  | 40   | 38  | 46    | 45    | 42   | 40  | 44    | 44    | 59  | 50  | 73    | 64    | 71   | 63  | 69   | 62  | 62    | 61    |
| 18  | 54   | 51  | 47    | 46    | 50   | 49  | 39   | 38  | 47    | 46    | 43   | 41  | 45    | 43    | 57  | 50  | 72    | 64    | 73   | 64  | 68   | 62  | 64    | 60    |
| 19  | 54   | 50  | 47    | 46    | 49   | 48  | 39   | 38  | 47    | 46    | 46   | 42  | 44    | 42    | 60  | 50  | 69    | 61    | 74   | 65  | 67   | 62  | 65    | 62    |
| 20  | 54   | 52  | 47    | 46    | 48   | 48  | 39   | 38  | 48    | 47    | 46   | 42  | 45    | 42    | 56  | 52  | 68    | 62    | 71   | 65  | 66   | 61  | 66    | 63    |
| 21  | 54   | 52  | 48    | 47    | 48   | 48  | 38   | 37  | 48    | 46    | 46   | 44  | 45    | 43    | 59  | 52  | 65    | 60    | 71   | 63  | 66   | 60  | 65    | 62    |
| 22  | 54   | 53  | 48    | 48    | 48   | 47  | 38   | 37  | 47    | 45    | 46   | 43  | 49    | 43    | 54  | 52  | 63    | 59    | 71   | 64  | 66   | 62  | 64    | 63    |
| 23  | 54   | 53  | 48    | 47    | 47   | 46  | 39   | 38  | 47    | 44    | 44   | 42  | 50    | 43    | 58  | 51  | 65    | 57    | 70   | 62  | 65   | 62  | 65    | 62    |
| 24  | 54   | 53  | 47    | 47    | 46   | 44  | 39   | 38  | 47    | 45    | 45   | 42  | 46    | 44    | 60  | 52  | 69    | 60    | 70   | 64  | 64   | 59  | 66    | 62    |
| 25  | 53   | 53  | 47    | 47    | 46   | 42  | 39   | 38  | 47    | 46    | 46   | 42  | 46    | 44    | 61  | 52  | 70    | 61    | 70   | 61  | 64   | 58  | 65    | 62    |
| 26  | 53   | 52  | 48    | 47    | 43   | 42  | 38   | 37  | 47    | 47    | 46   | 44  | 45    | 45    | 61  | 52  | 71    | 61    | 72   | 62  | 64   | 59  | 67    | 62    |
| 27  | 53   | 52  | 48    | 46    | 42   | 42  | 38   | 37  | 47    | 44    | 46   | 45  | 51    | 44    | 61  | 51  | 66    | 60    | 74   | 65  | 66   | 60  | 66    | 64    |
| 28  | 53   | 52  | 46    | 45    | 42   | 40  | 38   | 37  | 46    | 43    | 45   | 44  | 53    | 44    | 58  | 53  | 60    | 58    | 74   | 65  | 69   | 62  | 66    | 64    |
| 29  | 53   | 52  | 45    | 44    | 42   | 41  | 38   | 37  | ----- | ----- | 44   | 44  | 53    | 46    | 57  | 50  | 63    | 55    | 72   | 64  | 69   | 66  | 65    | 62    |
| 30  | 53   | 52  | 45    | 44    | 42   | 41  | 42   | 38  | ----- | ----- | 45   | 44  | 53    | 48    | 59  | 50  | 67    | 58    | 72   | 63  | 68   | 66  | 64    | 62    |
| 31  | 52   | 51  | ----- | ----- | 44   | 42  | 43   | 42  | ----- | ----- | 46   | 45  | ----- | ----- | 60  | 51  | ----- | ----- | 71   | 64  | 70   | 66  | ----- | ----- |
| Avg | 55   | 53  | 49    | 48    | 47   | 46  | 41   | 40  | 47    | 46    | 45   | 43  | 47    | 44    | 54  | 49  | 65    | 57    | 70   | 62  | 69   | 63  | 67    | 64    |

11-4785. Van Duzen River near Bridgeville, Calif.

Location.--Lat 40°27'50", long 123°51'25", in E½ sec.17, T.1 N., R.3 E., on downstream side of right pier of bridge on State Highway 36, 0.3 mile downstream from Pip Creek, 0.5 mile upstream from Rogers Creek, and 4 miles west of Bridgeville.

Drainage area.--216 sq mi.

Records available.--October 1950 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 400 ft (from topographic map).

Average discharge.--13 years, 904 cfs (654,500 acre-ft per year).

Extremes.--Maximum discharge during year, 23,100 cfs Jan. 31 (gage height, 15.60 ft); minimum, 10 cfs Sept. 29, 30.

1950-63: Maximum discharge, 43,500 cfs Dec. 22, 1955 (gage height, 21.3 ft, from floodmarks), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum, 5.0 cfs Sept. 13, 1959.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No storage or large diversion.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 4

May 5 to Sept. 30

|     |     |      |        |     |     |     |       |
|-----|-----|------|--------|-----|-----|-----|-------|
| 2.3 | 13  | 4.5  | 840    | 2.2 | 11  | 3.5 | 275   |
| 2.5 | 28  | 5.0  | 1,260  | 2.3 | 16  | 4.0 | 500   |
| 2.8 | 71  | 6.0  | 2,300  | 2.5 | 33  | 5.0 | 1,260 |
| 3.1 | 136 | 8.0  | 5,300  | 2.7 | 60  | 6.0 | 2,300 |
| 3.5 | 265 | 12.0 | 13,300 | 3.0 | 120 | 7.0 | 3,700 |
| 4.0 | 515 |      |        |     |     |     |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.     | Jan.   | Feb.    | Mar.    | Apr.    | May    | June  | July  | Aug.  | Sept. |
|-------|--------|--------|----------|--------|---------|---------|---------|--------|-------|-------|-------|-------|
| 1     | 18     | 152    | 2,100    | 344    | *11,800 | a 403   | *3,320  | 750    | 252   | 73    | a 27  | 15    |
| 2     | 17     | 147    | 10,000   | 307    | *5,250  | 383     | 2,190   | *725   | 240   | 71    | a 27  | 15    |
| 3     | *26    | 139    | 6,990    | 290    | 4,630   | 358     | 2,090   | 968    | 226   | 67    | a 27  | 14    |
| 4     | 32     | 134    | *a 2,880 | 273    | 3,740   | 335     | 1,790   | 1,050  | 216   | 67    | a 26  | 14    |
| 5     | 22     | 141    | a 2,360  | 250    | 3,110   | 312     | 4,100   | 2,960  | 208   | 67    | a 26  | 14    |
| 6     | 21     | 136    | a 1,370  | 235    | *2,600  | 286     | 7,060   | 2,100  | 205   | 65    | a 25  | 13    |
| 7     | 20     | 126    | 1,080    | 217    | 1,990   | 278     | 6,330   | 2,110  | 196   | 64    | a 25  | 14    |
| 8     | 51     | 119    | 880      | 210    | 1,970   | 278     | 5,540   | 1,640  | 187   | 62    | a 24  | 13    |
| 9     | 757    | 147    | 744      | 200    | 1,590   | 278     | 4,160   | 1,280  | 181   | 58    | a 24  | 13    |
| 10    | 3,460  | 235    | 640      | 193    | 1,400   | 246     | 3,620   | 1,160  | 178   | 56    | a 23  | 12    |
| 11    | 6,280  | 720    | 575      | 184    | 1,140   | 227     | 2,670   | 1,360  | 172   | 54    | a 23  | 12    |
| 12    | 12,400 | 3,420  | 557      | 175    | 1,520   | 217     | 7,450   | 1,050  | 163   | 52    | a 22  | 12    |
| 13    | 6,850  | 1,620  | 1,260    | 166    | 2,330   | 207     | 7,730   | 896    | 157   | 50    | a 22  | 12    |
| 14    | 5,690  | 936    | 1,440    | 163    | 1,540   | 235     | 8,850   | 786    | 151   | 48    | 21    | 12    |
| 15    | 2,570  | 692    | 4,800    | 158    | 1,240   | 265     | 6,740   | 697    | 142   | 45    | 20    | 12    |
| 16    | 1,510  | 582    | 2,500    | 155    | 1,460   | 441     | 4,100   | 648    | 138   | 43    | 20    | 13    |
| 17    | 1,020  | 527    | 1,710    | 152    | 1,430   | 435     | 2,730   | 614    | 130   | 41    | 20    | 13    |
| 18    | 764    | 457    | 1,290    | 147    | 1,300   | 408     | 2,110   | 596    | 125   | 40    | 19    | 13    |
| 19    | *608   | 393    | 1,020    | 141    | 1,140   | 414     | 2,280   | 554    | 122   | 40    | 18    | 14    |
| 20    | 492    | 344    | 856      | 136    | 1,060   | 446     | 1,890   | 542    | 118   | 39    | 17    | 13    |
| 21    | 414    | 321    | 738      | 129    | 920     | 446     | 1,610   | 524    | 113   | 39    | 18    | 13    |
| 22    | 358    | 312    | 640      | 126    | 791     | 403     | 1,450   | 506    | 109   | 38    | 19    | 12    |
| 23    | 312    | 290    | 575      | 124    | 705     | 895     | 1,310   | 475    | 105   | 37    | 18    | 13    |
| 24    | 282    | 261    | 527      | 122    | 627     | 936     | 1,220   | 440    | 98    | 35    | 18    | 13    |
| 25    | 254    | 264    | 457      | 119    | a 557   | 731     | 1,080   | 405    | 94    | 33    | 17    | 13    |
| 26    | 235    | 11,200 | *408     | 114    | a 486   | *1,160  | 984     | 368    | 88    | *31   | 16    | 12    |
| 27    | 217    | 4,110  | 378      | 112    | a 457   | 9,030   | 856     | 328    | *84   | 30    | 16    | 11    |
| 28    | 200    | 1,970  | 344      | *108   | *a 430  | 8,220   | 798     | 312    | 82    | 29    | 16    | 11    |
| 29    | 184    | 1,320  | 321      | 127    | -----   | 9,220   | 805     | *296   | 78    | 28    | *15   | 11    |
| 30    | 172    | 1,400  | 348      | 1,200  | -----   | 9,560   | 784     | 284    | 78    | 28    | 15    | 11    |
| 31    | 163    | -----  | 430      | 12,400 | -----   | 6,000   | -----   | 268    | ----- | *27   | 15    | ----- |
| Total | 45,399 | 32,615 | 50,218   | 18,777 | 57,213  | 53,053  | 97,647  | 26,692 | 4,436 | 1,457 | 639   | 383   |
| Mean  | 1,464  | 1,087  | 1,620    | 606    | 2,043   | 1,711   | 3,255   | 861    | 148   | 47.0  | 20.6  | 12.8  |
| Max   | 12,400 | 11,200 | 10,000   | 12,400 | 11,800  | 9,560   | 8,850   | 2,960  | 252   | 73    | 27    | 15    |
| Min   | 17     | 119    | 321      | 108    | 430     | 207     | 784     | 268    | 78    | 27    | 15    | 11    |
| Ac-ft | 90,050 | 64,690 | 99,610   | 37,240 | 113,500 | 105,200 | 193,700 | 52,940 | 8,800 | 2,890 | 1,270 | 760   |

Calendar year 1962: Max 12,400 Min 8.0 Mean 784 Ac-ft 567,600  
 Water year 1962-63: Max 12,400 Min 11 Mean 1,064 Ac-ft 770,600

Peak discharge (base, 9,100 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700 | 14.33       | 19,400    | 3-27 | 2000 | 12.39       | 14,200    |
| 11-26 | 1000 | 14.60       | 20,200    | 3-30 | 1200 | 10.74       | 10,400    |
| 12-2  | 1800 | 14.48       | 19,800    | 4-14 | 1100 | 10.76       | 10,500    |
| 1-31  | 1800 | 15.60       | 23,100    |      |      |             |           |

\* Discharge measurement made on this day.  
 a No gage-height record.

## EEL RIVER BASIN

11-4785. Van Duzen River near Bridgeville, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature during year, 76°F July 24, 25; minimum, 38°F Jan. 12-16.

1960-63: Maximum temperature, 80°F July 11, 12, 1961; minimum, that of Jan. 12-16, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |       | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-------|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min   | max   | min   |
| 1   | 64   | 58  | 56    | 55    | 48   | 48  | 43   | 43  | 48    | 46    | 52   | 50  | 48    | 45    | 53  | 52  | 64    | 60    | 69   | 63  | 70   | 63    | 69    | 60    |
| 2   | 62   | 59  | 56    | 56    | 50   | 48  | 44   | 43  | 50    | 48    | 52   | 50  | 45    | 44    | 52  | 50  | 64    | 61    | 70   | 63  | 68   | 64    | 70    | 64    |
| 3   | 60   | 57  | 58    | 56    | 50   | 50  | 44   | 44  | 52    | 50    | 50   | 47  | 46    | 45    | 50  | 50  | 64    | 59    | 68   | 63  | 67   | 64    | 72    | 64    |
| 4   | 60   | 56  | 56    | 56    | -    | -   | 44   | 44  | 54    | 52    | 48   | 46  | 48    | 46    | 50  | 50  | 62    | 58    | 69   | 65  | 69   | 63    | 72    | 65    |
| 5   | 60   | 56  | 58    | 56    | -    | -   | 44   | 42  | 54    | 54    | 48   | 46  | 49    | 48    | 50  | 50  | 63    | 58    | 71   | 65  | 71   | 64    | 68    | 65    |
| 6   | 60   | 57  | 56    | 54    | -    | -   | 43   | 42  | 54    | 52    | 47   | 47  | 48    | 47    | 51  | 50  | 64    | 58    | 69   | 66  | 72   | 65    | 70    | 64    |
| 7   | 58   | 55  | 54    | 52    | 50   | 50  | 43   | 42  | 54    | 52    | 48   | 47  | 48    | 46    | 51  | 51  | 63    | 59    | 69   | 65  | 72   | 64    | 71    | 64    |
| 8   | 58   | 55  | 53    | 51    | 50   | 49  | 43   | 42  | 52    | 52    | 48   | 48  | 46    | 44    | 51  | 50  | 64    | 60    | 71   | 64  | 71   | 66    | 71    | 65    |
| 9   | 56   | 56  | 53    | 52    | 49   | 49  | 43   | 42  | 52    | 52    | 49   | 48  | 47    | 46    | 50  | 48  | 64    | 60    | 72   | 66  | 69   | 64    | 71    | 66    |
| 10  | 56   | 55  | 53    | 52    | 49   | 49  | 43   | 42  | 52    | 52    | 50   | 48  | 46    | 45    | 52  | 50  | 64    | 60    | 72   | 66  | 70   | 64    | 72    | 63    |
| 11  | 55   | 55  | 53    | 52    | 49   | 49  | 42   | 40  | 52    | 50    | 50   | 48  | 46    | 45    | 52  | 51  | 65    | 60    | 72   | 66  | 72   | 65    | 71    | 66    |
| 12  | 56   | 54  | 54    | 53    | 49   | 49  | 40   | 38  | 50    | 50    | 49   | 48  | 46    | 46    | 52  | 51  | 66    | 62    | 74   | 66  | 70   | 66    | 71    | 66    |
| 13  | 56   | 54  | 53    | 51    | 50   | 49  | 38   | 38  | 50    | 50    | 49   | 48  | 47    | 46    | 52  | 52  | 68    | 63    | 74   | 69  | 72   | 65    | 71    | 64    |
| 14  | 54   | 53  | 51    | 50    | 51   | 50  | 38   | 38  | 50    | 49    | 49   | 48  | 47    | 47    | 56  | 52  | 69    | 63    | 74   | 69  | 72   | 65    | 71    | 66    |
| 15  | 53   | 53  | 50    | 50    | 52   | 51  | 38   | 38  | 50    | 50    | 48   | 46  | 47    | 45    | 57  | 56  | 71    | 65    | 70   | 67  | 71   | 64    | 66    | 64    |
| 16  | 54   | 52  | 50    | 50    | 52   | 51  | 40   | 38  | 50    | 50    | 46   | 44  | 46    | 44    | 60  | 53  | 72    | 66    | 71   | 67  | 68   | 64    | 66    | 61    |
| 17  | 53   | 53  | 50    | 50    | 51   | 51  | 40   | 40  | 50    | 49    | 46   | 44  | 46    | 44    | 62  | 58  | 72    | 65    | 75   | 68  | 70   | 64    | 66    | 61    |
| 18  | 55   | 52  | 50    | 50    | 51   | 50  | 40   | 40  | 50    | 49    | 48   | 44  | 45    | 44    | 61  | 60  | 70    | 65    | 75   | 69  | 71   | 64    | 68    | 61    |
| 19  | 56   | 55  | 50    | 49    | 50   | 47  | 40   | 40  | 50    | 50    | 49   | 46  | 45    | 44    | 60  | 59  | 68    | 64    | 72   | 69  | 70   | 64    | 66    | 61    |
| 20  | 56   | 55  | 50    | 48    | 47   | 47  | 40   | 39  | 52    | 50    | 50   | 48  | 45    | 43    | 59  | 58  | 68    | 63    | 69   | 67  | 70   | 63    | 68    | 63    |
| 21  | 58   | 56  | 52    | 50    | 47   | 47  | 40   | 39  | 52    | 51    | 50   | 50  | 46    | 45    | 58  | 56  | 66    | 62    | 75   | 67  | 71   | 64    | 67    | 63    |
| 22  | 58   | 56  | 52    | 52    | 47   | 47  | 41   | 40  | 51    | 50    | 50   | 49  | 47    | 46    | 57  | 56  | 64    | 62    | 73   | 69  | 68   | 64    | 65    | 63    |
| 23  | 58   | 56  | 52    | 51    | 47   | 45  | 41   | 40  | 50    | 50    | 49   | 48  | 48    | 46    | 56  | 56  | 66    | 60    | 75   | 69  | 68   | 61    | 65    | 63    |
| 24  | 56   | 55  | 51    | 51    | 45   | 41  | 43   | 41  | 50    | 50    | 48   | 47  | 48    | 47    | 58  | 56  | 66    | 61    | 76   | 68  | 69   | 61    | 68    | 62    |
| 25  | 56   | 55  | 51    | 50    | 41   | 40  | 43   | 42  | 50    | 50    | 48   | 48  | 48    | 47    | 62  | 58  | 68    | 62    | 76   | 68  | 70   | 61    | 68    | 63    |
| 26  | 56   | 56  | 52    | 51    | 40   | 40  | 42   | 42  | 52    | 50    | 49   | 48  | 48    | 47    | 60  | 59  | 70    | 62    | 72   | 69  | 70   | 61    | 70    | 62    |
| 27  | 57   | 56  | 52    | 50    | 40   | 40  | 43   | 42  | 52    | 50    | 49   | 48  | 49    | 46    | 62  | 58  | 66    | 62    | 72   | 64  | 70   | 62    | 69    | 64    |
| 28  | 58   | 56  | 50    | 48    | 40   | 40  | 42   | 40  | 50    | 50    | 48   | 48  | 51    | 48    | 62  | 59  | 64    | 61    | 70   | 66  | 70   | 64    | 67    | 62    |
| 29  | 58   | 56  | 48    | 46    | 40   | 40  | 40   | 40  | ----- | ----- | 48   | 48  | 53    | 51    | 64  | 59  | 66    | 59    | 70   | 64  | 67   | 64    | 67    | 64    |
| 30  | 56   | 55  | 48    | 46    | 41   | 40  | 43   | 40  | ----- | ----- | 48   | 48  | 54    | 52    | 64  | 60  | 68    | 62    | 70   | 64  | 64   | 63    | 67    | 63    |
| 31  | 57   | 56  | ----- | ----- | 43   | 41  | 47   | 43  | ----- | ----- | 48   | 48  | ----- | ----- | 65  | 61  | ----- | ----- | 68   | 64  | 66   | ----- | ----- | ----- |
| Avg | 57   | 55  | 52    | 51    | -    | -   | 42   | 41  | 51    | 50    | 49   | 47  | 47    | 46    | 56  | 54  | 66    | 61    | 72   | 66  | 70   | 64    | 69    | 63    |



## ELK RIVER BASIN

403

11-4797. Elk River near Falk, Calif.

Location.--Lat 40°42'10", long 124°09'20", in NW¼ sec.26, T.4 N., R.1 W., on left bank 500 ft downstream from Clapp Gulch, 1,300 ft downstream from confluence of North and South Forks, 2 miles northwest of Falk, and 5 miles south of Eureka.

Drainage area.--44.2 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder (digital). Altitude of gage is 50 ft (from topographic map).

Average discharge.--6 years, 79.6 cfs (57,630 acre-ft per year).

Extremes.--Maximum discharge during year, 2,220 cfs Apr. 12 (gage height, 23.02 ft); minimum, 1.0 cfs Sept. 12, 13.  
1957-63: Maximum discharge, 3,220 cfs Feb. 14, 1959 (gage height, 27.62 ft); minimum, 0.4 cfs Oct. 6-10, 1961, Sept. 14-23, 26-28, 1962.

Remarks.--Records good above 5 cfs and fair below. No storage or large diversion above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1 to Nov. 26 |     |      |       | Nov. 26 to Sept. 30 |     |      |       |
|-------------------|-----|------|-------|---------------------|-----|------|-------|
| 3.4               | 0.4 | 4.5  | 52    | 3.4                 | 1.0 | 4.5  | 39    |
| 3.5               | 2.6 | 5.0  | 89    | 3.5                 | 2.0 | 5.0  | 71    |
| 3.6               | 5.2 | 6.0  | 180   | 3.6                 | 3.5 | 6.0  | 153   |
| 3.7               | 8.2 | 9.0  | 465   | 3.8                 | 8.2 | 12.0 | 710   |
| 3.9               | 16  | 15.0 | 1,100 | 4.0                 | 16  | 19.0 | 1,620 |
| 4.2               | 32  |      |       |                     |     |      |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.  | Jan.  | Feb.  | Mar.  | Apr.   | May   | June  | July | Aug. | Sept. |
|-------|---------|---------|-------|-------|-------|-------|--------|-------|-------|------|------|-------|
| 1     | 2.6     | 7.6     | 273   | 19    | 308   | 26    | 417    | 42    | 13    | 4.5  | 2.0  | 2.0   |
| 2     | 3.9     | 7.3     | *812  | 18    | 208   | 26    | 247    | 39    | 13    | 4.4  | 2.0  | 2.0   |
| 3     | 5.2     | 6.7     | *782  | *21   | *236  | 25    | 184    | 87    | *12   | 4.2  | 2.4  | 1.7   |
| 4     | 5.2     | 6.7     | 254   | 22    | 218   | 22    | 131    | 93    | 12    | 4.3  | 2.6  | 1.6   |
| 5     | 3.4     | 7.3     | 130   | 20    | 207   | 20    | 389    | 184   | 12    | 4.2  | 2.6  | 1.6   |
| 6     | 2.6     | 6.7     | 98    | 18    | 111   | 19    | 778    | 173   | 11    | 4.0  | 2.6  | 1.6   |
| 7     | 2.4     | 6.1     | 73    | 17    | 76    | 18    | 545    | 358   | 10    | 4.1  | 2.3  | 1.6   |
| 8     | 7.6     | 6.1     | 59    | 16    | 70    | 18    | 406    | 228   | 9.5   | 3.8  | 2.3  | 1.6   |
| 9     | 48      | 14      | 49    | 16    | 62    | 20    | 329    | 132   | 9.2   | 3.5  | 2.4  | 1.6   |
| 10    | 186     | 24      | 42    | 14    | 56    | 18    | 862    | 90    | 8.9   | 3.4  | 2.4  | 1.3   |
| 11    | 298     | 59      | 38    | 14    | 47    | 17    | 418    | 77    | 8.7   | 3.3  | 2.3  | 1.2   |
| 12    | 611     | 763     | 34    | 13    | 93    | 16    | 1,480  | 63    | 8.3   | 3.1  | 2.2  | 1.2   |
| 13    | 509     | 280     | 35    | 12    | 230   | 14    | 934    | 53    | 8.0   | 3.1  | 2.0  | 1.2   |
| 14    | 533     | 113     | 32    | 12    | 115   | 24    | 1,390  | 45    | 7.6   | 3.0  | 2.0  | 1.3   |
| 15    | 223     | 69      | 108   | 11    | 79    | 49    | 890    | 40    | 7.4   | 2.9  | 1.9  | 1.5   |
| 16    | 99      | 53      | 97    | 11    | 243   | 241   | 506    | 35    | 7.1   | 2.9  | 1.9  | 1.5   |
| 17    | 63      | 48      | 68    | 11    | 226   | 105   | 320    | 32    | 6.9   | 2.7  | 2.0  | 1.4   |
| 18    | 46      | 42      | 58    | 11    | 129   | 62    | 221    | 28    | 6.6   | 2.7  | 2.0  | 1.4   |
| 19    | 35      | 35      | 50    | 10    | 90    | 49    | 419    | 26    | 6.4   | 2.7  | 1.9  | 1.3   |
| 20    | 28      | 30      | 44    | 9.3   | 78    | 41    | 381    | 25    | 6.2   | 2.9  | 1.8  | 1.3   |
| 21    | 23      | 27      | 40    | 9.0   | 66    | 38    | 282    | 23    | 6.3   | 2.9  | 1.7  | 1.3   |
| 22    | 20      | 27      | 36    | 9.0   | 55    | 41    | 190    | 23    | 6.6   | 2.9  | 1.7  | 1.4   |
| 23    | 17      | 25      | 33    | 8.6   | 49    | 50    | 136    | 22    | 6.4   | 2.9  | *1.7 | 3.4   |
| 24    | 15      | 22      | 30    | 8.2   | 42    | 53    | 95     | 21    | 5.8   | 2.8  | *1.8 | 2.2   |
| 25    | 14      | 22      | 27    | 8.2   | 37    | 44    | *87    | 20    | 5.4   | 2.7  | 1.8  | 1.8   |
| 26    | 12      | 1,090   | 24    | 8.2   | 38    | 162   | 77     | 19    | 5.0   | *2.4 | 1.8  | 1.7   |
| 27    | *12     | 394     | 22    | 7.8   | 33    | 500   | 66     | 18    | 4.9   | 2.1  | 1.6  | 1.6   |
| 28    | 10      | 190     | 20    | 7.4   | 30    | 641   | 56     | 17    | 4.8   | 2.5  | 1.6  | 1.5   |
| 29    | 9.3     | 108     | 20    | *9.0  | ----- | 907   | 49     | 15    | 4.8   | 2.4  | 1.7  | 1.5   |
| 30    | 8.2     | 97      | 21    | 20    | ----- | 521   | 44     | 14    | 4.7   | 2.2  | 1.9  | 1.4   |
| 31    | 7.9     | -----   | 22    | 196   | ----- | 531   | -----  | 13    | ----- | 2.0  | 2.0  | ----- |
| Total | 2,860.3 | 3,586.5 | 3,431 | 586.7 | 3,232 | 4,318 | 12,329 | 2,055 | 238.5 | 97.5 | 62.9 | 47.7  |
| Mean  | 92.3    | 120     | 111   | 18.9  | 115   | 139   | 411    | 66.3  | 7.95  | 3.15 | 2.03 | 1.59  |
| Max   | 611     | 1,090   | 812   | 196   | 308   | 907   | 1,480  | 358   | 13    | 4.5  | 2.6  | 3.4   |
| Min   | 2.4     | 6.1     | 20    | 7.4   | 30    | 14    | 44     | 13    | 4.7   | 2.0  | 1.6  | 1.2   |
| Ac-ft | 5,670   | 7,110   | 6,810 | 1,160 | 6,410 | 8,560 | 24,450 | 4,080 | 473   | 193  | 125  | 95    |

Calendar year 1962: Max 1,090 Min 0.4 Mean 71.6 Ac-ft 51,860  
Water year 1962-63: Max 1,480 Min 1.2 Mean 90.0 Ac-ft 65,140

Peak discharge (base, 1,100 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date  | Time | Gage height | Discharge |
|-------|------|-------------|-----------|-------|------|-------------|-----------|
| 10-12 | 2300 | 17.41       | 1,400     | 12- 2 | 2100 | 19.48       | 1,690     |
| 11-12 | 1300 | 16.72       | 1,310     | 4-10  | 1100 | 15.90       | 1,190     |
| 11-26 | 1200 | 22.20       | 2,100     | 4-12  | 1400 | 23.02       | 2,220     |

## JACOBY CREEK BASIN

11-4800. Jacoby Creek near Freshwater, Calif.

Location.--Lat 40°47'30", long 124°00'10", in NW¼ sec.30, T.5 N., R.2 E., on left bank 300 ft downstream from unnamed tributary, 3.7 miles northeast of Freshwater, and 6.5 miles southeast of Arcata.

Drainage area.--6.07 sq mi.

Records available.--December 1954 to September 1963.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 800 ft (from topographic map).

Average discharge.--8 years (1955-63), 14.9 cfs (10,790 acre-ft per year).

Extremes.--Maximum discharge during year, 446 cfs Dec. 2 (gage height, 3.62 ft); minimum, 0.8 cfs Sept. 22, 25-30.

1954-63: Maximum discharge, 1,670 cfs Dec. 30, 1954 (gage height, 7.20 ft), from rating curve extended above 580 cfs on basis of critical-depth measurement at gage height 6.75 ft; minimum, 0.6 cfs Sept. 24, 1957.

Remarks.--Records good above 4.5 cfs and fair below. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 18-25, Sept. 15-30)

|     |     |     |     |
|-----|-----|-----|-----|
| 0.6 | 0.8 | 1.3 | 18  |
| .7  | 1.0 | 1.5 | 30  |
| .8  | 1.3 | 1.8 | 63  |
| .9  | 1.9 | 2.0 | 92  |
| 1.0 | 2.9 | 2.5 | 180 |
| 1.1 | 5.8 | 3.0 | 280 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.  | NOV.  | DEC.  | JAN.  | FEB.  | MAR.  | APR.  | MAY   | JUNE  | JULY | AUG. | SEPT. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 1.5   | 2.8   | 71    | 3.5   | *64   | 8.1   | 66    | 9.9   | 3.8   | 2.2  | 1.3  | 1.2   |
| 2     | 7.8   | 2.6   | 237   | *3.5  | 33    | 7.5   | 42    | 12    | 3.8   | 2.2  | 1.3  | 1.1   |
| 3     | 6.1   | 2.5   | 134   | 3.8   | 26    | 6.3   | 33    | 36    | 3.4   | 2.1  | 1.4  | 1.1   |
| 4     | *2.6  | 2.5   | 57    | 3.5   | 29    | 5.8   | 26    | 29    | 3.2   | 2.2  | 1.4  | 1.0   |
| 5     | 1.9   | 2.6   | 34    | 3.5   | 32    | 5.3   | *69   | 27    | 3.2   | 2.2  | 1.4  | 1.1   |
| 6     | 1.6   | 2.4   | 25    | 3.4   | 23    | 5.3   | 144   | 26    | 3.2   | 2.1  | 1.3  | 1.0   |
| 7     | 1.8   | 2.2   | 21    | 3.2   | 18    | *4.8  | 101   | 57    | 3.2   | 2.1  | 1.3  | 1.0   |
| 8     | 9.9   | 2.5   | 18    | 3.2   | 16    | 5.3   | 67    | 36    | 3.1   | 2.0  | 1.3  | 1.0   |
| 9     | 45    | 6.9   | 16    | 3.1   | 14    | 5.8   | 58    | 26    | 3.1   | 1.9  | 1.3  | 1.0   |
| 10    | 63    | 9.7   | 14    | 3.2   | 12    | 5.3   | 117   | 22    | 3.1   | 1.9  | 1.3  | 1.0   |
| 11    | 86    | 28    | *11   | 3.1   | 9.3   | 4.8   | 73    | 21    | 3.1   | 1.9  | 1.3  | 1.0   |
| 12    | 122   | 100   | 6.9   | 3.1   | 15    | 4.4   | 202   | 17    | 2.8   | 1.8  | 1.3  | .9    |
| 13    | 82    | 43    | 5.8   | 2.9   | 24    | 4.4   | 131   | 15    | 2.8   | 1.8  | 1.3  | .9    |
| 14    | 92    | 24    | 5.3   | 2.8   | 19    | 9.5   | 160   | 13    | 2.6   | 1.7  | 1.3  | .9    |
| 15    | 42    | 18    | 14    | 2.8   | 17    | 13    | 168   | 12    | 2.6   | 1.7  | 1.3  | 1.1   |
| 16    | 23    | 19    | 11    | *2.9  | 37    | 26    | 106   | 11    | 2.6   | 1.7  | 1.3  | 1.0   |
| 17    | 15    | 18    | 8.1   | 2.9   | 32    | 20    | 66    | 9.3   | 2.5   | 1.7  | 1.3  | .9    |
| 18    | 9.3   | 16    | 7.5   | 2.9   | 32    | 14    | 43    | 8.7   | 2.4   | 1.7  | 1.2  | .9    |
| 19    | 6.3   | 14    | 6.9   | 2.9   | 27    | 12    | 66    | 8.7   | 2.4   | 1.7  | 1.2  | .9    |
| 20    | 4.8   | 12    | 6.3   | 2.8   | 26    | 9.9   | 54    | 8.1   | 2.4   | 1.8  | 1.2  | .9    |
| 21    | 3.8   | 12    | 5.8   | 2.8   | 23    | 8.7   | 40    | 7.5   | 2.8   | 1.8  | 1.2  | .9    |
| 22    | 3.5   | 13    | 5.3   | 2.8   | 19    | 8.1   | 27    | 6.9   | 3.1   | 1.8  | 1.2  | .8    |
| 23    | 3.4   | 12    | 4.4   | 2.8   | 16    | 12    | 23    | *6.3  | 2.9   | 1.7  | 1.2  | 1.0   |
| 24    | 3.4   | 11    | 4.4   | 2.6   | 13    | 13    | 19    | 5.8   | 2.8   | 1.6  | 1.2  | .9    |
| 25    | 3.2   | 11    | 4.0   | 2.5   | 11    | 7.5   | 19    | 5.8   | 2.5   | *1.5 | 1.2  | .8    |
| 26    | *3.4  | 178   | 3.8   | 2.4   | 11    | 26    | 18    | 5.3   | 2.5   | 1.5  | *1.1 | .8    |
| 27    | 3.2   | 66    | 3.8   | 2.4   | 9.3   | 66    | 15    | 5.3   | *2.5  | 1.4  | 1.1  | .8    |
| 28    | 3.2   | 34    | 3.5   | 2.4   | 8.7   | 103   | 12    | 5.3   | 2.4   | 1.4  | 1.1  | .8    |
| 29    | 3.1   | 25    | 3.5   | 3.1   | ----- | 119   | *12   | 4.8   | 2.3   | 1.4  | 1.1  | .8    |
| 30    | 2.9   | *49   | 4.0   | 5.7   | ----- | 83    | 11    | 4.4   | 2.3   | 1.4  | 1.2  | *.8   |
| 31    | 2.9   | ----- | 3.8   | 36    | ----- | 89    | ----- | 4.0   | ----- | 1.4  | 1.2  | ----- |
| TOTAL | 659.6 | 739.7 | 756.1 | 128.5 | 616.3 | 712.8 | 1,988 | 466.1 | 85.4  | 55.3 | 38.8 | 28.3  |
| MEAN  | 21.3  | 24.7  | 24.4  | 4.15  | 22.0  | 23.0  | 66.3  | 15.0  | 2.85  | 1.78 | 1.25 | 0.94  |
| MAX   | 122   | 178   | 237   | 36    | 64    | 119   | 202   | 57    | 3.8   | 2.2  | 1.4  | 1.2   |
| MIN   | 1.5   | 2.2   | 3.5   | 2.4   | 8.7   | 4.4   | 11    | 4.0   | 2.3   | 1.4  | 1.1  | 0.8   |
| AC-FT | 1,310 | 1,470 | 1,500 | 255   | 1,220 | 1,410 | 3,940 | 924   | 169   | 110  | 77   | 56    |

CALENDAR YEAR 1962: MAX 237 MIN 1.3 MEAN 13.0 AC-FT 9,440

WATER YEAR 1962-63: MAX 237 MIN 0.8 MEAN 17.2 AC-FT 12,440

Peak discharge (base, 300 cfs).--Nov. 26 (0800) 348 cfs (3.27 ft); Dec. 2 (1600) 446 cfs (3.62 ft).

\* Discharge measurement made on this day.

11-4805. Mad River near Forest Glen, Calif.

Location.--Lat 40°27'30", long 123°30'35", in SW $\frac{1}{4}$  sec.16, T.1 N., R.6 E., on right bank 0.7 mile downstream from Lamb Creek and 7.0 miles northwest of Forest Glen.

Drainage area.--143 sq mi.

Records available.--June 1953 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 2,410 ft (from topographic map). Prior to Dec. 22, 1955, water-stage recorder at site 0.7 mile upstream at different datum. Jan. 13 to June 18, 1956, wire-weight gage at former site at datum 4.17 ft lower than former datum.

Average discharge.--10 years, 361 cfs (261,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,540 cfs Feb. 1 (gage height, 8.74 ft); minimum daily, 16 cfs Oct. 1, 3-7.

1953-63: Maximum discharge, 39,200 cfs Dec. 22, 1955 (gage height, 24.5 ft, from floodmarks, present datum), from rating curve extended above 8,100 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.6 cfs Sept. 15, 1961.

Remarks.--Records good. Flow regulated by Ruth Reservoir beginning in July 1961 (capacity, 42,000 acre-ft). No diversion.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Apr. 27 to Sept. 30)

Oct. 1-12

Oct. 13 to Sept. 30

|     |     |     |       |     |     |     |       |
|-----|-----|-----|-------|-----|-----|-----|-------|
| 2.3 | 12  | 4.0 | 530   | 2.5 | 19  | 4.0 | 445   |
| 2.4 | 25  | 5.0 | 1,240 | 2.8 | 56  | 4.5 | 730   |
| 2.7 | 76  | 6.0 | 2,150 | 3.0 | 90  | 6.0 | 2,040 |
| 3.0 | 135 | 8.0 | 4,500 | 3.2 | 135 | 8.0 | 4,500 |
| 3.5 | 280 |     |       | 3.5 | 231 |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.    | MAY    | JUNE  | JULY  | AUG.  | SEPT.  |
|-------|--------|--------|--------|--------|--------|--------|---------|--------|-------|-------|-------|--------|
| 1     | 16     | 360    | 432    | 396    | 4,410  | 405    | 2,570   | 455    | 74    | 25    | 48    | 133    |
| 2     | 17     | 320    | 1,090  | 391    | 4,060  | 405    | 1,790   | *436   | 61    | 26    | 50    | 138    |
| 3     | 16     | 259    | *751   | 391    | 2,850  | 400    | 1,510   | 441    | 59    | 30    | 50    | 163    |
| 4     | 16     | 255    | 598    | 387    | 2,120  | 396    | 1,310   | 436    | 58    | 37    | 52    | 217    |
| 5     | 16     | 259    | 646    | 387    | 1,710  | 382    | 1,570   | 470    | 67    | 38    | 53    | 259    |
| 6     | 16     | 263    | *730   | 387    | 1,410  | 337    | 3,460   | 470    | 79    | 40    | 56    | 267    |
| 7     | 16     | 217    | 640    | 387    | 1,120  | 247    | 3,610   | 475    | 77    | 41    | 59    | 271    |
| 8     | 19     | 355    | 534    | 378    | 972    | 149    | 3,320   | 455    | 77    | 41    | 67    | 271    |
| 9     | 57     | 351    | 490    | 387    | 849    | 103    | 2,710   | 409    | 77    | 41    | 69    | 271    |
| 10    | 181    | 351    | 427    | 382    | 744    | 103    | 2,250   | 369    | 76    | 41    | 72    | 271    |
| 11    | 936    | 378    | 418    | 382    | 646    | 101    | 1,860   | *351   | 64    | 41    | 74    | 271    |
| 12    | 3,690  | 427    | 423    | 378    | 676    | 101    | 2,190   | 337    | 49    | 41    | 77    | 267    |
| 13    | 3,840  | 378    | 480    | 378    | 779    | 98     | 2,550   | 329    | 48    | 40    | 86    | 267    |
| 14    | 2,370  | 364    | 445    | 378    | 724    | 101    | 3,290   | 320    | 46    | 40    | 90    | 263    |
| 15    | 1,520  | 360    | 1,480  | 378    | 652    | 103    | 3,590   | 307    | 48    | 40    | 92    | 259    |
| 16    | 905    | 355    | 1,100  | 378    | 628    | 169    | 2,820   | 279    | 49    | 40    | 94    | 267    |
| 17    | 604    | 355    | 1,050  | 346    | 616    | 224    | 2,110   | 251    | 53    | 40    | 94    | 271    |
| 18    | *450   | 355    | 877    | 283    | 574    | 166    | 1,660   | 220    | 56    | 40    | 94    | 271    |
| 19    | 391    | 351    | 718    | 279    | 523    | 125    | 1,460   | 185    | 58    | 40    | 94    | 271    |
| 20    | 387    | 346    | 604    | 279    | 485    | 125    | 1,270   | 179    | 56    | 40    | 96    | 267    |
| 21    | 382    | 346    | 512    | 217    | 455    | 125    | 1,100   | 182    | 43    | 40    | 105   | 247    |
| 22    | 378    | 342    | 455    | *157   | 436    | 128    | 972     | 182    | 43    | 40    | 113   | 231    |
| 23    | 378    | 337    | 427    | 155    | 423    | 234    | 863     | 182    | 41    | 40    | 118   | 213    |
| 24    | 373    | 337    | 423    | 123    | 409    | 329    | 786     | 182    | 38    | 40    | 121   | 176    |
| 25    | 373    | 346    | 418    | 76     | 414    | 311    | 737     | 176    | 38    | 41    | 121   | 146    |
| 26    | 329    | 1,150  | *409   | 76     | 414    | *373   | 688     | 163    | *34   | 41    | 125   | 125    |
| 27    | 267    | 556    | 405    | 77     | *409   | 1,330  | 622     | 135    | 26    | 41    | 133   | 118    |
| 28    | 263    | 450    | 400    | 58     | 405    | 1,600  | 568     | *113   | 26    | 42    | *135  | 138    |
| 29    | 303    | 423    | 400    | *23    | -----  | 3,650  | 517     | 113    | 25    | 43    | 133   | 138    |
| 30    | 364    | 418    | 405    | 315    | -----  | 4,230  | 485     | 116    | 25    | *45   | 133   | 143    |
| 31    | 360    | -----  | 400    | 1,840  | -----  | 3,630  | -----   | 96     | ----- | 46    | 133   | -----  |
| TOTAL | 19,233 | 11,364 | 18,587 | 10,449 | 29,913 | 20,180 | 54,238  | 8,814  | 1,571 | 1,221 | 2,837 | 6,610  |
| MEAN  | 620    | 379    | 600    | 337    | 1,068  | 651    | 1,808   | 284    | 52.4  | 39.4  | 91.5  | 220    |
| MAX   | 3,840  | 1,150  | 1,480  | 1,840  | 4,410  | 4,230  | 3,610   | 475    | 79    | 46    | 135   | 271    |
| MIN   | 16     | 217    | 400    | 23     | 405    | 98     | 485     | 96     | 25    | 25    | 48    | 118    |
| AC-FT | 38,150 | 22,540 | 36,870 | 20,730 | 59,330 | 40,030 | 107,600 | 17,480 | 3,120 | 2,420 | 5,630 | 13,110 |

CALENDAR YEAR 1962: MAX 3,840 MIN 4.8 MEAN 266 AC-FT 192,400

WATER YEAR 1962-63: MAX 4,410 MIN 16 MEAN 507 AC-FT 367,000

\* Discharge measurement made on this day.

## MAD RIVER BASIN

11-4805. Mad River near Forest Glen, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature during year, 71°F July 13, 14; minimum, 38°F Jan. 27, 30.

1960-63: Maximum temperature recorded, 79°F June 25, 1961; minimum, 35°F Jan. 24, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov. |     | Dec. |     | Jan. |     | Feb. |     | Mar. |     | Apr. |     | May |     | June |     | July |     | Aug. |     | Sept. |     |
|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|------|-----|-----|-----|------|-----|------|-----|------|-----|-------|-----|
|     | max  | min | max  | min | max  | min | max  | min | max  | min | max  | min | max  | min | max | min | max  | min | max  | min | max  | min | max   | min |
| 1   | 64   | 61  | 56   | 54  | -    | -   | 46   | 45  | 45   | 44  | 51   | 48  | 45   | 45  | 47  | 46  | 60   | 53  | 66   | 62  | 67   | 64  | 58    | 55  |
| 2   | 64   | 62  | 56   | 54  | 52   | 51  | 45   | 45  | 44   | 43  | 49   | 47  | 45   | 45  | 47  | 45  | 60   | 55  | 67   | 61  | 68   | 64  | 59    | 56  |
| 3   | 62   | 59  | 56   | 55  | 50   | 50  | 45   | 45  | 45   | 44  | 49   | 47  | 45   | 45  | 46  | 46  | 59   | 53  | 65   | 61  | 67   | 64  | 59    | 55  |
| 4   | 60   | 58  | 56   | 54  | 50   | 49  | 45   | 43  | 46   | 45  | 49   | 46  | 45   | 45  | 46  | 46  | 57   | 54  | 63   | 61  | 67   | 63  | 58    | 54  |
| 5   | 60   | 57  | 56   | 54  | 49   | 49  | 44   | 43  | 46   | 45  | 48   | 47  | 45   | 45  | 48  | 46  | 60   | 54  | 66   | 61  | 65   | 62  | 58    | 56  |
| 6   | 59   | 58  | 55   | 54  | 50   | 49  | 44   | 43  | 45   | 45  | 48   | 47  | 45   | 45  | 48  | 47  | 59   | 52  | 64   | 61  | 65   | 62  | 58    | 56  |
| 7   | 59   | 56  | 55   | 54  | 50   | 49  | 44   | 43  | 45   | 45  | 51   | 47  | 45   | 45  | 50  | 47  | 58   | 52  | 61   | 59  | 66   | 62  | 58    | 55  |
| 8   | 60   | 56  | 56   | 54  | 49   | 49  | 44   | 43  | 46   | 45  | 49   | 47  | 45   | 45  | 48  | 47  | 61   | 54  | 65   | 57  | 66   | 62  | 58    | 56  |
| 9   | 60   | 59  | 56   | 56  | 49   | 49  | 44   | 43  | 46   | 46  | 50   | 46  | 45   | 45  | 50  | 46  | 61   | 56  | 67   | 61  | 62   | 61  | 59    | 56  |
| 10  | 57   | 56  | 56   | 56  | 49   | 48  | 45   | 44  | 46   | 46  | 49   | 46  | 45   | 45  | 47  | 46  | 61   | 54  | 68   | 63  | 62   | 58  | 59    | 56  |
| 11  | -    | -   | 56   | 56  | 48   | 47  | 44   | 43  | 47   | 46  | 49   | 45  | 45   | 45  | 50  | 47  | 59   | 54  | 69   | 63  | 64   | 59  | 58    | 56  |
| 12  | -    | -   | 56   | 56  | 48   | 47  | 43   | 42  | 48   | 47  | 48   | 45  | 45   | 45  | 50  | 47  | 64   | 58  | 70   | 64  | 64   | 59  | 58    | 57  |
| 13  | -    | -   | 56   | 55  | 48   | 48  | 44   | 43  | 48   | 48  | 48   | 44  | 45   | 45  | 51  | 47  | 68   | 62  | 71   | 66  | 62   | 58  | 60    | 56  |
| 14  | -    | -   | 55   | 54  | 49   | 48  | 44   | 43  | 48   | 48  | 48   | 45  | 45   | 45  | 54  | 48  | 68   | 62  | 71   | 65  | 62   | 56  | 60    | 58  |
| 15  | -    | -   | 55   | 54  | 49   | 48  | 44   | 44  | 48   | 48  | 46   | 44  | 45   | 45  | 55  | 48  | 69   | 63  | 70   | 65  | 62   | 56  | 58    | 58  |
| 16  | -    | -   | 55   | 54  | 49   | 49  | 44   | 44  | 48   | 48  | 46   | 41  | 45   | 45  | 56  | 49  | 69   | 62  | 68   | 64  | 62   | 56  | 60    | 57  |
| 17  | -    | -   | 55   | 54  | 49   | 49  | 44   | 44  | 48   | 48  | 48   | 45  | 45   | 45  | 57  | 49  | 67   | 62  | 68   | 64  | 61   | 55  | 60    | 58  |
| 18  | -    | -   | 54   | 54  | 49   | 47  | 44   | 44  | 48   | 48  | 48   | 44  | 45   | 45  | 56  | 49  | 67   | 62  | 68   | 63  | 60   | 55  | 61    | 58  |
| 19  | 56   | 54  | 54   | 54  | 47   | 46  | 44   | 42  | 48   | 48  | 49   | 44  | 45   | 45  | 58  | 49  | 66   | 61  | 67   | 64  | 60   | 55  | 62    | 59  |
| 20  | 56   | 54  | 54   | 53  | 46   | 46  | 46   | 43  | 48   | 48  | 49   | 45  | 46   | 45  | 56  | 51  | 64   | 60  | 66   | 65  | 60   | 54  | 62    | 60  |
| 21  | 56   | 54  | 54   | 54  | 46   | 46  | 44   | 43  | 48   | 46  | 49   | 46  | 46   | 46  | 58  | 52  | 63   | 58  | 68   | 65  | 60   | 55  | 62    | 60  |
| 22  | 56   | 54  | 54   | 54  | 46   | 46  | 44   | 41  | 48   | 46  | 47   | 44  | 46   | 46  | 58  | 52  | 60   | 58  | 69   | 65  | 60   | 55  | 61    | 61  |
| 23  | 56   | 54  | 54   | 53  | 46   | 46  | 42   | 41  | 49   | 47  | 45   | 43  | 46   | 46  | 59  | 52  | 62   | 56  | 69   | 65  | 60   | 55  | 63    | 60  |
| 24  | -    | -   | 54   | 53  | 46   | 44  | 42   | 41  | 49   | 47  | 47   | 44  | 46   | 46  | 59  | 52  | 66   | 58  | 68   | 65  | 59   | 54  | 64    | 61  |
| 25  | 56   | 54  | 54   | 54  | 44   | 44  | 42   | 40  | 49   | 48  | 47   | 44  | 46   | 46  | 59  | 51  | 67   | 60  | 67   | 63  | 58   | 52  | 64    | 60  |
| 26  | 56   | 55  | -    | -   | 44   | 44  | 41   | 40  | 49   | 47  | 45   | 45  | 46   | 46  | 58  | 50  | 65   | 61  | 68   | 63  | 58   | 54  | 64    | 60  |
| 27  | 56   | 55  | -    | -   | 44   | 44  | 41   | 38  | 50   | 48  | 45   | 45  | 46   | 46  | 62  | 51  | 64   | 60  | 70   | 66  | 59   | 53  | 64    | 61  |
| 28  | 56   | 56  | -    | -   | 44   | 44  | 40   | 39  | 49   | 48  | 45   | 45  | 46   | 46  | 58  | 51  | 62   | 59  | 70   | 66  | 58   | 52  | 64    | 61  |
| 29  | 56   | 54  | -    | -   | 44   | 44  | 40   | 39  | -    | -   | 45   | 45  | 46   | 46  | 58  | 52  | 60   | 56  | 70   | 66  | 58   | 53  | 64    | 62  |
| 30  | -    | -   | -    | -   | 44   | 44  | 39   | 38  | -    | -   | 45   | 45  | 47   | 46  | 59  | 52  | 64   | 57  | 68   | 62  | 57   | 55  | 64    | 61  |
| 31  | -    | -   | -    | -   | 45   | 44  | 45   | 39  | -    | -   | 45   | 45  | -    | -   | 58  | 51  | -    | -   | 67   | 64  | 59   | 56  | -     | -   |
| Avg | -    | -   | -    | -   | -    | -   | 43   | 42  | 47   | 46  | 48   | 45  | 45   | 45  | 54  | 49  | 63   | 58  | 68   | 63  | 62   | 57  | 61    | 58  |

11-4808, North Fork Mad River near Korbøl, Calif.

Location.--Lat 40°53'10", long 123°56'30", in SW $\frac{1}{4}$  sec.22, T.6 N., R.2 E., on left bank 0.5 mile downstream from Bald Mountain Creek, 1.2 miles northeast of Korbøl, and 2.5 miles east of town of Blue Lake.

Drainage area.--40.5 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 250 ft (from topographic map).

Average discharge.--6 years, 137 cfs (99,180 acre-ft per year).

Extremes.--Maximum discharge during year, 5,460 cfs Dec. 2 (gage height, 12.82 ft), from rating curve extended above 1,600 cfs; minimum daily, 1.9 cfs Sept. 20, 21, 29, 30.

1957-63: Maximum discharge, 7,170 cfs Feb. 8, 1960 (gage height, 16.17 ft); minimum, 1.0 cfs Sept. 12, 1959.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No storage or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Feb. 1 to May 6, July 28 to Sept. 30)

|     |     |     |     |      |       |
|-----|-----|-----|-----|------|-------|
| 2.1 | 1.8 | 3.3 | 26  | 5.5  | 355   |
| 2.3 | 3.2 | 3.7 | 53  | 6.0  | 540   |
| 2.5 | 5.1 | 4.0 | 75  | 7.0  | 1,020 |
| 2.7 | 8.0 | 4.5 | 140 | 9.0  | 2,400 |
| 3.0 | 14  | 5.0 | 235 | 11.0 | 4,000 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.   | Dec.    | Jan.  | Feb.   | Mar.    | Apr.    | May   | June  | July  | Aug.  | Sept. |
|-------|---------|--------|---------|-------|--------|---------|---------|-------|-------|-------|-------|-------|
| 1     | 9.0     | 24     | 548     | 69    | 1,010  | 110     | 528     | 88    | 35    | 14    | 5.5   | 3.2   |
| 2     | 10      | 24     | 3,690   | 65    | * 511  | 110     | 370     | 158   | 33    | 14    | 5.5   | 3.0   |
| 3     | 30      | 22     | * 1,430 | 66    | 559    | 103     | 500     | 420   | * 31  | 13    | 5.4   | 2.8   |
| 4     | 13      | 22     | 540     | 63    | 461    | 93      | 358     | 249   | 30    | 13    | 5.5   | 2.5   |
| 5     | 10      | 25     | 337     | 60    | 432    | 88      | 1,540   | 193   | 30    | 14    | 5.4   | 2.3   |
| 6     | * 9.0   | 22     | 247     | 60    | 283    | 86      | 2,560   | 205   | 28    | 13    | 5.0   | 2.3   |
| 7     | 10      | 20     | 197     | 55    | 225    | 83      | 876     | 403   | 26    | 13    | 4.8   | 2.3   |
| 8     | 156     | 20     | 163     | 55    | 191    | 83      | 564     | 267   | 26    | 12    | 4.7   | 2.2   |
| 9     | 1,560   | 62     | 142     | 50    | 165    | 81      | 632     | 193   | 24    | 11    | 4.9   | 2.2   |
| 10    | 884     | 58     | 124     | 50    | 146    | 77      | 1,130   | 159   | 23    | 11    | 4.8   | 2.3   |
| 11    | 629     | 195    | 110     | 48    | 128    | 73      | 640     | 151   | 23    | 11    | 4.4   | 2.3   |
| 12    | 871     | 1,330  | * 100   | 45    | 169    | 71      | * 1,370 | 127   | 22    | 10    | 4.2   | 2.2   |
| 13    | 639     | 380    | 104     | 45    | 357    | 69      | 826     | 110   | 21    | 9.8   | 4.1   | 2.0   |
| 14    | 750     | 175    | 93      | 45    | 221    | 112     | 930     | 97    | 20    | 9.4   | 3.9   | 2.0   |
| 15    | 421     | 121    | 219     | 40    | 179    | 130     | 1,000   | 87    | 19    | 9.2   | 3.7   | 2.2   |
| 16    | 195     | 128    | 200     | 40    | 227    | 251     | 652     | 80    | 19    | 9.0   | 3.6   | 2.7   |
| 17    | 125     | 112    | 180     | 35    | 221    | 199     | 440     | 73    | 18    | 9.0   | 3.5   | 2.6   |
| 18    | 91      | 91     | 160     | 35    | 504    | 151     | 349     | 69    | 18    | 8.8   | 3.4   | 2.4   |
| 19    | 74      | 78     | 150     | 35    | 448    | 130     | 456     | 64    | 17    | 8.2   | 3.4   | 2.1   |
| 20    | 64      | 69     | 130     | 30    | 315    | 119     | 417     | 63    | 17    | 8.4   | 3.3   | 1.9   |
| 21    | 57      | 66     | 120     | 30    | 251    | 113     | 334     | 61    | 18    | 8.6   | 3.2   | 1.9   |
| 22    | 51      | 75     | 100     | 25    | 213    | 113     | 259     | 59    | 23    | 8.2   | 3.1   | 2.1   |
| 23    | 45      | 67     | 100     | 25    | 183    | 148     | 211     | 57    | 19    | 7.7   | * 3.0 | 3.3   |
| 24    | 42      | 61     | 90      | 25    | 159    | 163     | 189     | 54    | 17    | 7.5   | 2.9   | 3.1   |
| 25    | 39      | 59     | 80      | 25    | 145    | 133     | 165     | 52    | 17    | * 7.0 | 2.7   | 2.7   |
| 26    | 36      | 1,870  | 75      | 25    | 143    | 350     | 145     | 50    | 16    | 6.9   | 2.7   | 2.5   |
| 27    | 33      | 491    | 70      | 25    | 128    | 727     | 130     | 47    | * 16  | 6.6   | 2.6   | 2.2   |
| 28    | 31      | 261    | 60      | 25    | 118    | * 1,010 | 116     | 45    | 16    | 6.4   | 2.5   | 2.1   |
| 29    | 29      | 183    | 55      | 25    | -----  | 860     | 104     | 41    | 15    | 6.4   | 2.6   | 1.9   |
| 30    | 27      | 423    | 60      | 35    | -----  | 660     | 93      | 39    | 14    | 6.0   | 2.7   | * 1.9 |
| 31    | 26      | -----  | 73      | 230   | -----  | 680     | -----   | 37    | ----- | 5.9   | 3.1   | ----- |
| Total | 6,966.0 | 6,534  | 9,747   | 1,486 | 8,092  | 7,176   | 17,884  | 3,798 | 651   | 298.0 | 120.1 | 71.2  |
| Mean  | 225     | 218    | 314     | 47.9  | 289    | 231     | 596     | 123   | 21.7  | 9.61  | 3.87  | 2.37  |
| Max   | 1,560   | 1,870  | 3,690   | 230   | 1,010  | 1,010   | 2,560   | 420   | 35    | 14    | 5.5   | 3.3   |
| Min   | 9.0     | 20     | 55      | 25    | 118    | 69      | 93      | 37    | 14    | 5.9   | 2.5   | 1.9   |
| Ac-ft | 13,820  | 12,960 | 19,330  | 2,950 | 16,050 | 14,230  | 35,470  | 7,530 | 1,290 | 591   | 238   | 141   |

Calendar year 1962: Max 3,690 Min 3.4 Mean 125 Ac-ft 90,610

Water year 1962-63: Max 3,690 Min 1.9 Mean 172 Ac-ft 124,600

Peak discharge (base, 1,500 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-9  | 0800 | 11.03       | 4,020     | 12-2 | 1400 | 12.82       | 5,460     |
| 11-12 | 1000 | 9.89        | 3,110     | 4-6  | 0300 | 10.98       | 4,220     |
| 11-26 | 0800 | 11.40       | 4,320     | 4-12 | 0600 | 8.41        | 2,210     |

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 1-5, Dec. 16-30, Jan. 5-10, 12-31.

## MAD RIVER BASIN

11-4810. Mad River near Arcata, Calif.

Location---Lat 40°54'35", long 124°03'35", in NW $\frac{1}{4}$  sec.15, T.6 N., R.1 E., on right bank 100 ft upstream from bridge on U. S. Highway 299, 1.0 mile downstream from Warren Creek, and 2.8 miles northeast of Arcata. Auxiliary gage 0.5 mile downstream.

Drainage area---484 sq mi.

Records available---October 1910 to September 1913, August 1950 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage---Water-stage recorder with thermograph attachment. Datum of gage is 17.79 ft above mean sea level, datum of 1929, supplementary adjustment of 1956. December 1910 to September 1913 staff gage at site 0.1 mile upstream at different datum. Aug. 15, 1950, to July 23, 1956, water-stage recorder at site 0.6 mile upstream at datum 6.00 ft higher. Aug. 29 to Oct. 26, 1961, auxiliary water-stage recorder at site 0.5 mile downstream at different datum.

Average discharge---16 years, 1,532 cfs (1,109,000 acre-ft per year).

Extremes---Maximum discharge during year, 28,900 cfs Dec. 2 (gage height, 12.98 ft); minimum daily, 60 cfs Oct. 1. 1910-13, 1950-63: Maximum discharge, 77,800 cfs Dec. 22, 1955 (gage height, 27.30 ft, site and datum then in use), from rating curve extended above 34,000 cfs on basis of slope-area measurement of peak flow; minimum, 16 cfs Sept. 8, 9, 1951, Sept. 11, 1959.

Remarks---Records good except those for period of no gage-height record, which are fair. Flow regulated by Ruth Reservoir beginning in July 1961 (usable capacity, 42,000 acre-ft). Since 1938, approximately 5.4 cfs diverted daily above station for municipal supply of City of Eureka.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.   | Feb.    | Mar.    | Apr.    | May    | June   | July  | Aug.  | Sept.  |
|-------|---------|---------|---------|--------|---------|---------|---------|--------|--------|-------|-------|--------|
| 1     | *60     | 560     | 4,180   | 837    | 12,800  | 942     | *7,760  | 1,470  | 455    | 140   | 70    | 169    |
| 2     | 69      | 545     | *15,700 | 788    | 9,320   | 907     | 4,980   | *1,450 | 416    | 138   | 68    | 167    |
| 3     | 129     | 505     | 12,800  | 781    | 7,460   | 894     | 4,500   | 2,540  | 384    | 135   | 67    | 159    |
| 4     | 97      | 424     | 5,500   | 760    | 5,640   | 858     | 3,870   | 2,430  | 360    | 135   | 67    | 169    |
| 5     | 77      | 436     | 3,680   | 718    | 5,180   | 822     | 7,070   | 2,630  | 352    | 132   | 67    | 300    |
| 6     | *64     | 424     | 2,860   | 694    | 3,680   | 792     | 14,300  | 2,850  | 340    | 130   | 69    | 408    |
| 7     | 62      | 416     | 2,370   | 676    | 2,880   | *732    | 11,300  | 3,780  | 336    | 125   | 74    | 420    |
| 8     | 260     | *376    | 2,000   | 658    | 2,420   | *636    | 9,140   | 3,160  | 332    | 120   | 80    | 420    |
| 9     | 2,300   | 634     | 1,700   | 640    | 2,060   | 550     | *7,530  | 2,370  | 324    | 118   | 86    | 412    |
| 10    | 4,600   | 823     | 1,480   | 630    | 1,750   | 440     | 7,790   | 1,950  | 304    | 115   | 90    | 408    |
| 11    | 4,780   | 1,140   | 1,330   | 615    | 1,420   | 400     | 5,730   | 2,130  | 288    | 112   | 95    | 408    |
| 12    | 12,400  | 5,860   | 1,260   | 605    | 1,460   | 380     | 41,600  | 1,870  | 280    | 110   | 100   | 396    |
| 13    | 12,500  | 3,630   | 1,500   | 590    | 3,030   | 360     | 11,000  | 1,640  | 250    | 108   | 105   | 388    |
| 14    | 9,440   | 1,920   | 1,530   | 580    | 2,190   | 425     | 13,700  | 1,460  | 235    | 105   | 110   | 396    |
| 15    | *5,990  | 1,420   | 3,320   | 580    | 1,830   | 565     | 13,000  | 1,330  | 223    | 102   | 115   | 408    |
| 16    | 3,410   | 1,350   | 3,170   | *570   | 2,110   | 914     | 9,210   | 1,230  | 214    | 100   | 115   | 408    |
| 17    | 2,210   | 1,260   | 2,660   | 565    | 2,360   | 935     | 9,040   | 1,120  | 208    | 98    | 115   | 400    |
| 18    | 1,620   | 1,130   | 2,240   | 530    | 2,820   | 810     | 4,640   | 1,030  | 202    | 96    | 115   | 404    |
| 19    | 1,270   | 977     | 1,890   | 470    | *2,880  | 732     | 4,700   | 928    | 187    | 94    | 115   | 400    |
| 20    | 1,070   | 872     | 1,640   | 455    | 2,320   | 732     | 4,090   | 865    | 180    | 92    | 115   | 392    |
| 21    | 956     | 816     | 1,420   | 450    | 1,970   | 768     | 3,440   | 802    | 185    | 92    | 118   | 396    |
| 22    | 879     | 851     | 1,250   | 408    | 1,630   | 744     | 3,010   | 754    | 199    | 90    | 121   | 376    |
| 23    | *802    | 809     | 1,130   | 340    | 1,400   | 882     | 2,680   | *718   | 199    | 89    | *118  | 364    |
| 24    | 748     | 712     | 1,030   | 332    | 1,260   | 1,190   | 2,500   | 682    | *177   | 87    | 128   | 340    |
| 25    | 706     | 664     | 970     | 316    | 1,140   | 1,100   | 2,240   | 640    | 167    | *85   | 137   | 274    |
| 26    | 676     | 10,200  | 914     | 250    | 1,140   | 1,510   | 2,020   | 610    | 159    | 82    | 142   | 235    |
| 27    | 605     | *5,930  | 865     | 235    | 1,040   | 6,870   | 1,820   | 580    | 159    | 79    | 134   | 182    |
| 28    | 520     | 3,130   | 837     | 226    | 984     | 11,000  | 1,690   | 555    | 154    | 76    | 142   | 132    |
| 29    | 495     | 2,220   | 795     | 229    | -----   | 12,800  | 1,660   | 515    | 144    | 74    | 156   | 169    |
| 30    | 525     | 2,580   | 851     | 361    | -----   | 12,900  | 1,580   | 490    | 142    | 73    | 169   | *172   |
| 31    | 570     | -----   | *949    | *5,170 | -----   | 11,300  | -----   | 475    | -----  | 71    | 174   | -----  |
| Total | 69,890  | 52,614  | 83,821  | 21,059 | 86,174  | 74,890  | 187,590 | 45,054 | 7,555  | 3,203 | 3,377 | 9,672  |
| Mean  | 2,254   | 1,754   | 2,704   | 679    | 3,078   | 2,416   | 6,253   | 1,453  | 252    | 103   | 109   | 322    |
| Max   | 12,500  | 10,200  | 15,700  | 5,170  | 12,800  | 12,900  | 14,300  | 3,780  | 455    | 140   | 174   | 420    |
| Min   | 60      | 376     | 795     | 226    | 984     | 360     | 1,580   | 475    | 142    | 71    | 67    | 132    |
| Ac-ft | 138,600 | 104,400 | 166,300 | 41,770 | 170,900 | 148,500 | 372,100 | 89,360 | 14,990 | 6,350 | 6,700 | 19,180 |

Calendar year 1962: Max 15,700 Min 25 Mean 1,267 Ac-ft 917,400  
 Water year 1962-63: Max 15,700 Min 60 Mean 1,767 Ac-ft 1,279,000

## Peak discharge (base, 14,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2200 | 12.40       | 26,000    | 4-6  | 0600 | 9.90        | 16,200    |
| 11-26 | 1500 | 10.78       | 19,100    | 4-12 | 1600 | 9.87        | 16,000    |
| 12-2  | 2100 | 12.98       | 28,900    | 4-15 | 0400 | 9.55        | 14,900    |
| 1-31  | 2400 | 9.71        | 15,000    |      |      |             |           |

\* Discharge measurement made on this day.

Note---No gage-height record July 1 to Aug. 21.

11-4810. Mad River near Arcata, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature recorded during year, 73°F Sept. 3; minimum, 37°F Jan. 13.

1960-63: Maximum temperature recorded, that of Sept. 3, 1963; minimum, that of Jan. 13, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 61   | 54  | 56    | 55    | 46   | 46  | 46   | 46  | 50    | 48    | 53   | 51  | 48    | 46    | 52  | 51  | 63    | 59    | -    | -   | -    | -   | 71    | 68    |
| 2   | 62   | 58  | 56    | 55    | 46   | 46  | 46   | 45  | 50    | 50    | 52   | 51  | 46    | 45    | 53  | 52  | 63    | 59    | -    | -   | -    | -   | 72    | 70    |
| 3   | 60   | 57  | 57    | 56    | -    | -   | 45   | 43  | 52    | 50    | 51   | 49  | 48    | 46    | 53  | 52  | 62    | 58    | -    | -   | -    | -   | 73    | 70    |
| 4   | 64   | 57  | 57    | 57    | -    | -   | 46   | 45  | 52    | 52    | 50   | 48  | 48    | 47    | 53  | 52  | 62    | 58    | -    | -   | -    | -   | 72    | 70    |
| 5   | 61   | 56  | 58    | 57    | -    | -   | 45   | 41  | 52    | 52    | 48   | 48  | 49    | 48    | 54  | 53  | 62    | 58    | -    | -   | -    | -   | 71    | 69    |
| 6   | 62   | 56  | 58    | 56    | 50   | 50  | 43   | 42  | 53    | 52    | 49   | 48  | 49    | 49    | 53  | 52  | 62    | 56    | -    | -   | -    | -   | 71    | 69    |
| 7   | 56   | 53  | 57    | 56    | 50   | 50  | 43   | 42  | 53    | 53    | 49   | 47  | 49    | 48    | 53  | 53  | 63    | 58    | -    | -   | -    | -   | 70    | 69    |
| 8   | 55   | 53  | 56    | 54    | 49   | 49  | 43   | 42  | 53    | 53    | 49   | 47  | 48    | 48    | 53  | 52  | 65    | 61    | -    | -   | -    | -   | 70    | 69    |
| 9   | 55   | 54  | 55    | 55    | 49   | 49  | 43   | 43  | 54    | 53    | 49   | 49  | 48    | 48    | 53  | 51  | 65    | 61    | -    | -   | -    | -   | 69    | 69    |
| 10  | 55   | 54  | 55    | 54    | 49   | 48  | 43   | 42  | 53    | 53    | 52   | 49  | 48    | 47    | 53  | 52  | 65    | 59    | -    | -   | -    | -   | 69    | 69    |
| 11  | 55   | 54  | 54    | 54    | 48   | 48  | 42   | 39  | 53    | 52    | 51   | 49  | 47    | 47    | 53  | 51  | 65    | 61    | -    | -   | -    | -   | 69    | 69    |
| 12  | 54   | 52  | 54    | 54    | 50   | 48  | 39   | 38  | 52    | 52    | 53   | 49  | 48    | 47    | 53  | 51  | 65    | 61    | -    | -   | -    | -   | 70    | 69    |
| 13  | 54   | 54  | 55    | 54    | 50   | 48  | 38   | 37  | 53    | 52    | 52   | 48  | 48    | 48    | 53  | 51  | 67    | 62    | -    | -   | -    | -   | 71    | 69    |
| 14  | 54   | 54  | 54    | 51    | 52   | 50  | 38   | 38  | 53    | 52    | 51   | 48  | 49    | 48    | 54  | 53  | 66    | 62    | -    | -   | -    | -   | 70    | 69    |
| 15  | 54   | 52  | 51    | 51    | 52   | 52  | 39   | 38  | 52    | 52    | 49   | 47  | 49    | 47    | 56  | 53  | 67    | 63    | -    | -   | -    | -   | 69    | 69    |
| 16  | 52   | 51  | 52    | 51    | 52   | 52  | 43   | 39  | 52    | 52    | 49   | 48  | 47    | 46    | 58  | 53  | 68    | 63    | -    | -   | -    | -   | 69    | 69    |
| 17  | 52   | 51  | 52    | 51    | 52   | 52  | 42   | 41  | 52    | 52    | 49   | 47  | 47    | 46    | 57  | 54  | 68    | 63    | -    | -   | -    | -   | 69    | 69    |
| 18  | 52   | 51  | 52    | 51    | 52   | 50  | 42   | 41  | 52    | 52    | 49   | 47  | 47    | 46    | 57  | 56  | 68    | 64    | -    | -   | -    | -   | 69    | 68    |
| 19  | 53   | 52  | 52    | 51    | 50   | 48  | 41   | 39  | 52    | 52    | 51   | 48  | 46    | 45    | 56  | 56  | 65    | 62    | -    | -   | -    | -   | 69    | 69    |
| 20  | 53   | 53  | 52    | 51    | 49   | 48  | 41   | 39  | 52    | 52    | 50   | 49  | 46    | 45    | 56  | 54  | 63    | 60    | -    | -   | -    | -   | 69    | 69    |
| 21  | 53   | 53  | 53    | 52    | 49   | 49  | 43   | 41  | 52    | 52    | 50   | 50  | 47    | 46    | 55  | 54  | 64    | 60    | -    | -   | -    | -   | 69    | 69    |
| 22  | 56   | 53  | 53    | 52    | 49   | 49  | 44   | 41  | 52    | 50    | 51   | 50  | 48    | 46    | 54  | 54  | 65    | 61    | -    | -   | 70   | 68  | 69    | 69    |
| 23  | 55   | 54  | 53    | 52    | 49   | 48  | 45   | 44  | 51    | 50    | 50   | 49  | 49    | 47    | 54  | 54  | 67    | 62    | -    | -   | 71   | 67  | 69    | 69    |
| 24  | 54   | 54  | 53    | 52    | 49   | 45  | 45   | 45  | 52    | 51    | 49   | 47  | 49    | 48    | 54  | 54  | 66    | 62    | -    | -   | 72   | 68  | 69    | 69    |
| 25  | 55   | 54  | 52    | 52    | 46   | 46  | 45   | 44  | 52    | 51    | 48   | 47  | 48    | 48    | 58  | 54  | 67    | 62    | -    | -   | 71   | 68  | 69    | 69    |
| 26  | 54   | 53  | 52    | 52    | 47   | 46  | 49   | 45  | 53    | 52    | 48   | 48  | 48    | 48    | 57  | 55  | 66    | 62    | -    | -   | 72   | 68  | 69    | 69    |
| 27  | 55   | 53  | 52    | 50    | 48   | 47  | 49   | 46  | 52    | 52    | 48   | 48  | 49    | 46    | 59  | 54  | 66    | 63    | -    | -   | 72   | 70  | 69    | 69    |
| 28  | 57   | 55  | 50    | 47    | 49   | 48  | 49   | 48  | 52    | 51    | 48   | 48  | 50    | 48    | 60  | 57  | 67    | 62    | -    | -   | 71   | 70  | 69    | 69    |
| 29  | 56   | 56  | 47    | 45    | 48   | 47  | 49   | 48  | ----- | ----- | 48   | 48  | 51    | 49    | 61  | 59  | 64    | 61    | -    | -   | 70   | 68  | 69    | 69    |
| 30  | 56   | 56  | 47    | 46    | 47   | 46  | 48   | 47  | ----- | ----- | 48   | 48  | 52    | 50    | 61  | 59  | 67    | 62    | -    | -   | 68   | 68  | 69    | 68    |
| 31  | 57   | 56  | ----- | ----- | 47   | 46  | 48   | 48  | ----- | ----- | 48   | 48  | ----- | ----- | 64  | 59  | ----- | ----- | -    | -   | 68   | 68  | ----- | ----- |
| Avg | 56   | 54  | 54    | 52    | -    | -   | 44   | 42  | 52    | 52    | 50   | 48  | 48    | 47    | 55  | 54  | 65    | 61    | -    | -   | -    | -   | 70    | 69    |

## LITTLE RIVER BASIN

11-4812. Little River at Crannell, Calif.

Location.--Lat 41°00'40", long 124°04'50", in NE $\frac{1}{4}$  sec.8, T.7 N., R.1 E., on right bank at Crannell, 0.5 mile upstream from Coon Creek and 9.1 miles north of Arcata.

Drainage area.--44.3 sq mi.

Records available.--October 1955 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 17.62 ft above mean sea level, datum of 1929.

Average discharge.--8 years, 142 cfs (102,800 acre-ft per year).

Extremes.--Maximum discharge during year, 5,940 cfs Dec. 2 (gage height, 8.15 ft), from rating curve extended above 1,600 cfs; minimum, 4.9 cfs Sept. 30.

1955-63: Maximum discharge, 9,300 cfs Mar. 11, 1957 (gage height, 9.96 ft), from rating curve extended above 2,700 cfs; minimum, 2.8 cfs Sept. 9, 1959.

Flood of Jan. 17, 18, 1953, reached a stage of 15.7 ft, observed by an employee of Hammond Lumber Co.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 3-5)

|     |     |     |       |
|-----|-----|-----|-------|
| 0.8 | 5.2 | 1.8 | 150   |
| .9  | 9.6 | 2.4 | 335   |
| 1.0 | 16  | 3.0 | 600   |
| 1.1 | 25  | 4.0 | 1,200 |
| 1.4 | 68  | 6.0 | 3,000 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.   | DEC.   | JAN.  | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|--------|--------|-------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 8.7     | 27     | 518    | 57    | 883    | 85     | 443    | 85    | 39    | 17    | 9.2   | 7.0   |
| 2     | 30      | 26     | 2,720  | 52    | 427    | 82     | 321    | 164   | 37    | 16    | 9.2   | 7.0   |
| 3     | 41      | 25     | *1,210 | 54    | 614    | 80     | 300    | 482   | 36    | 16    | 9.2   | 6.5   |
| 4     | *16     | 25     | 595    | 49    | 491    | 71     | 250    | 253   | 35    | 17    | 9.6   | 6.1   |
| 5     | 15      | 30     | 403    | 46    | 451    | 65     | *949   | 272   | 35    | 17    | 9.6   | 6.1   |
| 6     | 9.6     | 26     | 297    | 43    | 286    | *62    | 1,940  | 304   | 33    | 16    | 9.6   | 6.1   |
| 7     | 9.9     | 24     | 238    | 42    | 220    | 60     | 750    | 570   | 32    | 16    | 9.2   | 6.1   |
| 8     | 74      | 24     | 193    | 40    | 178    | 58     | 487    | 367   | 31    | 15    | 9.2   | 6.1   |
| 9     | 1,460   | 120    | 165    | 37    | 150    | 57     | 469    | 247   | 30    | 15    | 9.2   | 6.1   |
| 10    | 820     | 101    | 145    | 37    | 128    | 52     | 836    | 190   | 29    | 14    | 9.2   | 6.1   |
| 11    | 622     | 114    | *130   | 35    | 109    | 51     | 550    | 168   | 27    | 14    | 8.7   | 6.1   |
| 12    | 772     | 1,370  | 117    | 33    | 158    | 48     | 1,370  | 143   | 26    | 13    | 8.3   | 6.1   |
| 13    | 564     | 420    | 135    | 32    | 417    | 45     | 898    | 125   | 25    | 13    | 8.3   | 6.5   |
| 14    | 550     | 217    | 119    | 31    | 229    | 62     | 1,290  | 113   | 25    | 13    | 7.8   | 6.1   |
| 15    | 328     | 153    | 263    | 31    | 170    | 85     | 1,000  | 105   | 24    | 13    | 7.4   | 6.5   |
| 16    | 202     | 235    | 193    | 30    | 184    | 221    | 640    | 95    | 24    | 13    | 7.4   | 7.0   |
| 17    | 140     | 181    | 145    | 30    | 181    | 138    | 447    | 85    | 23    | 13    | 7.4   | 6.5   |
| 18    | 111     | 143    | 121    | 29    | 422    | 95     | 343    | 80    | 22    | 12    | 7.4   | 6.1   |
| 19    | 91      | 119    | 107    | 29    | 426    | 78     | 367    | 77    | 22    | 12    | 7.0   | 6.1   |
| 20    | 75      | 105    | 95     | 27    | 293    | 71     | 347    | 73    | 21    | 12    | 7.0   | 5.6   |
| 21    | 68      | 97     | 85     | 27    | 244    | 68     | 304    | 71    | 22    | 12    | 6.5   | 5.6   |
| 22    | 58      | 105    | 80     | 26    | 193    | 77     | 241    | 68    | 26    | 12    | 6.5   | 6.5   |
| 23    | 54      | 97     | 73     | 26    | 158    | 83     | 196    | *63   | 22    | 11    | 6.5   | 9.2   |
| 24    | 49      | 85     | 68     | 25    | 135    | 97     | 168    | 62    | 21    | 11    | 6.1   | 8.3   |
| 25    | 43      | 81     | 63     | 25    | 121    | 85     | 155    | 57    | 21    | 10    | 6.1   | 7.0   |
| 26    | *40     | 2,080  | 60     | 25    | 117    | 334    | 135    | 54    | 20    | *9.6  | *6.1  | 6.5   |
| 27    | 37      | 577    | 57     | 24    | 105    | 690    | 119    | 52    | *19   | 9.6   | 6.1   | 6.5   |
| 28    | 35      | 343    | 54     | 23    | 95     | 824    | 109    | 49    | 19    | 9.6   | 6.1   | 6.5   |
| 29    | 32      | 244    | 52     | 28    | -----  | 620    | *101   | 46    | 19    | 9.6   | 6.1   | 6.1   |
| 30    | 30      | *414   | 65     | *81   | -----  | 595    | 93     | 45    | 18    | 9.6   | 6.1   | 5.2   |
| 31    | 29      | -----  | 66     | 460   | -----  | 575    | -----  | 42    | ----- | 9.2   | 6.5   | ----- |
| TOTAL | 6,414.2 | 7,608  | 8,632  | 1,534 | 7,585  | 5,614  | 15,618 | 4,607 | 783   | 400.2 | 238.6 | 193.2 |
| MEAN  | 207     | 254    | 278    | 49.5  | 271    | 181    | 521    | 149   | 26.1  | 12.9  | 7.70  | 6.44  |
| MAX   | 1,460   | 2,080  | 2,720  | 460   | 883    | 824    | 1,940  | 570   | 39    | 17    | 9.6   | 9.2   |
| MIN   | 8.7     | 24     | 52     | 23    | 95     | 45     | 93     | 42    | 18    | 9.2   | 6.1   | 5.2   |
| AC-FT | 12,720  | 15,090 | 17,120 | 3,040 | 15,040 | 11,140 | 30,980 | 9,140 | 1,550 | 794   | 473   | 383   |

CALENDAR YEAR 1962: MAX 2,720 MIN 6.1 MEAN 122 AC-FT 88,350

WATER YEAR 1962-63: MAX 2,720 MIN 5.2 MEAN 162 AC-FT 117,500

Peak discharge (base, 1,500 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date  | Time | Gage height | Discharge |
|-------|------|-------------|-----------|-------|------|-------------|-----------|
| 10- 9 | 0800 | 6.66        | 3,790     | 12- 2 | 1500 | 8.15        | 5,940     |
| 11-12 | 1000 | 6.09        | 3,110     | 4- 6  | 0400 | 6.16        | 3,190     |
| 11-26 | 0700 | 7.70        | 5,220     | 4-12  | 1300 | 5.12        | 2,120     |



11-4825. Redwood Creek at Orick, Calif.

Location.--Lat 41°17'20", long 124°03'30", in NE $\frac{1}{4}$  sec. 4, T.10 N., R.1 E., on downstream side of left pier of bridge on U. S. Highway 101 at Orick, 0.9 mile downstream from Prairie Creek.

Drainage area.--278 sq mi.

Records available.--September 1911 to September 1913, October 1953 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 10 ft (from topographic map). Sept. 10, 1911, to Aug. 28, 1912, chain gage and Aug. 29, 1912, to Aug. 9, 1913, staff gage, at same site at different datum.

Average discharge.--12 years, 1,059 cfs (766,700 acre-ft per year).

Extremes.--Maximum discharge during year, 26,100 cfs Dec. 2 (gage height, 19.02 ft); minimum, 24 cfs Sept. 30.

1911-13, 1953-63: Maximum discharge, 50,000 cfs Dec. 22, 1955 (gage height, 23.95 ft); minimum, 10 cfs Sept. 22-24, 1911.

Flood of Jan. 18, 1953, reached a stage of 23.95 ft, from floodmarks (discharge, 50,000 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.    | Jan.   | Feb.    | Mar.   | Apr.    | May    | June   | July  | Aug.  | Sept. |
|-------|--------|--------|---------|--------|---------|--------|---------|--------|--------|-------|-------|-------|
| 1     | *68    | 310    | 3,420   | 550    | 6,870   | 876    | *4,080  | 1,200  | 410    | 132   | 61    | 37    |
| 2     | 117    | 298    | *15,700 | 510    | 3,890   | 834    | 3,130   | *1,220 | 383    | 130   | 60    | 37    |
| 3     | 196    | 282    | 11,800  | 510    | 3,840   | 799    | 3,340   | 2,360  | 360    | 128   | 60    | 35    |
| 4     | 118    | 274    | 5,580   | 495    | 3,660   | *726   | 2,860   | 1,910  | 356    | 130   | 60    | 33    |
| 5     | 84     | 286    | *3,750  | 455    | 3,590   | 684    | 4,560   | 2,100  | 347    | 130   | 60    | 33    |
| 6     | 66     | 266    | 2,780   | 435    | 2,680   | 648    | 6,400   | 2,340  | 324    | 122   | 58    | 30    |
| 7     | 66     | 250    | 2,280   | 412    | 2,220   | 612    | 7,400   | 3,390  | 316    | 120   | 55    | 29    |
| 8     | 565    | 244    | 1,920   | 396    | 1,950   | 582    | 5,800   | 2,990  | 304    | 116   | 54    | 28    |
| 9     | 4,820  | 476    | 1,660   | 384    | 1,690   | 570    | 5,000   | 2,420  | 292    | 112   | 54    | 28    |
| 10    | 5,130  | 485    | 1,440   | *372   | 1,500   | 540    | 4,600   | 2,070  | 280    | 108   | 54    | 27    |
| 11    | 4,180  | 800    | 1,280   | 356    | 1,310   | 515    | 4,400   | 1,970  | 268    | 106   | 52    | 27    |
| 12    | 5,510  | 3,600  | 1,160   | 340    | 1,400   | 490    | 5,000   | 1,740  | 252    | 104   | 49    | 26    |
| 13    | 5,640  | 1,300  | 1,300   | 324    | 2,420   | 470    | 5,800   | 1,540  | 244    | 100   | 48    | 25    |
| 14    | 5,600  | 1,000  | 1,100   | 316    | 1,870   | 545    | 6,600   | 1,370  | 233    | 96    | 47    | 24    |
| 15    | 3,500  | 880    | 1,990   | 308    | 1,620   | 614    | 6,800   | 1,250  | 226    | 95    | 45    | 27    |
| 16    | 2,350  | 760    | 1,910   | 300    | 1,680   | 862    | 6,700   | 1,160  | 216    | 91    | 44    | 29    |
| 17    | 1,700  | 640    | 1,500   | 294    | 1,750   | 785    | 6,200   | 1,060  | 205    | 89    | 43    | 28    |
| 18    | 1,320  | 540    | 1,290   | 288    | 2,440   | 678    | 5,200   | 974    | 196    | 89    | 42    | 27    |
| 19    | 1,070  | 470    | 1,120   | 282    | 3,060   | 642    | 4,200   | 876    | 190    | 87    | 41    | 26    |
| 20    | 900    | 420    | 986     | 273    | 2,370   | 648    | 3,500   | 827    | 181    | 86    | 39    | 25    |
| 21    | 768    | 440    | 876     | 267    | 2,070   | 660    | 3,000   | 772    | 175    | 86    | 39    | 24    |
| 22    | 672    | 450    | 799     | 261    | 1,800   | 672    | 2,600   | 730    | 187    | 84    | 38    | 25    |
| 23    | *590   | 340    | 738     | 258    | 1,550   | 726    | 2,300   | 667    | 190    | 80    | 37    | 44    |
| 24    | 530    | 280    | 690     | 252    | 1,370   | 778    | 2,000   | *625   | *175   | 78    | 36    | 39    |
| 25    | 495    | 250    | 642     | 246    | 1,230   | 672    | 1,800   | 590    | 160    | 75    | 35    | 33    |
| 26    | 450    | 5,000  | 600     | 240    | 1,180   | 1,180  | 1,700   | 555    | 154    | *71   | *35   | 30    |
| 27    | 410    | *4,120 | 560     | 236    | 1,040   | 3,860  | 1,600   | 527    | 148    | 71    | 34    | 27    |
| 28    | 386    | 2,810  | 535     | *232   | 946     | 5,760  | 1,500   | 500    | 145    | 69    | 34    | 25    |
| 29    | 362    | 2,260  | 510     | 240    | -----   | 5,780  | 1,400   | 468    | 140    | 66    | 33    | 25    |
| 30    | 338    | 2,560  | 582     | 395    | -----   | 5,800  | 1,300   | 450    | 138    | 64    | 34    | 24    |
| 31    | 322    | -----  | 660     | 2,460  | -----   | 5,510  | -----   | 428    | -----  | 62    | 36    | ----- |
| Total | 48,323 | 32,091 | 71,158  | 12,687 | 62,996  | 44,518 | 120,770 | 41,079 | 7,195  | 2,977 | 1,417 | 877   |
| Mean  | 1,559  | 1,070  | 2,295   | 409    | 2,250   | 1,436  | 4,026   | 1,325  | 240    | 96.0  | 45.7  | 29.2  |
| Max   | 5,640  | 5,000  | 15,700  | 2,460  | 6,870   | 5,800  | 7,400   | 3,390  | 410    | 132   | 61    | 44    |
| Min   | 66     | 244    | 510     | 232    | 946     | 470    | 1,300   | 428    | 138    | 62    | 33    | 24    |
| Ac-ft | 95,850 | 63,650 | 141,100 | 25,160 | 125,000 | 88,300 | 239,500 | 81,480 | 14,270 | 5,900 | 2,810 | 1,740 |

Calendar year 1962: Max 15,700 Min 29 Mean 950 Ac-ft 687,700

Water year 1962-63: Max 15,700 Min 24 Mean 1,222 Ac-ft 884,800

Peak discharge (base, 7,000 cfs)

| Date  | Time    | Gage height | Discharge | Date | Time    | Gage height | Discharge |
|-------|---------|-------------|-----------|------|---------|-------------|-----------|
| 10-9  | 1300    | 12.64       | 7,820     | 2-1  | 0400    | 12.71       | 7,960     |
| 10-12 | 2400    | 13.58       | 9,820     | 4-6  | 0800    | 14.08       | 11,000    |
| 11-27 | unknown | 12.70       | 7,940     | 4-15 | unknown | -           | +9,000    |
| 12-2  | 2000    | 19.02       | 26,100    |      |         |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record Nov. 10-27, Apr. 6 to May 1.

† About.

## KLAMATH RIVER BASIN

11-4887. Dry Lake tributary at Perez, Calif.

Location.--Lat 41°40'20", long 121°15'25", in NE¼ sec.10, T.44 N., R.6 E., on State Highway 139, 0.35 mile southwest of town of Perez.

Drainage area.--1.74 sq mi.

Records available.--October 1962 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, and float-operated rain gage. Altitude of gage is 4,150 ft (from topographic map).  
Prior to Oct. 31, 1962, crest-stage gage only, at same datum.

Extremes.--Maximum discharge during year, 128 cfs Oct. 12 (gage height, 6.44 ft), from rating curve based on computation of flow through culvert and over highway; no flow several months.

Remarks.--Records good except those for period of no gage-height record, which are poor.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |    |     |     |
|-----|----|-----|-----|
| 1.5 | 0  | 2.0 | 2.6 |
| 1.6 | .1 | 2.3 | 6.8 |
| 1.7 | .3 | 2.6 | 12  |
| 1.8 | .8 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct. | Nov.  | Dec. | Jan.  | Feb.  | Mar. | Apr.  | May | June  | July | Aug. | Sept. |
|-------|------|-------|------|-------|-------|------|-------|-----|-------|------|------|-------|
| 1     |      |       | 0    | 0     | 8.9   |      |       |     |       |      |      |       |
| 2     |      |       | 0    | 0     | 6.3   |      |       |     |       |      |      |       |
| 3     |      |       | 0    | 0     | 4.9   |      | a 0   |     |       |      |      |       |
| 4     |      |       | 0    | 0     | 5.5   |      |       |     |       |      |      |       |
| 5     |      |       | 0    | 0     | * 2.3 |      |       |     |       |      |      |       |
| 6     |      |       | 0    | 0     | 1.3   |      |       |     | (*)   |      |      |       |
| 7     |      |       | 0    | 0     | .5    |      |       |     |       |      |      |       |
| 8     |      | (*)   | 0    | 0     | .4    |      |       |     |       |      |      |       |
| 9     |      |       | 0    | 0     | .2    |      |       |     |       |      |      |       |
| 10    |      |       | 0    | 0     | .1    |      |       |     |       |      |      |       |
| 11    |      |       | 0    | 0     | .1    |      | a 1.0 |     |       | (*)  |      |       |
| 12    |      |       | * 0  | 0     | .1    |      |       |     |       |      |      |       |
| 13    |      |       | 0    | 0     | .1    |      |       |     |       |      |      |       |
| 14    |      |       | 0    | 0     | .1    | (*)  |       |     |       |      |      |       |
| 15    |      |       | .1   | 0     | 0     |      |       |     |       |      |      |       |
| 16    |      |       | * .4 | * 0   | .1    |      |       |     |       |      | (*)  |       |
| 17    |      |       | 2.4  | 0     | .1    |      | a 2.3 |     |       |      |      |       |
| 18    |      |       | 5.1  | 0     | .1    |      | 2.4   |     |       |      |      |       |
| 19    |      |       | 1.2  | 0     | .1    |      | 1.7   |     |       |      |      |       |
| 20    |      |       | .2   | 0     | .2    |      | 1.4   |     |       |      |      |       |
| 21    |      |       | .1   | 0     | 2.0   |      | .4    |     |       |      |      |       |
| 22    |      |       | .1   | 0     | .4    |      | .1    |     |       |      |      |       |
| 23    |      |       | .1   | 0     | .1    |      | 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     |     |       |      |      |       |
| 30    |      |       | 0    | 0     | ----- |      | 0     |     |       |      |      |       |
| 31    | (*)  | ----- | 0    | .2    | ----- |      | ----- |     | ----- |      |      | ----- |
| Total |      | 0     | 9.7  | 0.2   | 33.9  | 0    | 19.3  | 0   | 0     | 0    | 0    | 0     |
| Mean  |      | 0     | 0.31 | 0.006 | 1.21  | 0    | 0.64  | 0   | 0     | 0    | 0    | 0     |
| Max   |      | 0     | 5.1  | 0.2   | 8.9   | 0    | 2.4   | 0   | 0     | 0    | 0    | 0     |
| Min   |      | 0     | 0    | 0     | 0     | 0    | 0     | 0   | 0     | 0    | 0    | 0     |
| Ac-ft |      | 0     | .19  | 0.4   | 67    | 0    | 38    | 0   | 0     | 0    | 0    | 0     |
| (†)   | 9.0  | 0.7   | 1.5  | 1.1   | 0.2   | -    | 0.9   | 0.3 | 1.0   | 0.1  | 0.2  | 0.5   |

Calendar year 1962: Max - Min - Mean - Ac-ft -  
 Water year 1962-63: Max 8.9 Min 0 Mean 0.17 Ac-ft 124

\* Discharge measurement or observation of no flow made on this day.

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

a No gage-height record.

LOWER KLAMATH LAKE BASIN

413

11-4895. Antelope Creek near Tennant, Calif.

Location.--Lat 41°32'45", long 121°55'05", in NW¼ sec.25, T.43 N., R.1 W., on right bank 2.5 miles south of Tennant, 4 miles downstream from Frog Lake, and 17 miles southeast of town of Mount Hebron.

Drainage area.--18.8 sq mi.

Records available.--May 1952 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 5,080 ft (from topographic map).

Average discharge.--11 years, 37.7 cfs (27,290 acre-ft per year).

Extremes.--Maximum discharge during year, 538 cfs Oct. 12 (gage height, 4.31 ft), from rating curve extended above 230 cfs; minimum daily, 12 cfs Oct. 6, 7.

1952-63: Maximum discharge, that of Oct. 12, 1962; minimum daily, 3.6 cfs Jan. 5, 1960.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No storage or diversion above station.

Rating table, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1-12 |     | Oct. 12 to Sept. 30 |     |
|-----------|-----|---------------------|-----|
| 0.9       | 11  | 0.8                 | 16  |
| 1.2       | 28  | 1.0                 | 24  |
| 1.5       | 53  | 1.4                 | 51  |
| 2.0       | 110 | 2.0                 | 114 |
| 3.0       | 272 | 3.0                 | 272 |
| 4.0       | 465 |                     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.    | Jan.  | Feb.  | Mar.  | Apr.  | May     | June  | July  | Aug.  | Sept. |
|-------|-------|-------|---------|-------|-------|-------|-------|---------|-------|-------|-------|-------|
| 1     | * 1 3 | 2 9   | 3 2     | 3 8   | 1 0 8 | * 4 1 | 2 6   | 7 1     | 1 0 7 | 3 2   | 2 0   | 1 9   |
| 2     | 1 3   | 2 8   | 3 7     | 3 6   | 1 1 0 | 4 0   | 2 6   | 6 8     | 9 7   | * 3 2 | 2 0   | 1 8   |
| 3     | 1 3   | 2 7   | 4 0     | 3 5   | 2 4 6 | 3 9   | 2 6   | 7 5     | 9 0   | 3 1   | 2 0   | 1 8   |
| 4     | 1 3   | 2 7   | 3 4     | 3 4   | 2 4 8 | 3 6   | 2 6   | 9 8     | 8 1   | 3 1   | 2 0   | 1 8   |
| 5     | 1 3   | 2 8   | 3 3     | 3 2   | 1 8 3 | 3 6   | 4 1   | 1 6 9   | * 8 3 | 3 0   | 2 0   | 1 8   |
| 6     | 1 2   | 2 7   | 3 2     | 3 4   | 1 7 2 | 3 5   | 8 2   | 1 7 1   | 7 3   | 2 9   | * 2 0 | 1 8   |
| 7     | 1 2   | 2 6   | 3 1     | 3 3   | 1 3 2 | 3 4   | 6 4   | * 2 2 2 | 6 8   | 2 9   | 2 0   | 1 8   |
| 8     | 1 3   | 2 6   | 3 1     | 3 2   | 1 3 9 | * 3 3 | 5 3   | 1 9 4   | 6 6   | 2 9   | 2 0   | 1 7   |
| 9     | 5 6   | 3 8   | 3 0     | 3 1   | 1 1 2 | 3 2   | 4 9   | 1 5 7   | 6 6   | 2 8   | 2 0   | 1 7   |
| 10    | 1 1 0 | 3 6   | 2 9     | 3 0   | 9 8   | 3 2   | 4 8   | 1 3 6   | 6 7   | 2 7   | 2 0   | 1 7   |
| 11    | 1 6 5 | 4 2   | 2 9     | b 3 0 | 8 7   | 3 1   | 4 6   | 1 2 2   | 6 4   | 2 6   | 2 0   | 1 7   |
| 12    | 3 1 6 | 5 2   | 2 9     | b 2 8 | 8 3   | 3 1   | 4 8   | 1 1 4   | 6 3   | 2 6   | 1 9   | 1 7   |
| 13    | 2 0 4 | 4 2   | 3 5     | b 2 8 | 9 5   | 3 0   | 6 1   | 1 0 8   | 6 2   | 2 6   | 1 9   | 1 8   |
| 14    | 1 1 4 | 3 6   | 4 4     | b 2 8 | 7 5   | 3 0   | 1 6 8 | 1 0 6   | 6 1   | 2 5   | 1 9   | 1 8   |
| 15    | 8 7   | * 3 4 | 1 9 1   | b 2 6 | 6 8   | 2 9   | 1 2 6 | 1 1 2   | 5 8   | 2 5   | 1 9   | 1 8   |
| 16    | 7 3   | 3 4   | 1 6 4   | b 2 6 | 6 5   | 2 9   | 1 0 0 | 1 1 3   | 6 0   | 2 5   | 1 8   | 1 8   |
| 17    | 6 5   | 3 3   | 1 2 0   | b 2 6 | 6 3   | 2 9   | 8 8   | 1 2 0   | 6 0   | 2 5   | 1 8   | 1 8   |
| 18    | 5 8   | 3 2   | * 1 0 1 | b 2 6 | 6 0   | 2 9   | 8 0   | 1 3 0   | 5 9   | 2 5   | 1 8   | 1 8   |
| 19    | 5 4   | 3 2   | 8 7     | b 2 4 | 5 8   | 3 0   | 7 3   | 1 4 7   | 6 4   | 2 4   | 1 8   | 1 8   |
| 20    | 4 9   | 3 1   | 7 8     | b 2 2 | 6 1   | 3 1   | 6 6   | 1 6 6   | 5 3   | 2 3   | 1 8   | 1 8   |
| 21    | 4 6   | 3 1   | 7 2     | 2 1   | 5 5   | 3 1   | 6 3   | 1 6 9   | 4 8   | 2 3   | 1 8   | 1 8   |
| 22    | 4 3   | 3 1   | 6 6     | * 2 0 | 5 1   | 3 0   | 5 9   | 1 5 7   | 4 7   | 2 2   | 1 8   | 1 8   |
| 23    | 4 1   | 2 9   | 6 2     | 2 0   | 4 9   | 2 9   | 5 8   | 1 5 3   | 4 4   | 2 2   | 1 9   | 1 8   |
| 24    | 4 0   | 2 9   | b 5 6   | 2 0   | 4 8   | 2 9   | 5 6   | 1 5 1   | 4 0   | 2 2   | 1 9   | 1 8   |
| 25    | 3 7   | 2 9   | b 5 2   | 2 0   | 4 5   | 2 9   | 5 4   | 1 4 7   | 3 7   | 2 2   | 1 9   | 1 7   |
| 26    | 3 6   | 5 5   | b 4 8   | 2 0   | 4 5   | 2 8   | 5 1   | 1 4 3   | 3 6   | 2 2   | 1 8   | 1 7   |
| 27    | 3 5   | 4 2   | 4 5     | 2 2   | 4 3   | 2 6   | 5 3   | 1 3 5   | 3 5   | 2 2   | 1 8   | 1 7   |
| 28    | 3 4   | 3 4   | 4 5     | 2 0   | 4 2   | 2 8   | 5 6   | 1 3 0   | 4 2   | 2 2   | 1 8   | 1 7   |
| 29    | 3 2   | 3 3   | 4 2     | 1 9   | ----- | 2 6   | 6 4   | 1 3 4   | 3 6   | 2 1   | 1 8   | 1 7   |
| 30    | 3 1   | 3 2   | 4 1     | 2 0   | ----- | 2 8   | 7 0   | 1 3 0   | 3 4   | 2 1   | 1 8   | 1 7   |
| 31    | 3 0   | ----- | 4 0     | 2 0 0 | ----- | 2 8   | ----- | 1 2 0   | ----- | 2 0   | 2 0   | ----- |
| Total | 1,858 | 1,005 | 1,776   | 1,001 | 2,641 | 969   | 1,881 | 4,168   | 1,801 | 787   | 589   | 530   |
| Mean  | 59.9  | 33.5  | 57.3    | 32.3  | 94.3  | 31.3  | 62.7  | 134     | 60.0  | 25.4  | 19.0  | 17.7  |
| Max   | 316   | 55    | 191     | 200   | 248   | 41    | 168   | 222     | 107   | 32    | 20    | 19    |
| Min   | 12    | 26    | 29      | 19    | 42    | 26    | 26    | 68      | 34    | 20    | 18    | 17    |
| Ac-ft | 3,690 | 1,990 | 3,520   | 1,990 | 5,240 | 1,920 | 3,730 | 8,270   | 3,570 | 1,560 | 1,170 | 1,050 |

Calendar year 1962: Max 316 Min 11 Mean 41.2 Ac-ft 29,850  
Water year 1962-63: Max 316 Min 12 Mean 52.1 Ac-ft 37,700

Peak discharge (base, 100 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-10 | 1000 | 2.66        | 212       | 2- 4 | 1500 | 3.67        | 399       |
| 10-12 | 2000 | 4.31        | 538       | 4-14 | 1300 | 2.72        | 222       |
| 12-15 | 1500 | 2.87        | 249       | 5- 7 | 1000 | 2.95        | 263       |
| 1-31  | 1200 | 3.33        | 333       | 5-20 | 1500 | 2.58        | 199       |

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Oct. 27 to Nov. 14.

## KLAMATH RIVER BASIN

11-5107. Klamath River below John C. Boyle powerplant, near Keno, Oreg.

Location.--Lat 42°05'05", long 122°04'20", in SE<sup>1</sup>/<sub>4</sub>SE<sup>1</sup>/<sub>4</sub> sec.14, T.40 S., R.6 E., on right bank 0.7 mile downstream from John C. Boyle powerplant, 8 miles downstream from Spencer Creek, and 8.5 miles southwest of Keno.

Drainage area.--4,080 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--January 1959 to September 1963. Prior to Oct. 1, 1961, published as "below Big Bend powerplant."

Gage.--Water-stage recorder. Datum of gage is 3,274.82 ft above mean sea level, datum of 1929, supplementary adjustment of 1956 (levels by Pacific Power & Light Co.).

Extremes.--Maximum discharge during year, 5,420 cfs Apr. 24 (gage height, 7.16 ft); minimum, 399 cfs June 15; minimum daily, 618 cfs June 15, 16.  
1959-63: Maximum discharge, that of Apr. 24, 1963; minimum, 348 cfs Feb. 24, 1962; minimum daily, 458 cfs Apr. 10, 1960.

Remarks.--Records excellent except those for periods of no gage-height record, which are good. Flow regulated by Upper Klamath Lake (capacity, 584,000 acre-ft). Large diurnal fluctuation caused by John C. Boyle powerplant and 2 powerplants below Upper Klamath Lake. Large diversions for irrigation above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |       |     |       |
|-----|-------|-----|-------|
| 3.2 | 490   | 5.0 | 1,950 |
| 3.5 | 655   | 6.0 | 3,330 |
| 4.0 | 1,000 | 7.2 | 5,510 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.      | Nov.    | Dec.       | Jan.            | Feb.   | Mar.    | Apr.    | May     | June   | July   | Aug.   | Sept.  |
|---------------------|-----------|---------|------------|-----------------|--------|---------|---------|---------|--------|--------|--------|--------|
| 1                   | 1,640     | 2,390   | 2,840      | 2,980           | 1,580  | 2,770   | 2,060   | 2,750   | 752    | 780    | 719    | 1,140  |
| 2                   | 1,460     | 2,150   | 2,840      | 2,850           | 2,080  | 2,770   | 1,760   | 2,750   | 759    | 776    | 954    | 1,210  |
| 3                   | 1,590     | 2,210   | 2,840      | 2,750           | 1,430  | 2,750   | 1,720   | 2,750   | 759    | 641    | 662    | 1,230  |
| 4                   | 1,560     | 2,160   | 3,180      | 2,750           | 1,420  | 2,770   | 1,630   | 2,800   | *822   | 638    | 643    | 1,220  |
| 5                   | 1,530     | 2,400   | 3,060      | 2,750           | 1,120  | 2,770   | 1,620   | 2,800   | 746    | 640    | 987    | 1,220  |
| 6                   | 1,590     | 2,340   | 2,840      | 2,750           | 766    | 2,770   | 2,080   | 2,810   | 766    | 637    | 1,020  | 1,210  |
| 7                   | 1,390     | 2,420   | 3,000      | 2,730           | *766   | 2,770   | 2,750   | 2,840   | 740    | 646    | 1,000  | 1,160  |
| 8                   | 1,520     | 2,370   | 2,980      | 2,610           | 759    | 2,490   | 2,770   | 3,100   | 746    | 640    | 1,030  | 1,130  |
| 9                   | 1,740     | 2,290   | 3,180      | 2,330           | 759    | 2,380   | 2,750   | 3,520   | 746    | 647    | 1,020  | 1,140  |
| 10                  | 1,180     | 2,340   | 3,120      | 2,480           | 759    | 1,940   | 2,750   | 3,750   | 746    | 648    | 742    | 1,190  |
| 11                  | 1,370     | 2,460   | 3,180      | 2,430           | 838    | 2,320   | 2,750   | 3,950   | 716    | *651   | 662    | 1,190  |
| 12                  | 2,570     | 2,460   | *3,200     | 2,440           | 910    | 2,420   | 2,770   | 3,680   | 632    | 656    | 990    | 1,210  |
| 13                  | 3,060     | 2,640   | 3,180      | 2,160           | 1,050  | 2,430   | 2,680   | 3,410   | 630    | 644    | 1,070  | 1,310  |
| 14                  | 3,180     | 2,670   | *3,200     | 2,480           | 1,330  | 2,430   | 2,570   | 3,430   | 620    | 654    | 1,100  | 1,040  |
| 15                  | 3,410     | 2,600   | 3,220      | 2,360           | 1,630  | 2,290   | 2,730   | 3,300   | 618    | 655    | 1,130  | 1,060  |
| 16                  | 3,040     | *2,540  | 3,270      | 1,780           | 1,240  | 2,520   | 3,390   | 3,090   | 618    | 657    | 1,130  | 1,310  |
| 17                  | 2,810     | 2,490   | 3,460      | 1,750           | 962    | 2,280   | 3,950   | 2,730   | 624    | 659    | 766    | 1,620  |
| 18                  | 2,810     | 2,220   | 3,600      | 1,700           | 1,680  | 2,570   | 4,000   | 1,720   | 624    | 658    | 712    | 1,740  |
| 19                  | 2,800     | 2,590   | 3,590      | 1,300           | 2,240  | 2,750   | 4,220   | 1,450   | 622    | 657    | 1,070  | 1,770  |
| 20                  | 2,780     | 2,780   | 3,410      | a1,290          | 2,390  | 2,750   | *4,530  | 1,890   | 624    | 659    | 1,110  | 1,780  |
| 21                  | 2,780     | 2,820   | 3,200      | a1,670          | 2,750  | 2,750   | 4,810   | 2,020   | 637    | 655    | *1,080 | 1,660  |
| 22                  | 2,770     | 2,820   | 3,100      | a1,490          | 2,770  | 2,750   | 5,130   | 2,370   | 636    | 656    | 1,070  | 1,270  |
| 23                  | 2,770     | 2,820   | 2,840      | a1,520          | 2,770  | 1,840   | *5,210  | 2,230   | 627    | 652    | 1,120  | 1,750  |
| 24                  | 2,500     | 2,820   | 2,910      | a1,280          | 2,770  | 1,220   | 5,310   | 2,290   | 639    | 662    | 957    | 1,800  |
| 25                  | 2,570     | 2,820   | 2,960      | a1,160          | 2,700  | 1,930   | 4,800   | 2,280   | 778    | 662    | 954    | 1,790  |
| 26                  | 2,580     | 2,800   | 3,020      | a1,000          | 2,770  | 1,910   | 4,130   | 2,290   | 775    | 661    | 1,190  | 1,720  |
| 27                  | 2,520     | 2,630   | 3,100      | a800            | 2,770  | 1,780   | 3,590   | 2,370   | 636    | 659    | 766    | 1,580  |
| 28                  | 2,430     | 2,740   | 3,150      | a1,380          | 2,780  | 1,960   | 2,850   | 2,290   | 642    | 660    | 806    | 1,720  |
| 29                  | 2,540     | 2,820   | 3,200      | 1,270           | -----  | 1,940   | 2,850   | 2,000   | 639    | 664    | 938    | 1,280  |
| 30                  | 2,560     | 2,820   | 3,160      | 1,330           | -----  | 1,860   | 2,750   | 1,260   | 629    | 664    | 982    | 1,840  |
| 31                  | 2,460     | -----   | 3,140      | 1,170           | -----  | 1,870   | -----   | 1,100   | -----  | 653    | 1,000  | -----  |
| Total               | 71,510    | 76,430  | 96,970     | 60,740          | 47,789 | 72,750  | 96,910  | 81,020  | 20,548 | 20,491 | 29,380 | 42,290 |
| Mean                | 2,307     | 2,548   | 3,128      | 1,959           | 1,707  | 2,347   | 3,230   | 2,614   | 685    | 661    | 948    | 1,410  |
| Max                 | 3,410     | 2,820   | 3,600      | 2,980           | 2,780  | 2,770   | 5,310   | 3,950   | 822    | 780    | 1,190  | 1,840  |
| Min                 | 1,180     | 2,150   | 2,840      | 800             | 759    | 1,220   | 1,620   | 1,100   | 618    | 637    | 643    | 1,040  |
| Ac-ft               | 141,800   | 151,600 | 192,300    | 120,500         | 94,790 | 144,300 | 192,200 | 160,700 | 40,760 | 40,640 | 58,270 | 83,880 |
| Calendar year 1962: | Max 3,600 | Min 532 | Mean 1,620 | Ac-ft 1,173,000 |        |         |         |         |        |        |        |        |
| Water year 1962-63: | Max 5,310 | Min 618 | Mean 1,964 | Ac-ft 1,422,000 |        |         |         |         |        |        |        |        |

\* Discharge measurement made on this day.

a No gage-height record.

11-5165.3. Klamath River below Iron Gate Dam, Calif.

Location.--Lat 41°55'40", long 122°26'35", in E 1/4 NE 1/4 sec.17, T.47 N., R.5 W., 0.1 mile downstream from Bogus Creek, 0.6 mile downstream from Iron Gate Dam, and 5.9 miles northeast of Hornbrook.

Records available.--October 1960 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 2,162.44 ft above mean sea level (levels by Pacific Power and Light Co.).

Extremes.--Maximum discharge during year, 10,600 cfs Dec. 2 (gage height, 7.72 ft); minimum daily, 714 cfs July 19-23, 28, 29. 1960-63: Maximum discharge, that of Dec. 2, 1962; minimum daily, 647 cfs Nov. 6, 1960, Sept. 24, Oct. 1, 1961.

Remarks.--Records good. Complete regulation by Upper Klamath Lake (capacity, 584,000 acre-ft) and other smaller reservoirs; diversions above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-22, Jan. 16-31, Mar. 22 to Apr. 9)

Oct. 1 to Jan. 31

Feb. 1 to Sept. 30

|     |       |     |       |     |       |     |       |
|-----|-------|-----|-------|-----|-------|-----|-------|
| 3.5 | 1,270 | 5.5 | 4,470 | 2.9 | 675   | 4.0 | 1,680 |
| 4.0 | 1,860 | 6.0 | 5,670 | 3.1 | 810   | 5.0 | 3,300 |
| 4.5 | 2,570 | 6.5 | 7,330 | 3.5 | 1,130 | 6.1 | 5,910 |
| 5.0 | 3,430 |     |       |     |       |     |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June   | July   | Aug.   | Sept.  |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|
| 1     | *1.600  | 2.710   | 3.320   | 3.230   | *2.130  | *3.060  | 2.370   | *3.140  | 1.310  | 775    | 1.070  | 1.380  |
| 2     | 1.620   | *2.710  | 6.660   | 3.270   | 3.240   | 2.870   | *2.510  | 3.140   | 1.310  | *782   | 1.060  | 1.360  |
| 3     | 1.620   | 2.600   | *4.910  | *3.180  | 3.630   | 2.370   | 2.460   | 3.180   | 1.080  | 775    | 1.050  | 1.360  |
| 4     | 1.610   | 1.890   | 3.910   | 3.250   | 2.780   | 2.530   | 1.910   | 3.340   | *944   | 740    | 1.060  | 1.360  |
| 5     | 1.600   | 2.680   | 3.690   | 3.250   | 2.350   | 3.080   | 1.800   | 3.220   | 852    | 727    | 1.070  | 1.380  |
| 6     | 1.600   | 2.650   | 3.630   | 2.330   | 1.810   | 3.140   | 2.090   | 3.320   | 803    | 747    | *1.070 | *1.400 |
| 7     | 1.610   | 2.750   | 3.550   | 2.630   | 1.390   | 3.160   | 3.520   | 3.460   | 796    | 747    | 1.080  | 1.400  |
| 8     | 1.620   | 2.780   | 3.490   | 2.810   | 1.230   | 3.020   | 3.320   | 3.240   | 796    | 845    | 1.080  | 1.390  |
| 9     | 1.670   | 2.780   | 3.450   | 2.630   | 1.220   | 2.710   | 3.320   | 3.360   | 796    | 782    | 1.080  | 1.390  |
| 10    | 1.730   | 2.600   | 3.410   | 2.650   | 1.220   | 1.730   | 3.670   | 3.540   | 789    | 734    | 1.080  | 1.390  |
| 11    | 1.710   | 2.480   | 3.380   | 2.560   | 1.190   | 1.760   | 3.630   | 4.240   | 782    | 740    | 1.070  | 1.390  |
| 12    | 3.790   | 2.560   | 3.320   | 2.320   | 1.180   | 2.350   | 3.580   | 4.390   | 775    | 775    | 1.060  | 1.400  |
| 13    | 4.330   | 2.890   | 3.200   | 2.230   | 1.440   | 2.460   | 3.040   | 3.950   | 775    | 734    | 1.050  | 1.400  |
| 14    | 3.290   | 3.110   | 3.430   | 2.560   | 1.600   | 2.910   | 3.180   | 3.420   | 775    | 734    | 1.060  | 1.390  |
| 15    | 3.470   | 2.910   | 3.710   | 2.420   | 1.600   | 2.890   | 3.730   | 3.400   | 775    | 740    | 1.070  | 1.390  |
| 16    | 3.450   | 2.870   | 3.870   | 2.200   | 1.620   | 2.730   | 4.040   | 3.180   | 775    | 740    | 1.080  | 1.550  |
| 17    | *2.870  | 2.840   | 4.030   | 1.990   | 1.590   | 1.980   | 4.660   | 3.180   | 768    | 740    | 1.060  | 1.650  |
| 18    | 2.730   | 2.030   | 4.050   | 1.740   | 1.590   | 2.430   | 4.680   | 2.840   | 789    | 734    | 1.050  | 1.780  |
| 19    | 2.750   | 2.170   | 4.290   | 1.540   | 1.620   | 2.870   | 4.950   | 2.320   | 775    | 714    | 1.050  | 1.850  |
| 20    | 2.780   | 2.910   | 4.100   | 1.530   | 2.790   | 3.040   | 5.240   | 2.240   | 768    | 714    | 1.040  | 1.850  |
| 21    | 2.830   | 3.120   | 3.550   | 1.560   | 3.200   | 3.020   | 5.530   | 1.760   | 782    | 714    | 1.030  | 1.850  |
| 22    | 2.830   | 2.790   | 3.450   | 1.570   | 3.200   | 2.730   | 5.740   | 1.880   | 775    | 714    | 1.020  | 1.840  |
| 23    | 2.790   | 2.870   | 3.210   | 1.550   | 3.020   | 2.630   | *5.850  | 2.580   | 866    | 714    | 1.030  | 1.810  |
| 24    | 2.730   | 3.120   | 3.320   | 1.390   | 2.530   | 2.420   | *5.910  | 2.630   | 1.080  | 720    | 1.020  | 1.810  |
| 25    | 2.460   | 3.120   | 2.980   | 1.230   | 2.800   | 2.020   | 5.740   | 2.380   | 992    | 720    | 1.030  | 1.810  |
| 26    | 2.910   | 3.750   | 3.230   | 1.200   | 2.990   | 1.910   | 4.440   | 2.290   | 803    | 740    | 1.030  | 1.620  |
| 27    | 2.750   | 3.610   | 3.380   | 1.200   | 3.120   | 1.800   | 4.110   | 2.860   | 803    | 734    | 1.030  | 1.630  |
| 28    | 2.680   | 3.410   | 3.390   | 1.200   | 3.220   | 2.220   | 3.580   | 2.640   | 796    | 714    | 1.040  | 1.810  |
| 29    | 2.960   | 3.410   | 3.210   | 1.190   | -----   | 2.610   | 3.480   | 2.450   | 789    | 714    | 1.050  | 1.800  |
| 30    | 2.780   | 3.430   | 3.180   | 1.230   | -----   | 2.290   | 3.160   | 1.980   | 782    | 720    | 1.070  | 1.780  |
| 31    | 2.670   | -----   | 3.200   | 1.550   | -----   | 2.260   | -----   | 1.510   | -----  | 817    | 1.160  | -----  |
| Total | 77,840  | 85,550  | 113,500 | 65,190  | 61,300  | 79,000  | 115,240 | 91,060  | 25,701 | 23,040 | 32,800 | 47,220 |
| Mean  | 2,511   | 2,852   | 3,660   | 2,103   | 2,189   | 2,548   | 3,841   | 2,937   | 857    | 743    | 1,058  | 1,574  |
| Max   | 4,330   | 3,750   | 6,660   | 3,270   | 3,630   | 3,160   | 5,910   | 4,390   | 1,310  | 845    | 1,160  | 1,850  |
| Min   | 1,600   | 1,890   | 2,980   | 1,190   | 1,180   | 1,730   | 1,800   | 1,510   | 768    | 714    | 1,020  | 1,360  |
| Ac-ft | 154,400 | 169,700 | 225,100 | 129,300 | 121,600 | 156,700 | 228,600 | 180,600 | 50,980 | 45,700 | 65,060 | 93,660 |

Calendar year 1962: Max 6,660 Min 668 Mean 1,864 Ac-ft 1,350,000  
Water year 1962-63: Max 6,660 Min 714 Mean 2,240 Ac-ft 1,621,000

\* Discharge measurement made on this day.

## Klamath River Basin

11-5165.3. Klamath River below Iron Gate Dam, Calif.--Continued.

Records available.--Water temperatures: August 1962 to September 1963.

Extremes.--Maximum temperature during period, 72°F July 11, Aug. 6-8, 13-20, 1963; minimum, 36°F Jan. 12-27, 31, 1963.

[illegible]

11-5169. Little Shasta River near Montague, Calif.

Location.--Lat 41°45'11", long 122°17'58", in NW¼ sec.15, T.45 N., R.4 W., on right bank three-quarters of a mile downstream from Dry Creek and 12 miles east of Montague.

Drainage area.--48.2 sq mi.

Records available.--October 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 3,280 ft (from topographic map).

Average discharge.--6 years, 15.0 cfs (10,860 acre-ft per year).

Extremes.--Maximum discharge during year, 525 cfs Oct. 12 (gage height, 4.23 ft), from rating extended above 200 cfs; minimum daily, 3.3 cfs Sept. 29, 30.

1957-63: Maximum discharge, 741 cfs Nov. 13, 1957 (gage height, 4.76 ft), from rating curve extended above 200 cfs; minimum, 0.6 cfs Nov. 16, 1961.

Remarks.--No known diversion or regulation.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1     | 4.8   | 5.1   | 2.6   | 1.0   | 20.6  | 2.9   | 2.4   | 4.3   | 2.1   | 8.9   | 5.5   | 4.2   |
| 2     | 5.8   | 5.1   | 9.7   | 1.1   | 9.0   | 2.7   | 2.0   | 4.3   | 2.0   | 8.6   | 5.7   | 4.2   |
| 3     | 6.4   | 5.1   | 9.4   | 1.3   | 18.9  | 2.6   | 2.0   | 4.5   | 1.9   | 8.5   | 5.3   | * 4.2 |
| 4     | 5.5   | 5.5   | 4.5   | 1.1   | 10.9  | 2.4   | 2.0   | 4.6   | * 1.9 | 7.5   | 5.6   | 4.0   |
| 5     | 5.6   | 6.2   | 3.4   | 9.1   | 6.7   | 2.3   | 3.8   | 4.6   | 2.1   | 7.4   | 5.0   | 4.0   |
|       |       | 5.6   |       |       |       |       |       |       |       |       |       |       |
| 6     | 5.0   | 5.6   | 2.7   | 8.9   | 5.3   | 2.4   | 11.2  | 4.6   | 1.9   | 7.3   | 4.8   | 4.0   |
| 7     | 5.4   | 5.5   | 2.2   | * 7.5 | 4.3   | 2.2   | 9.3   | * 5.4 | 1.7   | 7.1   | 5.0   | 3.7   |
| 8     | 6.3   | 5.5   | 1.9   | 6.5   | 3.9   | 2.1   | 5.9   | 5.1   | 1.6   | 7.3   | 5.1   | 4.0   |
| 9     | * 2.2 | 6.4   | 1.7   | 6     | 3.1   | 2.0   | 5.1   | 5.1   | 1.4   | 7.1   | 5.1   | 4.2   |
| 10    | 7.7   | 8.0   | 1.6   |       | 2.7   | 1.9   | 4.7   | 4.7   | 1.5   | 6.8   | 5.0   | 4.2   |
|       |       |       |       |       |       |       |       |       |       |       |       |       |
| 11    | 7.9   | 1.1   | * 1.4 |       | * 2.6 | 1.8   | 4.2   | 5.3   | 1.6   | 7.0   | 4.8   | 4.2   |
| 12    | 20.8  | 2.4   | 1.5   |       | 2.5   | 1.8   | 3.6   | 4.8   | 1.5   | 7.3   | 4.8   | 4.3   |
| 13    | 9.2   | 1.4   | 1.5   |       | 2.5   | 1.6   | 3.5   | 4.3   | 1.4   | 7.1   | 4.8   | 4.3   |
| 14    | 4.7   | 9.0   | 1.8   |       | 2.2   | 1.7   | 1.42  | 3.9   | 1.2   | 6.7   | 4.8   | 4.2   |
| 15    | 3.5   | * 7.5 | 4.5   |       | 2.1   | 1.7   | 8.4   | 4.1   | 1.1   | 5.8   | 4.8   | 4.0   |
|       |       |       |       |       |       |       |       |       |       |       |       |       |
| 16    | 2.1   | 7.4   | 3.4   | 5     | 2.3   | 1.7   | 5.9   | 3.7   | 1.2   | * 6.1 | 5.1   | 4.2   |
| 17    | 1.7   | 7.5   | 4.8   |       | 2.3   | 1.6   | 4.9   | 3.6   | 1.3   | 6.4   | 5.1   | 4.0   |
| 18    | 1.3   | 8.6   | 3.5   |       | 3.4   | 1.6   | 4.5   | 3.5   | 1.5   | 6.4   | 5.0   | 4.0   |
| 19    | 1.1   | 9.2   | 2.5   |       | 4.0   | 2.3   | 4.2   | 3.4   | 1.4   | 6.5   | 4.8   | 4.2   |
| 20    | 9.7   | 8.8   | 2.2   |       | 7.4   | 2.8   | 3.7   | 3.3   | 1.1   | 5.8   | * 4.9 | 4.0   |
|       |       |       |       |       |       |       |       |       |       |       |       |       |
| 21    | 8.6   | 12.0  | 1.9   |       | 5.1   | 2.6   | 3.4   | 3.3   | 1.1   | 6.0   | 5.3   | 4.2   |
| 22    | 7.9   | 13.0  | 1.9   |       | 3.9   | 2.2   | 3.9   | 3.2   | 1.2   | 5.7   | 5.3   | 4.0   |
| 23    | 7.3   | 10.0  | 1.4   |       | 3.4   | 2.1   | 4.4   | 3.1   | 1.2   | 5.6   | 5.1   | 3.8   |
| 24    | 6.6   | 8.6   | 1.3   |       | 3.1   | 1.9   | * 4.2 | 3.0   | 1.1   | 5.5   | 5.1   | 3.8   |
| 25    | 6.6   | 8.6   | 1.6   |       | 3.2   | * 1.7 | 3.6   | 2.8   | 1.0   | 5.3   | 5.1   | 3.8   |
|       |       |       |       |       |       |       |       |       |       |       |       |       |
| 26    | 6.6   | 8.6   | 1.2   | 4.5   | 4.1   | 1.7   | 3.5   | 2.7   | 9.6   | 5.3   | 5.1   | 3.8   |
| 27    | 6.8   | 4.1   | 1.2   | 5     | 3.1   | 2.0   | 3.4   | 2.6   | 9.4   | 5.2   | 5.1   | 3.6   |
| 28    | 6.2   | 2.3   | 1.4   | 5     | 3.0   | 2.6   | 4.0   | 2.6   | 1.1   | 4.8   | 4.8   | 3.6   |
| 29    | 6.2   | 1.3   | 1.3   | 5.5   | ----- | 2.5   | 4.6   | 2.5   | 1.2   | 5.1   | 4.8   | 3.3   |
| 30    | 6.0   | 1.7   | 1.4   | 5.4   | ----- | 2.7   | 4.7   | 2.3   | 1.0   | 5.8   | 4.5   | 3.3   |
| 31    | 5.8   | ----- | 1.2   | 7.0   | ----- | 3.2   | ----- | 2.2   | ----- | 5.7   | 4.2   | ----- |
| Total | 751.1 | 397.2 | 82.6  | 258.4 | 145.6 | 67.3  | 145.2 | 117.4 | 422.0 | 201.6 | 155.4 | 119.3 |
| Mean  | 24.2  | 13.2  | 26.6  | 8.34  | 52.0  | 21.7  | 48.4  | 37.9  | 14.1  | 6.50  | 5.01  | 3.98  |
| Max   | 208   | 86    | 97    | 70    | 206   | 32    | 112   | 54    | 21    | 8.9   | 5.7   | 4.3   |
| Min   | 4.8   | 5.1   | 1.2   | -     | 2.1   | 1.6   | 2.0   | 2.2   | 9.4   | 4.8   | 4.2   | 3.3   |
| Ac-ft | 1,490 | 788   | 1,640 | 513   | 2,890 | 1,330 | 2,880 | 2,330 | 837   | 400   | 308   | 237   |

Calendar year 1962: Max 208 Min 2.8 Mean 16.5 Ac-ft 11,970  
 Water year 1962-63: Max 208 Min 3.3 Mean 21.6 Ac-ft 15,640

\* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Jan. 8-28.

11-5175. Shasta River near Yreka, Calif.

Location.--Lat 41°49'30", long 122°35'40", in E½ sec.24, T.46 N., R.7 W., on right bank 0.5 mile upstream from mouth and 7 miles north of Yreka.

Drainage area.--796 sq mi.

Records available.--October 1933 to December 1941, December 1944 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,000 ft (from topographic map). Prior to Nov. 2, 1933, staff gage at same site and datum.

Average discharge.--26 years (1933-41, 1945-63), 176 cfs (127,400 acre-ft per year); median of yearly mean discharges, 155 cfs (112,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,410 cfs Dec. 2 (gage height, 6.76 ft); minimum daily, 32 cfs Aug. 1. 1933-41, 1944-63: Maximum discharge, 6,090 cfs Dec. 22, 1955 (gage height, 9.43 ft); minimum, 3.4 cfs Aug. 13, 1939, when about 2 cfs was being diverted around gage.

Remarks.--Records good. Flow partly regulated by Lake Dwinnel beginning in 1928. Storage limited to 50,000 acre-ft. Many diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1 to Dec. 2 |     |  | Dec. 2 to Sept. 30 |     |       |
|------------------|-----|--|--------------------|-----|-------|
| 3.3              | 150 |  | 2.7                | 28  | 4.0   |
| 4.0              | 435 |  | 2.9                | 55  | 4.5   |
| 5.0              | 970 |  | 3.1                | 95  | 5.0   |
|                  |     |  | 3.5                | 220 | 6.0   |
|                  |     |  |                    |     | 1,540 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June  | July  | Aug.  | Sept. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | *157   | 209    | 293    | 252    | *1,240 | 294    | 255    | *199   | 160   | 144   | 32    | 95    |
| 2     | 154    | 205    | 966    | 248    | 1,180  | 286    | *234   | 192    | 157   | 120   | 33    | 98    |
| 3     | 154    | 205    | *1,190 | *248   | 1,440  | 286    | 206    | 202    | 154   | 100   | 48    | 98    |
| 4     | 154    | 201    | *714   | 248    | 1,100  | 283    | 185    | 255    | *154  | 93    | 34    | 100   |
| 5     | 154    | 201    | 531    | 241    | 882    | 280    | 178    | 266    | 160   | 93    | 33    | 105   |
| 6     | 157    | 201    | 443    | 234    | 765    | 280    | 230    | 258    | 164   | 98    | *34   | 110   |
| 7     | 160    | 201    | 395    | 234    | 632    | 276    | 283    | 276    | 160   | 100   | 54    | 88    |
| 8     | 164    | 201    | 364    | 230    | 551    | 276    | 269    | 290    | 160   | 95    | 62    | 82    |
| 9     | 249    | 201    | 346    | 230    | 491    | 269    | 255    | 286    | 132   | 91    | 71    | 88    |
| 10    | 607    | 201    | 332    | 227    | 447    | 262    | 241    | 280    | 132   | 98    | 82    | 88    |
| 11    | 702    | 205    | 311    | 224    | 407    | 262    | 234    | 332    | 144   | 100   | 77    | 80    |
| 12    | 942    | 245    | 304    | 210    | 381    | 258    | 206    | 367    | 147   | 86    | 43    | 73    |
| 13    | 1,250  | 249    | *290   | 206    | 364    | 255    | 213    | 381    | 144   | 66    | 39    | 68    |
| 14    | 965    | 229    | 280    | 202    | 350    | 266    | 259    | 350    | 120   | 82    | 36    | 91    |
| 15    | 690    | 213    | 322    | 206    | 332    | 272    | 503    | 311    | 112   | 100   | 39    | 105   |
| 16    | 490    | 209    | 364    | 210    | 356    | 269    | *467   | 266    | 91    | 102   | 38    | 99    |
| 17    | 350    | 209    | 455    | 210    | 419    | 269    | 364    | 248    | 86    | 91    | 33    | 110   |
| 18    | 293    | 213    | 451    | 206    | 392    | *266   | 346    | 230    | 88    | 91    | 42    | 95    |
| 19    | 281    | 213    | 370    | 206    | 364    | 262    | 399    | 224    | 91    | 88    | 49    | 98    |
| 20    | 269    | 209    | 332    | 199    | 388    | 262    | 415    | 189    | 93    | 55    | 55    | 123   |
| 21    | 257    | 213    | 314    | 202    | 411    | 258    | 407    | 199    | 110   | 49    | 54    | 141   |
| 22    | 249    | 213    | 308    | 213    | 350    | 255    | 381    | 220    | 129   | 59    | 49    | 135   |
| 23    | 237    | 209    | 300    | 213    | 328    | 244    | 370    | 216    | 141   | 54    | 50    | 129   |
| 24    | 233    | 205    | 286    | 213    | 318    | 234    | 336    | 202    | 157   | 48    | 43    | 126   |
| 25    | 233    | 205    | 266    | 216    | 311    | 227    | 300    | 196    | 132   | 57    | 43    | 118   |
| 26    | 229    | 352    | 258    | 216    | 304    | 202    | 266    | 174    | 118   | 54    | 43    | 112   |
| 27    | 233    | 509    | 255    | 213    | *300   | 206    | 266    | 179    | 135   | 44    | 52    | 123   |
| 28    | 221    | 376    | 252    | 210    | 290    | 272    | 248    | 164    | *118  | 44    | 52    | 109   |
| 29    | 213    | 313    | 248    | 216    | -      | 272    | 234    | 164    | 110   | 43    | 59    | 110   |
| 30    | 213    | 289    | 252    | 230    | -----  | 238    | 206    | 157    | 154   | 46    | 59    | 115   |
| 31    | 209    | -----  | 252    | 438    | -----  | 234    | -----  | 164    | ----- | 39    | 105   | ----- |
| Total | 10,869 | 7,104  | 12,044 | 7,051  | 15,093 | 8,075  | 8,756  | 7,435  | 3,953 | 2,430 | 1,543 | 3,110 |
| Mean  | 351    | 237    | 389    | 227    | 539    | 260    | 292    | 240    | 132   | 78.4  | 49.8  | 104   |
| Max   | 1,250  | 509    | 1,190  | 438    | 1,440  | 294    | 503    | 381    | 164   | 144   | 105   | 141   |
| Min   | 154    | 201    | 248    | 199    | 290    | 202    | 178    | 157    | 86    | 39    | 32    | 68    |
| Ac-ft | 21,560 | 14,090 | 23,890 | 13,990 | 29,940 | 16,020 | 17,370 | 14,750 | 7,840 | 4,820 | 3,060 | 6,170 |

Calendar year 1962: Max 1,250 Min 10 Mean 180 Ac-ft 130,200  
 Water year 1962-63: Max 1,440 Min 32 Mean 240 Ac-ft 173,500

Peak discharge (base, 400 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0800 | 5.85        | 1,590     | 2-3  | 1530 | 6.18        | 1,700     |
| 11-27 | 0100 | 4.45        | 655       | 2-20 | 2300 | 4.22        | 459       |
| 12-2  | 1930 | 6.76        | 2,410     | 4-15 | 0300 | 4.46        | 582       |
| 12-17 | 2000 | 4.31        | 519       |      |      |             |           |



KLAMATH RIVER BASIN

419

11-5178. Beaver Creek near Klamath River, Calif.

Location.--Lat 41°53'40", long 122°49'20", in NE 1/4 SW 1/4 sec.30, T.47 N., R.8 W., on left bank 0.1 mile downstream from Buckhorn Gulch, 1.9 miles upstream from mouth, and 14.8 miles northwest of Yreka.

Drainage area.--103 sq mi.

Records available.--Occasional low-flow measurements, water years 1953-58, and annual maximum, water year 1956. March 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,920 ft (from topographic map). Prior to Mar. 17, 1959, crest-stage gage only and Mar. 17 to June 12, 1959, at site 0.6 mile downstream at different datum.

Extremes.--Maximum discharge during year, 2,000 cfs Dec. 2 (gage height, 6.80 ft), from rating curve extended above 400 cfs; minimum daily, 26 cfs Oct. 1.

1955-56, 1959-63: Maximum discharge, 8,000 cfs Aug. 20, 1956 (gage height, 10.6 ft, present datum, from floodmarks), from rating curve extended above 600 cfs.

1959-63: Minimum discharge, 10 cfs Jan. 1, 1960.

Remarks.--Records good except those prior to Feb. 27 and period of no gage-height record, which are fair. Some small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 2-9, 15-21, Jan. 3-6, Jan. 31 to Feb. 3, May 15)

| Oct. 1 to Dec. 2 |     | Dec. 2 to Sept. 30 |       |
|------------------|-----|--------------------|-------|
| 3.1              | 20  | 2.2                | 21    |
| 3.4              | 47  | 2.5                | 48    |
| 3.8              | 98  | 2.8                | 91    |
| 4.3              | 197 | 3.3                | 216   |
| 5.0              | 400 | 4.0                | 490   |
| 6.0              | 920 | 5.0                | 1,100 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.   | Jan.  | Feb.   | Mar.  | Apr.   | May    | June   | July  | Aug.  | Sept. |
|-------|-------|-------|--------|-------|--------|-------|--------|--------|--------|-------|-------|-------|
| 1     | 26    | 46    | 115    | 120   | 491    | 183   | 178    | 278    | 255    | *107  | 56    | 37    |
| 2     | * 28  | 45    | 910    | 120   | * 393  | 180   | * 164  | * 274  | 245    | 103   | 55    | 35    |
| 3     | 30    | 44    | 514    | * 122 | 897    | 172   | 161    | 278    | 245    | 101   | 53    | 34    |
| 4     | 27    | 44    | * 326  | 115   | 746    | 166   | 164    | 268    | 235    | 99    | 52    | 34    |
| 5     | 26    | 47    | 274    | 111   | 633    | 164   | 262    | 312    | 248    | 97    | 50    | 34    |
| 6     | 26    | 44    | 245    | 109   | 515    | 164   | 450    | 326    | * 235  | 103   | 49    | 34    |
| 7     | 30    | 43    | 222    | 107   | 450    | 161   | 346    | 340    | 219    | 101   | * 47  | 35    |
| 8     | 46    | 43    | 204    | 103   | 405    | 156   | 301    | 315    | 213    | 93    | 46    | 34    |
| 9     | 189   | 63    | 186    | 103   | 370    | 150   | 278    | 295    | 204    | 89    | 45    | 32    |
| 10    | 166   | 54    | 178    | 97    | 336    | 146   | 261    | 284    | 201    | 88    | 45    | 32    |
| 11    | 221   | 69    | 169    | 81    | 315    | 140   | 235    | 271    | 192    | 88    | 44    | 32    |
| 12    | 271   | 177   | 161    | 74    | 308    | 138   | 235    | 255    | 186    | 86    | 43    | 33    |
| 13    | 190   | 108   | * 164  | 95    | 301    | 133   | 238    | 251    | 180    | 86    | * 42  | 36    |
| 14    | 128   | 83    | 169    | 103   | 278    | 138   | 318    | 251    | 172    | 84    | 42    | 34    |
| 15    | 105   | 75    | 374    | 95    | 261    | 133   | 308    | * 268  | 164    | 82    | 40    | 35    |
| 16    | 89    | 71    | 281    | 89    | 258    | 140   | 284    | 288    | 158    | 81    | 38    | 34    |
| 17    | 79    | 71    | 251    | 86    | 242    | 129   | 274    | 318    | 150    | 81    | 38    | 34    |
| 18    | 76    | 73    | 232    | 86    | 251    | * 124 | 268    | 354    | 143    | 79    | 38    | 33    |
| 19    | 75    | 70    | 213    | 82    | 245    | 129   | 261    | 386    | 138    | 77    | 40    | 33    |
| 20    | 74    | 73    | 192    | 84    | 248    | 131   | 248    | 395    | 133    | 76    | 40    | 32    |
| 21    | 71    | 74    | 186    | 84    | 229    | 131   | 242    | 432    | 140    | 74    | 39    | 32    |
| 22    | 68    | 78    | 178    | 84    | 219    | 129   | 242    | 405    | 150    | 73    | 38    | 32    |
| 23    | 64    | 70    | 166    | 82    | 210    | 126   | 248    | 362    | 140    | 71    | 38    | 32    |
| 24    | 62    | 66    | 148    | 81    | 201    | 120   | 248    | 332    | 129    | 70    | 38    | 31    |
| 25    | 59    | 70    | 143    | 79    | 201    | 118   | 245    | 318    | 120    | 68    | 37    | 30    |
| 26    | 57    | 257   | 138    | 77    | 207    | 138   | 235    | 308    | 118    | 66    | 36    | 29    |
| 27    | 55    | 171   | 136    | 77    | * 189  | 183   | 232    | 301    | 115    | 64    | 36    | 29    |
| 28    | 54    | 130   | 133    | 76    | 192    | 192   | 245    | 288    | 120    | 63    | 35    | 30    |
| 29    | 51    | 110   | 129    | 79    | -----  | 189   | 261    | 284    | 122    | 61    | * 34  | 30    |
| 30    | 49    | 113   | 126    | * 86  | -----  | 192   | 274    | 274    | 113    | 60    | * 34  | 30    |
| 31    | 48    | ----- | 124    | 249   | -----  | 186   | -----  | 264    | -----  | 58    | 37    | ----- |
| Total | 2,540 | 2,482 | 6,987  | 3,036 | 9,591  | 4,681 | 7,706  | 9,575  | 5,183  | 2,529 | 1,305 | 982   |
| Mean  | 81.9  | 82.7  | 225    | 97.9  | 343    | 151   | 257    | 309    | 173    | 81.6  | 42.1  | 32.7  |
| Max   | 271   | 257   | 910    | 249   | 897    | 192   | 450    | 432    | 255    | 107   | 56    | 37    |
| Min   | 26    | 43    | 115    | 74    | 189    | 118   | 161    | 251    | 113    | 58    | 34    | 29    |
| Ac-ft | 5,040 | 4,920 | 13,860 | 6,020 | 19,020 | 9,280 | 15,280 | 18,990 | 10,280 | 5,020 | 2,590 | 1,950 |

Calendar year 1962: Max 910 Min 20 Mean 116 Ac-ft 83,740  
Water year 1962-63: Max 910 Min 26 Mean 155 Ac-ft 112,200

Peak discharge (base, 400 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1800 | 5.31        | 535       | 2- 3 | 0900 | 5.25        | 1,160     |
| 11-26 | 0800 | 5.01        | 404       | 4- 6 | 0500 | 4.10        | 540       |
| 12- 2 | 1400 | 6.80        | 2,000     | 5-21 | 1900 | 4.33        | 625       |
| 12-15 | 1000 | 4.17        | 495       |      |      |             |           |

\* Discharge measurement made on this day.  
Note.--No gage-height record July 15 to Aug. 13.

## KLAMATH RIVER BASIN

11-5180.5. East Fork Scott River at Callahan, Calif.

Location.--Lat 41°18'15", long 122°46'35", in SE 1/4 sec. 22, T.40 N., R.8 W., on right bank 1.0 mile downstream from Big Mill Creek and 1.4 miles east of town of Callahan.

Drainage area.--110 sq mi.

Records available.--October 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 3,200 ft (from topographic map). Prior to July 26, 1961, at site 1.6 miles downstream at different datum.

Extremes.--Maximum discharge during year, 4,530 cfs Oct. 12 (gage height, 9.05 ft), from rating curve extended above 1,200 cfs on basis of slope-area measurement of peak flow; minimum daily, 2.0 cfs Oct. 1.  
1959-63: Maximum discharge, that of Oct. 12, 1962; minimum, 0.8 cfs Sept. 20, 1962.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Small diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 8-10, Nov. 26 to Jan. 30,  
Feb. 7 to Mar. 7, Apr. 19-24, May 4-16)

| Oct. 1 to Oct. 12 |     |     |     | Oct. 12 to Sept. 30 |     |     |       |
|-------------------|-----|-----|-----|---------------------|-----|-----|-------|
| 4.7               | 1.5 | 5.5 | 49  | 5.3                 | 1.3 | 6.4 | 92    |
| 4.8               | 3.1 | 5.7 | 89  | 5.4                 | 2.6 | 6.6 | 155   |
| 4.9               | 5.7 | 6.0 | 174 | 5.5                 | 4.6 | 6.9 | 310   |
| 5.1               | 13  | 6.5 | 390 | 5.6                 | 7.8 | 7.4 | 680   |
| 5.3               | 25  | 7.0 | 670 | 5.7                 | 12  | 7.8 | 1,170 |
|                   |     |     |     | 5.9                 | 25  | 8.3 | 2,180 |
|                   |     |     |     | 6.2                 | 58  |     |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day  | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May      | June    | July  | Aug.  | Sept. |
|--|---------|---------|---------|---------|---------|---------|---------|----------|---------|-------|-------|-------|
| 1  | 2.0     | 1.9     | 1.30    | 7.0     | 6.98    | 11.1    | 11.4    | 30.4     | 24.5    | 4.2   | 1.0   | 3.0   |
| 2  | 2.2     | 1.7     | 6.81    | * 6.8   | 4.79    | 10.6    | 9.7     | 26.8     | 21.5    | 3.7   | 9.0   | 3.0   |
| 3  | * 2.5   | 1.6     | 4.91    | 6.7     | 8.13    | 9.7     | * 8.8   | 27.4     | 17.7    | 3.6   | 7.5   | 2.8   |
| 4  | 2.9     | 1.5     | 2.80    | 6.4     | * 8.52  | 8.6     | 9.0     | 4.75     | 15.5    | 3.5   | 7.0   | 2.8   |
| 5  | 2.9     | 1.5     | 2.20    | 6.2     | 7.16    | 8.6     | 1.73    | 5.66     | 14.4    | 3.5   | * 5.4 | 2.6   |
| 6  | 2.7     | 1.5     | * 20.0  | 6.0     | 6.62    | 8.1     | 30.4    | * 6.35   | 13.3    | 3.2   | 5.6   | 2.6   |
| 7  | 2.7     | 1.4     | 15.5    | 5.7     | 4.96    | * 7.9   | 2.80    | 6.08     | * 12.3  | 3.0   | 5.6   | 2.5   |
| 8  | 3.1     | 1.3     | 13.0    | 5.5     | 5.03    | 7.9     | 2.10    | 4.75     | 12.3    | 3.0   | 5.6   | 2.5   |
| 9  | 2.4     | 1.6     | 11.4    | 5.5     | 4.12    | 7.5     | 1.73    | 3.40     | 12.6    | 2.7   | 5.6   | 2.3   |
| 10   | 13.5    | 2.4     | 10.3    | 5.2     | 3.70    | 7.3     | 1.60    | 2.80     | 12.3    | 2.7   | 4.6   | 2.3   |
| 11   | 4.62    | 3.5     | 8.8     | 4.3     | 3.10    | 7.2     | 1.48    | 2.62     | 10.8    | 2.6   | 4.2   | 2.2   |
| 12   | * 1.780 | 1.44    | 8.2     | 4.6     | 3.28    | 6.8     | 7.13    | 2.30     | 9.2     | 2.6   | 4.2   | 2.3   |
| 13   | 5.39    | 8.4     | 12.3    | 4.8     | 3.70    | 6.7     | 7.97    | 2.15     | 8.6     | 2.5   | 4.4   | 2.5   |
| 14   | 2.62    | * 6.0   | 2.10    | 4.5     | 2.92    | 6.7     | 2.030   | 2.15     | 8.8     | 2.4   | 4.4   | 2.6   |
| 15   | 1.82    | 4.8     | 6.34    | 4.4     | 2.50    | 6.6     | 8.03    | 2.40     | 8.8     | 2.4   | 4.2   | 2.6   |
| 16   | * 1.41  | 4.4     | 4.54    | 4.3     | 2.45    | 6.7     | * 5.50  | * 3.10   | 8.4     | 2.3   | 4.0   | 2.6   |
| 17   | 10.8    | 4.3     | 3.40    | 4.2     | 2.25    | 6.6     | * 3.98  | 3.91     | 8.6     | 2.2   | 4.0   | 2.6   |
| 18   | 9.2     | 4.1     | 2.62    | 4.2     | 2.10    | 6.1     | 3.16    | 4.61     | 8.1     | 2.2   | 3.8   | 2.5   |
| 19   | 7.7     | 3.8     | 20.5    | 4.0     | 2.00    | * 6.1   | 2.92    | 4.96     | 7.7     | 2.1   | 3.8   | 2.5   |
| 20   | 6.6     | 3.7     | 1.68    | 4.1     | 2.00    | 6.4     | 2.62    | 5.50     | 6.7     | 2.1   | 3.6   | 2.5   |
| 21   | 5.5     | 3.7     | 1.55    | 3.8     | 1.82    | 6.6     | 2.40    | 5.26     | 6.2     | 2.0   | 3.6   | 2.5   |
| 22   | 4.8     | 3.7     | 1.41    | 3.8     | 1.73    | 6.2     | 2.30    | 4.82     | 6.1     | 1.9   | 3.2   | 2.3   |
| 23   | 4.2     | 3.4     | 1.26    | 3.7     | 1.60    | 6.7     | 2.10    | 4.61     | 5.8     | 1.3   | 3.0   | 2.3   |
| 24   | 3.5     | 3.1     | 1.11    | 3.7     | 1.55    | 6.2     | * 2.00  | 4.54     | 5.3     | 1.7   | 2.8   | 2.6   |
| 25   | 3.2     | 3.2     | 10.3    | 3.7     | 1.44    | 5.8     | 1.91    | 4.33     | 4.8     | 1.6   | 2.8   | 2.5   |
| 26   | 3.0     | * 8.63  | 9.7     | 3.6     | * 1.44  | 6.0     | 1.78    | 3.91     | * 4.5   | 1.5   | 2.8   | 2.3   |
| 27   | 2.7     | 2.80    | 9.5     | 3.5     | 1.30    | 2.15    | 1.64    | 3.52     | 4.9     | 1.4   | * 2.8 | 2.2   |
| 28   | 2.4     | 1.86    | 8.8     | 3.4     | 1.23    | 1.82    | 1.78    | 3.22     | 5.0     | 1.3   | 2.6   | 2.1   |
| 29   | 2.2     | 1.48    | 8.4     | * 3.2   | -       | 1.41    | 2.20    | 3.40     | 5.0     | 1.3   | 2.5   | 2.1   |
| 30   | 2.0     | 1.33    | 7.9     | 4.1     | -----   | 1.49    | 2.86    | 3.58     | 4.8     | 1.2   | 2.5   | 2.1   |
| 31   | 1.9     | -----   | 7.5     | 4.57    | -----   | 1.41    | -----   | 2.80     | -----   | 1.1   | 3.0   | ----- |
| Total  | 4,243.0 | 2,519.9 | 6,224.4 | 1,866.6 | 9,842.2 | 2,734.4 | 1,009.5 | 11,994.4 | 2,945.5 | 733.3 | 138.1 | 74.3  |
| Mean   | 137     | 84.0    | 201     | 60.2    | 352     | 88.2    | 336     | 387      | 98.2    | 23.6  | 4.45  | 2.48  |
| Max  | 1,780   | 863     | 681     | 457     | 852     | 215     | 2,030   | 635      | 245     | 42    | 10    | 3.0   |
| Min  | 2.0     | 1.3     | 7.5     | 3.2     | 1.23    | 5.8     | 88      | 215      | 4.5     | 1.1   | 2.5   | 2.1   |
| Ac-ft  | 8,420   | 5,000   | 12,350  | 3,700   | 19,520  | 5,420   | 20,020  | 23,790   | 5,840   | 1,450 | 274   | 147   |
| Calendar year 1962: Max 1,780 Min 0.9 Mean 106 Ac-ft 77,100  |         |         |         |         |         |         |         |          |         |       |       |       |
| Water year 1962-63: Max 2,030 Min 2.0 Mean 146 Ac-ft 105,900 |         |         |         |         |         |         |         |          |         |       |       |       |

Peak discharge (base, 550 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1600 | 9.05        | 4,530     | 2-4  | 1800 | 7.81        | 1,190     |
| 11-26 | 0600 | 8.32        | 2,230     | 4-14 | 0700 | 8.81        | 3,570     |
| 12-2  | 1600 | 8.10        | 1,730     | 5-5  | 1500 | 7.38        | 662       |
| 12-15 | 0900 | 7.59        | 869       | 5-20 | 1900 | 7.31        | 608       |
| 2-1   | 1400 | 7.55        | 825       |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 13-23, July 11 to Aug. 4.

11-5186. Moffett Creek near Fort Jones, Calif.

Location.--Lat 41°38'02", long 122°44'50", in SE 1/4 sec. 27, T.44 N., R.8 W., on right bank 90 ft upstream from bridge, 500 ft upstream from Soap Creek, and 5.1 miles east of Fort Jones.

Drainage area.--69.8 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,940 ft (from topographic map). Prior to May 30, 1963, 90 ft downstream at datum 1.15 ft lower.

Average discharge.--5 years, 10.8 cfs (7,820 acre-ft per year).

Extremes.--Maximum discharge during year, 749 cfs Dec. 2 (gage height, 3.42 ft), from rating curve extended above 200 cfs; minimum daily, 0.5 cfs Sept. 16.

1958-63: Maximum discharge, that of Dec. 2, 1962; minimum daily, 0.1 cfs July 11, 1959, Aug. 5, 1960.

Flood of Jan. 29, 1958, reached a stage of 4.39 ft (discharge not determined).

Remarks.--Minor diversions upstream for irrigation.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                     | Oct.  | Nov.  | Dec.  | Jan.    | Feb.  | Mar.      | Apr.         | May   | June  | July  | Aug.  | Sept. |
|-------------------------|-------|-------|-------|---------|-------|-----------|--------------|-------|-------|-------|-------|-------|
| 1                       | 1.5   | 3.5   | 2.1   | 2.1     | 7.8   | 3.0       | 1.2          | 5.9   | 2.5   | 1.1   | 2.1   | 1.8   |
| 2                       | 1.6   | 3.5   | 2.0   | 2.0     | 8.3   | 3.0       | 1.3          | 5.8   | 2.4   | * 1.0 | 1.6   | 1.8   |
| 3                       | 1.7   | 3.6   | 2.1   | 2.2     | 2.9   | 3.0       | 1.2          | 5.7   | 2.3   | 1.0   | 1.3   | * 1.7 |
| 4                       | 1.6   | 3.6   | 1.2   | 2.1     | 2.7   | 2.8       | 1.2          | 6.0   | 2.3   | 9.9   | 1.2   | 1.4   |
| 5                       | 1.5   | 3.9   | 8.9   | 1.9     | 2.1   | 2.8       | 1.3          | 5.5   | 2.2   | 1.0   | 1.1   | 1.2   |
| 6                       | 1.5   | 3.9   | 6.6   | 1.8     | 1.6   | 2.8       | 2.1          | 5.3   | 2.2   | 1.0   | * 1.2 | 1.1   |
| 7                       | 1.6   | 3.6   | 5.0   | * 1.7   | 1.2   | 2.8       | 2.4          | * 5.1 | 2.1   | 1.0   | 1.3   | 1.2   |
| 8                       | 2.0   | 3.6   | 4.7   | 1.8     | 1.0   | 2.7       | 2.4          | 4.7   | 2.0   | 9.2   | 1.2   | 1.1   |
| 9                       | * 2.4 | 3.6   | 3.8   | 1.6     | 9.3   | 2.8       | 2.3          |       | 1.9   | 8.2   | 1.2   | .9    |
| 10                      | 2.6   | 3.6   | 3.4   | 1.5     | 8.1   | 2.6       | 2.3          |       | 1.9   | 8.0   | 1.1   | 1.2   |
| 11                      | 4.7   | 4.5   | 3.0   | 1.1     | * 6.9 | * 2.6     | 2.3          | 3.5   | 1.8   | 7.3   | 1.3   | 1.0   |
| 12                      | 1.3   | 6.1   | * 3.0 | 1.0     | 6.6   | 2.5       | 2.2          |       | 1.7   | 7.0   | 1.4   | .8    |
| 13                      | 2.1   | 6.1   | 2.7   | 8.0     | 5.6   | 2.4       | 2.1          |       | 1.7   | 6.9   | 1.4   | .7    |
| 14                      | 1.5   | * 6.3 | 2.6   | 9.7     | 5.1   | 2.4       | 2.8          |       | 1.6   | 6.4   | 1.4   | .7    |
| 15                      | 1.1   | 5.9   | 3.4   | 9.1     | 4.9   | 2.4       | 4.0          | 2.5   | 1.6   | 6.3   | 1.5   | .6    |
| 16                      | 8.2   | 5.1   | 3.8   | 8.3     | 5.0   | 2.4       | 1.0          | 2.5   | 1.6   | 6.1   | 1.7   | .5    |
| 17                      | 6.1   | 5.6   | 4.5   | 8.5     | 4.8   | 1.5       | 9.0          | 2.9   | 1.7   | 5.6   | 2.1   | .5    |
| 18                      | 5.4   | 4.8   | 4.2   | 7.4     | 4.5   | 1.3       | 8.0          | 3.2   | * 1.7 | 5.5   | 2.3   | .6    |
| 19                      | 5.3   | 4.7   | 4.0   | 7.1     | 4.6   | 1.2       | 8.0          | 3.0   | 1.6   | 5.4   | 2.4   | .5    |
| 20                      | 4.9   | 4.8   | 3.9   | 7.3     | 4.5   | 1.1       | 8.0          | 3.6   | 1.5   | 5.3   | 2.3   | .5    |
| 21                      | 4.5   | 5.0   | 3.8   | 6.6     | 4.5   | 1.1       | 8.0          | * 4.2 | 1.5   | 4.0   | 2.0   | .5    |
| 22                      | 4.3   | 5.1   | 3.6   | 6.6     | 4.3   | 1.0       | 8.0          | 4.0   | 1.5   | 2.2   | 2.0   | .6    |
| 23                      | 4.4   | 5.1   | 3.4   | 6.6     | 4.0   | 9.7       | 8.0          | 4.2   | 1.4   | 2.6   | 2.2   | .7    |
| 24                      | 3.9   | 4.7   | 3.2   | 5.9     | 3.7   | 9.1       | * 7.9        | 3.7   | 1.3   | 2.6   | 2.1   | .6    |
| 25                      | 3.7   | 4.5   | 2.9   | 5.9     | 3.6   | 9.1       | 8.6          | 3.4   | 1.1   | 3.0   | 1.5   | .6    |
| 26                      | 3.7   | 7.4   | 2.9   | 5.9     | 3.6   | 9.8       | 8.4          | 3.6   | 1.3   | 3.1   | 1.5   | .7    |
| 27                      | 4.1   | * 5.2 | 2.6   | 5.3     | 3.5   | 1.2       | 7.5          | 3.6   | 1.3   | 4.7   | 1.3   | .8    |
| 28                      | 3.9   | 3.8   | 2.5   | 5.3     | 3.3   | 1.2       | 7.1          | 2.8   | 1.3   | 3.6   | 1.3   | .8    |
| 29                      | 3.6   | 2.7   | 2.4   | 5.3     | ----- | 1.3       | 6.8          | 3.0   | 1.2   | 2.8   | 1.2   | .8    |
| 30                      | 3.6   | 2.3   | 2.3   | 5.4     | ----- | 1.3       | 6.4          | * 2.8 | 1.1   | 2.7   | 4.0   | 1.0   |
| 31                      | 3.4   | ----- | 2.3   | 3.3     | ----- | 1.3       | -----        | 2.5   | ----- | 2.9   | 2.6   | ----- |
| Total                   | 155.7 | 328.7 | 154.9 | 365.2   | 233.9 | 602.7     | 150.8        | 120.5 | 51.3  | 192.3 | 52.8  | 26.9  |
| Mean                    | 5.0   | 11.0  | 50.0  | 11.8    | 83.5  | 19.4      | 50.3         | 38.9  | 17.1  | 6.20  | 1.70  | 0.90  |
| Max                     | 21    | 74    | 211   | 33      | 294   | 30        | 100          | 60    | 25    | 11    | 4.0   | 1.8   |
| Min                     | 1.5   | 3.5   | 21    | 5.3     | 33    | 9.1       | 12           | 25    | 11    | 2.2   | 1.1   | 0.5   |
| Ac-ft                   | 309   | 652   | 3,070 | 724     | 4,640 | 1,200     | 2,990        | 2,390 | 1,020 | 381   | 105   | 53    |
| Calendar year 1962: Max | 211   |       |       | Min 0.5 |       | Mean 11.0 | Ac-ft 7,970  |       |       |       |       |       |
| Water year 1962-63: Max | 294   |       |       | Min 0.5 |       | Mean 24.2 | Ac-ft 17,530 |       |       |       |       |       |

\* Discharge measurement made on this day.

Note.--No gage-height record Apr. 15-23, May 9-14.

## KLAMATH RIVER BASIN

11-5195. Scott River near Fort Jones, Calif.

Location.--Lat 41°38'28", long 123°00'54", in NE 1/4 sec. 29, T. 44 N., R. 10 W., on right bank 1.7 miles upstream from Snow Creek and 10.8 miles downstream from Fort Jones.

Drainage area.--662 sq mi.

Records available.--December 1941 to September 1963. Monthly discharge only October to December 1941, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 2,625.80 ft above mean sea level (levels by Corps of Engineers).

Average discharge.--22 years, 643 cfs (465,500 acre-ft per year); median of yearly mean discharges, 560 cfs (405,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,500 cfs Dec. 3 (gage height, 13.22 ft); minimum daily, 55 cfs Sept. 4.

1941-63: Maximum discharge, 38,500 cfs Dec. 22, 1955 (gage height, 21.40 ft), from rating curve extended above 15,000 cfs on basis of slope-area measurement of peak flow; minimum, 20 cfs Sept. 14, 15, 1955.

Remarks.--Records good. Diversions for irrigation of about 30,000 acres above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Dec. 3)

Oct. 1 to Dec. 3

Dec. 3 to Sept. 30

|      |        |      |       |
|------|--------|------|-------|
| 2.1  | 64     | 2.1  | 51    |
| 3.0  | 210    | 3.0  | 194   |
| 4.0  | 450    | 3.5  | 310   |
| 5.0  | 870    | 4.0  | 460   |
| 6.0  | 1,550  | 5.0  | 845   |
| 8.0  | 3,850  | 6.0  | 1,420 |
| 10.0 | 6,800  | 8.0  | 3,330 |
| 12.0 | 10,600 | 10.0 | 5,920 |
|      |        | 12.0 | 9,400 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.    | Jan.   | Feb.    | Mar.   | Apr.   | May     | June   | July  | Aug.  | Sept. |
|-------|--------|--------|---------|--------|---------|--------|--------|---------|--------|-------|-------|-------|
| 1     | 70     | 289    | 1,280   | 636    | 6,860   | 814    | 736    | 1,390   | 1,080  | 255   | 91    | 58    |
| 2     | 70     | 277    | 5,490   | *620   | 5,120   | 780    | 680    | 1,340   | 1,000  | 229   | 88    | 58    |
| 3     | *70    | 266    | 9,740   | 616    | 8,350   | 764    | *644   | *1,440  | 900    | 218   | 85    | 57    |
| 4     | 71     | 255    | 3,770   | 600    | *7,570  | 732    | 624    | 1,590   | 800    | 218   | 82    | 55    |
| 5     | 71     | 253    | 2,560   | 572    | 5,830   | 708    | 824    | 1,920   | 736    | 236   | 79    | 57    |
| 6     | 70     | 249    | *1,940  | 548    | 4,190   | 692    | 2,920  | 2,420   | 704    | 206   | 76    | 57    |
| 7     | 70     | 241    | 1,560   | 526    | 3,370   | 676    | 2,620  | 2,530   | *648   | 190   | 73    | 58    |
| 8     | 71     | 235    | 1,350   | 512    | 2,750   | 656    | 1,930  | 2,230   | 604    | 190   | *71   | 57    |
| 9     | 462    | 253    | 1,200   | 498    | 2,390   | 636    | 1,560  | 1,780   | 590    | 178   | 71    | 59    |
| 10    | 1,620  | 330    | 1,080   | 481    | 2,070   | 612    | 1,340  | 1,520   | 604    | 171   | 71    | 61    |
| 11    | 1,880  | 374    | 990     | 436    | 1,800   | 593    | 1,200  | 1,370   | 576    | 163   | 72    | 59    |
| 12    | 5,060  | 1,370  | 930     | 367    | 1,660   | 579    | 1,370  | 1,260   | 558    | 162   | 73    | 59    |
| 13    | 6,780  | 1,430  | 930     | 367    | 1,800   | 558    | 1,890  | 1,180   | 530    | 158   | 71    | 58    |
| 14    | 2,830  | 860    | 994     | 400    | 1,540   | 562    | 2,970  | 1,150   | 534    | 155   | 69    | 58    |
| 15    | 1,590  | 685    | 2,260   | 403    | 1,360   | 554    | 3,450  | 1,170   | 537    | 151   | 68    | 58    |
| 16    | *1,110 | 586    | 2,810   | 397    | 1,360   | 565    | 2,350  | *1,230  | 520    | 146   | 65    | 58    |
| 17    | 870    | 534    | 2,070   | 382    | 1,400   | 551    | 1,890  | 1,460   | 520    | 143   | 64    | 59    |
| 18    | 735    | 495    | 1,660   | 376    | 1,280   | 523    | 1,630  | 1,840   | 495    | 139   | 62    | 61    |
| 19    | 650    | 459    | 1,380   | 358    | 1,340   | 509    | 1,570  | 2,080   | 451    | 136   | 64    | 61    |
| 20    | 602    | 432    | 1,210   | 346    | 1,240   | 509    | 1,400  | 2,400   | 418    | 133   | 62    | 59    |
| 21    | 558    | 435    | 1,100   | 349    | 1,170   | 502    | 1,280  | 2,480   | 397    | 128   | 61    | 61    |
| 22    | 507    | 450    | 1,020   | 349    | 1,080   | 484    | 1,230  | 2,270   | 385    | 125   | 61    | 66    |
| 23    | 471    | 447    | 955     | 337    | 1,020   | 481    | 1,170  | 2,090   | 382    | 122   | 61    | 71    |
| 24    | 435    | 405    | 872     | 337    | 960     | 470    | 1,160  | 1,910   | 361    | 119   | 62    | 73    |
| 25    | 408    | 388    | 804     | 331    | 915     | 454    | 1,180  | 1,680   | 328    | 115   | 61    | 73    |
| 26    | 382    | 2,790  | 764     | 322    | *940    | 470    | 1,120  | 1,480   | *305   | 112   | 61    | 72    |
| 27    | 362    | 3,710  | 732     | 313    | 881     | 586    | 1,050  | 1,370   | 295    | 109   | 59    | 69    |
| 28    | 345    | 1,800  | 712     | 305    | 845     | 895    | 1,040  | 1,250   | 288    | 106   | 59    | 68    |
| 29    | 330    | 1,280  | 680     | *313   | -----   | 804    | 1,120  | 1,230   | 282    | 102   | 59    | 68    |
| 30    | 310    | 1,110  | 664     | 349    | -----   | 784    | 1,240  | 1,300   | 275    | 98    | 59    | 66    |
| 31    | 297    | -----  | 656     | 1,410  | -----   | 784    | -----  | 1,180   | -----  | 96    | 59    | ----- |
| Total | 29,157 | 22,687 | 54,163  | 14,156 | 71,091  | 19,287 | 45,188 | 51,540  | 16,103 | 4,809 | 2,119 | 1,853 |
| Mean  | 941    | 756    | 1,747   | 457    | 2,539   | 622    | 1,506  | 1,663   | 537    | 155   | 68.4  | 61.8  |
| Max   | 6,780  | 3,710  | 9,740   | 1,410  | 8,350   | 895    | 3,450  | 2,530   | 1,080  | 255   | 91    | 73    |
| Min   | 70     | 235    | 656     | 305    | 845     | 454    | 624    | 1,150   | 275    | 96    | 59    | 55    |
| Ac-ft | 57,830 | 45,000 | 107,400 | 28,080 | 141,000 | 38,260 | 89,630 | 102,200 | 31,940 | 9,540 | 4,200 | 3,680 |

Calendar year 1962: Max 9,740 Min 41 Mean 636 Ac-ft 460,500  
Water year 1962-63: Max 9,740 Min 55 Mean 910 Ac-ft 650,800

Peak discharge (base, 2,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 1030 | 10.92       | 8,460     | 2-3  | 2000 | 12.88       | 11,300    |
| 11-12 | 2300 | 6.46        | 2,000     | 4-6  | 1600 | 8.08        | 3,420     |
| 11-26 | 2400 | 9.49        | 5,980     | 4-15 | 0200 | 8.71        | 4,170     |
| 12-3  | 0500 | 13.22       | 13,500    | 5-7  | 1000 | 7.33        | 2,620     |
| 12-15 | 2400 | 8.16        | 3,510     | 5-21 | 0400 | 7.43        | 2,720     |
| 2-1   | 1600 | 11.26       | 7,970     |      |      |             |           |

\* Discharge measurement made on this day.

Note.---No gage-height record July 12 to Aug. 8.

11-5205. Klamath River near Seiad Valley, Calif.

Location.--Lat. 41°51'20", long 123°13'50", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> Sec.3, T.46 N., R.12 W., on right bank 0.4 mile upstream from Bittenbender Creek, 1.4 miles downstream from Grider Creek, and 2.2 miles west of Seiad Valley.

Drainage area.--6,980 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--October 1912 to September 1925, July 1951 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 1,320 ft (from river-profile map). November 1912 to June 1925, staff gage at site  $3\frac{1}{2}$  miles upstream at different datum.

Average discharge.--25 years, 4,062 cfs (2,941,000 acre-ft per year).

Extremes.--Maximum discharge during year, 35,100 cfs Dec. 2 (gage height, 16.08 ft); minimum daily, 989 cfs July 30, 31.

1912-25, 1951-63: Maximum discharge, 122,000 cfs Dec. 22, 1955 (gage height, 29.2 ft, from floodmarks), from rating curve extended above 25,000 cfs on basis of slope-area measurements at gage-heights 20.1 and 29.2 ft; minimum daily, 320 cfs Nov. 25, 1917.

Remarks.--Records good. Flow considerably regulated by reservoirs and powerplants above station. Large diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 2

Dec. 3 to Sept. 30

|      |        |      |        |
|------|--------|------|--------|
| 3.7  | 1,880  | 2.7  | 940    |
| 4.0  | 2,190  | 3.0  | 1,170  |
| 5.0  | 3,500  | 4.0  | 2,100  |
| 7.0  | 6,800  | 5.0  | 3,320  |
| 9.0  | 11,200 | 6.0  | 4,840  |
| 11.0 | 16,900 | 7.0  | 6,540  |
| 12.0 | 19,900 | 9.0  | 10,800 |
|      |        | 11.0 | 16,500 |
|      |        | 14.0 | 26,900 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July   | Aug.   | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|---------|
| 1     | 1,960   | 3,370   | 6,060   | 4,790   | 15,600  | 5,260   | *4,550  | 6,200   | 3,720   | *1,580 | 1,170  | 1,510   |
| 2     | *1,970  | 3,580   | 18,100  | 4,780   | 13,900  | 5,160   | 4,550   | *6,220  | 3,530   | 1,540  | 1,310  | 1,580   |
| 3     | 1,980   | 3,370   | 25,000  | *4,740  | 20,200  | 4,780   | 4,310   | 6,410   | 3,320   | 1,490  | 1,290  | 1,580   |
| 4     | 1,980   | 2,950   | *13,100 | 4,680   | 19,300  | 4,330   | 4,020   | 6,520   | 2,880   | 1,460  | 1,290  | 1,570   |
| 5     | 1,980   | 2,910   | 9,710   | 4,740   | 15,100  | 4,810   | 4,020   | 7,140   | 2,720   | 1,410  | 1,300  | 1,560   |
| 6     | 1,980   | 3,390   | 8,320   | 4,180   | 10,900  | 4,970   | 7,700   | 7,660   | 2,500   | 1,410  | 1,300  | *1,590  |
| 7     | 2,000   | 3,390   | 7,500   | 3,720   | 8,910   | 4,900   | 8,540   | 8,140   | 2,410   | 1,420  | *1,310 | 1,590   |
| 8     | 2,100   | 3,490   | 6,950   | 4,200   | 7,240   | 4,820   | 7,820   | 7,640   | 2,360   | 1,430  | 1,330  | 1,560   |
| 9     | 3,420   | 3,600   | 6,540   | 4,030   | 6,580   | 4,600   | 7,120   | 7,180   | 2,280   | 1,450  | 1,350  | 1,540   |
| 10    | 5,240   | 3,640   | 6,180   | 3,930   | 5,910   | 3,820   | 6,860   | 6,860   | 2,250   | 1,340  | 1,380  | 1,540   |
| 11    | 5,950   | 3,540   | 5,940   | 3,820   | 5,400   | 3,290   | 6,720   | 7,280   | 2,230   | 1,310  | 1,360  | 1,530   |
| 12    | 5,540   | 5,320   | 5,670   | 3,540   | 5,080   | 3,530   | 6,650   | 7,460   | 2,180   | 1,290  | 1,310  | 1,530   |
| 13    | 14,800  | 5,610   | *5,550  | 3,380   | 5,330   | 3,900   | 6,900   | 7,240   | 2,130   | 1,270  | 1,260  | 1,540   |
| 14    | 2,070   | 5,050   | 5,790   | 3,490   | 5,300   | 4,100   | 7,750   | 6,410   | 2,090   | 1,200  | 1,250  | 1,560   |
| 15    | 7,000   | 4,670   | 7,410   | 3,740   | 5,000   | 4,330   | 9,650   | 6,360   | 2,060   | 1,200  | 1,250  | 1,570   |
| 16    | 6,370   | 4,360   | 9,180   | 3,400   | 4,970   | 4,330   | 8,630   | 6,220   | 2,000   | 1,200  | 1,260  | 1,580   |
| 17    | 5,410   | 4,240   | 8,230   | 3,260   | 5,060   | 3,870   | 8,610   | 6,490   | 1,940   | 1,190  | 1,260  | 1,800   |
| 18    | 4,700   | 3,860   | 7,880   | 3,120   | 4,920   | 3,320   | 8,190   | 6,810   | 1,910   | 1,180  | 1,230  | 1,800   |
| 19    | 4,490   | 2,970   | 7,340   | 2,770   | 4,970   | 4,140   | 8,360   | 6,720   | 1,880   | 1,140  | 1,230  | 1,940   |
| 20    | 4,410   | 3,950   | 7,080   | 2,660   | 5,280   | 4,360   | 8,410   | 6,810   | 1,820   | 1,110  | 1,240  | 1,950   |
| 21    | 4,300   | 4,130   | 6,340   | 2,650   | 6,180   | 4,360   | 8,470   | 6,760   | 1,760   | 1,080  | 1,240  | 1,970   |
| 22    | 4,250   | 4,220   | 5,960   | 2,690   | 6,010   | 4,180   | 8,630   | 6,230   | 1,820   | 1,070  | 1,230  | 1,970   |
| 23    | 4,100   | 4,120   | 5,620   | 2,670   | 5,810   | 3,900   | 8,610   | 6,470   | 1,820   | 1,070  | 1,210  | 1,960   |
| 24    | 3,960   | 4,250   | 5,430   | 2,630   | 5,330   | 3,750   | 8,670   | 6,450   | 1,980   | 1,050  | 1,230  | 1,960   |
| 25    | 3,740   | 4,240   | 5,160   | 2,380   | 5,050   | 3,320   | 8,670   | 6,030   | 2,040   | 1,050  | 1,220  | 1,950   |
| 26    | 3,840   | 8,410   | 4,920   | 2,280   | 5,570   | 3,380   | 7,560   | 5,500   | 1,800   | 1,040  | 1,230  | 1,880   |
| 27    | 3,830   | 10,200  | 5,160   | 2,240   | *5,380  | 3,460   | 6,880   | 5,400   | 1,660   | 1,060  | 1,230  | 1,810   |
| 28    | 3,660   | 7,280   | 5,130   | 2,230   | 5,520   | 4,330   | 6,450   | 5,580   | 1,660   | 1,000  | 1,230  | 1,830   |
| 29    | 3,660   | 6,310   | 4,940   | 2,260   | 4,860   | 4,860   | 6,360   | 5,240   | 1,670   | 1,000  | 1,230  | 1,920   |
| 30    | 3,740   | 5,950   | 4,810   | 2,400   | -----   | 4,810   | 6,180   | 4,970   | 1,640   | 989    | 1,250  | 1,920   |
| 31    | 3,650   | -----   | 4,810   | *4,480  | -----   | 4,730   | -----   | 4,340   | -----   | 989    | 1,300  | -----   |
| Total | 139,180 | 136,370 | 235,810 | 105,880 | 219,800 | 131,700 | 215,840 | 200,740 | 66,060  | 38,018 | 39,280 | 51,590  |
| Mean  | 4,490   | 4,546   | 7,607   | 3,415   | 7,850   | 4,248   | 7,195   | 6,475   | 2,202   | 1,226  | 1,267  | 1,720   |
| Max   | 14,900  | 10,200  | 25,000  | 4,790   | 20,200  | 5,260   | 9,650   | 8,140   | 3,720   | 1,580  | 1,380  | 1,970   |
| Min   | 1,960   | 2,910   | 4,810   | 2,230   | 4,920   | 3,290   | 4,020   | 4,340   | 1,640   | 989    | 1,170  | 1,510   |
| Ac-ft | 276,100 | 270,500 | 467,700 | 210,000 | 436,000 | 261,200 | 428,100 | 398,200 | 131,000 | 75,410 | 77,910 | 102,300 |

Calendar year 1961: Max 25,000 Min 991 Mean 3,388 Ac-ft 2,453,000  
 Water year 1961-62: Max 25,000 Min 989 Mean 4,330 Ac-ft 3,134,000

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5215. Indian Creek near Happy Camp, Calif.

Location.--Lat 41°50'50", long 123°23'10", in SE $\frac{1}{4}$  sec.22, T.17 N., R.7 E., on left bank 1.5 miles upstream from Slater Creek, 3.8 miles north of Happy Camp, and 4.5 miles upstream from mouth.

Drainage area.--118 sq mi.

Records available.--September 1911 to September 1921 (fragmentary), December 1956 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 1,300 ft (from topographic map). Prior to December 1956, staff gages at sites 0.25 mile upstream at different datums.

Average discharge.--9 years (1911-14, 1957-63), 420 cfs (304,100 acre-ft per year).

Extremes.--Maximum discharge during year, 9,570 cfs Dec. 2 (gage height, 19.34 ft); minimum daily, 46 cfs Oct. 6.

1911-21, 1956-63: Maximum discharge, 14,400 cfs Jan. 12, 1959 (gage height, 23.54 ft), from rating curve extended above 4,800 cfs on basis of slope-area measurement at 23,000 cfs; minimum observed, 20 cfs Aug. 19 to Sept. 6, 1914.

Flood of Dec. 21, 1955, reached a stage of 29.0 ft, from floodmarks (discharge, 23,000 cfs on basis of slope-area measurement of peak flow).

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-4, 7, 8, Apr. 15 to May 5,  
May 8 to June 5, 10, Aug. 29 to Sept. 30)

| Oct. 1 to Dec. 2   |     |      |       | Dec. 2 to Feb. 3 |       |
|--------------------|-----|------|-------|------------------|-------|
| Feb. 3 to Sept. 30 |     |      |       |                  |       |
| 0.4                | 44  | 3.0  | 385   | 2.4              | 98    |
| .6                 | 51  | 5.0  | 950   | 2.8              | 150   |
| .9                 | 67  | 8.0  | 1,900 | 3.2              | 220   |
| 1.2                | 91  | 11.0 | 3,150 | 4.0              | 384   |
| 1.5                | 123 | 15.0 | 5,600 | 6.0              | 930   |
| 2.0                | 191 |      |       | 9.0              | 2,110 |
|                    |     |      |       | 13.0             | 4,250 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.    | Feb.    | Mar.   | Apr.   | May     | June   | July  | Aug.  | Sept. |
|-------|--------|--------|--------|---------|---------|--------|--------|---------|--------|-------|-------|-------|
| 1     | 51     | 98     | 643    | 215     | 3,670   | 365    | * 896  | 698     | 390    | 154   | 81    | 54    |
| 2     | 50     | 94     | 5,560  | 209     | * 1,730 | 352    | 716    | * 868   | 365    | 151   | 80    | 54    |
| 3     | * 55   | 91     | 2,340  | 225     | * 3,820 | 336    | 659    | * 1,060 | 344    | 147   | 80    | 53    |
| 4     | 51     | 90     | 1,120  | * 209   | 2,640   | 324    | 620    | 896     | 332    | 147   | 77    | 52    |
| 5     | 48     | 92     | * 816  | 197     | 1,990   | 312    | 1,110  | 2,100   | 324    | 143   | 76    | 51    |
| 6     | 46     | 87     | 654    | 189     | 1,470   | 302    | 1,760  | 2,340   | * 310  | 140   | 75    | 53    |
| 7     | 58     | 85     | 550    | 180     | 1,160   | 292    | 1,590  | 2,060   | 292    | 138   | 73    | 53    |
| 8     | 161    | 84     | 480    | 173     | 983     | 280    | 1,320  | 1,540   | 284    | 136   | * 73  | 51    |
| 9     | 1,150  | 149    | 426    | 170     | 848     | 270    | 1,120  | 1,220   | 284    | 131   | 73    | 51    |
| 10    | 980    | 131    | 393    | 163     | 761     | 256    | 1,010  | 1,040   | 268    | 129   | 73    | 51    |
| 11    | 1,590  | 246    | 355    | 153     | 662     | 249    | 890    | 956     | 262    | 124   | 71    | 50    |
| 12    | 2,020  | 842    | 338    | 140     | 671     | 240    | 1,200  | 857     | 258    | 121   | 68    | 49    |
| 13    | 1,330  | 522    | 355    | 144     | 872     | 235    | 1,580  | 788     | 247    | 118   | 66    | 49    |
| 14    | 1,080  | 330    | 333    | 145     | 746     | 247    | 2,550  | 782     | 228    | 113   | 66    | 49    |
| 15    | 824    | 253    | 865    | 140     | 656     | 240    | 1,950  | * 818   | 216    | 112   | 66    | 51    |
| 16    | 535    | 235    | 678    | 137     | 614     | 247    | 1,410  | 857     | 205    | 110   | 65    | 51    |
| 17    | 398    | 226    | 550    | 131     | 572     | 233    | 1,120  | 989     | 197    | 109   | 63    | 49    |
| 18    | * 320  | 226    | 482    | 128     | 728     | * 226  | * 953  | 1,070   | 188    | 108   | 62    | 49    |
| 19    | 284    | 214    | 430    | 124     | 752     | 229    | 878    | 1,110   | 175    | 105   | 62    | * 47  |
| 20    | 247    | 224    | 393    | 123     | 671     | 240    | 776    | 1,120   | 172    | 102   | 61    | 47    |
| 21    | 210    | 235    | 366    | 120     | 602     | 255    | 710    | 1,050   | 173    | 101   | 60    | 47    |
| 22    | 186    | 276    | 340    | 118     | 550     | 264    | 665    | 977     | 190    | 99    | 59    | 48    |
| 23    | 168    | 238    | 316    | 114     | 510     | 276    | 659    | 854     | 184    | 98    | 60    | 50    |
| 24    | 154    | 205    | 294    | 113     | 478     | 264    | 647    | 752     | 175    | 96    | 59    | 50    |
| 25    | 140    | 356    | 276    | 110     | 455     | 253    | 638    | 677     | 168    | 95    | 59    | 49    |
| 26    | 131    | 2,680  | 264    | 108     | 462     | 318    | 614    | 608     | 165    | 92    | 58    | 49    |
| 27    | 124    | 1,050  | 252    | 105     | 415     | 712    | 587    | 542     | * 163  | 89    | 57    | 49    |
| 28    | 118    | 680    | 240    | 104     | 395     | 946    | 602    | 505     | 178    | 87    | 56    | 48    |
| 29    | 111    | 512    | 233    | 113     | -----   | 1,270  | 671    | 480     | 170    | 86    | 56    | 49    |
| 30    | 105    | 535    | 240    | 158     | -----   | 1,620  | 707    | 452     | 161    | 84    | 54    | 48    |
| 31    | 101    | -----  | 225    | * 2,270 | -----   | 1,260  | -----  | 422     | -----  | 83    | 54    | ----- |
| Total | 12,826 | 11,086 | 20,807 | 6,728   | 29,883  | 12,913 | 30,608 | 30,488  | 7,068  | 3,548 | 2,043 | 1,501 |
| Mean  | 414    | 370    | 671    | 217     | 1,067   | 417    | 1,020  | 983     | 236    | 114   | 65.9  | 50.0  |
| Max   | 2,020  | 2,680  | 5,560  | 2,270   | 3,820   | 1,620  | 2,550  | 2,340   | 390    | 154   | 81    | 54    |
| Min   | 46     | 84     | 225    | 104     | 395     | 226    | 587    | 422     | 161    | 83    | 54    | 47    |
| Ac-ft | 25,440 | 21,990 | 41,270 | 13,340  | 59,270  | 25,610 | 60,730 | 60,470  | 14,020 | 7,040 | 4,050 | 2,980 |

Calendar year 1962: Max 5,560 Min 37 Mean 358 Ac-ft 259,200  
Water year 1962-63: Max 5,560 Min 46 Mean 464 Ac-ft 336,200

Peak discharge (base, 2,000 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1730 | 12.12       | 3,720     | 2-3  | 1200 | 14.15       | 5,000     |
| 11-26 | 0500 | 13.27       | 4,410     | 4-14 | 1000 | 10.22       | 2,760     |
| 12-2  | 1200 | 19.34       | 9,570     | 5-5  | 1300 | 10.50       | 2,900     |
| 1-31  | 2400 | 15.12       | 5,700     |      |      |             |           |

11-5222. Elk Creek near Happy Camp, Calif.

Location.--Lat 41°44'40", long 123°20'50", in NE $\frac{1}{4}$  sec.36, T.16 N., R.7 E., on left bank 0.15 mile downstream from East Fork, 4 miles upstream from mouth, and 4 miles south of Happy Camp.

Drainage area.--91.1 sq mi.

Records available.--October 1956 to September 1963. Monthly discharge only for October 1956, published in WSP 1735.

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

Average discharge.--7 years, 223 cfs (161,400 acre-ft per year).

Extremes.--Maximum discharge during year, 4,370 cfs Dec. 2 (gage height, 7.90 ft); minimum daily, 30 cfs Oct. 6.

1956-63: Maximum discharge, that of Dec. 2, 1962; minimum, 25 cfs Sept. 18, 1962.

Flood of Dec. 21, 1955, reached a stage of 15.3 ft, from floodmarks (discharge, 14,400 cfs on basis of slope-area measurement of peak flow).

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |       |
|-----|-----|-----|-------|
| 2.4 | 24  | 4.0 | 420   |
| 2.6 | 42  | 4.5 | 690   |
| 3.0 | 105 | 5.0 | 1,080 |
| 3.5 | 222 | 7.0 | 3,290 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.   | Nov.   | Dec.   | Jan.  | Feb.   | Mar.   | Apr.   | May     | June   | July  | Aug.  | Sept. |
|---------------------|--------|--------|--------|-------|--------|--------|--------|---------|--------|-------|-------|-------|
| 1                   | 32     | 85     | 394    | 153   | 1,730  | 219    | *430   | 450     | 339    | 115   | 62    | 43    |
| 2                   | *34    | 82     | 2,830  | 148   | 1,000  | 211    | 352    | 445     | 306    | 111   | 61    | 42    |
| 3                   | 41     | 78     | 1,530  | 153   | *2,290 | 205    | 318    | *490    | 279    | 107   | 60    | 41    |
| 4                   | 34     | 78     | 830    | *142  | 1,620  | 197    | 298    | 470     | 261    | 107   | 58    | 40    |
| 5                   | 32     | 84     | *608   | 138   | 1,240  | 192    | 500    | 890     | 251    | 105   | 56    | 39    |
| 6                   | 30     | 78     | 490    | 133   | 955    | 186    | 1,260  | 1,060   | *238   | 103   | 56    | 40    |
| 7                   | 33     | 73     | 411    | 129   | 725    | 182    | 998    | 1,060   | 225    | 101   | *56   | 40    |
| 8                   | 70     | 75     | 352    | 127   | 603    | 174    | 760    | 802     | 216    | 100   | 56    | 39    |
| 9                   | 707    | 129    | 306    | 123   | 510    | 172    | 642    | 654     | 211    | 94    | 58    | 38    |
| 10                  | 520    | 119    | 276    | 119   | 450    | 162    | 570    | 586     | 205    | 92    | 56    | 38    |
| 11                  | 1,170  | 197    | 248    | 111   | 393    | 158    | 495    | 542     | 197    | 92    | 55    | 39    |
| 12                  | 1,460  | 838    | 232    | 105   | 411    | 153    | 548    | 500     | 192    | 91    | 54    | 39    |
| 13                  | 817    | 413    | 265    | 111   | 475    | 148    | 678    | 475     | 184    | 87    | 52    | 40    |
| 14                  | 495    | 276    | 237    | 109   | 411    | 151    | 958    | 465     | 179    | 87    | 51    | 40    |
| 15                  | 352    | 228    | 752    | 105   | 380    | 146    | 958    | 485     | 172    | 85    | 52    | 41    |
| 16                  | 268    | 205    | 563    | 101   | 370    | 153    | 781    | 520     | 164    | 85    | 51    | 41    |
| 17                  | 225    | 192    | 470    | 100   | 348    | 144    | 666    | 619     | 158    | 84    | 51    | 41    |
| 18                  | *200   | 179    | 398    | 98    | 357    | 138    | 592    | 732     | 151    | 84    | 50    | 41    |
| 19                  | 186    | 169    | 348    | 94    | 362    | *138   | 542    | 683     | 146    | 82    | 50    | 40    |
| 20                  | 174    | 167    | 310    | 94    | 348    | 140    | 490    | 910     | 142    | 80    | 50    | *40   |
| 21                  | 160    | 167    | 279    | 94    | 318    | 140    | 460    | 854     | 140    | 78    | 48    | 40    |
| 22                  | 148    | 182    | 258    | 92    | 290    | 138    | 430    | 732     | 151    | 77    | 48    | 38    |
| 23                  | 138    | 164    | 238    | 91    | 276    | 140    | 416    | 684     | 144    | 75    | 48    | 39    |
| 24                  | 127    | 151    | 216    | 89    | 261    | 133    | 411    | 619     | 136    | 73    | 47    | 39    |
| 25                  | 121    | 183    | 205    | 87    | 258    | 131    | 406    | 558     | 129    | 73    | 47    | 39    |
| 26                  | 115    | 1,390  | 194    | 87    | 258    | 162    | 388    | 495     | 127    | 72    | 46    | 38    |
| 27                  | 107    | 628    | 186    | 85    | 238    | 344    | 375    | 460     | *121   | 70    | 45    | 37    |
| 28                  | 101    | 445    | 179    | 84    | *229   | 406    | 380    | 445     | 127    | 68    | 43    | 36    |
| 29                  | 96     | 352    | 169    | 87    | -----  | 430    | 406    | 430     | 125    | 67    | 43    | 36    |
| 30                  | 92     | 352    | 167    | *115  | -----  | 564    | 445    | 402     | 121    | 64    | 43    | 36    |
| 31                  | 87     | -----  | 162    | 1,220 | -----  | 548    | -----  | 366     | -----  | 62    | 45    | ----- |
| Total               | 8,172  | 7,759  | 14,103 | 4,524 | 17,106 | 6,505  | 16,953 | 18,883  | 5,537  | 2,671 | 1,598 | 1,180 |
| Mean                | 264    | 259    | 455    | 146   | 611    | 210    | 565    | 609     | 185    | 86.2  | 51.5  | 39.3  |
| Max                 | 1,460  | 1,390  | 2,830  | 1,220 | 2,290  | 564    | 1,260  | 1,060   | 339    | 115   | 62    | 43    |
| Min                 | 30     | 73     | 162    | 84    | 229    | 131    | 298    | 366     | 121    | 62    | 43    | 36    |
| Ac-ft               | 16,210 | 15,390 | 27,970 | 8,970 | 33,930 | 12,900 | 33,630 | 37,450  | 10,980 | 5,300 | 3,170 | 2,340 |
| Calendar year 1962: | Max    | 2,830  | Min    | 26    | Mean   | 199    | Ac-ft  | 144,400 |        |       |       |       |
| Water year 1962-63: | Max    | 2,830  | Min    | 30    | Mean   | 288    | Ac-ft  | 208,200 |        |       |       |       |

Peak discharge (base, 800 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-9  | 0900 | 4.92        | 1,010     | 1-31 | 1930 | 6.57        | 2,770     |
| 10-12 | 1730 | 6.54        | 2,740     | 2-3  | 0800 | 6.56        | 2,760     |
| 11-12 | 1100 | 5.42        | 1,480     | 4-6  | 0530 | 5.47        | 1,530     |
| 11-26 | 0800 | 6.26        | 2,400     | 4-14 | 2130 | 5.02        | 1,100     |
| 12-2  | 1400 | 7.90        | 4,370     | 5-7  | 0330 | 5.12        | 1,190     |
| 12-15 | 1300 | 4.85        | 950       | 5-20 | 2130 | 4.98        | 1,060     |

\* Discharge measurement made on this day.

## KIAMATH RIVER BASIN

11-5222.6. T1 Creek near Somesbar, Calif.

Location.--Lat 41°31'30", long 123°31'35", (unsurveyed), on left bank at T1 Bar School, 0.1 mile upstream from mouth, and 10.5 miles north of Somesbar, Siskiyou County.

Drainage area.--9.46 sq mi.

Records available.--September 1960 to September 1963.

Gage.--Water-stage recorder, crest-stage gage, and float-operated rain gage. Altitude of gage is 700 ft (from topographic map).

Extremes.--Maximum discharge during year, 484 cfs Dec. 2 (gage height, 3.66 ft); minimum daily, 3 cfs Oct. 30 to Nov. 10.  
1960-63: Maximum discharge, that of Dec. 2, 1962 (gage height, 3.66 ft); minimum daily, that of Oct. 30 to Nov. 10, 1962.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 27, July 9 to Sept. 22)

|     |     |     |     |
|-----|-----|-----|-----|
| 1.3 | 2.0 | 1.8 | 34  |
| 1.4 | 7.0 | 2.2 | 82  |
| 1.6 | 19  | 2.9 | 225 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | *6.5  | 3     | 40    | 20    | *136  | 25    | 80    | 49    | 30    | 20   | *12  | 10    |
| 2     | 10    | 3     | 219   | 19    | 69    | 25    | 70    | 52    | 29    | 20   | 12   | 10    |
| 3     | 8.2   | 3     | 119   | 19    | 164   | 25    | 60    | *61   | 28    | 20   | 12   | 9.4   |
| 4     | 7.0   | 3     | 68    | 18    | 100   | 25    | 50    | 55    | 28    | 20   | 12   | 9.4   |
| 5     | 7.0   | 3     | 51    | 17    | 75    | 24    | 70    | 57    | 27    | 20   | 12   | 10    |
| 6     | 7.0   | 3     | 41    | 17    | 62    | 23    | 120   | 60    | 27    | 19   | 12   | 10    |
| 7     | 11    | 3     | 35    | 17    | 49    | 23    | 110   | 60    | 26    | 19   | 12   | 9.4   |
| 8     | 13    | 3     | 31    | 17    | 43    | 23    | 90    | 60    | 25    | 19   | 12   | 9.4   |
| 9     | 52    | 3     | 28    | 17    | 37    | 22    | 80    | 60    | 25    | 18   | 12   | 9.4   |
| 10    | 45    | 3     | 26    | 16    | 32    | 21    | 70    | 60    | 25    | 17   | 12   | 9.4   |
| 11    | 76    | 10    | 23    | 16    | 29    | 21    | 70    | 50    | 25    | 16   | 11   | 9.4   |
| 12    | 71    | 38    | 23    | 15    | 36    | 20    | 80    | 50    | 24    | 15   | 11   | 9.4   |
| 13    | 45    | 32    | 25    | 15    | 50    | 20    | 100   | 50    | 23    | 15   | 11   | 9.4   |
| 14    | 50    | 27    | 25    | 15    | 37    | 21    | 110   | 50    | 23    | 15   | 11   | 9.4   |
| 15    | 32    | 23    | 73    | 15    | 33    | 20    | 100   | 40    | 23    | 15   | 11   | 10    |
| 16    | 23    | 20    | 50    | 15    | 36    | 21    | 90    | 40    | 23    | 15   | 11   | 10    |
| 17    | 20    | 18    | 39    | 15    | 32    | 20    | 80    | 40    | 23    | 15   | 11   | 10    |
| 18    | 11    | 16    | 32    | 15    | 29    | 20    | 70    | 40    | 23    | 15   | 11   | 9.4   |
| 19    | 8     | 14    | 29    | 15    | 28    | 20    | 70    | 40    | 22    | 15   | 10   | 8.8   |
| 20    | 7     | 13    | 26    | 14    | 28    | 20    | 65    | 35    | 22    | 15   | 11   | 8.8   |
| 21    | 6     | 12    | 25    | 14    | 28    | 20    | 60    | 35    | 22    | 14   | 11   | 8.8   |
| 22    | 5     | 11    | 24    | 14    | 28    | 20    | 60    | 35    | 23    | 14   | 11   | 10    |
| 23    | 5     | 11    | 23    | *14   | 28    | 20    | 60    | 35    | 22    | 14   | 10   | 10    |
| 24    | 4.5   | 11    | 23    | 13    | 26    | 20    | 60    | 35    | 21    | 14   | 11   | 10    |
| 25    | 4     | 10    | 22    | 13    | 27    | 19    | 60    | 35    | 21    | 14   | 10   | 10    |
| 26    | 4     | 66    | 21    | 13    | 27    | 24    | 60    | 35    | *21   | 14   | 11   | 10    |
| 27    | 3.5   | 50    | 21    | 13    | 26    | 64    | 60    | *35   | 21    | 14   | *10  | 9     |
| 28    | 3.5   | 25    | 21    | 13    | *26   | *64   | 60    | 34    | 22    | 14   | 10   | 9     |
| 29    | 3.5   | *25   | *22   | 14    | ----- | 80    | 60    | 32    | 21    | 13   | 10   | 8     |
| 30    | 3     | 30    | 23    | 20    | ----- | 90    | *54   | 32    | 21    | 13   | 10   | *8    |
| 31    | 3     | ----- | 21    | 143   | ----- | 85    | ----- | 31    | ----- | 12   | 10   | ----- |
| Total | 554.7 | 492   | 1,249 | 611   | 1,321 | 945   | 2,229 | 1,383 | 716   | 493  | 343  | 283.8 |
| Mean  | 17.9  | 16.4  | 40.3  | 19.7  | 47.2  | 30.5  | 74.3  | 44.6  | 23.9  | 15.9 | 11.1 | 9.46  |
| Max   | 76    | 66    | 219   | 143   | 164   | 90    | 120   | 61    | 30    | 20   | 12   | 10    |
| Min   | 3     | 3     | 21    | 13    | 26    | 19    | 50    | 31    | 21    | 12   | 10   | 8     |
| Ac-ft | 1,100 | 976   | 2,480 | 1,210 | 2,620 | 1,870 | 4,420 | 2,740 | 1,420 | 978  | 680  | 563   |
| (†)   | 12.6  | 8.8   | 7.8   | 5.4   | 7.0   | 8.8   | 11.0  | 3.1   | 0.2   | 0    | 0    | 0.2   |

Calendar year 1962: Max 219 Min 3 Mean 21.1 Ac-ft 15,250  
Water year 1962-63: Max 219 Min 3 Mean 29.1 Ac-ft 21,060

Peak discharge (base, 120 cfs)

| Date  | Time | Gage height | Discharge | Date | Time    | Gage height | Discharge |
|-------|------|-------------|-----------|------|---------|-------------|-----------|
| 10-11 | 1100 | 2.67        | 170       | 2-3  | 1300    | 2.77        | 212       |
| 12-2  | 1300 | 3.66        | 484       | 4-6  | unknown | 2.77        | 195       |
| 1-31  | 1800 | 3.05        | 265       |      |         |             |           |

\* Discharge measurement made on this day.

† Precipitation, in inches.

Note.--No gage-height record Oct. 19 to Dec. 1, Mar. 29 to Apr. 29, May 5-27, Sept. 23-30.



11-5223. South Fork Salmon River near Forks of Salmon, Calif.

Location.--Lat 41°13'20", long 123°15'00", in SE $\frac{1}{4}$  sec.30, T.39 N., R.12 W., on left bank 100 ft downstream from Methodist Creek and 4.5 miles southeast of town of Forks of Salmon.

Drainage area.--252 sq mi.

Records available.--Occasional low-flow measurements, water years 1953-57 and annual maximum, water years 1954-57. August 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,450 ft (from topographic map). Sept. 13, 1953, to Aug. 23, 1957, crest-stage gage only, at datum 6.66 ft higher.

Average discharge.--6 years, 499 cfs (361,300 acre-ft per year).

Extremes.--Maximum discharge during year, 10,600 cfs Dec. 2 (gage height, 12.58 ft); minimum, 38 cfs Sept. 27-30.

1953-63: Maximum discharge, 24,200 cfs Dec. 22, 1955 (gage height, 18.86 ft, from floodmarks, present datum), on basis of slope-area measurement of peak flow.

1957-63: Minimum discharge, 28 cfs Oct. 4, 5, 1960.

Remarks.--Records good except those for periods of ice effect, which are fair. No regulation or diversion above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Mar. 19 to Apr. 5)

Oct. 1 to Dec. 2

Dec. 3 to Sept. 30

|     |     |      |       |     |     |      |       |
|-----|-----|------|-------|-----|-----|------|-------|
| 3.7 | 43  | 5.8  | 1,020 | 3.2 | 38  | 5.0  | 720   |
| 3.8 | 62  | 7.0  | 2,110 | 3.6 | 98  | 6.0  | 1,570 |
| 4.1 | 135 | 9.0  | 4,700 | 4.0 | 205 | 8.0  | 3,850 |
| 4.5 | 265 | 11.0 | 7,800 | 4.5 | 420 | 10.0 | 6,500 |
| 5.0 | 490 |      |       |     |     |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE   | JULY   | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|
| 1     | 47     | 171    | 676    | 300    | 4,840  | *470   | 860    | *1,290 | 755    | 256    | 98    | 62    |
| 2     | *49    | 165    | 6,380  | 292    | 2,600  | 450    | 706    | 1,190  | 692    | 264    | 96    | 61    |
| 3     | 58     | 156    | 4,420  | 288    | 5,320  | 430    | 608    | 1,300  | 602    | 260    | 93    | 57    |
| 4     | 53     | 153    | *2,200 | 276    | 3,870  | 400    | 578    | 1,370  | 536    | 264    | 91    | 55    |
| 5     | 51     | 153    | 1,540  | 260    | 2,990  | 385    | 1,470  | 1,610  | 548    | 252    | 89    | 54    |
| 6     | 49     | 153    | 1,210  | 248    | 2,310  | 365    | 3,320  | 1,680  | 506    | 264    | 87    | 54    |
| 7     | 51     | 144    | 988    | 240    | 1,730  | 350    | 2,520  | 1,670  | 476    | 260    | 85    | 54    |
| 8     | 101    | 141    | 846    | 233    | 1,510  | 335    | 1,880  | 1,490  | 482    | 244    | 84    | 51    |
| 9     | 1,040  | 168    | 748    | 230    | 1,290  | 320    | 1,540  | 1,240  | 488    | 226    | 89    | 48    |
| 10    | 2,310  | 213    | 657    | 216    | 1,330  | 300    | 1,310  | 1,080  | 518    | 219    | 89    | 46    |
| 11    | 2,800  | 380    | 596    | B192   | 1,050  | 292    | 1,130  | 996    | 460    | 223    | 82    | 47    |
| 12    | 5,780  | 1,260  | 542    | B170   | 1,060  | 276    | 1,280  | 916    | 482    | 216    | 80    | 46    |
| 13    | 2,540  | 744    | 790    | B186   | 1,170  | 264    | 1,770  | 868    | 518    | 219    | 80    | 55    |
| 14    | 1,340  | 465    | 755    | B192   | 996    | 268    | 2,660  | 860    | 584    | 212    | 76    | 51    |
| 15    | 926    | 359    | 2,140  | B192   | 876    | 256    | 2,130  | 940    | 542    | 199    | 73    | 50    |
| 16    | 670    | 313    | 1,480  | 186    | 853    | 264    | 1,780  | 1,040  | 518    | 179    | 71    | 51    |
| 17    | 526    | 289    | 1,150  | B176   | 811    | 248    | 1,540  | 1,260  | 482    | 176    | 68    | 50    |
| 18    | 440    | 265    | 964    | B173   | 860    | 237    | 1,370  | 1,470  | 465    | 165    | 65    | 52    |
| 19    | 390    | 248    | 825    | B165   | 940    | 233    | 1,310  | 1,610  | 430    | 162    | 65    | 51    |
| 20    | 359    | 237    | 720    | B167   | 900    | 244    | 1,190  | 1,810  | 395    | 159    | 65    | 48    |
| 21    | 325    | 248    | 638    | 165    | 811    | 252    | 1,080  | 1,890  | 365    | 156    | 64    | 48    |
| 22    | 301    | 255    | 578    | *159   | 734    | 248    | 1,000  | 1,720  | 345    | 143    | 62    | 47    |
| 23    | 273    | 244    | 530    | 156    | 671    | 260    | 972    | 1,620  | 335    | 138    | 62    | 45    |
| 24    | 255    | 223    | 482    | 153    | 620    | 240    | 1,000  | 1,440  | 300    | 135    | 62    | 45    |
| 25    | 237    | 228    | 445    | 151    | 578    | 230    | 1,040  | 1,280  | *296   | 128    | 61    | 45    |
| 26    | 227    | 3,280  | 415    | 145    | 620    | 248    | 1,050  | 1,130  | 296    | 120    | *61   | 42    |
| 27    | 213    | 1,520  | 390    | B140   | 554    | *690   | 988    | 996    | 312    | 113    | 58    | 39    |
| 28    | 206    | 891    | *370   | B138   | 500    | 1,130  | 1,010  | 964    | 300    | 113    | 57    | 38    |
| 29    | 195    | 652    | 345    | 148    | -----  | 1,080  | 1,150  | 964    | 292    | 111    | 55    | 38    |
| 30    | 186    | 586    | 335    | 189    | -----  | 1,180  | 1,260  | 956    | 268    | 107    | 58    | 38    |
| 31    | *180   | -----  | 320    | 2,510  | -----  | 1,090  | -----  | 825    | -----  | *102   | 74    | ----- |
| TOTAL | 22,178 | 14,304 | 34,475 | 8,436  | 42,394 | 13,035 | 41,502 | 39,475 | 13,588 | 5,785  | 2,300 | 1,468 |
| MEAN  | 715    | 477    | 1,112  | 272    | 1,514  | 420    | 1,383  | 1,273  | 453    | 187    | 74.2  | 48.9  |
| MAX   | 5,780  | 3,280  | 6,380  | 2,510  | 5,320  | 1,180  | 3,320  | 1,890  | 755    | 264    | 98    | 62    |
| MIN   | 47     | 141    | 320    | 138    | 500    | 230    | 578    | 825    | 268    | 102    | 55    | 38    |
| AC-FT | 43,990 | 28,370 | 68,380 | 16,730 | 84,090 | 25,850 | 82,320 | 78,300 | 26,950 | 11,470 | 4,560 | 2,910 |

CALENDAR YEAR 1962: MAX 6,380 MIN 29 MEAN 487 AC-FT 352,400

WATER YEAR 1962-63: MAX 6,380 MIN 38 MEAN 655 AC-FT 473,900

Peak discharge (base, 3,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1900 | 11.88       | 9,300     | 2- 3 | 1300 | 9.98        | 6,470     |
| 11-26 | 1000 | 9.60        | 5,600     | 4- 6 | 0700 | 7.84        | 3,660     |
| 12- 2 | 1700 | 12.58       | 10,600    | 4-14 | 1100 | 7.77        | 3,570     |
| 2- 1  | 0100 | 10.10       | 6,640     |      |      |             |           |

\* Discharge measurement made on this day.  
B Stage-discharge relation affected by ice.

11-5224. North Fork Salmon River near Forks of Salmon, Calif.

Location.--Lat 41°16'02", long 123°18'12", in NE¼ sec.18, T.10 N., R.8 E., on right bank 0.4 mile downstream from Pollocks Gulch, 1.2 miles upstream from Forks of Salmon, and 1.3 miles upstream from mouth.

Drainage area.--205 sq mi.

Records available.--August 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,240 ft (from topographic map).

Average discharge.--5 years, 451 cfs (326,500 acre-ft per year).

Extremes.--Maximum discharge during year, 10,500 cfs Dec. 2 (gage height, 14.27 ft), from rating curve extended above 2,300 cfs on basis of slope-area measurement at gage height 12.80 ft; minimum, 37 cfs Sept. 27-30. 1958-63; Maximum discharge, that of Dec. 2, 1962; minimum, 28 cfs Oct. 5, 1960.

Remarks.--Records good except those for period of ice effect, which are fair. Small diversion above station for domestic use.

Rating tables, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1-12 |     |      |       | Oct. 13 to Sept. 30 |     |      |       |
|-----------|-----|------|-------|---------------------|-----|------|-------|
| 3.9       | 41  | 6.0  | 630   | 3.5                 | 36  | 5.0  | 360   |
| 4.0       | 52  | 7.0  | 1,190 | 3.7                 | 58  | 6.0  | 820   |
| 4.2       | 77  | 8.0  | 1,930 | 4.0                 | 99  | 7.0  | 1,400 |
| 4.5       | 130 | 10.0 | 3,920 | 4.3                 | 150 | 10.0 | 3,960 |
| 5.0       | 255 |      |       | 4.6                 | 230 | 12.0 | 6,580 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE   | JULY  | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| 1     | 44     | 248    | 1,180  | 364    | 4,350  | *525   | 905    | *1,460 | 810    | 198   | 83    | 51    |
| 2     | *42    | 239    | 6,300  | 357    | 2,710  | 498    | 760    | 1,370  | 740    | 190   | 80    | 50    |
| 3     | 58     | 230    | 4,320  | 360    | 5,690  | 476    | 680    | 1,530  | 655    | 183   | 79    | 47    |
| 4     | 54     | 227    | *2,370 | 346    | 3,610  | 448    | 665    | 1,540  | 590    | 175   | 78    | 46    |
| 5     | 48     | 236    | 1,710  | 325    | 2,700  | 436    | 1,670  | 1,690  | 570    | 173   | 76    | 46    |
| 6     | 45     | 230    | 1,350  | 311    | 2,070  | 416    | 4,030  | 1,930  | 534    | 170   | 75    | 46    |
| 7     | 48     | 218    | 1,120  | 304    | 1,650  | 400    | 3,010  | 2,040  | 498    | 165   | 74    | 46    |
| 8     | 209    | 215    | 974    | 290    | 1,350  | 380    | 2,220  | 1,740  | 476    | 158   | 71    | 46    |
| 9     | 1,630  | 326    | 860    | 284    | 1,170  | 364    | 1,700  | 1,420  | 464    | 148   | 72    | 45    |
| 10    | 1,830  | 388    | 775    | 272    | 1,020  | 346    | 1,410  | 1,270  | 464    | 144   | 76    | 43    |
| 11    | 2,130  | 633    | 705    | 254    | 890    | 332    | 1,200  | 1,180  | 436    | 140   | 71    | 43    |
| 12    | 3,590  | 1,920  | 655    | 8230   | 905    | 318    | 1,160  | 1,100  | 440    | 134   | 68    | 44    |
| 13    | 2,480  | 1,310  | 705    | 8236   | 944    | 304    | 1,350  | 1,060  | 448    | 130   | 66    | 47    |
| 14    | 1,510  | 855    | 675    | 251    | 835    | 315    | 1,930  | 1,080  | 468    | 124   | 66    | 46    |
| 15    | 1,140  | 700    | 1,590  | 242    | 765    | 304    | 1,990  | 1,180  | 416    | 122   | 65    | 46    |
| 16    | 885    | 620    | 1,290  | 233    | 765    | 322    | 1,620  | 1,290  | 400    | 120   | 63    | 46    |
| 17    | 745    | 561    | 1,070  | 227    | 740    | 301    | 1,390  | 1,600  | 392    | 119   | 62    | 46    |
| 18    | 670    | 521    | 920    | 221    | 900    | 287    | 1,260  | 1,950  | 339    | 116   | 59    | 46    |
| 19    | 620    | 485    | 820    | 212    | 1,120  | 290    | 1,180  | 2,160  | 308    | 113   | 59    | 44    |
| 20    | 566    | 472    | 755    | 206    | 1,030  | 315    | 1,060  | 2,290  | 281    | 110   | 59    | 42    |
| 21    | 516    | 512    | 695    | 203    | 915    | 325    | 974    | 2,150  | 263    | 108   | 59    | 41    |
| 22    | 472    | 552    | 645    | *200   | 820    | 315    | 905    | 1,830  | 281    | 104   | 58    | 41    |
| 23    | 428    | 494    | 600    | 200    | 760    | 329    | 905    | 1,750  | 281    | 102   | 57    | 41    |
| 24    | 400    | 444    | 552    | 198    | 690    | 311    | 944    | 1,570  | 251    | 99    | 57    | 41    |
| 25    | *372   | 431    | 521    | 193    | 645    | 297    | 998    | 1,360  | *239   | 99    | 56    | 40    |
| 26    | 346    | 3,340  | 480    | 188    | 670    | 339    | 1,010  | 1,200  | 227    | 95    | *54   | 38    |
| 27    | 325    | 2,100  | 460    | 188    | 605    | *595   | 992    | 1,090  | 215    | 92    | 52    | 38    |
| 28    | 304    | 1,330  | *420   | 180    | 557    | 1,020  | 1,060  | 1,050  | 218    | 90    | 51    | 37    |
| 29    | 281    | 1,050  | 404    | 188    | -----  | 1,050  | 1,230  | *1,040 | 233    | 87    | 51    | 37    |
| 30    | 269    | 1,060  | 404    | 221    | -----  | 1,170  | 1,410  | 1,080  | 221    | 84    | 50    | 37    |
| 31    | 257    | -----  | 384    | 2,000  | -----  | 1,140  | -----  | 900    | -----  | *83   | 51    | ----- |
| TOTAL | 22,314 | 21,947 | 35,709 | 9,484  | 40,876 | 14,268 | 41,618 | 45,900 | 12,158 | 3,975 | 1,998 | 1,307 |
| MEAN  | 720    | 732    | 1,152  | 306    | 1,460  | 460    | 1,387  | 1,481  | 405    | 128   | 64.5  | 43.6  |
| MAX   | 3,590  | 3,340  | 6,300  | 2,000  | 5,690  | 1,170  | 4,030  | 2,290  | 810    | 198   | 83    | 51    |
| MIN   | 42     | 215    | 384    | 180    | 557    | 287    | 665    | 900    | 215    | 83    | 50    | 37    |
| AC-FT | 44,260 | 43,530 | 70,830 | 18,810 | 81,080 | 28,300 | 82,550 | 91,040 | 24,120 | 7,880 | 3,960 | 2,590 |

CALENDAR YEAR 1962: MAX 6,300 MIN 31 MEAN 518 AC-FT 375,100

WATER YEAR 1962-63: MAX 6,300 MIN 37 MEAN 689 AC-FT 499,000

Peak discharge (base, 2,500 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10- 9 | 1100 | 8.83        | 2,690     | 1-31 | 2200 | 11.30       | 5,580     |
| 10-12 | 1900 | 11.47       | 5,820     | 2- 3 | 1100 | 12.44       | 7,280     |
| 11-12 | 1500 | 8.67        | 2,700     | 4- 6 | 0900 | 10.69       | 4,790     |
| 11-26 | 1100 | 11.26       | 5,520     | 5-20 | 2300 | 8.48        | 2,530     |
| 12- 2 | 1700 | 14.27       | 10,500    |      |      |             |           |

\* Discharge measurement made on this day.  
B Stage-discharge relation affected by ice.

## KLAMATH RIVER BASIN

429

11-5225. Salmon River at Somesbar, Calif.

Location.--41°22'50", long 123°28'10", in NW $\frac{1}{4}$  sec.2, T.11 N., R.6 E., on right bank 0.5 mile east of Somesbar Post Office and 1.5 miles upstream from mouth.

Drainage area.--746 sq mi.

Records available.--September 1911 to September 1915, October 1927 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 500 ft (from topographic map). Prior to October 1927, staff gage at different datum.

Average discharge.--40 years, 1,733 cfs (1,255,000 acre-ft per year).

Extremes.--Maximum discharge during year, 37,100 cfs Dec. 2 (gage height, 15.57 ft); minimum, 185 cfs Sept. 30.

1911-15, 1927-63: Maximum discharge, 84,000 cfs Dec. 22, 1955 (gage height, 28.80 ft), from rating curve extended above 33,000 cfs; minimum, 70 cfs Aug. 25, Sept. 4, 5, 1931.

Remarks.--Records good. No storage or large diversion above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1-12         |        | Oct. 12 to Dec. 2 |        | Feb. 1 to Sept. 30 |        |
|-------------------|--------|-------------------|--------|--------------------|--------|
| Dec. 2 to Jan. 31 |        |                   |        |                    |        |
| 3.2               | 190    | 3.6               | 440    | 3.1                | 185    |
| 3.4               | 320    | 4.0               | 790    | 3.6                | 520    |
| 3.7               | 560    | 4.5               | 1,420  | 4.0                | 940    |
| 4.0               | 860    | 5.0               | 2,240  | 5.0                | 2,440  |
| 4.5               | 1,500  | 6.0               | 4,340  | 6.0                | 4,400  |
| 5.0               | 2,340  | 9.0               | 12,300 | 8.0                | 9,500  |
| 7.0               | 6,900  |                   |        | 11.0               | 18,500 |
| 12.0              | 22,000 |                   |        |                    |        |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.   | Feb.    | Mar.    | Apr.    | May     | June   | July   | Aug.   | Sept.  |
|---|---------|---------|---------|--------|---------|---------|---------|---------|--------|--------|--------|--------|
| 1   | 208     | 600     | 3,680   | 1,200  | 15,400  | 1,940   | 3,800   | 4,420   | 2,960  | 880    | 363    | 252    |
| 2   | 202     | 568     | 21,400  | 1,170  | 8,700   | 1,860   | 3,120   | 4,330   | 2,760  | 868    | 356    | 246    |
| 3   | 271     | 552     | 16,600  | 1,180  | 15,700  | 1,800   | 2,850   | 4,880   | 2,490  | 820    | 356    | 240    |
| 4   | 244     | 536     | 8,730   | 1,140  | 11,500  | 1,700   | 2,660   | 4,780   | 2,260  | 820    | 349    | 234    |
| 5   | 220     | 568     | 6,020   | 1,060  | 9,340   | 1,620   | 4,810   | 5,360   | 2,230  | 820    | 349    | 229    |
| 6   | 208     | 552     | 4,690   | 1,040  | 7,110   | 1,580   | 12,600  | 6,090   | 2,150  | 809    | 335    | 229    |
| 7   | 232     | 520     | 3,890   | 1,000  | 5,500   | 1,520   | 9,850   | 6,350   | 2,010  | 787    | 335    | 229    |
| 8   | 769     | 504     | 3,610   | 968    | 4,690   | 1,460   | 7,600   | 5,530   | 1,940  | 765    | 335    | 224    |
| 9   | 4,780   | 710     | 3,160   | 944    | 4,050   | 1,420   | 6,170   | 4,690   | 1,910  | 721    | 342    | 218    |
| 10  | 6,420   | 960     | 2,860   | 896    | 3,760   | 1,340   | 5,310   | 4,250   | 1,940  | 680    | 349    | 212    |
| 11  | 6,990   | 1,360   | 2,580   | 838    | 3,280   | 1,280   | 4,520   | 4,000   | 1,780  | 670    | 335    | 212    |
| 12  | 12,300  | 5,890   | 2,340   | 761    | 3,300   | 1,230   | 4,520   | 3,760   | 1,820  | 640    | 314    | 212    |
| 13  | 8,820   | 3,870   | 2,480   | 794    | 3,700   | 1,200   | 5,550   | 3,600   | 1,830  | 630    | 307    | 229    |
| 14  | 5,370   | 2,380   | 2,430   | 816    | 3,260   | 1,230   | 7,950   | 3,580   | 1,960  | 610    | 300    | 229    |
| 15  | 3,910   | 1,850   | 5,070   | 783    | 2,960   | 1,190   | 7,870   | 3,780   | 1,850  | 583    | 294    | 224    |
| 16  | 2,840   | 1,640   | 4,360   | 761    | 2,930   | 1,240   | 6,480   | 4,030   | 1,720  | 565    | 288    | 224    |
| 17  | 2,220   | 1,470   | 3,440   | 730    | 2,820   | 1,160   | 5,600   | 4,780   | 1,700  | 556    | 282    | 224    |
| 18  | 1,900   | 1,340   | 3,020   | 710    | 3,050   | 1,120   | 5,020   | 5,600   | 1,520  | 538    | 276    | 224    |
| 19  | 1,710   | 1,220   | 2,660   | 690    | 3,600   | 1,110   | 4,780   | 6,200   | 1,440  | 520    | 270    | 218    |
| 20  | 1,550   | 1,170   | 2,430   | 680    | 3,360   | 1,160   | 4,400   | 6,850   | 1,310  | 512    | 270    | 212    |
| 21  | 1,360   | 1,270   | 2,210   | 670    | 3,070   | 1,200   | 4,030   | 6,540   | 1,230  | 496    | 270    | 212    |
| 22  | 1,240   | 1,360   | 2,050   | 660    | 2,800   | 1,270   | 3,740   | 5,810   | 1,210  | 480    | 270    | 212    |
| 23  | 1,100   | 1,250   | 1,920   | *650   | 2,600   | 1,200   | 3,620   | 5,550   | 1,240  | 472    | 270    | 212    |
| 24  | 996     | 1,090   | 1,760   | 642    | 2,440   | 1,170   | 3,660   | 5,100   | 1,110  | 456    | 264    | 212    |
| 25  | 936     | 1,070   | 1,640   | 623    | 2,300   | 1,120   | 3,700   | 4,590   | 1,040  | 440    | 264    | 207    |
| 26  | 867     | 9,670   | 1,550   | 614    | 2,360   | *1,330  | 3,700   | 4,110   | *992   | 433    | 258    | 202    |
| 27  | 790     | 6,510   | 1,470   | 605    | *2,200  | 2,410   | 3,600   | 3,760   | 979    | 419    | *252   | 202    |
| 28  | 750     | 4,170   | 1,400   | 596    | *2,060  | *3,940  | 3,660   | *3,700  | 992    | 412    | 240    | 196    |
| 29  | 700     | 3,080   | *1,330  | 614    | -----   | 4,090   | *4,000  | 3,680   | 1,020  | 405    | 240    | 190    |
| 30  | 663     | *3,020  | *1,330  | 746    | -----   | 4,660   | 4,290   | 3,660   | 1,000  | *384   | 240    | *185   |
| 31  | *627    | -----   | 1,260   | 5,780  | -----   | 4,690   | -----   | 3,280   | -----  | 370    | 252    | -----  |
| Total   | 71,193  | 60,750  | 123,370 | 30,361 | 137,840 | 55,240  | 153,460 | 146,640 | 50,393 | 18,561 | 9,225  | 6,551  |
| Mean  | 2,297   | 2,025   | 3,980   | 979    | 4,923   | 1,782   | 5,115   | 4,730   | 1,680  | 599    | 298    | 218    |
| Max   | 12,300  | 9,670   | 21,400  | 5,780  | 15,700  | 4,690   | 12,600  | 6,850   | 2,960  | 880    | 363    | 252    |
| Min   | 202     | 504     | 1,260   | 596    | 2,060   | 1,110   | 2,660   | 3,280   | 979    | 370    | 240    | 185    |
| Ac-ft   | 141,200 | 120,500 | 244,700 | 60,200 | 273,400 | 109,600 | 304,400 | 290,900 | 99,950 | 36,820 | 18,300 | 12,990 |
| Calendar year 1962: Max 21,400 Min 150 Mean 1,811 Ac-ft 1,311,000 |         |         |         |        |         |         |         |         |        |        |        |        |
| Water year 1962-63: Max 21,400 Min 185 Mean 2,366 Ac-ft 1,713,000 |         |         |         |        |         |         |         |         |        |        |        |        |

Peak discharge (base, 7,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2100 | 11.32       | 19,600    | 2-1  | 0300 | 11.20       | 19,200    |
| 11-12 | 1700 | 7.23        | 7,500     | 2-3  | 1300 | 11.37       | 19,800    |
| 11-26 | 1300 | 10.14       | 15,700    | 4-6  | 0900 | 9.75        | 14,600    |
| 12-2  | 1800 | 15.57       | 37,100    | 4-14 | 1400 | 7.83        | 9,060     |
| 12-15 | 1400 | 7.10        | 7,160     | 5-20 | 0100 | 7.17        | 7,240     |

\* Discharge measurement made on this day.  
No gage-height record.

## KLAMATH RIVER BASIN

11-5230. Klamath River at Somesbar, Calif.

Location.--Lat 41°22'40", long 123°29'30", in NE $\frac{1}{4}$  sec.4, T.11 N., R.6 E., on left bank 300 ft downstream from Salmon River and 1 mile west of Somesbar Post Office.

Drainage area.--8,480 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--October 1927 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 450 ft (from topographic map).

Average discharge.--36 years, 7,655 cfs (5,542,000 acre-ft per year).

Extremes.--Maximum discharge during year, 85,300 cfs Dec. 2 (gage height, 34.80 ft); minimum daily, 1,950 cfs Aug. 28.  
1927-63: Maximum discharge, 202,000 cfs Dec. 22, 1955 (gage height, 59.4 ft, from floodmarks), from rating curve extended above 50,000 cfs by slope-conveyance study; minimum daily, 320 cfs Aug. 25, Sept. 1, 1931.

Remarks.--Records good. Flow considerably regulated by reservoirs and powerplants above station. Large diversions above station for irrigation.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1 to Dec. 2 |        | Dec. 2 to Apr. 5 |        | Apr. 5 to Sept. 30 |        |
|------------------|--------|------------------|--------|--------------------|--------|
| 5.0              | 2,380  | 5.9              | 3,930  | 5.2                | 1,940  |
| 7.0              | 5,210  | 9.0              | 9,870  | 7.0                | 4,280  |
| 11.0             | 14,900 | 28.0             | 63,200 | 9.0                | 8,550  |
| 26.0             | 57,000 |                  |        | 19.0               | 38,000 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1     | 2,500   | 5,250   | 14,400  | 7,850   | 51,600  | 9,980   | 15,600  | *15,800 | 9,550   | 3,490   | 2,000   | 2,040   |
| 2     | 2,500   | 5,250   | 56,400  | 7,730   | 37,000  | 9,600   | 13,300  | 16,000  | 8,800   | 3,380   | 2,210   | 2,250   |
| 3     | 2,630   | 5,140   | 60,700  | 7,810   | 52,900  | 9,200   | 12,400  | 18,500  | 8,180   | 3,270   | 2,240   | 2,240   |
| 4     | 2,570   | 5,040   | 35,700  | 7,630   | 50,000  | 8,440   | 11,700  | 17,200  | 7,480   | 3,240   | 2,210   | 2,240   |
| 5     | 2,500   | 4,460   | 25,400  | 7,450   | 40,800  | 8,400   | 15,600  | 23,000  | 7,050   | 3,170   | 2,200   | 2,230   |
| 6     | 2,490   | 5,010   | 19,100  | 7,250   | 31,500  | 8,700   | 35,200  | 27,800  | 6,650   | 3,100   | 2,210   | 2,230   |
| 7     | 2,560   | 4,920   | 16,000  | 6,440   | 25,100  | 8,590   | 33,600  | 27,400  | 6,260   | 3,070   | 2,170   | 2,240   |
| 8     | 3,890   | 4,990   | 14,200  | 6,640   | 20,200  | 8,420   | 28,600  | 23,500  | 6,000   | 3,040   | 2,190   | 2,240   |
| 9     | 15,200  | 5,700   | 12,900  | 6,690   | 17,400  | 8,170   | 23,900  | 19,500  | 5,860   | 3,000   | 2,230   | 2,220   |
| 10    | 18,100  | 6,110   | 11,900  | 6,440   | 15,400  | 7,690   | 20,800  | 17,600  | 5,740   | 2,960   | 2,240   | 2,190   |
| 11    | 21,800  | 6,770   | 11,100  | 6,290   | 13,800  | 6,690   | 18,200  | 16,800  | 5,520   | 2,790   | 2,230   | 2,190   |
| 12    | 32,600  | 16,400  | 10,400  | 5,930   | 13,100  | 6,520   | 19,300  | 16,500  | 5,480   | 2,730   | 2,170   | 2,180   |
| 13    | 33,400  | 14,800  | 10,600  | 5,720   | 14,900  | 6,930   | 23,300  | 15,900  | 5,390   | 2,720   | 2,110   | 2,200   |
| 14    | 24,400  | 10,900  | 10,500  | 5,650   | 13,700  | 7,130   | 32,200  | 15,000  | 5,360   | 2,620   | 2,070   | 2,200   |
| 15    | 17,200  | 9,210   | 17,300  | 5,950   | 12,600  | 7,430   | 33,900  | 14,900  | 5,180   | 2,550   | 2,060   | 2,210   |
| 16    | 13,600  | 8,320   | 19,400  | 5,750   | 12,200  | 7,630   | 28,600  | 15,400  | 4,940   | 2,540   | 2,050   | 2,240   |
| 17    | 11,600  | 7,910   | 16,300  | 5,480   | 12,000  | 7,290   | 24,600  | 16,700  | 4,800   | 2,480   | 2,040   | 2,310   |
| 18    | 9,680   | 7,460   | 15,100  | 5,250   | 12,400  | 6,480   | 21,800  | 18,800  | 4,580   | 2,480   | 2,040   | 2,480   |
| 19    | 8,870   | 6,410   | 13,600  | 5,000   | 13,500  | 6,770   | 20,800  | 19,800  | 4,420   | 2,430   | 2,020   | 2,520   |
| 20    | 8,370   | 6,390   | 13,000  | 4,690   | 12,800  | 7,250   | 19,400  | 20,500  | 4,230   | 2,360   | 2,020   | 2,600   |
| 21    | 7,790   | 7,170   | 11,900  | *4,660  | 13,200  | 7,450   | 18,500  | 20,200  | 4,020   | 2,300   | 2,030   | 2,600   |
| 22    | 7,390   | 7,720   | 10,900  | 4,660   | 12,700  | 7,410   | 17,900  | 17,900  | 4,120   | 2,260   | 2,020   | 2,610   |
| 23    | 6,990   | 7,260   | 10,300  | 4,620   | 12,100  | 7,250   | 17,600  | 16,800  | 4,230   | 2,240   | 2,010   | 2,610   |
| 24    | *6,540  | 6,990   | 9,690   | 4,570   | 11,300  | 7,070   | 17,600  | 16,100  | 3,990   | 2,190   | 1,990   | 2,610   |
| 25    | 6,350   | 7,120   | 9,270   | 4,410   | 10,500  | 6,670   | 17,600  | 14,800  | 4,140   | 2,120   | 1,990   | 2,600   |
| 26    | 5,870   | 31,100  | 8,610   | 4,220   | 10,800  | *7,070  | 16,800  | 13,400  | *3,960  | 2,160   | 1,980   | 2,600   |
| 27    | 6,150   | 26,200  | 8,680   | 4,090   | *10,600 | 10,400  | 15,300  | 12,300  | 3,690   | 2,120   | 1,980   | 2,470   |
| 28    | 5,800   | 17,000  | 8,590   | 4,040   | 10,300  | 15,000  | 14,900  | *12,400 | 3,690   | 2,130   | *1,950  | 2,440   |
| 29    | 5,550   | 13,800  | 8,340   | 4,120   | -----   | 17,800  | 15,200  | 11,800  | 3,700   | 2,040   | 1,960   | 2,560   |
| 30    | 5,780   | 13,100  | *8,130  | 4,660   | -----   | 22,500  | *15,900 | 11,400  | 3,560   | *2,030  | 1,960   | *2,580  |
| 31    | 5,480   | -----   | 8,030   | 17,100  | -----   | 20,500  | -----   | 10,500  | -----   | 2,020   | 1,990   | -----   |
| Total | 306,150 | 283,900 | 506,440 | 188,790 | 564,400 | 286,430 | 620,100 | 534,200 | 160,570 | 81,030  | 64,570  | 70,930  |
| Mean  | 9,876   | 9,463   | 16,340  | 6,090   | 20,160  | 9,240   | 20,670  | 17,230  | 5,352   | 2,614   | 2,083   | 2,364   |
| Max   | 33,400  | 31,100  | 60,700  | 17,100  | 51,600  | 22,500  | 35,200  | 27,800  | 9,550   | 3,490   | 2,240   | 2,610   |
| Min   | 2,490   | 4,460   | 8,030   | 4,040   | 10,300  | 6,480   | 11,700  | 10,500  | 3,560   | 2,020   | 1,950   | 2,040   |
| Ac-ft | 607,200 | 563,100 | *1,005  | 374,500 | *1,119  | 568,100 | *1,230  | *1,060  | 318,500 | 160,700 | 128,100 | 140,700 |

Calendar year 1962: Max 60,700 Min 1,570 Mean 7,518 Ac-ft 5,444,000  
Water year 1962-63: Max 60,700 Min 1,950 Mean 10,050 Ac-ft 7,275,000

Peak discharge (base, 25,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2100 | 22.90       | 47,700    | 2-3  | 1700 | 27.61       | 62,000    |
| 11-26 | 1200 | 21.40       | 43,400    | 4-6  | 1300 | 19.17       | 38,500    |
| 12-2  | 1800 | 34.80       | 85,300    | 4-15 | 0700 | 18.10       | 35,300    |
| 2-1   | 0600 | 25.48       | 55,400    | 5-5  | 2400 | 16.15       | 29,400    |

\* Discharge measurement made on this day.

† Expressed in thousands.

11-5230.3. Red Cap Creek near Orleans, Calif.

Location.--Lat 41°14'25", long 123°32'35", in SW<sup>1</sup>/<sub>4</sub> sec.19, T.10 N., R.6 E., on left bank 0.5 mile downstream from Leary Creek, 4.4 miles south of Orleans, and 4.9 miles upstream from mouth.

Drainage area.--56.1 sq mi.

Records available.--August 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 630 ft (from topographic map).

Average discharge.--5 years, 157 cfs (113,700 acre-ft per year).

Extremes.--Maximum discharge during year, 5,340 cfs Dec. 2 (gage height, 10.69 ft); from rating curve extended above 760 cfs on basis of slope-area measurement at gage height 9.12 ft; minimum, 12 cfs Sept. 25.  
1958-63: Maximum discharge, that of Dec. 2, 1962; minimum, that of Sept. 25, 1963.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |     |     |       |
|-----|-----|-----|-------|
| 3.5 | 16  | 6.0 | 615   |
| 3.7 | 29  | 7.0 | 1,190 |
| 4.0 | 58  | 8.0 | 2,030 |
| 4.5 | 128 | 9.0 | 3,100 |
| 5.0 | 246 |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|
| 1     | 21     | 70     | 412    | 126    | 1,360  | 182    | 629    | 382    | 168   | 65    | *31   | 23    |
| 2     | 24     | 68     | 2,800  | 125    | 832    | 175    | 510    | *400   | 153   | 63    | 31    | 23    |
| 3     | *32    | 65     | 1,720  | 128    | 925    | 164    | 450    | 454    | 144   | 62    | 31    | 22    |
| 4     | 24     | 64     | 882    | 125    | 799    | 157    | 403    | 442    | 139   | 62    | 31    | 21    |
| 5     | 22     | 65     | 660    | 122    | 700    | 153    | 600    | 494    | 135   | 62    | 31    | 21    |
| 6     | 21     | 62     | 550    | 120    | 602    | 146    | 1,330  | 530    | 128   | 60    | 30    | 21    |
| 7     | 23     | 59     | 462    | 117    | 502    | 142    | 1,180  | 570    | 123   | 59    | 29    | 21    |
| 8     | 77     | 59     | 400    | 115    | 438    | 135    | 930    | 530    | 118   | 58    | 30    | 21    |
| 9     | 634    | 90     | 351    | 112    | 375    | 132    | 745    | 466    | 114   | 56    | 30    | 20    |
| 10    | 567    | 83     | 314    | 111    | 334    | 128    | 647    | 434    | 111   | 54    | 29    | 21    |
| 11    | 837    | 195    | 285    | 108    | 295    | 123    | 575    | 403    | 106   | 51    | 28    | 21    |
| 12    | 1,270  | 571    | 261    | 105    | 327    | 120    | 615    | 386    | 103   | 48    | 28    | 21    |
| 13    | 939    | 403    | 243    | 105    | 414    | 117    | 756    | 365    | 100   | 47    | 28    | 21    |
| 14    | 675    | 276    | 226    | 103    | 375    | 126    | 1,110  | 354    | 99    | 46    | 27    | 21    |
| 15    | 530    | 221    | a450   | 102    | 344    | 118    | 993    | 351    | 96    | 45    | 27    | 21    |
| 16    | 375    | 192    | a400   | 100    | 340    | 125    | 815    | 354    | 91    | 45    | 26    | 21    |
| 17    | 282    | 170    | a360   | a100   | 324    | 118    | 695    | 379    | 87    | 44    | 26    | 21    |
| 18    | 232    | 153    | a320   | a95    | 354    | 117    | 615    | 389    | 84    | 43    | 26    | 20    |
| 19    | 197    | 141    | a300   | a95    | 375    | 117    | 606    | 396    | 82    | 42    | 26    | 20    |
| 20    | 166    | 133    | a280   | a90    | 347    | 122    | 558    | 407    | 80    | 41    | 26    | 20    |
| 21    | 142    | 132    | a250   | a90    | 318    | 128    | 514    | 386    | 80    | 40    | 25    | 20    |
| 22    | 128    | 132    | a230   | a85    | 292    | 130    | 474    | 344    | 83    | 40    | 25    | 20    |
| 23    | 117    | 122    | a210   | a85    | 273    | 137    | 450    | 324    | 82    | 39    | 25    | 20    |
| 24    | 108    | 115    | a200   | a80    | 252    | 132    | 438    | *292   | 75    | 38    | 24    | 20    |
| 25    | 102    | 127    | a190   | a80    | 235    | 128    | 422    | 264    | 74    | 37    | 24    | 19    |
| 26    | 97     | 1,240  | a170   | a80    | 226    | 183    | 400    | 238    | 70    | 36    | 23    | 18    |
| 27    | 91     | 671    | a160   | a80    | 208    | 438    | 386    | 218    | *69   | 35    | *23   | 18    |
| 28    | 86     | 458    | a150   | a80    | *192   | *656   | 382    | 215    | 70    | 35    | 23    | 18    |
| 29    | 80     | 361    | *a150  | a90    | -----  | 725    | 400    | 202    | 70    | 34    | 23    | 18    |
| 30    | 77     | *368   | 141    | a200   | -----  | 804    | 400    | 192    | 69    | 33    | 23    | *18   |
| 31    | 74     | -----  | 132    | a800   | -----  | 788    | -----  | 178    | ----- | 32    | 23    | ----- |
| TOTAL | 8,050  | 6,866  | 13,660 | 5,214  | 12,358 | 6,966  | 19,028 | 11,339 | 3,003 | 1,452 | 832   | 610   |
| MEAN  | 260    | 229    | 441    | 168    | 441    | 225    | 634    | 366    | 100   | 46.8  | 26.8  | 20.3  |
| MAX   | 1,270  | 1,240  | 2,800  | 800    | 1,360  | 804    | 1,330  | 570    | 168   | 65    | 31    | 23    |
| MIN   | 21     | 59     | 132    | 80     | 192    | 117    | 382    | 178    | 69    | 32    | 23    | 18    |
| AC-FT | 15,970 | 13,620 | 27,090 | 10,340 | 24,510 | 13,820 | 37,740 | 22,490 | 5,960 | 2,880 | 1,650 | 1,210 |

CALENDAR YEAR 1962: MAX 2,800 MIN 16 MEAN 169 AC-FT 122,600  
WATER YEAR 1962-63: MAX 2,800 MIN 18 MEAN 245 AC-FT 177,300

Peak discharge (base, 1,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10- 9 | 0800 | 6.99        | 1,180     | 2- 1 | 0100 | 7.69        | 1,740     |
| 10-12 | 1700 | 8.15        | 2,180     | 2- 3 | 0900 | 6.88        | 1,110     |
| 11-26 | 0900 | 7.94        | 1,970     | 4- 6 | 1600 | 7.17        | 1,320     |
| 12- 2 | 1700 | 10.69       | 5,340     | 4-14 | 0900 | 7.03        | 1,210     |

\* Discharge measurement made on this day.  
a No gage-height record.

## KIAMATH RIVER BASIN

11-5230.5. Bluff Creek near Weitchpec, Calif.

Location.--Lat 41°14'25", long 123°39'25", in SW $\frac{1}{4}$  sec.19, T.10 N., R.5 E. (revised), on left bank 0.8 mile upstream from Aikens Creek, 1.2 miles upstream from mouth, and 4.4 miles northeast of Weitchpec.

Drainage area.--74.6 sq mi.

Records available.--Occasional low-flow measurements, water years 1951-57 and annual maximum, water years 1955-56. August 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 400 ft (from topographic map). Sept. 21, 1953, to Sept. 30, 1956, crest-stage gage only, at site 0.2 mile downstream at different datum.

Average discharge.--5 years, 386 cfs (279,500 acre-ft per year).

Extremes.--Maximum discharge during year, 7,960 cfs Dec. 2 (gage height, 10.32 ft); minimum, 49 cfs Sept. 28-30.

1954-56, 1958-63: Maximum discharge, 20,200 cfs Dec. 22, 1955 (gage height, 13.7 ft, from floodmarks, present datum), on basis of slope-area measurement of peak flow.

1958-63: Minimum discharge, 34 cfs Oct. 15, 1958.

Remarks.--Records good except those for periods of no gage-height record, which are poor. No regulation or diversion above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 24 to Nov. 7, Nov. 11, 12,  
Jan. 31 to May 31)

|     |     |      |       |
|-----|-----|------|-------|
| 4.0 | 44  | 6.0  | 770   |
| 4.3 | 82  | 7.0  | 1,700 |
| 4.6 | 140 | 9.0  | 4,900 |
| 5.0 | 255 | 10.0 | 7,100 |
| 5.5 | 475 |      |       |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.    | Feb.    | Mar.    | Apr.   | May    | June  | July  | Aug.  | Sept. |
|-------|--------|--------|--------|---------|---------|---------|--------|--------|-------|-------|-------|-------|
| 1     | 53     | 143    | 1,050  | 260     | * 2,270 | 394     | 1,400  | 646    | 231   | 104   | 71    | 58    |
| 2     | 57     | 135    | 5,340  | 260     | 1,260   | * 376   | 1,080  | * 784  | 217   | 102   | * 69  | 58    |
| 3     | * 68   | 133    | 3,620  | 250     | 1,800   | 344     | 1,030  | 1,090  | 208   | 98    | 69    | 57    |
| 4     | 54     | 129    | 2,290  | 250     | 1,680   | 319     | 896    | 920    | 202   | 102   | 69    | 57    |
| 5     | 51     | 131    | 1,700  | 240     | 1,510   | 303     | 1,660  | 1,230  | 196   | 100   | 68    | 55    |
| 6     | 55     | 122    | 1,330  | 230     | 1,250   | 287     | 2,670  | 1,310  | 190   | 96    | 68    | 54    |
| 7     | 76     | 117    | 1,120  | 220     | 1,060   | 275     | 2,160  | 1,480  | 183   | 96    | 68    | 54    |
| 8     | 331    | 119    | 960    | 210     | 912     | 263     | 1,710  | 1,320  | 178   | 96    | 68    | 54    |
| 9     | 1,270  | 178    | 840    | 200     | 791     | 248     | 1,550  | 1,140  | 173   | 95    | 68    | 54    |
| 10    | 1,210  | 170    | 742    | 190     | 707     | 238     | 1,460  | 1,030  | 168   | 93    | 68    | 53    |
| 11    | 1,220  | 249    | 670    | 180     | 622     | 227     | 1,270  | 928    | 160   | 92    | 67    | 53    |
| 12    | 1,560  | 1,010  | 622    | 180     | 630     | 217     | 1,600  | 826    | 158   | 90    | 68    | 54    |
| 13    | 1,640  | 676    | 610    | 170     | 880     | 211     | 1,710  | 763    | 155   | 88    | 67    | 54    |
| 14    | 1,380  | 480    | 547    | 170     | 721     | 227     | 1,980  | 688    | 150   | 87    | 65    | 54    |
| 15    | 1,230  | 425    | 950    | 170     | 628     | 211     | 1,880  | 640    | 145   | 87    | 65    | 54    |
| 16    | 952    | 385    | 819    | 160     | 629     | 231     | 1,550  | 598    | 140   | 85    | 65    | 55    |
| 17    | 756    | 331    | 688    | 160     | 598     | 211     | 1,290  | 564    | 138   | 84    | 65    | 54    |
| 18    | 622    | 307    | 622    | 160     | 965     | 199     | 1,170  | 525    | 133   | 84    | 64    | 54    |
| 19    | 510    | 283    | 564    | 150     | 1,020   | 196     | 1,110  | 500    | 133   | 82    | 64    | 53    |
| 20    | 412    | 267    | 540    | 150     | 848     | 205     | 1,020  | 470    | 131   | 82    | 64    | 52    |
| 21    | 323    | 263    | 500    | 145     | 742     | 217     | 952    | 435    | 129   | 81    | 62    | 52    |
| 22    | 259    | 287    | 470    | 143     | 664     | 231     | 896    | 403    | 135   | 79    | 62    | 53    |
| 23    | 220    | 279    | 440    | 138     | 610     | 259     | 833    | * 371  | 129   | 79    | 62    | 60    |
| 24    | 208    | 259    | 400    | 135     | 558     | 248     | 812    | 340    | 124   | 78    | 62    | 55    |
| 25    | 193    | 259    | 370    | 133     | 520     | 231     | 770    | 311    | 117   | 78    | * 62  | 53    |
| 26    | 185    | 2,000  | 340    | 131     | 495     | 429     | 735    | 295    | 115   | 76    | 62    | 52    |
| 27    | 175    | 1,290  | * 310  | 129     | 455     | 1,160   | 682    | 279    | 111   | 75    | 62    | 51    |
| 28    | 165    | * 860  | 300    | 124     | 421     | 1,280   | 664    | 267    | 113   | 75    | 60    | 50    |
| 29    | 160    | 820    | 290    | 133     | -----   | * 1,760 | 682    | 255    | 111   | 74    | 60    | 49    |
| 30    | * 153  | 900    | 280    | 178     | -----   | 2,440   | 676    | 241    | 108   | 72    | 58    | 49    |
| 31    | 148    | -----  | 270    | * 1,130 | -----   | 1,960   | -----  | 231    | ----- | 72    | 58    | ----- |
| Total | 15,696 | 13,007 | 29,594 | 6,479   | 25,246  | 15,397  | 37,898 | 20,880 | 4,581 | 2,682 | 2,010 | 1,615 |
| Mean  | 506    | 434    | 955    | 209     | 902     | 497     | 1,263  | 674    | 153   | 86.5  | 64.8  | 53.8  |
| Max   | 1,640  | 2,000  | 5,340  | 1,130   | 2,270   | 2,440   | 2,670  | 1,480  | 231   | 104   | 71    | 60    |
| Min   | 51     | 117    | 270    | 124     | 421     | 196     | 664    | 231    | 108   | 72    | 58    | 49    |
| Ac-ft | 31,130 | 25,800 | 58,700 | 12,850  | 50,070  | 30,540  | 75,170 | 41,410 | 9,090 | 5,320 | 3,990 | 3,200 |

Calendar year 1962: Max 5,340 Min 44 Mean 387 Ac-ft 279,900

Water year 1962-63: Max 5,340 Min 49 Mean 480 Ac-ft 347,300

Peak discharge (base, 2,700 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 11-26 | 1000 | 8.10        | 3,300     | 3-30 | 1700 | 8.10        | 2,850     |
| 12-2  | 1400 | 10.32       | 7,960     | 4-6  | 0600 | 8.24        | 3,060     |
| 2-1   | 0100 | 8.07        | 2,960     |      |      |             |           |

\* Discharge measurement made on this day.

Note.--No gage-height record Oct. 4-23, Nov. 8-10, 14-17, 23, 28-30, Dec. 20 to Jan. 20.

11-5232. Trinity River above Coffee Creek, near Trinity Center, Calif.

Location.--Lat 41°06'26", long 122°42'23", on line between secs.31 and 32, T.38 N., R.7 W., on right bank 250 ft downstream from Chinquapin Gulch, 1.8 miles upstream from Coffee Creek, and 8.5 miles north of new location of Trinity Center.

Drainage area.--149 sq mi.

Records available.--September 1957 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 2,533.36 ft above mean sea level, datum of 1929, supplementary adjustment of 1956.

Average discharge.--6 years, 425 cfs (307,700 acre-ft per year).

Extremes.--Maximum discharge during year, 8,990 cfs Oct. 12 (gage height, 9.33 ft); minimum daily, 38 cfs Oct. 2, Sept. 10, 11, 28-30.

1957-63: Maximum discharge, 12,800 cfs Feb. 24, 1958 (gage height, 10.50 ft), from rating curve extended above 5,000 cfs on basis of slope-area measurement at gage height 9.91 ft; minimum, 28 cfs Sept. 26-29, Oct. 2, 3, 1960.

Flood of Dec. 22, 1955, reached a stage of 10.5 ft, from floodmarks.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1-12 |     |     |       | Oct. 13 to Feb. 3 |     |     |       | Feb. 4 to Sept. 30 |     |     |       |
|-----------|-----|-----|-------|-------------------|-----|-----|-------|--------------------|-----|-----|-------|
| 1.4       | 33  | 4.0 | 1,000 | 1.7               | 77  | 4.0 | 1,040 | 1.5                | 37  | 4.0 | 980   |
| 1.7       | 75  | 5.0 | 1,700 | 2.0               | 137 | 5.0 | 1,780 | 1.8                | 85  | 5.0 | 1,700 |
| 2.0       | 134 | 6.0 | 2,680 | 2.5               | 280 | 6.0 | 2,680 | 2.1                | 151 | 6.0 | 2,680 |
| 2.5       | 269 | 7.0 | 4,020 | 3.0               | 470 | 7.0 | 4,020 | 2.5                | 260 | 7.0 | 4,020 |
| 3.0       | 455 | 8.0 | 5,760 |                   |     |     |       | 3.0                | 440 | 8.0 | 5,760 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.   | Dec.   | Jan.   | Feb.   | Mar.   | Apr.   | May    | June   | July  | Aug.  | Sept. |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| 1   | 39     | 107    | 301    | 230    | 2,690  | 306    | 508    | 1,210  | 660    | 151   | 64    | 48    |
| 2   | 38     | 103    | 1,130  | 221    | 1,890  | 292    | 408    | 1,080  | 595    | 144   | 62    | 47    |
| 3   | 44     | 101    | 1,210  | 218    | *4,410 | 286    | 363    | 1,130  | 512    | 139   | 61    | 45    |
| 4   | 41     | 97     | 713    | 207    | 3,430  | 270    | 341    | 1,530  | 454    | 134   | 61    | 43    |
| 5   | 39     | 97     | 565    | 193    | 2,630  | 260    | 735    | 2,450  | 440    | 134   | 59    | 43    |
| 6   | 39     | 93     | 500    | 187    | *2,070 | 254    | 1,630  | *2,370 | 404    | 132   | 59    | 44    |
| 7   | 40     | 88     | 462    | 182    | 1,430  | 248    | 1,400  | 2,280  | 382    | 132   | 57    | 43    |
| 8   | 52     | 86     | 446    | 174    | 1,320  | 239    | 1,010  | 1,780  | 378    | 125   | *57   | 41    |
| 9   | 202    | 107    | 418    | 171    | 1,050  | 230    | 824    | 1,320  | 378    | 118   | 59    | 40    |
| 10  | 629    | 117    | 402    | 159    | 1,050  | 222    | 728    | 1,110  | 367    | 114   | 57    | 38    |
| 11  | 1,420  | 137    | 378    | 133    | 842    | *210   | 645    | 968    | 337    | 109   | 54    | 38    |
| 12  | 4,400  | 394    | 354    | 126    | 926    | 202    | 1,430  | 884    | 330    | 103   | 53    | 45    |
| 13  | 1,950  | 277    | 704    | 154    | 1,250  | 197    | 2,230  | 860    | 319    | 101   | 51    | 61    |
| 14  | 946    | 201    | 918    | 154    | 944    | 199    | 4,640  | 908    | 306    | 99    | 51    | 50    |
| 15  | 625    | 174    | 3,070  | 144    | 776    | 197    | 2,350  | 1,050  | 295    | 95    | 50    | 45    |
| 16  | 458    | 161    | 1,910  | 137    | 680    | 205    | *1,440 | 1,230  | 279    | 95    | 48    | 45    |
| 17  | *374   | 156    | 1,350  | 133    | 610    | 199    | 1,080  | 1,520  | 286    | 93    | 48    | 61    |
| 18  | 322    | 149    | *1,010 | 130    | 565    | 194    | 908    | 1,640  | 248    | 91    | 48    | 64    |
| 19  | 280    | 142    | 790    | *122   | 530    | 197    | 788    | 1,760  | 230    | 87    | 48    | 54    |
| 20  | 245    | 137    | 645    | 124    | 535    | 213    | 680    | 1,840  | 216    | 85    | 47    | 51    |
| 21  | 218    | 133    | 550    | 124    | 485    | 222    | 615    | 1,780  | 202    | 83    | 47    | 50    |
| 22  | 195    | 133    | 480    | 122    | 436    | 219    | 575    | 1,620  | 202    | 81    | 47    | 48    |
| 23  | 177    | 128    | 426    | 119    | 404    | 242    | 570    | 1,480  | 197    | 80    | 48    | 47    |
| 24  | 164    | 122    | 370    | 119    | 385    | 227    | 590    | 1,370  | 184    | 78    | 51    | 45    |
| 25  | 154    | 128    | 343    | 115    | 370    | 222    | 570    | 1,200  | *174   | 76    | 50    | 43    |
| 26  | 144    | 718    | 319    | 113    | 370    | 233    | 535    | 1,060  | 169    | 74    | 48    | 41    |
| 27  | 135    | 480    | 301    | 111    | 337    | 417    | 540    | 956    | 181    | 71    | 47    | 40    |
| 28  | 128    | 340    | 280    | 109    | 323    | 503    | 645    | 884    | 169    | 69    | 44    | 38    |
| 29  | 119    | 273    | 266    | 113    | -----  | 600    | 884    | 896    | 166    | 67    | 44    | 38    |
| 30  | 115    | 256    | 249    | 142    | -----  | 698    | 1,150  | 884    | 159    | 65    | 48    | 38    |
| 31  | 111    | -----  | 242    | 1,410  | -----  | 698    | -----  | 740    | -----  | 65    | 50    | ----- |
| Total   | 13,843 | 5,635  | 21,102 | 5,896  | 32,738 | 8,901  | 30,812 | 41,790 | 9,219  | 3,090 | 1,618 | 13,74 |
| Mean  | 447    | 188    | 681    | 190    | 1,169  | 287    | 1,027  | 1,348  | 307    | 99.7  | 52.2  | 45.8  |
| Max   | 4,400  | 718    | 3,070  | 1,410  | 4,410  | 698    | 4,640  | 2,450  | 660    | 151   | 64    | 64    |
| Min   | 38     | 86     | *242   | 109    | 323    | 194    | 341    | 740    | 159    | 65    | 44    | 38    |
| Ac-ft   | 27,460 | 11,180 | 41,860 | 11,690 | 64,930 | 17,650 | 61,110 | 82,890 | 18,290 | 6,130 | 3,210 | 2,730 |
| Calendar year 1962: Max 4,400 Min 30 Mean 409 Ac-ft 296,300 |        |        |        |        |        |        |        |        |        |       |       |       |
| Water year 1962-63: Max 4,640 Min 38 Mean 482 Ac-ft 349,100 |        |        |        |        |        |        |        |        |        |       |       |       |

Peak discharge (base, 1,900 cfs)

\* Discharge measurement made on this day.

| Date  | Time         | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|--------------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1700         | 9.33        | 8,990     | 2- 3 | 1100 | 7.75        | 5,290     |
| 12- 2 | 1800         | 5.60        | 2,280     | 2- 6 | 1000 | 5.83        | 2,490     |
| 12-15 | 0900         | 7.28        | 4,470     | 4-14 | 0900 | 8.35        | 6,490     |
| 1-31  | 2300 to 2400 | 6.66        | 3,520     | 5- 5 | 2000 | 6.26        | 2,990     |
|       |              |             |           | 5-19 | 1900 | 5.51        | 2,170     |

## KLAMATH RIVER BASIN

11-5237. Coffee Creek near Trinity Center, Calif.

Location--Lat 41°05'35", long 122°45'10", in NW 1/4 sec. 2, T.37 N., R.8 W., on left bank 0.75 mile upstream from Little Boulder Creek, 3.2 miles upstream from mouth, and 8 miles northwest of new location of Trinity Center.

Drainage area--107 sq mi.

Records available--September 1957 to September 1963.

Gage--Water-stage recorder. Altitude of gage is 2,750 ft (from topographic map).

Average discharge--6 years, 298 cfs (215,700 acre-ft per year).

Extremes--Maximum discharge during year, 3,360 cfs Oct. 12 (gage height 5.72 ft); minimum daily, 40 cfs Sept. 28-30. 1957-63: Maximum discharge, that of Oct. 12, 1962; minimum, 23 cfs Jan. 13, Oct. 2, 1960.

Remarks--Records good. Slight regulation at low flow.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 12)

| Oct. 1-12 |       | Oct. 13 to Sept. 30 |       |
|-----------|-------|---------------------|-------|
| 1.1       | 50    | 1.0                 | 37    |
| 1.4       | 87    | 1.4                 | 76    |
| 1.8       | 164   | 1.8                 | 145   |
| 2.2       | 280   | 2.2                 | 245   |
| 2.6       | 430   | 2.8                 | 450   |
| 3.3       | 790   | 3.5                 | 800   |
| 4.0       | 1,390 | 4.0                 | 1,110 |
| 5.0       | 2,470 | 5.0                 | 1,970 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.   | Nov.  | Dec.   | Jan.  | Feb.   | Mar.   | Apr.   | May    | June   | July  | Aug.  | Sept. |
|-------|--------|-------|--------|-------|--------|--------|--------|--------|--------|-------|-------|-------|
| 1     | 52     | 87    | 223    | 183   | 880    | 296    | 233    | 695    | 782    | 198   | 72    | 52    |
| 2     | 50     | 86    | 569    | 178   | 572    | 284    | 220    | 675    | 680    | 190   | 71    | 51    |
| 3     | 57     | 83    | 538    | 183   | *1,450 | 275    | 215    | 690    | 585    | 183   | 70    | 50    |
| 4     | 51     | 82    | 335    | 173   | 1,300  | 263    | 218    | 818    | 527    | 178   | 69    | 49    |
| 5     | 51     | 84    | 296    | 165   | 1,100  | 254    | 349    | 1,240  | 518    | 178   | 68    | 49    |
| 6     | 50     | 80    | 275    | 163   | *1,080 | 251    | 630    | *1,220 | 477    | 180   | 66    | 50    |
| 7     | 53     | 77    | 263    | 158   | 782    | 243    | 518    | 1,270  | *459   | 178   | *65   | 48    |
| 8     | 66     | 76    | 257    | 153   | 845    | 238    | 430    | 1,100  | 450    | 165   | 66    | 46    |
| 9     | 207    | 96    | 251    | 148   | 721    | 233    | 378    | 890    | 455    | 153   | 69    | 45    |
| 10    | 422    | 101   | 243    | 137   | 968    | 223    | 353    | 782    | 426    | 145   | 68    | 44    |
| 11    | 667    | 151   | 238    | 117   | 690    | *218   | 335    | 690    | 402    | 139   | 64    | 44    |
| 12    | 1,590  | 287   | 235    | 111   | 680    | 213    | 731    | 635    | 406    | 132   | 62    | 47    |
| 13    | 637    | 198   | 356    | 132   | 715    | 208    | 1,010  | 595    | 418    | 128   | 61    | 52    |
| 14    | 346    | 150   | 381    | 132   | 575    | 208    | 1,820  | 655    | 406    | 120   | 59    | 48    |
| 15    | 275    | 128   | 1,000  | 122   | 495    | 203    | 1,190  | 770    | 386    | 117   | 58    | 46    |
| 16    | 228    | 120   | 740    | 117   | 464    | 210    | *824   | 908    | 363    | 115   | 57    | 46    |
| 17    | *208   | 117   | 536    | 113   | 426    | 203    | 670    | 1,100  | 353    | 111   | 56    | 52    |
| 18    | 190    | 111   | *434   | 111   | 438    | 198    | 575    | 1,230  | 326    | 108   | 55    | 52    |
| 19    | 180    | 108   | 370    | *110  | 438    | 203    | 504    | 1,390  | 302    | 106   | 54    | 49    |
| 20    | 170    | 110   | 329    | 108   | 426    | 208    | 450    | 1,520  | 281    | 101   | 54    | 48    |
| 21    | 160    | 111   | 311    | 108   | 398    | 205    | 418    | 1,550  | 266    | 100   | 54    | 47    |
| 22    | 148    | 117   | 290    | 106   | 363    | 203    | 398    | 1,460  | 263    | 96    | 54    | 46    |
| 23    | 135    | 106   | 272    | 104   | 346    | 210    | 394    | 1,390  | 251    | 93    | 55    | 46    |
| 24    | 128    | 100   | a 245  | 103   | 329    | 198    | 398    | 1,310  | 235    | 92    | 56    | 44    |
| 25    | 120    | 104   | a 235  | 101   | 332    | 195    | 398    | 1,200  | *228   | 89    | 55    | 43    |
| 26    | 113    | 310   | a 225  | 100   | 370    | 200    | 382    | 1,120  | 223    | 86    | 53    | 42    |
| 27    | 110    | 225   | a 220  | 96    | 323    | 243    | 382    | 1,020  | 225    | 83    | 52    | 41    |
| 28    | 104    | 178   | a 210  | 95    | 308    | 257    | 426    | 1,040  | 220    | 82    | 52    | 40    |
| 29    | 101    | 155   | a 200  | 98    | -----  | 245    | 513    | 1,040  | 215    | 79    | 51    | 40    |
| 30    | 95     | 180   | 195    | 109   | -----  | 251    | 645    | 1,040  | 205    | 77    | 52    | 40    |
| 31    | 92     | ----- | 188    | 545   | -----  | 251    | -----  | 872    | -----  | 74    | 57    | ----- |
| Total | 6,856  | 3,918 | 10,460 | 4,379 | 17,814 | 7,090  | 16,007 | 31,915 | 11,333 | 3,876 | 1,855 | 1,397 |
| Mean  | 221    | 131   | 337    | 141   | 636    | 229    | 534    | 1,030  | 378    | 125   | 59.8  | 46.6  |
| Max   | 1,590  | 310   | 1,000  | 546   | 1,450  | 296    | 1,820  | 1,550  | 784    | 198   | 72    | 52    |
| Min   | 50     | 76    | 188    | 95    | 308    | 195    | 215    | 595    | 205    | 74    | 51    | 40    |
| Ac-ft | 13,600 | 7,770 | 20,750 | 8,690 | 35,330 | 14,060 | 31,750 | 63,300 | 22,480 | 7,690 | 3,680 | 2,770 |

Calendar year 1962: Max 1,590 Min 44 Mean 258 Ac-ft 186,900

Water year 1962-63: Max 1,820 Min 40 Mean 320 Ac-ft 231,900

Peak discharge (base, 800 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1600 | 5.72        | 3,360     | 2-4  | 1700 | 4.65        | 1,640     |
| 12-2  | 1900 | 3.76        | 956       | 4-14 | 0700 | 5.21        | 2,180     |
| 12-15 | 1200 | 4.16        | 1,220     | 5-5  | 2000 | 4.33        | 1,350     |
| 1-31  | 2400 | 4.24        | 1,280     | 5-21 | 1730 | 4.93        | 1,900     |

\* Discharge measurement made on this day.  
a No gage-height record.



11-5254. Trinity Lake near Lewiston, Calif.

Location.--Lat 40°48'05", long 122°45'44", sec.15, T.34 N., R.8 W., on side of intake structure of Trinity Dam on Trinity River, 9 miles north of Lewiston.

Drainage area.--692 sq mi.

Records available.--November 1960 to September 1963.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Jan. 4, 1962, staff gage at same site and datum.

Extremes.--Maximum contents during year, 2,548,600 acre-ft Apr. 15, 1963 (elevation, 2,376.02 ft); minimum, 1,791,300 acre-ft Oct. 7 (elevation, 2,326.01).  
1961-63: Maximum contents that of Apr. 15, 1963; minimum, 971,900 acre-ft Nov. 21, 22, 1961 (elevation, 2,251.93 ft).

Remarks.--The lake is formed by an earth-fill dam completed in November 1960. Storage began Nov. 23, 1960. Usable capacity, 2,437,700 acre-ft between elevations 1,995.5 ft (elevation of invert of river outlets) and 2,370.0 ft (gross pool elevation) above mean sea level. Dead storage, 10,000 acre-ft. Records represent total contents at 2400 hrs.

Cooperation.--Records furnished by Bureau of Reclamation.

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

|       |           |       |           |
|-------|-----------|-------|-----------|
| 2,320 | 1,711,400 | 2,360 | 2,287,100 |
| 2,330 | 1,845,600 | 2,370 | 2,447,700 |
| 2,340 | 1,986,400 | 2,380 | 2,617,000 |
| 2,350 | 2,133,900 |       |           |

Contents, in thousands of acre-feet, at 2400 hours, water year October 1962 to September 1963

| Day  | Oct.     | Nov.     | Dec.     | Jan.     | Feb.     | Mar.     | Apr.     | May      | June     | July     | Aug.     | Sept.    |
|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1    | 1.792.9  | 1.903.8  | 1.958.1  | 2.127.6  | 2.208.3  | 2.394.8  | 2.455.3  | 2.411.9  | 2.514.4  | 2.470.9  | 2.394.1  | 2.283.3  |
| 2    | 1.792.7  | 1.904.2  | 1.977.6  | 2.129.1  | 2.226.2  | 2.397.0  | 2.458.9  | 2.443.2  | 2.511.9  | 2.469.1  | 2.391.5  | 2.280.7  |
| 3    | 1.792.3  | 1.904.5  | 1.990.2  | 2.130.7  | 2.262.1  | 2.399.8  | 2.462.2  | 2.450.6  | 2.508.9  | 2.466.7  | 2.386.0  | 2.277.4  |
| 4    | 1.792.0  | 1.904.7  | 1.996.5  | 2.132.1  | 2.284.9  | 2.401.9  | 2.466.1  | 2.458.6  | 2.505.9  | 2.464.7  | 2.382.9  | 2.274.5  |
| 5    | 1.791.9  | 1.905.2  | 2.001.8  | 2.133.3  | 2.304.0  | 2.404.0  | 2.474.2  | 2.472.9  | 2.503.0  | 2.462.9  | 2.381.6  | 2.271.0  |
| 6    | 1.791.6  | 1.905.6  | 2.005.7  | 2.134.7  | 2.319.5  | 2.406.1  | 2.486.9  | 2.484.6  | 2.500.1  | 2.461.2  | 2.378.9  | 2.267.8  |
| 7    | 1.791.3  | 1.905.9  | 2.009.3  | 2.136.0  | 2.330.3  | 2.408.3  | 2.494.4  | 2.495.3  | 2.498.1  | 2.459.8  | 2.375.0  | 2.265.0  |
| 8    | 1.791.6  | 1.906.2  | 2.012.7  | 2.137.2  | 2.340.9  | 2.410.4  | 2.498.3  | 2.502.3  | 2.496.1  | 2.456.9  | 2.371.5  | 2.261.7  |
| 9    | 1.796.0  | 1.907.1  | 2.015.9  | 2.138.1  | 2.350.2  | 2.411.7  | 2.500.0  | 2.505.0  | 2.494.8  | 2.454.1  | 2.368.3  | 2.258.2  |
| 10   | 1.805.5  | 1.907.8  | 2.019.5  | 2.139.0  | 2.361.4  | 2.413.6  | 2.501.0  | 2.506.5  | 2.492.9  | 2.451.8  | 2.364.7  | 2.255.2  |
| 11   | 1.820.8  | 1.911.3  | 2.021.4  | 2.139.9  | 2.369.7  | 2.415.4  | 2.501.3  | 2.506.5  | 2.491.8  | 2.449.6  | 2.362.3  | 2.251.7  |
| 12   | 1.857.5  | 1.916.0  | 2.024.0  | 2.140.4  | 2.380.8  | 2.417.1  | 2.507.5  | 2.505.9  | 2.490.6  | 2.447.0  | 2.359.8  | 2.248.6  |
| 13   | 1.872.2  | 1.918.7  | 2.029.3  | 2.141.1  | 2.389.0  | 2.418.1  | 2.518.7  | 2.504.8  | 2.489.9  | 2.445.3  | 2.355.1  | 2.245.3  |
| 14   | 1.879.0  | 1.920.1  | 2.035.9  | 2.142.2  | 2.386.3  | 2.419.2  | 2.542.9  | 2.504.3  | 2.489.4  | 2.443.4  | 2.351.8  | 2.242.1  |
| 15   | 1.883.3  | 1.921.3  | 2.061.5  | 2.143.1  | 2.386.3  | 2.420.7  | 2.548.6  | 2.504.8  | 2.488.9  | 2.440.7  | 2.350.0  | 2.238.7  |
| 16   | 1.886.3  | 1.922.3  | 2.073.6  | 2.144.0  | 2.388.1  | 2.422.8  | 2.546.1  | 2.506.7  | 2.487.9  | 2.437.8  | 2.345.9  | 2.235.5  |
| 17   | 1.888.6  | 1.923.2  | 2.082.5  | 2.144.8  | 2.388.3  | 2.424.4  | 2.541.3  | 2.510.1  | 2.487.2  | 2.433.8  | 2.339.8  | 2.232.9  |
| 18   | 1.890.5  | 1.924.1  | 2.088.8  | 2.145.7  | 2.388.4  | 2.425.8  | 2.537.1  | 2.513.9  | 2.486.2  | 2.432.5  | 2.335.4  | 2.233.8  |
| 19   | 1.892.6  | 1.924.9  | 2.095.4  | 2.146.3  | 2.388.1  | 2.427.2  | 2.531.8  | 2.519.1  | 2.485.1  | 2.430.3  | 2.330.6  | 2.230.9  |
| 20   | 1.893.7  | 1.925.6  | 2.099.8  | 2.146.9  | 2.387.5  | 2.428.4  | 2.521.0  | 2.525.2  | 2.483.4  | 2.427.7  | 2.327.0  | 2.227.8  |
| 21   | 1.895.3  | 1.926.4  | 2.103.8  | 2.147.6  | 2.386.7  | 2.429.9  | 2.505.4  | 2.528.6  | 2.481.2  | 2.424.9  | 2.323.2  | 2.224.7  |
| 22   | 1.896.5  | 1.926.9  | 2.107.4  | 2.148.4  | 2.385.0  | 2.429.7  | 2.491.9  | 2.530.5  | 2.479.2  | 2.422.5  | 2.319.5  | 2.221.2  |
| 23   | 1.897.5  | 1.927.3  | 2.110.5  | 2.149.1  | 2.383.3  | 2.425.1  | 2.479.7  | 2.530.8  | 2.478.4  | 2.418.7  | 2.315.9  | 2.218.4  |
| 24   | 1.898.4  | 1.927.9  | 2.113.0  | 2.149.7  | 2.381.0  | 2.423.5  | 2.469.4  | 2.530.5  | 2.477.6  | 2.417.2  | 2.312.5  | 2.215.3  |
| 25   | 1.899.3  | 1.930.2  | 2.115.3  | 2.150.5  | 2.382.0  | 2.424.9  | 2.460.1  | 2.529.1  | 2.476.7  | 2.413.6  | 2.308.8  | 2.212.1  |
| 26   | 1.900.5  | 1.943.1  | 2.117.1  | 2.151.1  | 2.385.5  | 2.427.7  | 2.450.8  | 2.526.9  | 2.475.9  | 2.409.1  | 2.304.9  | 2.208.9  |
| 27   | 1.901.2  | 1.947.9  | 2.119.0  | 2.151.5  | 2.388.8  | 2.437.1  | 2.441.6  | 2.524.7  | 2.475.1  | 2.406.1  | 2.300.8  | 2.206.3  |
| 28   | 1.901.9  | 1.950.8  | 2.121.0  | 2.152.0  | 2.392.2  | 2.441.1  | 2.433.3  | 2.522.5  | 2.474.1  | 2.403.0  | 2.297.1  | 2.202.6  |
| 29   | 1.902.3  | 1.952.8  | 2.122.6  | 2.154.6  | -----    | 2.442.4  | 2.432.2  | 2.522.0  | 2.473.2  | 2.400.9  | 2.293.5  | 2.199.4  |
| 30   | 1.902.8  | 1.954.8  | 2.124.3  | 2.157.6  | -----    | 2.444.7  | 2.439.4  | 2.520.2  | 2.472.4  | 2.399.1  | 2.290.2  | 2.196.4  |
| 31   | 1.903.4  | -----    | 2.126.1  | 2.179.9  | -----    | 2.451.1  | -----    | 2.517.5  | -----    | 2.397.0  | 2.286.6  | -----    |
| (†)  | 2,334.14 | 2,337.71 | 2,349.48 | 2,353.04 | 2,366.61 | 2,370.21 | 2,369.50 | 2,374.18 | 2,371.49 | 2,366.91 | 2,359.97 | 2,354.12 |
| (*)  | +110.5   | +51.4    | +171.3   | +53.8    | +212.3   | +58.9    | -11.7    | +75.0    | -45.1    | -75.4    | -110.4   | -94.1    |
| (††) | 1,738    | 764      | 180      | -        | -        | 220      | 2,030    | 5,400    | 8,890    | 9,330    | 8,350    | 5,490    |

Calendar year 1962..... † 1,098.7

Water year 1962-63..... † 403.5

† Elevation in feet, at end of month.

\* Change in contents, in thousands of acre-feet. May and September figures adjusted by Bureau of Reclamation to compensate for temporary change in recorder gage datum May 20 to Sept. 18.

†† Evaporation, in acre-feet, furnished by Bureau of Reclamation. No record January and February.

## KLAMATH RIVER BASIN

11-5255. Trinity River at Lewiston, Calif.

Location.--Lat 40°42'40", long 122°48'20", in SW<sup>1</sup>/<sub>4</sub>SW<sup>1</sup>/<sub>4</sub> sec.17, T.33 N., R.8 W., on left bank 0.3 mile upstream from old highway bridge in Lewiston and 0.5 mile downstream from Deadwood Creek.

Drainage area.--726 sq mi.

Records available.--August 1911 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 1,797.70 ft above mean sea level, datum of 1929. Prior to Oct. 16, 1930, staff gage and Oct. 16, 1930 to Sept. 30, 1958, water-stage recorder, at site 0.3 mile downstream at datum 3.60 ft lower.

Average discharge.--52 years, 1,649 cfs (1,194,000 acre-ft per year) adjusted for storage, evaporation and diversion.

Extremes.--Maximum discharge during year, 12,700 cfs Apr. 20 (gage height, 12.38 ft); minimum daily, 131 cfs May 4.

1911-60 (prior to regulation by Trinity Lake): Maximum discharge, 71,600 cfs Dec. 22, 1955 (gage height, 27.3 ft, from flood-marks, site and datum then in use); minimum, 23 cfs July 30, 1924.

1961-63: Maximum discharge, that of Apr. 20, 1963; minimum daily, that of May 4, 1963.

Remarks.--Records good except those for period of shifting control, which are fair. Flow regulated by Trinity Lake (see preceding page), beginning in November 1960. Diversion to Clear Creek powerhouse began in April 1963. Small diversions above head of Trinity Lake for irrigation, power and placer mining.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.    | Nov.   | Dec.    | Jan.   | Feb.    | Mar.   | Apr.    | May     | June    | July   | Aug.   | Sept.     |
|---------------------|---------|--------|---------|--------|---------|--------|---------|---------|---------|--------|--------|-----------|
| 1                   | 163     | 211    | 234     | 161    | 725     | *270   | *170    | *2410   | 4150    | 144    | 166    | 172       |
| 2                   | 200     | 225    | 496     | 151    | *289    | 243    | 140     | 4160    | 3910    | 144    | 164    | 172       |
| 3                   | 211     | 214    | 521     | 132    | 299     | 240    | 136     | 154     | *3,740  | 144    | 164    | 169       |
| 4                   | 208     | 219    | 369     | *134   | 270     | 220    | 145     | 131     | 3,330   | 149    | 166    | *169      |
| 5                   | 198     | 225    | 292     | 134    | 257     | 220    | 470     | 237     | 3,210   | 149    | 162    | 169       |
| 6                   | 198     | 225    | 245     | 134    | 254     | 209    | 2,100   | 1,850   | 2,970   | 149    | *156   | 169       |
| 7                   | 206     | 206    | 225     | 136    | 245     | 199    | 2,530   | 2,640   | 2,750   | 149    | 159    | 169       |
| 8                   | 203     | 208    | 208     | 163    | 236     | 196    | 2,980   | 3,290   | 2,580   | *154   | 164    | 169       |
| 9                   | 217     | 211    | 206     | 195    | 222     | 194    | 3,510   | 3,640   | 2,360   | 166    | 159    | 169       |
| 10                  | 251     | 214    | 217     | 182    | 251     | 191    | 3,660   | 4,480   | 2,330   | 166    | 156    | 169       |
| 11                  | 270     | 222    | 211     | 175    | 263     | 196    | 2,920   | 4,110   | 2,220   | 166    | 156    | 169       |
| 12                  | 361     | 225    | 182     | 168    | 289     | 189    | 4,000   | 3,900   | 2,120   | 169    | 149    | *169      |
| 13                  | 334     | 222    | 152     | 161    | 443     | 184    | 4,220   | 3,690   | 2,080   | 166    | 159    | 169       |
| 14                  | 279     | 222    | 152     | 154    | *5,420  | *218   | 6,170   | *3,760  | 2,070   | 164    | 166    | 169       |
| 15                  | 254     | 222    | 190     | 147    | 4,770   | 243    | 8,230   | 3,700   | 1,860   | 164    | 149    | 172       |
| 16                  | 217     | *217   | 200     | 145    | 3,220   | 258    | *8,520  | 3,840   | 1,790   | 164    | 147    | 172       |
| 17                  | 211     | 203    | 222     | 147    | 3,090   | 258    | *7,610  | 4,100   | 1,710   | 164    | 164    | 172       |
| 18                  | 206     | 203    | 234     | 147    | 3,030   | 243    | 7,120   | 4,390   | 1,710   | 164    | 164    | 172       |
| 19                  | 203     | 206    | 231     | 149    | 3,030   | 223    | 6,780   | 4,710   | *1,630  | 166    | 164    | 169       |
| 20                  | 203     | 214    | 214     | 152    | *3,000  | 172    | 7,800   | 5,070   | 1,580   | 164    | 164    | 166       |
| 21                  | 206     | 214    | 195     | 152    | 2,990   | 176    | 11,600  | 5,530   | 901     | 164    | 166    | 166       |
| 22                  | 203     | 219    | 192     | 145    | 2,980   | 244    | *9,920  | 5,800   | 1,630   | 166    | 166    | 166       |
| 23                  | 208     | 231    | 192     | 141    | 2,990   | 189    | 8,930   | 5,860   | 1,050   | 179    | 164    | 166       |
| 24                  | 208     | 222    | 192     | 141    | 2,990   | 162    | 7,910   | 5,840   | 1,680   | *179   | 164    | 166       |
| 25                  | 211     | 211    | 195     | 143    | *2,350  | 149    | 7,490   | 5,410   | 1,440   | 172    | 164    | 166       |
| 26                  | 211     | 432    | 195     | 145    | 433     | 153    | 7,250   | 5,210   | 981     | 179    | 164    | 166       |
| 27                  | 217     | 361    | 192     | 149    | 294     | 610    | 7,110   | 4,990   | 943     | 179    | 164    | 166       |
| 28                  | 219     | 289    | 178     | 154    | 280     | 2,360  | 7,150   | 4,990   | 610     | 177    | 166    | 169       |
| 29                  | 222     | 266    | 180     | 149    |         | 3,240  | 4,130   | 4,820   | 144     | 177    | 172    | 169       |
| 30                  | 214     | 254    | 182     | 154    |         | 3,170  | 160     | 4,790   | 142     | 172    | 172    | *197      |
| 31                  | 198     |        | 175     | 661    |         | 1,140  |         | 4,560   |         | 169    | 172    |           |
| Total               | 6,910   | 7,013  | 7,069   | 5,201  | 44,910  | 15,968 | 150,861 | 220,621 | 59,621  | 5,078  | 5,032  | 5,092     |
| Mean                | 223     | 234    | 228     | 168    | 1,604   | 515    | 5,030   | 3,937   | 1,987   | 164    | 162    | 170       |
| Max                 | 361     | 432    | 521     | 661    | 5,420   | 3,240  | 11,600  | 5,860   | 4,150   | 179    | 172    | 197       |
| Min                 | 163     | 203    | 152     | 132    | 222     | 149    | 136     | 131     | 142     | 144    | 147    | 166       |
| Ac-ft               | 13,710  | 13,910 | 14,020  | 10,320 | 89,080  | 31,670 | 299,200 | 242,100 | 118,300 | 10,070 | 9,980  | 10,100    |
| Meant               | 2,049   | 1,110  | 3,017   | 1,043  | 5,427   | 1,477  | 4,892   | 5,360   | 1,764   | 470    | 85.7   | 58.3      |
| Ac-ft†              | 126,000 | 66,070 | 185,500 | 64,120 | 301,400 | 90,790 | 291,100 | 329,600 | 105,000 | 28,890 | 5,270  | 3,470     |
| Calendar year 1962: | Max     | 1,020  | Min     | 152    | Mean    | 214    | Ac-ft   | 155,200 | Meant   | 1,834  | Ac-ft† | 1,328,000 |
| Water year 1962-63: | Max     | 11,600 | Min     | 131    | Mean    | 1,191  | Ac-ft   | 862,500 | Meant   | 2,206  | Ac-ft† | 1,597,000 |

\* Discharge measurement made on this day.

† Adjusted for storage in and evaporation from Trinity Lake, and diversion to Clear Creek powerhouse (furnished by Bureau of Reclamation).

Note.--Shifting-control method used Apr. 9-30.

11-5255. Trinity River at Lewiston, Calif.--Continued.

Records available.--Water temperatures: October 1960 to September 1963.

Extremes.--Maximum temperature during year, 70°F June 18, 19, 21; minimum, 41°F Dec. 25-31, Jan. 2, 3.  
 1960-63: Maximum temperature, that of June 18, 19, 21, 1963; minimum, 37°F Jan. 22, 23, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 57   | 53  | 48    | 47    | 44   | 43  | 42   | 42  | 45    | 44    | 48   | 47  | 47    | 45    | 49  | 46  | 61    | 59    | 69   | 63  | 58   | 52  | 57    | 53    |
| 2   | 56   | 52  | 47    | 47    | 44   | 44  | 42   | 41  | 46    | 45    | 48   | 47  | 48    | 45    | 47  | 47  | 61    | 60    | 69   | 63  | 58   | 52  | 58    | 53    |
| 3   | 52   | 51  | 47    | 47    | 44   | 44  | 42   | 41  | 47    | 46    | 48   | 47  | 46    | 45    | 47  | 46  | 60    | 60    | 69   | 64  | 57   | 51  | 58    | 53    |
| 4   | 52   | 51  | 47    | 47    | 44   | 44  | 43   | 42  | 48    | 47    | 48   | 46  | 47    | 45    | 47  | 46  | 62    | 60    | 67   | 64  | 57   | 51  | 56    | 51    |
| 5   | 52   | 50  | 47    | 47    | 44   | 44  | 42   | 42  | 48    | 47    | 47   | 46  | 46    | 46    | 48  | 47  | 62    | 62    | 66   | 63  | 58   | 53  | 54    | 52    |
| 6   | 52   | 50  | 47    | 46    | 44   | 44  | 42   | 42  | 49    | 48    | 47   | 46  | 47    | 46    | 48  | 47  | 62    | 62    | 64   | 62  | 58   | 53  | 55    | 51    |
| 7   | 51   | 49  | 46    | 46    | 44   | 44  | 42   | 42  | 49    | 49    | 48   | 46  | 48    | 47    | 49  | 47  | 63    | 62    | 64   | 61  | 58   | 52  | 55    | 51    |
| 8   | 52   | 49  | 46    | 46    | 44   | 44  | 43   | 42  | 50    | 48    | 46   | 46  | 48    | 48    | 50  | 49  | 64    | 63    | 64   | 59  | 54   | 53  | 56    | 51    |
| 9   | 52   | 51  | 46    | 45    | 44   | 44  | 43   | 43  | 48    | 48    | 48   | 46  | 48    | 48    | 51  | 50  | 65    | 64    | 63   | 57  | 54   | 52  | 56    | 51    |
| 10  | 51   | 50  | 45    | 45    | 44   | 44  | 43   | 43  | 48    | 48    | 49   | 46  | 48    | 48    | 51  | 51  | 65    | 64    | 62   | 56  | 57   | 50  | 56    | 51    |
| 11  | 50   | 48  | 45    | 45    | 44   | 44  | -    | -   | 48    | 47    | 49   | 47  | 48    | 48    | 51  | 51  | 65    | 64    | 62   | 55  | 57   | 51  | 56    | 52    |
| 12  | 48   | 48  | 45    | 45    | 44   | 44  | -    | -   | 47    | 47    | 49   | 47  | 48    | 48    | 52  | 51  | 65    | 64    | 62   | 55  | 57   | 51  | 55    | 52    |
| 13  | 48   | 48  | 45    | 45    | 44   | 44  | -    | -   | 47    | 47    | 48   | 46  | 48    | 47    | 53  | 52  | 66    | 64    | 62   | 56  | 57   | 51  | -     | -     |
| 14  | 48   | 47  | 45    | 44    | 44   | 44  | -    | -   | 47    | 44    | 46   | 45  | 47    | 47    | 53  | 53  | 66    | 65    | 62   | 56  | 58   | 51  | -     | -     |
| 15  | 49   | 47  | 44    | 44    | 44   | 44  | -    | -   | 44    | 44    | 45   | 44  | 48    | 47    | 54  | 53  | 67    | 65    | 61   | 55  | 58   | 52  | -     | -     |
| 16  | 49   | 48  | 44    | 44    | 44   | 44  | 43   | 42  | 44    | 44    | 44   | 44  | 47    | 46    | 55  | 54  | 68    | 66    | 60   | 55  | 58   | 52  | -     | -     |
| 17  | 49   | 48  | 44    | 44    | 44   | 44  | 43   | 43  | 45    | 44    | 46   | 44  | 47    | 46    | 56  | 55  | 69    | 67    | 60   | 54  | 58   | 52  | -     | -     |
| 18  | 49   | 48  | 44    | 44    | 44   | 44  | 43   | 43  | 45    | 45    | 48   | 44  | 47    | 47    | 57  | 56  | 70    | 68    | 60   | 54  | 57   | 52  | 54    | 51    |
| 19  | 50   | 48  | 45    | 44    | 44   | 44  | 43   | 42  | 45    | 45    | 48   | 45  | 47    | 47    | 58  | 57  | 70    | 68    | 60   | 54  | 57   | 52  | 53    | 51    |
| 20  | 50   | 49  | 45    | 45    | 44   | 44  | 42   | 42  | 45    | 45    | 49   | 46  | 48    | 47    | 58  | 57  | 68    | 67    | 60   | 54  | 57   | 52  | 54    | 51    |
| 21  | 50   | 49  | 45    | 45    | 44   | 44  | 43   | 42  | 45    | 44    | 47   | 46  | 48    | 47    | 58  | 58  | 70    | 65    | 60   | 54  | 57   | 52  | 53    | 51    |
| 22  | 50   | 49  | 45    | 45    | 44   | 44  | 44   | 43  | 45    | 44    | 48   | 46  | 47    | 47    | 58  | 58  | 65    | 63    | 60   | 54  | 56   | 52  | 53    | 51    |
| 23  | 50   | 49  | 45    | 44    | 44   | 43  | 44   | 44  | 45    | 44    | 47   | 46  | 47    | 47    | 58  | 58  | 63    | 62    | 60   | 54  | 54   | 52  | 54    | 51    |
| 24  | 50   | 49  | 44    | 44    | 43   | 42  | 44   | 44  | 45    | 44    | 48   | 46  | 47    | 47    | 59  | 58  | 63    | 61    | 57   | 53  | 57   | 52  | 54    | 51    |
| 25  | 49   | 48  | 44    | 44    | 42   | 41  | 45   | 44  | 45    | 44    | 48   | 45  | 47    | 47    | 59  | 58  | 66    | 62    | 58   | 52  | 57   | 52  | 55    | 51    |
| 26  | 48   | 47  | 44    | 44    | 41   | 41  | 45   | 44  | 46    | 44    | 47   | 46  | 47    | 47    | 59  | 58  | 68    | 64    | 58   | 53  | 56   | 52  | 56    | 52    |
| 27  | 48   | 47  | 44    | 44    | 41   | 41  | 44   | 43  | 47    | 45    | 46   | 46  | 47    | 46    | 59  | 57  | 68    | 64    | 57   | 53  | 57   | 52  | 56    | 52    |
| 28  | 48   | 47  | 44    | 44    | 41   | 41  | 43   | 43  | 47    | 46    | 46   | 46  | 47    | 46    | 59  | 57  | 68    | 62    | 58   | 52  | 57   | 52  | 56    | 52    |
| 29  | 48   | 47  | 44    | 43    | 41   | 41  | 44   | 43  | ----- | ----- | 46   | 46  | 47    | 46    | 60  | 59  | 68    | 62    | 58   | 51  | 56   | 52  | 56    | 52    |
| 30  | 48   | 47  | 43    | 43    | 41   | 41  | 44   | 44  | ----- | ----- | 46   | 46  | 51    | 47    | 60  | 60  | 69    | 63    | 58   | 51  | 57   | 53  | 56    | 52    |
| 31  | 48   | 47  | ----- | ----- | 42   | 41  | 44   | 44  | ----- | ----- | 47   | 46  | ----- | ----- | 60  | 59  | ----- | ----- | 58   | 52  | 57   | 53  | ----- | ----- |
| Avg | 50   | 49  | 45    | 45    | 43   | 43  | -    | -   | 46    | 46    | 47   | 46  | 47    | 47    | 54  | 53  | 66    | 63    | 62   | 56  | 57   | 52  | -     | -     |

## KLAMATH RIVER BASIN

11-5258. Weaver Creek near Douglas City, Calif.

Location.--Lat 40°40'15", long 122°56'30", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.36, T.33 N., R.10 W., on left bank 0.2 mile downstream from highway bridge and 1.3 miles north of Douglas City.

Drainage area.--48.4 sq mi.

Records available.--October 1958 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,680 ft (from topographic map).

Average discharge.--5 years, 53.4 cfs (38,660 acre-ft per year).

Extremes.--Maximum discharge during year, 7,380 cfs Jan. 31 (gage height, 11.40 ft), from rating curve extended above 600 cfs; minimum daily, 1.8 cfs Sept. 10.

1958-63: Maximum discharge, that of Jan. 31, 1963, from rating curve extended above 600 cfs; minimum daily, 0.3 cfs several days in August, September 1959.

Remarks.--No diversion or regulation above station.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan.  | Feb.   | Mar.  | Apr.   | May    | June  | July  | Aug.  | Sept. |
|-------|-------|-------|-------|-------|--------|-------|--------|--------|-------|-------|-------|-------|
| 1     | 5.4   | 1.6   | 5.9   | 2.6   | 88.2   | 58    | 20.7   | 12.7   | 7.3   | 2.0   | 6.3   | 2.9   |
| 2     | 5.6   | 1.7   | 7.13  | 2.5   | 55.0   | 55    | 18.7   | 12.2   | 6.9   | * 1.7 | 5.6   | 2.6   |
| 3     | 6.8   | 1.6   | 2.45  | 2.4   | 4.73   | 52    | 20.5   | 12.4   | 6.6   | 1.8   | 5.6   | 2.6   |
| 4     | 7.5   | 1.5   | 1.16  | 2.3   | 2.69   | 48    | 18.7   | 12.2   | 6.2   | 1.7   | 5.3   | 2.4   |
| 5     | 8.2   | 1.5   | 8.4   | 2.1   | 2.13   | 4.6   | 4.12   | 1.36   | 5.9   | 1.7   | * 5.0 | * 2.2 |
| 6     | 9.1   | 1.5   | 6.6   | 2.2   | 1.93   | 4.5   | 5.23   | 1.36   | 5.7   | 1.6   | 4.9   | 2.9   |
| 7     | 9.9   | 1.5   | 5.5   | 2.1   | 1.66   | 4.3   | 3.48   | 1.36   | 5.4   | 1.6   | * 3.9 | 2.5   |
| 8     | 1.2   | 1.6   | 4.7   | 2.0   | 1.66   | 4.0   | * 2.61 | 1.35   | 5.2   | 1.5   | 4.1   | 2.1   |
| 9     | 1.7   | 1.7   | 4.1   | * 1.9 | 1.89   | 4.0   | 2.17   | 1.27   | 4.8   | 1.4   | 5.1   | 1.9   |
| 10    | 4.8   | 1.8   | 3.7   | 2.0   | 2.43   | 3.7   | 2.03   | 1.28   | 4.8   | 1.4   | 4.7   | 1.8   |
| 11    | * 9.3 | 2.4   | 3.3   | 1.8   | 2.00   | 3.4   | 1.82   | 1.19   | 4.7   | 1.4   | 4.0   | * 2.0 |
| 12    | 2.22  | 3.6   | 2.9   | 1.8   | 4.04   | 3.3   | 2.01   | 1.13   | 4.5   | 1.3   | 3.6   | 2.2   |
| 13    | 9.7   | 3.0   | 3.3   |       | * 3.65 | * 3.1 | 3.07   | 1.07   | 4.3   | 1.3   | 3.5   | 2.3   |
| 14    | 6.9   | 2.4   | * 3.2 |       | 2.11   | 3.3   | 4.63   | 1.07   | 4.1   | 1.2   | 3.3   | 2.3   |
| 15    | 4.2   | 2.2   | 1.55  |       | 1.61   | 3.1   | 3.70   | 1.10   | 3.9   | 1.2   | 3.1   | 2.4   |
| 16    | 3.2   | 2.1   | 1.09  | a 1.4 | 1.62   | 4.1   | 2.68   | 1.15   | 4.1   | 1.2   | 3.5   | 2.5   |
| 17    | 2.7   | 2.1   | * 9.7 |       | 1.43   | 3.8   | 2.12   | 1.20   | 4.1   | 1.1   | 3.1   | 3.2   |
| 18    | 2.5   | 2.0   | 8.0   |       | 1.37   | 3.8   | 2.15   | 1.26   | 3.7   | 1.1   | 2.9   | 4.2   |
| 19    | 2.3   | 2.0   | 7.0   |       | 1.25   | 3.7   | 2.33   | 1.31   | 3.4   | 1.1   | 2.9   | 3.6   |
| 20    | 2.2   | 1.9   | 6.1   |       | 1.17   | 3.9   | 1.89   | 1.34   | 3.2   | 1.0   | 2.7   | 3.8   |
| 21    | 2.2   | 1.9   | 5.4   |       | 1.07   | 4.0   | 1.66   | 1.32   | 2.9   | 9.6   | 2.9   | 3.6   |
| 22    | 2.1   | 1.9   | 4.7   |       | 9.6    | 4.1   | 1.46   | 1.28   | 2.8   | 9.2   | 3.1   | 3.7   |
| 23    | 2.0   | 1.9   | 4.4   |       | 9.0    | 5.5   | 1.33   | * 1.24 | 2.9   | 8.7   | 3.3   | 3.7   |
| 24    | 1.8   | 1.9   | 4.0   |       | 8.1    | 5.0   | 1.26   | 1.19   | 2.8   | 8.7   | 3.5   | 3.6   |
| 25    | 1.8   | 1.9   | 3.7   |       | 7.6    | 4.7   | 1.54   | 1.10   | 2.5   | 8.3   | 3.5   | 3.2   |
| 26    | 1.8   | 5.74  | 3.4   | a 1.2 | 7.1    | 5.0   | 1.36   | 1.02   | 2.3   | 7.9   | 3.2   | 3.0   |
| 27    | 1.8   | 1.15  | 3.3   |       | 6.6    | 7.59  | 1.26   | 9.6    | 2.3   | 7.5   | 3.1   | 2.4   |
| 28    | 1.7   | 7.0   | 3.0   |       | 6.2    | 5.45  | 1.24   | 9.2    | 2.1   | 7.1   | 2.9   | 2.1   |
| 29    | 1.6   | 5.1   | 2.8   |       | -----  | 3.25  | 1.24   | 8.9    | 2.1   | 7.1   | 3.0   | 1.9   |
| 30    | 1.6   | 4.5   | 2.8   |       | -----  | 2.67  | 1.25   | 8.3    | 2.1   | 6.7   | 2.9   | 1.9   |
| 31    | 1.6   | ----- | 2.8   | 2.280 | -----  | 2.40  | -----  | 7.6    | ----- | 6.7   | 3.2   | ----- |
| Total | 981.5 | 1,347 | 2,565 | 2,869 | 6,018  | 3,238 | 6,750  | 3,626  | 1,236 | 3,705 | 1,177 | 81.5  |
| Mean  | 31.7  | 44.9  | 82.7  | 92.5  | 215    | 104   | 225    | 117    | 41.2  | 12.0  | 3.80  | 2.72  |
| Max   | 222   | 574   | 713   | 2,280 | 882    | 759   | 523    | 136    | 73    | 20    | 6.3   | 4.2   |
| Min   | 5.4   | 1.5   | 2.8   | -     | 6.2    | 3.1   | 1.24   | 7.6    | 2.1   | 6.7   | 2.7   | 1.8   |
| Ac-ft | 1,950 | 2,670 | 5,090 | 5,690 | 11,940 | 6,420 | 13,390 | 7,190  | 2,450 | 735   | 233   | 162   |

Calendar year 1962: Max 1,140 Min 0.4 Mean 46.1 Ac-ft 33,350  
 Water year 1962-63: Max 2,280 Min 1.8 Mean 80.0 Ac-ft 57,920

\* Discharge measurement made on this day.  
 a No gage-height record.

11-5259. Browns Creek near Douglas City, Calif.

Location.--Lat 40°38'35", long 122°58'45", in NE 1/4 sec. 10, T.32 N., R.10 W., on right bank 2 miles upstream from mouth and 2.1 miles west of Douglas City.

Drainage area.--71.6 sq mi.

Records available.--January 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,640 ft (from topographic map).

Average discharge.--6 years, 86.4 cfs (62,550 acre-ft per year).

Extremes.--Maximum discharge during year, 1,270 cfs Mar. 27 (gage height, 12.89 ft); minimum daily, 4.0 cfs Oct. 4.  
1957-63: Maximum discharge, 3,950 cfs Feb. 18, 1958 (gage height, 16.60 ft), from rating curve extended above 1,400 cfs;  
minimum, 0.3 cfs July 31, Aug. 1, 1962.

Remarks.--Small diversion for irrigation above station.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.  | Dec.  | Jan.  | Feb.   | Mar.  | Apr.   | May   | June  | July  | Aug.  | Sept. |
|-------|---------|-------|-------|-------|--------|-------|--------|-------|-------|-------|-------|-------|
| 1     | 6.2     | 12    | 39    | 35    | 61.4   | 82    | 275    | 194   | 58    | 20    | 8.5   | 6.9   |
| 2     | 5.3     | 12    | 175   | 33    | 388    | 80    | 224    | 185   | 57    | 19    | 8.5   | 6.4   |
| 3     | 4.5     | 12    | 277   | 32    | 323    | 76    | 214    | 172   | 55    | 19    | 7.6   | 5.8   |
| 4     | 4.0     | 13    | 135   | 31    | 276    | 73    | 194    | 166   | 53    | 19    | 7.6   | 5.7   |
| 5     | 4.0     | 13    | 93    | 28    | 215    | 70    | 270    | 166   | 50    | 19    | 7.7   | 5.9   |
| 6     | 4.4     | 13    | 75    | 27    | 169    | 69    | 378    | 156   | 50    | 19    | 8.4   | 6.9   |
| 7     | 5.2     | 12    | 65    | 27    | 140    | 66    | 375    | * 146 | 49    | 19    | 8.5   | 7.0   |
| 8     | 5.4     | 13    | 56    | 25    | 134    | 65    | * 328  | 138   | 48    | 18    | 7.7   | 6.4   |
| 9     | 8.7     | 13    | 49    | * 24  | 265    | 65    | 292    | 129   | 45    | 18    | 9.1   | 5.7   |
| 10    | 4.5     | 14    | 44    | 23    | 1,120  | 59    | 279    | 135   | 43    | 16    | 8.9   | 5.9   |
| 11    | 11.0    | 15    | 41    | 22    | 652    | 56    | 261    | 127   | 43    | 16    | 8.1   | * 5.2 |
| 12    | * 289   | 16    | 38    | 22    | 554    | 54    | 344    | 120   | 40    | 15    | 7.1   | 5.0   |
| 13    | 191     | 15    | 38    | 22    | 727    | * 53  | 557    | 116   | 39    | 15    | 7.4   | 5.4   |
| 14    | 90      | 14    | * 35  | 22    | 491    | 53    | 983    | 111   | 37    | 15    | 6.6   | 5.6   |
| 15    | 69      | 14    | 99    | 22    | 369    | 51    | 802    | 104   | 36    | 14    | 6.3   | 5.5   |
| 16    | 42      | 14    | 124   | 22    | 315    | 58    | 588    | 102   | 37    | 14    | 6.2   | 5.9   |
| 17    | 31      | 14    | * 114 | 22    | 266    | 50    | 473    | 99    | 38    | 14    | 6.0   | 6.8   |
| 18    | 23      | 14    | 102   | 22    | 221    | 48    | 401    | 96    | * 34  | 13    | 6.0   | 6.9   |
| 19    | 21      | 14    | 89    | 22    | 190    | 47    | 372    | 94    | 31    | 13    | 5.6   | 6.7   |
| 20    | 19      | 13    | 80    | 22    | 166    | 48    | 332    | 92    | 29    | 12    | 5.8   | 6.2   |
| 21    | 17      | 13    | 74    | 22    | 144    | 49    | 302    | 89    | 27    | 12    | * 5.9 | 5.7   |
| 22    | 16      | 13    | 65    | 22    | 129    | 53    | 278    | 87    | 27    | 12    | 5.4   | 5.9   |
| 23    | 15      | 13    | 61    | 21    | 116    | 86    | 256    | 90    | 27    | 11    | 6.1   | 6.1   |
| 24    | 15      | 13    | 56    | 20    | 109    | 80    | 244    | 85    | 25    | 11    | 6.7   | 6.2   |
| 25    | 14      | 13    | 50    | 19    | 103    | 75    | 255    | 81    | 22    | 11    | 7.1   | 5.8   |
| 26    | 14      | 155   | 48    | 18    | 96     | 78    | 248    | 77    | 22    | 12    | 6.7   | 5.5   |
| 27    | 14      | 112   | 46    | 17    | 91     | 584   | 235    | 71    | 20    | 10    | 6.2   | 5.2   |
| 28    | 13      | 68    | 43    | 16    | 87     | 744   | 224    | 68    | 20    | 9.8   | 5.7   | 5.3   |
| 29    | 13      | 49    | 40    | 15    | -----  | 419   | 217    | 69    | 20    | 8.9   | 5.5   | 5.0   |
| 30    | 13      | 40    | 38    | 23    | -----  | 353   | 206    | 64    | 20    | 8.6   | 5.8   | 5.7   |
| 31    | 13      | ----- | 37    | 338   | -----  | 312   | -----  | 62    | ----- | 8.7   | 6.6   | ----- |
| Total | 1,134.7 | 759   | 2,326 | 1,036 | 8,470  | 4,056 | 10,407 | 3,491 | 1,102 | 4,420 | 215.3 | 178.2 |
| Mean  | 36.6    | 25.3  | 75.0  | 33.4  | 303    | 131   | 347    | 113   | 36.7  | 14.3  | 6.94  | 5.94  |
| Max   | 289     | 155   | 277   | 338   | 1,120  | 744   | 983    | 194   | 58    | 20    | 9.1   | 7.0   |
| Min   | 4.0     | 12    | 35    | 15    | 87     | 47    | 194    | 62    | 20    | 8.6   | 5.4   | 5.0   |
| Ac-ft | 2,250   | 1,510 | 4,610 | 2,060 | 16,800 | 8,040 | 20,640 | 6,920 | 2,190 | 877   | 427   | 353   |

Calendar year 1962: Max 794 Min 0.6 Mean 54.6 Ac-ft 39,540  
 Water year 1962-63: Max 1,120 Min 4.0 Mean 92.1 Ac-ft 66,680

\* Discharge measurement made on this day.

Note.--No gage-height record Jan. 12-28.

11-5265. North Fork Trinity River at Helena, Calif.

Location.--Lat 40°46'55", long 123°07'40", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 21, T.34 N., R.11 W., on right bank 500 ft downstream from East Fork of North Fork, 0.6 mile north of Helena, 1.0 mile upstream from mouth, and 6 miles northwest of Junction City.

Drainage area.--151 sq mi.

Records available.--August 1911 to September 1913, January 1957 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,380 ft (from topographic map). August 1911 to September 1913 at site three-quarters of a mile downstream at different datum.

Average discharge.--8 years, 437 cfs (316,400 acre-ft per year).

Extremes.--Maximum discharge during year, 7,890 cfs Dec. 2 (gage height, 16.41 ft); minimum daily, 24 cfs Sept. 28.

1911-13, 1957-63: Maximum discharge, 13,500 cfs Jan. 12, 1959 (gage height, 19.66 ft); minimum daily, 13 cfs Sept. 24, 25, 1957.

Remarks.--No known regulation or diversion above station.

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

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day                 | Oct.    | Nov.   | Dec.   | Jan.   | Feb.    | Mar.   | Apr.   | May     | June   | July  | Aug.  | Sept. |
|---------------------|---------|--------|--------|--------|---------|--------|--------|---------|--------|-------|-------|-------|
| 1                   | 37      | 129    | 636    | 224    | 3,950   | 328    | 926    | 992     | 490    | 152   | 70    | 35    |
| 2                   | 36      | 123    | 4,590  | 212    | 2,300   | 313    | 704    | 897     | 459    | 149   | 67    | 34    |
| 3                   | 50      | 119    | 3,590  | 209    | 3,000   | 297    | 624    | 978     | 401    | 154   | 66    | 33    |
| 4                   | 49      | 116    | 1,750  | 196    | 2,280   | 280    | 575    | 1,020   | 360    | 156   | 63    | 31    |
| 5                   | 41      | 119    | 1,120  | 185    | 1,820   | 267    | 1,760  | 1,560   | 354    | 162   | * 62  | 31    |
| 6                   | 40      | 114    | 821    | 177    | 1,410   | 257    | 3,430  | 1,640   | 338    | 163   | 58    | 32    |
| 7                   | 41      | 107    | 667    | 164    | 1,110   | 244    | 2,560  | 1,550   | 326    | 160   | 57    | 31    |
| 8                   | 144     | 102    | 566    | 156    | 943     | 231    | 1,830  | 1,300   | 330    | 149   | 57    | 31    |
| 9                   | 670     | 131    | 495    | * 153  | 833     | 225    | 1,470  | 1,010   | 340    | 141   | 62    | 29    |
| 10                  | 1,300   | 164    | 443    | 149    | 953     | 214    | 1,250  | 867     | 367    | 140   | 62    | 29    |
| 11                  | * 2,180 | 321    | 400    | 140    | 790     | 202    | 1,030  | 771     | 318    | 141   | 57    | * 29  |
| 12                  | 4,270   | 797    | 366    | 130    | 877     | 195    | 1,320  | 702     | 326    | 136   | 54    | 31    |
| 13                  | 2,330   | 569    | 507    | 138    | * 1,190 | * 186  | 2,210  | 670     | 351    | 147   | 51    | 35    |
| 14                  | 1,340   | 391    | * 495  | 135    | 1,000   | 189    | 3,210  | 662     | 384    | 145   | 49    | 32    |
| 15                  | 917     | 314    | 1,650  | 127    | 809     | 181    | 2,640  | 702     | 383    | 132   | 46    | 30    |
| 16                  | 626     | 274    | 1,360  | 125    | 727     | 198    | 1,860  | 776     | 372    | 120   | 44    | 30    |
| 17                  | 495     | 245    | * 968  | 121    | 673     | 181    | 1,450  | 941     | 355    | 116   | 43    | 32    |
| 18                  | 430     | 222    | 778    | 116    | 690     | 179    | 1,210  | 1,130   | 333    | 108   | 42    | 33    |
| 19                  | 383     | 202    | 652    | 112    | 697     | 183    | 1,050  | 1,200   | 309    | 104   | 41    | 32    |
| 20                  | 338     | 188    | 566    | 110    | 629     | 197    | 903    | 1,270   | 271    | 103   | 40    | 30    |
| 21                  | 301     | 183    | 501    | 107    | 573     | 205    | 823    | 1,200   | 241    | 103   | 39    | 29    |
| 22                  | 273     | 187    | 458    | 106    | 519     | 207    | 770    | 1,060   | 217    | 99    | 37    | 28    |
| 23                  | 241     | 176    | 413    | 102    | 474     | 246    | 746    | * 969   | 208    | 94    | 36    | 28    |
| 24                  | 218     | 162    | 379    | 99     | 440     | 241    | 762    | 853     | 181    | 92    | 36    | 28    |
| 25                  | 202     | 162    | 345    | 97     | 411     | 237    | 778    | 749     | 175    | 88    | 36    | 27    |
| 26                  | 186     | 2,690  | 321    | 96     | 426     | 266    | 762    | 675     | 182    | 83    | 35    | 26    |
| 27                  | 174     | 1,470  | 301    | 94     | 380     | 1,090  | 732    | 618     | 190    | 79    | 34    | 25    |
| 28                  | 163     | 812    | 283    | 94     | 350     | 1,600  | 760    | 611     | 178    | 79    | 33    | 24    |
| 29                  | 153     | 587    | 266    | 97     |         | 1,250  | 883    | 612     | 167    | 77    | 33    | 24    |
| 30                  | 145     | 563    | 253    | 134    |         | 1,330  | 994    | 639     | 153    | 74    | 33    | 24    |
| 31                  | 136     |        | 238    | 2,370  |         | 1,280  |        | 546     |        | 72    | 38    |       |
| Total               | 17,909  | 11,739 | 26,178 | 6,475  | 30,254  | 12,499 | 40,022 | 29,170  | 9,059  | 3,718 | 1,481 | 893   |
| Mean                | 578     | 391    | 845    | 209    | 1,081   | 403    | 1,334  | 941     | 302    | 120   | 47.8  | 29.8  |
| Max                 | 4,270   | 2,690  | 4,590  | 2,370  | 3,950   | 1,600  | 3,430  | 1,640   | 490    | 163   | 70    | 35    |
| Min                 | 36      | 102    | 238    | 94     | 350     | 179    | 575    | 546     | 153    | 72    | 33    | 24    |
| Ac-ft               | 35,520  | 23,280 | 51,920 | 12,840 | 60,010  | 24,790 | 79,380 | 57,860  | 17,970 | 7,380 | 2,940 | 1,770 |
| Calendar year 1962: | Max     | 4,590  | Min    | 23     | Mean    | 399    | Ac-ft  | 289,000 |        |       |       |       |
| Water year 1962-63: | Max     | 4,590  | Min    | 24     | Mean    | 519    | Ac-ft  | 375,700 |        |       |       |       |

\* Discharge measurement made on this day.

11-5270. Trinity River near Burnt Ranch, Calif.

Location.--Lat 40°47'20", long 123°26'20", in 8½ sec.19, T.5 N., R.7 E., on left bank 500 ft upstream from Cedar Flat Creek, 700 ft upstream from highway bridge at Cedar Flat, and 2.3 miles southeast of town of Burnt Ranch.

Drainage area.--1,438 sq. mi.

Records available.--October 1931 to September 1940, October 1956 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 950 ft (from topographic map). Oct. 1, 1931, to Jan. 19, 1940, water-stage recorder (destroyed by flood of Feb. 28, 1940) at site 2 miles upstream at different datum.

Average discharge.--16 years, 2,577 cfs (1,866,000 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 17,100 cfs Apr. 15 (gage height, 14.01 ft); minimum daily, 231 cfs Sept. 29, 30.

1931-40, 1956-63: Maximum discharge, 81,500 cfs Feb. 25, 1958 (gage height, 30.50 ft), from rating curve extended above 40,000 cfs on basis of slope-area measurement at gage height 43.2 ft; minimum, 82 cfs Aug. 31, 1939.

Flood of Dec. 22, 1955, reached a stage of 43.2 ft, from floodmarks (discharge, 172,000 cfs, on basis of slope-area measurement of peak flow).

Remarks.--Records good. Flow regulated by Trinity Lake beginning in November 1960 (see p. 435). Small diversions above station for mining and irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 18 to Nov. 26, Dec. 22 to Jan. 31,  
Mar. 3-16)

|     |       |      |        |
|-----|-------|------|--------|
| 2.2 | 225   | 6.0  | 2,580  |
| 2.5 | 315   | 8.0  | 5,100  |
| 3.5 | 730   | 10.0 | 8,500  |
| 4.5 | 1,320 | 14.0 | 17,100 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.    | JAN.   | FEB.    | MAR.    | APR.    | MAY     | JUNE    | JULY   | AUG.   | SEPT.  |
|-------|--------|--------|---------|--------|---------|---------|---------|---------|---------|--------|--------|--------|
| 1     | 258    | 476    | 1,640   | 805    | 10,900  | 1,520   | *3,840  | 3,240   | 6,040   | 670    | 385    | 297    |
| 2     | 240    | 468    | 6,930   | 755    | 6,580   | 1,410   | 3,030   | 8,570   | 5,820   | 665    | 375    | 291    |
| 3     | 270    | 484    | *8,840  | 740    | 6,990   | 1,330   | 2,740   | 3,730   | 5,770   | 665    | 368    | 288    |
| 4     | 300    | 464    | 4,470   | 690    | 5,750   | 1,240   | 2,520   | 3,090   | 4,900   | 665    | *364   | 279    |
| 5     | 315    | 472    | 3,010   | 665    | 5,000   | 1,160   | 3,670   | 3,510   | 4,340   | 680    | 361    | 276    |
| 6     | 276    | 472    | 2,370   | 640    | *3,920  | 1,110   | 9,280   | 4,770   | 4,230   | 670    | 354    | 282    |
| 7     | 279    | 468    | 2,010   | 625    | 3,330   | *1,070  | 8,680   | 5,730   | 3,880   | 675    | 347    | 285    |
| 8     | 398    | 440    | 1,770   | 610    | 2,960   | 1,020   | 7,890   | *6,400  | 3,640   | 650    | 343    | 276    |
| 9     | 1,000  | 452    | 1,590   | 610    | 2,800   | 1,000   | 7,670   | 6,440   | 3,520   | 615    | 364    | 273    |
| 10    | 3,160  | 580    | 1,450   | 645    | 5,190   | 952     | 7,730   | 6,780   | *3,510  | 615    | 371    | *270   |
| 11    | 3,430  | 596    | 1,360   | 615    | 4,620   | 916     | 7,060   | 6,750   | 3,260   | 615    | 354    | 270    |
| 12    | 7,600  | 1,910  | 1,260   | 548    | 3,970   | 892     | 7,030   | 6,240   | 3,040   | 605    | 340    | 267    |
| 13    | 6,040  | 1,570  | 1,380   | 528    | 5,770   | 865     | 9,340   | 6,090   | 3,070   | 610    | 322    | 282    |
| 14    | 3,030  | 1,050  | 1,590   | 568    | 7,320   | 860     | 13,600  | 5,790   | 3,080   | 615    | 319    | 273    |
| 15    | 2,140  | 855    | 3,030   | 552    | 8,600   | 880     | 16,200  | 5,980   | 2,960   | 580    | 319    | 270    |
| 16    | 1,620  | 765    | 3,350   | 532    | 6,830   | 982     | 15,300  | 6,170   | 2,810   | 572    | 306    | 264    |
| 17    | 1,290  | 715    | 2,540   | 520    | 6,040   | 970     | 12,900  | 6,520   | 2,860   | 540    | 291    | 270    |
| 18    | *1,080 | 650    | 2,140   | 508    | 5,800   | 916     | 11,500  | 7,110   | 2,590   | 528    | 294    | 288    |
| 19    | 976    | 610    | 1,900   | 508    | 5,770   | 892     | 11,400  | 7,550   | 2,600   | 512    | 300    | 282    |
| 20    | 898    | 585    | 1,700   | 492    | 5,560   | 886     | 9,760   | 7,960   | 2,390   | 500    | 294    | 270    |
| 21    | 825    | 580    | 1,520   | 492    | 5,370   | 855     | 14,300  | 8,340   | 2,110   | 500    | 300    | 264    |
| 22    | 770    | 585    | 1,380   | 496    | 5,130   | 860     | 13,000  | 8,360   | 1,430   | 484    | 300    | 264    |
| 23    | 720    | 605    | 1,290   | 484    | 4,960   | 1,060   | 12,000  | 8,560   | 2,280   | 468    | 294    | 261    |
| 24    | 670    | 580    | 1,180   | *476   | 4,850   | 1,040   | 10,900  | 8,320   | 1,680   | 456    | 297    | 258    |
| 25    | 635    | 564    | 1,110   | 468    | 4,740   | 952     | 10,400  | 7,870   | 2,500   | 452    | 303    | 252    |
| 26    | 605    | 4,290  | 1,030   | 464    | 2,910   | 952     | 10,300  | 7,420   | 1,700   | 436    | 300    | 246    |
| 27    | 576    | 3,970  | *976    | 460    | 1,820   | 2,780   | 9,640   | 7,060   | 1,560   | 424    | 294    | 240    |
| 28    | 560    | 2,170  | 940     | 452    | 1,640   | 7,870   | 9,700   | 6,900   | 1,500   | 417    | 291    | 237    |
| 29    | 544    | 1,660  | 875     | 476    | -----   | 7,620   | 9,330   | 6,840   | 1,010   | 413    | 285    | 231    |
| 30    | 528    | 1,450  | 850     | 610    | -----   | 7,760   | 4,010   | 6,920   | 705     | 403    | 288    | 231    |
| 31    | 508    | -----  | 830     | 3,680  | -----   | 6,450   | -----   | 6,320   | -----   | 392    | 297    | -----  |
| TOTAL | 41,541 | 30,536 | 66,311  | 20,714 | 145,120 | 59,070  | 274,720 | 201,330 | 90,785  | 17,092 | 10,020 | 8,037  |
| MEAN  | 1,340  | 1,018  | 2,139   | 668    | 5,183   | 1,905   | 9,157   | 6,495   | 3,026   | 551    | 323    | 268    |
| MAX   | 7,600  | 4,290  | 8,840   | 3,680  | 10,900  | 7,870   | 16,200  | 8,570   | 6,040   | 680    | 385    | 297    |
| MIN   | 240    | 440    | 830     | 452    | 1,640   | 855     | 2,520   | 3,090   | 705     | 392    | 285    | 231    |
| AC-FT | 82,400 | 60,570 | 131,500 | 41,090 | 287,800 | 117,200 | 544,900 | 399,300 | 180,100 | 33,900 | 19,870 | 15,940 |

CALENDAR YEAR 1962: MAX 8,840 MIN 223 MEAN 1,259 AC-FT 911,400

WATER YEAR 1962-63: MAX 16,200 MIN 231 MEAN 2,645 AC-FT 1,915,000

\* Discharge measurement made on this day.

## KLAMATH RIVER BASIN

11-5270. Trinity River near Burnt Ranch, Calif.--Continued.

Records available.--Water temperatures: October 1961 to September 1963.

Extremes.--Maximum temperature during year, 71°F Sept. 8, 10, 11; minimum, 36°F Jan. 22-31.  
 1961-63: Maximum temperature recorded, 77°F July 24, 1962; minimum recorded, that of Jan. 22-31, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 62   | 62  | 53    | 53    | 51   | 51  | 43   | 43  | 38    | 37    | 46   | 46  | 46    | 45    | 47  | 47  | 59    | 59    | 65   | 65  | 65   | 64  | 70    | 69    |
| 2   | 62   | 62  | 53    | 53    | 51   | 51  | 43   | 43  | 39    | 37    | 46   | 46  | 46    | 46    | 47  | 46  | 60    | 59    | 65   | 65  | 65   | 64  | 70    | 69    |
| 3   | 62   | 62  | 53    | 53    | 51   | 51  | 43   | 42  | 39    | 39    | 46   | 46  | 46    | 46    | 47  | 46  | 60    | 60    | 65   | 64  | 65   | 64  | 70    | 69    |
| 4   | 62   | 62  | 53    | 53    | 51   | 51  | 42   | 42  | 39    | 39    | 47   | 46  | 46    | 46    | 46  | 46  | 60    | 60    | 64   | 64  | 66   | 64  | 70    | 69    |
| 5   | 62   | 61  | 53    | 53    | 51   | 51  | 42   | 42  | 41    | 39    | 47   | 47  | 46    | 46    | 47  | 46  | 61    | 60    | 64   | 64  | 66   | 65  | 69    | 69    |
| 6   | 61   | 61  | 53    | 53    | 51   | 51  | 42   | 42  | 41    | 39    | 47   | 47  | 46    | 46    | 47  | 47  | 62    | 61    | 64   | 64  | 66   | 65  | 69    | 69    |
| 7   | 61   | 58  | 53    | 53    | 51   | 51  | 42   | 42  | 41    | 41    | 47   | 46  | 46    | 46    | 48  | 47  | 62    | 61    | 64   | 64  | 67   | 66  | 70    | 69    |
| 8   | 58   | 58  | 53    | 53    | 51   | 51  | 42   | 41  | 41    | 41    | 46   | 45  | 46    | 46    | 50  | 48  | 62    | 61    | 64   | 63  | 67   | 65  | 71    | 70    |
| 9   | 58   | 58  | 51    | 51    | 51   | 51  | 41   | 41  | 41    | 41    | 45   | 45  | 46    | 46    | 50  | 50  | 64    | 63    | 64   | 64  | 65   | 65  | 70    | 70    |
| 10  | 58   | 58  | 51    | 51    | 51   | 51  | 41   | 41  | 41    | 41    | 45   | 45  | 46    | 46    | 50  | 49  | 65    | 64    | 64   | 64  | 66   | 65  | 71    | 69    |
| 11  | 58   | 57  | 51    | 51    | 51   | 51  | 41   | 41  | 42    | 42    | 46   | 45  | 46    | 46    | 50  | 50  | 64    | 64    | 64   | 64  | 66   | 65  | 71    | 70    |
| 12  | 57   | 52  | 51    | 51    | 51   | 51  | 48   | 41  | 41    | 42    | 46   | 46  | 46    | 46    | 50  | 50  | 64    | 64    | 64   | 63  | 67   | 65  | 70    | 69    |
| 13  | 52   | 52  | 51    | 51    | 48   | 48  | 41   | 39  | 42    | 42    | 46   | 46  | 46    | 46    | 50  | 50  | 65    | 64    | 64   | 63  | 67   | 66  | 70    | 69    |
| 14  | 52   | 52  | 51    | 51    | 48   | 48  | 39   | 38  | 42    | 42    | 46   | 46  | 46    | 46    | 50  | 50  | 65    | 65    | 64   | 64  | 67   | 66  | 70    | 69    |
| 15  | 52   | 52  | 51    | 50    | 49   | 48  | 38   | 38  | 43    | 42    | 46   | 46  | 46    | 46    | 51  | 50  | 65    | 64    | 64   | 64  | 68   | 66  | 69    | 69    |
| 16  | 52   | 52  | 50    | 50    | 49   | 49  | 38   | 38  | 43    | 43    | 46   | 46  | 46    | 46    | 52  | 51  | 66    | 64    | 64   | 64  | 68   | 67  | 69    | 68    |
| 17  | 52   | 52  | 50    | 50    | 49   | 49  | 38   | 38  | 43    | 43    | 46   | 46  | 46    | 46    | 52  | 52  | 66    | 66    | 64   | 63  | 68   | 67  | 68    | 68    |
| 18  | 52   | 52  | 50    | 50    | 49   | 49  | 38   | 37  | 43    | 43    | 46   | 46  | 46    | 46    | 52  | 52  | 66    | 66    | 64   | 63  | 68   | 67  | 68    | 68    |
| 19  | 52   | 52  | 50    | 50    | 49   | 49  | 37   | 37  | 44    | 43    | 46   | 46  | 46    | 46    | 53  | 52  | 66    | 66    | 64   | 64  | 68   | 67  | 68    | 67    |
| 20  | 52   | 52  | 50    | 50    | 49   | 49  | 37   | 37  | 44    | 44    | 46   | 46  | 46    | 46    | 54  | 53  | 66    | 66    | 64   | 64  | 69   | 68  | 68    | 67    |
| 21  | 52   | 52  | 50    | 50    | 49   | 49  | 37   | 37  | 44    | 44    | 46   | 46  | 46    | 46    | 56  | 54  | 66    | 66    | 64   | 64  | 69   | 68  | 68    | 67    |
| 22  | 52   | 52  | 51    | 50    | 49   | 49  | 37   | 36  | 44    | 44    | 46   | 46  | 46    | 46    | 57  | 56  | 66    | 66    | 64   | 64  | 69   | 68  | 67    | 66    |
| 23  | 52   | 52  | 51    | 51    | 49   | 49  | 36   | 36  | 45    | 44    | 46   | 46  | 46    | 46    | 58  | 57  | 66    | 66    | 64   | 64  | 69   | 68  | 67    | 66    |
| 24  | 52   | 52  | 51    | 51    | 49   | 48  | 36   | 36  | 45    | 45    | 46   | 46  | 46    | 46    | 59  | 58  | 66    | 65    | 64   | 64  | 69   | 68  | 67    | 66    |
| 25  | 52   | 52  | 51    | 51    | 48   | 48  | 36   | 36  | 45    | 45    | 46   | 46  | 46    | 46    | 60  | 59  | 66    | 65    | 64   | 64  | 69   | 68  | 67    | 66    |
| 26  | 52   | 52  | 51    | 51    | 48   | 47  | 36   | 36  | 45    | 45    | 46   | 46  | 46    | 46    | 59  | 59  | 65    | 65    | 65   | 64  | 70   | 68  | 66    | 66    |
| 27  | 52   | 52  | 51    | 51    | 47   | 46  | 36   | 36  | 46    | 45    | 46   | 46  | 46    | 46    | 59  | 59  | 65    | 65    | 65   | 64  | 70   | 68  | 66    | 65    |
| 28  | 52   | 52  | 51    | 51    | 46   | 44  | 36   | 36  | 46    | 46    | 46   | 46  | 46    | 46    | 59  | 59  | 65    | 65    | 65   | 64  | 69   | 68  | 65    | 64    |
| 29  | 52   | 52  | 51    | 51    | 44   | 44  | 36   | 36  | ----- | ----- | 46   | 45  | 46    | 46    | 59  | 59  | 65    | 65    | 65   | 64  | 69   | 68  | 65    | 64    |
| 30  | 53   | 52  | 51    | 51    | 44   | 43  | 36   | 36  | ----- | ----- | 45   | 45  | 47    | 46    | 59  | 59  | 65    | 65    | 65   | 64  | 69   | 68  | 65    | 64    |
| 31  | 53   | 53  | ----- | ----- | 43   | 43  | 37   | 36  | ----- | ----- | 45   | 45  | ----- | ----- | 59  | 59  | ----- | ----- | 65   | 64  | 69   | 68  | ----- | ----- |
| Avg | 55   | 55  | 51    | 51    | 49   | 49  | 39   | 39  | 42    | 42    | 46   | 46  | 46    | 46    | 53  | 52  | 64    | 64    | 64   | 64  | 68   | 66  | 68    | 68    |



11-5274. New River at Denny, Calif.

Location.--Lat 40°56'45", long 123°22'55", in NE $\frac{1}{4}$  sec.33, T.7 N., R.7 E., on left bank at downstream side of private road bridge, 0.3 mile northeast of Denny, and 0.5 mile downstream from Quinby Creek.

Drainage area.--173 sq mi.

Records available.--October 1927 to December 1928 (published as "near Denny"), June 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 1,350 ft (from topographic map). Oct. 1, 1927, to Dec. 23, 1928, at site 2.6 miles downstream at different datum.

Average discharge.--5 years, 392 cfs (283,800 acre-ft per year).

Extremes.--Maximum discharge during year, 9,580 cfs Dec. 2 (gage height, 11.71 ft), from rating curve extended above 3,600 cfs on basis of slope-area measurement at gage height 11.65 ft; minimum, 25 cfs Sept. 28-30.  
1927-28, 1959-63: Maximum discharge, that of Dec. 2, 1962; minimum daily, 18 cfs Oct. 5-7, 1961.

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

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used May 30 to Sept. 30)

Oct. 1-12

Oct. 13 to Sept. 30

|     |     |     |       |     |     |      |       |
|-----|-----|-----|-------|-----|-----|------|-------|
| 2.3 | 29  | 4.0 | 400   | 2.0 | 23  | 6.0  | 1,630 |
| 2.5 | 45  | 5.0 | 860   | 3.0 | 231 | 8.0  | 3,810 |
| 2.8 | 82  | 6.0 | 1,600 | 4.0 | 540 | 10.0 | 6,710 |
| 3.4 | 195 | 8.0 | 3,810 | 5.0 | 980 |      |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.   | MAY    | JUNE   | JULY  | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|-------|-------|
| 1     | 35     | 107    | 810    | 268    | 3,740  | 411    | 1,260  | 1,090  | 404    | 129   | 59    | 38    |
| 2     | 36     | 103    | 5,820  | 258    | 2,280  | 390    | 997    | 1,050  | 379    | 125   | 59    | 36    |
| 3     | 47     | 99     | *4,180 | 255    | 2,880  | 372    | *885   | 1,220  | 350    | 121   | *57   | 34    |
| 4     | 40     | 95     | 2,170  | 243    | 2,400  | 350    | 821    | 1,260  | 326    | 119   | 55    | 34    |
| 5     | 37     | 99     | 1,420  | 231    | *1,810 | 335    | 1,850  | 1,490  | 314    | 119   | 55    | 33    |
| 6     | 36     | 91     | 1,090  | 224    | 1,400  | 323    | 3,680  | 1,630  | 295    | 115   | 53    | 33    |
| 7     | 37     | 85     | 885    | 217    | 1,130  | 311    | 2,930  | 1,580  | 283    | 115   | 53    | 33    |
| 8     | 113    | 81     | 745    | 207    | 980    | *295   | 2,270  | *1,380 | 270    | 111   | 52    | 33    |
| 9     | 762    | 121    | 643    | 203    | 865    | 293    | 1,760  | 1,180  | 258    | 105   | 55    | *31   |
| 10    | 974    | 121    | 575    | 196    | 794    | 278    | 1,470  | 1,050  | 250    | 103   | 55    | 31    |
| 11    | 1,420  | 203    | 523    | 189    | 695    | 268    | 1,270  | 975    | *238   | 101   | 53    | 31    |
| 12    | 2,730  | 687    | 477    | 183    | 758    | 258    | *1,530 | 910    | 231    | 95    | 50    | 31    |
| 13    | 1,930  | 568    | 470    | 183    | 915    | 250    | 2,240  | 865    | 231    | 93    | 48    | 31    |
| 14    | 1,310  | 393    | 428    | 178    | 817    | 263    | 3,460  | 812    | 219    | 89    | 46    | 31    |
| 15    | 1,020  | 311    | 743    | 174    | 727    | 250    | 2,870  | 803    | 207    | 87    | 46    | 31    |
| 16    | 718    | 278    | 736    | 170    | 695    | 268    | 2,160  | 826    | 198    | 85    | 44    | 31    |
| 17    | 540    | 255    | 655    | 163    | 655    | 248    | 1,740  | 910    | 194    | 85    | 44    | 31    |
| 18    | 442    | 236    | 595    | 161    | 727    | 241    | 1,430  | 986    | 183    | 83    | 42    | 31    |
| 19    | *365   | 214    | 540    | 157    | 808    | 243    | 1,340  | 997    | 174    | 79    | 42    | 31    |
| 20    | 308    | 203    | 502    | 153    | 776    | 265    | 1,200  | 1,020  | 167    | 77    | 42    | 31    |
| 21    | 273    | 196    | 463    | 150    | 727    | 280    | 1,110  | 991    | 165    | 75    | 42    | 31    |
| 22    | 241    | 200    | 428    | 148    | 663    | 283    | 1,030  | 930    | 172    | 75    | 42    | 31    |
| 23    | 212    | 189    | 404    | 144    | 611    | 303    | 1,010  | 850    | 170    | 73    | 40    | 31    |
| 24    | 192    | 174    | 376    | *140   | 558    | 290    | 1,060  | 772    | 157    | 71    | 40    | 31    |
| 25    | 176    | 185    | 350    | 134    | 523    | 280    | 1,050  | 683    | 150    | 69    | 40    | 31    |
| 26    | 163    | 2,700  | *332   | 132    | 505    | 320    | 1,010  | 611    | 144    | 67    | 38    | 29    |
| 27    | 153    | 1,500  | 314    | 127    | 467    | 1,030  | 960    | 565    | 138    | 65    | 36    | 27    |
| 28    | 142    | 975    | 303    | 125    | 435    | 1,610  | 970    | 533    | 138    | 65    | 36    | 27    |
| 29    | 132    | 740    | 290    | 136    | -----  | 1,510  | 1,070  | 509    | 138    | 63    | 34    | 25    |
| 30    | 121    | 695    | 288    | 186    | -----  | 1,730  | 1,100  | 477    | 134    | 61    | 34    | 27    |
| 31    | 115    | -----  | 280    | 1,440  | -----  | 1,620  | -----  | 442    | -----  | 59    | 40    | ----- |
| TOTAL | 14,820 | 11,904 | 27,835 | 6,875  | 30,341 | 15,168 | 47,533 | 29,397 | 6,677  | 2,779 | 1,432 | 936   |
| MEAN  | 478    | 397    | 898    | 222    | 1,084  | 489    | 1,584  | 948    | 223    | 89.6  | 46.2  | 31.2  |
| MAX   | 2,730  | 2,700  | 5,820  | 1,440  | 3,740  | 1,730  | 3,680  | 1,630  | 404    | 129   | 59    | 38    |
| MIN   | 35     | 81     | 280    | 125    | 435    | 241    | 821    | 442    | 134    | 59    | 34    | 25    |
| AC-FT | 29,400 | 23,610 | 55,210 | 13,640 | 60,180 | 30,090 | 94,280 | 58,310 | 13,240 | 5,510 | 2,840 | 1,860 |

Calendar year 1962: Max 5,820 Min 27 Mean 422 Ac-ft 305,800

Water year 1962-63: Max 5,820 Min 25 Mean 536 Ac-ft 388,200

Peak discharge (base, 2,500 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1900 | 8.58        | 4,570     | 2- 3 | 1300 | 7.64        | 3,380     |
| 11-26 | 1100 | 8.44        | 4,380     | 4- 6 | 0700 | 8.20        | 4,070     |
| 12- 2 | 1500 | 11.71       | 9,580     | 4-14 | 1000 | 8.05        | 3,880     |
| 2- 1  | 0100 | 8.58        | 4,570     |      |      |             |           |

## KLAMATH RIVER BASIN

11-5281. South Fork Trinity River at Forest Glen, Calif.

Location.--Lat 40°22'30", long 123°19'35", in SE $\frac{1}{4}$  sec.13, T.1 S., R.7 E., on right bank 15 ft downstream from bridge on State Highway 36, at Forest Glen, and 100 ft downstream from Glen Creek.

Drainage area.--208 sq mi.

Records available.--Occasional low-flow measurements, water years 1953-57 and annual maximum, water years 1955-57. October 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,170 ft (from topographic map). Prior to Oct. 1, 1959, crest-stage gage only, at datum 1.26 ft lower.

Extremes.--Maximum discharge during year, 18,900 cfs Jan. 31 (gage height, 18.63 ft); minimum, 20 cfs Oct. 6, 7.

1954-57, 1959-63: Maximum discharge, 42,400 cfs Dec. 22, 1955 (gage height, 25.26 ft, from floodmarks, present datum), on basis of slope-area measurement of peak flow.

1959-63: Minimum discharge, 15 cfs Sept. 24-27, 1962.

Remarks.--Records good except those for period of ice effect, which are fair. No regulation or diversion above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.    | MAY    | JUNE   | JULY  | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|---------|--------|--------|-------|-------|-------|
| 1     | 22     | 109    | 436    | 263    | 8,230  | 345    | 1,760   | 875    | 285    | 112   | 44    | 30    |
| 2     | 21     | 105    | 2,710  | 253    | 3,490  | 330    | 1,300   | 820    | 268    | 107   | 43    | 28    |
| 3     | 23     | 102    | *2,980 | 243    | 2,690  | 320    | 1,240   | 810    | 255    | 105   | 43    | 27    |
| 4     | 22     | 100    | 1,480  | 235    | 2,190  | 305    | 1,180   | 780    | 245    | 102   | 42    | 26    |
| 5     | 21     | 101    | 1,010  | 223    | 1,810  | *295   | 1,980   | 835    | 237    | 100   | 40    | 26    |
| 6     | 20     | 97     | *750   | 215    | 1,510  | 288    | 3,840   | 815    | 229    | 97    | 39    | 26    |
| 7     | 20     | 93     | 632    | 207    | *1,250 | 280    | 3,340   | 835    | 221    | 96    | 38    | 26    |
| 8     | 30     | 91     | 544    | 203    | 1,200  | 270    | 2,730   | 775    | 213    | 94    | 38    | 25    |
| 9     | 152    | 102    | 472    | 193    | 1,110  | 260    | 2,230   | *705   | 199    | 91    | 42    | 24    |
| 10    | 1,080  | 109    | 417    | b187   | 1,290  | 249    | 1,930   | 700    | 193    | 84    | 41    | 24    |
| 11    | 2,240  | 175    | 378    | b173   | 1,060  | 241    | 1,640   | 675    | 191    | 83    | 38    | 24    |
| 12    | 4,440  | 258    | 372    | b155   | 1,200  | 235    | 1,720   | 624    | 179    | 81    | 36    | *24   |
| 13    | 2,350  | 217    | 612    | b150   | 1,390  | 227    | 2,400   | 588    | *173   | 79    | 34    | 24    |
| 14    | 1,640  | 157    | 492    | b160   | 1,150  | 235    | 3,670   | 560    | 171    | 75    | 33    | 24    |
| 15    | 980    | 137    | 1,580  | b150   | 985    | 229    | 3,160   | 536    | 165    | 73    | 33    | 24    |
| 16    | *640   | 128    | 1,290  | b140   | 940    | 241    | 2,360   | 528    | 177    | 72    | 32    | 24    |
| 17    | 464    | 125    | 1,010  | b130   | 865    | 227    | 1,920   | 532    | 177    | 71    | 32    | 26    |
| 18    | 366    | 121    | 810    | b120   | 770    | 219    | 1,630   | 540    | 152    | 70    | 31    | 29    |
| 19    | 303    | 112    | 680    | b110   | 690    | 219    | 1,480   | 540    | 145    | 65    | 31    | 27    |
| 20    | 255    | 107    | 596    | b120   | 656    | 227    | 1,280   | 556    | 139    | 61    | 31    | 26    |
| 21    | 225    | 105    | 532    | b115   | 600    | 231    | 1,150   | 552    | 136    | 59    | 31    | 25    |
| 22    | 201    | 102    | 484    | *b115  | 552    | 231    | 1,060   | 528    | 137    | 58    | 31    | 26    |
| 23    | 183    | 100    | 440    | b115   | 504    | 288    | 995     | 508    | 139    | 57    | 31    | 26    |
| 24    | 165    | 97     | 402    | b110   | 468    | 283    | 990     | 472    | 131    | 55    | 31    | 26    |
| 25    | 152    | 110    | 369    | b110   | 432    | *268   | 980     | 432    | 127    | 54    | 31    | 25    |
| 26    | 145    | 2,370  | *348   | b105   | 408    | 318    | 950     | 399    | 122    | *53   | 31    | 24    |
| 27    | 137    | 1,400  | 330    | b105   | 381    | 2,700  | 890     | 369    | 119    | 51    | 30    | 23    |
| 28    | 131    | 765    | 310    | b110   | 363    | 2,950  | 885     | 351    | 116    | 49    | 29    | 23    |
| 29    | 124    | 544    | 293    | *b125  | -----  | 2,600  | 910     | 339    | 116    | 48    | 28    | 23    |
| 30    | 118    | 452    | 285    | 415    | -----  | 2,850  | 905     | 320    | 115    | 47    | 28    | 22    |
| 31    | 113    | -----  | 280    | 8,750  | -----  | 2,440  | -----   | 300    | -----  | 45    | 30    | ----- |
| TOTAL | 16,783 | 8,591  | 23,324 | 13,805 | 38,184 | 20,401 | 52,505  | 18,199 | 5,272  | 2,294 | 1,072 | 757   |
| MEAN  | 541    | 286    | 752    | 445    | 1,364  | 658    | 1,750   | 587    | 176    | 74.0  | 34.6  | 25.2  |
| MAX   | 4,440  | 2,370  | 2,980  | 8,750  | 8,230  | 2,950  | 3,840   | 875    | 285    | 112   | 44    | 30    |
| MIN   | 20     | 91     | 280    | 105    | 363    | 219    | 885     | 300    | 115    | 45    | 28    | 22    |
| AC-FT | 33,290 | 17,040 | 46,260 | 27,380 | 75,740 | 40,460 | 104,100 | 36,100 | 10,460 | 4,550 | 2,130 | 1,500 |

Calendar year 1962: Max 4,440 Min 15 Mean 341 Ac-ft 246,800  
 Water year 1962-63: Max 8,750 Min 20 Mean 551 Ac-ft 399,000

## Peak discharge (base, 3,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1900 | 14.25       | 8,650     | 3-27 | 2000 | 11.67       | 4,600     |
| 11-26 | 1100 | 11.60       | 4,520     | 4-6  | 0500 | 11.58       | 4,500     |
| 12-2  | 1800 | 12.90       | 6,380     | 4-14 | 0900 | 11.31       | 4,170     |
| 1-31  | 1600 | 18.63       | 18,900    |      |      |             |           |

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

11-5282. South Fork Trinity River near Hyampom, Calif.

Location (revised).--Lat 40°36'30", long 123°27'00", in SW $\frac{1}{4}$  sec.25, T.3 N., R.6 E., on left bank just above private road bridge, 0.3 mile downstream from Deep Gulch, 0.5 mile upstream from Hayfork Creek, and 0.7 mile south of Hyampom.

Drainage area.--342 sq mi.

Records available.--September 1956 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 1,280 ft (revised) (from topographic map). Prior to Aug. 15, 1962, water-stage recorder at site 0.7 mile upstream at different datum.

Average discharge.--7 years, 698 cfs (505,300 acre-ft per year).

Extremes.--Maximum discharge during year, 17,900 cfs Jan. 31 (gage height, 16.50 ft), from rating curve extended above 2,600 cfs; minimum, 36 cfs Oct. 6, 7, Sept. 29, 30.

1956-63: Maximum discharge, 26,600 cfs Feb. 8, 1960 (gage height, 16.92 ft, site and datum then in use), from rating curve extended above 7,200 cfs; minimum daily, 25 cfs Sept. 27, 1962.

Flood of Dec. 22, 1955, reached a stage of 22.2 ft, former site and datum, from floodmarks (discharge, 39,400 cfs, on basis of slope-area measurement of peak flow).

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

Rating tables, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Nov. 30 to Jan. 31, Mar. 4-27, Apr. 3-6, Apr. 27 to May 27)

| Oct. 1 to Jan. 31 |     |      |       | Feb. 1 to Sept. 30 |     |      |        |
|-------------------|-----|------|-------|--------------------|-----|------|--------|
| 1.6               | 31  | 4.0  | 700   | 1.3                | 34  | 5.0  | 1,380  |
| 1.8               | 51  | 6.0  | 1,880 | 1.6                | 63  | 7.0  | 2,820  |
| 2.0               | 79  | 8.0  | 3,640 | 2.0                | 123 | 9.0  | 4,800  |
| 2.5               | 175 | 12.0 | 8,900 | 2.5                | 243 | 13.0 | 10,500 |
| 3.0               | 315 |      |       | 3.0                | 410 |      |        |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.    | MAR.   | APR.    | MAY    | JUNE   | JULY  | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|---------|--------|---------|--------|--------|-------|-------|-------|
| 1     | 42     | 218    | 790    | 480    | 10,300  | 629    | 3,190   | 1,500  | 584    | 207   | 89    | 56    |
| 2     | 38     | 210    | 3,110  | 460    | 5,180   | 607    | *2,470  | 1,400  | 553    | 199   | 88    | 56    |
| 3     | 40     | 205    | 4,740  | 448    | 3,860   | 598    | 2,250   | 1,400  | 526    | 194   | 85    | 54    |
| 4     | 38     | 203    | *2,410 | 428    | 3,030   | 560    | 2,060   | 1,370  | 506    | 189   | 83    | 53    |
| 5     | 37     | 200    | 1,700  | 403    | 2,470   | 539    | 2,980   | 1,480  | 482    | 187   | 82    | 49    |
| 6     | 36     | 195    | 1,370  | 385    | 1,960   | *545   | 6,450   | 1,440  | 466    | 179   | 81    | 48    |
| 7     | 36     | 188    | 1,150  | 371    | 1,640   | 553    | 5,560   | 1,490  | 442    | 179   | 78    | 47    |
| 8     | 54     | 183    | 954    | 357    | 1,530   | 530    | 4,720   | 1,390  | 418    | 177   | 76    | 44    |
| 9     | 119    | 193    | 835    | 350    | 1,410   | 518    | 3,880   | 1,310  | 400    | 170   | 82    | 44    |
| 10    | 1,190  | 218    | 745    | 336    | 1,510   | 494    | 3,290   | *1,290 | 386    | 163   | 83    | 42    |
| 11    | 2,240  | 261    | 676    | 312    | 1,350   | 474    | 2,730   | 1,260  | 375    | 156   | 79    | *42   |
| 12    | 5,660  | 512    | 644    | 8285   | 1,430   | 462    | 3,430   | 1,170  | *358   | 152   | 74    | 42    |
| 13    | 4,050  | 456    | 996    | 8276   | 1,770   | 442    | 4,740   | 1,110  | 344    | 147   | 70    | 42    |
| 14    | 2,770  | 350    | 924    | 8288   | 1,510   | 458    | 7,220   | 1,070  | 330    | 139   | 69    | 42    |
| 15    | 1,790  | 297    | 2,110  | 8294   | 1,340   | 450    | 6,270   | 1,030  | 326    | 133   | 67    | 42    |
| 16    | 1,170  | 273    | 2,190  | 8285   | 1,290   | 470    | 4,500   | 1,010  | 312    | 131   | 65    | 43    |
| 17    | *845   | 264    | 1,690  | 8267   | 1,220   | 458    | 3,640   | 1,000  | 347    | 129   | 64    | 43    |
| 18    | 680    | 255    | 1,380  | 8258   | 1,120   | 434    | 3,010   | 995    | 302    | 125   | 63    | 44    |
| 19    | 580    | 237    | 1,210  | 8249   | 1,050   | 430    | 2,700   | 990    | 283    | 125   | 63    | 47    |
| 20    | 500    | 225    | 1,060  | 8231   | 1,010   | 438    | 2,320   | 990    | 273    | 123   | 63    | 45    |
| 21    | 436    | 218    | 918    | 8243   | 935     | 450    | 2,070   | 975    | 264    | 119   | 63    | 44    |
| 22    | 392    | 215    | 830    | 243    | 875     | 450    | 1,890   | 945    | 264    | 116   | 63    | 42    |
| 23    | 357    | 210    | 800    | *231   | 825     | 548    | 1,780   | 920    | 267    | 114   | 63    | 43    |
| 24    | 333    | 205    | 705    | 223    | 782     | 562    | 1,710   | 870    | 252    | 110   | 62    | 44    |
| 25    | 306    | 206    | 656    | 218    | 751     | 539    | 1,680   | 820    | 240    | *109  | 62    | 42    |
| 26    | 291    | 3,010  | 620    | 213    | 719     | 592    | 1,640   | 769    | 229    | 107   | 62    | 40    |
| 27    | 276    | 2,500  | *588   | 205    | 688     | 3,830  | 1,590   | 728    | 221    | 103   | 60    | 39    |
| 28    | 261    | 1,370  | 560    | 205    | 656     | 5,060  | 1,570   | 697    | 215    | 99    | 59    | 37    |
| 29    | 249    | 990    | 536    | 220    | -----   | 4,370  | 1,590   | 679    | 215    | 97    | 58    | 36    |
| 30    | 234    | 837    | 528    | 385    | -----   | 4,750  | 1,560   | 643    | 212    | 94    | 58    | 36    |
| 31    | 223    | -----  | 516    | 7,880  | -----   | 4,270  | -----   | 611    | -----  | 91    | 56    | ----- |
| TOTAL | 25,273 | 14,904 | 37,941 | 17,029 | 52,211  | 35,510 | 94,490  | 33,352 | 10,392 | 4,363 | 2,170 | 1,328 |
| MEAN  | 815    | 497    | 1,224  | 549    | 1,865   | 1,145  | 3,150   | 1,076  | 346    | 141   | 70.0  | 44.3  |
| MAX   | 5,660  | 3,010  | 4,740  | 7,880  | 10,300  | 5,060  | 7,220   | 1,500  | 584    | 207   | 89    | 56    |
| MIN   | 36     | 183    | 516    | 205    | 656     | 430    | 1,560   | 611    | 212    | 91    | 56    | 36    |
| AC-FT | 50,130 | 29,560 | 75,250 | 33,780 | 103,600 | 70,430 | 187,400 | 66,150 | 20,610 | 8,650 | 4,300 | 2,630 |

CALENDAR YEAR 1962: MAX 5,660 MIN 25 MEAN 560 AC-FT 405,700  
WATER YEAR 1962-63: MAX 10,300 MIN 35 MEAN 901 AC-FT 652,500

Peak discharge (base, 4,900 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2100 | 12.10       | 9,060     | 3-27 | 2300 | 10.80       | 7,120     |
| 11-26 | 1600 | 9.78        | 5,710     | 4-6  | 0800 | 11.09       | 7,540     |
| 12-2  | 2200 | 11.40       | 7,780     | 4-14 | 1300 | 11.70       | 8,450     |
| 1-31  | 1800 | 16.50       | 17,900    |      |      |             |           |

\* Discharge measurement made on this day.  
B Stage-discharge relation affected by ice.

## KLAMATH RIVER BASIN

11-5284. Hayfork Creek near Hayfork, Calif.

Location.--Lat 40°31'10", long 123°05'05", in SW¼ sec.23, T.31 N., R.11 W., on left bank 1,300 ft downstream from Carrier Gulch and 5.8 miles southeast of town of Hayfork.

Drainage area.--87.2 sq mi.

Records available.--October 1956 to September 1963.

Gage.--Water-stage recorder. Datum of gage is 2,555.27 ft above mean sea level, datum of 1929.

Average discharge.--7 years, 114 cfs (82,530 acre-ft per year).

Extremes.--Maximum discharge during year, 3,610 cfs Jan. 31 (gage height, 10.81 ft); minimum, 3.8 cfs Oct. 2.

1956-63: Maximum discharge, 4,210 cfs Feb. 8, 1960 (gage height, 11.67 ft); minimum, 1.2 cfs Sept. 1, 1957.

Flood of Dec. 22, 1955, reached a stage of 11.0 ft, from floodmarks (discharge, 3,880 cfs, on basis of slope-area measurement of peak flow).

Remarks.--Records good except those for periods of ice effect, which are fair. No regulation or diversion above station.

Rating tables, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-9, Feb. 18 to Mar. 27, July 13 to Sept. 30)

| Oct. 1-10 |     |     |     | Oct. 11 to Sept. 30 |     |     |       |
|-----------|-----|-----|-----|---------------------|-----|-----|-------|
| 2.4       | 3.8 | 3.2 | 58  | 2.3                 | 3.2 | 4.0 | 220   |
| 2.5       | 6.2 | 3.5 | 99  | 2.4                 | 6.0 | 5.0 | 480   |
| 2.6       | 9.5 | 4.0 | 191 | 2.5                 | 10  | 6.0 | 805   |
| 2.7       | 14  | 5.0 | 460 | 2.7                 | 23  | 7.0 | 1,220 |
| 2.9       | 28  |     |     | 3.0                 | 52  | 9.0 | 2,390 |
|           |     |     |     | 3.5                 | 124 |     |       |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.    | NOV.  | DEC.  | JAN.  | FEB.   | MAR.   | APR.   | MAY   | JUNE  | JULY  | AUG.  | SEPT. |
|-------|---------|-------|-------|-------|--------|--------|--------|-------|-------|-------|-------|-------|
| 1     | 4.3     | 36    | 104   | 49    | 1,910  | 91     | 399    | 303   | 60    | 22    | 9.6   | 5.4   |
| 2     | 4.0     | 35    | 457   | 46    | 819    | 88     | *320   | 283   | 58    | 20    | 8.8   | 5.2   |
| 3     | 4.3     | 34    | 649   | 45    | 588    | 86     | 293    | 275   | 57    | 21    | 8.8   | 4.9   |
| 4     | 4.8     | 34    | 297   | 43    | 450    | 82     | 273    | 260   | 54    | 20    | 8.4   | 4.6   |
| 5     | 5.0     | 34    | *206  | 41    | 355    | *76    | 452    | 265   | 47    | 20    | 8.4   | 4.9   |
| 6     | 5.2     | 32    | 160   | 39    | *305   | *74    | 915    | 260   | 49    | 20    | 8.8   | 4.9   |
| 7     | 5.2     | 30    | 135   | 38    | 258    | 73     | 780    | 253   | 48    | 19    | 8.0   | 5.2   |
| 8     | 5.7     | 28    | 114   | 37    | 255    | 73     | 561    | 232   | 44    | 17    | 8.4   | 4.9   |
| 9     | 12      | 29    | 100   | 36    | 439    | 71     | 450    | *210  | 42    | 17    | 10    | 4.6   |
| 10    | 246     | 31    | 88    | 35    | 1,060  | 67     | 396    | 194   | 42    | 15    | 10    | 4.3   |
| 11    | 528     | 35    | 79    | b34   | 609    | 63     | 353    | 178   | 42    | 15    | 9.2   | 4.6   |
| 12    | 1,120   | 50    | 74    | b33   | 646    | 59     | 557    | 166   | *40   | 15    | 9.2   | *4.6  |
| 13    | 606     | 48    | 92    | b32   | 753    | 57     | 966    | 156   | 39    | 14    | 8.8   | 4.6   |
| 14    | 396     | 41    | 89    | b32   | 522    | 58     | 1,500  | 149   | 37    | 14    | 8.4   | 4.6   |
| 15    | 255     | 39    | 372   | b31   | 390    | 57     | 1,020  | 142   | 36    | 14    | 7.6   | 4.9   |
| 16    | *180    | 38    | 343   | b31   | 328    | 62     | 693    | 138   | 34    | 12    | 7.6   | 4.9   |
| 17    | 135     | 38    | 253   | b30   | 280    | 57     | 537    | 135   | 36    | 12    | 7.2   | 5.4   |
| 18    | 106     | 37    | 198   | b28   | 234    | 56     | 447    | 129   | 33    | 13    | 6.0   | 5.2   |
| 19    | 88      | 36    | 158   | b24   | 210    | 56     | 396    | 121   | 29    | 12    | 5.7   | 5.4   |
| 20    | 74      | 34    | 135   | b25   | 192    | 60     | 350    | 114   | 28    | 13    | 4.6   | 5.4   |
| 21    | 67      | 34    | 116   | b26   | 174    | 64     | 320    | 106   | 28    | 12    | 4.3   | 5.4   |
| 22    | 62      | 32    | 104   | *b25  | 156    | 68     | 290    | 103   | 28    | 12    | 4.6   | 5.7   |
| 23    | 57      | 32    | 92    | b25   | 144    | 92     | 275    | 98    | 28    | 12    | 5.2   | 5.7   |
| 24    | 51      | 31    | 82    | b25   | 140    | 91     | 273    | 92    | 27    | 12    | 6.0   | 5.7   |
| 25    | 49      | 31    | 72    | b25   | 121    | 89     | 278    | 86    | 25    | *11   | 6.0   | 5.4   |
| 26    | 47      | 450   | 65    | b24   | 114    | 113    | 273    | 83    | 25    | 9.2   | 5.7   | 5.2   |
| 27    | 44      | 330   | 63    | b23   | 104    | 1,210  | 258    | 77    | 24    | 9.6   | 5.2   | 5.2   |
| 28    | 43      | 192   | *57   | b26   | 98     | 1,040  | 263    | 74    | 22    | 9.2   | 4.6   | 5.2   |
| 29    | 40      | 137   | 54    | b31   | -----  | 634    | 293    | 71    | 22    | 9.2   | 4.9   | 5.4   |
| 30    | 39      | 114   | 52    | 48    | -----  | 612    | 308    | 68    | 23    | 9.2   | 5.4   | 5.2   |
| 31    | 37      | ----- | 51    | 1,490 | -----  | 537    | -----  | 63    | ----- | 8.8   | 5.7   | ----- |
| TOTAL | 4,320.5 | 2,102 | 4,911 | 2,477 | 11,654 | 5,916  | 14,489 | 4,884 | 1,107 | 439.2 | 221.1 | 152.6 |
| MEAN  | 139     | 70.1  | 158   | 79.9  | 416    | 191    | 483    | 158   | 36.9  | 14.2  | 7.13  | 5.09  |
| MAX   | 1,120   | 450   | 649   | 1,490 | 1,910  | 1,210  | 1,500  | 303   | 60    | 22    | 10    | 5.7   |
| MIN   | 4.0     | 28    | 51    | 23    | 98     | 56     | 258    | 63    | 22    | 8.8   | 4.3   | 4.3   |
| AC-FT | 8,570   | 4,170 | 9,740 | 4,910 | 23,120 | 11,730 | 28,740 | 9,690 | 2,200 | 871   | 439   | 303   |

Calendar year 1962: Max 1,120 Min 1.8 Mean 86.5 Ac-ft 62,660

Water year 1962-63: Max 1,910 Min 4.0 Mean 144 Ac-ft 104,500

Peak discharge (base, 1,100 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 2000 | 8.90        | 2,330     | 2-10 | 0200 | 7.02        | 1,230     |
| 12-3  | 0400 | 6.90        | 1,170     | 3-27 | 1900 | 9.05        | 2,420     |
| 1-31  | 1600 | 10.81       | 3,610     | 4-14 | 0800 | 8.26        | 1,920     |

\* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

KLAMATH RIVER BASIN

447

11-5284.4. Big Creek near Hayfork, Calif.

Location.--Lat 40°33'11", long 123°08'33", in NE 1/4 sec. 7, T.31 N., R.11 W., on right bank 30 ft upstream from bridge on Hayfork-Douglas City road and 2 miles east of Hayfork.

Drainage area.--27.1 sq mi.

Records available.--October 1960 to September 1961, October 1962 to September 1963.

Gage.--Water-stage recorder. Altitude of gage is 2,385 ft (from topographic map).

Extremes.--Maximum discharge during year, 435 cfs Apr. 14 (gage height, 8.44 ft); no flow for many days.  
1960-61, 1962-63: Maximum discharge, that of Apr. 14, 1963; no flow at times in each year.

Remarks.--Small diversion above station for city of Hayfork.

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

| Discharge, in cubic feet per second, water year October 1962 to September 1963 |       |       |       |       |       |       |       |       |       |       |      |       |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|
| Day  | Oct.  | Nov.  | Dec.  | Jan.  | Feb.  | Mar.  | Apr.  | May   | June  | July  | Aug. | Sept. |
| 1  | 0     | 6.4   | 32    | 22    | 259   | 39    | 126   | 92    | 21    | 14    |      | 0     |
| 2  | 0     | 5.8   | 188   | 21    | 176   | 38    | 106   | 89    | 20    | 13    |      | 0     |
| 3  | 0     | 6.4   | 166   | 20    | 136   | 36    | 101   | 88    | 19    | 14    |      | 0     |
| 4  | 0     | 5.8   | 79    | 20    | 109   | 34    | 89    | 86    | 20    | 16    |      | 0     |
| 5  | 0     | 6.4   | *55   | 19    | 90    | *34   | 164   | 88    | 20    | 12    | (*)  | 0     |
| 6  | 0     | 6.4   | 44    | 18    | 83    | 32    | 282   | 85    | 19    | 11    |      | 0     |
| 7  | 0     | 6.4   | 36    | 17    | 72    | 32    | 237   | *81   | 19    | 11    |      | 0     |
| 8  | 0     | 6.4   | 32    | 16    | 70    | 31    | *203  | 76    | 18    | 9.4   |      | .1    |
| 9  | 4.0   | 6.4   | 28    | *16   | 87    | 29    | 182   | 71    | 18    | 9.0   |      | 0     |
| 10   | 20    | 8.1   | 25    | 17    | 138   | 27    | 163   | 72    | 17    | 8.6   |      | 0     |
| 11   | 37    | 11    | 24    | 17    | 120   | 26    | 142   | 68    | 16    | 8.1   |      | .1    |
| 12   | *91   | 20    | 23    | 15    | 158   | 26    | 192   | 65    | 15    | 7.0   |      | .3    |
| 13   | 55    | 15    | 31    | 14    | *200  | 25    | 319   | 62    | 15    | 7.5   |      | .2    |
| 14   | 45    | 11    | *26   | 13    | 147   | 26    | 403   | 60    | 15    | 7.0   |      | 0     |
| 15   | 26    | *7.8  | 92    | 12    | 114   | 27    | 353   | 56    | 14    | 5.3   |      | .3    |
| 16   | 18    | 8.1   | 73    | 11    | 106   | 28    | 267   | 53    | 15    | 4.8   |      | 0     |
| 17   | 13    | 8.6   | 59    | 10    | 91    | 27    | 207   | 51    | 16    | 5.3   |      | .7    |
| 18   | 11    | 8.5   | 49    | 10    | 81    | 26    | 177   | 49    | *14   | 3.9   |      | .6    |
| 19   | 10    | 9.3   | 42    | 10    | 75    | 25    | 158   | 48    | 13    | 3.4   |      | .9    |
| 20   | 9.4   | 8.7   | 37    | 10    | 70    | 26    | 136   | 46    | 14    | 3.0   |      | .7    |
| 21   | 8.1   | 8.6   | 33    | 10    | 65    | 26    | 119   | 45    | 18    | 2.2   |      | .5    |
| 22   | 8.1   | 10    | 32    | 10    | 60    | 26    | 108   | 44    | 19    | 1.8   |      | .9    |
| 23   | 7.0   | 11    | 29    | *10   | 54    | 29    | 102   | 42    | 17    | 1.8   |      | .9    |
| 24   | 7.0   | 11    | 27    | 10    | 51    | 28    | 101   | 39    | 17    | 1.8   |      | .6    |
| 25   | 6.4   | 12    | 26    | 10    | 47    | 27    | 104   | 38    | 18    | 1.5   |      | 0     |
| 26   | 7.0   | 109   | 24    | 10    | 46    | 33    | 102   | 34    | 17    | .8    |      | .3    |
| 27   | 7.0   | 75    | 23    | 10    | 42    | *199  | 96    | 31    | 17    | 0     |      | .4    |
| 28   | 7.5   | 46    | 23    | 10    | 41    | 222   | 93    | 30    | 16    | 0     |      | .5    |
| 29   | 7.0   | 35    | 22    | 11    | ----- | 167   | 95    | 29    | 16    | 0     |      | 0     |
| 30   | 7.5   | 32    | 22    | 25    | ----- | 158   | 94    | 26    | 15    | 0     |      | 1.0   |
| 31   | 6.4   | ----- | 22    | 159   | ----- | 153   | ----- | 22    | ----- | 0     |      | ----- |
| Total  | 418.4 | 522.1 | 1,424 | 583   | 2,788 | 1,662 | 5,021 | 1,766 | 508   | 183.2 | 0    | 9.0   |
| Mean   | 13.5  | 17.4  | 45.9  | 18.8  | 99.6  | 53.6  | 167   | 57.0  | 16.9  | 5.91  | 0    | 0.30  |
| Max  | 91    | 109   | 188   | 159   | 259   | 222   | 403   | 92    | 21    | 16    | 0    | 1.0   |
| Min  | 0     | 5.8   | 22    | 10    | 41    | 25    | 89    | 22    | 13    | 0     | 0    | 0     |
| Ac-ft  | 830   | 1,040 | 2,820 | 1,160 | 5,530 | 3,300 | 9,960 | 3,500 | 1,010 | 363   | 0    | 18    |

Calendar year 1962: Max - Min - Mean - Ac-ft -  
Water year 1962-63: Max 403 Min 0 Mean 40.8 Ac-ft 29,530

\* Discharge measurement or observation of no flow made on this day.

## KLAMATH RIVER BASIN

11-5285. Hayfork Creek near Hyampom, Calif.

Location.--Lat 40°37'35", long 123°26'00", in NW $\frac{1}{4}$  sec.19, T.3 N., R.7 E., on right bank 1.2 miles upstream from mouth and 1.3 miles northeast of Hyampom.

Drainage area.--379 sq mi.

Records available.--August 1953 to September 1963.

Gage.--Water-stage recorder with thermograph attachment. Altitude of gage is 1,280 ft (from topographic map).

Average discharge.--10 years, 505 cfs (365,600 acre-ft per year).

Extremes.--Maximum discharge during year, 10,300 cfs Jan. 31 (gage height, 12.37 ft); minimum daily, 25 cfs Oct. 2.

1953-63: Maximum discharge, 25,300 cfs Dec. 22, 1955 (gage height, 18.00 ft), from rating curve extended above 6,700 cfs on basis of slope-area measurement of peak flow; minimum, 16 cfs Sept. 28, 1960.

Remarks.--Records good except those for periods of no gage-height record or ice effect, which are fair. Diversions for irrigation of about 700 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.    | MAY    | JUNE   | JULY  | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|---------|--------|--------|-------|-------|-------|
| 1     | A30    | 91     | 286    | 199    | 5,790  | 400    | 1,810   | 1,100  | 277    | 135   | 55    | 38    |
| 2     | A25    | 90     | 1,220  | 193    | 2,750  | 380    | *1,480  | 1,040  | 268    | 131   | 53    | 39    |
| 3     | A30    | 86     | 2,320  | 184    | 2,100  | 366    | 1,430   | 1,000  | 262    | 127   | 53    | 38    |
| 4     | A30    | 86     | *1,190 | 178    | 1,710  | 349    | 1,300   | 964    | 253    | 123   | 52    | 37    |
| 5     | A35    | 84     | 800    | 169    | 1,420  | 335    | 1,560   | 952    | 250    | 123   | 50    | 36    |
| 6     | A35    | 82     | 599    | 160    | 1,250  | *317   | 2,760   | 922    | 241    | 119   | 47    | 37    |
| 7     | A40    | 81     | 476    | B158   | *1,070 | 310    | 2,620   | 880    | 235    | 117   | 47    | 37    |
| 8     | A150   | 79     | 392    | B153   | 1,020  | 304    | 2,360   | 835    | 226    | 117   | 47    | 36    |
| 9     | A300   | 79     | 342    | 148    | 1,020  | 304    | 2,060   | 770    | 217    | 113   | 55    | 34    |
| 10    | A600   | 84     | 298    | 143    | 2,150  | 292    | 1,870   | *745   | 208    | 109   | 55    | 34    |
| 11    | A1,500 | 93     | 271    | B140   | 1,640  | 280    | 1,670   | 710    | 208    | 107   | 55    | *33   |
| 12    | A3,600 | 131    | 253    | B135   | 1,680  | 274    | 1,970   | 658    | 199    | 99    | 50    | 32    |
| 13    | A2,000 | 135    | 366    | B135   | 2,280  | 268    | 3,090   | 631    | *196   | 93    | 49    | 33    |
| 14    | A1,300 | 119    | 359    | B135   | 1,760  | 271    | 4,520   | 599    | 190    | 90    | 47    | 32    |
| 15    | A800   | 105    | 1,200  | B130   | 1,420  | 271    | 4,080   | 572    | 181    | 84    | 46    | 32    |
| 16    | A500   | 99     | 1,310  | B130   | 1,280  | 286    | 3,040   | 550    | 193    | 82    | 44    | 31    |
| 17    | *A330  | 99     | 964    | B120   | 1,160  | 286    | 2,480   | 523    | 211    | 81    | 42    | 31    |
| 18    | 271    | 97     | 735    | B120   | 1,000  | 271    | 2,120   | 500    | 178    | 79    | 40    | 33    |
| 19    | 220    | 91     | 599    | B110   | 886    | 265    | 1,970   | 476    | 166    | 79    | 40    | 33    |
| 20    | 184    | 90     | 500    | B110   | 815    | 265    | 1,740   | 456    | 160    | 77    | 40    | 33    |
| 21    | 163    | 88     | 436    | B110   | 740    | 271    | 1,570   | 452    | 153    | 73    | 40    | 33    |
| 22    | 148    | 86     | 373    | B115   | 667    | 277    | 1,420   | 440    | 160    | 72    | 39    | 33    |
| 23    | 135    | 86     | 342    | *B115  | 613    | 324    | 1,330   | 416    | 160    | 72    | 38    | 33    |
| 24    | 125    | 84     | 310    | B115   | 563    | 335    | 1,290   | 392    | 160    | 70    | 38    | 33    |
| 25    | 119    | 82     | 283    | B115   | 518    | 317    | 1,290   | 370    | 155    | *68   | 38    | 33    |
| 26    | 113    | 1,020  | 265    | B115   | 488    | 345    | 1,280   | 349    | 148    | 66    | 39    | 32    |
| 27    | 109    | 1,190  | *250   | B115   | 452    | 3,330  | 1,200   | 328    | 143    | 63    | 39    | 31    |
| 28    | 105    | 613    | 235    | B110   | 424    | 4,170  | 1,150   | 321    | 140    | 59    | 39    | 28    |
| 29    | 101    | 408    | 220    | B110   | -----  | 2,640  | 1,150   | 314    | 140    | 56    | 38    | 28    |
| 30    | 95     | 317    | 211    | B140   | -----  | 2,440  | 1,130   | 301    | 140    | 56    | 38    | 29    |
| 31    | 93     | -----  | 208    | 3,490  | -----  | 2,240  | -----   | 286    | -----  | 55    | 37    | ----- |
| TOTAL | 13,286 | 5,875  | 17,613 | 7,600  | 38,666 | 22,783 | 58,740  | 18,852 | 5,818  | 2,795 | 1,390 | 1,002 |
| MEAN  | 429    | 196    | 568    | 245    | 1,381  | 735    | 1,958   | 608    | 194    | 90.2  | 44.8  | 33.4  |
| MAX   | 3,600  | 1,190  | 2,320  | 3,490  | 5,790  | 4,170  | 4,520   | 1,100  | 277    | 135   | 55    | 39    |
| MIN   | 25     | 79     | 208    | 110    | 424    | 265    | 1,130   | 286    | 140    | 55    | 37    | 28    |
| AC-FT | 26,350 | 11,650 | 34,930 | 15,070 | 76,690 | 45,190 | 116,500 | 37,390 | 11,540 | 5,540 | 2,760 | 1,990 |

Calendar year 1962: Max 3,600 Min 17 Mean 331 Ac-ft 239,800  
 Water year 1962-63: Max 5,790 Min 25 Mean 533 Ac-ft 385,600

## Peak discharge (base, 4,000 cfs)

| Date | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|------|------|-------------|-----------|------|------|-------------|-----------|
| 1-31 | 2000 | 12.37       | 10,300    | 4-14 | 1300 | 9.85        | 5,290     |
| 3-27 | 2200 | 10.80       | 7,000     |      |      |             |           |

\* Discharge measurement made on this day.

A No gage-height record.

B Stage-discharge relation affected by ice.

11-5285. Hayfork Creek near Hyampom, Calif.--Continued.

Records available.--Water temperatures: November 1960 to September 1963.

Extremes.--Maximum temperature during year, 72°F July 27-29, Aug. 6-8, 11; minimum, 34°F Jan. 23-29.  
1960-63: Maximum temperature recorded, 83°F July 13, 1961; minimum, 32°F Jan. 22-26, 1962.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov. |     | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|------|-----|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max  | min | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   |      |     |      |     | -    | -   | 40   | 39  | 42    | 38    | 47   | 46  | 45    | 43    | 53  | 52  | 64    | 60    | 66   | 62  | 70   | 64  | 68    | 64    |
| 2   |      |     |      |     | -    | -   | 40   | 40  | 43    | 42    | 46   | 44  | 47    | 43    | 53  | 52  | 63    | 60    | 64   | 61  | 71   | 66  | 68    | 64    |
| 3   |      |     |      |     | -    | -   | 42   | 40  | 46    | 43    | 44   | 44  | 47    | 46    | 52  | 52  | 61    | 58    | 64   | 61  | 71   | 66  | 69    | 64    |
| 4   |      |     |      |     | 45   | 45  | 42   | 42  | 46    | 46    | 44   | 44  | 49    | 46    | 52  | 51  | 60    | 58    | 64   | 62  | 71   | 66  | 69    | 65    |
| 5   |      |     |      |     | 45   | 45  | 42   | 40  | 46    | 46    | 44   | 43  | 49    | 49    | 52  | 52  | 61    | 58    | 64   | 62  | 70   | 65  | 68    | 66    |
| 6   |      |     |      |     | 46   | 45  | 40   | 39  | 47    | 46    | 44   | 42  | 49    | 48    | 53  | 52  | 62    | 58    | 63   | 62  | 72   | 66  | 69    | 65    |
| 7   |      |     |      |     | 46   | 46  | 39   | 39  | 47    | 46    | 44   | 43  | 49    | 48    | 54  | 53  | 63    | 59    | 63   | 62  | 72   | 67  | 69    | 64    |
| 8   |      |     |      |     | 46   | 46  | 39   | 39  | 47    | 46    | 44   | 44  | 48    | 46    | 54  | 52  | 64    | 60    | 64   | 59  | 72   | 68  | 68    | 66    |
| 9   |      |     |      |     | 46   | 46  | 39   | 38  | 47    | 46    | 45   | 44  | 48    | 46    | 52  | 50  | 65    | 61    | 66   | 62  | 68   | 67  | 68    | 65    |
| 10  |      |     |      |     | 46   | 45  | 38   | 38  | 46    | 46    | 46   | 45  | 48    | 47    | 51  | 49  | 64    | 61    | 67   | 63  | 71   | 65  | 68    | 64    |
| 11  |      |     |      |     | 45   | 44  | 38   | 36  | 46    | 45    | 46   | 45  | 48    | 46    | 50  | 48  | 64    | 61    | 68   | 63  | 72   | 67  | 68    | 64    |
| 12  |      |     |      |     | 45   | 44  | 36   | 35  | 46    | 46    | 46   | 44  | 47    | 47    | 51  | 49  | 66    | 62    | 71   | 65  | 71   | 67  | 67    | 65    |
| 13  |      |     |      |     | 47   | 45  | 35   | 35  | 46    | 46    | 45   | 44  | 48    | 47    | 52  | 51  | 69    | 63    | 71   | 66  | 70   | 66  | 68    | 64    |
| 14  |      |     |      |     | 48   | 47  | 35   | 35  | 46    | 45    | 45   | 44  | 49    | 48    | 55  | 52  | 70    | 65    | 71   | 66  | 69   | 64  | 67    | 64    |
| 15  |      |     |      |     | 49   | 48  | 35   | 35  | 46    | 45    | 44   | 43  | 48    | 45    | 56  | 55  | 70    | 66    | 70   | 65  | 69   | 64  | 66    | 63    |
| 16  |      |     |      |     | 49   | 49  | 35   | 35  | 46    | 46    | 43   | 41  | 48    | 45    | 58  | 56  | 69    | 66    | 68   | 64  | 69   | 64  | 63    | 61    |
| 17  |      |     |      |     | 49   | 48  | 35   | 35  | 46    | 45    | 44   | 42  | 48    | 46    | 60  | 58  | 69    | 64    | 68   | 64  | 69   | 64  | 63    | 61    |
| 18  |      |     |      |     | 48   | 48  | 35   | 35  | 46    | 46    | 46   | 44  | 47    | 46    | 61  | 60  | 70    | 66    | 70   | 64  | 68   | 63  | 63    | 59    |
| 19  |      |     |      |     | 48   | 46  | 35   | 35  | 47    | 46    | 47   | 44  | 47    | 46    | 61  | 60  | 68    | 64    | 71   | 65  | 68   | 64  | 64    | 60    |
| 20  |      |     |      |     | 46   | 46  | 35   | 35  | 47    | 47    | 49   | 45  | 47    | 45    | 61  | 61  | 66    | 63    | 70   | 65  | 67   | 62  | 65    | 61    |
| 21  |      |     |      |     | 46   | 45  | 35   | 35  | 48    | 47    | 48   | 47  | 48    | 46    | 61  | 60  | 64    | 62    | 70   | 64  | 66   | 62  | 64    | 62    |
| 22  |      |     |      |     | 45   | 45  | 35   | 35  | 47    | 46    | 48   | 46  | 50    | 46    | 61  | 60  | 63    | 60    | 70   | 65  | 67   | 63  | 63    | 62    |
| 23  |      |     |      |     | 45   | 44  | 35   | 34  | 47    | 45    | 46   | 46  | 50    | 48    | 64  | 61  | 64    | 59    | 70   | 65  | 66   | 62  | 65    | 62    |
| 24  |      |     |      |     | 44   | 40  | 34   | 34  | 46    | 45    | 46   | 46  | 51    | 48    | 64  | 62  | 65    | 60    | 69   | 64  | 66   | 61  | 64    | 61    |
| 25  |      |     |      |     | 40   | 38  | 34   | 34  | 46    | 45    | 46   | 44  | 49    | 48    | 64  | 61  | 66    | 62    | 69   | 64  | 65   | 60  | 64    | 60    |
| 26  |      |     |      |     | 38   | 37  | 34   | 34  | 47    | 46    | 49   | 46  | 48    | 48    | 63  | 61  | 68    | 63    | 71   | 64  | 65   | 61  | 65    | 61    |
| 27  |      |     |      |     | 37   | 35  | 34   | 34  | 47    | 46    | 46   | 44  | 52    | 48    | 62  | 60  | 66    | 64    | 72   | 66  | 67   | 62  | 66    | 62    |
| 28  |      |     |      |     | 35   | 35  | 34   | 34  | 46    | 46    | 46   | 44  | 53    | 50    | 63  | 61  | 64    | 61    | 72   | 66  | 68   | 63  | 66    | 62    |
| 29  |      |     |      |     | 36   | 35  | 36   | 34  | ----- | ----- | 46   | 44  | 54    | 52    | 63  | 61  | 61    | 58    | 72   | 66  | 66   | 64  | 66    | 62    |
| 30  |      |     |      |     | 37   | 36  | 35   | 35  | ----- | ----- | 46   | 45  | 53    | 52    | 64  | 61  | 65    | 60    | 71   | 66  | 66   | 64  | 65    | 62    |
| 31  |      |     |      |     | 39   | 36  | 38   | 35  | ----- | ----- | 46   | 45  | ----- | ----- | 64  | 61  | ----- | ----- | 70   | 65  | 68   | 64  | ----- | ----- |
| Avg |      |     |      |     | -    | -   | 37   | 36  | 46    | 45    | 46   | 44  | 49    | 47    | 58  | 56  | 65    | 61    | 68   | 64  | 69   | 64  | 66    | 63    |

## KLAMATH RIVER BASIN

11-5290. South Fork Trinity River near Salyer, Calif.

Location.--Lat 40°50'30", long 123°34'00", in SE $\frac{1}{4}$  sec.1, T.5 N., R.5 E., on right bank 4 miles south of Salyer and 8 miles upstream from mouth.

Drainage area.--899 sq mi.

Records available.--October 1911 to September 1913, October 1950 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Published as "near China Flat" 1911-13.

Gage.--Water-stage recorder with thermograph attachment. Datum of gage is 541.1 ft above mean sea level (river-profile survey). Oct. 12, 1911, to Aug. 10, 1913, staff gage at site 7.7 miles downstream at different datum.

Average discharge.--15 years, 1,754 cfs (1,270,000 acre-ft per year).

Extremes.--Maximum discharge during year, 29,400 cfs Jan. 31 (gage height, 26.68 ft); minimum, 86 cfs Oct. 27.

1911-13, 1950-63: Maximum discharge, 65,100 cfs Dec. 22, 1955 (gage height, 39.4 ft, from floodmarks), from rating curve extended above 21,000 cfs by slope-conveyance study; minimum, 54 cfs Sept. 10, 1955.

Remarks.--Records good except those for period of no gage-height record, which are fair. No regulation or diversion above station.

## Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1 to Mar. 27 |     |      |        | Mar. 28 to Sept. 30 |     |      |        |
|-------------------|-----|------|--------|---------------------|-----|------|--------|
| 3.2               | 80  | 8.0  | 1,450  | 3.3                 | 96  | 8.0  | 1,680  |
| 3.5               | 109 | 10.0 | 3,020  | 4.0                 | 190 | 10.0 | 3,270  |
| 4.0               | 170 | 16.0 | 11,000 | 5.0                 | 400 | 16.0 | 11,000 |
| 5.0               | 375 | 23.0 | 22,000 | 6.0                 | 710 | 19.0 | 15,500 |
| 6.5               | 815 |      |        |                     |     |      |        |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.     | JAN.   | FEB.    | MAR.    | APR.    | MAY     | JUNE   | JULY   | AUG.   | SEPT. |
|-------|--------|--------|----------|--------|---------|---------|---------|---------|--------|--------|--------|-------|
| 1     | 101    | 420    | 1,770    | 1,050  | 21,500  | 1,490   | 7,470   | 3,620   | 1,310  | 491    | 216    | 139   |
| 2     | 95     | 408    | a 4,000  | 1,000  | 12,300  | 1,400   | 5,830   | 3,440   | 1,240  | 476    | *209   | 141   |
| 3     | 96     | 395    | a 10,000 | 964    | 9,250   | 1,360   | *5,450  | 3,500   | 1,180  | 461    | 204    | 140   |
| 4     | 96     | 383    | a 5,000  | 928    | 7,400   | 1,300   | 5,030   | 3,450   | 1,140  | 449    | 202    | 137   |
| 5     | 92     | 383    | a 4,500  | 882    | *6,350  | 1,230   | 6,350   | 3,690   | 1,100  | 449    | 199    | 133   |
| 6     | 89     | 373    | 2,990    | 847    | 5,360   | 1,190   | 11,700  | 3,710   | 1,060  | 440    | 193    | 132   |
| 7     | 89     | 360    | 2,520    | 815    | 4,550   | *1,160  | 11,000  | *3,650  | 1,020  | 420    | 187    | 131   |
| 8     | 117    | 350    | 2,190    | 808    | 4,200   | 1,120   | 9,820   | 3,450   | 969    | 420    | 187    | 128   |
| 9     | 243    | 355    | 1,910    | 763    | 3,840   | 1,100   | 8,370   | 3,150   | 924    | 413    | 195    | 126   |
| 10    | 1,580  | 423    | 1,710    | 738    | 5,020   | 1,050   | 7,360   | 3,010   | 893    | 403    | 202    | *123  |
| 11    | 2,590  | 465    | 1,550    | 704    | 4,420   | 1,000   | 6,350   | 2,940   | *846   | 388    | 197    | 120   |
| 12    | 9,120  | 1,240  | 1,430    | 653    | 4,250   | 964     | 7,600   | 2,760   | 818    | 378    | 190    | 119   |
| 13    | 9,540  | 1,160  | 1,890    | 620    | 6,170   | 936     | 10,500  | 2,600   | 790    | 360    | 180    | 118   |
| 14    | 5,680  | 822    | 1,960    | 653    | 4,930   | 948     | 14,600  | 2,490   | 758    | 343    | 174    | 118   |
| 15    | 3,810  | 677    | 4,000    | 656    | 4,100   | 960     | 14,200  | 2,390   | 734    | 325    | 173    | 115   |
| 16    | 2,490  | 620    | 4,440    | 638    | 3,730   | 1,010   | 10,900  | 2,300   | 700    | 313    | 167    | 117   |
| 17    | 1,790  | 563    | 3,760    | 617    | 3,580   | 1,010   | 8,760   | 2,270   | 794    | 303    | 165    | 119   |
| 18    | 1,380  | 560    | 3,580    | 596    | 3,210   | 936     | 7,360   | 2,250   | 707    | 299    | 159    | 119   |
| 19    | 1,130  | 527    | 2,600    | 587    | 2,950   | 910     | 6,580   | 2,180   | 647    | 295    | 156    | 122   |
| 20    | 952    | 490    | 2,290    | 563    | 2,780   | 928     | 6,040   | 2,170   | 616    | 287    | 156    | 122   |
| 21    | 836    | 470    | 2,050    | 560    | 2,570   | 968     | 5,470   | 2,170   | 593    | 287    | 155    | 119   |
| 22    | 745    | 463    | 1,870    | 557    | 2,360   | 976     | 4,970   | 2,110   | 602    | 281    | 153    | 118   |
| 23    | *680   | 450    | 1,730    | 545    | 2,190   | 1,150   | 4,650   | 2,020   | 609    | 273    | 152    | 117   |
| 24    | 626    | 435    | 1,600    | 530    | 2,050   | 1,240   | 4,500   | 1,930   | 590    | 269    | 151    | 118   |
| 25    | 587    | 425    | 1,470    | *518   | 1,910   | 1,170   | 4,350   | 1,820   | 566    | 265    | 149    | 118   |
| 26    | 554    | 4,430  | 1,380    | 500    | 1,810   | 1,240   | 4,300   | 1,720   | 551    | 261    | 149    | 113   |
| 27    | 527    | 5,510  | *1,290   | 490    | 1,660   | 6,700   | 3,990   | 1,630   | 527    | 253    | 149    | 111   |
| 28    | 495    | 2,820  | 1,220    | 480    | 1,570   | 13,300  | 3,830   | 1,560   | 515    | 241    | 145    | 107   |
| 29    | 470    | 2,070  | 1,150    | 493    | -----   | 10,400  | 3,800   | 1,500   | 512    | 229    | 142    | 104   |
| 30    | 450    | 1,730  | 1,140    | 721    | -----   | 10,900  | 3,730   | 1,440   | 506    | 221    | 141    | 103   |
| 31    | 433    | -----  | 1,130    | 10,000 | -----   | 9,910   | -----   | 1,360   | -----  | 220    | 141    | ----- |
| TOTAL | 47,483 | 29,777 | 80,120   | 30,476 | 136,010 | 79,956  | 214,860 | 78,280  | 23,817 | 10,513 | 5,338  | 3,647 |
| MEAN  | 1,532  | 993    | 2,585    | 983    | 4,858   | 2,579   | 7,162   | 2,525   | 794    | 339    | 172    | 122   |
| MAX   | 9,540  | 5,510  | 10,000   | 10,000 | 21,500  | 13,300  | 14,600  | 3,710   | 1,310  | 491    | 216    | 141   |
| MIN   | 89     | 350    | 1,130    | 480    | 1,570   | 910     | 3,730   | 1,360   | 506    | 220    | 141    | 103   |
| AC-FT | 94,180 | 59,060 | 158,900  | 60,450 | 269,800 | 158,600 | 426,200 | 155,300 | 47,240 | 20,850 | 10,590 | 7,230 |

Calendar year 1962: Max 10,000 Min 66 Mean 1,319 Ac-ft 955,300

Water year 1962-63: Max 21,500 Min 89 Mean 2,028 Ac-ft 1,468,000

## Peak discharge (base, 8,000 cfs)

| Date  | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|---------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0300    | 18.78       | 15,200    | 3-28 | 0300 | 19.68       | 16,500    |
| 11-26 | 2000    | 14.66       | 9,120     | 4-6  | 1200 | 17.21       | 12,800    |
| 12-3  | Unknown | 18.90       | 15,400    | 4-14 | 1700 | 19.62       | 16,400    |
| 1-31  | 2400    | 26.68       | 29,400    |      |      |             |           |

\* Discharge measurement made on this day.  
a No gage-height record.



11-5290. South Fork Trinity River near Salyer, Calif.--Continued.

Records available.--Water temperatures: August 1962 to September 1963.

Extremes.--Maximum temperature during year, 74°F July 28, Aug. 7, 11, 12; minimum recorded, 36°F Jan. 25-30.

1962-63: Maximum temperature, that of July 28, Aug. 7, 11, 12, 1963; minimum recorded, that of Jan. 25-30, 1963.

Temperature (°F) of water, water year October 1962 to September 1963

| Day | Oct. |     | Nov.  |       | Dec. |     | Jan. |     | Feb.  |       | Mar. |     | Apr.  |       | May |     | June  |       | July |     | Aug. |     | Sept. |       |
|-----|------|-----|-------|-------|------|-----|------|-----|-------|-------|------|-----|-------|-------|-----|-----|-------|-------|------|-----|------|-----|-------|-------|
|     | max  | min | max   | min   | max  | min | max  | min | max   | min   | max  | min | max   | min   | max | min | max   | min   | max  | min | max  | min | max   | min   |
| 1   | 60   | 60  | 52    | 52    | 44   | 44  | -    | -   | 41    | 38    | 45   | 45  | 47    | 46    | 52  | 51  | 59    | 58    | 64   | 62  | 72   | 66  | 68    | 64    |
| 2   | 60   | 60  | 52    | 52    | -    | -   | -    | -   | 42    | 41    | 45   | 45  | 46    | 46    | 52  | 52  | 58    | 58    | 64   | 62  | 70   | 68  | 70    | 67    |
| 3   | 60   | 60  | 52    | 51    | -    | -   | -    | -   | 44    | 42    | 45   | 44  | 47    | 46    | 52  | 52  | 58    | 58    | 64   | 62  | 71   | 66  | 71    | 66    |
| 4   | 60   | 58  | 51    | 51    | -    | -   | -    | -   | 44    | 44    | 44   | 43  | 48    | 46    | 52  | 51  | 58    | 57    | 64   | 62  | 72   | 66  | 69    | 67    |
| 5   | 58   | 57  | 52    | 51    | -    | -   | -    | -   | 46    | 44    | 43   | 43  | 48    | 48    | 51  | 51  | 58    | 57    | 65   | 62  | 72   | 66  | 70    | 67    |
| 6   | 57   | 56  | 52    | 51    | 45   | 44  | -    | -   | 46    | 46    | 46   | 43  | 48    | 48    | 51  | 51  | 58    | 58    | 64   | 63  | 72   | 67  | 70    | 67    |
| 7   | 56   | 55  | 51    | 50    | 45   | 45  | -    | -   | 46    | 46    | 47   | 46  | 48    | 48    | 53  | 51  | 58    | 58    | 63   | 62  | 74   | 68  | 70    | 66    |
| 8   | 56   | 55  | 51    | 50    | 46   | 45  | -    | -   | 46    | 46    | 47   | 47  | 48    | 48    | 53  | 53  | 59    | 58    | 64   | 60  | 72   | 70  | 70    | 68    |
| 9   | 56   | 55  | 50    | 49    | 46   | 46  | -    | -   | 46    | 46    | 47   | 46  | 48    | 48    | 53  | 52  | 60    | 59    | 66   | 62  | 71   | 70  | 70    | 66    |
| 10  | 56   | 54  | 49    | 49    | 47   | 46  | -    | -   | 46    | 45    | 48   | 47  | 48    | 48    | 52  | 51  | 60    | 60    | 67   | 63  | 72   | 68  | 71    | 65    |
| 11  | 54   | 53  | 49    | 49    | 46   | 46  | -    | -   | 45    | 45    | 48   | 48  | 48    | 47    | 51  | 51  | 62    | 60    | 68   | 64  | 74   | 69  | 70    | 68    |
| 12  | 53   | 52  | 49    | 49    | 46   | 46  | -    | -   | 45    | 45    | 48   | 48  | 47    | 47    | 52  | 51  | 66    | 62    | 70   | 65  | 74   | 69  | 69    | 68    |
| 13  | 52   | 51  | 49    | 49    | 46   | 46  | -    | -   | 45    | 45    | 48   | 47  | 48    | 47    | 52  | 52  | 68    | 65    | 71   | 67  | 72   | 67  | 70    | 68    |
| 14  | 51   | 50  | 49    | 48    | 48   | 47  | -    | -   | 45    | 45    | 47   | 47  | 48    | 48    | 54  | 52  | 70    | 68    | 71   | 67  | 71   | 66  | 69    | 67    |
| 15  | 50   | 50  | 49    | 48    | 50   | 49  | -    | -   | 45    | 45    | 47   | 46  | 48    | 47    | 56  | 52  | 70    | 69    | 70   | 66  | 70   | 66  | 68    | 60    |
| 16  | 50   | 50  | 48    | 48    | 50   | 50  | -    | -   | 45    | 45    | 46   | 46  | 47    | 46    | 57  | 56  | 71    | 70    | 68   | 65  | 71   | 66  | 66    | 64    |
| 17  | 50   | 49  | 48    | 47    | 51   | 50  | -    | -   | 45    | 45    | 46   | 46  | 47    | 47    | 59  | 57  | 70    | 63    | 69   | 63  | 70   | 65  | 64    | 62    |
| 18  | 49   | 49  | 47    | 47    | 51   | 51  | -    | -   | 45    | 45    | 46   | 46  | 47    | 47    | 59  | 59  | 69    | 68    | 70   | 65  | 70   | 64  | 64    | 61    |
| 19  | 50   | 49  | 47    | 47    | 52   | 51  | -    | -   | 45    | 45    | 46   | 46  | 47    | 47    | 60  | 59  | 68    | 66    | 72   | 66  | 70   | 66  | 64    | 63    |
| 20  | 50   | 50  | 47    | 47    | 51   | 51  | -    | -   | 46    | 45    | 47   | 46  | 47    | 47    | 60  | 60  | 66    | 64    | 72   | 68  | 70   | 64  | 66    | 64    |
| 21  | 50   | 50  | 47    | 47    | 52   | 51  | -    | -   | 46    | 46    | 48   | 47  | 47    | 47    | 60  | 59  | 64    | 63    | 71   | 60  | 69   | 64  | 65    | 64    |
| 22  | 50   | 50  | 47    | 47    | 52   | 51  | -    | -   | 46    | 46    | 48   | 48  | 48    | 47    | 59  | 59  | 63    | 62    | 72   | 68  | 69   | 64  | 65    | 64    |
| 23  | 51   | 50  | 48    | 47    | 51   | 51  | -    | -   | 46    | 44    | 48   | 48  | 48    | 48    | 60  | 59  | 62    | 61    | 72   | 67  | 68   | 63  | 66    | 64    |
| 24  | 51   | 51  | 48    | 48    | 51   | 49  | -    | -   | 44    | 44    | 48   | 48  | 48    | 48    | 60  | 60  | 63    | 61    | 71   | 67  | 67   | 61  | 66    | 63    |
| 25  | 51   | 51  | 48    | 48    | 49   | 46  | 37   | 36  | 44    | 44    | 48   | 48  | 48    | 48    | 60  | 60  | 64    | 62    | 70   | 66  | 67   | 61  | 66    | 63    |
| 26  | 52   | 51  | 48    | 47    | 47   | 45  | 36   | 36  | 45    | 44    | 48   | 48  | 48    | 48    | 60  | 60  | 66    | 64    | 70   | 66  | 66   | 61  | 66    | 64    |
| 27  | 52   | 51  | 47    | 47    | 45   | 45  | 36   | 36  | 45    | 45    | 48   | 48  | 49    | 48    | 60  | 59  | 66    | 63    | 73   | 68  | 68   | 63  | 66    | 65    |
| 28  | 52   | 52  | 47    | 45    | -    | -   | 36   | 36  | 45    | 45    | 48   | 47  | 50    | 49    | 59  | 59  | 63    | 60    | 74   | 69  | 70   | 64  | 66    | 64    |
| 29  | 52   | 52  | 46    | 44    | -    | -   | 36   | 36  | ----- | ----- | 47   | 47  | 51    | 50    | 59  | 58  | 61    | 60    | 73   | 68  | 69   | 64  | 66    | 64    |
| 30  | 52   | 52  | 44    | 44    | -    | -   | 36   | 36  | ----- | ----- | 47   | 47  | 51    | 51    | 59  | 58  | 64    | 60    | 73   | 67  | 68   | 66  | 66    | 63    |
| 31  | 52   | 52  | ----- | ----- | -    | -   | 38   | 36  | ----- | ----- | 47   | 47  | ----- | ----- | 59  | 58  | ----- | ----- | 72   | 66  | 68   | 67  | ----- | ----- |
| Avg | 53   | 53  | 49    | 48    | -    | -   | -    | -   | 45    | 44    | 47   | 46  | 48    | 48    | 56  | 55  | 63    | 62    | 69   | 65  | 70   | 66  | 68    | 65    |

## KIAMATH RIVER BASIN

11-5298. Willow Creek at Willow Creek, Calif.

Location.--Lat 40°55'39", long 123°38'11", in SE $\frac{1}{4}$  sec.29, T.7 N., R.5 E., on left bank 0.4 mile upstream from mouth and 0.5 mile northwest of Willow Creek.

Drainage area.--43.3 sq mi.

Records available.--August 1959 to September 1963.

Gage.--Water-stage recorder. Altitude of gage 480 ft (from topographic map).

Extremes.--Maximum discharge during year, 5,190 cfs Dec. 2 (gage height, 10.02 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurement of peak flow at gage height 9.68 ft; minimum, 10 cfs Sept. 28.

1959-63: Maximum discharge, that of Dec. 2, 1962, from rating curve extended above 1,300 cfs; minimum, 7.2 cfs Sept. 10, 1962.

Remarks.--Records good. Small diversion for irrigation of about 40 acres above station.

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Oct. 1-7, Nov. 26 to Dec. 29)

|     |     |     |       |
|-----|-----|-----|-------|
| 3.4 | 10  | 5.0 | 278   |
| 3.6 | 22  | 5.5 | 460   |
| 3.9 | 48  | 6.0 | 700   |
| 4.2 | 84  | 7.0 | 1,370 |
| 4.5 | 143 | 8.5 | 3,010 |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.  | DEC.   | JAN.  | FEB.   | MAR.   | APR.   | MAY    | JUNE  | JULY  | AUG. | SEPT. |
|-------|--------|-------|--------|-------|--------|--------|--------|--------|-------|-------|------|-------|
| 1     | 16     | 50    | 514    | 83    | 1,060  | 141    | 590    | 269    | 70    | 35    | 19   | 14    |
| 2     | 19     | 48    | 2,520  | 81    | 660    | *133   | 474    | 310    | 68    | 35    | 18   | 14    |
| 3     | 27     | 47    | *1,280 | 83    | 565    | 126    | 600    | *424   | 65    | 34    | 18   | 14    |
| 4     | *19    | 47    | 695    | 78    | *501   | 116    | 528    | 373    | 64    | 35    | 17   | 14    |
| 5     | 18     | 48    | 456    | 74    | 452    | 110    | 936    | 342    | 64    | 34    | 17   | 13    |
| 6     | 17     | 45    | 359    | 74    | 377    | 104    | 1,350  | 324    | 62    | 34    | 17   | 13    |
| 7     | 27     | 43    | 291    | 71    | 324    | 100    | 1,070  | 363    | 58    | 33    | 16   | 13    |
| 8     | 121    | 45    | 251    | 70    | 300    | 98     | 840    | 338    | 57    | 32    | 17   | 12    |
| 9     | 530    | 67    | 214    | 69    | 260    | 97     | 690    | 288    | 55    | 30    | 18   | 13    |
| 10    | 460    | 63    | 187    | 73    | 234    | 89     | 605    | 269    | 54    | 29    | 18   | 13    |
| 11    | 581    | 186   | 163    | 71    | 212    | 86     | 523    | 251    | 53    | 29    | 16   | 12    |
| 12    | 884    | 510   | 157    | 64    | 248    | 84     | 733    | 228    | 51    | 28    | 16   | 13    |
| 13    | 597    | 328   | 148    | 62    | 314    | 80     | *870   | 212    | 49    | 26    | 16   | 13    |
| 14    | 695    | 209   | 133    | 62    | 275    | 93     | 1,070  | 189    | 48    | 26    | 16   | 12    |
| 15    | 465    | 159   | 224    | 60    | 245    | 88     | 922    | 179    | 47    | 25    | 16   | 13    |
| 16    | 297    | 166   | 200    | 59    | 266    | 98     | 722    | 164    | 45    | 23    | 15   | 14    |
| 17    | 217    | 148   | 176    | 59    | 266    | 93     | 590    | 155    | 44    | 23    | 15   | 13    |
| 18    | 166    | 128   | 157    | 57    | 331    | 89     | 532    | 143    | 43    | 23    | 15   | 13    |
| 19    | 137    | 118   | 143    | 57    | 331    | 95     | 541    | 130    | 42    | 23    | 15   | 12    |
| 20    | 114    | 106   | 137    | 56    | 297    | 110    | 501    | 124    | 41    | 23    | 15   | 12    |
| 21    | 98     | 98    | 126    | 55    | 269    | 126    | 456    | 116    | 42    | 23    | 15   | 12    |
| 22    | 88     | 104   | 118    | 55    | 242    | 128    | 424    | 110    | 45    | 22    | 15   | 12    |
| 23    | 80     | 95    | 112    | 54    | 220    | 139    | 404    | 102    | 42    | 22    | 15   | 13    |
| 24    | 73     | 88    | 104    | 54    | 200    | 133    | 380    | *97    | *40   | 22    | 14   | 13    |
| 25    | 69     | 88    | 98     | 53    | 187    | *122   | 356    | 89     | 39    | 21    | *14  | 12    |
| 26    | 64     | 660   | 93     | 52    | 176    | 179    | 331    | 86     | 39    | 21    | 14   | 12    |
| 27    | 59     | *436  | 91     | 52    | 161    | 525    | 304    | 83     | 38    | 20    | 14   | 11    |
| 28    | 37     | 310   | *86    | 51    | 148    | 772    | 304    | 78     | 39    | 20    | 14   | 11    |
| 29    | 55     | 291   | 81     | 59    | -----  | 840    | 304    | 77     | 38    | *20   | 14   | 11    |
| 30    | *54    | 328   | 98     | *81   | -----  | 834    | 288    | 73     | 36    | 20    | 15   | 11    |
| 31    | 52     | ----- | 89     | 455   | -----  | 783    | -----  | 70     | ----- | 19    | 15   | ----- |
| TOTAL | 6,156  | 5,019 | 9,507  | 2,384 | 9,121  | 6,611  | 18,238 | 6,056  | 1,478 | 810   | 489  | 378   |
| MEAN  | 199    | 167   | 307    | 76.9  | 326    | 213    | 608    | 195    | 49.3  | 26.1  | 15.8 | 12.6  |
| MAX   | 884    | 660   | 2,520  | 455   | 1,060  | 840    | 1,350  | 424    | 70    | 35    | 19   | 14    |
| MIN   | 16     | 43    | 81     | 51    | 148    | 80     | 288    | 70     | 36    | 19    | 14   | 11    |
| AC-FT | 12,210 | 9,960 | 18,860 | 4,730 | 18,090 | 13,110 | 36,170 | 12,010 | 2,930 | 1,610 | 970  | 750   |

Calendar year 1962: Max 2,520 Min 7.6 Mean 151 Ac-ft 109,000  
Water year 1962-63: Max 2,520 Min 11 Mean 181 Ac-ft 131,400

Peak discharge (base, 1,200 cfs)

\* Discharge measurement made on this day.

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-12 | 1600 | 7.14        | 1,480     | 4-6  | 0600 | 7.37        | 1,690     |
| 12-2  | 1500 | 10.02       | 5,190     |      |      |             |           |

KLAMATH RIVER BASIN

453

11-5300. Trinity River near Hoopa, Calif.

Location.--Lat 41°01'50", long 123°39'05", in SE $\frac{1}{4}$  sec.31, T.8 N., R.5 E., in Hoopa Indian Reservation, on left bank 0.7 mile downstream from Campbell Creek and 1-3/4 miles southeast of Hoopa.

Drainage area.--2,848 sq mi.

Records available.--October 1911 to January 1914, October 1916 to September 1918, October 1931 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B. Published as "at Hoopa" 1911-14, 1916-18.

Gage.--Water-stage recorder. Altitude of gage is 315 ft (from river-profile map). Prior to October 1931, staff gage at site 2.1 miles downstream at different datum.

Average discharge.--36 years (1911-13, 1916-18, 1931-63), 5,512 cfs (3,991,000 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 54,700 cfs Feb. 1 (gage height, 20.53 ft); minimum, 470 cfs Sept. 30. 1911-14, 1916-18, 1931-63: Maximum discharge, 190,000 cfs Dec. 22, 1955 (gage height, 35.90 ft), from rating curve extended above 56,000 cfs; minimum, 162 cfs Oct. 4, 1931.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Trinity Lake beginning in November 1960 (see p. 435). Small diversions above station for mining and irrigation.

Rating table (gage height, in feet, and discharge, in cubic feet per second)

|     |       |      |        |
|-----|-------|------|--------|
| 3.5 | 460   | 7.0  | 3,180  |
| 4.0 | 680   | 9.0  | 7,000  |
| 5.0 | 1,220 | 14.0 | 22,200 |
| 6.0 | 2,030 | 19.0 | 45,500 |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.    | May     | June    | July   | Aug.   | Sept.  |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 1     | 548     | 1,350   | 5,700   | 2,710   | 4,450   | 4,380   | 16,700  | 9,550   | 7,800   | 1,610  | 850    | 580    |
| 2     | 515     | 1,300   | 19,600  | 2,560   | 26,900  | 4,140   | 13,000  | 13,600  | 7,400   | 1,570  | 830    | 571    |
| 3     | 562     | 1,300   | 32,200  | 2,510   | 22,300  | 3,980   | 12,100  | *11,200 | 7,000   | 1,540  | 805    | 566    |
| 4     | *585    | 1,280   | 16,800  | 2,400   | 18,900  | 3,770   | 11,000  | 9,700   | 6,600   | 1,530  | 790    | 553    |
| 5     | 580     | 1,280   | 11,400  | 2,300   | 16,600  | 3,590   | 13,500  | 10,300  | 6,200   | 1,520  | 785    | 535    |
| 6     | 558     | 1,260   | 8,400   | 2,210   | 13,200  | 3,450   | 28,400  | 11,700  | 5,800   | 1,500  | 775    | 535    |
| 7     | 566     | 1,230   | 6,880   | 2,150   | 11,100  | 3,320   | 27,100  | 12,800  | 5,500   | 1,490  | 755    | 540    |
| 8     | 870     | 1,200   | 5,920   | 2,110   | 9,700   | 3,210   | 24,400  | 12,900  | 5,200   | 1,460  | 750    | 531    |
| 9     | 2,390   | 1,280   | 5,220   | 2,040   | 8,890   | 3,110   | 21,600  | 12,300  | 4,800   | 1,420  | 780    | 523    |
| 10    | 6,670   | 1,460   | 4,740   | 2,030   | 11,300  | 2,970   | 19,600  | 12,000  | 4,500   | 1,370  | 810    | 515    |
| 11    | 7,580   | 1,720   | 4,340   | 1,970   | 11,400  | 2,830   | 17,600  | 12,300  | 4,300   | 1,360  | 780    | 515    |
| 12    | 21,000  | 4,450   | 4,020   | 1,870   | 9,910   | 2,730   | 18,700  | 11,300  | 4,200   | 1,320  | 745    | 511    |
| 13    | 22,700  | 4,860   | 4,270   | 1,750   | 14,200  | 2,660   | 25,300  | 10,800  | 4,100   | 1,280  | 710    | 515    |
| 14    | 12,800  | 3,240   | 4,800   | 1,790   | 13,800  | 2,720   | 35,400  | 10,200  | 3,900   | 1,270  | 685    | 523    |
| 15    | 9,250   | 2,590   | 7,310   | 1,800   | 15,300  | 2,740   | 38,500  | 10,200  | 3,800   | 1,240  | 680    | 519    |
| 16    | 6,180   | 2,370   | 11,100  | 1,760   | 13,200  | 2,900   | 34,200  | 10,200  | 3,700   | 1,180  | 670    | 523    |
| 17    | 4,700   | 2,190   | 8,200   | 1,710   | 11,900  | 2,930   | 29,200  | 10,700  | 3,500   | 1,150  | 640    | 515    |
| 18    | 3,800   | 2,050   | 6,900   | 1,650   | 11,400  | 2,730   | 25,300  | 11,400  | 3,400   | 1,140  | 625    | 540    |
| 19    | 3,240   | 1,910   | 6,080   | 1,630   | 11,300  | 2,680   | 24,200  | 11,800  | 3,300   | 1,120  | 625    | 540    |
| 20    | 2,830   | 1,810   | 5,460   | 1,590   | 10,700  | 2,730   | 21,200  | 12,200  | 3,100   | 1,090  | 625    | 531    |
| 21    | 2,520   | 1,780   | 5,000   | 1,570   | 10,100  | 2,780   | 23,600  | 12,600  | 3,000   | 1,070  | 625    | 519    |
| 22    | 2,290   | 1,770   | 4,590   | 1,570   | 9,400   | 2,840   | 22,700  | 12,600  | 2,900   | 1,060  | 620    | 515    |
| 23    | 2,100   | 1,740   | 4,300   | 1,540   | 8,800   | 3,120   | 20,300  | 12,500  | 2,800   | 1,020  | 610    | 515    |
| 24    | 1,940   | 1,680   | 4,020   | 1,490   | 8,400   | 3,400   | 18,900  | *12,100 | *2,880  | 998    | 615    | 515    |
| 25    | 1,820   | 1,650   | 3,690   | 1,480   | 8,080   | *3,180  | 17,900  | 11,600  | 3,350   | 986    | 615    | 515    |
| 26    | *1,730  | 10,200  | 3,460   | 1,450   | *6,700  | 3,260   | 17,400  | 10,800  | 2,930   | 965    | 610    | 503    |
| 27    | 1,640   | *15,000 | *3,260  | 1,420   | 5,100   | 9,880   | 16,400  | 10,100  | 2,580   | 940    | 605    | 492    |
| 28    | 1,570   | 7,900   | 3,110   | 1,410   | 4,650   | 26,300  | 16,200  | 9,700   | 2,520   | 920    | 585    | 478    |
| 29    | 1,510   | 6,880   | 2,930   | 1,450   | -----   | 23,000  | 16,400  | 9,100   | 2,330   | *890   | *576   | 474    |
| 30    | 1,450   | 5,160   | 2,880   | *1,810  | -----   | 24,100  | 11,300  | 8,600   | 1,710   | 875    | 566    | 470    |
| 31    | 1,400   | -----   | 2,850   | 9,750   | -----   | 22,600  | -----   | 8,200   | -----   | 855    | 571    | -----  |
| Total | 127,894 | 93,890  | 219,430 | 65,480  | 367,730 | 188,030 | 638,100 | 345,050 | 125,100 | 37,739 | 21,313 | 15,677 |
| Mean  | 4,126   | 3,130   | 7,078   | 2,112   | 13,130  | 6,065   | 21,270  | 11,130  | 4,170   | 1,217  | 688    | 523    |
| Max   | 22,700  | 15,000  | 32,200  | 9,750   | 44,500  | 26,300  | 38,500  | 13,600  | 7,800   | 1,610  | 850    | 580    |
| Min   | 515     | 1,200   | 2,850   | 1,410   | 4,650   | 2,660   | 11,000  | 8,200   | 1,710   | 855    | 566    | 470    |
| Ac-ft | 253,700 | 186,200 | 435,200 | 129,900 | 729,400 | 373,000 | *1,266  | 684,400 | 249,100 | 74,850 | 42,270 | 31,090 |

Calendar year 1962: Max 32,200 Min 433 Mean 3,753 Ac-ft 2,716,000  
Water year 1962-63: Max 44,500 Min 470 Mean 6,152 Ac-ft 4,454,000

Peak discharge (base, 22,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0300 | 16.48       | 32,900    | 3-28 | 0500 | 15.89       | 30,000    |
| 11-26 | 2300 | 14.08       | 22,500    | 4- 6 | 1300 | 16.15       | 31,200    |
| 12- 3 | 0200 | 18.46       | 42,800    | 4-15 | 0500 | 18.00       | 40,500    |
| 2- 1  | 0300 | 20.53       | 54,700    |      |      |             |           |

\* Discharge measurement made on this day.

† Expressed in thousands.

Note.--No gage-height record May 28 to June 23.

## KLAMATH RIVER BASIN

11-5305. Klamath River near Klamath, Calif.

Location.--Lat 41°30'45", long 123°58'30", in SW $\frac{1}{4}$  sec.17, T.13 N., R.2 E., on right bank 2.8 miles upstream from Turwar Creek and 3.3 miles east of Klamath.

Drainage area.--12,100 sq mi, approximately (not including Lost River or Lower Klamath Lake basins).

Records available.--October 1910 to December 1926 (published as "near Requa"), October 1950 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Datum of gage is 5.60 ft above mean sea level (levels by Corps of Engineers). Prior to June 1926 staff gage at same site at different datum.

Average discharge.--29 years, 17,130 cfs (12,400,000 acre-ft per year).

Extremes.--Maximum discharge during year, 176,000 cfs Dec. 3 (gage height, 28.38 ft); minimum daily, 2,720 cfs Aug. 27, 29-31. 1910-26, 1950-63: Maximum discharge, 425,000 cfs Dec. 22, 1955 (gage height, 49.7 ft, from floodmarks), from rating curve extended above 140,000 cfs on basis of flood-routing study; minimum observed, 1,340 cfs July 31, Aug. 1, 1924.

Remarks.--Records good. Flow considerably regulated by reservoirs and powerplants above station. Large diversions for irrigation above station.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used July 23-25)

| Oct. 1 to Dec. 3 |         | Dec. 4 to Apr. 14<br>July 27 to Sept. 30           |        | Apr. 15 to July 26 |         |
|------------------|---------|--|--------|--------------------|---------|
| 4.4              | 3,500   | 4.2  | 2,700  | 4.4                | 3,500   |
| 5.0              | 4,600   | 5.0  | 4,100  | 5.0                | 4,600   |
| 7.0              | 10,400  | 6.0  | 6,400  | 7.0                | 10,400  |
| 11.0             | 26,000  | 11.0   | 26,000 | 10.0               | 22,500  |
| 15.0             | 50,000  | Note.--Same as<br>previous table above<br>11.0 ft. |        | 15.0               | 51,400  |
| 18.0             | 74,000  |  |        | 21.0               | 101,000 |
| 26.0             | 151,000 |  |        |                    |         |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.     | May      | June    | July    | Aug.    | Sept.   |
|-------|---------|---------|---------|---------|---------|---------|----------|----------|---------|---------|---------|---------|
| 1     | 3,560   | 7,680   | 26,800  | 13,500  | 113,000 | 18,300  | 47,900   | *31,400  | 21,000  | 6,210   | 3,100   | 2,790   |
| 2     | 3,530   | 7,260   | 88,900  | 13,200  | 87,600  | 17,300  | *37,300  | 33,400   | 19,300  | 5,980   | 3,120   | 2,850   |
| 3     | 3,740   | 7,350   | 150,000 | 13,000  | *83,500 | 16,800  | 33,300   | 40,700   | 18,100  | 5,800   | 3,300   | 3,000   |
| 4     | 3,660   | 7,050   | 81,600  | 12,800  | 92,600  | 15,800  | 30,500   | 35,400   | 16,900  | 5,720   | 3,270   | 2,970   |
| 5     | 3,580   | 6,690   | 51,400  | 12,400  | 77,100  | 15,000  | 35,200   | 37,100   | 16,000  | 5,620   | 3,260   | 2,920   |
| 6     | 3,500   | 6,540   | 39,300  | 12,100  | 57,800  | 15,100  | 79,500   | 48,100   | 15,200  | 5,520   | 3,200   | 2,910   |
| 7     | 3,580   | 6,840   | 32,200  | 11,200  | 47,300  | 14,900  | 83,600   | 50,600   | 14,400  | 5,420   | 3,160   | 2,910   |
| 8     | *6,120  | 6,750   | 27,800  | 10,500  | 39,000  | 14,500  | 71,200   | 48,000   | 13,600  | 5,380   | 3,140   | 2,920   |
| 9     | 22,800  | 7,680   | 24,800  | *10,800 | 34,000  | 14,100  | 60,800   | 41,500   | 13,200  | 5,220   | 3,150   | 2,880   |
| 10    | 35,800  | 8,970   | 22,600  | 10,500  | 31,600  | 13,500  | 56,000   | 37,800   | 12,800  | 5,150   | 3,220   | 2,850   |
| 11    | 32,600  | 9,240   | 20,800  | 10,200  | 31,400  | 12,300  | 50,700   | 36,600   | 12,500  | 4,980   | 3,200   | 2,840   |
| 12    | 56,900  | 23,000  | 19,600  | 9,810   | 28,000  | 11,400  | 50,900   | 34,700   | 12,100  | 4,840   | 3,150   | 2,850   |
| 13    | 79,000  | 29,000  | 19,200  | 9,250   | 34,700  | 11,500  | 61,800   | 32,800   | 11,900  | 4,740   | 3,100   | 2,840   |
| 14    | 51,700  | 19,700  | 19,700  | 9,000   | 33,400  | 12,100  | 84,600   | 31,200   | 11,800  | 4,640   | 2,980   | 2,850   |
| 15    | 39,100  | 16,000  | 24,600  | 9,180   | 33,600  | 12,500  | 97,000   | 31,200   | 11,600  | 4,520   | 2,960   | 2,850   |
| 16    | 27,600  | 14,500  | 37,100  | 9,320   | 30,600  | 13,200  | 83,100   | 30,000   | 11,100  | 4,440   | 2,920   | 2,880   |
| 17    | 21,900  | 13,100  | 30,700  | 8,900   | 28,700  | 13,100  | 70,300   | 31,000   | 10,800  | 4,380   | 2,880   | 2,880   |
| 18    | 18,000  | 12,500  | 27,100  | 8,550   | 30,600  | 12,000  | 61,300   | 33,600   | 10,400  | 4,340   | 2,860   | 3,000   |
| 19    | 15,500  | 11,500  | 24,500  | 8,270   | 33,700  | 11,300  | 58,900   | 34,900   | 9,910   | 4,280   | 2,840   | 3,100   |
| 20    | 13,800  | 10,200  | 22,700  | 7,720   | 30,300  | 12,200  | 54,600   | 36,300   | 9,560   | 4,200   | 2,820   | *3,160  |
| 21    | 12,700  | 10,800  | 21,200  | 7,540   | 29,000  | 12,600  | 52,200   | 36,600   | 9,180   | 4,120   | 2,820   | 3,180   |
| 22    | 11,700  | 11,600  | 19,500  | 7,510   | 27,500  | 12,800  | 51,600   | 35,200   | 8,700   | 4,040   | 2,820   | 3,220   |
| 23    | 11,100  | 11,800  | 18,500  | 7,480   | 25,800  | 12,900  | 48,400   | 33,400   | 8,700   | 3,860   | 2,790   | 3,280   |
| 24    | 10,400  | 11,000  | 17,500  | 7,300   | 24,400  | 13,300  | 46,300   | 32,500   | 8,460   | 3,760   | 2,760   | 3,270   |
| 25    | 9,770   | 10,800  | 16,700  | 7,240   | 22,900  | 12,500  | 44,200   | 30,600   | 8,130   | 3,580   | 2,750   | 3,220   |
| 26    | 9,180   | 40,100  | 15,800  | 6,880   | 22,100  | 13,100  | 42,800   | 28,200   | 8,790   | 3,600   | 2,730   | 3,200   |
| 27    | 8,940   | 56,800  | 15,100  | 6,700   | 20,000  | 22,600  | 39,700   | 26,200   | 7,770   | 3,500   | 2,720   | 3,150   |
| 28    | 8,700   | 34,700  | 14,900  | 6,640   | 18,800  | 51,700  | 38,000   | 25,100   | 7,380   | 3,380   | 2,730   | 3,000   |
| 29    | 8,280   | 25,900  | 14,500  | 6,640   | -----   | 52,700  | 37,900   | 24,800   | 7,380   | 3,340   | 2,720   | 2,960   |
| 30    | 8,100   | 23,800  | 14,200  | 7,660   | -----   | 61,800  | 35,000   | 24,000   | 6,660   | 3,220   | 2,720   | 3,060   |
| 31    | 7,890   | -----   | 14,200  | 15,800  | -----   | 63,000  | -----    | 23,000   | -----   | 3,150   | 2,720   | -----   |
| Total | 552,730 | 469,850 | 973,500 | 297,590 | *1,169  | 605,900 | *1,644.6 | *1,055.9 | 353,320 | 140,930 | 91,910  | 89,790  |
| Mean  | 17,830  | 15,630  | 31,400  | 9,600   | 41,750  | 19,550  | 54,820   | 34,060   | 11,780  | 4,546   | 2,965   | 2,993   |
| Max   | 79,000  | 56,800  | 150,000 | 15,800  | 113,000 | 63,000  | 97,000   | 50,600   | 21,000  | 6,210   | 3,300   | 3,280   |
| Min   | 3,500   | 6,540   | 14,200  | 6,640   | 18,800  | 11,300  | 30,500   | 23,000   | 6,660   | 3,150   | 2,720   | 2,790   |
| Ac-ft | *1,096  | 930,000 | *1,931  | 590,300 | *2,319  | *1,202  | *3,262   | *2,094   | 700,800 | 279,500 | 182,300 | 178,100 |

Calendar year 1962: Max 150,000 Min 2,800 Mean 14,200 Ac-ft 10,280,000  
Water year 1962-63: Max 150,000 Min 2,720 Mean 20,390 Ac-ft 14,760,000

Peak discharge (base, 50,000 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 10-13 | 0600 | 20.28       | 94,500    | 3-28 | 1200 | 16.18       | 58,400    |
| 11-26 | 2300 | 17.30       | 67,700    | 3-31 | 0200 | 17.30       | 67,700    |
| 12-3  | 0200 | 28.38       | 176,000   | 4-6  | 2000 | 20.06       | 92,500    |
| 2-1   | 1400 | 24.46       | 136,000   | 4-15 | 0200 | 20.77       | 98,900    |
| 2-3   | 2300 | 21.55       | 106,000   | 5-7  | 1600 | 15.00       | 51,400    |

\* Discharge measurement made on this day.

† Expressed in thousands.

11-5310. Middle Fork Smith River at Gasquet, Calif.

Location.--Lat 41°50'40", long 123°57'35", in NW<sup>1</sup>/<sub>4</sub> sec.28, T.16 N., R.2 E., on left bank 0.4 mile east of Gasquet and 0.6 mile upstream from confluence with North Fork Smith River.

Drainage area.--130 sq mi.

Records available.--October 1911 to February 1918 (published as "near Crescent City"). Occasional low-flow measurements, water years 1952-57 and annual maximum, water years 1954-56. October 1958 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 350 ft (from topographic map). October 1911 to February 1918, staff or chain gages at various sites within 0.4 mile downstream at different datums. Sept. 23, 1953, to Sept. 30, 1956, crest-stage gage only, at site 0.2 mile upstream at different datum.

Average discharge.--11 years (1911-17, 1958-63), 654 cfs (473,500 acre-ft per year).

Extremes.--Maximum discharge during year, 26,700 cfs Dec. 2 (gage height, 12.28 ft), from rating curve extended above 11,000 cfs; minimum, 65 cfs Sept. 5-15, 20-22, 26-30.

1911-18, 1953-56, 1958-63: Maximum discharge, that of Dec. 2, 1962.

1911-18, 1958-63: Minimum discharge observed, 38 cfs Oct. 21, 1915.

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

Rating table (gage height, in feet, and discharge, in cubic feet per second)  
(Shifting-control method used Jan. 28-31, Feb. 2-19, Mar. 5-29, 31,  
Apr. 3, 4, June 23 to July 25, Aug. 27 to Sept. 30)

|     |       |      |        |
|-----|-------|------|--------|
| 1.2 | 65    | 5.0  | 2,800  |
| 1.5 | 115   | 6.0  | 4,500  |
| 2.0 | 245   | 7.0  | 6,600  |
| 2.5 | 460   | 8.0  | 9,300  |
| 3.0 | 750   | 10.0 | 16,100 |
| 4.0 | 1,560 |      |        |

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1962 TO SEPTEMBER 1963

| DAY   | OCT.   | NOV.   | DEC.   | JAN.   | FEB.   | MAR.   | APR.    | MAY    | JUNE   | JULY  | AUG.  | SEPT. |
|-------|--------|--------|--------|--------|--------|--------|---------|--------|--------|-------|-------|-------|
| 1     | 68     | 197    | 1,550  | 312    | 6,780  | 465    | 1,980   | 729    | 316    | 165   | 88    | 71    |
| 2     | *79    | 194    | 15,500 | 296    | 2,750  | 445    | 1,460   | 1,330  | 304    | 155   | 88    | 71    |
| 3     | 115    | 185    | 5,340  | 320    | 4,710  | 425    | *1,320  | 2,110  | 288    | 153   | 87    | 71    |
| 4     | 83     | 183    | *2,450 | 316    | 4,040  | 405    | 1,200   | 1,430  | 280    | 155   | 86    | 70    |
| 5     | 73     | 185    | 1,610  | 296    | 3,450  | *385   | 1,950   | 3,390  | 277    | 155   | 86    | 67    |
| 6     | 67     | 178    | 1,230  | 280    | 2,200  | 370    | 3,470   | 3,890  | 263    | 153   | 85    | 65    |
| 7     | 93     | 170    | 1,000  | 273    | 1,740  | 352    | 3,640   | 3,820  | 256    | 153   | 84    | 65    |
| 8     | 423    | 168    | 848    | 266    | 1,390  | 340    | 3,140   | 2,490  | 245    | 150   | 83    | 65    |
| 9     | 3,120  | 316    | 736    | 259    | 1,140  | 332    | 2,550   | 1,710  | 239    | 143   | 83    | 65    |
| 10    | 2,390  | 284    | 650    | 249    | 960    | 316    | 2,180   | 1,370  | 230    | 138   | 82    | 65    |
| 11    | 2,850  | 344    | 578    | 239    | 834    | 304    | 1,870   | 1,220  | 230    | 135   | 82    | 65    |
| 12    | 3,020  | 1,650  | 535    | 233    | 785    | 296    | 2,550   | 1,080  | 224    | 129   | 81    | 65    |
| 13    | 2,700  | 1,160  | 540    | 230    | 992    | 288    | 2,910   | 953    | 218    | 127   | 80    | 65    |
| 14    | 2,990  | 687    | 495    | 227    | 883    | 332    | 4,460   | 862    | 209    | 125   | 80    | 65    |
| 15    | 2,090  | 530    | 1,140  | 221    | 778    | 316    | 4,070   | 813    | 203    | 125   | 79    | 68    |
| 16    | 1,180  | 520    | 1,070  | 224    | 715    | 370    | 2,560   | 778    | 200    | 123   | 79    | 73    |
| 17    | 827    | 490    | 820    | 212    | 662    | 352    | 1,880   | 785    | 191    | 121   | 78    | 71    |
| 18    | 632    | 470    | 680    | 206    | 1,020  | 332    | 1,560   | 750    | 188    | 121   | 77    | 68    |
| 19    | 520    | 435    | 596    | 206    | 1,290  | 328    | 1,650   | 722    | 183    | 117   | 77    | 67    |
| 20    | 455    | 410    | 530    | 203    | 855    | 352    | 1,540   | 708    | 183    | 115   | 76    | 65    |
| 21    | 395    | 420    | *490   | 197    | 729    | 395    | 1,350   | 650    | 183    | 115   | 75    | 65    |
| 22    | 352    | 520    | 460    | 194    | 650    | 415    | 1,220   | 584    | 200    | 113   | 74    | 67    |
| 23    | 324    | 500    | 430    | 191    | 608    | 440    | 1,140   | 530    | 203    | 111   | 73    | 73    |
| 24    | 296    | 440    | 405    | 191    | 572    | 445    | 1,090   | 495    | 183    | 109   | 72    | 73    |
| 25    | *277   | 475    | 375    | 183    | 545    | 415    | 1,000   | 455    | *175   | 107   | 71    | 70    |
| 26    | 263    | 5,890  | 356    | 180    | 535    | 517    | 932     | 430    | 170    | 102   | 71    | 65    |
| 27    | 249    | 2,440  | 344    | 178    | 510    | 1,570  | 848     | *405   | 168    | 97    | *70   | 65    |
| 28    | 236    | 1,470  | 328    | 180    | 485    | 2,720  | 806     | 375    | 173    | 93    | 70    | 65    |
| 29    | 224    | 1,090  | 312    | *194   | -----  | 4,750  | 820     | 360    | 170    | *90   | 70    | 65    |
| 30    | 215    | 1,210  | 348    | 266    | -----  | 5,420  | *785    | 344    | 168    | 89    | 71    | 65    |
| 31    | 206    | -----  | 336    | 2,990  | -----  | 3,530  | -----   | 332    | -----  | 89    | 71    | ----- |
| TOTAL | 26,812 | 23,211 | 42,082 | 10,012 | 42,608 | 27,722 | 57,931  | 35,900 | 6,520  | 3,873 | 2,429 | 2,020 |
| MEAN  | 865    | 774    | 1,357  | 323    | 1,522  | 894    | 1,931   | 1,158  | 217    | 125   | 78.4  | 67.3  |
| MAX   | 3,120  | 5,890  | 15,500 | 2,990  | 6,780  | 5,420  | 4,460   | 3,890  | 316    | 165   | 88    | 73    |
| MIN   | 67     | 168    | 312    | 178    | 485    | 288    | 785     | 332    | 168    | 89    | 70    | 65    |
| AC-FT | 53,180 | 46,040 | 83,470 | 19,860 | 84,510 | 54,990 | 114,900 | 71,210 | 12,930 | 7,680 | 4,820 | 4,010 |

Calendar year 1962: Max 15,500 Min 52 Mean 584 Ac-ft 422,400  
Water year 1962-63: Max 15,500 Min 65 Mean 770 Ac-ft 557,600

## Peak discharge (base, 7,500 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 11-26 | 0700 | 8.12        | 9,660     | 2-1  | 0100 | 8.29        | 10,200    |
| 12- 2 | 1200 | 12.28       | 26,700    |      |      |             |           |

\* Discharge measurement made on this day.  
Note.--No gage-height record Feb. 20 to Mar. 4, July 26 to Aug. 26.

## SMITH RIVER BASIN

11-5325. Smith River near Crescent City, Calif.

Location.--Lat 41°47'20", long 124°03'20", in SW<sup>1</sup>/<sub>4</sub> sec.10, T.16 N., R.1 E., on left bank 0.5 mile downstream from South Fork and 8 miles east of Crescent City.

Drainage area.--613 sq mi.

Records available.--October 1931 to September 1963. Monthly discharge only for some periods, published in WSP 1315-B.

Gage.--Water-stage recorder. Altitude of gage is 90 ft (from topographic map).

Average discharge.--32 years, 3,763 cfs (2,724,000 acre-ft per year).

Extremes.--Maximum discharge during year, 113,000 cfs Dec. 2 (gage height, 34.10 ft), from rating curve extended above 69,000 cfs as explained below; minimum, 218 cfs Sept. 30.

1931-63: Maximum discharge, 165,000 cfs Dec. 22, 1955 (gage height, 41.20 ft), from rating curve extended above 69,000 cfs on basis of slope-area measurement at gage height 39.51 ft; minimum, 168 cfs Oct. 21, 1931.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No regulation or diversion above station.

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.    | Nov.    | Dec.    | Jan.    | Feb.    | Mar.    | Apr.     | May     | June   | July   | Aug.   | Sept.  |
|-------|---------|---------|---------|---------|---------|---------|----------|---------|--------|--------|--------|--------|
| 1     | 335     | 1,060   | 10,300  | 1,760   | 35,500  | 2,330   | 11,500   | *3,920  | 1,520  | 672    | 361    | 271    |
| 2     | *389    | 1,010   | 70,500  | *1,680  | 15,400  | 2,230   | 8,200    | 9,130   | 1,460  | 656    | 361    | 265    |
| 3     | 665     | 974     | *28,700 | 1,890   | 26,800  | 2,130   | 7,300    | 14,500  | 1,390  | 640    | 355    | 256    |
| 4     | 466     | 945     | 14,400  | 1,870   | 21,500  | 1,980   | 6,710    | 8,900   | 1,340  | 664    | 358    | 247    |
| 5     | 583     | 1,000   | 9,380   | 1,740   | 17,900  | *1,890  | 13,000   | 22,800  | 1,340  | 664    | 352    | 238    |
| 6     | 347     | 930     | 6,940   | 1,630   | 12,200  | 1,800   | 20,000   | 27,800  | 1,260  | 624    | 346    | 235    |
| 7     | 420     | 885     | 5,540   | 1,550   | 9,700   | 1,720   | 19,900   | 23,100  | 1,210  | 616    | 340    | 238    |
| 8     | 3,410   | 875     | 4,580   | 1,480   | 7,520   | 1,640   | a17,100  | 14,700  | 1,150  | 612    | 328    | 235    |
| 9     | 20,500  | 2,170   | 3,960   | 1,400   | 5,990   | 1,580   | a14,800  | 10,100  | 1,120  | 584    | 337    | 229    |
| 10    | 16,400  | 2,220   | 3,480   | 1,340   | 4,990   | 1,500   | a13,700  | 7,990   | 1,080  | 568    | 340    | 232    |
| 11    | 16,600  | 2,730   | 3,120   | 1,280   | 4,160   | 1,420   | a11,000  | 6,710   | 1,050  | 556    | 328    | 235    |
| 12    | 17,100  | 11,000  | 2,870   | 1,230   | 3,920   | 1,390   | *a15,700 | 5,760   | 1,020  | 540    | 319    | 232    |
| 13    | 16,200  | 7,720   | 3,080   | 1,190   | 5,870   | 1,340   | a16,700  | 5,040   | 984    | 524    | 313    | 238    |
| 14    | 19,700  | 4,300   | 2,920   | 1,160   | 4,990   | 1,510   | 27,400   | 4,530   | 948    | 512    | 307    | 238    |
| 15    | 13,000  | 3,280   | 6,770   | 1,130   | 4,180   | 1,470   | 22,800   | 4,200   | 915    | 496    | 307    | 250    |
| 16    | 7,250   | 3,250   | 6,260   | 1,100   | 3,760   | 1,940   | a14,500  | 3,940   | 895    | 492    | 298    | 283    |
| 17    | 4,890   | 3,020   | 4,600   | 1,060   | 3,450   | 1,900   | a10,700  | 3,940   | 860    | 484    | 292    | 256    |
| 18    | 3,780   | 2,830   | 3,820   | 1,040   | 8,500   | 1,750   | a8,800   | 3,910   | 835    | 476    | 289    | 241    |
| 19    | 3,120   | 2,580   | 3,280   | 1,020   | 9,520   | 1,730   | a9,400   | 3,700   | 815    | 468    | 289    | 232    |
| 20    | 2,630   | 2,400   | 2,920   | 985     | 6,550   | 1,860   | a9,000   | 3,670   | 800    | 460    | 289    | 226    |
| 21    | 2,300   | 2,790   | *2,670  | 965     | 5,130   | 2,110   | a8,300   | 3,380   | 810    | 456    | 286    | 223    |
| 22    | 2,020   | 3,400   | 2,450   | 945     | 4,260   | 2,420   | a7,500   | 3,020   | 860    | 448    | 280    | 241    |
| 23    | 1,840   | 3,290   | 2,290   | 920     | 3,690   | 2,760   | a6,900   | 2,760   | 885    | 444    | 274    | 367    |
| 24    | *1,680  | 2,770   | 2,140   | 900     | 3,260   | 3,070   | a6,500   | 2,500   | 790    | 428    | 274    | 316    |
| 25    | 1,560   | 2,760   | 2,000   | 880     | 2,960   | 2,680   | a6,000   | 2,300   | 755    | 408    | 271    | 256    |
| 26    | 1,450   | a31,800 | 1,890   | 860     | 2,960   | 3,000   | a5,800   | 2,100   | *735   | 400    | 265    | 241    |
| 27    | 1,360   | 14,900  | 1,790   | 840     | 2,660   | 8,590   | a5,300   | 1,940   | 705    | 394    | *268   | 232    |
| 28    | 1,270   | 8,900   | 1,710   | *830    | 2,480   | 15,700  | a4,800   | *1,860  | 740    | 385    | 265    | 223    |
| 29    | 1,200   | 6,390   | 1,630   | 930     | -----   | 23,100  | a4,900   | 1,780   | 745    | *382   | 265    | 220    |
| 30    | 1,150   | 8,090   | 1,850   | 1,380   | -----   | 28,500  | a4,600   | 1,690   | 700    | 376    | 265    | 220    |
| 31    | 1,100   | -----   | 1,930   | 15,100  | -----   | 19,800  | -----    | 1,610   | -----  | 370    | 268    | -----  |
| Total | 164,515 | 140,269 | 219,770 | 52,085  | 239,800 | 146,840 | 338,810  | 213,280 | 29,717 | 15,799 | 9,490  | 7,416  |
| Mean  | 5,307   | 4,676   | 7,089   | 1,680   | 8,564   | 4,737   | 11,290   | 6,880   | 991    | 510    | 306    | 247    |
| Max   | 20,500  | 31,800  | 70,500  | 15,100  | 35,500  | 28,500  | 27,400   | 27,800  | 1,520  | 672    | 361    | 367    |
| Min   | 335     | 875     | 1,630   | 830     | 2,480   | 1,340   | 4,600    | 1,610   | 700    | 370    | 265    | 220    |
| Ac-ft | 326,300 | 278,200 | 435,900 | 103,300 | 475,600 | 291,300 | 672,000  | 423,000 | 58,940 | 31,340 | 18,820 | 14,710 |

Calendar year 1962: Max 70,500 Min 265 Mean 3,269 Ac-ft 2,366,000

Water year 1962-63: Max 70,500 Min 220 Mean 4,323 Ac-ft 3,129,000

Peak discharge (base, 36,000 cfs)

| Date  | Time    | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|---------|-------------|-----------|------|------|-------------|-----------|
| 11-26 | unknown | -           | †50,000   | 2-1  | 0300 | 23.22       | 46,100    |
| 12-2  | 1300    | 34.10       | 113,000   | 2-3  | 1400 | 21.03       | 36,100    |

\* Discharge measurement made on this day.  
a No gage-height record.

† About.

11-5330. Lopez Creek near Smith River, Calif.

Location.--Lat 41°57'36", long 124°12'08", in SE $\frac{1}{4}$  sec.8, T.18 N., R.1 W. (revised), on right bank at culvert on U. S. Highway No. 101, 3.7 miles northwest (revised) of town of Smith River.

Drainage area.--0.93 sq mi.

Records available.--October 1961 to September 1963.

Gage.--Water-stage recorder, crest-stage gage and tipping-bucket rain gage. Altitude of gage is 35 ft (from topographic map).

Extremes.--Maximum discharge during year, 147 cfs May 6 (gage height, 3.68 ft), by indirect measurement of peak flow through culvert at gage height 3.58 ft; no flow Aug. 27-29, Sept. 13, 14, 18-21.

1961-63: Maximum discharge, that of May 6, 1963; no flow at times in each year.

Remarks.--Records good above 5 cfs and fair below.

Rating tables (gage height, in feet, and discharge, in cubic feet per second)

| Oct. 1 to Apr. 12 |     |     |    | Apr. 13 to Sept. 30 |     |     |     |
|-------------------|-----|-----|----|---------------------|-----|-----|-----|
| 0.7               | 0.2 | 1.4 | 16 | 0.67                | 0   | 1.1 | 7.8 |
| .8                | .8  | 1.8 | 36 | .7                  | .1  | 1.3 | 16  |
| .9                | 2.6 | 2.4 | 78 | .8                  | .7  | 2.0 | 52  |
| 1.0               | 5.1 |     |    | .9                  | 2.6 | 3.1 | 115 |
|                   |     |     |    | 1.0                 | 5.1 |     |     |

Discharge, in cubic feet per second, water year October 1962 to September 1963

| Day   | Oct.  | Nov.  | Dec.  | Jan. | Feb.  | Mar.  | Apr.  | May   | June  | July | Aug. | Sept. |
|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|------|------|-------|
| 1     | 0.5   | 2.1   | 1.4   | 2.6  | 7.1   | 3.4   | 13    | 3.1   | 1.3   | 0.7  | 0.1  | 0.1   |
| 2     | 1.5   | 1.9   | 7.7   | 2.6  | 7.6   | 3.4   | 10    | 1.5   | 1.3   | .7   | .1   | .1    |
| 3     | *1.3  | 1.9   | *4.4  | 3.6  | 2.4   | 3.1   | 8.9   | 1.6   | 1.3   | .6   | .2   | .1    |
| 4     | 1.0   | 1.9   | 2.5   | 2.9  | 3.0   | 2.9   | *7.9  | 1.3   | 1.1   | .7   | .2   | .1    |
| 5     | .8    | 2.1   | 1.5   | 2.6  | 2.3   | 2.4   | 8.9   | 5.5   | 1.1   | .7   | .2   | .1    |
| 6     | .7    | 1.9   | 1.2   | 2.6  | 1.6   | *2.4  | 8.9   | 11.1  | 1.1   | .7   | .2   | .1    |
| 7     | 1.5   | 1.7   | 1.1   | 2.6  | 1.1   | 2.4   | 11    | 5.8   | 1.1   | .7   | .2   | .1    |
| 8     | 4.3   | 4.1   | 9.4   | 2.4  | 9.9   | 2.1   | 17    | 3.2   | 1.1   | .7   | .1   | .1    |
| 9     | 1.8   | 7.1   | 8.6   | 2.1  | 8.1   | 1.9   | 2.4   | 1.9   | 1.1   | .7   | .1   | .1    |
| 10    | 2.5   | 5.9   | 7.9   | 1.9  | 7.1   | 1.7   | 3.0   | 1.3   | 1.1   | a .7 | .1   | .1    |
| 11    | 1.7   | 6.4   | 7.4   | 1.9  | 6.4   | 1.7   | 2.1   | 9.4   | .9    | a .7 | .1   | .1    |
| 12    | 1.8   | 8.6   | 7.4   | 1.9  | 6.4   | 1.7   | *3.7  | 7.8   | .9    | a .7 | .1   | .1    |
| 13    | 1.6   | 8.4   | 7.6   | 1.7  | 6.1   | 1.7   | *3.8  | 7.0   | .7    | a .7 | .1   | 0     |
| 14    | 1.5   | 7.6   | 7.9   | 1.7  | 5.4   | 2.4   | 4.7   | 6.5   | .7    | a .6 | .1   | 0     |
| 15    | 1.3   | 7.4   | 9.4   | 1.5  | 5.4   | 2.4   | 3.9   | 5.6   | .7    | a .6 | .1   | .1    |
| 16    | 1.1   | 7.4   | 8.9   | 1.5  | 4.9   | 4.9   | 2.6   | 5.1   | .7    | a .6 | .1   | .1    |
| 17    | 8.9   | 7.1   | 8.4   | 1.5  | 4.9   | 3.9   | 1.7   | 4.6   | .7    | a .6 | .1   | .1    |
| 18    | 7.6   | 6.6   | 7.9   | 1.5  | 1.9   | 3.4   | 1.4   | 4.1   | .7    | a .6 | .1   | 0     |
| 19    | 6.6   | 6.1   | 7.4   | 1.3  | 2.5   | 3.1   | 1.1   | 3.9   | .7    | a .6 | .1   | 0     |
| 20    | 5.9   | 7.4   | *5.6  | 1.3  | 1.6   | 2.9   | 9.8   | a3.5  | .7    | a .5 | .1   | 0     |
| 21    | 5.1   | 1.0   | 4.6   | 1.3  | 1.2   | 3.1   | 8.2   | a3.0  | .7    | a .5 | .1   | 0     |
| 22    | 4.6   | 1.1   | 4.4   | 1.2  | 9.1   | 3.9   | 7.8   | a2.5  | .7    | a .5 | .1   | .1    |
| 23    | 4.1   | 9.9   | 3.9   | 1.2  | 7.4   | 3.9   | 7.3   | a2.5  | .7    | a .4 | .1   | .4    |
| 24    | 3.9   | 8.9   | 3.6   | 1.0  | 6.1   | 3.6   | 6.7   | a2.2  | .7    | a .4 | .1   | .2    |
| 25    | *3.4  | 1.5   | 3.1   | 1.0  | 5.6   | 3.6   | 5.9   | a2.0  | *.6   | a .3 | .1   | .1    |
| 26    | 3.1   | 6.5   | 2.9   | 1.0  | 5.1   | 4.6   | 5.1   | a1.7  | .6    | a .3 | .1   | .1    |
| 27    | 2.9   | 3.2   | 2.6   | 1.0  | 4.1   | 6.9   | 4.6   | *1.7  | .6    | a .2 | *0   | .1    |
| 28    | 2.6   | 1.9   | 2.6   | 1.0  | 3.9   | 1.0   | 4.1   | 1.7   | .6    | a .2 | 0    | .1    |
| 29    | 2.6   | 1.4   | 2.4   | *1.9 | ----- | 1.4   | 4.1   | 1.7   | .6    | *.2  | 0    | .1    |
| 30    | 2.4   | 1.3   | 3.6   | 2.4  | ----- | 1.7   | *3.4  | 1.7   | .6    | .1   | .1   | .1    |
| 31    | 2.4   | ----- | 2.6   | 6.4  | ----- | 1.5   | ----- | 1.7   | ----- | .1   | .1   | ----- |
| Total | 210.7 | 301.4 | 338.1 | 61.1 | 296.6 | 139.4 | 456.6 | 415.0 | 25.4  | 16.3 | 3.3  | 2.8   |
| Mean  | 6.80  | 10.0  | 10.9  | 1.97 | 10.6  | 4.50  | 15.2  | 13.4  | 0.85  | 0.53 | 0.11 | 0.09  |
| Max   | 2.5   | 6.5   | 7.7   | 6.4  | 3.0   | 1.7   | 4.7   | 11.1  | 1.3   | 0.7  | 0.2  | 0.4   |
| Min   | 0.5   | 1.7   | 2.4   | 1.0  | 3.9   | 1.7   | 3.4   | 1.7   | 0.6   | 0.1  | 0    | 0     |
| Ac-ft | 418   | 598   | 671   | 121  | 588   | 276   | 906   | 823   | 50    | 32   | 6.5  | 5.6   |
| (†)   | 11.1  | 14.6  | 8.4   | 4.2  | 11.2  | 9.6   | 14.8  | 12.3  | 0.5   | 0.8  | 0    | 1.3   |

Calendar year 1962: Max 77 Min 0.2

Mean 4.57

Ac-ft 3,310

Water year 1962-63: Max 111 Min 0

Mean 6.21

Ac-ft 4,500

Peak discharge (base, 55 cfs)

| Date  | Time | Gage height | Discharge | Date | Time | Gage height | Discharge |
|-------|------|-------------|-----------|------|------|-------------|-----------|
| 11-25 | 2400 | 3.31        | 126       | 4-14 | 0700 | 2.05        | 56        |
| 12- 2 | 0700 | 2.99        | 110       | 5- 6 | 0800 | 3.68        | 147       |
| 2- 4  | 1100 | 2.10        | 59        |      |      |             |           |

\* Discharge measurement or observation of no flow made on this day.

† Precipitation, in inches.

a No gage-height record.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As explained on page 9 the California District publishes annual maxima on small streams at about 280 sites in a separate publication Floods From Small Drainage Areas. In addition discharge measurements are generally made in times of drought or flood to give better coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

The first table lists annual maxima at the site of a discontinued streamflow station (not included in the separate publication) to augment the station's hydrologic significance. The second table lists measurements made at miscellaneous sites.

Annual maximum discharge at discontinued station

| Station No. | Station name                                      | Location  | Drainage area (sq mi) | Period of record   | Annual maximum      |                    |                  |
|-------------|---|---|-----------------------|--------------------|---------------------|--------------------|------------------|
|             |   |   |                       |                    | Date                | Gage height (feet) | Discharge (cfs)  |
| 11-5320     | South Fork Smith River near Crescent City, Calif. | Lat 41°47'30", long 124°01'30", in SE $\frac{1}{4}$ sec. 11, T. 16 N., R. 1 E., 9.5 miles east of Crescent City, Calif. | 295                   | 1911-13<br>1954-63 | 11-23-61<br>12-2-62 | 23.27<br>30.69     | 32,900<br>65,600 |

## Measurements at miscellaneous sites

The following table contains determinations of peak discharge at crest-stage by indirect methods at points other than gaging stations.

Determinations of peak discharge during water year October 1962 to September 1963

| Stream             | Tributary to    | Location  | Drainage area (sq mi) | Measured previously (water years) | Measurements       |                 |
|--------------------|-----------------|---|-----------------------|-----------------------------------|--------------------|-----------------|
|                    |                 |   |                       |                                   | Date               | Discharge (cfs) |
| Last Chance Canyon | Koehn Dry Lake  | Lat 35°23'15", long 117°55'00", in NE $\frac{1}{4}$ sec. 29, T.29 S., R.38 E., 2.2 miles upstream on Last Chance Canyon Road from Garlock-Randsburg Road, 2 $\frac{1}{2}$ miles northwest of Saltdale, Calif.   | 23 (approximately)    | -                                 | Aug. 8             | 560             |
| Goler Gulch        | Koehn Dry Lake  | Lat 35°23', long 117°47', on Randsburg-Garlock Road, 200 ft east of Southern Pacific railroad crossing, 1 mile south of Garlock, Calif.   | 40 (approximately)    | -                                 | Aug. 8<br>Sept. 19 | 219<br>972      |
| Cottonwood Creek   | Koehn Dry Lake  | Lat 35°18'50", long 118°02'40", in E $\frac{1}{2}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ and W $\frac{1}{2}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 19, T.30 S., R.37 E., 300 ft downstream from Jawbone Canyon siphon, 2.6 miles above U.S. Highway 6, 20 miles east of Mojave, Calif. | 175 (estimated)       | -                                 | Aug. 8             | 5,150           |
| Day Creek          | Santa Ana River | Lat 34°06'27", long 117°32'26", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 6, T.1 S., R.6 W., 200 ft upstream from Highway 66, 1.4 miles northwest of Etiwanda, Calif.  | -                     | -                                 | Feb. 10            | 63.6            |



## SANTA ANA RIVER ABSORPTION STUDIES

459

These measurements were made by the Orange County Flood Control District to determine the rate of absorption along the stream bed of the Santa Ana River, covering that portion of the river from Yorba Bridge to the Geological Survey gaging station, Santa Ana River at Santa Ana. The measurements are listed in downstream order. Flow includes release to river at Horseshoe Bend, 3 miles upstream from Yorba Bridge, by Metropolitan Water District of Southern California from Oct. 1 to Feb. 10, Feb. 15 to Mar. 18, Mar. 25 to Apr. 17, Apr. 18 to June 9, Aug. 22 to Sept. 30.

Santa Ana River, lat 33°51'30", long 117°47'12", in Canon de Santa Ana Grant, about 1,000 ft above Yorba Bridge and 2.7 miles southeast of Atwood, water year 1963

(Measured previously 1938-62)

| Date   | Discharge | Date   | Discharge | Date   | Discharge | Date   | Discharge | Date    | Discharge |
|--------|-----------|--------|-----------|--------|-----------|--------|-----------|---------|-----------|
| Oct. 2 | 240       | Dec. 4 | 232       | Feb. 1 | 139       | Apr. 2 | 214       | May 28  | 242       |
| 5      | 259       | 7      | 220       | 5      | 136       | 5      | 294       | 31      | 246       |
| 9      | 290       | 11     | 269       | 8      | 144       | 9      | 203       | June 4  | 52.7      |
| 12     | 276       | 14     | 275       | 11     | 431       | 12     | 227       | 7       | 180       |
| 16     | 278       | 18     | 2.03      | 15     | 154       | 16     | 246       | 11      | 3.57      |
| 19     | 316       | 18     | 106       | 19     | 131       | 19     | 228       | 14      | 1.45      |
| 23     | 326       | 18     | 103       | 26     | 163       | 23     | 250       | 18      | .90       |
| 26     | 320       | 21     | 129       | Mar. 1 | 198       | 26     | 170       | Aug. 30 | 59.2      |
| 30     | 291       | 28     | 106       | 5      | 247       | 30     | 185       | Sept. 4 | 116       |
| Nov. 2 | 262       | Jan. 4 | 51.7      | 8      | 233       | May 3  | 235       | 6       | 122       |
| 6      | 249       | 8      | 41.8      | 12     | 222       | 7      | 199       | 11      | 187       |
| 9      | 254       | 11     | 43.3      | 15     | 237       | 10     | 196       | 13      | 180       |
| 16     | 223       | 15     | 38.4      | 19     | 73.9      | 14     | 124       | 17      | 148       |
| 20     | 211       | 18     | 36.1      | 22     | 52.4      | 17     | 239       | 20      | 142       |
| 23     | 217       | 22     | 57.4      | 26     | 84.8      | 21     | 207       | 24      | 188       |
| 27     | 220       | 25     | 104       | 29     | 194       | 24     | 228       | 27      | 128       |
| 30     | 239       | 29     | 133       |        |           |        |           |         |           |

Santa Ana River, lat 33°50'55", long 117°50'05", in SW 1/4 sec. 4, T. 4 S., R. 9 W., at Jefferson Street Bridge, 1 mile north of Olive, water year 1963

(Measured previously 1938-62)

|        |     |         |      |         |      |         |      |          |      |
|--------|-----|---------|------|---------|------|---------|------|----------|------|
| Oct. 2 | 183 | Nov. 27 | 157  | Jan. 22 | 32.7 | Mar. 19 | 41.0 | May 14   | 67.1 |
| 5      | 191 | 30      | 124  | 25      | 69.2 | 29      | 37.1 | 17       | 112  |
| 9      | 225 | Dec. 4  | 154  | 29      | 102  | Apr. 2  | 154  | 21       | 175  |
| 12     | 255 | 7       | 157  | Feb. 1  | 124  | 5       | 218  | 24       | 184  |
| 16     | 216 | 11      | 203  | 5       | 112  | 9       | 109  | 28       | 155  |
| 19     | 235 | 14      | 232  | 8       | 114  | 12      | 102  | 31       | 193  |
| 23     | 264 | 18      | 8.06 | 11      | 348  | 16      | 130  | June 4   | 97.9 |
| 26     | 258 | 21      | 54.9 | 15      | 73.9 | 19      | 122  | 7        | 133  |
| 30     | 221 | 28      | 77.5 | 19      | 73.8 | 23      | 202  | Sept. 11 | 50.9 |
| Nov. 2 | 190 | Jan. 4  | 23.1 | 26      | 133  | 26      | 187  | 13       | 29.2 |
| 6      | 208 | 8       | 90.1 | Mar. 1  | 160  | 30      | 133  | 17       | 60.9 |
| 9      | 194 | 11      | 21.2 | 8       | 232  | May 3   | 195  | 20       | 108  |
| 16     | 162 | 15      | 22.5 | 12      | 134  | 7       | 152  | 24       | 11.3 |
| 20     | 141 | 18      | 12.8 | 15      | 195  | 10      | 125  | 27       | 112  |
| 23     | 138 |         |      |         |      |         |      |          |      |

Santa Ana River, lat 33°50'08", long 117°51'49", in San Juan Cajon de Santa Ana Grant, at Anaheim-Olive Bridge, 1.1 miles west of Olive, water year 1963

(Measured previously 1938-62)

|        |      |        |      |         |      |         |      |         |      |
|--------|------|--------|------|---------|------|---------|------|---------|------|
| Oct. 2 | 50.5 | Dec. 4 | 45.5 | Feb. 11 | 203  | Apr. 26 | 103  | June 18 | 107  |
| 12     | 69.2 | 7      | 42.2 | 19      | 32.1 | 30      | 46.9 | 21      | 135  |
| 16     | 44.5 | 11     | 50.7 | 26      | 34.6 | May 3   | 84.1 | 25      | 82.8 |
| 19     | 60.9 | 14     | 98.5 | Mar. 1  | 27.4 | 7       | 72.9 | 28      | 79.6 |
| 23     | 77.9 | Jan. 4 | 1.31 | 5       | 73.0 | 10      | 75.1 | Aug. 20 | 41.4 |
| 26     | 71.8 | 8      | .15  | 8       | 48.1 | 14      | 142  | 23      | 92.2 |
| 30     | 44.5 | 11     | 3.63 | 12      | 62.0 | 17      | 73.8 | 27      | 131  |
| Nov. 2 | 64.5 | 15     | 6.68 | 15      | 38.3 | 21      | 77.7 | 30      | 55.9 |
| 6      | 73.4 | 18     | 7.22 | 19      | 12.5 | 24      | 83.8 | Sept. 6 | 64.3 |
| 9      | 64.2 | 22     | 13.9 | Apr. 2  | 49.3 | 28      | 95.0 | 11      | 70.6 |
| 16     | 47.1 | 25     | 10.0 | 5       | 137  | 31      | 109  | 13      | 82.8 |
| 20     | 62.0 | 29     | 17.0 | 9       | 43.3 | June 4  | 130  | 17      | 120  |
| 23     | 62.1 | Feb. 1 | 29.4 | 16      | 105  | 7       | 47.7 | 20      | 21.6 |
| 27     | 58.9 | 5      | 46.2 | 19      | 7.45 | 11      | 28.2 | 24      | 114  |
| 30     | 32.2 | 8      | 44.7 | 23      | 89.6 | 14      | 90.4 | 27      | 121  |

Santa Ana River, lat 33°47'17", long 117°52'54", in Santiago de Santa Ana Grant, at Chapman Ave. Bridge, 1.7 miles west of Orange, Orange County, water year 1963

(Measured previously 1938-47, 50, 52, 54, 56, 58, 62)

|         |      |         |      |        |      |    |    |    |    |
|---------|------|---------|------|--------|------|----|----|----|----|
| Feb. 11 | 42.2 | Mar. 19 | 8.99 | May 21 | 4.92 | -- | -- | -- | -- |
|---------|------|---------|------|--------|------|----|----|----|----|

|   | Page |  | Page |
|---|------|--|------|
| Agua Caliente Creek near Warner Springs.....                | 104  | Convict Creek near Mammoth Lakes.....                        | 72   |
| Alameda Creek, at Union City.....                           | 328  | Cooperation, record of.....                                  | 2    |
| near Niles.....   | 325  | Corralitos Creek, at Freedom.....                            | 291  |
| Alamitos Creek near New Almaden.....                        | 310  | near Corralitos.....   | 290  |
| Alamo Creek near Nipomo.....                                | 240  | Corte Madera Creek at Ross.....                              | 343  |
| Alamo River near Niland.....                                | 43   | Cottonwood Creek (Owens Lake basin) near Olancho.....        | 82   |
| Albion River near Comptche.....                             | 365  | Cottonwood Creek (Tia Juana River basin), above Tecate       |      |
| Alisal Creek near Solvang.....                              | 229  | Creek, near Dulzura.....                                     | 87   |
| Aliso Creek at El Toro.....                                 | 122  | at Barrett Dam, near Dulzura.....                            | 87   |
| All-American Canal, above Pilot Knob wasteway.....          | 27   | Cottonwood Creek at Morena Dam.....                          | 86   |
| below Pilot Knob wasteway.....                              | 29   | Cottonwood Wash near Cottonwood Spring.....                  | 57   |
| near Imperial Dam, Ariz.-Calif.....                         | 26   | Cow Creek near San Ardo.....                                 | 271  |
| Almaden Reservoir, contents of.....                         | 315  | Coyote Creek basin, reservoirs in.....                       | 319  |
| Amargosa River at Tecopa.....                               | 37   | Coyote Creek (tributary to Salton Sea) near Borrego Springs  | 46   |
| Anderson Lake, contents of.....                             | 319  | Coyote Creek (tributary to San Francisco Bay), near Gilroy   | 316  |
| Andreas Creek near Palm Springs.....                        | 54   | near Madrone.....  | 317  |
| Antelope Creek (Lower Klamath Lake basin) near Tennant..... | 413  | Coyote Creek (tributary to San Gabriel River) near Artesia   | 176  |
| Aptos Creek at Aptos.....                                   | 293  | Coyote Creek (tributary to Ventura River) near Oak View..... | 213  |
| Arch Creek near Earp.....                                   | 19   | Coyote Lake, contents of.....                                | 319  |
| Arroyo de la Cruz near San Simeon.....                      | 250  | Cristianitos Creek near San Clemente.....                    | 117  |
| Arroyo Grande, at Arroyo Grande.....                        | 248  | Cubic foot per second, definition of.....                    | 3    |
| near Arroyo Grande.....                                     | 247  | Cucamonga Creek near Upland.....                             | 149  |
| Arroyo Mocho near Pleasanton.....                           | 321  | Cushenbury Creek near Lucerne Valley.....                    | 57   |
| Arroyo Seco (Los Angeles River basin) near Pasadena.....    | 183  | Cuyama River, below Buckhorn Canyon, near Santa Maria.....   | 240  |
| Arroyo Seco (Salinas River basin), near Greenfield.....     | 273  | below Twitchell Dam.....                                     | 242  |
| near Soledad.....   | 274  | Cuyamaca Reservoir, contents of.....                         | 95   |
| Arroyo Trabuco near San Juan Capistrano.....                | 121  | Darwin Creek near Darwin.....                                | 36   |
| Arroyo Valle, at Pleasanton.....                            | 324  | Data, accuracy of.....                                       | 8    |
| near Livermore.....   | 323  | explanation of.....  | 5    |
| Atascadero Creek near Goleta.....                           | 218  | supplemental.....  | 9    |
| Austin Creek near Cazadero.....                             | 359  | Day Creek near Etiwanda.....                                 | 146  |
| Ballona Creek near Culver City.....                         | 193  | De Luz Creek near Fallbrook.....                             | 113  |
| Barrett Reservoir, contents of.....                         | 87   | Deep Creek (Mohave River basin) near Hesperia.....           | 58   |
| Bautista Creek near Hemet.....                              | 153  | Deep Creek (Salton Sea basin) near Palm Desert.....          | 55   |
| Beacon Creek at Helendale.....                              | 62   | Definition of terms and abbreviations.....                   | 3    |
| Beaver Creek near Klamath River.....                        | 419  | Devil Canyon Creek near San Bernardino.....                  | 142  |
| Big Bear Lake near Big Bear Lake.....                       | 124  | Dry Creek (tributary to Alameda Creek) at Union City.....    | 326  |
| Big Creek near Hayfork.....                                 | 447  | Dry Creek (tributary to Napa River) near Napa.....           | 337  |
| Big Pine Creek near Big Pine.....                           | 76   | Dry Creek (tributary to Russian River), near Cloverdale..... | 355  |
| Big River, South Fork, near Comptche.....                   | 366  | near Geyserville.....  | 356  |
| Big Rock Creek near Valyermo.....                           | 64   | Dry Lake tributary at Perez.....                             | 412  |
| Big Sulphur Creek near Cloverdale.....                      | 352  | Dunn Creek near Rockport.....                                | 368  |
| Big Sur River near Big Sur.....                             | 252  | Eagle Creek at Eagle Mountain.....                           | 40   |
| Black Butte River near Covelo.....                          | 377  | East Twin Creek near Arrowhead Springs.....                  | 134  |
| Bluff Creek near Weitchpec.....                             | 432  | Eaton Creek near Pasadena.....                               | 186  |
| Bodfish Creek near Gilroy.....                              | 261  | Bel River, above Dos Rios.....                               | 375  |
| Borrego Palm Creek near Borrego Springs.....                | 47   | at Alderpoint.....   | 388  |
| Boulder Creek at Cuyamaca Reservoir, near Julian.....       | 95   | at Scotia.....   | 397  |
| Branciforte Creek at Santa Cruz.....                        | 298  | at Van Arsdale Dam, near Potter Valley.....                  | 373  |
| Brea Creek, at Fullerton.....                               | 173  | below Dos Rios.....  | 385  |
| below Brea Dam, near Fullerton.....                         | 172  | below Scott Dam, near Potter Valley.....                     | 371  |
| Browns Creek near Douglas City.....                         | 439  | Middle Fork, below Black Butte River, near Covelo.....       | 378  |
| Buckhorn Creek near Valyermo.....                           | 66   | North Fork, near Mina.....                                   | 387  |
| Bull Creek near Weott.....                                  | 395  | South Fork, near Branscomb.....                              | 390  |
| Cajon Creek near Keenbrook.....                             | 140  | near Miranda.....  | 393  |
| Calero Reservoir, contents of.....                          | 315  | El Capitan Reservoir, contents of.....                       | 96   |
| Campo Creek near Campo.....                                 | 88   | Elk Creek (Klamath River basin) near Happy Camp.....         | 425  |
| Carbon Creek below Carbon Canyon Dam.....                   | 159  | Elk River near Falk.....                                     | 403  |
| Carmel River at Robles del Rio.....                         | 253  | Elsinore Lake at Elsinore.....                               | 154  |
| Carmel River near Carmel.....                               | 254  | Estrella River near Estrella.....                            | 265  |
| Carpinteria Creek near Carpinteria.....                     | 217  | Feliz Creek near Hopland.....                                | 350  |
| Cedar Creek near Bell Station.....                          | 276  | Fish Creek near Duarte.....                                  | 166  |
| Chemehuevi Wash tributary near Needles.....                 | 14   | Fortynine Palms Creek near Twentynine Palms.....             | 39   |
| Chesbro Reservoir, contents of.....                         | 292  | Fullerton Creek, at Fullerton.....                           | 175  |
| China Spring Creek near Mountain Pass.....                  | 38   | below Fullerton Dam, near Brea.....                          | 174  |
| Cholame Creek, near Shandon.....                            | 264  | Garcia River near Point Arena.....                           | 361  |
| tributary near Cholame.....                                 | 263  | Gibralter Reservoir, contents of.....                        | 221  |
| Christianitos Creek near San Clemente.....                  | 117  | Gila Gravity Main Canal at Imperial Dam, Ariz.-Calif.....    | 25   |
| City Creek near Highland.....                               | 136  | Guadalupe Reservoir, contents of.....                        | 315  |
| Coffee Creek near Trinity Center.....                       | 434  | Guadalupe River at San Jose.....                             | 313  |
| Colorado River aqueduct near Parker Dam, Ariz.-Calif.....   | 15   | Guadalupe River basin, reservoirs in.....                    | 315  |
| Colorado River, at Imperial Dam, Ariz.-Calif.....           | 22   | Gualala River, South Fork, near Annapolis.....               | 360  |
| at Needles.....   | 12   | Guejito Creek near San Pasqual.....                          | 101  |
| at northerly international boundary above Morelos Dam,      |      | Havasu Lake near Parker Dam, Ariz.-Calif.....                | 16   |
| near Andrade.....   | 24   | Hayfork Creek, near Hayfork.....                             | 446  |
| at Yuma, Ariz.....  | 23   | near Hyampom.....  | 448  |
| below Davis Dam, Ariz.-Nev.....                             | 11   | Honda Barranca near Somis.....                               | 196  |
| below Imperial Dam, schematic diagram.....                  | 34   | Hopper Creek near Piru.....                                  | 201  |
| below Palo Verde Dam, Ariz.-Nev.....                        | 21   | Horse Thief Creek near Tecopa.....                           | 38   |
| below Parker Dam, Ariz.-Calif.....                          | 18   | Huasna River near Arroyo Grande.....                         | 241  |
| near Topock, Ariz.....                                      | 13   |  |      |

|  | Page |   | Page |
|--|------|---|------|
| Huerhuero Creek near Creston.....                                  | 262  | Mattole River near Petrolia.....                                    | 369  |
| Hulls Creek near Covelo.....                                       | 386  | Mazourka Creek near Independence.....                               | 80   |
| Hydrologic conditions.....   | 10   | Meeks and Daley Canal near Colton.....                              | 143  |
| Independence Creek below Pinyon Creek, near Independence...        | 79   | Mill Creek (El River basin), below Alder Creek, near<br>Covelo..... | 381  |
| Indian Creek near Happy Camp.....                                  | 424  | near Covelo.....  | 383  |
| Jack Creek near Templeton.....                                     | 259  | Mill Creek (Santa Ana River basin), near Mentone.....               | 129  |
| Jacoby Creek near Freshwater.....                                  | 404  | near Yucaipa.....   | 127  |
| Jameson Lake.....  | 220  | Miller Creek near Live Oak Springs.....                             | 88   |
| Jamul Creek near Jamul.....  | 90   | Mission Creek, below Whittier Narrows Dam.....                      | 190  |
| Klamath River, at Somesbar.....                                    | 430  | near Montebello.....  | 189  |
| below John C. Boyle powerplant, near Keno, Oreg.....               | 414  | Moffet Creek near Fort Jones.....                                   | 421  |
| below Iron Gate Dam.....   | 415  | Mojave River, at Afton.....   | 63   |
| near Klamath.....  | 454  | at Barstow.....   | 62   |
| near Seiad Valley.....   | 423  | at lower narrows, near Victorville.....                             | 60   |
| La Brea Creek near Sisquoc.....                                    | 244  | West Fork, near Hesperia.....                                       | 59   |
| Lakes and reservoirs:  |      | Mono Lake near Mono Lake.....                                       | 83   |
| Almaden Reservoir.....   | 315  | Morena Reservoir, contents of.....                                  | 86   |
| Anderson Lake.....   | 319  | Murrieta Creek at Temecula.....                                     | 110  |
| Barrett Reservoir.....   | 87   | Nacimiento River, below Nacimiento Dam, near Bradley.....           | 267  |
| Big Bear Lake near Big Bear Lake.....                              | 124  | near Bryson.....  | 266  |
| Cachuma, Lake, near Santa Ynez.....                                | 225  | Napa River, near Napa.....  | 338  |
| Calero Reservoir.....  | 315  | near St. Helena.....  | 335  |
| Chesbro Reservoir.....   | 292  | Navarro River near Navarro.....                                     | 364  |
| Coyote Lake.....   | 319  | New River (Klamath River basin) at Denny.....                       | 443  |
| Cuyamaca Reservoir.....  | 95   | New River (Salton Sea basin) near Westmoreland.....                 | 44   |
| El Capitan Reservoir.....  | 96   | Ninemile Creek near Brown.....                                      | 70   |
| Elsinore Lake.....   | 154  | Novato Creek near Novato.....                                       | 342  |
| Elsmar, Lake.....  | 315  | Noyo River near Fort Bragg.....                                     | 367  |
| Gibraltar Reservoir.....   | 221  | Oak Creek near Mojave.....  | 68   |
| Guadalupe Reservoir.....   | 315  | Outlet Creek near Longvale.....                                     | 374  |
| Havasu Lake near Parker Dam, Ariz.-Calif.....                      | 16   | Owens River, at Keeler Bridge, near Lone Pine.....                  | 81   |
| Hemet, Lake, near Idyllwild.....                                   | 150  | near Big Pine.....  | 78   |
| Henshaw, Lake.....   | 106  | Pacheco Creek near Dunneville.....                                  | 277  |
| Hodges, Lake.....  | 103  | Pacifica Creek near San Fernando.....                               | 178  |
| Jameson Lake.....  | 220  | Pajaro River, at Chittenden.....                                    | 289  |
| Lexington Reservoir.....   | 315  | near Gilroy.....  | 279  |
| Loveland, Lake.....  | 93   | Pajaro River basin, reservoirs in.....                              | 292  |
| Matilija Reservoir at Matilija Hot Springs.....                    | 208  | Palm Canyon Creek near Palm Springs.....                            | 53   |
| Mono Lake near Mono Lake.....                                      | 83   | Palo Verde Canal near Blythe.....                                   | 20   |
| Morena Reservoir.....  | 86   | Partial-record stations, discharge at.....                          | 458  |
| Pillsbury, Lake, near Potter Valley.....                           | 370  | Patterson Creek at Union City.....                                  | 327  |
| Piru, Lake, near Piru.....   | 199  | Pescadero Creek, near Palmdale.....                                 | 285  |
| Rodriguez Reservoir at Rodriguez Dam, Baja California,<br>Mex..... | 89   | near Pescadero.....   | 300  |
| Salinas Reservoir near Pozo.....                                   | 257  | Petaluma River at Petaluma.....                                     | 341  |
| Stevens Creek Reservoir near Monte Vista.....                      | 309  | Pilot Knob powerplant and wasteway near Pilot Knob.....             | 28   |
| Sutherland Reservoir.....  | 98   | Pine Creek at division box, near Bishop.....                        | 74   |
| Sweetwater Reservoir.....  | 94   | Pine Tree Creek near Mojave.....                                    | 69   |
| Trinity Lake near Lewiston.....                                    | 435  | Pinole Creek at Pinole.....   | 331  |
| Uvas Reservoir.....  | 292  | Pipes Creek near Yucca Valley.....                                  | 57   |
| Vail Lake.....   | 109  | Piru Creek, above Lake Piru.....                                    | 198  |
| Larabee Creek near Holmes.....                                     | 396  | below Santa Felicia Dam.....  | 200  |
| Las Flores Creek near Oceanside.....                               | 114  | Plunge Creek near East Highlands.....                               | 130  |
| Lee Vining Creek near Lee Vining.....                              | 85   | Potter Valley powerhouse tailrace near Potter Valley.....           | 372  |
| Lexington Reservoir, contents of.....                              | 315  | Precipitation:  |      |
| Little Dalton Creek near Glendora.....                             | 168  | Amargosa River at Tecopa.....                                       | 37   |
| Little River at Crannell.....                                      | 410  | Arch Creek near Earp.....   | 19   |
| Little Rock Creek near Little Rock.....                            | 67   | Beacon Creek at Helendale.....                                      | 62   |
| Little San Geronio Creek near Beaumont.....                        | 132  | Buckhorn Creek near Valyermo.....                                   | 66   |
| Little Shasta River near Montague.....                             | 417  | China Spring Creek near Mountain Pass.....                          | 38   |
| Little Tujunga Creek near San Fernando.....                        | 181  | Cholame Creek tributary near Cholame.....                           | 363  |
| Llagas Creek near Morgan Hill.....                                 | 278  | Cottonwood Wash near Cottonwood Spring.....                         | 57   |
| Lone Pine Creek near Keenbrook.....                                | 141  | Cow Creek near San Ardo.....  | 271  |
| Long Creek near Desert Hot Springs.....                            | 51   | Dry Lake tributary at Perez.....                                    | 412  |
| Lopez Creek near Smith River.....                                  | 457  | Dunn Creek near Rockport.....                                       | 368  |
| Los Angeles River, at Long Beach.....                              | 192  | Fortynine Palms Creek near Twentynine Palms.....                    | 39   |
| at Los Angeles.....  | 182  | Honda Barranca near Somis.....                                      | 196  |
| at Sepulveda Dam.....  | 177  | Horse Thief Creek near Tecopa.....                                  | 38   |
| near Downey.....   | 184  | Lopez Creek near Smith River.....                                   | 457  |
| Los Gatos Creek (Guadalupe River basin) at Los Gatos.....          | 312  | Rat Creek near Lucia.....   | 251  |
| Los Trancos Creek tributary near Stanford University.....          | 306  | San Jacinto, South Fork tributary, near Valle Vista.....            | 150  |
| Lytle Creek near Fontana.....                                      | 138  | San Ramon Creek at San Ramon.....                                   | 332  |
| Macama Creek near Kellogg.....                                     | 353  | Santa Rita Creek near Templeton.....                                | 260  |
| Mad River, near Arcata.....  | 408  | Sunflower Wash near Essex.....                                      | 39   |
| near Forest Glen.....  | 405  | Ti Creek near Somesbar.....   | 426  |
| North Fork, near Korb.....   | 407  | Uvas Creek above Uvas Reservoir, near Morgan Hill.....              | 280  |
| Malibu Creek at Crater Camp, near Calabasas.....                   | 195  | Purissima Creek near Half Moon Bay.....                             | 301  |
| Matadero Creek at Palo Alto.....                                   | 308  | Rancheria Creek near Boonville.....                                 | 363  |
| Matilija Creek, above reservoir, near Matilija Hot Springs.....    | 207  | Rat Creek near Lucia.....   | 251  |
| at Matilija Hot Springs.....                                       | 209  | Red Cap Creek near Orleans.....                                     | 431  |
| North Fork, at Matilija Hot Springs.....                           | 210  | Redwood Creek (tributary to Napa Creek) near Napa.....              | 339  |
| Matilija Reservoir at Matilija Hot Springs.....                    | 208  | Redwood Creek (tributary to Pacific Ocean) at Orick.....            | 411  |

|   | Page |   | Page |
|---|------|---|------|
| Redwood Creek (tributary to San Francisco Bay) at Redwood City..... | 302  | San Timoteo Creek, near Loma Linda.....                           | 133  |
| Return surface flows from Yuma project, Ariz.-Calif.....            | 30   | near Redlands.....  | 132  |
| Rheem Creek at San Pablo.....                                       | 330  | Santa Agueda Creek near Santa Ynez.....                           | 227  |
| Rio Hondo, above Whittier Narrows Dam.....                          | 187  | Santa Ana Creek near Oak View.....                                | 214  |
| near Downey.....  | 191  | Santa Ana River, absorption studies.....                          | 459  |
| near Montebello.....  | 188  | at Auburndale Bridge, near Corona.....                            | 148  |
| Rock Creek at Little Round Valley, near Bishop.....                 | 73   | at Colton.....  | 144  |
| Rodriguez Reservoir at Rodriguez Dam, Baja California, Mex.         | 89   | at Riverside Narrows, near Arlington.....                         | 145  |
| Ross Creek at San Jose.....   | 311  | at Santa Ana.....   | 162  |
| Rush Creek above Grant Lake, near June Lake.....                    | 84   | below Prado Dam.....  | 158  |
| Russian River, East Fork, near Calpella.....                        | 347  | near Mentone.....   | 125  |
| East Fork, near Ukiah.....  | 348  | Santa Anita Creek near Sierra Madre.....                          | 185  |
| near Cloverdale.....  | 351  | Santa Clara River at Los Angeles-Ventura County line.....         | 197  |
| near Guerneville.....   | 358  | Santa Cruz Creek near Santa Ynez.....                             | 224  |
| near Healdsburg.....  | 354  | Santa Margarita River, at Ysidora.....                            | 114  |
| near Hopland.....   | 349  | near Fallbrook.....   | 112  |
| near Ukiah.....   | 346  | near Temecula.....  | 111  |
| Salinas Reservoir near Pozo.....                                    | 257  | tributary near Fallbrook.....                                     | 113  |
| Salinas River, above Pilitas Creek, near Santa Margarita...         | 258  | Santa Maria Creek near Ramona.....                                | 102  |
| at Paso Robles.....   | 261  | Santa Maria River at Guadalupe.....                               | 216  |
| near Bradley.....   | 270  | Santa Paula Creek near Santa Paula.....                           | 206  |
| near Pozo.....  | 255  | Santa Rita Creek near Templeton.....                              | 260  |
| near Spreckels.....   | 275  | Santa Rosa Creek (Russian River basin) near Santa Rosa....        | 357  |
| Salmon Creek at Bodega.....   | 345  | Santa Rosa Creek (Santa Rosa Creek basin) near Cambria....        | 219  |
| Salmon River, at Somesbar.....                                      | 429  | Santa Ynez River, above Gibraltar Dam, near Santa Barbara.....    | 221  |
| North Fork, near Forks of Salmon.....                               | 428  | at barrier, near Surf.....  | 238  |
| South Fork, near Forks of Salmon.....                               | 427  | at Cooper's Reef, near Lompoc.....                                | 234  |
| Salsipuedes Creek near Lompoc.....                                  | 235  | at Grand Avenue, near Santa Ynez.....                             | 228  |
| Salt Creek near Mecca.....  | 42   | at Jameson Lake, near Montecito.....                              | 220  |
| Salton Sea, near Westmoreland.....                                  | 41   | at narrows, near Lompoc.....                                      | 236  |
| inflow to.....  | 41   | at Santa Rosa damsite, near Buellton.....                         | 233  |
| San Antonio Creek (Alameda Creek basin) near Sunol.....             | 320  | at Solvang.....   | 230  |
| San Antonio Creek (Santa Ana River basin) near Claremont...         | 156  | at 13th Street, near Lompoc.....                                  | 237  |
| San Antonio Creek (tributary to Pacific Ocean) near Casmailla.....  | 239  | below Gibraltar Dam, near Santa Barbara.....                      | 222  |
| San Antonio Creek (Ventura River basin) at Casitas Springs.         | 212  | below Los Laureles Canyon, near Santa Ynez.....                   | 223  |
| San Antonio River, at Pleyto.....                                   | 269  | near Buellton.....  | 232  |
| at Sam Jones Bridge, near Lockwood.....                             | 268  | near Santa Ynez.....  | 226  |
| San Benito River, below McCoy Creek, near Hernandez.....            | 283  | Santa Ysabel Creek, at Sutherland Dam.....                        | 98   |
| near Hollister.....   | 288  | near Ramona.....  | 99   |
| near Willow Creek School.....                                       | 284  | near San Pasqual.....   | 100  |
| San Diego Creek near Irvine.....                                    | 123  | Santiago Creek, at Modjeska.....                                  | 160  |
| San Diego River, at El Capitan Dam.....                             | 96   | at Santa Ana.....   | 161  |
| near Santee.....  | 97   | near Villa Park.....  | 161  |
| San Dieguito River, at Lake Hodges.....                             | 103  | Saratoga Creek at Saratoga.....                                   | 314  |
| near San Pasqual.....   | 102  | Scott Creek above Little Creek, near Davenport.....               | 299  |
| San Dimas Creek below San Dimas Dam.....                            | 167  | Scott River, near Fort Jones.....                                 | 422  |
| San Felipe Creek, near Julian.....                                  | 45   | East Fork, at Callahan.....                                       | 420  |
| near Westmoreland.....  | 48   | Sespe Creek, near Fillmore.....                                   | 204  |
| San Francisquito Creek, at Stanford University.....                 | 307  | near Wheeler Springs.....   | 202  |
| below Ladera damsite, near Stanford University.....                 | 304  | Sharon Creek near Menlo Park.....                                 | 303  |
| tributary near Stanford University.....                             | 305  | Shasta River near Yreka.....                                      | 418  |
| San Gabriel River, at Pico.....                                     | 170  | Short Creek near Covelo.....                                      | 382  |
| at Spring Street, near Los Alamitos.....                            | 171  | Silver Canyon Creek near Laws.....                                | 75   |
| below Santa Fe Dam, near Baldwin Park.....                          | 167  | Sisquoc River, near Garey.....                                    | 246  |
| East Fork, near Camp Bonita.....                                    | 163  | near Sisquoc.....   | 243  |
| near Azusa.....   | 165  | Smith River, Middle Fork, at Gasquet.....                         | 455  |
| West Fork, at Camp Rincon.....                                      | 164  | near Crescent City.....   | 456  |
| San Jacinto River, near Elsinore.....                               | 153  | Snow Creek near Whitewater.....                                   | 50   |
| near San Jacinto.....   | 151  | Sonoma Creek at Boyes Hot Springs.....                            | 340  |
| South Fork tributary, near Valle Vista.....                         | 150  | Soquel Creek, at Soquel.....                                      | 295  |
| San Jose Creek (tributary to Pacific Ocean) near Goleta...          | 219  | West Branch, near Soquel.....                                     | 294  |
| San Jose Creek (tributary to San Gabriel River) near Whittier.....  | 169  | Stevens Creek Reservoir near Monte Vista.....                     | 309  |
| San Juan Creek near San Juan Capistrano.....                        | 119  | Sunflower Wash near Essex.....                                    | 39   |
| San Lorenzo Creek, at Hayward.....                                  | 329  | Sutherland Reservoir, contents of.....                            | 98   |
| below Bitterwater Creek, near King City.....                        | 272  | Sweetwater River, at Loveland Dam, near Alpine.....               | 93   |
| San Lorenzo River at Big Trees.....                                 | 297  | at Sweetwater Dam.....  | 94   |
| San Luis Rey River, at Lake Henshaw, near Mesa Grande....           | 106  | near Descanso.....  | 91   |
| at Monserate Narrows, near Pala.....                                | 107  | Tahquitz Creek near Palm Springs.....                             | 52   |
| at Oceanside.....   | 107  | Temescal Creek near Corona.....                                   | 155  |
| near Bonsall.....   | 107  | Temecula Creek, at Vail Dam.....                                  | 109  |
| West Fork, near Warner Springs.....                                 | 105  | near Aguanga.....   | 108  |
| San Mateo Creek, at San Onofre.....                                 | 118  | Temperature:  |      |
| near San Clemente.....  | 116  | Big Rock Creek near Valyermo.....                                 | 65   |
| San Onofre Creek, at San Onofre.....                                | 115  | Eel River at Alderpoint.....                                      | 389  |
| near San Onofre.....  | 115  | Eel River above Dos Rios.....                                     | 376  |
| San Ramon Creek, at San Ramon.....                                  | 332  | Eel River, Middle Fork, below Black Butte River, near Covelo..... | 379  |
| at Walnut Creek.....  | 333  | Eel River at Scotia.....  | 398  |
|   |      | Eel River, South Fork, near Branscomb.....                        | 391  |

## Temperature--Continued

|   |     |   |          |
|---|-----|---|----------|
| El River, South Fork, near Miranda.....                     | 394 | Trinity River, North Fork, at Helena.....                   | Page 440 |
| Hayfork Creek near Hyampom.....                             | 449 | South Fork, at Forest Glen.....                             | 444      |
| Mad River near Arcata.....                                  | 409 | near Hyampom.....   | 445      |
| Mad River near Forest Glen.....                             | 406 | near Salyer.....  | 450      |
| Mohave River at lower narrows, near Victorville.....        | 61  | Tujunga Creek, below Hansen Dam.....                        | 181      |
| Napa River near St. Helena.....                             | 336 | below Mill Creek, near Colby Ranch.....                     | 179      |
| Sespe Creek near Wheeler Springs.....                       | 203 | near Sunland.....   | 180      |
| Trinity River near Burnt Ranch.....                         | 442 | Upper Penitencia Creek at San Jose.....                     | 318      |
| Trinity River at Lewiston.....                              | 437 | Uvas Creek, above Uvas Reservoir, near Morgan Hill.....     | 280      |
| Trinity River, South Fork, near Salyer.....                 | 451 | near Gilroy.....  | 282      |
| Van Duzen River near Bridgeville.....                       | 402 | Uvas Reservoir, contents of.....                            | 292      |
| Van Duzen River, South Fork, near Bridgeville.....          | 400 | Van Duzen River, near Bridgeville.....                      | 401      |
| Tenmile Creek near Laytonville.....                         | 392 | South Fork, near Bridgeville.....                           | 399      |
| Tepusquet Creek near Sisquoc.....                           | 245 | Ventura River, near Meiners Oaks.....                       | 211      |
| Terms and abbreviations, definition of.....                 | 3   | near Ventura.....   | 215      |
| Ti Creek near Somesbar.....                                 | 426 | Walker Creek near Tomales.....                              | 344      |
| Tia Juana River, near Dulzura.....                          | 88  | Walnut Creek (Pacheco Creek basin) at Walnut Creek.....     | 334      |
| near Nestor.....  | 89  | Waterman Canyon Creek near Arrowhead Springs.....           | 135      |
| Topanga Creek near Topanga Beach.....                       | 194 | Weaver Creek near Douglas City.....                         | 438      |
| Toro Creek near Pozo.....                                   | 256 | Whitewater River, at Whitewater.....                        | 49       |
| Tres Pinos Creek near Tres Pinos.....                       | 286 | near Mecca.....   | 56       |
| Trinity Lake near Lewiston.....                             | 435 | Wildrose Creek near Wildrose Station.....                   | 35       |
| Trinity River, above Coffee Creek, near Trinity Center..... | 433 | Williams Creek near Covelo.....                             | 380      |
| at Lewiston.....  | 436 | Willow Creek (tributary to Trinity River) at Willow Creek.. | 452      |
| near Burnt Ranch.....                                       | 441 | Yuma project, Ariz.-Calif., return surface flows from.....  | 30       |
| near Hoopa.....   | 453 | Zaca Creek at Buellton.....                                 | 231      |
|   |     | Zayante Creek at Zayante.....                               | 296      |



