Denis

1966

Water Resources Data for New Mexico

Part 1. Surface Water Records

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Prepared in cooperation with the State of New Mexico
and with other agencies

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Geological Survey - Water Resources Division

WATER RESOURCES DATA FOR NEW MEXICO, 1966

Part 1: Surface Water Records

Prepared in cooperation with

Office of the State Engineer
Interstate Stream Commission
State Department of Game and Fish
Pecos River Commission
State Highway Department
Rio Grande Compact Commission
Costilla Creek Compact Commission
Bureau of Reclamation, U. S. Department of the Interior
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1967

II

Water resources records, 1966, for New Mexico are in the following reports of the U. S. Geological Survey:

1. Water Resources Data for New Mexico
   Part 1: Surface Water Records

2. Water Resources Data for New Mexico
   Part 2: Water Quality Records

OCTOBER 1965

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AUGUST 1966

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Part 1: Surface Water Records

INTRODUCTION

The surface-water records for the 1966 water year for gaging stations, partial-record stations, and miscellaneous sites within the State of New Mexico 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 W. E. Hale, District Chief, Water Resources Division.

This report is the sixth in a series presenting, annually, basic data on surface-water records by States. 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 New Mexico were contained in Parts 7, 8, and 9 of that series.

Beginning with the 1961 water year, streamflow records and related data have been 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 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.

The records for New Mexico will be published in water-supply papers covering Part 7 for stations in the Lower Mississippi River drainage, Part 8 for Western Gulf of Mexico drainage, and Part 9 for Colorado River drainage. For 1960 water year, the WSP Numbers for these parts were 1711, 1712, 1713 respectively. A compilation of records for these parts through 1950 water year is contained in WSP Nos. 1311, 1312, 1313 respectively; a 1951-60 compilation series has WSP Nos. 1731, 1732, 1733.

COOPERATION

The first gaging station established by the Geological Survey in the United States was on the Rio Grande at Embudo Jan. 1, 1889. Cooperation with the Territory of New Mexico began about 1907, and Territory or State cooperation in varying amounts continued until 1915, the work being directed from the Denver office. From 1916 to 1930 the State conducted its own stream-gaging program. In 1931 a new State cooperative program was begun and a Geological Survey district office established in Santa Fe. Agreements have also existed with county, municipal, and private organizations, and with other Federal agencies. Organizations that supplied data are acknowledged in station descriptions.

Organizations that assisted in collecting data through cooperative agreements with the Survey in 1966 are:

Office of the State Engineer, S. E. Reynolds
Interstate Stream Commission, S. E. Reynolds, Secretary
State Department of Game and Fish, Ladd S. Gordon, Director
Pecos River Commission, Berkeley Johnson, Federal Representative and Chairman, T. E. Lusk, Commissioner for New Mexico, J. C. Wilson, Commissioner for Texas.
State Highway Department, T. B. White, State Highway Engineer
Rio Grande Compact Commission, Berkeley Johnson, Federal Representative and Chairman, A. Ralph Owens, Commissioner for Colorado, S. E. Reynolds, Commissioner for New Mexico, L. A. Scott, Commissioner for Texas.
Costilla Creek Compact Commission, S. E. Reynolds, Commissioner for New Mexico, A. Ralph Owens, Commissioner for Colorado.

Assistance in the form of funds or services was furnished by the following Federal Agencies.

Corps of Engineers, U. S. Army in the operation of 24 gaging stations.
Bureau of Reclamation, U. S. Department of the Interior in the operation of 17 gaging stations.
Bureau of Public Roads, U. S. Department of Commerce for research study on small drainage areas.
Bureau of Indian Affairs, U. S. Department of the Interior in the operation of 4 gaging stations.
Fish and Wildlife Service, U. S. Department of the Interior in the operation of 4 gaging stations.
Soil Conservation Service, U. S. Department of Agriculture in the operation of 2 gaging stations.
National Park Service, U. S. Department of the Interior in the operation of 1 gaging station.
Public Health Service, U. S. Department of Health, Education and Welfare for miscellaneous discharge measurements at one site.

Assistance in the form of funds or services was also given by the following organizations:

Forest Service, U. S. Department of Agriculture; Weather Bureau, U. S. Department of Commerce; the City of Ruidoso; Carlsbad Irrigation District; Public Service Company of New Mexico; Middle Rio Grande Conservancy District.

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 feet 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.

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.

Capacity, as applied to reservoirs, expresses space available for contents below a specific elevation or gage height; hence, capacity table.

The drainage area of a stream at a specific 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, or pending 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 indention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indention 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 8-digit number for each station, such as 09-3534.00, includes the part number "09" plus a six-digit number. In this report the nonessential zeros are not shown. For example, the complete number 09-3534.00 would appear as 9-3534, 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 graphic water-stage recorder that gives a continuous chart, or a digital water-stage recorder that produces a punched tape at predetermined intervals of the stage fluctuations 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. Low-flow measurements may also be made by volumetric methods or by use of portable flumes or weirs of rated capacity.

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 the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is in effect the shifting-control method.

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 or punched tape are 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 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 1966 water year is shown on page III 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. River mileage is given if a system has been established. 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 signigicance. Under "Extremes" are given the maximum discharge and gage height; the minimum daily discharge, and/or the minimum discharge if it is meaningful. 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 gage or a nonrecording gage read at the time of the crest. Digital recorders are equipped with a crest-stage gage, or they may be operated with a companion graphic recorder. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and to conditions which affect the natural flow at the gaging station is given under "Remarks."

The daily table gives the discharge corresponding to the daily mean gage height unless 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. Digital recorders are usually equipped to subdivide the day into 24, 48, or 96 parts, one of these frequencies having been preselected.

In the table of daily discharge, the figures for the maximum day and the minimum day for each month are underlined. If the figure is repeated, it is underlined only on the first day of its occurrence.

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. Total discharge, or runoff for the month is in acre-feet.

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, unless they are meaningful. Time of day is expressed in 24-hour local standard time, for example 12:30 a.m. is 0030, 1:30 p.m. is 1330.

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

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station, a table of daily contents, gage height or elevation on last day of month, monthly and annual change in contents, and notes calling attention to any change in capacity table. A skeleton capacity table or curve can be tabulated or plotted from month-end figures plus data in Extremes and Remarks paragraphs.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

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

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. For such stations, figures of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

For some gaging stations the mean daily discharges and monthly means below 1 cfs are shown to more significant figures than in former years. This stems essentially from the use of digital recorders and the computer system and the objective is greater uniformity. The added refinement, in most cases, does not signify greater accuracy. However, for a few research stations on small drainage areas the added refinement for low flows is justified, and necessary to achieve a balanced ratio for study purposes.

OTHER DATA AVAILABLE

Data collected at partial-record stations and at miscellaneous sites are given at the end of each report. Data for partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements at miscellaneous sites are given in a third table.

Seepage investigations are presented following measurements at miscellaneous sites. These consist of text and tabulations summarizing data derived primarily from associated series of discharge measurements and observations made within a short time period along a given reach of channel, preferably during a period of relatively stable conditions. The objectives may vary, but usually include the study of seepage gains or losses, surface inflow, diversions (including pumps), areas of springs, water temperatures, low-flow characteristics of the area, and chemical quality (published in Part 2). These investigations may be repeated periodically or at random intervals for some reaches of certain channels. Indicated gains and/or losses as shown may be substantially affected by small inaccuracies of open channel measurements. Small differences between large measurements will have a lower degree of accuracy than the same differences between smaller measurements.

Information of a more detailed nature than that published for most of the gaging stations is on file in the district office. About half the gaging-station records in the state (through 1954 for Part 9, 1958 for Parts 7 and 8) have been analyzed by 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. This information is now available in printed form under title, "Flow Characteristics of New Mexico Streams," an unnumbered special Report, from New Mexico State Engineer, Capitol Building, Santa Fe, N. Mex.

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

HYDROLOGIC CONDITIONS

Wide variations in hydrologic conditions and runoff characteristics are the rule in New Mexico. Water courses in the east, south, and central west are chiefly arroyo-type and derive a large part of their runoff from scattered storms of short duration. Rainfall patterns are unpredictable, and flood-frequency studies are difficult to make.

First quarter runoff was excessive or above median in the Canadian River and the upper Rio Grande, median or below elsewhere except in the extreme southwest; Gila basin was deficient in October and November, but moderate flooding in December brought flow to the excessive range, and caused substantial damage to irrigation structures, ditches, and valley farm land.

Discharge of most streams continued at or above median January through April. May discharge was deficient in the northeast, excessive in the southeast. June flow declined except in the southern half of the State where it was raised by storms during the period 20-23. July flow was above median in the Canadian and Gila River basins, below median in the Rio Grande and deficient in the Pecos basin.

August runoff was above normal in the south and west, excessive in the northeast. Storms of Aug. 20-25 produced several peaks of record in the lower Pecos and tributaries. Red Bluff Reservoir contained the flood runoff and reached 88 percent of capacity, the highest level since 1943. There were three deaths from drowning. Damage in the Carlsbad section alone was about $1 million, and area damage at least $4 million. A Hydrologic Investigations Atlas covering this flood is to be published.

September discharge declined except in the northeast where it remained excessive. Conchas Reservoir declined during the year but remained 18 percent above average. Elephant Butte and Caballo combined storage was 52 percent of average at year end, while alamogordo was 15 percent above average. Navajo Reservoir storage declined 236,000 acre-feet and was 32 percent below a year ago.

Annual mean discharges for 1966 in percent of long term averages are shown to give a clue to areal trends.

Vermejo River	71
Rayado Creek	71
Canadian River near Sanchez	
Conchas River at Variadero	33
Ute Creek near Logan	
Rio Grande near Cerro	126
Red River at mouth	103
Willow Creek near Park View	94
Santa Cruz River at Cundiyo	104
Rio Grande at Otowi (unadjusted)	84
Jemez River near Jemez	83
Rio Puerco near Bernardo	53
Pecos River near Pecos	89
Pecos River near Puerto de Luna	90
Rio Hondo at Diamond A Ranch	
Delaware River near Red Bluff	277
Mimbres River near Mimbres	264
Animas River at Farmington	79
San Francisco River near Glenwood	265
Gila River near Gila	210

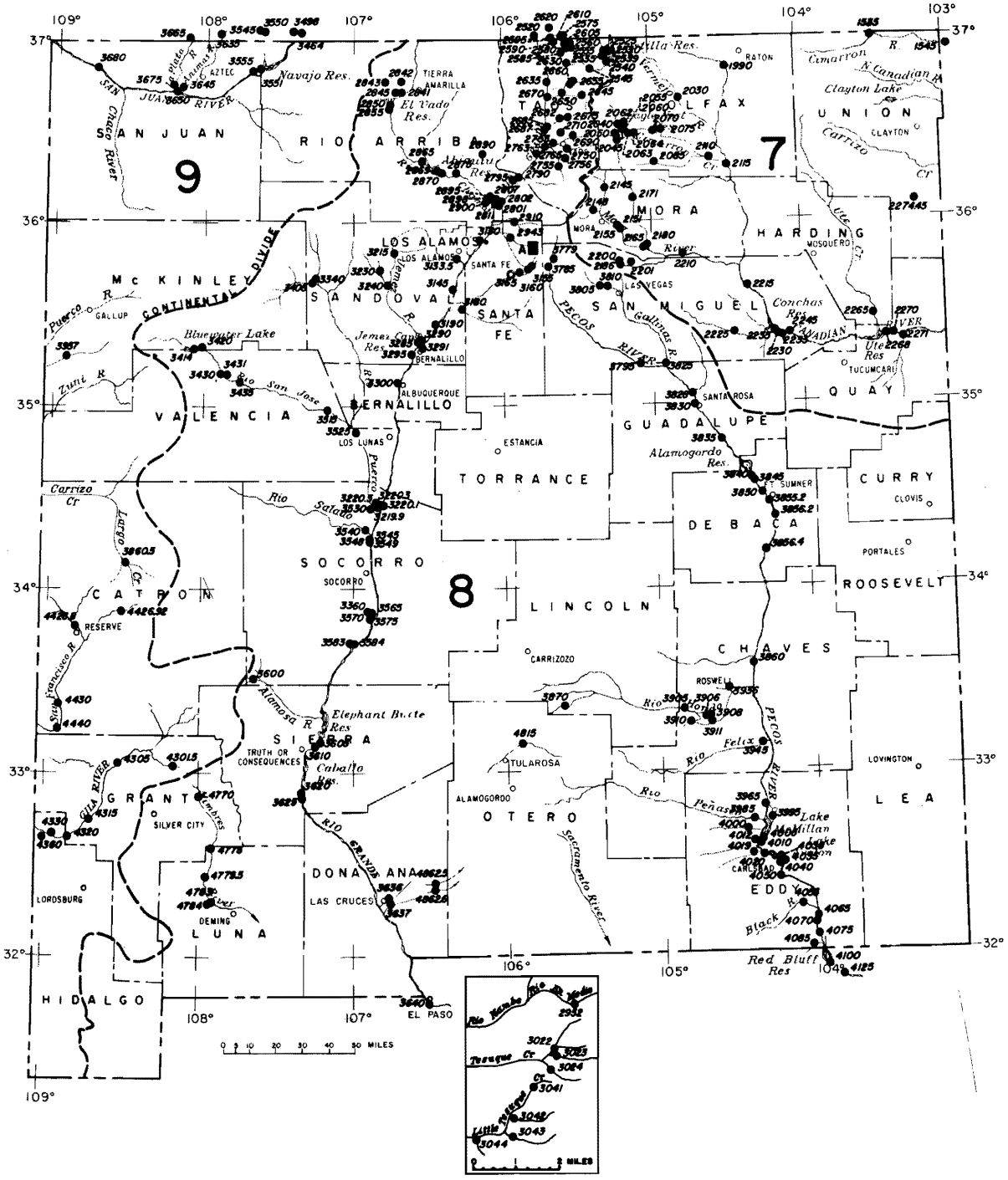

Figure 1.--Map of New Mexico showing location of active gaging stations.

7-1535. Cimarron River near Guy, N. Mex.

Location.--36°59'15", long 103°25'25", in SE¼ sec.21, T.32 N., R.33 E., on right bank 1.5 miles upstream from Baker damsite, 1.7 miles northwest of Valley, 3 miles upstream from Travesser Creek, 12 miles north of Guy, and 27 miles northwest of Kenton, Okla.

Drainage area.--545 sq mi.

Records available.--April 1942 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,900 ft (from topographic map). Prior to Oct. 1, 1943, at datum 0.44 ft higher.

Average discharge.--24 years, 11.8 cfs (8,540 acre-ft per year).

Extremes.--Maximum discharge during year, 22,500 cfs Sept. 15 (gage height, 21.0 ft, from floodmarks), from rating curve extended as explained below; minimum, 0.32 cfs June 15.
1942-66: Maximum discharge, 46,100 cfs Aug. 21, 1965 (gage height, 22.00 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurements at gage heights 15.7 and 22.00 ft; no flow at times.

Remarks.--Records good between 2.0 and 100 cfs, other fair. Diversions for irrigation of about 6,500 acres above station. Records of water temperatures and suspended sediment loads for water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	1.8	2.6	2.4	2.4	1.6	2.8	0.70	1.3	0.98	1.7	3.6
2	1.6	1.8	2.8	2.4	2.8	1.4	2.8	.84	6.3	.91	9.0	5.4
3	1.6	1.7	2.8	2.0	3.0	1.3	2.8	.70	1.4	.77	5.4	2.2
4	1.7	1.8	3.0	2.0	3.0	1.3	2.8	.63	.77	.70	3.6	9.0
5	1.7	2.0	3.0	2.6	3.0	1.3	3.0	.63	.63	.63	2.4	5.4
6	1.7	2.2	3.0	4.6	3.0	1.3	3.0	.58	.58	4.4	2.8	5.8
7	1.6	2.2	3.0	3.2	3.6	1.6	2.6	.58	.53	1.6	1.8	6.7
8	1.6	2.4	3.0	3.0	4.6	2.0	2.6	.63	.48	61	1.7	4.3
9	1.7	2.4	3.0	3.0	2.4	2.0	2.6	.70	.48	6.3	1.7	3.6
10	1.7	2.6	3.2	2.6	2.4	2.0	2.6	.63	.48	1.1	1.4	3.2
11	1.7	2.4	3.2	2.6	2.6	2.0	2.6	.63	4.3	.98	1.3	3.0
12	1.8	2.4	3.2	2.6	2.0	2.0	2.6	.84	.43	.91	16	2.8
13	1.8	2.2	3.0	2.2	1.5	2.0	2.8	.84	.43	5.8	346	2.8
14	2.2	2.4	2.8	2.4	1.5	2.0	3.0	.84	.38	1.8	38	2.6
15	2.2	2.4	2.6	2.8	1.0	2.4	2.4	.77	.38	1.2	21	762
16	2.6	2.2	2.0	2.4	1.5	2.4	1.4	.63	.38	.91	20	480
17	35	2.4	1.5	2.4	1.5	2.2	1.6	.63	26	1.2	5.4	170
18	16	2.4	1.0	3.2	2.0	2.2	1.4	.63	252	.98	2.0	70
19	6.3	2.4	1.0	4.3	2.4	2.4	1.3	.84	24	26	1.4	20
20	3.2	2.4	1.0	3.0	2.0	2.4	1.4	.70	7.6	36	1.2	10
21	2.4	2.4	1.0	1.0	2.0	2.6	1.7	.63	3.9	37	6.3	7.0
22	2.2	2.4	1.0	1.0	2.0	2.8	1.7	.48	2.8	18	9.4	6.5
23	1.8	2.6	1.0	1.0	2.0	2.4	1.8	.43	2.0	561	7.1	7.4
24	1.8	2.6	1.0	1.5	2.0	2.8	1.8	.43	2.0	240	5.4	6.5
25	1.8	2.6	1.5	1.5	2.0	2.6	1.6	.53	2.6	255	5.4	5.6
26	1.8	2.4	1.5	1.5	1.8	2.6	1.8	16	1.7	123	4.3	5.6
27	1.8	2.2	1.5	1.5	1.8	2.8	1.8	8.8	1.6	46	3.9	443
28	1.7	2.2	2.0	2.0	1.7	2.8	1.6	.98	1.3	24	5.8	38
29	1.8	2.2	3.0	2.0	-	2.8	1.6	.84	1.2	14	4.3	12
30	1.8	2.4	3.0	3.0	------	2.8	.98	.58	.98	104	4.3	8.6
31	1.8	------	2.4	3.6	------	2.8	------	.63	------	43	3.6	------
Total	109.8	68.5	69.6	75.3	63.5	67.6	64.48	44.30	345.06	1,619.17	558.9	2,132.4
Mean	3.54	2.28	2.25	2.43	2.27	2.18	2.15	1.43	11.5	52.2	18.0	71.1
Ac-ft	218	136	138	149	126	134	128	88	684	3,210	1,110	4,230

Calendar year 1965 : Max 4,310 Min 0.2 Mean 32.2 Ac-ft 23,290
Water year 1965-66: Max 762 Min 0.38 Mean 14.3 Ac-ft 10,350

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-23	0200	6.78	1,380	9-15	1930	†21.0	22,500
8-13	0430	6.09	1,130	9-27	0400	6.46	1,550

† From floodmarks.

7-1545. Cimarron River near Kenton, Okla.

Location.--Lat 36°56', long 102°57', in SE¼ sec.4, T.5 N., R.1 E., near right bank on downstream side of pier of county road bridge, 1.5 miles upstream from Carrizo Creek, 1.7 miles northeast of Kenton, 2.2 miles downstream from Carrizozo Creek, and at mile 594.0.

Drainage area.--1,106 sq mi, of which 68 sq mi is probably noncontributing.

Records available.--April 1904 to July 1905 (gage heights only), October 1950 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,267.08 ft above mean sea level, datum of 1929 (levels by State Highway Department). April 1904 to July 1905 staff gage at site 0.9 mile upstream at different datum.

Average discharge.--16 years (1950-66), 28.6 cfs (20,710 acre-ft per year).

Extremes.--Maximum discharge during year, 43,400 cfs Oct. 17 (gage height, 17.32 ft), from rating curve extended above 7,000 cfs on basis of contracted-opening measurement of peak flow; no flow at times.
1950-66: Maximum discharge, that of Oct. 17, 1965, no flow at times in most years.

Remarks.--Records good except those for winter periods, which are fair. Diversions for irrigation of about 7,400 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	15	10	10	5.0	5.5	1.9	2.7	8.6	0	24	2.7
2	8.6	14	10	9.5	5.0	4.1	1.7	2.4	9.6	.10	8.9	2.7
3	7.8	13	10	8.8	6.0	2.9	1.7	1.7	4.5	.15	2.2	2.7
4	7.4	13	10	8.0	7.0	2.8	1.9	1.2	1.9	.15	8.3	5.2
5	7.4	13	10	7.0	9.0	2.6	2.2	1.2	.45	0	35	2.7
6	7.0	13	11	8.0	12	3.0	1.7	1.2	.25	0	12	2.4
7	6.6	13	11	10	14	3.5	1.7	1.2	.85	16	6.6	2.4
8	6.2	13	11	11	14	2.7	1.7	2.0	.70	6.5	6.6	2.4
9	5.9	13	11	12	9.0	2.7	1.7	5.1	.35	2.4	6.6	34
10	5.9	13	13	9.0	8.0	2.7	1.7	2.2	.35	.70	52	4.2
11	5.5	13	13	8.0	6.0	2.7	1.9	1.7	.70	.15	11	2.9
12	5.2	12	13	10	6.0	2.4	1.9	1.2	.55	0	4.8	2.7
13	5.2	12	12	9.0	5.0	2.7	2.4	1.7	.25	0	3.2	2.7
14	4.8	12	12	9.0	3.5	2.7	4.1	1.4	.25	0	3.2	2.7
15	4.5	12	11	8.0	3.5	2.9	2.7	.85	.10	0	3.0	69
16	4.5	11	8.0	6.0	4.0	2.7	1.9	.85	.05	0	3.0	2390
17	9180	9.6	6.8	6.0	4.5	2.4	1.7	1.2	.51	0	3.0	241
18	543	12	6.8	5.5	5.0	1.9	1.7	1.4	560	0	2.9	100
19	175	12	7.0	5.5	6.6	2.2	2.4	2.4	33	0	2.9	40
20	88	12	9.0	5.0	7.0	2.4	2.2	2.9	6.8	356	205	25
21	45	12	8.0	4.0	6.6	2.7	2.2	2.2	2.7	38	16	20
22	32	12	8.0	3.5	5.5	2.7	1.9	2.2	1.4	15	4.8	18
23	28	12	5.0	3.5	5.2	1.9	2.2	1.4	.35	393	4.1	16
24	25	12	6.0	3.5	5.2	2.4	2.4	.85	.05	1270	5.2	15
25	25	12	9.0	3.5	6.2	2.4	2.2	.85	0	786	5.2	14
26	23	11	10	3.5	7.4	1.9	2.4	2.2	0	180	4.1	16
27	21	10	8.0	3.5	7.0	2.2	2.7	2.7	0	85	3.8	3190
28	19	10	8.0	3.0	6.2	1.9	1.7	3.5	0	40	17	234
29	18	10	10.0	3.0	—	2.4	1.7	6.2	0	25	2.9	100
30	16	10	10	4.0	------	1.9	1.9	3.5	0	18	2.7	40
31	16	------	9.6	7.0	------	1.9	------	2.4	------	14	2.7	------
Total	10356.5	361.6	297.2	207.3	189.4	81.8	62.1	64.50	634.26	3246.15	472.7	6600.4
Mean	334	12.1	9.59	6.69	6.76	2.64	2.07	2.08	21.1	105	15.2	220
Ac-ft	20,540	717	589	411	376	162	123	128	1,260	6,440	938	13,090

Calendar year 1965 Max 11,000 Min 0 Mean 125 Ac-ft 90,740
Water year 1965-66 Max 9,180 Min 0 Mean 61.8 Ac-ft 44,770

Peak discharge (base, 2,000 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
10-17	1445	17.32	43,400	8-20	1600	6.28	2,340
6-18	0100	8.27	4,800	9-16	1100	8.80	5,610
7-20	1900	6.95	3,070	9-27	1300	10.95	10,100
7-24	0300	7.70	3,960				

7-1990. Canadian River near Hebron, N. Mex.

Location.--Lat 36°47'10", long 104°27'45", in Maxwell Grant, near right bank at downstream end of bridge pier on U. S. Highways 64 and 85, 3¼ miles north of Hebron, 5 miles upstream from Chicorica Creek, and 8 miles south of Raton.

Drainage area.--229 sq mi.

Records available.--June 1946 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,248 ft (from topographic map). June 1, 1946, to Sept. 30, 1952, on bridge pier 150 ft upstream and Oct. 1, 1952, to July 13, 1955, on bridge pier 200 ft upstream, both at datum 2.00 ft higher. July 14, 1955, to Aug. 11, 1964, at present site at datum 0.90 ft higher. Aug. 12, 1964, to Aug. 17, 1965, at present site at datum 2.00 ft higher.

Average discharge.--20 years, 7.61 cfs (5,510 acre-ft per year).

Extremes.--Maximum discharge during year, 7,560 cfs July 6 (gage height, 7.50 ft), from rating curve extended above 1,300 cfs as explained below; minimum, 0.05 cfs June 25.
1946-66: Maximum discharge, 62,400 cfs June 17, 1965 (gage height, 28.2 ft, from floodmarks, present datum), from rating curve extended above 1,300 cfs on basis of slope-area measurement of peak flow; no flow for many days most years.
Flood in 1942 reached a stage of about 28 ft (present datum) at site 150 ft upstream, from information by local residents.

Remarks.--Records poor. Diversions above station for irrigation of a few hundred acres. Part or all of low flow can be diverted to left bank a few hundred yards above station for stock water, off-channel storage and irrigation. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	4.2	3.5	4.0	4.5	3.5	3.3	4.2	2.9	040	13	113
2	9.4	4.2	4.0	3.5	4.0	3.0	3.3	3.8	47	.24	26	6.8
3	9.4	3.8	4.0	3.0	4.0	3.0	2.9	3.3	.29	.20	.65	6.0
4	8.4	3.8	4.0	3.0	4.0	3.0	3.3	3.3	.24	.20	31	4.8
5	7.6	3.8	4.0	3.0	5.0	3.0	4.2	3.3	.29	.20	70	4.2
6	6.0	3.8	4.2	3.5	5.0	3.5	3.3	2.9	.29	614	21	3.8
7	6.0	3.3	4.2	4.0	5.0	4.0	3.3	2.9	.24	16	271	3.3
8	5.4	3.3	4.2	5.0	5.0	4.0	3.3	2.9	.24	2.6	155	3.3
9	4.8	3.8	5.4	5.0	4.5	4.2	3.8	2.6	.24	1.0	18	3.3
10	4.8	3.8	6.0	5.0	4.0	3.8	3.8	2.6	94	.56	6.8	3.8
11	4.8	3.3	5.5	5.0	4.0	3.8	3.8	1.2	.20	5.4	49	3.8
12	4.8	3.3	5.0	5.0	4.0	4.2	3.3	1.2	.13	3.2	7.6	3.3
13	4.8	3.3	5.0	5.0	4.0	3.8	3.8	89	.11	1.2	9.4	3.3
14	4.2	3.8	4.0	5.0	4.0	4.2	4.2	14	.09	45	1.8	3.3
15	4.2	3.3	3.0	5.0	4.0	4.8	4.8	89	.09	13	.95	2.9
16	16	3.3	3.0	4.0	4.0	4.2	4.2	89	.11	1.6	2.1	2.9
17	43	3.8	3.0	3.0	4.0	4.2	3.8	.56	.11	.77	3.2	2.3
18	13	3.8	3.0	3.5	4.5	4.0	4.2	.29	2.2	3.8	4.0	2.0
19	9.4	3.3	3.5	4.0	4.5	4.5	3.8	.40	.20	3.3	2.6	2.0
20	8.4	3.3	4.0	5.0	4.5	5.4	5.4	4.0	.16	295	.80	2.0
21	7.6	3.3	4.5	4.0	5.0	5.4	3.8	.56	.13	110	28	2.0
22	7.6	2.9	5.0	3.0	5.0	5.0	3.8	4.0	.13	8.2	145	126
23	7.6	2.9	5.0	3.0	5.0	4.0	3.8	.40	.11	190	80	86
24	7.6	3.5	4.5	3.0	4.5	4.0	4.8	.40	.11	136	100	13
25	6.8	4.0	4.5	3.5	5.0	4.2	4.2	.40	.11	40	24	7.6
26	7.6	4.0	4.5	3.5	4.0	3.8	3.8	.40	.11	201	5.4	6.0
27	8.4	3.5	4.5	4.0	3.8	3.8	3.3	.34	.11	42	1.8	5.4
28	6.8	3.0	4.5	4.0	3.5	3.3	3.8	.34	.11	75	45	6.0
29	6.0	3.0	4.5	4.5	-	3.3	3.8	.34	.13	65	15	4.8
30	5.4	3.0	5.0	4.5	------	3.3	3.8	.29	13	19	5.0	4.2
31	4.2	------	4.5	5.0	------	3.8	------	.40	------	28	76	------
Total	260.0	105.4	133.5	125.5	122.3	122.0	114.7	47.79	32.05	1,921.87	1,232.1	441.1
Mean	8.39	3.51	4.31	4.05	4.37	3.94	3.82	1.54	1.07	62.0	39.7	14.7
Ac-ft	516	209	265	249	243	242	228	95	64	3,810	2,440	875

Calendar year 1965: Max 7,800 Min 0 Mean 51.2 Ac-ft 37,040
Water year 1965-66: Max 614 Min 0.09 Mean 12.8 Ac-ft 9,240

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7- 6	1500	7.50	7,560	8- 7	2100	4.85	2,950
7-20	1530	5.60	4,180	9-22	1945	4.27	1,980
7-26	1630	4.35	2,190				

Note.--No gage-height record Dec. 26 to Feb. 23.

7-2030. Vermejo River near Dawson, N. Mex.

Location.--Lat 36°40'50", long 104°47'05", in Maxwell Grant, on left bank, 1½ miles north of Dawson, Colfax County, and 2 miles upstream from Rail Canyon.

Drainage area.--301 sq mi.

Records available.--October 1915 to July 1918, April 1919 to May 1921, January 1927 to September 1966. Monthly discharge only for some periods, published in WSP 1311.

Gage.--Water-stage recorder. Datum of gage is 6,383 ft above mean sea level, datum of 1929. Prior to Sept. 17, 1921, staff gage and Sept. 17, 1921, to May 31, 1923, water-stage recorder, at sites about 1 mile upstream at different datums. Feb. 25, 1927, to Sept. 23, 1953, water-stage recorder at several sites about three-quarters of a mile upstream at datums 8 to 12 ft higher.

Average discharge.--42 years (1915-17, 1919-20, 1927-66), 19.5 cfs (14,120 acre-ft per year).

Extremes.--Maximum discharge during year, 2,700 cfs Aug. 21 (gage height, 8.00 ft, from floodmarks), from rating curve extended above 400 cfs as explained below; minimum, 1.9 cfs Apr. 14, but may have been less during periods of ice effect.

1927-66: Maximum discharge, 12,600 cfs June 17, 1965 (gage height, 15.25 ft), from rating curve extended above 400 cfs on basis of slope-area measurement of peak flow; no flow at times.

A major flood occurred Aug. 2, 1921, when discharge probably exceeded 10,000 cfs.

Remarks.--Records fair except those for period of no gage-height record, or those for winter months, which are poor. Diversions for irrigation of small acreage and mountain meadows above station. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	5.2	6.8	5.6	4.8	4.8	3.8	6.8	17	3.8	13	100
2	9.0	6.2	7.5	4.1	3.5	4.8	4.1	4.8	20	3.0	54	50
3	8.0	4.8	7.5	4.1	3.5	3.0	3.8	3.8	17	3.2	242	40
4	8.0	5.2	8.7	4.1	4.8	2.7	5.5	3.6	14	3.6	133	35
5	8.0	4.5	8.7	3.6	4.8	2.7	4.5	3.4	13	3.6	62	30
6	7.0	3.8	7.1	4.1	5.5	3.0	3.0	2.3	13	7.2	80	25
7	6.0	3.6	6.2	5.8	7.5	7.1	2.3	2.5	7.3	6.6	43	23
8	4.8	3.8	7.5	6.5	10	9.6	2.0	5.2	5.2	3.8	92	22
9	4.8	4.1	10	7.1	7.5	3.2	2.2	8.7	6.2	4.1	48	21
10	4.8	3.6	14	7.1	5.2	7.8	2.2	14	9.6	3.0	50	20
11	5.8	4.5	12	5.8	4.1	6.8	2.3	12	12	2.7	87	19
12	6.2	3.8	7.1	7.1	3.8	6.2	2.7	12	14	6.8	36	19
13	3.8	3.6	7.1	5.8	5.8	6.5	2.2	14	13	7.1	37	18
14	4.1	5.8	6.5	4.8	6.8	7.8	2.0	9.1	8.7	9.7	28	17
15	3.6	6.8	4.5	4.5	5.2	7.8	2.3	7.5	5.8	14	33	17
16	4.3	7.8	3.6	4.3	4.3	7.1	2.3	8.2	5.8	7.9	62	17
17	7.5	11	3.4	3.8	4.8	7.5	3.0	6.5	8.3	5.2	28	17
18	13	10	3.6	4.1	5.8	8.2	4.3	5.5	6.5	16	21	17
19	11	10	3.6	4.8	8.2	6.8	4.3	6.5	4.3	16	22	35
20	6.8	7.8	4.3	5.8	9.1	6.8	4.3	8.2	5.2	33	31	25
21	5.8	9.1	4.8	5.0	9.1	7.8	4.8	6.8	5.2	23	202	20
22	5.5	7.8	5.5	3.2	6.8	7.1	5.2	6.5	3.2	22	92	13
23	4.8	9.6	6.2	3.3	6.5	4.5	5.8	7.5	4.5	54	74	13
24	5.2	11	8.7	3.5	4.8	4.8	4.8	6.8	3.4	94	156	16
25	6.8	12	7.1	3.8	6.2	5.2	6.8	4.8	3.2	32	60	11
26	6.5	11	7.1	3.7	7.8	6.8	5.8	7.5	3.6	85	50	9.6
27	5.2	5.8	7.1	3.6	7.1	6.5	4.3	8.7	4.1	30	40	9.1
28	4.8	4.3	7.1	3.6	4.5	6.8	5.5	9.6	7.6	52	35	9.1
29	4.8	4.0	9.6	4.1	-	6.5	4.1	7.5	3.4	67	30	7.5
30	4.5	4.5	17	4.5	------	4.5	5.2	9.1	3.0	58	25	6.2
31	4.1	------	7.1	4.8	------	4.3	------	10	------	27	20	------
Total	194.0	195.0	227.0	146.0	167.8	190.0	115.4	229.4	247.1	704.3	1,936	681.5
Mean	6.26	6.50	7.32	4.71	5.99	6.13	3.85	7.40	8.24	22.7	64.1	22.7
Ac-ft	385	387	450	290	333	377	229	455	490	1,400	3,940	1,350

Calendar year 1965 : Max 2,260 Min 1.3 Mean 33.1 Ac-ft 23,970
Water year 1965-66 : Max 242 Min 2.0 Mean 13.9 Ac-ft 10,080

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 3	2045	5.23	915	9- 1	1615	5.20	900
8-21	2000	†8.00	2,700				

† From floodmarks.
Note.--No gage-height record Aug. 21 to Sept. 20.

7-2040. Moreno Creek at Eagle Nest, N. Mex.

Location.--Lat 36°33'12", long 105°16'03", in Maxwell Grant, on left upstream wingwall of a multi-culvert structure under U. S. Highway 64, 200 ft west of intersection of highways U. S. 64 and State 38, about 800 ft upstream from flow line of Eagle Nest Reservoir and 1,000 ft west of Eagle Nest.

Drainage area.--73.8 sq mi.

Records available.--April 1928 to October 1955, June 1964 to September 1966. No winter records except 1932. Prior to October 1930 monthly discharge only, published in WSP 1311. Records for December 1930 to March 1931 published in WSP 732, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder and concrete control at present site since Oct. 3, 1952. Datum of gage is 8,195.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1957. Prior to May 9, 1928, staff gage at nearby site downstream from culvert at different datum. May 9, 1928 to June 9, 1952, water-stage recorder about 75 to 100 ft downstream at different datums within 1.3 ft of present datum. June 9 to Oct. 2, 1952, temporary staff gage about 300 ft upstream at different datum. Oct. 2, 1952 to Oct. 25, 1955, water-stage recorder at present site at datum 0.27 ft lower.

Extremes.--Maximum discharge during year, 40 cfs Aug. 2 (gage height, 2.11 ft); maximum gage height, 3.07 ft Mar. 11 (backwater from ice); minimum discharge recorded, 0.35 cfs July 6, 10.

1928-55, 1966: Maximum discharge, 240 cfs Sept. 1, 1946; maximum gage height recorded, 3.16 ft Aug. 19, 1940, site and datum then in use; no flow at times.

Remarks.--Records good. Diversions for irrigation of about 1,200 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6					-	6.3	6.3	2.4	0 8 2	1 8	3.6
2	3.6					-	6.3	6.0	2.1	.66	1 3	3.2
3	3.4					-	6.0	5.0	1.8	.59	1 2	2.9
4	3.1					-	5.0	4.7	1.6	.46	1 8	2.7
5	3.1					-	5.4	4.5	1.3	.46	1 8	2.5
6	2.9					-	6.3	4.0	1.3	.52	1 5	3.2
7	2.7					-	5.8	4.3	1.2	.74	1 2	3.4
8	2.7					-	4.5	3.8	1.1	.52	1 0	3.4
9	2.4					-	4.0	3.8	1.0	.46	9.3	3.2
10	2.4					-	3.8	4.5	1.3	.40	8.6	2.9
11	2.4					-	3.6	5.0	.82	.59	7.9	2.5
12	2.4					-	3.4	4.7	.91	1.0	7.2	2.5
13	2.4					-	3.4	4.7	.82	1.0	7.9	2.2
14	2.4					-	2.9	4.0	.82	3.1	6.6	2.2
15	2.4					21	2.7	3.2	.82	.74	6.3	2.4
16	2.4					19	2.1	2.9	.91	.66	5.5	2.2
17	3.6					16	2.1	2.5	1.0	.59	5.0	2.2
18	4.0					12	2.1	2.5	1.1	3.4	4.5	2.2
19	3.4					11	2.9	2.9	1.0	1.1	4.0	2.2
20	3.1					10	4.1	2.7	.91	1.4	4.7	2.1
21	2.9					10	3.6	2.4	1.6	.82	4.3	2.1
22	2.9					8.6	5.5	2.1	2.1	.66	4.3	1.9
23	2.7					8.0	5.0	1.9	1.3	3.7	6.6	1.9
24	2.7					8.5	5.2	1.7	.82	1.9	10	2.1
25	2.5					7.7	5.0	1.6	.66	1.0	6.6	1.9
26	2.5					7.0	4.3	1.8	.66	1.8	5.0	1.8
27	2.4					7.6	3.8	2.2	1.0	2.3	4.5	1.8
28	2.3					7.9	3.4	2.1	.91	2.1	4.5	2.1
29	2.6				-	6.6	3.4	2.1	.74	1.4	4.5	1.8
30	2.2				----------	5.5	4.3	2.1	.91	1.3	3.8	1.7
31	2.2	----------			----------	5.5	----------	2.2	----------	2.2	4.0	----------
Total	85.9					-	126.2	104.2	34.91	38.39	235.4	72.8
Mean	2.77					-	4.21	3.36	1.16	1.24	7.59	2.43
Ac-ft	170					-	250	207	69	76	467	144

Calendar year : Max Min Mean Ac-ft
Water year : Max Min Mean Ac-ft

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

7-2045. Cieneguilla Creek near Eagle Nest, N. Mex.

Location.--Lat 36°29'00", long 105°15'40", in Maxwell Grant, on right bank a quarter of a mile downstream from Schoolhouse Draw, about 3,500 ft upstream from high-water line of Eagle Nest Reservoir, and 5 miles south of Eagle Nest, Colfax County.

Drainage area.--56 sq mi.

Records available.--April 1928 to September 1955, June 1964 to September 1966. No winter records except in water years 1932, 1948, 1951. Monthly discharge only for some periods, published in WSP 1311. Published as "near Therma" 1928-34.

Gage.--Water-stage recorder and concrete control. Datum of gage is 8,196 ft above mean sea level, datum of 1929. Prior to May 8, 1928, staff gage a quarter of a mile downstream at different datum. May 8, 1928 to Sept. 15, 1934, water-stage recorder a quarter of a mile downstream at different datum.

Extremes.--Maximum discharge during year, 304 cfs Aug. 4 (gage height, 5.06 ft), from rating curve extended as explained below; minimum, 0.10 cfs July 7.
1928-55, 1964-66: Maximum discharge, 505 cfs June 16, 1965 (gage height, 5.61 ft), from rating curve extended above 81 cfs by logarithmic plotting.

Remarks.--Records good. Diversions for irrigation of about 1,000 acres above station. Gage bypassed by ditch on right bank; ditch flow not included in record. This flow enters creek about 300 ft downstream.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	4.1				-	31	16	5.5	1.4	6.3	3.9
2	3.6	4.1				-	34	14	6.3	.82	36	3.6
3	3.2	4.1				-	31	11	3.5	.48	18	3.2
4	3.5	4.1				-	23	10	2.1	.30	133	2.8
5	3.6	3.9				-	16	9.5	1.6	.20	24	2.6
6	3.5	3.9				-	18	88	1.5	.18	18	2.6
7	3.4	4.1				-	19	8.3	1.4	.13	14	3.5
8	3.3	3.9				-	19	8.3	1.0	.14	10	3.9
9	3.2	4.1				-	16	8.3	.42	.14	9.7	3.5
10	3.2	4.2				-	16	7.6	2.3	.14	9.5	3.4
11	3.2	4.1				-	15	7.2	3.3	.47	7.9	2.9
12	3.2	4.2				-	13	7.4	2.0	.54	8.7	2.5
13	3.2	3.9				-	13	8.1	1.2	.28	7.6	2.4
14	3.2	3.9				-	12	6.4	.86	.61	6.1	2.2
15	3.6	3.5				-	13	5.0	.67	1.6	5.2	2.2
16	3.9	4.1				-	13	4.2	1.0	1.3	4.9	2.0
17	6.3	4.1				-	12	3.9	3.3	.96	6.1	1.7
18	8.1	4.1				-	12	3.9	3.0	2.6	5.0	1.7
19	6.6	3.9				-	14	4.1	2.1	2.5	5.3	1.6
20	5.9	3.8				-	15	3.9	3.1	2.0	4.1	1.8
21	5.2	3.9				-	14	3.8	3.2	1.6	3.6	2.3
22	4.9	3.0				-	18	3.5	3.9	1.1	3.8	2.0
23	4.7	7.2				-	20	2.9	2.3	.91	6.3	1.8
24	4.5	12				-	19	2.9	1.2	.54	9.0	1.9
25	4.4	9.2				-	20	3.0	.67	.36	12	2.1
26	4.4	8.5				-	18	3.5	.63	.30	5.7	1.9
27	4.2	6.5				-	14	4.2	2.6	3.0	5.9	1.7
28	4.2	6.5				-	13	3.8	2.4	17	5.2	1.9
29	4.1	5.5			-	16	12	3.8	1.7	7.0	17	1.8
30	4.1	5.0			----------	15	12	3.3	2.2	8.0	5.7	1.7
31	4.1	----------			----------	22	----------	3.5	----------	21	4.7	----------
Total	130.4	147.4				-	515	194.1	66.95	77.60	418.3	73.1
Mean	4.21	4.91				-	17.2	6.26	2.23	2.50	13.5	2.44
Ac-ft	259	292				-	1,020	385	133	154	830	145

Calendar year : Max Min Mean Ac-ft
Water year : Max Min Mean Ac-ft

Peak discharge (base, 70 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-28	1315	4.26	120	8- 4	0200	5.06	304
8- 2	0145	4.36	136	8-29	1445	4.27	122

7-2050. Six Mile Creek near Eagle Nest, N. Mex.

Location.--Lat 36°31'09", long 105°16'30", in Maxwell Grant, on left upstream wingwall of concrete control, 250 ft downstream from concrete box culvert on U. S. Highway 64, and 2½ miles southwest of Eagle Nest, Colfax County.

Drainage area.--10.5 sq mi.

Records available.--April 1928 to September 1955, July 1958 to September 1966. No winter records 1928-31, 1933-55. Prior to October 1930 monthly discharge only, published in WSP 1311. Records for December 1930 to March 1931 have been found to be unreliable and should not be used. Published as "near Therma" 1928-34, and prior to October 1936 published as "Sixmile" Creek.

Gage.--Water-stage recorder. Concrete control Sept. 11, 1931, to May 1933, and since Sept. 13, 1934. Datum of gage is 8,195.16 ft above mean sea level, datum of 1929. Prior to May 18, 1928, staff gage 88 ft upstream at datum 0.98 ft higher. May 18, 1928, to Sept. 11, 1938, water-stage recorder at site 88 ft upstream at datum 0.43 ft higher.

Average discharge.--9 years (1931-32, 1958-66), 2.41 cfs (1,740 acre-ft per year).

Extremes.--Maximum discharge during year, 16 cfs Mar. 13 (gage height, 1.92 ft); maximum gage height, 2.46 ft Jan. 25, backwater from ice; minimum discharge, 0.10 cfs July 8.
1930-55, 1958-66: Maximum discharge not determined, occurred Apr. 11, 1937 (discharge probably exceeded 125 cfs); maximum gage height recorded, 3.38 ft Apr. 2, 1937 (ice jam), site and datum then in use; no flow at times.

Remarks.--Records good except those for winter period, which are poor. Diversions for irrigation of about 300 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	1.7	2.6	2.5	1.3	1.9	4.5	4.9	2.5	0.72	0.20	1.1
2	2.0	1.7	2.2	1.9	1.2	2.0	4.5	4.7	2.4	.62	.67	1.0
3	2.0	1.7	2.2	1.6	1.0	1.4	4.5	5.1	1.9	.72	.46	1.0
4	2.0	1.7	2.2	1.4	1.3	.90	4.4	5.4	1.8	.62	5.3	1.1
5	2.0	1.8	2.2	1.4	1.6	1.2	4.2	5.1	1.8	.46	2.6	1.1
6	1.8	1.8	2.0	1.5	2.1	2.0	4.1	3.6	1.7	.46	2.0	1.0
7	1.8	1.9	2.5	1.5	2.7	3.0	4.0	3.6	1.6	.14	1.4	1.1
8	1.8	2.0	2.5	1.5	2.3	4.5	4.0	3.6	1.6	.18	1.2	1.3
9	1.9	2.2	2.3	1.5	2.0	5.5	4.9	3.6	1.5	.54	.90	1.1
10	2.2	2.3	2.4	1.4	1.7	5.0	6.0	3.2	1.7	.72	.90	1.0
11	1.9	2.2	2.6	1.5	.90	4.3	6.5	3.1	1.4	.78	.90	.96
12	2.0	2.3	2.5	1.6	1.0	6.0	6.5	3.4	1.3	.67	1.1	.96
13	1.9	2.3	2.0	1.5	1.3	8.2	6.1	3.0	1.3	.78	1.2	.96
14	2.2	2.3	2.0	1.6	1.2	5.9	6.0	2.7	1.3	.90	1.0	.96
15	2.3	2.0	2.1	1.7	.80	5.6	6.3	2.5	1.4	.90	.96	1.0
16	2.4	2.3	2.0	1.5	.70	6.2	6.5	2.4	1.4	.62	1.2	1.0
17	2.3	2.2	2.3	1.1	1.0	5.2	7.1	2.4	1.6	.42	1.2	1.1
18	1.9	2.2	1.2	1.2	1.2	5.2	7.3	2.5	1.8	.30	1.1	1.1
19	2.3	2.0	1.2	1.3	1.5	4.2	7.3	2.7	1.8	.42	1.1	1.1
20	1.5	2.0	1.3	1.5	1.8	4.6	6.7	2.6	1.8	.46	2.2	1.1
21	1.1	1.9	1.3	1.2	1.8	4.3	5.4	2.5	2.2	.39	1.4	.78
22	1.8	1.6	1.4	1.0	1.5	4.3	5.1	2.4	2.3	.33	1.4	.67
23	1.8	4.0	2.5	1.1	1.1	3.2	4.7	2.5	1.8	.58	1.9	.67
24	1.8	3.4	2.2	1.2	.80	3.6	4.2	2.3	1.1	.67	2.4	.72
25	1.7	4.3	1.0	1.2	1.0	3.8	4.0	2.2	.96	.27	1.8	.72
26	1.7	3.2	2.3	1.2	1.5	3.5	4.0	2.4	.78	.22	1.5	.72
27	1.7	2.8	2.0	1.2	1.7	3.7	4.2	2.4	1.5	.27	1.5	.90
28	1.7	2.5	2.5	1.3	1.8	3.6	4.4	2.3	1.4	.22	1.6	.96
29	1.7	2.9	2.7	1.4	-	3.9	4.4	2.2	.78	.20	1.5	.96
30	1.7	2.6	3.0	1.6	----------	4.2	4.7	2.0	.90	.36	1.2	1.0
31	1.7	----------	2.5	2.5	----------	4.4	----------	2.3	----------	.16	1.2	----------
Total	56.6	70.1	65.7	45.6	39.8	128.3	156.5	95.6	47.32	15.10	44.99	29.14
Mean	1.89	2.34	2.12	1.47	1.42	4.14	5.22	3.08	1.58	0.49	1.45	0.97
Ac-ft	116	139	130	90	79	254	310	190	94	30	89	58

Calendar year 1965: Max 24 Min 0.1 Mean 3.94 Ac-ft 2,850
Water year 1965-66: Max 8.2 Min 0.14 Mean 2.18 Ac-ft 1,580

Peak discharge (base, 15 cfs).--Mar. 9 (1600) 16 cfs (1.89 ft); Mar. 13 (1730) 16 cfs (1.92 ft).

7-2055. Eagle Nest Reservoir near Eagle Nest, N. Mex.

Location.--Lat 36°32'05", long 105°14'00", in Maxwell Grant, at upstream face of Eagle Nest Dam on Cimarron Creek, 2 miles southeast of Eagle Nest, Colfax County, and 6¼ miles west of Ute Park.

Drainage area.--167 sq mi.

Records available.--December 1927 to December 1944 (month-end contents only, published in WSP 1311), May 1950 to September 1966.

Gage.--Wire-weight gage since May 1950 read 1 to 4 times a month (at random intervals). Datum of gage is 8,056.8 ft above mean sea level, datum of 1929, leveling of 1965. Prior to 1950, nonrecording gage (type unknown) at same site and datum. Prior to 1965 gage heights were raised by addition of 8,000 ft and called elevations.

Extremes.--Maximum contents observed during year, 30,440 acre-ft Apr. 19 (gage height, 111.15 ft); minimum observed, 21,940 acre-ft July 26 and Aug. 2 (gage height, 104.15 ft).
1927-44, 1950-66: Maximum contents observed, 78,800 acre-ft May 31, 1942 (gage height, 136.9 ft); minimum observed, 635 acre-ft Dec. 14, 1954 (gage height, 61.33 ft).

Remarks.--Reservoir is formed by concrete dam with spillway cut in natural rock; completed June 30, 1918; storage began in June 1917. Capacity, 79,120 acre-ft between gage heights 35.0 (sill of outlet gate) and 137.0 ft (crest of ungated spillway). Dead storage negligible. Records given herein represent usable contents and are based on 40 to 50 observations per year made at irregular intervals. Water released is used for irrigation. Lake is recreational area. Diversions for irrigation of about 2,500 acres above reservoir.

Cooperation.--Supplemental gage readings furnished by employee of Springer Land and Cattle Co. and by Cimarron Creek watermaster.

Contents, in acre-feet, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	26,980	-	27,600	-	-	-	-	-	-
2	-	25,860	-	-	-	-	-	-	27,290	-	21,940	-
3	-	-	-	-	-	-	-	30,100	-	-	-	-
4	-	-	-	-	-	27,600	-	-	-	-	-	-
5	26,350	-	-	-	-	-	-	-	-	24,500	-	-
6	-	-	-	-	-	-	-	-	-	-	-	23,300
7	-	-	26,120	-	-	-	-	-	25,380	-	-	-
8	-	-	-	-	-	-	30,170	-	-	-	-	23,240
9	-	25,860	-	-	-	27,690	-	29,760	-	-	22,640	-
10	-	-	-	-	27,380	-	-	29,700	-	-	-	-
11	-	-	-	27,040	-	-	-	-	-	-	-	-
12	26,110	-	-	-	-	-	30,300	-	-	22,640	-	-
13	26,110	-	-	-	-	-	-	-	-	-	-	23,190
14	-	-	-	-	-	-	-	-	25,680	-	-	-
15	-	-	-	-	-	29,570	-	-	-	-	-	-
16	-	25,740	-	-	-	-	-	-	-	-	22,850	-
17	-	-	-	-	-	-	-	29,030	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-
19	25,920	-	-	-	-	-	30,440	-	-	22,420	-	-
20	-	-	-	-	-	-	-	-	25,700	-	-	22,970
21	-	-	-	-	-	-	-	-	25,560	-	-	-
22	-	-	-	-	-	29,570	-	-	-	-	-	-
23	-	25,740	-	-	-	-	-	-	-	-	22,850	-
24	-	-	-	-	-	-	-	28,380	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-
26	25,740	-	-	-	-	-	30,300	-	-	21,940	-	-
27	-	-	-	-	-	-	-	-	-	-	-	22,970
28	-	-	-	-	27,600	-	-	-	25,020	-	-	-
29	-	-	-	-	-	29,830	-	-	-	-	-	-
30	-	25,860	-	-	----------	-	30,200	-	24,800	-	23,190	22,900
31	25,800	----------	26,980	27,300	----------	29,900	----------	28,250	----------	21,900	23,200	
(†)	-	107.60	-	-	-	-	-	109.50	-	-	-	-
(‡)	-620	+60	+1,120	+320	+300	+2,300	+300	-1,950	-3,450	-2,900	+1,300	-300

Calendar year 1965..... ‡ +14,550
Water year 1965-66..... ‡ - 3,520

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Contents interpolated Oct. 31, Dec. 31, Jan. 31, Feb. 28, Mar. 31, Apr. 30, June 30, July 31, Aug. 31, Sept. 30.

7-2060. Cimarron Creek below Eagle Nest Dam, N. Mex.

Location.--Lat 36°32'05", long 105°13'55", about sec.26, T.27 N., R.16 E. (projected), in Maxwell Grant, on left bank 300 ft downstream from Eagle Nest Dam, 2 miles southeast of Eagle Nest, and 6¼ miles west of Ute Park.

Drainage area.--167 sq mi.

Records available.--May 1950 to September 1966. Prior to October 1952, published as Cimarron River below Eagle Nest Dam.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,000 ft (from topographic map). Prior to May 15, 1951, at datum 0.81 ft higher. Oct. 1, 1964 to Sept. 19, 1966, digital water-stage recorder at present site and datum.

Average discharge.--16 years, 13.3 cfs (9,630 acre-ft per year).

Extremes.--Maximum daily discharge during year, 168 cfs July 6 (gage height, 2.24 ft); no flow many days.
1950-66: Maximum discharge, 205 cfs June 14, 1955 (gage height, 2.79 ft); no flow many days each year.

Remarks.--Records good except those above 80 cfs which are fair, and those for periods of no gage-height record and those below 1 cfs, which are poor. Flow regulated by Eagle Nest Reservoir (see station 7-2055). Diversions for irrigation of about 2,500 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	25	1.2			0	0.20	13	34	113	51	14	0.50
2	25	1.1			.10	.20	13	33	71	17	14	.50
3	25	1.2			.10	.20	13	33	75	36	14	.50
4	25	1.1			.10	.20	13	33	88	44	14	.70
5	20	1.1			.10	.20	13	33	97	128	14	.70
6	17	6.5			.10	.20	13	34	100	168	14	.70
7	17	14			.10	.20	13	45	99	167	14	.70
8	17	14			.10	.20	13	71	98	167	14	.70
9	17	14			.10	.20	13	64	98	165	14	.70
10	17	14			.10	.20	19	57	98	165	10	8.7
11	17	14			.10	.20	22	58	28	103	.30	12
12	17	14			.10	5.0	22	59	13	58	.20	13
13	17	14			.10	8.0	22	59	13	57	.20	16
14	17	14			.10	10	22	59	13	51	2.2	15
15	17	14			.10	14	22	63	14	48	2.9	15
16	17	15			.10	18	22	65	7.4	13	2.9	15
17	17	15			.10	18	22	65	7.4	29	3.1	4.9
18	17	15			.10	18	21	66	9.8	37	3.2	13
19	17	9.2			.10	20	22	66	18	38	3.2	18
20	17	.20			.10	20	25	66	29	35	3.2	12
21	17	.20			.10	20	25	38	42	28	3.2	8.8
22	17	.20			.10	20	25	56	44	28	3.2	8.8
23	17	.20			.10	22	25	62	47	15	1.3	8.5
24	18	.20			.10	22	25	56	48	22	.50	3.4
25	18	.20			.20	16	25	57	29	25	.50	5.6
26	14	.30			.20	13	25	57	65	29	.50	9.2
27	7.8	.20			.20	13	25	58	72	33	.50	12
28	1.3	.20			.20	13	31	18	63	33	.50	13
29	1.3	.10			-	13	36	51	62	23	.50	13
30	1.2	.10			-	13	35	61	51	8.8	.50	13
31	1.2	------				13	------	106	------	12	.50	------
TOTAL	488.8	194.50	0	0	3.10	311.20	635	1,683	1,612.6	1,833.8	169.10	243.60
MEAN	15.8	6.48	0	0	.11	10.0	21.2	54.3	53.8	59.2	5.46	8.12
AC-FT	970	386	0	0	6.1	617	1,260	3,340	3,200	3,640	335	483

CALENDAR YEAR 1965 MAX 155 MIN 0 MEAN 8.74 AC-FT 6,330
WATER YEAR 1965-66 MAX 168 MIN 0 MEAN 19.7 AC-FT 14,240

Note.--No gage-height record Nov. 28 to Mar. 22.

7-2062. McEvoy Creek near Eagle Nest, N. Mex.

Location.--Lat 36°33'00", long 105°13'30", in Maxwell Grant, on left bank 1.4 miles north of Eagle Nest Dam, and 2 miles east of Eagle Nest, Colfax County.

Drainage area.--1.95 sq mi.

Records available.--September 1961 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,600 ft (from topographic map). May 7, 1963, to Sept. 7, 1966, digital water-stage recorder at present site and datum.

Average discharge.--5 years, 0.208 cfs (151 acre-ft per year).

Extremes.--Maximum discharge during year, 0.46 cfs July 7 (gage height, 0.48 ft); minimum, 0.04 cfs Nov. 22, result of freezeup.
1961-66: Maximum discharge, 1.64 cfs May 21, 1965 (gage height, 0.82 ft); minimum, 0.003 cfs Nov. 3, 1962, result of freezeup.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.21	.23	.21	.19	.11	.09	.14	.18	.12	.08	.13	.10
2	.20	.21	.21	.18	.11	.09	.15	.17	.11	.07	.22	.10
3	.20	.21	.20	.15	.11	.10	.15	.17	.10	.07	.21	.10
4	.19	.21	.21	.14	.11	.10	.15	.16	.09	.07	.23	.10
5	.19	.21	.20	.12	.10	.10	.14	.16	.09	.09	.20	.09
6	.19	.20	.19	.12	.10	.10	.16	.16	.09	.14	.18	.10
7	.19	.21	.20	.13	.11	.11	.16	.16	.09	.14	.15	.12
8	.19	.19	.21	.14	.10	.11	.16	.16	.08	.09	.15	.11
9	.18	.20	.19	.17	.09	.11	.16	.15	.09	.09	.14	.11
10	.18	.23	.18	.17	.08	.11	.16	.16	.11	.09	.13	.10
11	.18	.22	.19	.17	.09	.12	.16	.15	.09	.08	.12	.10
12	.19	.19	.20	.17	.10	.13	.15	.16	.09	.07	.13	.09
13	.19	.19	.17	.17	.11	.13	.15	.15	.08	.12	.12	.09
14	.19	.19	.15	.14	.11	.13	.16	.14	.08	.11	.11	.10
15	.19	.19	.21	.11	.11	.14	.16	.13	.07	.13	.11	.09
16	.19	.19	.21	.12	.11	.15	.16	.13	.08	.11	.11	.09
17	.23	.19	.20	.13	.11	.16	.16	.12	.08	.11	.11	.09
18	.23	.19	.20	.10	.11	.16	.16	.13	.08	.11	.10	.09
19	.23	.18	.18	.08	.11	.15	.16	.12	.08	.13	.10	.09
20	.23	.17	.17	.10	.11	.15	.17	.12	.08	.11	.10	.09
21	.23	.19	.16	.11	.10	.15	.16	.11	.10	.10	.10	.09
22	.22	.13	.17	.12	.09	.15	.18	.11	.08	.09	.12	.09
23	.22	.26	.19	.13	.08	.14	.17	.11	.07	.14	.15	.10
24	.22	.22	.16	.13	.08	.14	.17	.11	.07	.12	.14	.11
25	.23	.22	.16	.12	.08	.14	.17	.11	.06	.09	.12	.10
26	.23	.17	.17	.11	.08	.14	.17	.12	.07	.13	.11	.10
27	.23	.08	.17	.11	.08	.14	.17	.12	.10	.16	.10	.12
28	.23	.11	.18	.11	.09	.14	.16	.12	.08	.15	.11	.11
29	.23	.14	.18	.11	-	.14	.16	.11	.09	.14	.11	.10
30	.24	.16	.18	.11	----------	.14	.17	.11	.10	.14	.11	.12
31	.24	----------	.18	.11	----------	.14	----------	.12	----------	.13	.11	----------
Total	6.49	5.68	5.78	4.07	2.77	4.00	4.80	4.23	2.60	3.40	4.13	2.99
Mean	0.209	0.189	0.186	0.131	0.099	0.129	0.160	0.136	0.087	0.110	0.133	0.100
Ac-ft	12.9	11.3	11.5	8.07	5.49	7.93	9.52	8.39	5.16	6.74	8.19	5.93

Calendar year 1965: Max 1.61 Min 0.08 Mean 0.302 Ac-ft 219
Water year 1965-66: Max 0.26 Min 0.06 Mean 0.140 Ac-ft 101

Peak discharge (base, 0.60 cfs).--No peak above base.

7-2063. Tolby Creek near Eagle Nest, N. Mex.

Location.--Lat 36°31'20", long 105°13'30", in Maxwell Grant, on right bank, 1 mile upstream from mouth and 2.5 miles southeast of Eagle Nest, Colfax County.

Drainage area.--8.5 sq mi.

Records available.--October 1961 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,400 ft (from topographic map). June 14, 1963 to Sept. 8, 1965, digital water-stage recorder at same site and datum.

Average discharge.--5 years, 1.819 cfs (1,320 acre-ft per year).

Extremes.--Maximum discharge during year, 14.4 cfs Aug. 4 (gage height, 1.52 ft); minimum, 0.27 cfs Nov. 22, result of freezeup. 1961-66: Maximum discharge, 32.9 cfs Apr. 20, 1962 (gage height, 2.04 ft); minimum, 0.15 cfs Dec. 5, 1962, result of freezeup.

Remarks.--Records good except those for winter period, which are poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.00	0.95	0.99	0.91	0.80	1.10	2.55	2.97	1.09	0.63	0.99	0.91
2	.93	.92	.95	.91	.80	1.10	2.82	2.64	.96	.51	1.80	.90
3	.96	.93	.90	.75	.80	1.00	2.54	2.41	.76	.46	1.74	.82
4	.96	.93	.91	.80	.90	1.00	1.95	2.26	.68	.42	9.17	.79
5	.94	.91	.91	.80	1.00	.90	2.00	2.15	.66	.44	7.24	.79
6	.92	.91	.84	.90	1.10	.90	2.31	1.96	.65	.47	8.62	.78
7	.91	.94	.86	.90	1.00	1.00	2.21	1.92	.63	.52	6.00	.80
8	.91	.87	.91	.90	1.00	1.05	2.27	1.85	.59	.52	4.74	.82
9	.91	.97	.92	.90	1.00	1.10	2.32	1.80	.61	.56	3.83	.74
10	.90	.97	.98	.90	1.00	1.11	2.37	1.77	1.19	.50	3.21	.70
11	.91	.95	.98	.96	1.04	1.10	2.28	1.65	.84	.64	2.66	.66
12	.90	.91	.96	.86	1.05	1.14	2.05	1.67	.69	.75	2.76	.66
13	.94	.94	.96	.82	.75	1.23	2.03	1.57	.63	.66	2.45	.62
14	.91	.91	.91	.78	.80	1.28	2.06	1.44	.62	.80	1.99	.62
15	.93	.94	.91	.82	.90	1.30	2.08	1.31	.58	.76	1.77	.66
16	.96	.96	.86	.82	.80	1.41	2.08	1.26	.62	.65	1.67	.59
17	1.30	.93	.86	.82	.90	1.41	2.02	1.18	.78	.65	1.57	.59
18	1.19	.94	.82	.80	.90	1.32	1.99	1.16	.70	.79	1.42	.59
19	1.15	.93	.82	.80	.90	1.35	1.86	1.27	.62	.69	1.28	.59
20	1.11	.89	.82	.90	.90	1.45	1.56	1.16	.66	.63	1.23	.59
21	1.06	.86	.82	.85	.90	1.60	2.05	1.03	1.09	.57	1.19	.59
22	1.03	.84	.86	.80	.90	1.36	2.02	.99	.92	.49	1.31	.59
23	1.01	1.61	.91	.80	.90	1.14	2.44	.94	.65	.66	1.61	.62
24	1.00	1.31	.91	.80	.90	1.17	2.91	.93	.57	.61	2.08	.86
25	.99	1.24	.86	.80	1.00	1.34	3.13	.85	.53	.49	1.34	.78
26	.97	.82	.86	.80	1.00	1.61	3.24	.87	.59	.97	1.15	.74
27	.95	.70	.86	.80	1.10	1.77	3.16	.90	.88	1.86	1.08	.70
28	.96	.75	.82	.80	1.10	1.68	2.95	.87	.64	1.77	1.13	.74
29	.96	.82	.86	.80	-	1.56	2.87	.85	.75	1.31	1.19	.70
30	.95	.84	1.00	.80	----------	1.94	2.90	.79	.80	1.40	1.09	.66
31	.97	----------	.91	.90	----------	2.36	----------	.99	----------	1.34	.99	----------
Total	30.54	28.38	27.74	26.00	26.14	40.78	71.02	45.41	21.98	23.52	80.30	21.20
Mean	0.985	0.946	0.895	0.839	0.934	1.315	2.367	1.465	0.733	0.759	2.590	0.707
Ac-ft	60.6	56.3	55.0	51.6	51.8	80.9	141	90.1	43.6	46.7	159	42.0

Calendar year 1965: Max 18.3 Min 0.70 Mean 2.720 Ac-ft 1,970
Water year 1965-66: Max 0.42 Min 9.17 Mean 1.214 Ac-ft 879

Peak discharge (base, 9.00 cfs).--Aug. 4 (0730) 14.4 cfs (1.52 ft).

7-2064. Clear Creek near Ute Park, N. Mex.

Location.--Lat 36°31'35", long 105°10'30", in Maxwell Grant, on right bank a quarter of a mile upstream from mouth, and 4 miles southwest of Ute Park, Colfax County.

Drainage area.--7.44 sq mi.

Records available.--September 1961 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 7,860 ft (from topographic map). May 9, 1963 to Sept. 8, 1966, digital water-stage recorder at same site and datum.

Average discharge.--5 years, 2.261 cfs (1,640 acre-ft per year).

Extremes.--Maximum discharge during year, 11.5 cfs Aug. 5 (gage height, 1.40 ft); minimum, 0.26 cfs Nov. 22, 29.
1961-66: Maximum discharge, 151 cfs June 18, 1965 (gage height, 3.05 ft); minimum, 0.09 cfs Dec. 5, 1962.

Remarks.--Records good except those for January and February, which are fair.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.79	0.55	0.59	0.48	0.30	0.35	0.75	1.92	3.43	0.86	0.90	1.76
2	.76	.55	.55	.45	.30	.35	.85	1.92	3.10	.78	1.71	1.71
3	.74	.55	.54	.37	.30	.30	.70	1.97	2.83	.72	2.06	1.66
4	.73	.55	.53	.38	.30	.30	.55	2.04	2.68	.68	3.94	1.80
5	.72	.55	.52	.39	.30	.30	.53	2.22	2.54	.70	6.01	1.78
6	.69	.54	.48	.42	.35	.30	.59	2.40	2.47	.73	8.92	1.77
7	.68	.55	.50	.49	.40	.35	.70	2.57	2.34	.95	6.57	1.78
8	.68	.54	.54	.48	.35	.35	.78	2.73	2.18	.80	6.26	1.73
9	.67	.57	.53	.46	.35	.40	.83	3.00	2.09	.71	7.21	1.66
10	.65	.57	.58	.44	.35	.47	.89	3.22	2.56	.66	7.59	1.54
11	.65	.55	.55	.43	.30	.49	.86	3.30	1.95	.65	7.01	1.47
12	.65	.54	.52	.41	.30	.50	.80	3.45	1.77	.64	6.74	1.36
13	.64	.54	.52	.35	.30	.50	.79	3.40	1.65	.66	5.56	1.30
14	.63	.53	.50	.31	.30	.48	.81	3.27	1.55	.69	4.70	1.25
15	.63	.52	.51	.32	.30	.48	.84	3.16	1.45	.65	4.23	1.25
16	.64	.53	.51	.30	.30	.55	.91	3.07	1.53	.59	3.95	1.14
17	.85	.52	.50	.30	.30	.54	.96	2.99	1.51	.61	3.41	1.04
18	.75	.52	.49	.30	.30	.49	.98	2.99	1.35	.67	3.03	1.04
19	.70	.52	.47	.35	.30	.52	.95	2.97	1.36	.63	2.70	.99
20	.68	.52	.49	.40	.30	.58	.91	2.99	1.29	.60	2.45	.99
21	.66	.52	.49	.40	.30	.60	.98	3.04	1.36	.53	2.42	.99
22	.64	.47	.52	.35	.30	.52	1.02	3.11	1.22	.47	2.25	.86
23	.62	.82	.52	.30	.30	.46	1.18	3.20	1.07	.56	2.34	.86
24	.62	.78	.50	.30	.30	.46	1.37	3.29	1.00	.52	2.65	.82
25	.61	.73	.49	.30	.32	.47	1.43	3.33	.95	.46	2.42	.82
26	.59	.66	.49	.30	.35	.46	1.58	3.44	1.01	.83	2.12	.77
27	.59	.53	.49	.30	.35	.51	1.70	3.57	1.08	.83	1.94	.86
28	.59	.47	.49	.30	.35	.50	1.69	3.74	.95	.87	1.99	.82
29	.59	.43	.48	.30	-	.49	1.73	3.72	1.02	.92	1.91	.73
30	.59	.50	.65	.30	----------	.56	1.67	3.58	.99	1.58	1.88	.73
31	.58	----------	.52	.35	----------	.68	----------	3.57	----------	1.20	1.82	----------
Total	20.61	16.72	16.06	11.33	8.87	14.31	30.53	93.17	52.28	22.75	118.69	37.28
Mean	0.665	0.557	0.518	0.365	0.317	0.462	1.018	3.005	1.743	0.734	3.83	1.243
Ac-ft	40.9	33.2	31.9	22.5	17.6	28.4	60.6	185	104	45.1	235	73.9

Calendar year 1965: Max 121 Min 0.28 Mean 4.599 Ac-ft 3,330
Water year 1965-66: Max 8.92 Min 0.30 Mean 1.213 Ac-ft 878

Peak discharge (base, 8.00 cfs).--Aug. 5 (2230) 11.5 cfs (1.40 ft); Aug. 12 (1630) 8.51 cfs (1.24 ft).

7-2070. Cimarron Creek near Cimarron, N. Mex.

Location.--Lat 36°31'00", long 104°58'35", about sec.6, T.26 N., R.19 E (projected), in Maxwell Grant, on right bank 3.8 miles west of Cimarron.

Drainage area.--294 sq mi.

Records available.--May 1950 to September 1966. Prior to October 1952, published as Cimarron River near Cimarron.

Gage.--Water-stage recorder. Concrete control since Nov. 6, 1963. Datum of gage is 6,599.58 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 20.6 cfs (14,910 acre-ft per year).

Extremes.--Maximum discharge during year 199 cfs July 6 (gage height, 2.58 ft); no flow Feb. 16.

1950-66: Maximum discharge, 15,500 cfs June 17, 1965 (gage height, 12.42 ft, from floodmark), from rating curve extended above 800 cfs on basis of slope-area measurements at gage heights 4.88 and 12.42 ft; no flow Sept. 14-30, Oct. 1-10, 1956, Feb. 18, 1960, Feb. 16, 1966.

Remarks.--Records good except those for winter period, which are poor. Flow regulated by Eagle Nest Reservoir (capacity, 79,120 acre-ft). Diversions above station for irrigation of about 3,500 acres, part of which is below station. Cimarroncito ditch (locally known as Philmont ditch) diverts from left bank 1½ miles above station, flumes under creek ¾ mile above and bypasses station for off-channel storage and irrigation below.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	6.0	6.0	3.5	2.5	1.6	17	38	100	42	20	6.4
2	25	5.7	6.2	2.5	2.0	1.6	17	37	66	34	29	6.1
3	26	5.5	6.2	2.5	2.0	1.2	18	36	59	19	41	5.9
4	26	5.2	6.6	3.0	2.5	1.0	18	35	69	35	35	5.6
5	25	5.1	7.0	4.0	3.0	1.6	18	36	75	60	32	5.5
6	19	4.9	6.0	4.2	3.5	2.0	18	36	83	129	38	5.7
7	18	5.4	5.0	4.4	3.1	2.1	17	36	83	136	40	5.7
8	17	8.3	5.4	4.2	2.4	2.2	17	59	84	136	34	5.6
9	17	11	6.2	4.0	1.8	2.2	17	62	84	138	32	5.4
10	17	13	7.9	4.0	1.8	2.1	17	53	89	141	29	5.1
11	18	14	7.1	4.0	1.6	2.1	21	53	62	127	22	6.8
12	18	14	6.6	4.0	1.6	2.0	22	53	20	56	24	10
13	18	15	6.6	3.5	1.6	2.1	23	53	16	53	18	12
14	20	15	4.5	3.0	1.4	3.6	24	53	14	48	14	13
15	20	15	3.5	3.0	1.6	5.7	24	53	13	43	12	14
16	20	15	3.0	2.5	1.4	9.2	23	57	12	33	12	14
17	22	15	3.0	2.5	2.0	15	23	57	94	15	11	14
18	20	15	3.2	2.5	3.2	18	23	57	79	35	10	8.9
19	20	15	3.6	3.5	2.9	19	24	59	9.6	35	10	13
20	19	13	4.0	3.0	2.7	22	28	59	15	38	8.7	17
21	19	8.7	4.0	2.5	2.5	21	28	49	34	29	8.4	13
22	19	6.7	4.0	2.0	2.0	22	29	40	35	27	14	11
23	19	6.2	4.1	2.2	2.0	21	28	54	35	28	20	10
24	20	6.4	3.5	2.4	2.5	23	29	50	38	20	25	9.8
25	20	6.0	3.0	2.5	2.5	22	29	50	33	24	14	7.6
26	20	6.0	3.0	2.2	2.5	17	28	49	33	27	98	7.1
27	15	5.0	3.0	2.2	2.0	17	29	50	58	32	8.3	9.6
28	12	3.7	3.4	2.2	1.5	17	30	38	49	39	11	13
29	8.1	3.5	3.8	2.5	-	17	35	28	53	35	8.5	13
30	6.8	4.8	4.2	2.8	----------	17	38	49	46	20	7.1	13
31	6.5	----------	4.0	3.0	----------	17	----------	64	----------	16	7.1	----------
Total	575.4	273.1	147.6	94.3	62.1	327.3	712	1503	1384.9	1650	604.9	286.8
Mean	18.6	9.10	4.76	3.04	2.22	10.6	23.7	48.5	46.2	53.2	19.5	9.56
Ac-ft	1140	542	293	187	123	649	1410	2980	2750	3270	1200	569
(†)	0	0	0	0	0	0	0	248	380	194	0	0

† Diversion, in acre-feet, by Cimarroncito ditch which bypasses station; data furnished by Cimarron Creek watermaster.

7-2075. Ponil Creek near Cimarron, N. Mex.

Location.--Lat 36°34'35", long 104°56'55", about sec.8, T.27 N., R.19 E. (projected), on left bank 1½ miles downstream from confluence of North and South Ponil Creeks and 5 miles northwest of Cimarron.

Drainage area.--171 sq mi.

Records available.--November 1915 to June 1919, August 1919 to July 1925, September 1925, September 1927 to July 1929, May 1950 to September 1966. Prior to May 1950 monthly discharge only, published in WSP 1311.

Gage.--Water-stage recorder. Datum of gage is 6,630 ft above mean sea level, datum of 1929. Prior to May 8, 1922, at site about an eighth of a mile downstream at different datum. May 8, 1922, to Aug. 8, 1929, at site about three-eighths of a mile upstream at different datum.

Average discharge.--27 years (1915-25, 1927-28, 1950-66), 12.5 cfs (9,050 acre-ft per year).

Extremes.--Maximum discharge during year, 1,080 cfs Aug. 5 (gage height, 5.65 ft), from rating curve extended above 59 cfs as explained below; no flow July 10.
1915-29, 1950-66: Maximum discharge, 5,630 cfs June 17, 1965 (gage height, 11.13 ft) from rating curve extended above 59 cfs on basis of slope-area measurements at gage heights 4.55, 5.80, 7.15, and 11.13 ft; no flow many days most years.
Flood in September 1948 reached a stage of about 7 ft, from floodmarks (discharge, about 1,900 cfs).

Remarks.--Records good except those for December to February, which are poor. Diversions for irrigation of 200 to 300 acres above station. Diversions 1,000 ft below station for irrigation of about 300 acres (about 1,200 acres total irrigated from Ponil Creek).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	2.7	2.0	1.3	1.0	0.80	3.4	8.4	2.6	1.3	13	15
2	2.6	2.7	2.5	1.0	.80	.80	4.4	7.7	2.7	.38	34	14
3	2.4	2.7	2.5	.80	.80	.60	5.2	7.4	2.2	.14	86	11
4	2.4	2.7	2.5	.80	1.6	.40	5.2	7.0	1.6	.04	76	9.8
5	2.4	2.6	2.5	1.2	1.6	.60	3.2	6.7	1.3	.02	84	9.4
6	2.2	2.6	2.2	1.4	1.8	.80	4.2	6.3	1.0	.03	38	8.7
7	2.0	2.6	2.0	1.7	2.0	1.1	4.4	6.3	.92	.04	23	10
8	2.0	2.6	2.2	2.0	2.0	1.6	4.4	6.7	.67	.02	20	8.7
9	2.0	2.6	2.4	1.7	2.0	1.9	4.4	7.0	.60	.01	19	8.0
10	2.0	2.6	2.6	2.0	2.0	1.9	4.7	7.7	1.1	.01	19	6.3
11	2.2	2.6	2.5	2.0	1.8	1.7	5.0	7.4	1.1	.01	16	7.0
12	2.4	2.4	2.3	1.7	1.6	1.6	4.7	7.4	.92	.01	18	7.7
13	2.4	2.4	2.2	1.6	2.0	1.9	5.0	7.7	.67	.02	15	6.0
14	2.2	2.4	2.2	1.4	2.2	2.4	5.0	6.7	.43	7.0	12	5.2
15	2.4	2.4	1.2	1.2	2.4	2.7	4.7	5.7	.29	4.2	9.8	5.0
16	2.4	2.2	1.0	1.1	1.8	2.9	4.4	5.2	.25	.54	8.4	4.2
17	3.4	2.2	.80	.90	2.0	3.2	5.2	4.7	.38	.22	7.4	3.9
18	4.2	2.2	1.0	1.2	2.4	2.9	5.2	4.4	.35	.25	9.3	3.7
19	3.7	2.2	1.6	1.6	2.2	2.9	5.5	4.4	.18	.10	9.8	3.7
20	3.2	2.2	1.6	1.8	1.4	3.1	6.3	3.7	.20	2.2	13	4.7
21	3.2	2.2	2.0	1.2	1.0	3.1	5.7	3.2	.20	3.3	14	4.2
22	3.2	2.0	2.2	.80	.60	3.1	6.7	2.9	.05	.92	16	3.7
23	3.1	2.2	2.4	1.0	.60	2.6	5.7	2.7	.15	25	27	3.7
24	2.9	2.4	2.6	1.0	.80	2.6	6.0	2.6	.05	34	41	3.9
25	2.9	2.7	2.0	1.1	80	2.9	6.7	2.9	.05	8.9	27	3.9
26	2.9	2.7	2.2	1.1	1.0	2.6	6.0	3.1	.05	15	22	3.9
27	2.9	1.7	2.3	1.0	1.1	2.7	6.3	3.1	.04	11	19	3.4
28	2.9	1.2	2.4	1.0	.70	3.1	6.7	2.9	.04	8.7	20	3.7
29	2.7	1.0	2.6	1.3	-	3.1	6.7	3.1	.07	17	19	3.2
30	2.7	1.5	2.7	1.4	------	2.9	7.4	2.7	2.2	27	16	3.1
31	2.7	------	1.6	1.5	------	2.9	------	2.6	------	14	16	------
Total	83.3	69.2	64.8	40.80	42.00	67.40	158.4	160.3	22.36	181.36	767.7	188.7
Mean	2.69	2.31	2.09	1.32	1.50	2.17	5.28	5.17	0.745	5.85	24.8	6.29
Ac-ft	165	137	129	81	83	134	314	318	44	360	1,520	374

Calendar year 1965: Max 819 Min 0.10 Mean 21.5 Ac-ft 15,560
Water year 1965-66: Max 86 Min 0.01 Mean 5.06 Ac-ft 3,660

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-23	1600	3.30	209	8-5	2230	5.65	1,080
8- 3	1800	5.00	770				

Note.--No gage-height record Jan. 13 to Feb. 15.

7-2085. Rayado Creek at Sauble Ranch, near Cimarron, N. Mex.

Location.--Lat 36°22'20", long 104°58'10", in sec.30, T.25 N., R.18 E. (projected), in Maxwell Grant, on right bank at Sauble Ranch, 10 miles southwest of Cimarron and 16 miles upstream from mouth.

Drainage area.--65 sq mi.

Records available.--June to October 1908 (discharge measurements only), January 1909 to January 1910, July and August 1910, May 1911 to May 1913, July 1913 to February 1915, October 1915 to September 1918, March 1919 to September 1920, June 1923 to September 1924, March to May 1927, August 1927 to September 1966. Monthly discharge only for some periods, published in WSP 1311. Records for April and May 1910, as published in WSP 287, are unreliable and should not be used. Published as "at", "near," or "above Abreu's Ranch near Cimarron" prior to October 1925 and as Rayado River at Sauble Ranch, near Cimarron, October 1925 to September 1952.

Gage.--Water-stage recorder. Altitude of gage is 6,720 ft (from topographic map). Prior to May 4, 1911, chain or staff gage at site about 2 miles downstream at different datum. May 4, 1911 to Sept. 8, 1925, water-stage recorder about 3 miles upstream at 2 sites within 100 ft at 3 different datums. Sept. 9, 1925 to July 16, 1934, water-stage recorder at site 430 ft upstream at different datum. July 17, 1934 to Sept. 30, 1954, at site 290 ft downstream at datums 1.83 to 2.31 ft lower. Oct. 1, 1954 to June 16, 1965, at site 270 ft downstream at datum 2.83 ft (corrected) lower.

Average discharge.--47 years (1911-12, 1913-14, 1915-20, 1923-24, 1927-66), 14.6 cfs (10,570 acre-ft per year).

Extremes.--Maximum discharge during year, 265 cfs July 19 (gage height, 2.84 ft), from rating curve extended above 70 cfs as explained below; minimum, 1.6 cfs Nov. 27, result of freezeup.

1909-12, 1913-66: Maximum discharge, 9,000 cfs June 17, 1965 (gage height, 11.5 ft, corrected), from rating curve extended above 70 cfs on basis of logarithmic plotting and slope-area measurement of peak flow; minimum daily, 0.4 cfs Nov. 16, 1956 (may have been lower during periods of freezeup).

The major flood of June 10, 1913, destroyed the gage (stage and discharge not determined). Another major flood probably occurred Sept. 29, or 30, 1904.

Remarks.--Records good except those for January and February, which are poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	6.4	8.6	4.5	5.0	4.0	22	19	91	3.5	14	21
2	8.2	6.8	7.7	5.0	4.5	4.0	24	19	9.1	2.9	21	19
3	7.7	6.8	6.4	5.0	4.0	3.5	22	16	6.4	2.4	22	17
4	7.7	6.4	6.8	5.0	4.0	3.5	12	15	5.2	2.2	76	16
5	7.2	6.4	6.8	5.0	4.4	3.5	12	15	5.2	2.2	70	16
6	7.2	6.4	5.2	4.8	4.4	3.5	12	15	4.8	2.7	103	15
7	7.2	6.8	5.9	4.8	4.4	3.5	14	15	4.8	2.7	85	13
8	7.2	5.9	5.9	4.4	4.8	3.5	16	15	4.4	2.4	70	14
9	7.2	6.8	6.4	4.4	4.8	3.8	15	15	4.8	2.2	50	12
10	6.8	6.8	7.7	4.4	4.5	4.1	15	15	9.7	2.4	41	12
11	7.2	6.4	6.8	4.4	4.0	4.4	13	13	6.8	4.1	33	11
12	7.2	5.2	5.9	4.5	4.5	4.8	12	13	5.2	4.8	33	9.7
13	6.8	5.9	4.4	4.8	4.5	6.8	12	13	4.8	8.8	27	8.6
14	6.8	5.5	3.5	5.0	4.0	9.1	12	12	4.4	9.7	20	8.2
15	6.8	5.2	5.5	5.0	4.0	12	12	10	4.1	9.7	15	8.2
16	7.2	5.9	4.8	4.0	4.0	12	12	10	4.4	5.9	27	7.2
17	9.7	5.9	4.8	3.5	4.0	13	12	9.1	5.9	8.9	26	7.2
18	9.7	5.5	4.5	3.5	4.0	9.7	12	9.1	4.8	8.6	16	7.2
19	8.2	5.5	4.0	3.5	4.0	10	11	9.1	4.4	35	23	6.8
20	8.2	5.5	5.0	5.0	4.0	10	10	8.6	4.8	26	23	7.7
21	8.2	5.2	5.2	4.0	3.8	11	11	8.2	4.4	44	17	8.2
22	7.7	4.8	5.5	3.5	4.0	10	13	7.7	4.4	18	29	6.4
23	7.2	7.7	5.9	4.5	4.0	8.0	14	7.2	4.1	13	23	6.4
24	7.2	13	5.5	4.5	3.5	8.0	21	7.2	3.5	10	50	6.8
25	6.8	11	5.5	4.5	4.0	8.6	18	7.2	3.2	7.7	40	6.8
26	6.8	8.2	5.5	4.5	4.0	9.1	15	7.2	3.5	9.0	35	7.2
27	6.8	3.2	5.2	4.5	4.0	9.7	15	7.7	5.9	11	32	6.8
28	6.8	4.8	5.2	4.5	4.5	12	14	7.2	4.4	8.6	31	7.2
29	6.8	5.2	5.2	5.0	-	11	14	6.8	4.1	14	29	5.5
30	6.8	6.4	5.9	5.5	------	10	16	6.4	3.8	15	26	5.5
31	6.4	------	5.2	5.0	------	11	------	6.8	------	12	22	------
Total	230.3	191.5	176.4	140.5	117.6	237.1	433	345.5	154.4	309.4	1,129	303.6
Mean	7.43	6.38	5.69	4.53	4.20	7.65	14.4	11.1	5.15	9.98	36.4	10.1
Ac-ft	457	380	350	279	233	470	859	685	306	614	2,240	602

Calendar year 1965 : Max 2,000 Min 2.5 Mean 42.5 Ac-ft 30,790
Water year 1965-66 : Max 103 Min 2.2 Mean 10.3 Ac-ft 7,470

Peak discharge (base, 100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-19	1515	2.84	265	8- 5	1930	2.52	155
7-20	2330	2.26	120	8- 7	2000	2.76	228

7-2110. Cimarron Creek at Springer, N. Mex.

Location.--Lat 36°21'30", long 104°35'50", in southeast corner of Maxwell Grant, on left bank at Springer, Colfax County, 270 ft downstream from bridge on State Highway 199, 6 miles downstream from Rayado Creek, and 6 miles upstream from mouth.

Drainage area.--1,032 sq mi.

Records available.--August 1907 to December 1909, January 1921 to February 1922, October 1924 to January 1926, September 1926 to September 1966. Prior to October 1952, published as Cimarron River at Springer.

Gage.--Water-stage recorder. Concrete control since Nov. 5, 1954. Altitude of gage is 5,770 ft (from nearby level line). July 13, 1907 to Dec. 31, 1909, staff gage and Dec. 20, 1919 to Feb. 8, 1930, chain gages at site 270 ft upstream at various datums to Nov. 19, 1924, and thereafter at datum 3.34 ft higher than present datum. Feb. 9, 1930 to July 12, 1934, water-stage recorder at site 270 ft upstream at datum 3.66 ft higher. July 13, 1934 to Apr. 13, 1942, water-stage recorder at site 30 ft downstream at different datum. May 8 to July 16, 1942, water-stage recorder at site 270 ft upstream at datum 3.33 ft lower. Apr. 25, 1963 to Aug. 17, 1966, digital water-stage recorder at present site and datum.

Average discharge.--42 years (1920-21, 1924-25, 1926-66), 18.9 cfs (13,680 acre-ft per year).

Extremes.--Maximum discharge during year, 3,570 cfs Aug. 2 (gage height, 7.97 ft), from rating curve extended above 1,800 cfs as explained below; minimum, 0.19 cfs, Feb. 16.

1930-66: Maximum discharge, 29,500 cfs June 18, 1965 (gage height, 19.96 ft, from floodmarks), from rating curve extended above 1,800 cfs on basis of contracted-opening measurement of peak flow; no flow at times in 1954, 1956-57.

Maximum stage known, about 22 ft Sept. 29, 1904 (backwater from debris on railroad bridge). Another major flood occurred June 11, 1913. Maximum discharges of these floods probably exceeded 10,000 cfs, but probably were less than 1965 flood.

Remarks.--Records good except those for December to February, which are poor. Flow partly regulated by Eagle Nest Reservoir (see station 7-2055). Diversions for irrigation of about 23,000 acres above station and a few hundred acres between station and mouth.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	12	4.1	8.5	10	9.0	8.0	6.1	4.5	17	2.4	57	13
2	12	4.1	9.7	8.0	8.0	8.0	4.8	4.9	72	2.0	1,140	12
3	11	4.5	10	7.0	8.0	6.5	5.4	4.2	12	1.7	100	13
4	12	4.5	9.7	7.0	9.0	6.0	6.7	3.9	5.7	1.5	69	10
5	11	4.5	9.7	8.0	10	7.0	6.7	3.6	3.8	1.4	82	9.1
6	10	4.5	10	9.0	12	7.4	5.3	3.7	3.2	1.3	57	8.5
7	9.7	4.9	9.0	9.0	14	8.1	5.2	4.1	2.8	1.3	37	8.5
8	9.1	4.9	9.0	9.0	14	8.3	4.7	3.8	2.5	1.4	22	8.5
9	9.7	5.3	11	9.0	9.0	8.4	5.0	3.5	3.3	1.3	17	7.9
10	9.7	5.3	13	9.0	8.0	8.1	4.4	3.5	11	1.3	128	7.9
11	9.1	6.3	13	9.0	8.0	7.6	4.2	3.3	8.3	1.8	92	8.5
12	9.7	7.3	12	9.0	8.0	5.8	4.0	3.3	5.1	2.4	22	7.3
13	9.1	8.5	11	8.0	8.0	5.8	3.6	3.5	3.7	2.4	254	7.3
14	6.8	7.9	9.0	8.0	8.0	5.9	3.8	3.2	3.2	2.4	48	6.8
15	7.3	7.3	8.0	8.0	8.9	6.4	4.2	3.0	2.8	2.4	26	6.8
16	6.8	6.8	8.0	8.0	8.0	7.5	4.4	3.1	2.7	2.4	19	6.8
17	9.1	6.3	7.0	7.0	8.0	8.1	4.0	2.8	3.3	2.3	21	6.8
18	12	5.8	7.0	7.0	9.1	9.0	3.5	2.9	3.3	2.6	17	5.8
19	13	6.8	7.0	7.0	9.0	10	3.1	3.4	3.4	3.9	10	6.3
20	13	9.1	8.0	7.0	9.0	14	3.7	3.4	3.1	2.2	12	6.3
21	12	9.1	9.0	7.0	9.6	14	3.4	4.0	2.7	1.9	16	5.8
22	9.7	7.9	10	6.0	8.0	11	3.4	3.7	2.4	1.9	273	7.9
23	6.8	7.9	10	7.0	8.0	13	4.9	3.1	2.2	3.6	114	11
24	5.3	7.9	9.0	7.0	8.0	12	7.3	2.9	2.0	3.2	122	9.7
25	5.3	7.9	9.0	7.0	8.4	15	5.6	2.8	2.0	2.8	75	9.7
26	4.9	12	9.0	7.4	9.2	13	5.7	3.1	2.6	2.1	49	13
27	5.3	12	9.0	7.1	8.9	12	4.6	3.1	18	2.1	28	9.1
28	5.3	9.1	9.0	8.0	8.8	13	3.8	3.5	5.2	2.0	22	7.3
29	5.8	7.9	10	9.0	------	12	4.8	3.5	2.8	2.5	21	5.8
30	5.3	7.9	12	10	------	8.2	4.8	3.4	2.6	54	18	4.9
31	4.5	------	11	10	------	15	------	3.4	------	15	13	------
TOTAL	272.3	208.3	296.6	248.5	253.9	294.1	141.1	108.1	214.7	131.5	2,981	251.3
MEAN	8.78	6.94	9.57	8.02	9.07	9.49	4.70	3.49	7.16	4.24	96.2	8.38
AC-FT	540	413	588	493	504	583	280	214	426	261	5,910	498

CALENDAR YEAR 1965 MAX 10,500 MIN 1.2 MEAN 85.3 AC-FT 61,730
WATER YEAR 1965-66 MAX 1,140 MIN 1.3 MEAN 14.8 AC-FT 10,710

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 2	0745	7.97	3,570	8-13	0300	5.23	698
8-10	2045	5.38	812				

7-2115. Canadian River near Taylor Springs, N. Mex.

Location.--Lat 36°17'45", long 104°29'35", in NW¼SE¼ sec.21, T.24 N., R.23 E., on left bank at head of gorge, 2.1 miles downstream from Cimarron Creek, 2.1 miles south of Taylor Springs and 2.2 miles upstream from Chico Creek.

Drainage area.--2,850 sq mi.

Records available.--October 1939 to September 1958, water years 1959-64 (annual maximum), June 1964 to September 1966. Records for water year 1940 incomplete, yearly estimate published in WSP 1311.

Gage.--Water-stage recorder. Datum of gage is 5,636 ft above mean sea level, datum of 1929. Prior to June 10, 1964, water-stage recorder at site 1.7 miles downstream at different datum; operated as crest-stage station at that site and datum during water years 1959-64.

Average discharge.--21 years (1939-58, 1964-66), 112 cfs (81,080 acre-ft per year).

Extremes.--Maximum discharge during year, 4,240 cfs Aug. 2 (gage height, 5.84 ft); minimum, 1.3 cfs July 6, result of regulation.
1940-66: Maximum discharge, 162,000 cfs June 18, 1965 (gage height, 47.4 ft, from floodmarks), from rating curve extended above 7,000 cfs on basis of slope-area measurement of peak flow; no flow at times.
Maximum flood known prior to 1965 occurred Sept. 29, 1904 (discharge published as 91,100 cfs in WSP 842, 847).

Remarks.--Records good except those for winter period, which are poor. Diversions for irrigation of about 30,000 acres above station. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	16	15	26	22	19	18	6.7	133	14	61	35
2	24	15	15	21	21	19	13	7.0	405	5.7	1,600	58
3	24	15	15	16	25	17	11	7.4	60	4.3	181	43
4	24	15	15	15	30	15	13	7.0	21	3.6	115	44
5	23	15	17	15	35	15	15	6.4	10	28	254	29
6	22	15	15	16	34	16	16	6.0	7.0	5.0	152	21
7	22	15	15	18	34	17	14	5.7	5.3	556	93	19
8	21	16	15	19	34	18	11	5.7	4.3	91	238	19
9	20	16	16	21	20	20	9.3	5.3	3.6	23	115	18
10	20	17	23	21	18	18	9.3	5.0	51	13	172	18
11	20	17	26	21	16	18	7.7	5.0	46	8.9	847	16
12	20	17	23	20	16	18	8.1	4.5	18	29	123	17
13	20	18	20	20	16	15	8.1	4.8	11	73	233	16
14	18	18	17	19	15	15	84	5.0	7.4	25	78	15
15	16	19	17	18	15	15	9.3	4.5	6.0	180	48	15
16	17	19	15	17	15	15	98	38	5.3	62	35	14
17	26	18	13	16	18	15	8.9	3.6	8.1	27	34	14
18	36	18	12	16	20	13	8.1	3.1	7.0	17	35	14
19	35	18	10	19	20	15	7.0	3.1	61	12	31	13
20	31	19	12	18	23	16	8.1	3.1	21	353	56	89
21	27	19	13	16	24	20	9.3	3.3	10	522	86	25
22	25	18	20	15	22	18	9.3	3.6	7.0	193	986	18
23	23	19	47	15	21	14	98	3.6	5.3	599	254	41
24	20	19	46	16	22	17	13	3.3	4.0	115	311	48
25	19	18	42	17	26	20	13	3.3	3.3	147	172	28
26	19	20	38	18	23	20	12	3.1	6.5	61	86	24
27	18	19	34	20	25	20	98	3.6	14	86	61	23
28	18	17	34	21	20	20	7.7	3.6	16	57	43	20
29	18	14	42	25	-	20	6.7	3.3	8.1	260	87	18
30	18	14	40	25	----------	20	7.0	3.8	25	360	100	15
31	18	----------	32	23	----------	18	----------	5.0	----------	125	56	----------
Total	686	513	714	583	630	536	310.7	142.2	991.2	4,030.3	5,743	787
Mean	22.1	17.1	23.0	18.8	22.5	17.3	10.4	4.59	33.0	130	218	26.2
Ac-ft	1,360	1,020	1,420	1,160	1,250	1,060	616	282	1,970	7,990	13,370	1,560

Calendar year 1965: Max 43,000 Min 0.8 Mean 262 Ac-ft 189,900
Water year 1965-66: Max 1,600 Min 2.8 Mean 45.7 Ac-ft 33,060

Peak discharge (base, 3,000 cfs).--Aug. 2 (1000) 4,240 cfs (5.84 ft); Aug. 10 (about 2400) 3,130 cfs (5.20 ft, from reconstructed graph).

7-2145. Rio Agua Negra near Holman, N. Mex.

Location.--Lat 36°07'00", long 105°22'35", on right bank 150 ft upstream from bridge, 2½ miles south of Chacon, 4½ miles downstream from confluence of Luna and Lujan Creeks, 5.0 miles north of Holman, and 8½ miles southwest of Guadalupita, Mora County.

Drainage area.--57 sq mi.

Records available.--January 1953 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 7,876 ft (by barometer).

Average discharge.--13 years, 13.7 cfs (9,920 acre-ft per year).

Extremes.--Maximum discharge during year, 1,430 cfs Aug. 3 (gage height, 4.40 ft), from rating curve extended as explained below; minimum, 2.1 cfs several days.
1953-66: Maximum discharge, 4,700 cfs July 22, 1954 (gage height, 6.10 ft), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; minimum, 0.1 cfs July 18, 1954, Sept. 21, 1956.
A major flood probably occurred Sept. 29, 1904 when the entire Mora River basin was in heavy flood.

Remarks.--Records good except those for winter period, which are poor. Diversions for irrigation of about 1,600 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	7.2	7.9	7.0	4.0	5.0	14	13	5.2	5.0	37	24
2	11	6.5	7.0	5.0	4.0	4.5	18	17	5.8	4.8	146	22
3	11	6.8	7.0	5.0	3.5	4.0	21	17	4.2	4.5	276	21
4	11	6.5	7.5	4.5	4.0	4.0	21	17	4.0	4.5	203	19
5	10	6.5	7.5	5.0	4.5	4.0	19	16	2.7	4.2	146	18
6	10	6.5	6.5	6.0	5.0	4.5	18	15	2.3	4.2	133	17
7	9.6	6.5	7.0	8.5	4.0	5.0	17	17	2.3	4.5	81	18
8	9.6	6.5	7.5	9.0	3.8	5.5	17	17	2.3	4.2	66	18
9	9.3	6.8	7.6	7.0	3.5	6.0	18	17	2.3	3.8	53	17
10	9.3	6.8	9.0	7.0	3.5	6.2	20	17	2.9	3.8	53	16
11	9.3	7.2	8.2	7.0	4.0	6.2	21	16	2.5	3.5	46	15
12	9.3	6.8	6.5	6.0	4.0	7.6	21	16	2.3	4.0	37	13
13	9.3	6.8	6.0	5.0	4.0	8.2	21	15	2.3	4.0	34	12
14	9.3	6.5	5.0	5.0	4.0	9.3	20	14	2.3	3.5	32	12
15	9.0	6.8	5.0	4.5	4.0	9.3	19	12	2.3	3.8	32	11
16	9.3	6.5	5.0	4.0	4.0	9.3	19	9.6	2.7	4.0	32	10
17	14	6.5	5.0	4.0	4.0	9.3	21	7.9	3.3	4.9	30	10
18	10	6.5	4.0	4.0	4.5	10	21	7.2	3.3	4.2	37	9.6
19	9.6	6.5	4.0	4.0	4.5	10	21	7.6	3.3	4.5	37	9.6
20	9.3	6.2	5.0	5.0	4.5	9.6	21	7.2	3.3	6.4	29	9.0
21	9.0	6.2	5.0	4.0	4.0	10	18	6.5	4.0	8.8	28	9.0
22	8.6	6.5	7.0	4.0	3.5	9.0	18	6.2	3.8	6.0	29	8.2
23	8.6	8.6	8.2	4.0	4.0	9.0	16	6.0	3.5	6.2	34	8.2
24	8.2	10	8.2	4.0	4.0	9.0	16	6.0	3.1	6.0	53	8.6
25	7.9	9.6	6.5	4.0	5.0	10	16	6.0	3.1	5.8	34	8.6
26	7.9	9.3	6.0	5.0	5.8	10	15	5.8	3.3	5.8	31	7.9
27	7.9	7.0	6.0	5.0	5.2	10	16	4.8	10	5.5	26	7.9
28	7.9	5.0	7.0	5.0	5.0	11	16	3.5	5.5	12	29	8.2
29	7.6	6.0	8.0	6.0	-	11	16	3.8	4.5	24	25	7.9
30	7.2	7.0	9.0	5.0	----------	11	18	3.8	4.8	32	31	7.9
31	7.2	----------	8.0	4.0	----------	12	----------	4.0	----------	33	29	----------
Total	288.2	208.1	207.1	161.5	117.8	249.5	553	336.9	107.2	231.4	1,889	393.6
Mean	9.30	6.94	6.68	5.21	4.21	8.05	18.4	10.9	3.57	7.46	60.9	12.8
Ac-ft	572	413	411	320	234	495	1,100	668	213	459	3,750	761

Calendar year 1965: Max 355 Min 2.0 Mean 27.6 Ac-ft 20,000
Water year 1965-66: Max 276 Min 2.3 Mean 13.0 Ac-ft 9,390

Peak discharge (base, 150 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 3	2000	4.40	1,430	8-24	1415	2.36	173
8- 6	0300	2.75	288				

7-2148. Rio la Casa near Cleveland, N. Mex.

Location.--Lat 35°58'30", long 105°23'10", in Mora Grant, on left bank 1½ miles southwest of Cleveland, Mora County.

Drainage area.--23.0 sq mi.

Records available.--May 1956 to September 1966. Prior to October 1964, published as Rio de la Casa near Cleveland.

Gage.--Water-stage recorder. Altitude of gage is 7,625 ft (by barometer).

Average discharge.--10 years, 14.4 cfs (10,430 acre-ft per year).

Extremes.--Maximum discharge during year, 134 cfs Aug. 2 (gage height, 2.99 ft); minimum, 0.42 cfs Mar. 16, result of freezeup. 1956-66: Maximum discharge, 2,260 cfs Aug. 6, 1959 (gage height, 6.00 ft), from rating curve extended above 170 cfs on basis of slope-area measurement of peak flow; minimum daily, 0.2 cfs Sept. 21, 22, 1956.

Remarks.--Records good except those for January and February, which are poor. Diversions for irrigation of about 100 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	5.0	4.2	4.0	3.7	3.0	7.4	12	42	12	14	12
2	9.1	5.0	4.0	4.0	3.7	3.0	8.8	12	42	11	7.8	11
3	9.1	5.0	4.2	4.0	3.7	3.0	9.1	14	36	9.8	6.2	9.8
4	8.8	4.8	4.0	4.0	4.0	3.0	8.4	15	32	8.8	4.8	9.1
5	8.4	4.8	4.0	4.0	4.2	3.0	7.1	18	28	7.9	36	8.8
6	7.9	4.8	4.0	4.0	4.2	3.5	6.6	23	27	7.6	36	9.1
7	7.6	4.8	4.2	4.2	4.0	3.2	6.1	28	23	7.9	28	9.1
8	7.6	4.2	4.0	4.0	3.7	4.0	6.1	32	21	7.9	24	8.1
9	7.4	4.8	4.0	3.7	3.7	4.5	7.1	38	19	7.1	21	8.1
10	7.1	4.2	5.5	4.0	3.5	4.2	8.1	37	25	7.1	18	7.6
11	7.1	4.2	5.3	4.0	4.0	4.0	7.9	31	20	7.6	18	7.4
12	7.1	3.2	4.5	4.0	4.2	4.2	8.4	28	16	7.4	14	6.8
13	6.8	4.2	4.0	3.5	4.2	5.3	8.8	24	15	7.6	12	6.6
14	6.8	4.2	3.0	3.5	4.2	6.1	8.4	23	14	7.9	12	6.6
15	6.1	3.7	3.5	4.0	4.2	6.3	7.9	23	12	6.8	11	6.8
16	6.3	4.0	3.5	3.5	3.5	4.5	9.1	28	14	6.6	12	6.1
17	9.1	4.0	4.0	3.5	4.0	5.0	11	31	23	6.3	11	5.5
18	7.4	3.5	4.0	3.5	4.0	5.3	12	31	16	6.3	13	5.5
19	6.8	3.2	4.0	3.5	4.5	5.5	10	31	14	9.5	12	6.1
20	6.6	3.0	4.2	4.0	4.5	5.5	9.5	32	17	11	13	5.5
21	6.6	3.2	4.0	3.0	3.5	5.3	8.4	31	25	11	11	5.0
22	6.6	2.8	4.5	3.0	3.5	5.0	8.1	31	19	9.1	14	4.5
23	6.6	4.5	4.2	3.5	3.0	5.0	7.4	32	16	9.8	18	4.5
24	6.6	5.0	3.7	3.5	3.0	4.8	8.1	31	14	9.1	33	4.5
25	6.3	5.5	3.5	3.7	3.5	4.2	7.9	34	14	7.4	19	4.0
26	6.1	6.1	3.7	3.5	3.7	4.2	7.9	36	15	8.8	16	3.5
27	5.8	5.0	3.5	3.7	3.7	4.5	8.8	34	16	9.5	14	4.5
28	5.5	4.0	3.5	4.0	3.7	4.8	10	34	14	8.4	16	4.2
29	5.3	3.5	3.7	4.2	-	4.8	12	34	14	12	14	4.5
30	5.3	4.0	4.8	4.2	-------	5.3	16	34	14	16	14	4.5
31	5.3	-------	4.0	3.7	-------	5.8	-------	37	-------	12	14	-------
Total	218.9	128.2	125.2	116.9	107.3	139.8	262.4	879	617	277.2	676	199.3
Mean	7.06	4.27	4.04	3.77	3.83	4.51	8.75	28.4	20.6	8.94	21.8	6.64
Ac-ft	434	254	248	232	213	277	520	1,740	1,220	550	1,340	395

Calendar year 1965 : Max 270 Min 0.80 Mean 22.6 Ac-ft 16,340
Water year 1965-66 : Max 78 Min 2.8 Mean 10.3 Ac-ft 7,430

Peak discharge (base, 60 cfs).--Aug. 2 (2100) 134 cfs (2.99).

7-2151. La Cueva Canal below La Cueva, N. Mex.

Location.--Lat 35°56'44", long 105°15'19" (revised), in Mora Grant, on right bank 500 ft downstream from head and half a mile west of La Cueva, Mora County. Records published are for a point ½ mile downstream, below La Cueva wasteway.

Records available.--June 1956 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 7,015 ft (from topographic map).

Extremes.--1956-66: Maximum daily discharge, 32 cfs Aug. 21, 1957; no flow at times in each year.

Remarks.--Records good except those for December to February, which are poor. Canal diverts water from left bank of Mora River for irrigation and off-channel storage below La Cueva.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	16	2.8	4.00	246
November	20	5.0	9.92	590
December	25	3.1	9.52	585
Calendar year 1965	26	0	6.66	4,820
January	7.3	1.3	4.19	257
February	12	2.3	6.24	347
March	12	0	3.29	203
April	4.1	1.6	2.86	170
May	3.2	1.7	2.44	150
June	13	.40	3.95	235
July	21	0	7.15	440
August	13	0	2.30	141
September	3.6	.52	2.12	126
Water year 1965-66	25	0	4.82	3,490

Note.--This tabulation represents net flow at a point ½ mile downstream below La Cueva wasteway as determined by subtracting flow in wasteway from flow in canal above wasteway.

7-2155. Mora River at La Cueva, N. Mex.

Location.--Lat 35°56'15", long 105°15'05", in Mora Grant, on right bank 300 ft downstream from bridge on State Highway 3, a quarter of a mile southeast of La Cueva, Mora County, half a mile downstream from La Cueva damsite.

Drainage area.--173 sq mi.

Records available.--August 1903 to April 1905 (gage heights and discharge measurements only), May 1905 to July 1911, April 1931 to September 1966. Monthly discharge only for some periods, published in WSP 1311. Figures of daily discharge for February to April 1905 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 6,998.7 ft above mean sea level, datum of 1929. April 1931 to Apr. 18, 1962, at site 300 ft upstream at datum about 2 ft higher. Aug. 25, 1903, to Sept. 29, 1904, staff gage at different datum (destroyed by flood of Sept. 29, 1904). Feb. 22, 1905, to July 31, 1911, staff gages at different datums. Aug. 9, 1964 to Sept. 15, 1966, digital water-stage recorder at present site and datum.

Average discharge.--39 years (1906-10, 1931-66), 28.4 cfs (20,560 acre-ft per year).

Extremes.--Maximum discharge during year, 1,240 cfs Aug. 5 (gage height, 9.00 ft), from rating curve extended above 500 cfs on basis of slope-area measurement at gage height 8.33 ft; minimum, 1.2 cfs May 26.

1931-66: Maximum discharge, 1,530 cfs Sept. 23, 1941, from rating curve extended above 400 cfs by logarithmic plotting; maximum gage height that of Aug. 5, 1966; no flow at times.

Flood of Sept. 29, 1904, may have exceeded 20,000 cfs; another major flood occurred June 11, 1913, but is believed less than that of 1904.

Remarks.--Records good except those for January and February, which are poor. Diversions above station for irrigation of about 7,000 acres, part of which is below station. This record plus La Cueva Canal below La Cueva (see station 7-2151) equals total flow in valley cross section.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34	11	5.8	11	15	6.5	6.0	4.0	2.0	20	31	74
2	33	11	5.6	10	14	11	6.0	3.8	2.0	19	206	68
3	31	11	5.6	10	11	12	6.0	4.0	1.9	19	323	60
4	30	11	6.0	12	12	11	6.0	4.2	2.1	17	406	52
5	31	11	5.8	15	13	13	6.4	4.1	2.0	13	328	48
6	29	11	5.7	16	13	15	6.7	3.8	2.6	14	337	45
7	27	11	5.6	16	13	12	6.5	3.8	2.9	12	224	43
8	29	11	5.7	16	14	13	6.5	3.9	2.7	14	191	38
9	24	11	5.8	16	13	18	6.6	4.1	2.9	14	158	36
10	19	10	6.8	16	11	19	5.4	4.2	6.1	12	154	32
11	17	9.6	6.0	15	11	19	5.0	4.0	6.3	12	133	31
12	17	11	8.6	14	12	11	4.9	4.5	6.5	29	107	32
13	17	11	14	14	12	6.8	5.1	4.6	6.8	16	98	29
14	17	10	13	12	10	7.2	4.6	4.0	6.8	30	88	28
15	18	10	12	11	10	7.3	4.4	3.9	6.6	26	77	29
16	19	10	11	11	10	9.5	4.0	3.8	5.4	18	67	27
17	23	11	11	10	11	17	3.8	4.4	5.4	15	60	25
18	22	11	11	10	12	16	3.7	4.4	8.8	17	62	26
19	23	11	12	11	8.0	18	3.5	4.4	10	16	70	26
20	22	12	14	12	4.5	17	3.6	4.4	11	20	61	31
21	22	12	16	11	3.8	17	3.6	4.1	17	12	65	25
22	22	12	20	10	3.5	17	3.7	3.7	13	12	75	23
23	22	12	31	10	3.5	15	3.5	3.9	9.7	30	76	23
24	21	13	26	10	3.5	14	3.3	3.8	10	20	148	25
25	21	12	22	11	3.6	14	3.5	2.0	12	18	100	23
26	27	13	23	11	3.7	13	3.5	1.7	16	27	79	23
27	28	11	21	12	3.6	11	3.5	2.0	18	20	64	17
28	28	11	18	12	3.7	11	3.6	1.9	20	13	75	16
29	28	10	17	13	------	11	4.0	1.9	22	22	69	16
30	19	9.0	19	13	------	8.0	3.8	2.0	24	37	64	14
31	12	------	16	13	------	7.0	------	2.0	------	44	91	------
TOTAL	732	330.6	400.0	384	258.4	397.3	140.7	111.3	262.5	608	4,087	987
MEAN	23.6	11.0	12.9	12.4	9.23	12.8	4.69	3.59	8.75	19.6	132	32.9
AC-FT	1,450	656	793	762	513	788	279	221	521	1,210	8,110	1,960

CALENDAR YEAR 1965	MAX 672	MIN .30	MEAN 52.6	AC-FT 38,050
WATER YEAR 1965-66	MAX 406	MIN 1.7	MEAN 23.8	AC-FT 17,260

Peak discharge (base, 300 cfs).--Aug. 5 (2200) 1,240 cfs (9.00 ft); Aug. 10 (1800) 320 cfs (4.24 ft).

7-2165. Mora River near Golondrinas, N. Mex.

Location.--Lat 35°53'40", long 105°09'30", in Mora Grant, at downstream end of left abutment of highway bridge, 1.2 miles upstream from Coyote Creek, 2 miles east of Golondrinas, Mora County, and 4 miles downstream from Cebolla River.

Drainage area.--267 sq mi.

Records available.--March 1915 to May 1921, October 1921 to March 1922, May, August to September 1922, July 1923 to July 1924, December 1924 to September 1966. Monthly discharge only 1915-30, published in WSP 1311.

Gage.--Water-stage recorder. Datum of gage is 6,734.1 ft above mean sea level, datum of 1929. Mar. 10, 1915 to June 4, 1921, water-stage recorder at site 3½ miles upstream at different datum. July 6, 1921 to Jan. 5, 1929, staff gage or water-stage recorder at present site at datum 1.0 ft higher.

Average discharge.--49 years (1915-20, 1921-22, 1923-66), 35.3 cfs (25,560 acre-ft per year).

Extremes.--Maximum discharge during year, 1,680 cfs Aug. 6 (gage height, 7.15 ft), from rating curve extended above 660 cfs as explained below; minimum, 0.60 cfs June 7.
1915-66: Maximum discharge, 14,000 cfs Aug. 22, 1952 (gage height, 14.4 ft), from rating curve extended above 660 cfs on basis of slope-area measurement of peak flow; no flow at times.
Floods of Sept. 29, 1904, and June 11, 1913, probably exceeded 25,000 cfs.

Remarks.--Records good except those for December to February, which are poor. Diversions for irrigation of about 12,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	14	10	18	25	6.5	6.8	1.5	4.7	21	20	94
2	30	13	8.0	15	23	10	7.1	1.6	2.9	12	438	82
3	25	13	8.0	14	20	15	7.4	1.5	2.3	13	452	67
4	25	13	8.0	16	21	13	7.1	1.3	1.3	12	646	57
5	25	14	8.0	18	22	15	6.8	1.7	1.0	10	338	51
6	25	13	8.0	20	22	15	7.9	1.6	.93	9.4	737	51
7	22	13	8.0	22	22	15	7.9	1.5	.86	9.4	245	48
8	23	13	8.0	22	24	17	8.2	1.4	.93	9.4	175	42
9	21	13	8.2	22	22	20	7.9	1.4	1.0	9.4	146	40
10	18	13	10	20	20	22	7.4	1.3	4.1	9.1	168	38
11	17	13	10	21	15	22	7.1	1.3	2.1	8.8	208	39
12	15	13	8.2	19	15	20	6.8	1.3	2.1	24	111	40
13	12	13	15	19	15	9.8	6.8	1.4	2.0	18	83	33
14	13	12	15	16	15	9.8	7.1	1.4	1.7	14	75	32
15	14	11	14	16	15	7.6	7.4	1.3	2.0	24	71	36
16	18	11	14	16	15	7.1	6.0	1.4	2.9	15	62	32
17	21	10	15	14	15	8.2	4.6	1.5	5.5	13	65	29
18	24	11	16	13	15	10	3.9	1.7	2.8	13	57	29
19	21	11	18	12	13	10	3.9	1.3	3.1	14	84	30
20	22	11	20	12	10	11	4.1	1.3	8.9	47	75	33
21	21	13	22	12	7.1	12	4.1	1.2	10	14	69	30
22	21	13	25	13	6.0	12	3.9	1.2	11	14	234	29
23	21	12	30	15	6.0	11	3.9	1.4	6.8	73	95	27
24	20	12	30	18	6.0	9.8	2.8	1.6	5.0	24	329	28
25	20	13	25	22	6.5	9.4	2.0	2.6	5.3	24	184	24
26	22	13	25	22	6.8	9.8	1.7	2.1	5.7	35	116	23
27	26	13	24	23	6.8	11	1.5	1.8	10	24	86	21
28	25	13	23	23	6.5	10	1.5	1.8	15	12	365	20
29	25	13	22	24	-	10	1.4	1.6	12	157	218	19
30	22	12	24	24	----------	9.4	1.4	1.0	24	86	103	19
31	14	----------	23	24	----------	7.4	----------	1.5	----------	51	128	----------
Total	660	375	502.4	565	415.7	375.8	156.4	46.5	157.92	819.5	6,284	1,143
Mean	21.3	12.5	16.2	18.2	14.8	12.1	5.21	1.50	5.26	26.4	203	38.1
Ac-ft	1,310	744	996	1,120	825	745	310	92	313	1,630	12,460	2,270

Calendar year 1965: Max 981 Min 2.1 Mean 62.4 Ac-ft 45,180
Water year 1965-66: Max 787 Min 0.86 Mean 31.5 Ac-ft 22,810

Peak discharge (base, 400 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-29	2000	6.36	1,180	8-22	0200	5.20	602
8- 2	0600	6.58	1,310	8-28	1700	6.60	1,320
8- 6	0100	7.15	1,680				

7-2171. Coyote Creek above Guadalupita, N. Mex.

Location.--Lat 36°10'30", long 105°13'35", in Mora Grant, on right bank 1½ miles north of Guadalupita, Mora County.

Drainage area.--71 sq mi.

Records available.--May 1956 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 7,700 ft (from topographic map).

Average discharge.--10 years, 10.5 cfs (7,600 acre-ft per year).

Extremes.--Maximum discharge during year, 124 cfs Aug. 3 (gage height, 3.00 ft); minimum, 0.59 cfs June 20.
1956-66: Maximum discharge, 1,820 cfs June 17, 1965 (gage height, 6.70 ft), from rating curve extended above 150 cfs on basis of slope-area measurement of peak flow; minimum, 0.04 cfs June 16, 1963.

Remarks.--Records good except those for winter period, which are poor. Diversions for irrigation of about 2,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	8.5	10	7.0	4.0	4.5	12	11	4.0	3.6	20	11
2	11	8.5	9.0	6.0	3.5	4.3	12	11	4.3	2.9	36	10
3	10	8.5	8.5	6.0	3.0	4.0	12	11	4.0	2.4	51	9.5
4	10	8.5	8.0	5.0	3.5	3.0	13	10	4.5	1.9	87	8.7
5	10	8.5	7.5	5.0	4.5	3.5	13	9.2	3.2	1.6	56	8.0
6	10	8.5	7.5	5.5	4.0	3.5	13	8.7	2.5	1.4	54	7.2
7	9.8	8.5	7.5	5.5	4.5	3.5	13	8.3	2.0	1.2	38	7.4
8	9.2	8.7	7.5	5.5	4.8	4.0	13	7.8	1.7	.97	28	7.4
9	9.0	8.7	8.3	6.0	4.8	5.0	13	7.4	1.6	1.0	23	6.9
10	9.0	8.7	9.8	5.5	4.5	6.0	13	6.9	2.6	.97	22	6.7
11	9.0	8.7	9.8	5.5	4.0	8.0	12	6.7	2.5	.97	20	6.9
12	9.0	8.7	9.0	5.5	4.0	16	11	6.5	1.9	1.0	16	7.4
13	9.0	8.7	9.0	5.5	4.5	35	10	6.3	1.6	1.0	13	7.2
14	9.0	8.5	9.0	5.0	4.0	53	10	5.8	1.4	1.0	10	6.7
15	9.0	8.3	8.0	5.0	4.5	54	11	5.3	1.3	1.2	8.7	6.2
16	9.0	8.5	8.0	5.0	4.5	45	11	5.1	1.3	1.3	8.3	5.6
17	12	8.0	7.0	5.0	5.0	38	11	4.5	1.6	1.7	7.6	5.1
18	12	7.8	6.0	5.0	5.0	28	11	4.2	1.6	1.6	7.2	4.6
19	12	7.8	4.5	5.0	5.0	28	11	3.8	1.5	1.6	8.3	4.5
20	12	7.8	6.0	5.0	5.0	25	13	3.1	1.1	4.2	8.7	4.3
21	11	7.8	7.0	4.5	5.0	24	14	2.7	1.6	4.3	10	4.5
22	10	7.0	7.5	3.5	4.5	21	16	2.1	2.2	3.2	9.5	4.3
23	9.0	8.5	8.0	4.0	4.0	17	17	1.9	2.1	3.4	11	4.0
24	9.0	10	7.5	4.0	3.5	13	18	18	2.0	3.0	27	4.3
25	8.5	11	7.5	4.0	4.0	14	17	18	1.8	2.7	26	4.3
26	8.5	13	8.0	4.0	4.0	13	16	2.1	2.0	2.2	26	4.2
27	8.5	8.5	7.0	4.0	4.8	13	15	2.1	3.9	2.2	22	4.2
28	9.0	8.5	7.0	4.0	5.0	13	13	2.1	4.3	2.2	17	4.3
29	8.5	8.5	7.0	4.5	-	13	12	2.2	4.2	5.5	15	4.2
30	8.5	9.0	8.0	4.5	----------	13	11	2.5	4.3	13	13	4.2
31	8.5	----------	7.5	4.0	----------	13	----------	2.9	----------	23	13	----------
Total	300.0	260.2	241.9	153.5	121.4	538.3	387	166.8	74.6	98.21	712.3	183.8
Mean	9.68	8.67	7.80	4.95	4.34	17.4	12.9	5.38	2.49	3.17	23.0	6.13
Ac-ft	595	516	480	304	241	1,070	768	331	148	195	1,410	365

Calendar year 1965 : Max 599 Min 2.5 Mean 23.7 Ac-ft 17,170
Water year 1965-66 : Max 87 Min 0.97 Mean 8.87 Ac-ft 6,420

Peak discharge (base, 100 cfs).--Aug. 3 (2300) 124 cfs (3.00 ft).

7-2180. Coyote Creek near Golondrinas, N. Mex.

Location.--Lat 35°54'40", long 105°09'50", in Mora Grant, on left bank a third of a mile downstream from Coyote Creek damsite, 2 miles upstream from mouth, and 2 miles northeast of Golondrinas, Mora County.

Drainage area.--215 sq mi.

Records available.--April 1928 to September 1966. Prior to October 1930 monthly discharge only, published in WSP 1311.

Gage.--Water-stage recorder. Altitude of gage is 6,820 ft (from topographic map). Prior to Apr. 26, 1938, at site 0.4 mile downstream at different datum (staff gage prior to Apr. 20, 1929). Apr. 26, 1938, to Sept. 25, 1946, at site 139 ft downstream at same datum.

Average discharge.--38 years, 12.0 cfs (8,690 acre-ft per year).

Extremes.--Maximum discharge during year, 915 cfs Aug. 6 (gage height, 5.43 ft), from rating curve extended above 250 cfs as explained below; minimum, 0.43 cfs May 8.

1928-66: Maximum discharge, 4,050 cfs Aug. 17, 1961 (gage height, 9.60 ft), from rating curve extended above 250 cfs on basis of slope-area measurements at gage heights 5.54, 7.74, and 9.60 ft; maximum gage height, 10.1 ft Aug. 30, 1936 (site and datum then in use); no flow Aug. 4, 1945, Apr. 10, May 9, 10, 1956.

Remarks.--Records fair except those for winter period, which are poor. Diversions (including off-channel storage) for irrigation of about 4,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	8.1	12	16	13	13	4.2	0.65	0.85	2.6	26	22
2	14	8.3	10	13	12	13	3.9	.65	.65	2.6	32	20
3	14	8.9	10	9.0	11	11	4.4	.65	.65	2.4	37	18
4	13	8.9	10	8.0	13	10	48	.65	.65	2.2	55	16
5	13	9.2	10	10	15	11	4.6	.71	.71	2.2	43	15
6	12	9.5	10	11	14	12	4.0	.71	.65	2.2	143	13
7	12	9.8	10	12	13	12	3.8	.71	.59	2.0	44	13
8	11	9.8	11	12	15	13	3.6	.59	.59	1.8	40	13
9	11	9.8	12	12	12	12	3.8	.65	.65	2.0	41	12
10	10	10	13	12	11	11	3.4	.65	1.3	2.0	43	11
11	10	10	12	12	10	9.5	3.2	.71	1.0	7.5	51	14
12	8.9	9.8	12	12	10	13	2.4	.78	1.1	3.4	38	14
13	7.8	9.8	12	12	12	20	1.6	.71	1.1	2.0	25	11
14	7.1	9.8	12	12	10	29	1.4	.65	1.1	2.0	40	11
15	7.6	9.5	11	12	10	29	1.4	.59	1.0	2.0	24	12
16	8.6	9.8	11	11	10	27	1.0	.59	1.3	2.0	20	9.8
17	11	10	11	11	12	26	.92	.53	1.4	1.6	18	8.3
18	10	9.5	9.0	11	13	20	.85	.59	1.1	1.8	18	9.2
19	10	9.8	7.0	11	10	20	.78	.65	1.4	1.5	16	8.9
20	11	9.8	10	11	12	20	.78	.65	1.6	3.4	17	10
21	9.8	9.8	11	10	13	18	.78	.53	2.2	2.0	18	9.5
22	9.5	9.8	12	10	12	16	.85	.53	2.6	2.0	28	8.9
23	8.6	9.8	15	10	10	13	.85	.48	2.6	14	22	8.9
24	7.6	9.2	13	10	9.0	11	.85	.48	2.9	4.2	68	8.3
25	7.1	9.8	14	10	10	10	1.2	.53	2.9	18	48	8.1
26	7.1	11	16	10	12	9.5	1.0	.53	3.6	7.1	41	7.1
27	7.3	11	12	10	15	9.5	.78	.48	2.9	4.6	37	7.1
28	8.1	11	13	11	14	6.9	.71	.53	2.6	3.8	35	6.6
29	7.8	10	14	12	-	4.0	.71	.59	2.6	8.8	30	6.6
30	7.8	10	16	13	-------	44	.65	.65	2.6	16	25	6.1
31	7.8	------	16	13	-------	5.2	------	.85	------	8.3	24	-------
Total	305.5	291.5	367.0	349.0	333.0	439.0	63.21	19.25	46.89	138.0	1147	338.4
Mean	9.85	9.72	11.8	11.3	11.9	14.2	2.11	0.621	1.56	4.45	37.0	11.3
Ac-ft	606	578	728	692	660	871	125	38	93	274	2280	671

Calendar year 1965: Max 826 Min 0.20 Mean 26.8 Ac-ft 19,390
Water year 1965-66: Max 143 Min 0.48 Mean 10.5 Ac-ft 7,610

Peak discharge (base, 180 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-25	2030	3.67	193	8- 6	0130	5.43	915
8- 1	1730	3.82	230				

7-2186. Sapello Canal at Sapello, N. Mex.

Location.--Lat 35°46'10", long 105°15'00", in Las Vegas Grant, on right bank 20 ft downstream from highway crossing in Sapello, San Miguel County.

Records available.--June 1956 to September 1966.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 7,010 ft (from topographic map).

Extremes.--1956-66: Maximum daily discharge, 2.8 cfs June 1, 1957; no flow for long periods each year.

Remarks.--Records fair. Canal diverts water from right bank upstream from Sapello River gage (see station 7-2200) for irrigation of land downstream.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in Acre-feet
October	0.24	0	0.102	6.3
November	.48	0	.215	13
December	.18	0	.043	2.6
Calendar year 1965	1.8	0	.447	323
January	0	0	0	0
February	0	0	0	0
March	.85	0	.158	9.7
April	1.4	.21	.878	52
May	1.1	.34	.618	38
June	.53	.12	.267	16
July	1.0	0	.230	14
August	.43	0	.044	2.7
September	.31	0	.077	4.6
Water year 1965-66	1.4	0	.220	159

7-2200. Sapello River at Sapello, N. Mex.

Location.--Lat 35°46'10", long 105°15'05", in Las Vegas Grant, on downstream end of bridge pier nearest left bank, on State Highway 3, in town of Sapello, San Miguel County, half a mile downstream from Manuelitas Creek.

Drainage area.--132 sq mi.

Records available.--May to October 1915, January 1916 to November 1918, February 1919 to May 1921, July to September 1921, July 1956 to September 1966. Monthly discharge only for some periods, published in WSP 1311. Gage heights and discharge measurements published under same name for August 1903 to March 1904 are for a site above Manuelitas Creek, and are not equivalent. Records for November to December 1915, December 1918, January 1919, and October 1921 to December 1928 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Altitude of gage is 6,910 ft (by barometer). May 1915 to September 1921, staff gage at site 300 ft upstream at different datum.

Average discharge.--15 years (1915-20, 1956-66), 24.1 cfs (17,450 acre-ft per year).

Extremes.--Maximum discharge during year, 6,420 cfs Aug. 5 (gage height, 7.50 ft), from rating curve extended above 350 cfs on basis of computation of flow over dam at gage height 7.40 feet; minimum, 0.22 cfs July 9.
1915-20, 1956-66: Maximum discharge determined, that of Aug. 5, 1966; no flow at times.

Remarks.--Records good except those for August, which are fair, and those for winter period, which are poor. Diversions above station for irrigation of about 4,200 acres. Station is bypassed by Sapello Canal (see station 7-2186).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	4.5	4.8	5.3	5.5	5.0	1.4	0.84	2.6	1.7	7.1	34
2	5.9	4.5	4.5	5.0	5.5	5.0	1.5	.77	1.4	.77	1,220	29
3	5.9	4.5	4.2	4.5	5.0	4.5	1.5	.77	1.0	.48	281	25
4	5.9	4.2	4.0	4.0	5.5	3.5	1.3	.77	.92	.35	184	22
5	5.6	4.2	3.7	4.0	5.5	3.5	1.0	.77	.84	.31	315	21
6	5.3	4.0	4.0	5.0	5.5	4.0	1.0	.77	.84	.28	105	19
7	5.6	4.0	4.0	5.6	6.1	4.5	.92	.70	.84	.31	50	19
8	5.0	3.5	4.0	6.0	5.6	5.0	.92	.64	.84	.28	81	18
9	5.0	3.5	4.5	5.5	5.0	7.4	.92	.70	.84	.25	41	16
10	4.8	3.5	5.9	5.0	5.0	6.4	.92	.77	4.9	.28	32	15
11	4.5	3.5	7.1	5.0	4.5	5.6	.92	.70	1.1	4.1	28	16
12	4.5	3.5	5.0	5.0	5.0	5.0	.92	.70	1.0	.58	22	14
13	4.2	3.3	4.8	4.5	5.0	5.3	.92	.70	1.0	.79	19	13
14	3.5	3.5	4.8	4.5	4.5	5.6	1.0	.64	.92	1.7	18	13
15	3.3	3.3	4.5	4.5	5.0	5.3	.92	.64	.84	.77	16	14
16	4.2	3.5	4.0	4.0	4.5	5.6	.84	.58	.84	.64	26	12
17	4.8	3.7	4.0	3.5	5.0	5.6	.84	.58	2.3	.35	21	11
18	6.4	3.7	3.5	3.5	6.0	5.0	.92	.53	1.1	.31	16	11
19	5.3	3.7	3.5	4.0	6.0	5.0	.92	.53	1.0	.31	52	10
20	5.3	3.7	4.0	5.6	6.0	5.6	1.0	.58	38	35	26	9.5
21	5.6	3.5	4.0	4.5	6.0	5.9	1.0	.53	2.6	4.2	256	9.1
22	5.0	3.7	6.0	3.5	4.0	5.0	1.0	.53	.84	2.0	98	8.8
23	5.0	4.0	8.8	4.0	4.0	4.0	.92	.48	.70	248	78	8.1
24	4.5	4.2	9.1	4.0	4.5	4.0	.92	.53	.58	17	173	8.8
25	4.5	4.8	8.0	4.0	5.0	4.2	.92	1.1	.53	11	70	7.8
26	3.7	5.6	7.4	4.0	5.0	3.7	.92	.70	9.0	9.0	45	7.1
27	3.7	5.0	6.0	4.5	5.0	3.3	.84	.58	1.5	6.8	36	6.7
28	3.7	4.2	6.7	4.5	4.5	2.9	.84	.58	2.3	4.2	262	7.1
29	4.2	4.0	7.1	5.0	-	2.5	.84	.58	.70	25	79	7.1
30	4.0	4.5	8.8	6.0	----------	1.8	84	.53	9.3	14	52	6.1
31	4.2	----------	7.8	6.5	----------	1.6	----------	.58	----------	8.8	43	----------
Total	149.2	119.3	168.5	144.5	143.7	141.3	29.62	20.40	91.17	399.56	3,752.1	418.2
Mean	4.81	3.98	5.44	4.66	5.13	4.56	0.987	0.658	3.04	12.9	121	13.9
Ac-ft	296	237	334	287	285	280	59	40	181	793	7,440	829

Calendar year 1965 : Max 333 Min 0.6 Mean 16.9 Ac-ft 12,260
Water year 1965-66 : Max 1,220 Min 0.25 Mean 15.3 Ac-ft 11,060

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-23	0330	6.10	3,330	8- 8	1745	4.40	1,140
8- 2	0200	7.20	5,650	8-21	2245	6.80	4,720
8- 5	2200	7.50	6,420	8-28	1320	4.70	1,480

7-2201. Lake Isabel feeder canal near Sapello, N. Mex.

Location.--Lat 35°44'40", long 105°09'30", in Mora Grant, 1 mile northwest of the site of Los Alamos and 5 miles southeast of Sapello, San Miguel County.

Records available.--September 1956 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,700 ft (from topographic map). Oct. 1, 1964 to Sept. 14, 1966, digital water-stage recorder at same site and datum.

Extremes.--1956-66: Maximum daily discharge, 322 cfs Aug. 2, 1965; no flow at times.

Remarks.--Records good. Canal diverts water from left bank of Sapello River to fill Lake Isabel which stores water for irrigation.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in Acre-feet
October	6.7	0	3.00	185
November	2.2	0	.07	4.4
December	9.1	4.0	5.31	327
Calendar year 1965	322	0	13.1	9,510
January	8.0	4.0	5.02	308
February	7.3	4.0	4.95	275
March	6.0	0	1.17	72
April	0	0	0	0
May	0	0	0	0
June	15	0	.81	48
July	95	0	5.07	312
August	242	0	64.0	3,940
September	22	0	4.10	244
Water year 1965-66	242	0	7.89	5,720

7-2210. Mora River near Shoemaker, N. Mex.

Location.--Lat 35°48', long 104°47', in S½ sec.11, T.18 N., R.20 E. (projected) in Mora Grant, on left bank 4½ miles east of Shoemaker, and 23 miles upstream from mouth.

Drainage area.--1,104 sq mi, of which 71 sq mi is probably noncontributing.

Records available.--October 1914 to July 1915, October 1915 to August 1918, May 1919 to July 1924, September to November 1924, March to July 1925, June 1927 to September 1966. Prior to October 1930, monthly discharge only, published in WSP 1311.

Gage.--Water-stage recorder. Altitude of gage is 6,170 ft (from topographic map). Prior to Oct. 10, 1934, at site 2,000 ft upstream at different datum.

Average discharge.--48 years (1914-18, 1919-24, 1927-66), 60.0 cfs (43,440 acre-ft per year).

Extremes.--Maximum discharge during year, 2,820 cfs Aug. 8 (gage height, 6.38 ft); minimum, 0.46 cfs July 8.
1914-66: Maximum discharge, 15,200 cfs June 3, 1948 (gage height, 12.79 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurements at gage heights 10.09 and 12.79 ft; no flow at times.
Floods of Sept. 29, 1904, and June 11, 1913, probably exceeded 30,000 cfs.

Remarks.--Records good except those for winter period, which are poor. Diversions for irrigation of about 26,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	27	12	43	20	11	48	3.2	1.9	1.5	41	142
2	57	17	16	32	20	10	48	3.5	1.5	1.0	365	114
3	54	15	14	25	20	9.6	48	2.9	1.0	.66	594	99
4	47	12	14	30	25	7.0	5.9	2.5	1.2	.55	599	89
5	46	10	13	35	31	5.5	6.3	1.9	.91	.50	542	79
6	45	7.5	15	40	34	5.5	5.5	1.9	1.0	.55	1,030	72
7	43	9.6	18	40	39	7.1	5.5	1.7	1.0	.50	391	68
8	42	11	15	35	34	8.7	48	2.9	.91	.50	755	63
9	39	13	18	30	19	7.1	5.5	4.1	1.2	.55	260	59
10	37	12	24	25	15	6.3	5.5	38	6.3	.55	292	52
11	32	9.1	27	25	12	5.5	48	1.9	4.5	.55	307	49
12	28	8.7	29	25	15	6.7	3.5	1.9	3.2	3.3	219	54
13	27	6.3	29	25	15	7.1	2.5	1.9	2.2	2.9	162	51
14	22	4.8	27	25	15	7.1	2.2	1.9	1.7	1.7	151	45
15	20	4.1	30	25	15	9.6	4.1	1.9	1.3	4.5	138	46
16	21	4.8	25	20	15	11	4.1	1.3	1.2	4.8	120	45
17	24	6.7	25	20	15	10	4.1	1.3	1.5	3.5	108	39
18	36	6.3	20	20	19	10	4.1	1.3	1.7	1.7	103	41
19	33	5.9	25	25	20	9.1	4.1	1.7	1.3	2.9	99	42
20	27	5.9	30	20	18	11	3.5	2.2	1.3	6.3	107	52
21	27	6.3	30	20	18	11	2.9	1.7	1.5	2.5	85	42
22	27	5.1	35	20	14	10	2.2	1.7	1.5	1.7	317	36
23	30	5.9	50	20	13	11	2.2	1.7	1.5	1.7	162	34
24	30	7.1	40	20	13	12	4.1	1.7	1.5	68	250	47
25	27	7.5	40	20	13	8.7	48	1.5	1.5	15	246	32
26	27	7.5	45	20	12	9.1	48	1.7	50	5.9	164	27
27	28	7.1	40	20	11	6.7	48	1.9	5.1	19	134	26
28	32	7.1	45	20	12	5.5	48	1.9	1.7	19	150	22
29	34	8.3	47	20	-	48	2.2	1.7	1.2	8.7	391	17
30	33	11	53	25	----------	48	1.9	1.7	1.2	182	215	14
31	34	---------	49	25	---------	48	---------	1.5	---------	67	170	---------
Total	1,066	269.6	900	795	522	253.3	125.1	64.4	103.52	429.51	8,667	1,598
Mean	34.4	8.99	29.0	25.6	18.6	8.17	4.17	2.08	3.45	13.9	280	53.3
Ac-ft	2,110	535	1,790	1,580	1,040	502	248	128	205	852	17,190	3,170

Calendar year 1965: Max 6,320 Min 0.8 Mean 112 Ac-ft 81,180
Water year 1965-66: Max 1,030 Min 0.50 Mean 40.5 Ac-ft 29,340

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-30	1645	4.34	1,110	8- 8	1800	6.38	2,820
8- 2	1530	4.60	1,290	8-10	2030	4.37	1,130
8- 6	1145	6.28	2,710	8-22	1200	4.17	1,010

7-2215. Canadian River near Sanchez, N. Mex.

Location.--Lat 35°39'40", long 104°23'05", in NW¼ sec.34, T.17 N., R.24 E., on right bank half a mile upstream from bridge on State Highway 65, 1½ miles upstream from Lagartija Creek, 3 miles northeast of Sanchez, 9½ miles downstream from Mora River and 24 miles southwest of Mosquero.

Drainage area.--6,015 sq mi, of which 303 sq mi is probably noncontributing.

Records available.--April 1912 to December 1914, October 1935 to September 1966. Monthly discharge only for some periods, published in WSP 1311.

Gage.--Water-stage recorder. Altitude of gage is 4,515 ft (from topographic map). Apr. 12, 1912, to Dec. 31, 1914, at two sites within 100 ft about 2½ miles upstream at different datums. October 1935 to June 1965 at site ½ mile downstream at datum about 13 ft lower prior to September 1963 and 15 ft lower thereafter.

Average discharge.--33 years (1912-14, 1935-66), 232 cfs (168,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,420 cfs Aug. 3 (gage height, 6.48 ft), from rating curve extended above 1,500 cfs by logarithmic plotting; minimum, 3.2 cfs May 24.

1912-14, 1935-66: Maximum discharge, 145,000 cfs June 18, 1965 (gage height, 31.5 ft, from floodmarks), from rating curve extended above 91,000 cfs on basis of slope-area measurement of peak flow; no flow at times.

The flood of Sept. 29 or 30, 1904 probably exceeded 100,000 cfs, but is believed to have been less than the peak of June 18, 1965.

Remarks.--Records good except those for January, July and August, which are fair. Diversions for irrigation of about 56,000 acres above station. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	119	52	32	81	54	38	21	8.3	14	19	460	333
2	102	52	33	82	45	34	19	8.0	11	15	657	273
3	97	51	35	65	47	32	19	7.6	10	12	1,890	216
4	92	46	39	50	51	30	19	7.2	161	13	1,050	195
5	89	41	39	47	50	28	21	6.6	90	12	1,240	180
6	81	37	41	47	54	30	20	58	57	10	1,220	153
7	75	33	41	48	59	29	18	5.5	39	12	1,240	134
8	71	32	42	53	64	27	17	5.0	31	11	688	119
9	69	31	43	58	66	26	16	4.5	26	300	745	112
10	66	31	50	64	68	24	16	4.5	61	100	600	99
11	64	30	50	59	69	24	16	4.5	32	35	617	90
12	61	31	47	58	64	25	16	4.5	24	25	1,050	86
13	61	32	52	56	57	27	16	4.5	22	30	575	90
14	57	32	56	56	53	27	16	4.5	20	36	460	80
15	57	31	58	54	51	27	14	4.5	37	24	444	78
16	56	30	50	46	46	27	14	4.2	32	27	333	69
17	634	29	54	42	44	26	12	4.2	30	65	372	65
18	216	28	45	49	39	24	12	4.2	61	80	267	62
19	80	29	47	53	39	23	11	4.5	40	45	234	61
20	58	28	60	51	41	21	10	48	36	34	331	59
21	56	27	54	46	40	21	10	5.0	346	26	318	61
22	58	27	72	40	43	21	9.5	48	76	375	523	64
23	50	27	76	42	48	21	8.6	48	33	180	1,050	89
24	48	27	82	45	47	20	8.6	4.2	26	513	900	74
25	46	26	82	49	46	20	8.6	4.5	22	254	1,170	76
26	47	27	75	54	43	22	8.6	5.5	17	117	760	190
27	48	28	69	51	42	23	8.6	5.5	12	134	498	97
28	48	28	69	49	39	22	8.3	5.5	8.6	149	377	59
29	47	31	75	48	-	22	8.3	5.5	25	399	328	47
30	47	31	72	52	----------	21	8.3	5.2	25	885	462	44
31	51	----------	76	56	----------	22	----------	7.6	----------	834	345	----------
Total	2,751	985	1,716	1,651	1,409	784	410.4	165.5	1,424.6	4,771	21,194	3,355
Mean	88.7	32.8	55.4	53.3	50.3	25.3	13.7	5.34	47.5	154	684	112
Ac-ft	5,460	1,950	3,400	3,270	2,790	1,560	814	328	2,830	9,460	42,040	6,650

Calendar year 1965 : Max 44,000 Min 0 Mean 520 Ac-ft 376,600
Water year 1965-66 : Max 1,890 Min 4.2 Mean 111 Ac-ft 80,560

Peak discharge (base, 5,000 cfs).--No peak above base.

7-2225. Conchas River at Variadero, N. Mex.

Location.--Lat 35°24'10", long 104°26'35", in NE¼NE¼ sec. 36, T.14 N., R.23 E., on left bank 1.5 miles northeast of Variadero and 15 miles west of Conchas Dam.

Drainage area.--523 sq mi, of which 130 sq mi is probably noncontributing.

Records available.--October 1936 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,430 ft (from topographic map). Prior to Mar. 30, 1942, at site 1½ miles upstream at different datum. Mar. 30, 1942, to May 18, 1950, at present site at datum 0.5 ft higher.

Average discharge.--30 years, 17.9 cfs (12,960 acre-ft per year).

Extremes.--Maximum discharge during year, 2,500 cfs Sept. 26 (gage height, 5.50 ft), from rating curve extended above 760 cfs as explained below; no flow many days.
1936-66: Maximum discharge, 44,000 cfs Sept. 1, 1942 (gage height, 19.96 ft, present datum), from rating curve extended above 760 cfs on basis of slope-area measurements at gage heights 10.5 and 19.96 ft (present datum); no flow many days.

Remarks.--Records good. Diversions for irrigation of about 300 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.27	0.09	0.12	0.12	0.20	0.09	0.03	0.01	0.08	0	9.9	0.30
2	.24	.08	.12	.12	.13	.08	.03	.02	.03	0	3.1	.24
3	.21	.07	.12	.11	.15	.08	.03	.02	.01	0	1.2	.13
4	.13	.07	.12	.11	.14	.08	.05	.02	0	0	.61	.14
5	.13	.08	.12	.11	.12	.09	.07	.02	0	0	.30	.12
6	.10	.08	.12	.11	.12	.09	.06	.02	0	0	45	.09
7	.14	.08	.12	.12	.12	.09	.04	.02	0	0	6.3	.08
8	.11	.08	.12	.12	.13	.09	.04	.01	0	0	7.1	.07
9	.09	.08	.12	.11	.15	.09	.04	0	0	0	1.6	.07
10	.07	.08	.24	.11	.14	.09	.04	.03	12	0	.51	.06
11	.07	.09	.10	.11	.12	.08	.03	.02	.21	0	125	.06
12	.06	.08	.14	.11	.12	.08	.03	.02	2.5	0	21	.07
13	.05	.09	.14	.11	.14	.06	.03	.01	.51	0	4.4	.06
14	.05	.09	.14	.11	.14	.06	.04	.01	.12	.01	1.8	.05
15	.05	.08	.14	.12	.12	.06	.04	0	.05	.07	4.0	.03
16	.11	.09	.15	.14	.09	.05	.03	0	.03	.01	5.4	.07
17	140	.11	.13	.12	.09	.03	.03	0	.38	.13	43	.06
18	9.9	.11	.13	.12	.09	.03	.03	0	136	.38	29	.05
19	2.6	.11	.16	.15	.09	.03	.02	.03	143	.05	7.8	.05
20	1.0	.11	.16	.16	.09	.03	0	.02	15	.01	3.9	.22
21	.61	.12	.15	.13	.11	.03	0	.01	4.9	0	57	.44
22	.42	.14	.13	.13	.11	.02	.02	0	2.1	0	393	.12
23	.30	.16	.27	.13	.11	.02	.02	0	.61	0	62	5.8
24	.16	.14	.24	.13	.09	.02	.03	0	.13	0	21	3.8
25	.12	.12	.13	.21	.09	.03	.03	0	.03	0	10	.18
26	.11	.11	.14	.13	.09	.03	.02	0	.05	.09	8.2	300
27	.09	.11	.14	.21	.11	.03	.02	0	.03	.03	3.7	16
28	.09	.11	.14	.21	.11	.03	0	0	.02	0	2.1	4.0
29	.07	.11	.12	.21	-	.03	0	.02	.02	.38	1.3	1.8
30	.07	.11	.12	.24	----------	.04	0	.02	.02	39	.80	1.0
31	.07	----------	.12	.22	----------	.03	----------	0	----------	38	.56	----------
Total	197.65	2.98	4.69	4.60	3.43	1.69	0.85	0.33	476.64	135.78	953.34	435.31
Mean	5.09	0.099	0.151	0.148	0.122	0.055	0.028	0.011	15.9	4.38	30.8	14.5
Ac-ft	313	5.9	9.3	9.1	6.8	3.4	1.7	0.65	945	269	1,890	863

Calendar year 1965 : Max 1,230 Min 0 Mean 18.5 Ac-ft 13,370
Water year 1965-66 : Max 393 Min 0 Mean 5.97 Ac-ft 4,320

Peak discharge (base 1,500 cfs).--June 18 (2300) 1,500 cfs (4.55 ft); Sept. 26 (0015) 2,500 cfs (5.50 ft).

7-2230. Bell Ranch Canal below Conchas Dam, N. Mex.
(Formerly published as Bell Ranch Canal near Conchas Dam)

Location.--Lat 35°24'00", long 104°11'05", in SE¼ sec.28, T.14 N., R.26 E., in Pablo Montoya Grant, on left bank 1,270 ft downstream from Conchas Dam and 24 miles north of Newkirk.
Records available.--October 1942 to September 1966.
Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 4,150 ft (from headgate elevations).
Extremes.--1942-66: Maximum daily discharge, 21 cfs July 10-13, Sept. 7-10, 1948, June 27, Aug. 7, 1951; no flow many days each year.
Remarks.--Records good. Canal diverts from Conchas Reservoir for irrigation of about 700 acres on Bell Ranch.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in Acre-feet
October	6.3	0	1.82	112
November	2.9	0	.75	45
December	2.9	0	.35	21
Calendar year 1965	15	0	2.46	1,780
January	0	0	0	0
February	0	0	0	0
March	8.7	0	3.11	191
April	8.7	0	3.12	185
May	17	1.0	12.3	758
June	9.0	0	.83	49
July	15	0	7.78	478
August	8.1	0	4.31	265
September	8.7	0	1.31	78
Water year 1965-66	17	0	3.02	2,180

7-2233. Conchas Canal below Conchas Dam, N. Mex.

Location.--Lat 35°21'45", long 104°10'15", in S½ sec.3, T.13 N., R.26 E., on left bank at upstream end of tunnel transition section, about 1 mile downstream from headgates in Conchas Dam and 22 miles north of Newkirk.
Records available.--September 1945 to June 1949, April 1954 to June 1955, September 1961 to September 1966.
Gage.--Water-stage recorder and concrete control. Datum of gage is 4,156.9 ft above mean sea level (from Bureau of Reclamation elevation of concrete structure). Prior to Nov. 19, 1948, at site three-quarters of a mile upstream at different datum.
Extremes.--1945-49, 1954-55, 1961-66: Maximum daily discharge, 751 cfs Aug. 31, 1961; no flow during most of each winter period.
Remarks.--Records good. No diversion or wasteway between canal headworks and gage. Water is diverted from Conchas Reservoir for irrigation of about 35,000 acres on Tucumcari Project (1966 conditions). Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in Acre-feet
October	254	0	74.5	4,580
November	.63	0	.039	2.3
December	364	0	64.3	3,960
Calendar year 1965	718	0	114	82,270
January	1.4	0	.353	22
February	2.6	0	.692	38
March	.19	0	.041	2.5
April	427	0	333	19,810
May	373	210	314	19,310
June	253	0	152	9,070
July	470	182	316	19,440
August	284	.98	163	10,000
September	310	122	226	13,440
Water year 1965-66	470	0	138	99,680

7-2235. Conchas Reservoir at Conchas Dam, N. Mex.
(Formerly published as Conchas Reservoir near Conchas Dam)

Location.--Lat 35°24'10", long 104°11'25", in SW¼ sec.28, T.14 N., R.26 E., in Pablo Montoya Grant, stilling well within concrete portion of Conchas Dam on Canadian River, and about 24 miles north of Newkirk.

Drainage area.--7,409 sq mi, of which 433 sq mi is probably noncontributing.

Records available.--December 1938 to September 1966.

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

Extremes.--Maximum contents during year, 350,300 acre-ft Oct. 19-30 (elevation, 4,200.77 ft); minimum, 274,500 acre-ft July 28 (elevation, 4,192.25 ft).
1938-66: Maximum contents, 479,600 acre-ft Apr. 24, 1942 (elevation, 4,208.41 ft); minimum after initial filling (corrected), 82,840 acre-ft Sept. 12, 13, 1964 (elevation, 4,156.05 ft); minimum elevation, 4,155.80 ft Sept. 24, 1954.

Remarks.--Reservoir is formed by dam consisting of concrete main section and earthfill wings, completed Sept. 15, 1939; storage began Dec. 29, 1938. Capacity, 352,600 acre-ft between elevations 4,060.0 and 4,201.0 ft (crest of 300-foot ungated service spillway); inactive storage, 79,600 acre-ft at elevation 4,155 ft. Reservoir usually not drawn below elevation, 4,157.35 ft (sill of irrigation outlet), capacity 86,990 acre-ft, except for minor sluicing and operation of small powerplant; during 1954-55, 1964 there was some pumping into Conchas Canal. Capacity of 198,200 acre-ft between elevations 4,201.0 (crest of 300-foot ungated service spillway) and 4,218.0 ft (crest of 3,000-foot ungated emergency spillway) acts as detention storage in the control of floods. Figures given herein represent total contents. Reservoir is used for irrigation, flood control, and recreation. Diversion above station for irrigation of about 57,000 acres. Direct diversions through Conchas Dam to Conchas Canal and Bell Ranch Canal (see stations 7-2230, 7-2233) irrigate about 36,000 acres near Tucumcari, and on Bell Ranch.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	349,500	350,100	347,100	344,600	345,800	347,100	345,000	321,300	297,900	289,500	280,600	312,100
2	349,100	350,000	347,100	344,600	345,900	347,100	344,900	320,500	297,900	288,800	281,500	312,100
3	348,700	349,900	347,100	344,700	345,900	346,700	344,800	319,700	297,800	288,000	284,400	312,100
4	348,500	349,900	347,000	344,700	346,000	346,700	344,600	319,000	297,700	287,300	286,400	312,000
5	347,900	349,900	347,000	344,700	346,200	346,600	343,800	318,100	297,600	286,600	286,800	312,000
6	347,500	349,800	347,000	344,700	346,200	346,600	343,000	317,300	297,600	285,600	288,900	311,700
7	347,100	349,800	347,000	344,800	346,300	346,600	342,100	316,300	297,300	284,400	290,200	311,500
8	346,700	349,800	346,900	344,800	346,400	346,600	341,400	315,200	296,600	283,600	292,600	311,100
9	346,500	349,700	346,900	344,800	346,400	346,600	340,600	314,400	296,100	282,900	293,600	310,500
10	346,200	349,700	346,400	345,000	346,400	346,600	339,600	313,600	295,900	282,200	294,600	310,200
11	345,700	349,400	345,700	345,000	346,500	346,600	338,700	312,800	295,500	281,300	295,400	309,600
12	345,700	349,400	345,200	344,900	346,500	346,600	337,900	312,100	295,100	280,600	297,000	308,900
13	345,600	349,300	344,600	344,900	346,600	346,600	336,900	311,400	294,700	279,800	298,200	308,300
14	345,500	349,400	343,800	345,000	346,600	346,600	336,000	310,700	294,200	279,500	298,500	307,800
15	345,500	348,800	343,600	345,000	346,600	346,600	335,200	309,800	293,600	278,800	298,900	307,200
16	345,800	348,800	343,600	344,900	346,600	346,600	334,300	308,800	293,300	278,400	299,000	306,600
17	349,300	348,700	343,400	345,000	346,700	346,300	333,200	308,000	294,200	277,900	299,200	306,100
18	349,900	348,700	343,400	345,200	346,700	346,300	332,400	307,300	294,900	277,200	299,500	305,500
19	350,300	348,600	343,400	345,400	346,800	346,300	331,300	306,400	295,000	277,100	299,500	305,000
20	350,300	348,600	343,400	345,500	346,800	346,200	330,300	305,500	294,600	276,700	299,500	304,500
21	350,300	348,600	343,400	345,500	346,800	346,200	329,200	304,600	294,900	276,000	300,400	304,100
22	350,300	348,500	343,600	345,500	346,800	345,700	328,400	303,700	294,700	275,400	302,400	303,700
23	350,300	348,400	343,800	345,500	346,900	345,500	327,700	302,700	294,400	274,900	304,400	303,300
24	350,300	348,200	344,100	345,600	346,800	345,500	326,900	301,900	293,800	274,600	306,300	303,000
25	350,300	348,000	344,300	345,600	346,800	345,500	326,300	301,200	293,200	274,800	308,000	302,600
26	350,300	347,700	344,200	345,600	347,000	345,400	325,500	300,500	292,800	274,800	309,600	302,800
27	350,300	347,400	344,300	345,600	347,100	345,300	324,900	299,900	292,100	274,800	310,400	302,600
28	350,300	347,400	344,400	345,600	347,100	345,300	324,300	299,300	291,500	274,500	310,900	302,400
29	350,300	347,300	344,400	345,700	-	345,200	323,100	298,700	290,900	275,400	311,400	301,800
30	350,300	347,200	344,500	345,800	----------	345,200	322,100	298,100	290,200	277,200	311,900	301,000
31	350,200	----------	344,500	345,800	----------	345,200	----------	297,800	----------	280,100	312,000	----------
(†)	4,200.76	4,200.45	4,200.17	4,200.31	4,200.44	4,200.24	4,197.78	4,195.04	4,194.15	4,192.93	4,196.66	4,195.41
(‡)	+300	-3,000	-2,700	+1,300	+1,300	-1,900	-23,100	-24,300	-7,600	-10,100	+31,900	-11,000

Calendar year 1965..... ‡ +254,120
Water year 1965-66..... ‡ -48,900

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

7-2245. Canadian River below Conchas Dam, N. Mex.

Location.--Lat 35°24'30", long 104°10'10", in SW¼ sec.27, T.14 N., R.26 E., in Pablo Montoya Grant, on right bank 2.8 miles downstream from Conchas Dam, and 24 miles north of Newkirk.

Drainage area.--7,417 sq mi, of which 433 sq mi is probably noncontributing.

Records available.--May 1936 to December 1938, January 1942 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,021.90 ft above mean sea level, datum of 1929. Prior to Dec. 13, 1941, at site 0.7 mile downstream at datum 6.2 ft higher.

Average discharge.--25 years (1941-66), 89.0 cfs (64,430 acre-ft per year).

Extremes.--Maximum discharge during year, 95 cfs Mar. 2 (gage height, 4.92 ft); minimum daily discharge, 2.8 cfs May 4, 5, July 9, 10, 23-27.
1936-66: Maximum discharge, 73,000 cfs June 3, 1937 (may have been affected by construction work on Conchas Dam); maximum gage height, 20.34 ft May 30, 1938, present datum (backwater from temporary construction dam); no flow at times.

Remarks.--Records poor. Flow regulated by Conchas Reservoir (see preceding page). Diversions above station for irrigation of about 90,000 acres, 36,000 of which are below station. Bell Ranch Canal (see station 7-2230) diverts directly from Conchas Dam and flumes from right to left bank just above River gage for irrigation of about 700 acres on Bell Ranch. Conchas Canal (see station 7-2233) diverts directly from Conchas Dam and bypasses gage for irrigation of about 35,000 acres around Tucumcari.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	8.4	6.7	6.4	5.4	4.8	3.8	3.0	4.6	3.9	3.0	3.2
2	5.0	15	6.5	4.3	4.6	28	9.3	3.0	3.9	3.6	3.3	3.2
3	5.0	14	6.2	4.1	4.5	24	4.3	3.0	3.9	3.6	3.5	3.0
4	5.0	7.7	4.8	4.3	4.6	5.4	3.8	2.8	3.6	3.6	3.3	3.0
5	5.0	8.0	4.5	3.6	4.5	4.5	3.9	2.8	3.5	3.3	3.6	3.0
6	5.0	7.7	4.5	3.6	4.5	4.5	3.9	3.0	3.5	3.2	4.1	3.2
7	4.3	8.2	8.6	3.8	4.5	4.5	3.8	3.0	3.3	3.5	4.3	3.2
8	3.9	8.2	7.8	4.3	10	4.8	3.8	3.0	3.3	3.5	4.8	3.2
9	3.5	10	5.4	6.0	11	4.5	3.8	3.0	3.3	2.8	4.5	3.2
10	4.5	11	6.0	3.9	6.6	4.8	4.5	3.5	3.8	2.8	4.1	3.2
11	4.5	19	6.0	6.4	4.5	4.3	4.3	3.5	3.8	3.0	4.3	3.3
12	5.0	9.0	4.1	5.8	4.3	4.3	4.1	3.5	3.6	3.3	3.8	3.2
13	5.4	8.2	3.9	3.9	4.3	4.3	3.8	3.5	3.6	3.6	3.6	3.2
14	5.8	8.4	3.8	3.9	4.3	4.3	3.6	3.5	3.8	3.0	3.6	3.2
15	6.7	35	3.9	3.8	10	4.3	3.8	3.3	3.8	3.0	3.5	3.5
16	8.2	8.7	3.8	3.8	6.7	4.3	3.8	3.2	3.9	3.0	3.3	3.5
17	24	10	3.6	3.9	5.6	12	3.8	3.2	4.3	3.2	3.3	3.5
18	25	9.9	3.6	3.9	4.5	5.2	3.9	3.3	7.7	3.0	3.5	3.3
19	7.7	6.5	3.8	4.1	4.5	4.6	4.1	3.8	5.4	3.2	3.6	3.3
20	5.8	7.0	3.8	3.9	4.5	3.9	4.6	3.5	4.1	3.6	3.3	3.5
21	5.8	7.2	4.5	4.5	4.6	7.4	4.1	3.5	3.9	3.2	3.5	3.5
22	6.0	6.4	4.1	4.1	4.5	6.0	3.6	3.5	4.1	3.0	6.0	3.5
23	6.0	22	3.8	4.1	7.2	3.9	3.5	3.3	3.9	2.8	6.2	3.3
24	11	21	3.8	4.6	4.8	4.6	3.5	4.1	3.9	2.8	4.1	3.3
25	11	19	3.6	5.4	5.6	4.5	3.5	4.3	3.5	2.8	3.8	3.3
26	5.0	30	4.3	5.0	5.4	3.8	3.5	3.8	3.6	2.8	3.5	3.3
27	7.0	8.0	3.6	4.5	4.8	3.8	3.3	3.8	3.8	2.8	3.5	3.0
28	9.8	6.4	3.9	4.5	4.6	3.8	3.2	3.9	4.6	3.6	3.6	3.8
29	9.0	5.4	5.2	4.5	-	3.8	3.3	3.8	4.5	4.3	3.6	3.9
30	8.2	7.0	5.4	4.8	----------	3.8	3.0	3.8	3.9	4.5	3.3	3.0
31	8.2	----------	5.4	6.7	----------	3.8	----------	3.8	----------	3.6	3.2	----------
Total	233.3	352.3	148.9	140.4	154.9	190.5	119.2	106.0	120.4	101.9	118.6	98.8
Mean	7.53	11.7	4.80	4.53	5.53	6.15	3.97	3.42	4.01	3.29	3.83	3.29
Ac-ft	463	699	295	278	307	378	236	210	239	202	235	196

Calendar year 1965: Max 2,340 Min 1.0 Mean 56.5 Ac-ft 40,930
Water year 1965-66: Max 35 Min 2.8 Mean 5.16 Ac-ft 3,740

7-2265. Ute Creek near Logan, N. Mex.

Location.--Lat 35°26'55", long 103°31'40", in SW¼SE¼ sec.10, T.14 N., R.32 E., on right bank upstream from flowline of Ute Reservoir, 3½ miles upstream from State Road 155, 4 miles north of Harding-Quay County line, 9 miles northwest of Logan and 10 miles upstream from mouth.

Drainage area.--2,060 sq mi, of which 617 sq mi is probably noncontributing.

Records available.--August 1904 to June 1906 and April 1909 to May 1914 (gage heights and discharge measurements only), January 1942 to September 1966. Records of discharge for August 1904 to June 1906, April 1909 to December 1911, published in WSP 307, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Altitude of gage is 3,840 ft (from topographic map). Prior to Aug. 1, 1911, staff gage at site 5½ miles downstream at different datum. Aug. 1, 1911 to May 23, 1914, water-stage recorder at site 5¾ miles downstream at different datum. January 1942 to December 1955, water-stage recorder at site 4 miles downstream at datum of 3,758.50 ft above mean sea level; at that site at datum 1.00 ft lower December 1955 to September 1964.

Average discharge.--24 years, 28.5 cfs (20,630 acre-ft per year).

Extremes.--Maximum discharge during year, 2,090 cfs Aug. 8 (gage height, 3.77 ft); no flow most of time.
1942-66: Maximum discharge, 24,500 cfs May 28, 1946, July 12, 1951 (gage height, 8.4 ft, site and datum then in use), from rating curve extended above 7,700 cfs on basis of slope-area measurements at gage heights 5.2 and 7.2 ft; no flow most of time.
Flood of May 1, 1914, reached a stage of 22.95 ft, site and datum then in use. Another major flood reached a stage of 16.0 ft (1942 datum) sometime in 1941, from information furnished by Bureau of Reclamation (discharge, about 70,000 cfs).

Remarks.--Records poor. Diversions for irrigation of a few hundred acres above station. Records of chemical analyses and water temperatures for water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0.91	0	5.2			15	0	38	0
2	0		0	.10	0	1.1			.02	0	11	0
3	0		0	.05	0	.04			0	0	2.3	0.46
4	0		0	.01	0	.01			0	0	.24	1.1
5	0		0	0	0	0			0	0	24	.02
6	0		0	0	5.9	0			0	0	29	0
7	0		0	0	7.9	0			0	0	116	0
8	0		0	0	11	0			0	0	177	0
9	0		0	0	8.6	0			0	0	14	0
10	0		0	0	4.0	0			0	0	4.0	0
11	0		0	0	1.5	0			0	0	.49	0
12	0		0	0	1.0	0			0	39	0	0
13	0		0	0	1.0	0			0	28	0	0
14	0		0	0	.80	0			0	3.3	0	0
15	0		0	0	1.0	0			0	0	0	0
16	0		0	0	.20	0			0	0	0	0
17	704		0	0	.20	0			.44	0	.19	0
18	406		0	0	.75	0			.16	0	.90	0
19	38		0	0	.30	0			0	0	0	0
20	8.3		0	0	.12	0			4.3	0	8.7	0
21	3.5		0	0	.11	0			7.6	0	1.4	0
22	2.3		0	0	.20	0			2.3	0	0	0
23	1.2		0	0	.05	0			0	81	13	0
24	.77		0.25	0	.10	0			0	298	17	0
25	.50		4.5	0	.09	0			30	248	7.6	0
26	.20		5.5	0	.04	0			78	81	1.1	0
27	.08		5.0	0	3.6	0			12	38	0	0
28	.03		4.0	0	2.6	0			0	8.3	6.0	0
29	.02		2.0	0	-	0			0	1.8	1.1	0
30	.02		.91	0	----------	0			0	60	.11	0
31	0	----------	.91	0	----------	0	----------		----------	153	.02	----------
Total	1.164.92	0	23.07	1.07	51.06	6.35	0	0	149.82	1039.4	473.15	1.58
Mean	37.6	0	0.744	0.035	1.82	0.205	0	0	4.99	33.5	15.3	0.053
Ac-ft	2.310	0	46	2.1	101	13	0	0	297	2.060	938	3.1

Calendar year 1965: Max 2,350 Min 0 Mean 36.0 Ac-ft 26,090
Water year 1965-66: Max 704 Min 0 Mean 7.97 Ac-ft 5,770

Peak discharge (base, 4,500 cfs).--No peaks above base.

7-2268. Ute Reservoir near Logan, N. Mex.

Location.--Lat 35°20'35", long 103°26'40", in NW¼ sec.21, T.13 N., R.33 E., on face of Ute Dam on Canadian River 2½ miles southwest of Logan and 3½ miles downstream from Ute Creek.

Drainage area.--11,140 sq mi, of which 1,110 sq mi is probably noncontributing.

Records available.--May 1963 to September 1966.

Gage.--Inclined cable gage and vertical staff gage. Datum of gage is at mean sea level (levels by Interstate Stream Commission).

Extremes.--Maximum contents during year, 111,300 acre-ft Aug. 29 (elevation, 3,760.4 ft); minimum, 82,360 acre-ft May 29 (elevation, 3,752.8 ft).
1963-66: Maximum contents, 111,700 acre-ft Sept. 19, 1965 (elevation, 3.760.5 ft); minimum, 22,230 acre-ft Aug. 7, 1964 (elevation, 3,726.2 ft).

Remarks.--Reservoir is formed by earthfill dam 121 ft high above streambed, 2,050 ft long; an earth-dike section on north (left) bank of Canadian River is 2,860 ft long and has a maximum height of 27 ft; a concrete spillway section 840 ft long is constructed between main embankment and the dike. Construction completed in May 1963; storage began Dec. 13, 1962. Capacity, 109,600 acre-ft at elevation 3,760.0 ft (crest of 840-ft ungated service spillway). Top of dam is at elevation 3,801.0 ft. Maximum design capacity of 307,000 acre-ft at elevation 3,791.0 ft (31 ft above crest of 840-ft spillway) allows 197,400 acre-ft of capacity for protection of the structure. Dead storage, 20,710 acre-ft at elevation 3,725.0 ft (crest of outlet tower); inactive pool of 49,870 acre-ft below elevation 3,741.6 ft is maintained for fish and wildlife. Figures given herein represent total contents. Reservoir is planned to furnish water for municipal and industrial uses and for recreational purposes; some incidental flood control. Diversions above station for irrigation of about 90,000 acres. Records of chemical analyses and water temperatures for water year 1966 are published in part 2 of this report.

Cooperation.--Records furnished by New Mexico Interstate Stream Commission.

Contents, in acre-feet, at 0700 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104,700	90,140	87,260	-	-	86,550	85,490	84,430	84,430	90,880	95,340	109,800
2	103,900	89,050	86,900	-	-	86,550	-	-	85,490	90,880	95,340	110,000
3	103,500	88,330	86,900	86,550	-	-	-	-	-	90,880	95,340	109,800
4	103,100	87,620	86,900	86,550	86,190	-	85,490	84,430	85,490	90,880	98,400	109,800
5	102,300	87,620	86,900	86,550	-	-	-	-	-	90,510	98,400	109,600
6	101,900	87,620	86,900	-	-	-	-	-	-	90,510	98,400	109,600
7	101,500	87,620	86,900	-	-	-	85,130	-	-	90,510	98,400	109,600
8	101,100	87,620	86,900	-	-	86,550	-	-	85,490	90,510	-	109,600
9	100,700	87,620	-	-	86,190	86,550	-	-	-	90,510	-	109,600
10	99,950	87,620	-	-	-	86,550	-	84,090	-	90,880	-	109,400
11	99,560	87,620	-	-	-	86,550	-	84,090	-	91,610	-	109,400
12	99,170	87,620	-	-	-	-	-	-	-	-	-	109,400
13	98,400	87,620	86,900	86,550	86,190	86,190	85,130	-	-	91,610	-	109,400
14	97,630	87,620	-	86,550	-	86,190	-	84,090	-	91,610	103,500	109,400
15	97,250	87,620	-	-	-	86,190	-	-	85,130	92,350	103,500	109,200
16	96,860	87,620	86,900	-	86,190	86,190	-	-	86,190	92,350	103,900	109,200
17	96,480	87,260	86,900	-	-	86,190	-	-	-	92,350	103,900	109,200
18	97,250	87,260	-	-	86,190	85,840	-	83,390	-	92,350	103,900	109,200
19	97,630	87,260	-	86,550	-	-	84,780	-	-	92,350	103,900	109,200
20	97,250	87,260	86,900	-	-	-	-	-	-	92,350	105,900	109,200
21	96,860	87,260	86,900	-	-	85,840	-	83,390	87,620	92,350	105,900	108,800
22	96,100	87,260	86,900	-	-	85,840	-	83,050	-	93,470	105,900	108,800
23	95,720	87,260	-	-	86,190	85,490	-	-	-	93,840	110,800	108,800
24	94,970	87,260	-	-	-	-	-	-	-	93,840	110,800	108,800
25	94,590	87,260	-	86,550	-	85,490	84,780	82,700	88,690	93,840	110,600	108,800
26	93,840	87,260	86,550	-	-	-	84,430	-	-	93,840	110,400	108,400
27	93,090	87,260	86,550	86,550	86,190	-	84,430	-	90,880	93,840	110,400	108,400
28	92,350	87,260	86,550	86,550	86,550	85,490	-	82,700	90,880	93,840	109,800	108,400
29	91,610	87,260	86,550	-	-	-	-	82,360	90,880	93,840	111,300	107,900
30	90,880	87,260	86,550	86,190	----------	85,490	84,430	-	90,880	94,590	110,800	107,900
31	90,510	-------	86,550	86,190	----------	85,490	----------	83,050	----------	95,340	110,000	----------
(†)	3,755.1	3,754.2	3,754.0	-	3,754.0	-	-	3,753.0	3,755.2	3,756.4	3,760.1	3,759.6
(‡)	-14,990	-3,250	-710	-360	+360	-1,060	-1,060	-1,380	+7,830	+4,460	+14,660	-2,100

Calendar year 1965..... ‡ +55,850
Water year 1965-66..... ‡ +2,400

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Contents interpolated Jan. 31, Mar. 31, Apr. 30. Station located in Central Time Zone; records are computed to Mountain Standard Time.

7-2270. Canadian River at Logan, N. Mex.

Location.--Lat 35°21'20", long 103°25'20", in NE¼ sec.15, T.13 N., R.33 E., on left bank 1,100 ft upstream from bridge on U. S. Highway 54, half a mile south of Logan, 1½ miles upstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 2 miles downstream from Ute Dam, 4¼ miles upstream from Revuelto Creek (formerly Tucumcari Creek), and 5½ miles downstream from Ute Creek.

Drainage area.--11,141 sq mi, of which 1,110 sq mi is probably noncontributing.

Records available.--June 1904 to November 1905 (gage heights and discharge measurements only), December 1908 to September 1909, February 1910, April to July 1910, August 1910 to September 1911 (gage heights and discharge measurements only), October 1911 to May 1914, January to May 1924, September 1924 to July 1925, January 1927 to April 1934, August 1934 to September 1966. Monthly discharge only for some periods, published in WSP 1311. Records for December 1909, January 1910, and May to July 1934, published in WSP 267, 287, and 762 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder at present site since Aug. 5, 1910; at different datums prior to Oct. 21, 1928, and at datum 1.54 ft lower Oct. 21, 1928, to Sept. 30, 1934. Datum of present gage is 3,668.1 ft above mean sea level, datum of 1929. Prior to Aug. 5, 1910, staff gages 1½ miles downstream at different datums (datum of gage, 3,651 ft above mean sea level Dec. 22, 1908 to Aug. 4, 1910).

Average discharge.--15 years (1908-9, 1911-13, 1926-38), 392 cfs (283,800 acre-ft per year), prior to completion of Conchas Dam; 24 years (1938-62), 257 cfs (186,100 acre-ft per year), prior to completion of Ute Dam.

Extremes.--Maximum discharge during year, 1,180 cfs Aug. 29 (gage height, 6.33 ft); minimum, 1.2 cfs Jan. 24.
1930-66: Maximum discharge, 219,000 cfs Sept. 22, 1941 (gage height, 29.3 ft, from floodmarks), from rating curve extended above 75,000 cfs by logarithmic plotting; no flow at times prior to completion of Ute Dam.
Maximum discharge known, 278,000 cfs Sept. 30, 1904 (gage height, about 36.5 ft, site and datum used in 1909), from rating curve extended above 14,000 cfs, from Ninth Biennial Report of State Engineer.

Remarks.--Records fair. Flow regulated by Conchas Reservoir, 45 miles upstream (see station 7-2235) and Ute Reservoir, 2 miles upstream (see station 7-2268). Diversions for irrigation of about 90,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	326	308	2.9	2.6	3.1	2.4	2.4	2.2	3.4	2.5	2.2	48
2	314	308	2.9	2.8	2.9	2.2	2.3	2.2	2.8	2.5	4.5	21
3	320	308	2.9	2.8	2.8	2.2	2.3	2.3	2.1	2.4	2.6	13
4	320	198	2.9	2.8	2.6	2.3	2.3	2.2	1.8	2.4	2.3	9.8
5	314	5.4	2.8	2.8	2.6	2.3	2.3	2.2	1.8	2.4	2.5	6.3
6	338	5.2	2.8	2.8	2.8	2.3	2.2	2.2	1.8	2.3	2.2	5.5
7	338	4.8	2.8	2.8	2.9	2.3	2.2	2.2	1.8	2.2	2.2	4.3
8	332	4.5	2.8	2.8	2.9	2.3	2.2	2.1	2.0	2.2	10	3.7
9	338	3.8	2.8	2.8	2.6	2.4	2.2	2.2	2.3	2.2	4.3	3.5
10	338	3.1	2.9	2.8	2.6	2.5	2.1	2.3	2.6	2.2	3.2	3.2
11	338	2.6	2.9	2.8	2.6	2.4	2.2	2.3	2.4	2.1	2.6	3.2
12	338	2.6	2.9	2.9	2.6	2.4	2.3	2.3	2.3	2.3	2.4	3.6
13	338	2.6	2.9	2.9	2.8	2.4	2.3	2.4	2.3	2.2	2.4	3.5
14	338	2.6	2.9	2.9	2.9	2.3	2.4	2.3	2.3	2.2	2.3	3.1
15	332	2.5	3.1	2.9	2.6	2.3	2.4	2.2	2.3	2.2	2.3	3.1
16	338	2.5	2.9	2.9	2.6	2.3	2.3	2.0	2.4	2.0	2.2	2.9
17	338	2.8	3.1	3.1	2.6	2.3	2.3	2.0	2.8	1.7	2.4	2.8
18	326	2.8	3.1	2.9	2.6	2.3	2.3	2.0	2.6	1.7	2.5	2.8
19	326	2.8	2.9	3.1	2.6	2.4	2.1	2.1	2.5	1.7	2.3	2.8
20	332	2.8	2.9	3.1	2.6	2.4	2.2	2.1	2.5	2.0	2.4	2.9
21	326	2.8	2.9	3.3	2.6	2.3	2.2	2.0	2.5	1.8	2.5	2.8
22	314	2.8	2.9	2.9	2.6	2.1	2.2	1.7	2.5	1.8	8.0	2.6
23	301	2.8	3.1	2.4	2.6	2.4	2.2	1.8	2.5	1.8	413	2.6
24	345	2.8	3.1	1.6	2.6	2.4	2.2	2.0	2.5	2.3	429	2.9
25	332	2.8	2.9	2.1	2.6	2.3	2.2	2.1	3.1	2.0	177	2.6
26	326	2.6	2.8	2.9	2.5	2.3	2.2	2.1	3.2	1.8	67	2.5
27	314	2.9	2.8	2.9	3.7	2.3	2.3	2.0	3.1	1.8	26	2.6
28	295	2.9	2.8	3.5	2.8	2.2	2.2	1.8	2.9	2.3	18	2.6
29	301	2.9	2.8	2.6	-	2.2	2.3	1.8	2.9	2.4	774	2.6
30	301	2.9	2.8	3.5	----------	2.4	2.2	2.0	2.8	2.2	450	2.5
31	308	----------	2.8	3.1	----------	2.4	----------	2.2	----------	2.0	112	----------
Total	10,085	1,203.6	89.8	88.1	75.3	72.0	67.5	65.3	74.8	65.6	2,536.3	175.3
Mean	325	40.1	2.90	2.84	2.72	2.32	2.25	2.11	2.49	2.12	81.8	5.84
Ac-ft	20,000	2,390	178	175	151	143	134	130	148	130	5,030	348

Calendar year 1965: Max 1,010 Min 0.40 Mean 49.2 Ac-ft 35,630
Water year 1965-66: Max 774 Min 1.6 Mean 40.0 Ac-ft 28,960

7-2271. Revuelto Creek near Logan, N. Mex.

Location.--Lat 35°20'30", long 103°23'40", in SW¼NW¼ sec.24, T.13 N., R.33 E., on right bank a quarter of a mile upstream from bridge on State Highway 39, 2 miles upstream from mouth, and 2 miles southeast of Logan.

Drainage area.--786 sq mi.

Records available.--August 1959 to September 1966. Unpublished records collected by Bureau of Reclamation for the period October 1941 to July 1947 are for a site 500 ft downstream at different datum. They are not equivalent because of major irrigation development; major peaks should be comparable.

Gage.--Water-stage recorder. Datum of gage is 3,672 ft above mean sea level, datum of 1929.

Average discharge.--7 years, 61.8 cfs (44,740 acre-ft per year)

Extremes.--Maximum discharge during year, 8,800 cfs Aug. 2 (gage height, 8.65 ft); no flow many days.
1959-66: Maximum discharge, 26,700 cfs July 9, 1960 (gage height, 14.3 ft), from rating curve extended above 13,000 cfs on basis of slope-area measurement of peak flow; no flow at times.
1941-47: Maximum discharge determined, about 13,400 cfs Sept. 18, 1946 (gage height, 9.04 ft, site and datum then in use), computed by Bureau of Reclamation.
A peak of 26,100 cfs (time and date unknown; gage height, 12.9 ft) was measured by slope-area method in May 1957.

Remarks.--Records poor. Low flows supplemented by surface and ground water return from irrigation in vicinity of Tucumcari. Records of chemical analyses and water temperatures for water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6	0.20	0.31	0.23	0.10	9.0	0	12	440	4.0	13	26
2	11	.20	.31	.10	.30	6.4	0	12	457	3.0	2,220	16
3	12	.20	.31	.10	.50	2.1	0	12	49	2.0	140	26
4	13	.20	.23	.10	1.0	.51	0	12	17	1.0	46	16
5	16	.20	.16	.20	1.5	.10	0	12	5.2	0	22	8.1
6	14	.15	.16	.31	2.0	.16	0	11	2.0	0	11	9.7
7	12	.15	.16	.23	2.7	.02	0	9.7	.31	0	8.7	14
8	16	.15	.23	.16	2.5	0	0	9.7	0	0	229	14
9	17	.15	.23	.16	2.3	0	7.3	9.7	0	10	318	12
10	9.7	.16	.63	.16	2.1	.02	21	12	2.1	50	62	9.2
11	5.2	.05	.16	.10	1.5	.02	12	16	2.1	11	89	8.1
12	9.2	.16	.23	.16	1.0	.10	11	13	3.3	85	112	7.7
13	11	.16	2.5	.10	.63	.10	7.7	12	4.2	118	139	6.0
14	8.7	.16	2.0	.16	.89	.10	19	12	68	28	84	9.7
15	6.4	0	1.0	.16	.89	.05	24	12	7.7	249	43	25
16	9.2	0	.50	.16	.40	.10	28	12	1.9	55	28	47
17	279	.05	1.0	.15	.23	0	34	12	467	22	110	28
18	176	.16	1.0	.10	.23	0	30	9.7	304	9.2	116	20
19	38	.23	2.0	.10	.20	0	20	8.7	73	7.2	63	16
20	16	.16	2.0	.10	.20	0	15	8.7	65	8.7	43	18
21	9.7	.16	2.0	.10	.20	0	15	7.2	28	4.9	39	31
22	5.6	.16	2.0	.10	.20	0	15	6.4	11	2.7	42	35
23	3.9	.10	2.0	.10	.20	.03	15	5.6	8.7	0	309	19
24	2.1	0	2.5	.10	.50	0	15	9.7	1.7	1,400	273	15
25	1.0	.02	2.5	.10	1.0	0	15	8.1	3.9	225	127	11
26	.60	0	2.5	.10	1.5	0	15	16	8.1	55	68	11
27	40	0	2.3	.20	10	0	14	14	3.9	447	46	9.2
28	.30	.02	2.1	.10	15	0	13	16	5.2	24	40	12
29	.20	.05	1.2	.10	-	0	12	19	5.2	5.6	586	13
30	.20	.10	.76	.10	----------	0	12	518	5.0	83	142	10
31	.20	----------	.40	.10	----------	0	----------	39	----------	28	62	----------
Total	707.20	3.50	35.38	4.24	49.77	18.81	370.0	887.2	1,988.31	2,938.3	5,635.7	502.7
Mean	22.8	0.117	1.14	0.137	1.78	0.607	12.3	28.6	66.3	94.8	182	16.8
Ac-ft	1,400	6.9	70	8.4	99	37	734	1,760	3,940	5,830	11,180	997

Calendar year 1965: Max 1,470 Min 0 Mean 32.1 Ac-ft 23,240
Water year 1965-66: Max 2,220 Min 0 Mean 36.0 Ac-ft 26,070

Peak discharge (base, 3,500 cfs).--July 24 (1245) 4,220 cfs (6.18 ft); Aug. 2 (0820) 8,800 cfs (8.65 ft).

7-2274.45 Major Longs Creek near Stead, N. Mex.

Location.--Lat 36°04'15", long 103°12'10", in NW¼NW¼ sec.10, T.21 N., R.35 E., on left bank 10 ft upstream from bridge on State Highway 18, 2 miles south of Stead, 26 miles south of Clayton.

Drainage area.--556 sq mi, approximately.

Records available.--October 1964 to May 1966 (annual maximum only). June to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,540 ft (from topographic map).

Extremes.--1964-65: Maximum discharge during year, 6,600 cfs June 17 (gage height, about 14.0 ft), by slope-area method; no flow for most of time.
1965-66: Maximum discharge during year, 12,300 cfs Oct. 17 (gage height, about 16.5 ft), by slope-area method; no flow for most of time.
A flood in 1904 reached a stage of about 29 ft with only a single span bridge and a flood in 1937 reached a stage of about 22 ft with the present bridge (information from State Highway Department).

Remarks.--Records poor. Minor regulation by detention reservoirs and stock ponds.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	0	6.9	2.4
2									-	0	3.7	2.0
3									-	0	2.6	1.7
4									-	0	1.9	1.3
5									-	0	31	.91
6									-	0	26	.26
7									-	0	15	.16
8									-	0	21	39
9									-	0	8.5	20
10									-	0	3.9	4.3
11									-	0	2.7	2.1
12									-	0	2.1	1.4
13									-	0	1.6	1.0
14									-	0	1.0	.91
15									-	0	.52	.78
16									-	0	0	.78
17									0	0	0	.52
18									0	0	7.1	0
19									0	0	3.0	0
20									0	0	1.9	0
21									0	0	1.3	0
22									0	0	1.0	0
23									0	0	1.2	0
24									0	48	.91	0
25									71	5.2	.39	0
26									130	12	0	0
27									16	4.0	0	0
28									5.3	.24	0	0
29									.9	1.5	2.9	0
30					----------				0	204	13	0
31		----------			----------		----------		----------	15	3.5	----------
Total									-	246.74	164.62	79.52
Mean									-	7.96	5.31	2.65
Ac-ft									-	489	327	158

Calendar year	: Max	Min	Mean	Ac-ft
Water year	: Max	Min	Mean	Ac-ft

Peak discharge (base, cfs).--Oct. 17 (time unknown) 12,300 cfs (16.5 ft); July 30 (0100) 1,220 cfs (10.38 ft).

8-2515. Rio Grande near Lobatos, Colo.

Location.--Lat 37°05', long 105°45', in sec.22, T.33 N., R.11 E., on right bank at highway bridge, 6 miles north of Colorado-New Mexico State line, 7 miles downstream from Culebra Creek, 10 miles east of Lobatos, and 14 miles east of Antonito.

Drainage area.--7,700 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--June 1899 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Published as "at Cenicero" 1899-1901, and as "near Cenicero" 1902-4.

Gage.--Water-stage recorder. Datum of gage is 7,427.63 ft above mean sea level, datum of 1929. Prior to Nov. 8, 1910, staff or chain gage at same site and datum.

Average discharge.--67 years, 613 cfs (443,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,330 cfs May 11 (gage height, 2.98 ft); minimum daily, 26 cfs Sept. 30.
1899-1966: Maximum discharge observed, 13,200 cfs June 8, 1905 (gage height, 9.1 ft), from rating curve extended above 8,000 cfs; no flow at times in 1950-51, 1956.
Maximum stage known, probably since at least 1828, occurred June 8, 1905.

Remarks.--Records good except those for winter period, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals, diversions for irrigation, and return flow from irrigated areas. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report as "above Culebra Creek, near' Lobatos."

Cooperation.--Records furnished by Colorado district.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	925	430	450	480	380	430	728	556	752	178	56	43
2	961	430	430	460	410	440	816	643	1,030	174	58	43
3	889	420	430	450	420	460	889	664	1,070	160	110	43
4	840	410	445	440	400	470	916	671	889	157	90	44
5	768	370	445	440	380	480	848	685	752	164	128	46
6	699	340	445	450	400	450	752	706	671	157	195	50
7	562	315	440	460	420	440	671	816	580	139	206	48
8	508	360	440	450	440	460	587	961	478	128	195	43
9	496	629	460	440	450	480	580	1,020	415	120	167	43
10	472	744	508	430	470	500	587	1,200	370	112	142	43
11	430	800	526	420	440	560	657	1,280	335	102	120	46
12	405	784	526	410	390	620	678	1,100	340	88	95	50
13	385	685	508	400	380	700	664	832	315	73	82	50
14	345	664	490	410	380	760	615	685	270	65	78	48
15	310	678	484	420	370	816	532	574	230	56	85	50
16	270	664	450	400	370	872	496	496	216	50	136	55
17	286	678	430	390	360	1,030	514	420	198	44	142	60
18	360	699	400	400	360	997	587	365	184	43	105	60
19	450	692	380	370	370	848	744	340	184	41	98	60
20	562	692	390	350	380	808	768	320	181	55	90	60
21	587	699	410	320	380	856	706	306	184	58	80	53
22	556	706	450	310	390	848	538	306	167	53	78	43
23	550	720	490	300	390	768	445	345	157	48	80	40
24	520	784	440	300	400	685	380	425	151	46	85	38
25	484	808	400	300	400	636	370	556	142	41	80	34
26	472	880	400	300	400	629	320	678	136	37	76	32
27	455	832	410	310	410	615	385	685	154	34	65	28
28	445	526	410	320	420	629	460	629	154	33	55	29
29	445	435	420	330	-	671	490	574	154	34	50	29
30	430	415	450	350	----------	713	490	568	178	37	44	26
31	420	----------	510	360	----------	720	----------	636	----------	37	41	----------
Total	16,287	18,289	13,867	11,970	11,160	20,391	18,213	20,042	11,037	2,564	3,092	1,337
Mean	525	610	447	386	399	658	607	647	368	82.7	99.7	44.6
Ac-ft	32,300	36,280	27,500	23,740	22,140	40,440	36,120	39,750	21,890	5,090	6,130	2,650

Calendar year 1965: Max 3,710 Min 90 Mean 689 Ac-ft 498,600
Water year 1965 66: Max 1,280 Min 26 Mean 406 Ac-ft 294,000

8-2520. Rio Grande at Colorado-New Mexico State line

Location.--Lat 37°00', long 105°43', in SE¼ sec.36, T.1 N., R.75 W., on left bank a quarter of a mile upstream from Colorado-New Mexico State line, 1½ miles upstream from Costilla Creek, and 5½ miles west of Jaroso.

Records available.--October 1953 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 7,390 ft (from topographic map).

Average discharge.--13 years, 277 cfs (200,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,310 cfs May 11 (gage height, 4.39 ft); minimum daily, 29 cfs Sept. 30.
1953-66: Maximum discharge, 4,150 cfs May 29, 1958 (gage height, 7.07 ft); no flow at times in 1956
Flood of June 8, 1905 (daily discharge, 13,100 cfs at station near Lobatos 5.8 miles upstream) was probably the greatest since at least 1828.

Remarks.--Records good except those for winter period, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

Cooperation.--Records furnished by Colorado district.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	895	459	431	490	380	430	748	543	676	195	36	42
2	944	462	448	470	400	450	805	615	910	180	48	46
3	885	456	438	450	420	460	870	666	968	163	108	46
4	840	438	448	440	410	480	932	666	825	155	68	48
5	775	411	456	445	390	490	870	676	702	163	130	48
6	730	381	462	450	405	460	770	698	623	160	180	52
7	607	359	452	460	420	450	698	766	551	138	210	50
8	551	352	435	460	445	470	611	915	470	128	204	45
9	535	611	470	450	460	480	599	956	414	120	186	45
10	515	725	527	430	470	500	595	1,110	378	110	157	45
11	480	780	543	420	480	560	640	1,270	336	103	132	49
12	452	790	555	410	400	630	680	1,080	340	90	108	51
13	421	720	535	400	390	700	671	830	330	78	92	52
14	394	676	484	420	390	760	623	689	308	72	82	50
15	359	671	448	425	380	820	559	595	274	67	84	52
16	320	666	362	410	370	880	504	519	237	61	92	57
17	324	676	375	400	360	1,050	504	452	228	55	216	62
18	381	698	375	440	360	1,000	539	398	216	54	115	63
19	476	689	372	390	370	860	684	368	213	50	101	63
20	579	684	289	370	380	820	730	356	216	52	97	63
21	623	689	372	340	380	860	698	330	213	66	86	55
22	591	702	445	310	380	860	555	330	210	59	82	45
23	575	702	462	300	390	780	459	352	189	54	76	42
24	547	748	452	300	400	730	394	428	178	49	86	40
25	519	775	462	290	410	671	375	519	169	43	82	36
26	512	835	435	300	410	658	327	648	157	48	82	34
27	498	825	466	300	415	653	372	671	175	35	70	30
28	487	563	470	310	430	648	442	627	178	34	61	30
29	480	442	470	330	-	698	487	583	166	34	54	30
30	466	421	494	350	----------	734	498	567	183	36	47	29
31	456	----------	527	365	----------	748	----------	603	----------	35	46	----------
Total	17,217	18,406	13,960	12,125	11,295	20,790	18,239	19,826	11,033	2,687	3,218	1,400
Mean	555	614	450	391	403	671	608	640	368	86.7	104	46.7
Ac-ft	34,150	36,510	27,690	24,050	22,400	41,240	36,180	39,320	21,880	5,330	6,380	2,780

Calendar year 1965: Max 3,540 Min 103 Mean 670 Ac-ft 485,200
Water year 1965-66: Max 1,270 Min 29 Mean 411 Ac-ft 297,900

8-2525. Costilla Creek above Costilla Dam, N. Mex.

Location.--Lat 36°53'50", long 105°15'20", in Sangre de Cristo Grant, on left bank 2 miles upstream from Costilla Dam and 17 miles southeast of Costilla, Taos County.

Drainage area.--25.1 sq mi.

Records available.--April 1937 to September 1966 (no winter records). Published as "above reservoir, near Costilla" 1937-51. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Concrete control since Sept. 17, 1965. Datum of gage is 9,429 ft above mean sea level, datum of 1929. Prior to July 9, 1940, at wooden control 660 ft downstream at datum 10.65 ft lower. July 9, 1940, to July 22, 1954, at concrete control 600 ft downstream at datum 8.87 ft lower. July 23, 1954, to June 16, 1959, 200 ft upstream at datum 1.41 ft higher. June 17, 1959, to Sept. 16, 1965, present site at datum 1.12 ft lower.

Extremes.--Maximum discharge during year, 88 cfs July 23 (gage height, 3.30 ft), from rating curve extended above 16 cfs on basis of slope-area measurement of peak flow; minimum determined, 1.0 cfs Nov. 3, result of freezeup.
1937-66: Maximum discharge, 3,870 cfs July 22, 1954 (gage height, 6.3 ft, corrected), from floodmarks, present site and datum), on basis of slope-area measurement of peak flow; minimum (revised), 0.1 cfs Nov. 11, 1964, result of freezeup.
The flood in 1954 destroyed the gaging station and is highest known since about 1909, from information by local range rider.

Remarks.--Records good. A total of about 1,300 acres is irrigated above this station and Casias Creek near Costilla (see station 8-2530), proportion between streams varying with current conditions.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	3.3					-	12	22	5.3	7.1	4.6
2	4.2	3.2					-	10	17	4.7	19	4.2
3	3.7	-					-	12	12	4.6	14	3.9
4	3.7	-					-	14	12	4.6	17	3.7
5	3.7	-					-	15	11	4.4	11	3.7
6	3.6	-					-	16	11	4.4	8.4	4.4
7	3.4	-					-	17	9.4	4.9	7.7	4.7
8	3.4	-					-	20	8.4	4.4	7.7	4.1
9	3.4	-					-	21	9.4	4.1	8.7	3.6
10	3.3	-					-	20	18	4.4	8.1	3.3
11	3.4	-					-	16	12	4.1	6.2	4.3
12	3.4	-					-	18	9.4	3.7	8.7	5.5
13	3.3	-					-	15	8.7	8.6	8.1	3.4
14	3.2	-					-	14	7.4	5.5	6.7	3.2
15	3.2	-					-	13	7.4	4.9	6.0	3.2
16	3.3	-					-	13	8.1	4.7	6.2	2.7
17	6.0	-					-	13	7.7	4.4	4.9	2.7
18	5.8	-					-	16	7.2	7.1	6.7	2.7
19	6.2	-					-	16	6.9	11	6.9	2.6
20	5.0	-					-	16	8.4	8.1	6.7	2.8
21	4.7	-					11	16	11	5.3	5.8	3.3
22	4.4	-					8.4	18	9.4	5.3	6.2	2.8
23	4.2	-					9.0	18	6.5	16	8.8	2.9
24	4.2	-					10	18	6.2	9.2	9.0	2.8
25	4.1	-					13	19	6.0	5.8	5.5	2.8
26	4.1	-					12	18	7.0	5.0	4.6	2.7
27	3.7	-					10	18	14	11	4.4	3.6
28	3.7	-					10	18	6.7	12	8.1	3.6
29	3.4	-			-		12	18	6.0	10	5.8	2.8
30	3.4	-			----------		14	16	5.8	8.7	5.3	2.8
31	3.3	----------			----------		----------	21	----------	6.2	5.0	----------
Total	123.0	-	-	-	-	-	-	505	292.0	202.4	244.3	103.4
Mean	3.97	-	-	-	-	-	-	16.3	9.73	6.53	7.88	3.45
Ac-ft	244	-	-	-	-	-	-	1,000	579	401	485	205

Calendar year : Max Min Mean Ac-ft
Water year : Max Min Mean Ac-ft

Peak discharge (base 40 cfs).--July 23 (0030) 88 cfs (3.30 ft); July 28 (1300) 46 cfs (2.69 ft).

8-2530. Casias Creek near Costilla, N. Mex.

Location.--Lat 36°53'50", long 105°15'35", in Sangre de Cristo Grant, on left bank 200 ft downstream from road crossing, 2 miles upstream from Costilla Dam, and 17 miles southeast of Costilla, Taos County.

Drainage area.--16.6 sq mi.

Records available.--April 1937 to September 1966 (no winter records). Nov. 1-7, 1947, and Nov. 1-8, 13-16, 1948, discharge records have been found to be unreliable and should not be used. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder and concrete control. Datum of gage is 9,404 ft above mean sea level, datum of 1929. Prior to July 18, 1940, water-stage recorder and wooden control 100 ft downstream at datum 1.56 ft lower.

Extremes.--Maximum discharge during year, 30 cfs May 31 (gage height, 1.09 ft); minimum determined, 2.8 cfs July 17.
1937-66: Maximum discharge, 122 cfs June 11, 1957; maximum gage height recorded, 1.90 ft June 14, 1938 (backwater from Costilla Lake); minimum discharge recorded, 0.80 cfs June 29, 1963.

Remarks.--Records good. A total of about 1,300 acres irrigated above this station and Costilla Creek above Costilla Dam (8-2525), proportion between streams varying with current conditions.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	5.8					-	8.7	19	8.3	5.5	6.2
2	8.7	5.8					-	7.9	18	7.9	14	5.8
3	8.3	5.5					-	9.1	16	7.5	9.1	5.5
4	7.5	-					-	9.6	14	7.0	12	5.5
5	7.0	-					-	12	14	6.6	9.1	5.5
6	7.0	-					-	13	14	6.6	7.0	5.8
7	6.6	-					-	15	13	6.2	6.4	6.6
8	7.0	-					-	18	13	6.2	6.4	5.8
9	6.6	-					-	20	13	5.8	6.6	5.5
10	6.2	-					-	20	18	6.2	5.8	5.5
11	6.2	-					-	18	15	5.5	5.8	5.8
12	6.2	-					-	16	13	4.9	5.2	7.9
13	5.8	-					-	11	12	5.5	5.1	5.5
14	5.8	-					-	8.3	12	4.6	5.0	4.9
15	5.8	-					-	8.3	10	3.2	4.9	4.9
16	5.8	-					-	8.3	10	3.2	4.3	4.9
17	9.1	-					-	7.5	12	3.2	4.0	4.6
18	8.3	-					-	7.9	10	3.8	4.3	4.6
19	9.1	-					-	8.7	9.6	6.3	4.3	4.6
20	6.2	-					-	9.1	10	4.6	4.3	4.6
21	4.6	-					10	8.7	14	3.2	4.0	4.6
22	4.9	-					10	10	11	3.5	5.8	4.3
23	5.2	-					11	11	9.6	6.4	10	4.3
24	5.2	-					9.1	11	9.1	5.8	9.1	4.3
25	5.2	-					8.3	12	8.3	4.3	6.6	4.0
26	5.2	-					7.0	12	9.6	3.5	5.8	4.0
27	5.2	-					6.6	12	14	5.5	5.8	4.9
28	5.2	-					6.6	12	10	5.8	7.9	5.2
29	5.2	-			-		7.0	12	9.6	6.6	7.0	4.3
30	5.2	-			----------		8.3	13	9.1	6.2	6.6	4.3
31	5.2	----------			----------		----------	17	----------	4.6	7.0	----------
Total	198.6	-	-	-	-	-	-	367.1	369.9	168.5	204.7	154.2
Mean	6.41	-	-	-	-	-	-	11.8	12.3	5.44	6.60	5.14
Ac-ft	394	-	-	-	-	-	-	728	734	334	406	306

Calendar year : Max Min Mean Ac-ft
Water year : Max Min Mean Ac-ft

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

8-2535. Santistevan Creek near Costilla, N. Mex.

Location.--Lat 36°53'05", long 105°16'50", in Sangre de Cristo Grant, on left bank 200 ft upstream from road crossing, 0.9 mile upstream from Costilla Dam, and 16 miles southeast of Costilla, Taos County.

Drainage area.--2.15 sq mi.

Records available.--April 1937 to September 1966 (no winter records). Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 9,492 ft (revised) above mean sea level, datum of 1929. Prior to June 27, 1940, water-stage recorder and wooden control at same site at datum 0.99 ft lower.

Extremes.--Maximum discharge during year, 11 cfs Aug. 2 (gage height, 1.05 ft); minimum determined, about 0.14 cfs Apr. 21, result of freezeup.

1937-66: Maximum discharge recorded, 18 cfs Aug. 11, 1941, July 12, 1957; maximum gage height recorded, 1.73 ft Aug. 11, 1941; minimum discharge recorded, 0.10 cfs Nov. 13-17, 1948, Apr. 29, Nov. 1, 1963, Nov. 20-22, 1964.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.1	0.93					-	1.0	3.1	2.2	2.1	1.2
2	1.1	.86					-	1.0	2.9	2.1	3.4	1.1
3	1.1	.86					-	1.0	2.7	2.0	2.3	1.1
4	1.1	-					-	1.1	2.7	2.0	2.4	1.1
5	1.1	-					-	1.1	2.6	1.9	2.2	1.1
6	1.1	-					-	1.2	2.6	1.9	2.2	1.3
7	1.1	-					-	1.4	2.6	1.9	2.1	1.2
8	1.1	-					-	1.5	2.6	1.9	2.1	1.1
9	1.1	-					-	1.7	2.7	1.9	2.3	1.1
10	1.1	-					-	1.6	3.2	1.9	2.1	1.1
11	1.1	-					-	1.5	2.7	1.8	1.9	1.4
12	1.1	-					-	1.6	2.5	1.6	2.0	1.4
13	.93	-					-	1.5	2.4	1.9	1.9	1.1
14	.93	-					-	1.5	2.5	1.8	1.9	1.1
15	.93	-					-	1.6	2.5	1.7	1.8	1.1
16	.93	-					-	1.7	2.5	1.7	1.7	1.0
17	1.0	-					-	1.8	2.5	1.6	1.6	1.0
18	.79	-					-	1.9	2.4	1.7	1.7	.93
19	.93	-					-	1.9	2.4	2.1	1.7	.93
20	.93	-					0.50	2.0	2.4	1.8	1.7	.93
21	1.0	-					.55	2.1	3.0	1.6	1.6	.79
22	1.0	-					.86	2.3	2.4	1.6	1.7	.79
23	1.0	-					.79	2.4	2.3	1.9	1.9	.79
24	1.0	-					.79	2.4	2.2	1.8	1.6	.73
25	.93	-					.86	2.5	2.1	1.5	1.5	.73
26	.86	-					.93	2.5	2.4	1.9	1.4	.73
27	.86	-					.93	2.5	2.8	1.8	1.4	.93
28	.86	-					.86	2.5	2.3	1.9	1.4	.79
29	.86	-			-		.93	2.6	2.3	1.9	1.4	.73
30	.86	-			----------		1.0	2.5	2.3	1.8	1.4	.73
31	.86	----------			----------		----------	3.0	----------	----------	1.5	1.3	----------
Total	30.66	-	-	-	-	-	-	56.9	76.6	56.6	57.7	30.03
Mean	0.989	-	-	-	-	-	-	1.84	2.55	1.83	1.86	1.00
Ac-ft	61	-	-	-	-	-	-	113	152	112	114	60

Calendar year : Max Min Mean Ac-ft
Water year : Max Min Mean Ac-ft

Peak discharge (base, 6 cfs).--July 19 (1230) 6.4 cfs (0.75 ft); Aug. 2 (1500) 11 cfs (1.05 ft).

8-2539. Costilla Lake near Costilla, N. Mex.

Location.--Lat 36°52'35", long 105°16'45", on face of Costilla Dam on Costilla Creek in Sangre de Cristo Grant, 16 miles southeast of Costilla, Taos County.

Drainage area.--54.6 sq mi (revised).

Records available.--May 1922 to September 1966. Records prior to 1961 published in WSP 1732.

Gage.--Inclined staff gage, painted on base of railroad rail on left side of control tower of Dam. Datum of gage is 107 ft above mean sea level, datum of 1929, leveling of 1964.

Extremes.--Maximum contents observed during year, 10,680 acre-ft May 15 (gage height, 9,499.4 ft); minimum, 3,850 acre-ft Sept. 30 (gage height, 9,473.2 ft).
1922-66: Maximum contents, 15,100 acre-ft June 30, 1940 (gage height, 9,511.4 ft); no contents October 1925 to February 1926, September 1956.

Remarks.--Lake is formed by earth-fill dam faced with broken stone. Storage began in 1920. Capacity, 15,700 acre-ft between gage heights 9,405.0 ft (bottom of lower intake) and 9,513.0 ft (crest of ungated spillway cut in natural rock). By order of New Mexico State Engineer (first issued in 1942) storage was limited to 14,540 acre-ft maximum, and 10,880 acre-ft for not to exceed 45 days (revised to 60 days in 1949). Diversions for irrigation of about 1,300 acres above Lake. Contents computed from intermittent gage readings and capacity table (based on original survey) furnished by New Mexico State Engineer.

Contents, in acre-feet, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,600	6,930	-	-	-	-	-	10,450	10,090	7,570	5,620	4,470
2	-	-	-	-	-	-	-	10,450	10,060	-	5,620	4,370
3	-	6,980	-	-	-	-	-	10,480	9,990	-	5,620	-
4	7,650	-	-	-	-	-	-	10,480	-	-	5,640	-
5	-	-	-	-	-	-	-	10,510	-	7,600	5,690	4,350
6	7,710	-	-	-	-	-	-	10,510	9,860	7,460	-	4,230
7	-	-	-	-	-	-	9,670	-	9,730	7,300	-	4,130
8	-	7,060	-	-	-	-	-	10,550	9,610	7,160	5,690	4,010
9	-	-	-	-	-	-	-	10,580	9,510	-	5,620	3,930
10	-	-	-	-	-	-	-	10,580	9,420	-	5,590	-
11	-	-	-	-	-	-	-	10,650	-	7,000	5,550	-
12	-	-	-	-	-	-	-	10,650	-	6,850	5,480	-
13	-	-	-	-	-	-	-	10,650	9,390	6,690	-	-
14	-	7,140	-	-	-	-	-	-	9,300	6,560	-	-
15	-	-	-	-	-	-	9,890	10,680	9,200	6,360	5,430	-
16	7,910	-	-	-	-	-	-	10,610	9,110	-	5,320	-
17	7,930	-	-	-	-	-	-	10,580	8,990	-	5,090	-
18	7,790	-	-	-	-	-	-	10,550	-	6,310	5,140	-
19	7,710	-	-	-	-	-	-	10,480	-	6,140	5,090	-
20	7,630	-	-	-	-	-	-	10,410	8,900	6,090	-	-
21	-	-	-	-	-	-	-	-	8,750	6,040	-	-
22	7,240	-	-	-	-	-	-	-	8,660	5,970	5,050	-
23	-	-	-	-	-	-	-	10,320	8,510	-	4,920	-
24	-	-	-	-	-	-	-	10,280	8,360	-	4,900	-
25	7,300	-	-	-	-	-	-	10,250	-	5,950	4,810	-
26	-	-	-	-	-	-	10,280	10,220	-	5,830	4,720	-
27	-	-	-	-	-	-	-	10,180	8,310	5,780	-	-
28	7,220	-	-	-	8,700	-	-	-	8,130	5,710	-	-
29	7,160	-	-	-	-	9,360	-	-	8,020	5,620	4,680	-
30	-	7,380	-	-	----------	-	10,400	10,180	7,820	-	4,620	3,850
31	7,030	----------	7,790	8,200	----------	9,400	----------	10,090	----------	5,620	4,550	----------
(†)	-	-	-	-	-	-	-	9,497.6	9,490.1	-	9,476.7	9,473.2
(‡)	-540	+350	+410	+410	+500	+700	+1,000	-310	-2,270	-2,200	-1,070	-700

Calendar year 1965..... ‡ +6,816
Water year 1965-66..... ‡ -3,720

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Contents interpolated Oct. 31, Nov. 30, Dec. 31, Jan. 31, Feb. 28, Mar. 31, Apr. 30, July 31.

8-2540. Costilla Creek below Costilla Dam, N. Mex.

Location.--Lat 36°52'25", long 105°16'45", in Sangre de Cristo Grant, on left bank 125 ft downstream from Costilla Dam and 16 miles southeast of Costilla, Taos County.

Drainage area.--54.6 sq mi.

Records available.--April 1937 to September 1966 (no winter records 1937-44, 1948-49). Prior to October 1951, published as "below reservoir near Costilla." Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder and concrete control. Datum of gage is 9,290 ft above mean sea level, datum of 1929.

Average discharge.--20 years (1944-47, 1949-66), 16.5 cfs (11,950 acre-ft per year).

Extremes.--Maximum discharge during year, 129 cfs June 26,27 (gage height, 1.89 ft); no flow at times.
1937-66: Maximum discharge, 286 cfs May 9,10, 1942 (gage height, 2.65 ft); no flow at times.

Remarks.--Records good. Flow regulated by Costilla Lake (see 8-2539). Diversions for irrigation of about 1,300 acres above Lake.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.24	20				0	0.03	6.8	62	38	43	53
2	.24	.14				0	.03	24	56	12	43	23
3	.24	.11				0	.03	24	44	12	33	8.3
4	.24	.05				0	.02	24	44	38	9.5	25
5	.24	.04				0	.02	24	60	90	9.8	60
6	.20	.04				0	.02	24	89	90	9.8	60
7	.14	.04				0	.01	23	89	89	21	60
8	.11	.04				0	.01	23	88	37	41	60
9	.07	.04				0	.01	23	88	14	42	26
10	.07	.04				0	.01	23	41	46	42	9.5
11	.07	.04				0	.01	24	19	111	41	14
12	.07	.04				0	.01	24	35	101	20	21
13	.07	.04				0	.01	24	67	96	11	21
14	.07	.04				0	.01	24	67	96	31	21
15	.07	.04				0	.02	33	67	37	73	21
16	.07	.04				0	.03	49	67	8.3	73	14
17	51	.04				0	.04	49	35	30	63	11
18	85	.04				0	.05	49	19	74	43	11
19	70	.04				0	.05	49	45	74	20	11
20	84	.04				0	.05	38	96	74	11	11
21	82	.04				0	.07	33	96	75	26	11
22	57	.04				0	.07	41	96	33	58	10
23	.09	.04				0	.09	54	96	12	58	10
24	.09	.05				0	.09	54	38	26	58	10
25	17	.05				0	.09	54	9.5	54	58	10
26	33	.05				0	.09	54	49	54	26	10
27	32	.04				0	.07	35	117	54	11	10
28	39	.02				.01	.07	28	96	54	25	10
29	50	0			-	.02	.07	40	96	26	54	10
30	52	0			----------	.02	.07	64	96	14	54	5.1
31	50	----------			----------	.03	----------	62	----------	24	54	----------
Total	704.39	21.27	0	0	0	0.08	1.25	1,1008	1,967.5	1,593.3	1,162.1	636.9
Mean	22.7	0.7 09	0	0	0	0.003	0.042	35.5	65.6	51.4	37.5	21.2
Ac-ft	1,400	42	0	0	0	0.2	2.5	2,180	3,900	3,160	2,300	1,260

Calendar year 1965 : Max 110 Min 0 Mean 13.7 Ac-ft 9,910
Water year 1965-66 : Max 117 Min 0 Mean 19.7 Ac-ft 14,260

8-2545. Costilla Creek near Amalia, N. Mex.

Location.--Lat 36°52'33", long 105°23'22", in Sangre de Cristo Grant, on right bank 40 ft downstream from third bridge upstream from Amalia, 1.5 miles downstream from Latir Creek, $6\frac{1}{4}$ miles southeast of Amalia, and 12 miles southeast of Costilla.

Drainage area.--152 sq mi.

Records available.--May 1949 to September 1959. April 1961 to September 1966 (no winter records).

Gage.--Water-stage recorder. Concrete control since Sept. 27, 1965. Datum of gage is 8,512 ft above mean sea level, datum of 1929. May 1949 to May 2, 1956, at site 40 ft upstream at datum 0.81 ft lower. May 3, 1956 to Sept. 27, 1965, at site 10 ft downstream at datum 1.81 ft lower.

Extremes.--Maximum discharge during year, 419 cfs July 27 (gage height, 3.11 ft), from rating curve extended above 110 cfs by logarithmic plotting; minimum recorded, 3.7 cfs Apr. 21.
1949-59, 1960-66: Maximum discharge recorded, 689 cfs Apr. 25, 1958; maximum gage height recorded, 3.85 ft May 13, 1958; minimum discharge recorded, 1.4 cfs June 23, 1963.

Remarks.--Records good. Flow regulated by Costilla Lake (capacity, 15,700 acre-ft, original survey). Diversions for irrigation of about 1,300 acres above Costilla Lake.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	42					40	43	103	66	54	62
2	12	12					40	59	96	26	89	44
3	12	9.0					30	59	71	23	73	19
4	11	-					20	61	69	33	69	24
5	11	-					20	62	76	94	48	67
6	11	-					25	66	112	94	42	70
7	11	-					26	71	112	94	40	70
8	10	-					26	74	105	62	60	70
9	10	-					26	83	107	26	61	49
10	9.9	-					29	84	85	38	60	21
11	9.9	-					28	78	45	115	58	22
12	9.6	-					25	75	46	109	46	33
13	9.6	-					25	71	88	105	33	31
14	9.3	-					23	67	88	103	35	30
15	9.3	-					23	70	86	66	84	30
16	10	-					27	92	86	23	86	25
17	40	-					28	94	66	28	82	19
18	94	-					28	98	39	81	60	18
19	73	-					27	94	48	84	44	18
20	91	-					26	84	111	81	29	18
21	89	-					26	74	119	80	31	18
22	83	-					28	77	117	51	71	18
23	16	-					27	94	111	28	78	18
24	12	-					28	94	72	35	74	19
25	17	-					28	94	26	61	69	17
26	38	-					29	91	39	62	49	17
27	38	-					31	76	148	84	24	18
28	42	-					33	60	111	74	26	19
29	53	-			-		35	64	111	54	63	17
30	56	-			----------		40	91	109	32	63	16
31	57	----------			----------		----------	100	----------	32	64	----------
Total	966.6	-	-	-	-	-	847	2,400	2,602	1,944	1,765	917
Mean	31.2	-	-	-	-	-	28.2	77.4	86.7	62.7	56.9	30.6
Ac-ft	1,920	-	-	-	-	-	1,680	4,760	5,160	3,860	3,500	1,820

Calendar year	: Max	Min	Mean	Ac-ft
Water year	: Max	Min	Mean	Ac-ft

8-2555. Costilla Creek near Costilla, N. Mex.

Location.--Lat 36°58'00", long 105°30'25", in Sangre de Cristo Grant, on right bank 70 ft downstream from bridge on State Road 196, half a mile upstream from diversion dam and 1.6 miles southeast of Costilla, Taos County.

Drainage area.--195 sq mi.

Records available.--March 1936 to September 1966 (no winter records 1936-41). Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Concrete control since Oct. 13, 1952. Altitude of gage is 7,900 ft (from topographic map). Prior to June 18, 1944, at site 200 ft downstream at different datum. June 18, 1944, to Sept. 30, 1964, at site 0.3 mile upstream at different datum.

Average discharge.--25 years (1941-66), 43.5 cfs (31,490 acre-ft per year).

Extremes.--Maximum discharge during year, 292 cfs July 30 (gage height, 3.67 ft); minimum determined, 1.7 cfs Nov. 27, result of freezeup.
1936-66: Maximum discharge, 1,150 cfs May 11, 1942 (gage height, 5.37 ft, site and datum then in use); minimum determined, 0.6 cfs Mar. 13, 1965, result of freezeup.
The greatest flood known occurred in 1886, from information by local residents.

Remarks.--Records good except those for the winter period, which are poor. Regulation by Costilla Lake 20 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions for irrigation of about 2,000 acres above station. Records of chemical analyses and water temperatures for water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	55	12	9.0	6.0	9.0	49	42	106	87	58	61
2	16	21	12	6.0	6.0	8.0	48	58	104	38	91	52
3	15	17	12	4.5	5.0	7.0	47	60	80	31	90	24
4	15	16	12	4.5	6.0	7.0	30	62	73	28	124	21
5	13	14	12	5.0	7.0	8.0	25	66	68	79	73	54
6	13	13	11	6.0	7.0	8.6	28	71	99	86	61	63
7	13	14	11	8.0	8.0	9.6	31	73	102	87	53	66
8	13	12	12	9.0	8.0	9.6	32	81	104	76	74	66
9	13	13	12	12	7.0	11	31	84	102	37	73	57
10	12	12	14	11	6.0	12	32	87	103	32	73	27
11	11	12	13	11	5.0	13	32	80	63	98	68	23
12	11	12	11	10	7.0	13	27	78	52	106	61	33
13	11	13	10	9.2	7.0	16	27	74	80	102	44	31
14	10	11	8.0	8.6	6.0	20	27	71	82	105	37	31
15	8.6	11	8.0	8.6	6.0	21	25	66	80	85	92	31
16	9.6	13	5.0	8.3	5.0	22	28	81	81	38	92	30
17	21	13	6.0	8.3	6.0	30	32	84	76	39	90	22
18	95	12	6.0	8.3	8.0	25	35	86	48	85	65	21
19	75	11	4.0	8.0	7.0	30	35	86	42	91	54	20
20	91	11	5.0	8.0	7.0	35	34	82	90	94	36	20
21	90	13	6.0	7.0	7.0	36	32	70	105	89	33	20
22	89	9.1	10	5.0	7.0	25	37	68	110	78	65	19
23	32	15	9.0	6.0	8.0	23	32	82	105	44	78	18
24	20	17	8.0	6.0	9.0	22	34	85	87	42	82	18
25	18	18	7.0	6.0	9.0	24	32	86	36	65	72	18
26	36	13	10	5.0	9.0	23	30	86	33	66	58	17
27	39	89	10	5.0	9.0	27	34	78	134	81	28	17
28	40	10	11	6.0	8.0	34	35	63	111	81	25	18
29	57	11	12	7.0	-	28	38	60	104	67	53	18
30	60	11	14	8.0	----------	31	41	84	105	63	60	17
31	60	----------	12	7.0	----------	45	----------	95	----------	39	62	----------
Total	1024.2	432.0	305.0	231.3	196.0	6328	1.000	2.329	2.565	2.139	2.025	933
Mean	33.0	14.4	9.84	7.46	7.00	20.4	33.3	75.1	85.5	69.0	65.3	31.1
Ac-ft	2.030	857	605	459	389	1.260	1.980	4.620	5.090	4.240	4.020	1.850

Calendar year 1965: Max 183 Min 2.5 Mean 44.1 Ac-ft 31,950
Water year 1965-66: Max 134 Min 4.0 Mean 37.8 Ac-ft 27,400

Peak discharge (base, 250 cfs).--July 30 (1630) 292 cfs (3.67 ft); Aug. 3 (2300) 287 cfs (3.65 ft).

Note.--No gage-height record Jan. 19 to Feb. 28.

Principal diversions from Costilla Creek, New Mexico-Colorado

Records of discharge are collected at 7 gaging stations on 3 diversions from Costilla Creek. Each of these stations is equipped with a water-stage recorder (digital, as noted) and a Parshall flume. Water diverted is used for irrigation in the Sangre de Cristo Grant in New Mexico and Colorado below the gaging station on Costilla Creek near Costilla, N. Mex. Records collected during irrigation seasons only except for No. 8-2620.

8-2560. Acequia Madre at Costilla, N. Mex.--Lat 36°58'02", long 105°30'57", 275 ft downstream from diversion dam. Records available, May 1944 to September 1966. Acequia diverts from right bank of Costilla Creek. Digital recorder.

8-2575. Cordillera ditch at Garcia, Colo.--Lat 36°59'42", long 105°31'39", 570 ft south of New Mexico-Colorado State line. Records available, June 1944 to September 1966. Ditch diverts from Acequia Madre for irrigation in Colorado. Digital recorder.

8-2580. Cerro Canal at Costilla, N. Mex.--Lat 36°57'55", long 105°31'07", 1,400 ft downstream from diversion dam. Records available, April 1944 to September 1966. Canal diverts from left bank of Costilla Creek. Digital recorder.

8-2585. Association ditch at Costilla, N. Mex.--Lat 36°57'38", long 105°32'03", 100 ft downstream from new diversion from Cerro Canal. Records available, May 1955 to September 1966. Ditch diverts from left bank of Cerro Canal.

8-2590. Cerro Canal near Jaroso, Colo.--Lat 36°59'42", long 105°34'35". Records available, June 1944 to September 1966. Flow measured is delivered to Colorado and to New Mexico branch of Cerro Canal. Digital recorder.

8-2595. New Mexico branch Cerro Canal near Jaroso, Colo.--Lat 36°59'44", long 105°34'47", 225 ft downstream from headgate. Records available, June 1944 to September 1966. Canal diverts from left bank of Cerro Canal for irrigation in New Mexico.

8-2620. Eastdale No. 1 intake canal near Jaroso, Colo.--Lat 37°02'40", long 105°37'00", 750 ft downstream from headgate. Records available, June 1944 to September 1966. Canal diverts from right bank of Costilla Creek to Eastdale Reservoir No. 1 for irrigation in Colorado.

Diversions, in acre-feet, water year October 1965 to September 1966

Month	Acequia Madre	Cordillera ditch	Cerro Canal at Costilla	Association ditch	Cerro Canal near Jaroso	New Mexico branch Cerro Canal	Eastdale No. 1 intake canal
October	-	-	-	-	-	-	378
November	-	-	-	-	-	-	61
December	-	-	-	-	-	-	0
January	-	-	-	-	-	-	0
February	-	-	-	-	-	-	0
March	-	-	-	-	-	-	347
April	-	-	1,690	-	-	-	821
May	635	6.5	3,520	1,070	1,690	257	.9
June	764	6.0	3,830	1,310	1,680	277	3.7
July	833	12	2,940	1,020	1,350	199	42
August	637	2.8	2,740	1,280	1,070	214	220
September	348	0	1,380	670	488	113	14
Water year 1965-66	-	-	-	-	-	-	1,890

8-2605. Costilla Creek below diversion dam, at Costilla, N. Mex.

Location.--Lat 36°58'03", long 105°31'00", in Sangre de Cristo Grant, on right bank 650 ft downstream from diversion dam and 1.1 miles southeast of Costilla, Taos County.

Drainage area.--197 sq mi.

Records available.--April 1952 to September 1966 (no winter records).

Gage.--Digital water-stage recorder with crest-stage gage and concrete control. Datum of gage is 7,861 ft above mean sea level, datum of 1929. Prior to Aug. 19, 1964, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge recorded during year, 308 cfs July 30 (gage height, 2.95 ft); minimum determined, 0.06 cfs Apr. 21.
1952-66: Maximum discharge recorded, 525 cfs July 22, 1954; maximum gage height, 5.05 ft July 24, 1957; no flow Oct. 14, 1963.
The greatest flood known occurred in 1886, from information by local residents. Flood of May 11, 1942, probably exceeded 1,000 cfs, based on records for upstream station (see 8-2555).

Remarks.--Records good. Flow partly regulated by Costilla Lake about 21 miles upstream (capacity, 15,700 acre-ft, original survey), and by canal headgates or sluice gates at diversion dam. Diversions above station for irrigation of about 5,000 acres, 3,000 of which are below station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	0.60						-	3.2	17	17	9.9	1.2
2	.60						-	2.0	13	22	39	2.0
3	.60						-	1.7	3.6	2.8	34	1.4
4	.60						-	2.1	14	2.5	102	1.0
5	.60						-	2.0	1.7	5.1	25	2.0
6	.50						-	5.6	7.7	3.0	2.6	1.2
7	-						-	8.0	3.8	2.4	1.2	1.5
8	-						-	13	5.0	3.4	4.0	1.4
9	-						-	12	5.0	1.3	2.2	4.6
10	-						-	14	15	1.2	1.4	18
11	-						-	8.9	3.8	8.9	.50	5.3
12	-						-	7.2	.70	7.2	.90	1.8
13	-						-	4.6	1.1	4.4	1.5	1.6
14	-						-	1.8	1.0	6.9	.40	1.9
15	-						-	1.0	.80	19	14	1.8
16	-						-	4.1	.90	14	11	1.6
17	-						-	2.7	23	6.5	14	1.3
18	-						-	2.0	18	8.9	1.5	1.2
19	-						.20	2.1	4.4	7.2	7.5	1.2
20	-						.10	14	4.0	8.0	17	1.2
21	-						.10	23	6.9	4.7	2.8	1.2
22	-						.10	3.4	10	6.2	4.8	1.1
23	-						.10	6.9	6.1	3.2	4.4	1.0
24	-						.10	11	5.0	2.0	8.7	1.0
25	-						3.3	7.5	1.1	2.9	2.4	.90
26	-						6.4	6.0	1.0	1.5	1.6	.90
27	-						5.9	3.8	32	10	1.3	.90
28	-						5.9	.10	5.6	16	1.2	.80
29	-				-		6.0	.10	3.5	6.4	1.8	.70
30	-				------		6.0	1.9	4.4	31	1.2	.70
31	-	------			------		------	6.9	------	21	1.2	------
TOTAL	-	-	-	-	-	-	-	182.60	219.10	256.6	321.00	62.40
MEAN	-	-	-	-	-	-	-	5.89	7.30	8.28	10.4	2.08
AC-FT	-	-	-	-	-	-	-	362	435	509	637	124

8-2610. Costilla Creek at Garcia, Colo.

Location.--Lat 36°59'20", long 105°31'54", in Sangre de Cristo Grant, on left bank 200 ft downstream from old highway bridge, a quarter of a mile upstream from New Mexico-Colorado State line, and 0.6 mile south of Garcia.

Drainage area.--200 sq mi, approximately.

Records available.--June 1944 to September 1966 (no winter records).

Gage.--Water-stage recorder. Altitude of gage is 7,758 ft (from topographic map). Prior to Apr. 20, 1950, at site 1,000 ft downstream at datum about 2.6 ft lower.

Extremes.--Maximum discharge during year, 177 cfs July 30 (gage height, 4.02 ft); no flow for many days.
1944-66: Maximum discharge, 460 cfs July 24, 1957 (gage height, 4.76 ft); no flow at times in most years.
The greatest flood known occurred in 1886, from information by local residents. Flood of May 11, 1942 probably reached a discharge of 1,000 cfs.

Remarks.--Records fair. Flow partly regulated by Costilla Lake about 23 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions above station for irrigation of about 5,500 acres, 2,000 of which are below station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	5.6					-	0.82	12	10	3.8	0
2	3.5	-					-	.10	12	12	34	.29
3	3.9	-					-	0	1.2	.31	34	.02
4	3.5	-					-	.52	12	.02	82	0
5	2.0	-					-	1.1	7.6	1.5	28	.46
6	.06	-					0	3.1	8.7	.50	6.8	0
7	.10	-					0	3.8	2.5	0	1.0	.02
8	.06	-					0	8.6	3.2	.55	3.4	0
9	.04	-					0	9.4	2.9	0	1.7	7.8
10	.01	-					0	10	12	0	.50	11
11	.29	-					0	7.1	3.3	3.8	0	.46
12	2.5	-					0	5.5	.39	3.5	0	.34
13	2.9	-					0	3.5	.21	.94	.72	.19
14	2.7	-					0	.92	0	1.8	0	.08
15	2.4	-					0	0	0	9.6	10	.06
16	2.2	-					0	.62	0	9.0	11	.08
17	3.4	-					0	.61	12	2.7	13	.01
18	38	-					.05	0	7.9	4.5	.77	0
19	15	-					.14	.06	.06	3.4	9.2	0
20	28	-					.08	5.6	.14	5.6	13	0
21	21	-					.17	14	1.2	2.4	0	0
22	21	-					.50	.42	2.5	2.6	2.2	0
23	2.4	-					.23	.25	.34	2.2	2.3	0
24	0	-					.12	.75	.16	1.0	6.2	0
25	0	-					1.4	1.5	0	1.4	1.5	0
26	7.8	-					4.9	2.3	0	.31	.12	0
27	.50	-					4.3	.85	22	4.4	.01	0
28	.25	-					4.5	0	4.5	12	0	0
29	3.4	-			-		4.7	0	1.4	3.8	.26	0
30	4.9	-			----------		3.4	.21	1.4	19	0	0
31	6.3	----------			----------		----------	1.8	----------	16	0	----------
Total	180.91	-	-	-	-	-	--	83.43	131.60	134.83	265.48	20.81
Mean	5.84	-	-	-	-	-	--	2.69	4.39	4.35	8.56	0.69
Ac-ft	359	-	-	-	-	-	--	165	261	267	527	41

Calendar year : Max Min Mean Ac-ft
Water year : Max Min Mean Ac-ft

Peak discharge (base, 200 cfs).--No peak above base.

8-2630. Latir Creek near Cerro, N. Mex.

Location.--Lat 36°49'45", long 105°32'50", in S½SW¼ sec.15, T.30 N., R.13 E., on right bank at mouth of canyon, 100 ft upstream from heading of Cerro community ditch and 6 miles northeast of Cerro.

Drainage area.--10 sq mi, approximately.

Records available.--June 1937 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Records for April and May 1937, published in WSP 828, have been found to be unreliable (unknown portion of flow bypassing gage) and should not be used.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,280 ft (from topographic map).

Average discharge.--29 years, 6.23 cfs (4,510 acre-ft per year).

Extremes.--Maximum discharge during year, 86 cfs Aug. 4 (gage height, 2.24 ft); minimum discharge determined, 0.90 cfs Mar. 4. 1937-66: Maximum discharge determined, 126 cfs June 18, 1965, from rating curve extended above 57 cfs by logarithmic plotting; maximum gage height recorded, 4.2 ft July 19, 1945 (log jam; discharge not determined, but may have exceeded 126 cfs); minimum daily discharge, 0.20 cfs Jan. 20-21, 24, 1961.

Remarks.--Records good except those for October, which are fair.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	3.8	2.9	3.0	2.2	2.0	4.0	4.1	12	7.5	5.7	3.6
2	6.1	3.8	3.4	2.8	2.2	2.0	4.1	5.1	11	6.8	17	3.3
3	5.9	3.7	3.3	2.5	2.1	2.0	3.6	5.9	9.5	6.4	8.0	3.4
4	5.9	3.5	3.0	2.2	2.0	1.6	3.0	6.4	8.4	5.9	31	3.3
5	5.5	3.4	3.0	2.8	2.1	2.2	3.4	7.3	8.2	5.7	12	3.3
6	5.3	3.4	3.0	3.0	2.1	2.2	3.4	7.7	8.0	5.7	9.0	3.4
7	5.1	3.4	3.0	2.9	2.1	2.2	3.4	8.7	7.7	5.7	7.5	3.3
8	4.9	3.3	2.9	2.9	2.1	2.2	4.1	8.7	7.5	5.5	6.8	3.3
9	4.7	3.4	2.9	2.9	2.0	2.2	4.5	11	8.2	5.5	6.4	3.3
10	4.4	3.3	3.0	2.9	2.0	2.2	4.1	8.7	15	5.3	5.9	3.3
11	4.1	3.1	3.0	2.9	2.0	2.5	3.8	7.3	12	5.5	5.7	3.8
12	4.1	3.0	2.9	2.9	2.0	2.5	3.3	6.4	10	5.1	6.1	4.3
13	4.0	3.3	2.9	2.8	2.1	2.5	3.3	5.7	9.2	5.1	5.7	3.4
14	3.8	3.1	2.9	2.8	2.1	2.5	3.3	5.9	9.0	4.9	5.3	3.3
15	3.7	3.1	2.9	3.0	2.1	2.6	4.0	7.0	8.7	6.1	5.5	3.3
16	4.0	3.1	2.8	2.9	2.0	2.9	4.3	7.0	8.2	5.9	5.3	3.1
17	4.5	3.1	2.6	2.8	2.0	2.8	4.1	7.7	8.0	6.7	4.9	3.0
18	5.0	2.9	2.4	2.9	2.0	2.8	3.6	7.7	7.5	6.8	4.7	3.0
19	5.5	2.8	2.3	2.8	2.0	2.8	2.2	7.7	7.3	5.9	4.5	3.1
20	5.3	2.8	2.6	2.8	2.0	2.9	2.8	8.0	7.0	5.5	4.7	3.1
21	5.2	2.6	2.7	2.8	2.0	3.0	3.1	8.2	7.7	5.5	4.3	3.0
22	5.0	2.2	3.0	2.6	2.0	2.8	2.8	9.2	7.0	5.1	4.3	3.0
23	4.8	2.5	2.9	2.5	2.0	2.5	3.0	9.2	6.4	5.5	4.9	3.0
24	4.8	2.5	2.7	2.5	2.0	3.0	3.3	9.2	5.7	6.4	4.5	3.0
25	4.6	2.4	2.5	2.5	2.0	2.8	4.0	9.2	5.5	5.1	4.0	3.0
26	4.6	2.0	2.7	2.5	2.0	2.6	4.9	8.4	6.4	4.9	3.8	3.0
27	4.4	2.4	2.7	2.4	2.0	2.6	4.5	8.2	13	4.9	3.8	3.0
28	4.2	2.5	2.9	2.4	2.0	2.8	4.7	8.2	9.2	6.1	4.1	3.0
29	4.2	2.9	2.8	2.4	-	2.8	5.3	8.2	9.5	7.3	4.0	2.8
30	4.0	2.9	3.2	2.4	----------	3.1	4.9	8.2	8.7	7.3	3.8	2.8
31	3.8	----------	3.1	2.2	----------	3.4	----------	12	----------	6.1	4.0	----------
Total	148.0	90.2	88.9	83.7	57.2	79.0	112.8	242.2	261.5	181.7	207.2	96.5
Mean	4.77	3.01	2.87	2.70	2.04	2.55	3.76	7.81	8.72	5.86	6.68	3.22
Ac-ft	294	179	176	166	113	157	224	480	519	360	411	191

Calendar year 1965: Max 76 Min 1.0 Mean 8.15 Ac-ft 5,900
Water year 1965-66: Max 31 Min 1.6 Mean 4.52 Ac-ft 3,270

Peak discharge (base, 40 cfs).--Aug. 2 (0315) 46 cfs (1.57 ft); Aug. 4 (0130) 86 cfs (2.24 ft).

8-2635. Rio Grande near Cerro, N. Mex.

Location.--Lat 36°44'05", long 105°41'05", in N½ sec.20, T.29 N., R.12 E., on left bank 4 miles southwest of Cerro, 5½ miles northwest of Questa, and 7 miles upstream from Red River.

Drainage area.--8,440 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--May 1948 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 7,100 ft (from river-profile map).

Average discharge.--18 years, 351 cfs (254,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,400 cfs May 11 (gage height, 7.20 ft); minimum, 73 cfs Sept. 28,29.
1948-66: Maximum discharge, 9,740 cfs June 22, 1949 (gage height, 15.78 ft); minimum, 43 cfs Sept. 22, 1956.

Remarks.--Records good. Diversions for irrigation of about 626,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	902	464	428	460	362	422	824	551	708	222	86	84
2	971	464	471	460	366	430	863	640	929	222	126	82
3	954	460	475	450	368	424	960	728	1,110	209	101	84
4	896	441	479	420	360	386	1,030	728	1,020	199	162	84
5	842	422	495	392	364	371	985	740	857	197	155	85
6	791	386	495	384	364	414	908	764	752	202	173	88
7	682	362	489	377	373	434	827	788	672	190	228	90
8	585	340	466	393	386	454	715	957	578	176	235	90
9	559	479	487	412	375	476	658	1,060	496	170	228	88
10	545	712	555	430	378	479	655	1,150	444	165	204	85
11	507	824	575	442	390	515	682	1,340	393	160	184	88
12	466	839	593	444	380	578	740	1,270	364	151	163	92
13	443	803	583	444	384	648	749	1,010	366	139	145	93
14	420	725	517	430	375	730	720	812	338	132	129	94
15	384	715	492	444	382	836	652	690	298	125	121	93
16	351	718	357	420	378	921	569	597	269	115	129	93
17	335	708	312	410	369	1,080	546	524	252	110	198	98
18	360	735	331	414	380	1,100	564	444	236	111	174	105
19	441	742	320	416	378	1,010	670	399	228	125	144	105
20	559	735	300	384	377	917	800	382	224	124	138	104
21	640	730	280	416	378	908	824	353	224	116	131	106
22	628	745	360	392	378	950	692	346	228	120	124	102
23	602	742	410	378	378	896	542	341	210	115	119	94
24	589	762	440	369	384	824	452	399	206	110	118	89
25	555	836	400	366	392	743	399	509	196	105	120	87
26	533	860	390	346	397	715	382	662	193	94	117	84
27	519	914	390	350	409	715	344	746	196	122	114	77
28	503	751	410	344	414	708	410	722	204	95	107	75
29	491	495	420	344	-	743	517	658	206	90	99	74
30	481	412	450	346	----------	794	546	621	203	117	92	74
31	464	----------	440	351	----------	830	----------	638	----------	99	88	----------
Total	17,998	19,321	13,610	12,428	10,619	21,451	20,225	21,569	12,600	4,427	4,452	2,687
Mean	581	644	439	401	379	692	674	696	420	143	144	89.6
Ac-ft	35,700	38,320	27,000	24,650	21,060	42,550	40,120	42,780	24,990	8,780	8,830	5,330

Calendar year 1965: Max 3,780 Min 143 Mean 715 Ac-ft 517,600
Water year 1965-66: Max 1,340 Min 74 Mean 442 Ac-ft 320,100

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-17	2030	6.81	1,240	5-11	1830	7.20	1,400
4- 4	1600	6.39	1,090	6- 3	1600	6.57	1,150

8-2645. Red River below Zwergle damsite, near Red River, N. Mex.

Location.--Lat 36°40'25", long 105°22'50", in NE¼SW¼ sec.7, T.28 N., R.15 E. (projected), on right bank 2,000 ft upstream from Goose Creek, 1.9 miles downstream from Bear Canyon, 2¾ miles southeast of Red River, and at river mile 24.1.

Drainage area.--25.7 sq mi.

Records available.--April 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 8,871.88 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 145 cfs Aug. 4 (gage height, 3.08 ft); minimum recorded, 2.1 cfs Dec. 19, but may have been less during periods of ice effect.
1963-66: Maximum discharge, 216 cfs June 19, 1965 (gage height, 3.38 ft); minimum recorded, 0.7 cfs Feb. 8, 1965, but may have been less during periods of ice effect.

Remarks.--Records good except those for January and February, which are fair. No diversion above station. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	12	12	9.3	5.4	4.3	12	21	62	29	26	25
2	18	12	12	8.6	5.0	4.3	14	21	59	28	45	24
3	18	12	11	7.0	4.5	4.5	14	23	55	26	41	24
4	18	11	11	6.5	5.0	3.5	13	25	53	25	105	23
5	17	11	11	7.5	5.6	4.0	11	29	50	24	77	22
6	17	11	11	8.3	6.1	4.4	11	33	48	24	62	21
7	16	11	11	8.6	6.1	4.6	12	37	47	23	52	22
8	16	10	11	8.0	5.9	4.9	13	41	47	22	45	22
9	15	11	10	8.0	5.6	5.1	13	45	47	21	40	20
10	14	11	11	6.9	5.8	5.1	14	45	53	21	39	19
11	14	10	11	6.9	4.8	5.1	15	40	47	20	35	19
12	14	10	10	6.6	5.0	5.6	14	37	45	19	33	19
13	14	10	9.3	6.1	5.4	5.6	15	34	44	21	29	18
14	14	10	9.7	5.6	5.4	6.4	14	32	43	22	28	17
15	14	10	10	7.0	5.8	6.6	16	33	44	24	26	17
16	14	10	9.7	6.6	5.0	7.3	17	35	42	27	26	16
17	17	9.7	9.9	6.2	5.6	7.6	19	38	42	24	25	16
18	14	9.3	9.0	7.0	5.8	7.4	19	42	40	23	25	16
19	14	9.7	8.3	7.3	6.2	8.0	16	45	39	24	25	15
20	14	9.7	9.0	7.3	6.2	9.0	14	48	37	23	31	14
21	14	9.7	9.2	6.9	6.0	9.0	15	52	38	19	26	14
22	14	8.6	11	6.8	5.4	8.0	16	57	36	18	28	14
23	14	13	10	6.8	5.0	7.0	14	60	34	21	33	14
24	13	13	9.7	6.4	4.8	8.1	14	60	33	21	35	14
25	13	14	8.0	6.4	5.0	8.3	14	60	32	19	32	14
26	13	10	8.6	6.4	4.8	8.0	14	59	30	19	29	13
27	13	11	8.6	7.0	4.2	8.0	16	53	33	19	27	14
28	13	11	8.3	7.0	4.4	8.3	17	52	31	21	29	13
29	13	11	8.6	7.5	-	8.0	19	54	29	25	28	13
30	13	12	8.6	7.5		9.0	21	55	29	29	28	13
31	13		9.7	6.1		10		59		28	27	
Total	457	323.7	307.2	220.1	149.8	205.0	446	1,325	1,269	709	1,137	525
Mean	14.7	10.8	9.91	7.10	5.35	6.61	14.9	42.7	42.3	22.9	36.7	17.5
Ac-ft	906	642	609	437	297	407	885	2,630	2,520	1,410	2,260	1,040

Calendar year 1965: Max 198 Min 3.0 Mean 28.8 Ac-ft 20,860
Water year 1965-66: Max 105 Min 3.5 Mean 19.4 Ac-ft 14,030

Peak discharge (base, 65 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6- 1	1900	2.59	68	8- 4	0600	3.08	145
8- 2	1415	2.66	77				

8-2650. Red River near Questa, N. Mex.

Location.--Lat 36°42'10", long 105°34'03", in NE¼SE¼ sec.32, T.29 N., R.13 E.(projected), on left bank 1¼ miles upstream from Cabresto Creek and 1.5 miles east of Questa.

Drainage Area.--113 sq mi.

Records available.--April to October 1910 and January to September 1911 (gage heights and discharge measurements only), October 1912 to September 1925 (fragmentary prior to September 1915), January to March 1926, September 1926 to September 1966. Published as "above Questa" January 1926 to September 1930, and as Rio Colorado near Questa October 1930 to September 1947. Monthly discharge only for some periods, published in WSP 1312. Previously published figures of discharge for October to December 1925 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Wood or concrete control since Mar. 20, 1936. Datum of gage is 7,451.92 ft above mean sea level, datum of 1929 (1957 adjustment). Apr. 5 to Oct. 14, 1910, and Jan. 27 to Sept. 4, 1911, staff gages at sites 1½ and 3½ miles upstream, respectively, each at different datum. Oct. 6, 1912, to Aug. 21, 1920, chain gage at site 200 ft upstream at various datums. Aug. 22, 1920, to June 16, 1921, staff gage at present site at datum 2.29 ft lower. June 17, 1921 to Apr. 30, 1934, water-stage recorder at present site at datum 2.55 ft lower and May 1, 1934, to Oct. 3, 1938, at datum 1.41 ft lower.

Average discharge.--53 years (1912-25, 1926-66), 55.6 cfs (40,250 acre-ft per year).

Extremes.--Maximum discharge during year, 341 cfs Aug. 4 (gage height, 3.90 ft); minimum, 4.8 cfs Feb. 3, result of freezeup.
1930-66: Maximum discharge, 886 cfs May 25, 1942 (gage height, 2.32 ft), from rating curve extended above 450 cfs by logarithmic plotting; minimum, 1.5 cfs Nov. 23, 1957.
The peak of June 15, 1921, may have equaled or exceeded the peak of May 25, 1942.

Remarks.--Records good. Diversions for irrigation of a few hundred acres above station. Figures of discharge do not include flow in South ditch which diverts from left bank 1,500 ft upstream and bypasses gage for irrigation and stock water below. See tabulation below for monthly diversion of South ditch (record of daily discharge available in district files).
Tailings pipelines from Molybdenum Corp. of America refinery 5½ miles upstream also bypass gage on left bank. This water is pumped from wells located adjacent to Red River 3 miles upstream from gage. Tailings lines discharge into settling pond 3 miles downstream. Effluent from this pond enters Red River as surface water and is included in discharge at Red River at mouth, near Questa (see station 8-2670). See tabulation below for monthly discharge through tailings pipelines (daily discharges furnished by Molybdenum Corp. of America). Refinery began operations Jan. 1, 1966.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	48	27	22	21	14	12	28	57	117	49	48	47
2	45	26	22	20	13	12	32	63	113	47	101	45
3	43	26	23	17	11	83	32	68	102	44	78	45
4	42	26	23	16	13	10	29	68	99	42	207	42
5	40	25	24	14	14	13	25	69	99	40	149	42
6	39	25	23	18	15	14	27	78	96	40	111	41
7	38	25	23	24	16	17	27	87	91	38	84	40
8	34	25	23	18	16	17	28	99	87	36	74	42
9	33	25	23	19	15	17	28	117	85	35	69	39
10	34	25	25	18	14	17	30	119	101	34	69	38
11	34	25	23	18	11	17	30	111	87	34	72	38
12	33	24	22	18	14	17	28	106	81	32	63	38
13	32	25	20	16	16	17	28	92	79	35	60	35
14	32	24	18	16	16	19	27	87	74	38	53	34
15	31	25	19	20	18	20	26	82	74	37	52	32
16	32	25	18	19	14	20	27	82	74	47	55	28
17	38	25	15	17	16	20	28	82	73	51	51	28
18	34	24	15	17	17	19	29	90	70	46	64	28
19	32	24	12	19	17	21	29	94	65	47	54	26
20	32	23	12	19	17	22	27	99	66	44	61	26
21	32	23	12	18	15	22	27	102	68	40	55	25
22	32	22	16	13	14	21	29	109	65	37	60	22
23	32	25	18	14	14	16	29	113	61	40	63	19
24	32	27	20	14	14	19	30	117	57	40	68	20
25	33	28	15	14	15	20	31	115	53	37	56	19
26	32	27	18	14	13	19	31	119	53	35	54	20
27	32	18	17	15	12	19	34	109	64	35	52	21
28	32	17	18	16	11	21	40	106	54	39	50	20
29	31	14	19	17	-	21	52	108	51	38	52	18
30	29	17	24	19	----------	22	56	104	52	46	51	17
31	29	----------	22	18	----------	25	----------	109	----------	45	53	----------
Total	1,072	717	604	536	405	554.3	924	2,961	2,311	1,248	2,189	935
Mean	34.6	23.9	19.5	17.3	14.5	17.9	30.8	95.5	77.0	40.3	70.6	31.2
Ac-ft	2,130	1,420	1,200	1,060	803	1,100	1,830	5,870	4,580	2,480	4,340	1,850
(†)	28	33	2.2	0	0	0	14	161	116	86	38	46
(††)	-	-	-	223	252	246	307	326	325	332	379	350

Calendar year 1965: Max 320 Min 10 Mean 63.2 Ac-ft 45,770 † 592 †† 0
Water year 1965-66: Max 207 Min 8.3 Mean 39.6 Ac-ft 28,670 † 525 †† 2,740

Peak discharge (base, 160 cfs).--Aug. 4 (0230) 341 cfs (3.90 ft); Aug. 18 (1415) 213 cfs (3.45 ft).

† Diversion, in acre-feet, by South ditch.
†† Discharge, in acre-feet, through Molybdenum Corp. of America tailings pipelines.

8-2655. Llano ditch near Questa, N. Mex.

Location.--Lat 36°43'45", long 105°33'00", in SE¼SE¼ sec.21, T.29 N., R.13 E., on left bank 150 ft downstream from heading, 3¼ miles northeast of Questa, and 3¾ miles upstream from mouth of Cabresto Creek.

Records available.--September 1943 to September 1966 (no winter records).

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 7,877 ft above mean sea level (river-profile survey).

Extremes.--1943-66: Maximum daily discharge recorded, 42 cfs June 6, 7, 1958; no flow at times.

Remarks.--Records good. Ditch diverts water from right bank of Cabresto Creek for irrigation of about 800 acres near Questa.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	0	0	0	0
November	-	-	-	-
December	-	-	-	-
Calendar year 1965	-	-	-	-
January	-	-	-	-
February	-	-	-	-
March	-	-	-	-
April	6.0	0	.238	14
May	21	6.5	15.8	973
June	11	.30	4.05	241
July	9.5	0	3.49	215
August	18	.65	4.83	297
September	2.5	0	.903	54
Water year 1965-66	-	-	-	-

8-2660. Cabresto Creek near Questa, N. Mex.

Location.--Lat 36°43'45", long 105°33'10", in SE¼SE¼ sec. 21, T.29 N., R.13 E., on right bank a quarter of a mile downstream from Llano ditch heading, 2½ miles downstream from Lake Fork, 3 miles northeast of Questa, and 3½ miles upstream from mouth.

Drainage area.--36.7 sq mi.

Records available.--September 1943 to September 1966.

Gage.--Digital water-stage recorder and crest-stage gage. Concrete control. Datum of gage is 7,845 ft above mean sea level (river-profile survey). Prior to July 10, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--23 years, 9.72 cfs (7,040 acre-ft per year).

Extremes.--Maximum discharge during year, 54 cfs Aug. 4 (gage height, 2.63 ft); minimum, 1.9 cfs Mar. 23.
1943-66: Maximum discharge, 176 cfs June 8, 1957 (gage height, 4.44 ft); minimum daily, 1 cfs Jan. 19, 1960.
The high water of May 25, 1942, reached a stage of 4.18 ft (discharge probably exceeded 200 cfs).

Remarks.--Records good except those for January and February, which are fair. Llano ditch (the only diversion above station) diverts from right bank a quarter of a mile above gage for irrigation of about 800 acres below. Flow regulated by Cabresto Reservoir (capacity, 732 acre-ft) on Lake Fork 1 mile above its mouth.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	8.7	6.2	5.3	5.5	4.5	5.0	9.5	16	11	10	11	9.6
2	8.4	6.2	5.6	4.3	4.0	5.0	11	13	11	10	16	9.4
3	8.2	6.2	5.7	3.1	3.0	4.7	12	12	9.9	10	14	9.4
4	8.2	6.1	5.8	3.2	3.5	4.5	11	12	11	10	28	9.2
5	7.9	6.2	5.6	3.3	4.0	4.5	9.8	13	11	10	16	9.1
6	7.9	6.1	5.6	3.9	4.5	5.0	11	12	11	10	15	9.1
7	7.9	6.2	5.6	4.8	4.5	4.8	11	12	11	10	20	9.1
8	7.0	6.0	5.6	5.5	4.5	4.7	11	12	11	10	19	9.0
9	5.5	6.1	5.5	5.4	4.0	5.0	12	13	10	11	18	8.8
10	5.2	6.1	5.9	5.4	3.5	5.0	14	13	11	12	12	8.7
11	5.0	6.0	5.7	5.5	3.0	5.1	14	12	12	12	11	8.7
12	5.0	5.9	5.6	5.4	3.5	5.2	14	12	12	11	11	8.5
13	5.2	6.1	5.4	5.1	4.0	5.2	13	12	11	10	11	8.4
14	5.4	6.0	5.5	4.5	4.0	5.5	13	11	11	10	11	7.6
15	5.6	6.0	5.7	5.0	4.0	5.4	13	11	11	11	11	6.8
16	5.7	6.1	5.3	4.5	3.5	5.5	15	11	11	11	11	9.0
17	6.8	6.0	5.0	4.0	4.0	5.7	18	11	11	9.7	10	8.8
18	6.5	6.0	5.0	4.0	4.5	5.1	19	11	10	8.6	10	8.5
19	6.4	5.9	3.5	4.0	4.5	5.7	16	11	10	7.3	11	8.4
20	6.4	5.7	3.2	3.5	4.5	5.9	15	11	10	6.5	10	8.3
21	6.4	6.0	2.8	3.5	4.5	5.9	15	11	11	6.2	10	8.3
22	6.5	5.5	4.7	2.5	4.0	5.7	15	11	11	6.0	11	8.1
23	6.5	6.0	6.0	3.0	3.5	4.7	14	11	10	7.8	10	8.0
24	6.5	6.0	5.5	3.0	4.0	5.8	14	11	12	7.4	10	8.1
25	6.5	6.5	5.2	3.5	4.5	6.1	14	11	12	6.9	10	7.8
26	6.5	5.8	5.6	3.5	4.5	6.0	15	11	12	6.6	9.8	7.7
27	6.4	4.7	5.4	4.0	4.5	6.1	18	11	12	7.2	9.8	7.7
28	6.4	4.7	5.4	4.0	4.5	6.4	20	10	11	10	9.8	7.6
29	6.3	4.7	5.6	4.5	------	6.5	22	11	11	11	9.8	7.4
30	6.2	5.0	5.7	5.0	------	6.8	18	10	11	11	9.7	7.4
31	6.2	------	5.5	5.0	------	7.7	------	11	------	12	9.7	------
TOTAL	203.3	176.0	163.5	131.4	113.5	170.2	427.3	360	329.9	292.2	385.6	252.5
MEAN	6.56	5.87	5.27	4.24	4.05	5.49	14.2	11.6	11.0	9.43	12.4	8.42
AC-FT	403	349	324	261	225	338	848	714	654	580	765	501

CALENDAR YEAR 1965	MAX 48	MIN 2.5	MEAN 11.0	AC-FT 7,940
WATER YEAR 1965-66	MAX 28	MIN 2.5	MEAN 8.23	AC-FT 5,960

8-2670. Red River at mouth, near Questa, N. Mex.

Location.--Lat 36°39'00", long 105°41'30", in NW¼ sec.20,T.28 N., R.12 E., on left bank 250 ft upstream from Rio Grande and 6.5 miles southwest of Questa.

Drainage area.--190 sq mi.

Records available.--October 1950 to September 1966. Monthly discharge only for October and November 1950, published in WSP 1732.

Gage.-- Water-stage recorder. Altitude of gage is 6,600 ft (from topographic map).

Average discharge.--16 years, 80.6 cfs (58,350 acre-ft per year).

Extremes.--Maximum discharge during year, 327 cfs Aug. 4 (gage height, 4.50 ft, from reconstructed recorder graph); minimum, 37 cfs Mar. 4.
1950-66: Maximum discharge, 730 cfs (corrected) Aug. 12, 1964 (gage height, 6.05 ft); minimum, 29 cfs Feb. 13, 1965.

Remarks.--Records good except those above 130 cfs, which are fair. Diversions for irrigation of about 3,000 acres above station. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	71	63	67	59	54	64	98	157	98	95	95
2	90	68	65	64	57	54	68	101	155	91	120	90
3	89	67	66	53	53	49	70	102	155	88	150	88
4	88	67	67	53	59	47	68	104	146	84	260	85
5	86	67	68	53	59	50	62	111	140	83	198	83
6	84	67	67	56	61	55	66	118	138	84	168	81
7	82	67	67	64	61	68	66	125	132	82	150	80
8	75	66	68	61	61	68	68	135	131	83	141	80
9	72	68	68	64	60	84	72	145	130	82	132	82
10	74	68	76	63	56	72	77	155	146	82	125	78
11	74	66	69	64	53	68	82	155	148	77	119	75
12	73	66	68	62	55	64	76	145	135	68	114	75
13	73	67	63	60	61	64	72	135	133	70	113	73
14	73	67	60	59	60	64	70	125	125	79	110	70
15	73	67	62	62	60	60	69	115	121	79	105	72
16	76	68	60	63	55	61	69	115	122	86	107	66
17	89	68	54	62	58	60	71	116	124	94	103	68
18	88	68	56	62	61	56	72	115	121	97	113	67
19	84	66	51	71	66	57	73	113	118	91	108	66
20	84	65	48	66	76	57	76	117	113	96	111	72
21	81	65	47	68	85	57	71	123	120	89	101	71
22	78	63	51	58	83	56	73	130	114	84	107	64
23	77	68	60	57	78	51	70	137	110	85	115	56
24	75	69	64	60	75	54	72	142	106	87	120	55
25	75	74	56	55	76	56	71	141	100	82	107	54
26	75	73	59	50	64	56	70	146	92	77	103	54
27	74	60	59	53	59	55	76	148	102	71	99	56
28	75	60	60	55	56	56	86	142	103	79	94	56
29	73	56	63	57	-	57	89	146	100	85	95	55
30	72	57	77	60	----------	56	97	145	99	87	92	54
31	72	----------	69	61	----------	60	----------	146	----------	95	95	----------
Total	2,444	1,989	1,931	1,863	1,767	1,826	2,186	3,991	3,736	2,615	3,770	2,121
Mean	78.8	66.3	62.3	60.1	63.1	58.9	72.9	129	125	84.4	122	70.7
Ac-ft	4,850	3,950	3,830	3,700	3,500	3,620	4,340	7,920	7,410	5,190	7,480	4,210

Calendar year 1965: Max 378 Min 37 Mean 104 Ac-ft 75,290
Water year 1965-66: Max 260 Min 47 Mean 82.8 Ac-ft 59,980

Peak discharge (base, 220 cfs).--Aug. 4 (about 0500) 327 cfs (4.50 ft, from reconstructed recorder graph);Aug.18(1645)221 cfs(3.55 ft).

8-2675. Rio Hondo near Valdez, N. Mex.

Location.--Lat 36°32'30", long 105°33'20", in SW¼SE¼ sec.28, T.27 N., R.13 E., on right bank 500 ft upstream from first diversion, a quarter of a mile upstream from Forest Service gate, 1½ miles east of Valdez, 4 miles downstream from South Fork, and 9 miles upstream from mouth.

Drainage area.--36.2 sq mi.

Records available.--August 1934 to September 1966.

Gage.--Water-stage recorder. Concrete control since Oct. 28, 1938. Datum of gage is 7,650 ft above mean sea level, datum of 1929. Prior to Oct. 28, 1938, at datum 1.92 ft lower. June 29, 1964 to Aug. 3, 1966, digital water-stage recorder at present site and datum.

Average discharge.--32 years, 35.9 cfs (25,990 acre-ft per year).

Extremes.--Maximum discharge during year, 267 cfs Aug. 4 (gage height, 3.55 ft); maximum gage height, 3.81 ft Jan. 7 (ice jam); minimum discharge, about 7 cfs Jan. 22, result of freezeup.
1934-66: Maximum discharge, 541 cfs May 13, 1941, from rating curve extended above 300 cfs by logarithmic plotting; maximum gage height, 4.05 ft Dec. 15, 1953 (ice jam); minimum discharge, about 1 cfs Jan. 27, 1942, result of freezeup.

Remarks.--Records good except those for May and August, which are fair, and those for winter period, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	26	20	18	15	11	11	31	46	86	47	27	33
2	27	20	17	15	11	11	36	52	82	44	47	32
3	26	20	17	14	10	11	38	56	82	42	42	32
4	25	19	16	13	11	11	34	60	83	40	120	30
5	25	19	16	14	12	11	31	70	82	39	90	30
6	24	19	16	15	11	11	30	80	76	38	80	30
7	24	18	16	15	10	11	29	95	74	39	75	29
8	24	18	16	16	10	12	30	90	72	38	80	29
9	23	18	16	16	10	12	30	85	71	37	76	28
10	23	18	18	15	10	12	33	90	79	37	74	27
11	22	18	17	15	9.0	12	34	85	72	36	70	26
12	22	17	16	14	10	13	33	80	69	34	68	26
13	22	17	16	14	10	15	33	75	67	38	64	26
14	21	17	16	14	10	15	30	70	65	37	60	25
15	21	17	16	13	10	16	30	68	65	38	55	25
16	23	17	16	12	9.0	18	32	70	64	37	50	24
17	27	17	15	12	9.0	20	34	72	64	33	45	24
18	24	17	15	11	10	19	35	76	63	33	44	23
19	24	16	14	11	11	20	35	78	61	30	42	22
20	24	16	14	11	11	19	34	79	60	30	46	22
21	23	16	14	10	11	20	32	82	60	29	42	22
22	23	15	15	9.0	11	19	32	82	56	30	40	21
23	23	22	14	9.0	11	18	30	88	53	34	43	21
24	22	23	13	9.0	10	18	30	90	51	34	43	21
25	22	24	13	9.0	11	18	29	89	50	32	40	21
26	21	22	14	9.0	10	18	29	90	50	32	39	21
27	21	18	14	9.0	10	19	33	85	54	30	37	21
28	21	18	14	9.0	11	20	37	83	50	32	37	21
29	21	18	15	10	------	20	38	80	48	32	37	20
30	21	18	15	11	------	22	42	80	50	31	36	20
31	20	------	15	11	------	25	------	82	------	28	35	------
TOTAL	715	552	477	380.0	290.0	497	984	2,408	1,959	1,091	1,684	752
MEAN	23.1	18.4	15.4	12.3	10.4	16.0	32.8	77.7	65.3	35.2	54.3	25.1
AC-FT	1,420	1,090	946	754	575	986	1,950	4,780	3,890	2,160	3,340	1,490

CALENDAR YEAR 1965	MAX 246	MIN 5.0	MEAN 43.3	AC-FT 31,330				
WATER YEAR 1965-66	MAX 120	MIN 9.0	MEAN 32.3	AC-FT 23,380				

Peak discharge (base, 100 cfs).--Aug. 4 (0215) 267 cfs (3.55 ft).

8-2682. Rio Hondo at damsite, at Valdez, N. Mex.

Location.--Lat 36°32'07", long 105°36'07", in T.27 N., R.13 E. (projected), on right bank one mile west of Valdez, 6.5 miles upstream from mouth, and 9 miles north of Taos.

Drainage area.--40.3 sq mi.

Records available.--April 1963 to September 1966 (discontinued). Monthly discharges for January 1916 to September 1934, published in WSP 1312 (at Valdez) are probably comparable.

Gage.--Water-stage recorder. Datum of gage is 7,254 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 224 cfs Aug. 4 (gage height, 1.79 ft); maximum gage height, 1.98 ft Jan. 30 (backwater from ice); minimum discharge, 6.0 cfs Feb. 3, but may have been less during periods of ice effect.
1963-66: Maximum discharge, 346 cfs June 20, 1965 (gage height, 2.09 ft); minimum, 5.5 cfs Apr. 8, 1964.

Remarks.--Records good except those for January, which are fair. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	19	19	17	13	13	37	39	88	27	16	13
2	20	19	18	15	14	12	46	47	78	23	36	13
3	19	19	18	14	12	12	48	55	60	21	32	12
4	19	19	19	14	13	12	43	60	58	19	108	12
5	19	18	21	15	14	12	33	66	56	19	84	12
6	18	18	21	16	14	13	31	73	54	19	70	12
7	18	18	20	16	13	13	31	79	51	18	64	12
8	18	18	20	17	13	13	33	79	50	16	67	12
9	17	18	20	17	13	14	36	73	51	15	63	11
10	16	17	23	16	12	14	40	79	61	14	61	9.8
11	16	17	22	16	11	16	40	64	51	15	55	9.8
12	16	16	20	15	12	17	37	50	48	14	52	9.8
13	15	16	20	15	12	19	36	43	48	15	46	9.4
14	14	16	19	15	12	21	30	39	46	14	41	9.4
15	14	16	19	14	12	22	30	35	48	16	39	9.8
16	16	16	18	13	11	26	33	36	48	16	36	9.0
17	23	16	18	13	11	29	35	37	47	16	32	9.0
18	19	16	18	12	12	25	36	41	46	19	33	8.7
19	20	16	17	12	13	23	34	43	42	16	29	8.1
20	25	14	17	12	13	23	31	47	39	14	35	7.8
21	25	15	17	11	13	22	26	50	38	11	28	7.8
22	23	14	21	10	13	20	25	54	34	11	24	7.5
23	23	24	20	10	13	18	23	59	31	14	26	7.5
24	22	23	18	10	12	17	22	63	29	16	25	7.8
25	22	26	17	10	13	17	21	63	25	16	22	7.8
26	21	23	17	10	12	18	22	66	23	16	20	7.8
27	20	18	17	10	12	20	25	66	28	14	17	7.5
28	20	17	17	10	13	21	30	63	25	16	15	7.5
29	20	16	17	11	-	21	30	61	25	16	14	7.2
30	20	19	18	13	----------	22	35	63	29	18	14	6.6
31	20	----------	17	13	----------	25	----------	76	----------	18	14	----------
Total	599	537	583	412	351	570	979	1,769	1,357	512	1,218	284.6
Mean	19.3	17.9	18.8	13.3	12.5	18.4	32.6	57.1	45.2	16.5	39.3	9.49
Ac-ft	1,190	1,070	1,160	817	696	1,130	1,940	3,510	2,690	1,020	2,420	564

Calendar year 1965: Max 268 Min 6.0 Mean 35.9 Ac-ft 25,990
Water year 1965-66: Max 108 Min 6.6 Mean 25.1 Ac-ft 18,190

Peak discharge (base, 100 cfs).--Aug. 4 (0315) 224 cfs (1.79).

8-2685. Rio Hondo at Arroyo Hondo, N. Mex.

Location.--Lat 36°31'55", long 105°41'05", in sec.32, T.27 N., R.12 E. (projected), on right bank 1 mile downstream from Arroyo Hondo and 1¼ miles upstream from mouth.

Drainage area.--65.6 sq mi.

Records available.--April 1910 to June 1912, fragmentary (gage heights and discharge measurements only), July 1912 to December 1928, and January 1932 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Published as "near Arroyo Hondo" prior to 1928.

Gage.--Water-stage recorder. Concrete control since Aug. 12, 1938. Datum of gage is 6,679 ft above mean sea level, datum of 1929. Prior to Feb. 29, 1928, staff gage at site 1.1 miles downstream at different datums. Feb. 29 to Dec. 31, 1928, and Jan. 21, 1932, to Aug. 13, 1934, staff gage at present site at datum 0.4 ft lower. Aug. 13, 1934, to Aug. 11, 1938, water-stage recorder at site half a mile downstream at different datum. Aug. 12, 1938, to Sept. 10, 1963, water-stage recorder on left bank at present datum. June 12, 1964 to Aug. 17, 1966, digital water-stage recorder at present site and datum.

Average discharge.--50 years (1912-28, 1932-66), 28.6 cfs (20,710 acre-ft per year).

Extremes.--Maximum discharge during year, 247 cfs June 21 (gage height, 3.42 ft); minimum, 6.2 cfs Apr. 25.
1938-66: Maximum discharge, 1,060 cfs July 19, 1948 (gage height, 3.75 ft), from rating curve extended above 200 cfs by logarithmic plotting; minimum, 3.8 cfs Aug. 1 and 6, 1963.
Maximum gage height observed, 5.45 ft (site and datum then in use) Aug. 23, 1935 (discharge uncertain, but probably exceeded 1,100 cfs). A minimum daily discharge of 3 cfs occurred Oct. 19, 1912 (statement in WSP 328 that there was no flow in January and much of February 1912 is believed erroneous). Discharge not determined for the major floods of Oct. 6, 1911, Sept. 1, 1932, and July 22, 1934.

Remarks.--Records good. Diversions above station for irrigation of about 2,500 acres, most of which is outside basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	21	16	19	20	17	18	27	9.9	36	18	11	11
2	21	16	19	17	17	18	28	12	36	17	30	11
3	21	16	19	12	15	16	29	21	28	16	33	10
4	22	17	20	13	16	14	27	25	27	12	75	8.8
5	22	16	22	14	19	16	24	29	27	9.6	71	8.3
6	21	16	21	17	20	19	21	33	27	9.7	62	7.9
7	21	16	21	20	20	20	19	36	28	9.7	55	7.4
8	19	16	21	19	19	19	16	38	31	10	55	7.4
9	18	16	22	19	19	22	18	33	28	10	49	7.8
10	17	16	24	18	17	21	22	36	36	9.5	49	7.6
11	16	16	23	17	15	21	23	34	27	11	46	7.4
12	17	17	22	16	16	21	22	31	20	14	43	7.2
13	17	15	21	16	20	22	21	25	20	9.2	40	7.2
14	17	9.6	18	15	17	22	20	18	23	8.4	36	7.4
15	17	12	15	16	18	23	19	13	17	9.2	33	7.6
16	18	12	15	14	15	25	20	16	14	8.5	31	7.6
17	23	13	15	13	16	25	22	15	16	7.9	29	7.6
18	22	14	16	13	18	24	20	17	16	8.0	34	7.6
19	21	14	13	16	18	23	15	17	15	8.3	34	7.6
20	23	15	15	16	19	21	14	16	15	8.1	29	7.6
21	24	16	15	16	19	23	13	17	32	7.7	24	7.6
22	21	15	19	12	18	21	12	18	24	7.7	22	7.6
23	14	19	24	13	18	20	10	20	24	8.4	22	7.6
24	16	21	22	15	17	19	9.3	22	19	7.9	22	7.8
25	16	24	19	14	19	19	7.9	24	18	7.8	20	7.8
26	17	24	20	13	19	19	7.2	25	18	7.6	19	7.6
27	17	19	19	14	19	21	7.7	26	20	7.4	18	7.6
28	16	17	20	15	18	22	8.7	25	19	7.4	16	7.4
29	14	16	20	16	------	22	8.6	24	22	7.8	16	7.4
30	11	17	18	18	------	23	9.3	24	20	11	14	7.4
31	16	------	19	18	------	25	------	28	------	12	12	------
TOTAL	576	486.6	596	485	498	644	520.7	727.9	703	306.8	1,050	237.8
MEAN	18.6	16.2	19.2	15.6	17.8	20.8	17.4	23.5	23.4	9.90	33.9	7.93
AC-FT	1,140	965	1,180	962	988	1,280	1,030	1,440	1,390	609	2,080	472

CALENDAR YEAR 1965	MAX 250	MIN 6.1	MEAN 29.8	AC-FT 21,560
WATER YEAR 1965-66	MAX 75	MIN 7.2	MEAN 18.7	AC-FT 13,540

Peak discharge (base, 100 cfs).--June 21 (1400) 247 cfs (3.42 ft); Aug. 4 (0500) 140 cfs (3.22 ft).

8-2687. Rio Grande near Arroyo Hondo, N. Mex.

Location.--Lat 36°32'05", long 105°42'35", in NW¼ sec.31, T.27 N., R.12 E., on right bank 350 ft downstream from Rio Hondo, 400 ft downstream from State Road 111 bridge, 2¼ miles west of Arroyo Hondo and 11½ miles northwest of Taos.

Drainage area.--8,760 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--February 1963 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,460 ft (from topographic map).

Extremes.--Maximum discharge during year, 1,620 cfs May 11 (gage height, 3.50 ft); minimum, 175 cfs Sept. 29.
1963-66: Maximum discharge, 4,400 cfs June 22, 1965 (gage height, 5.81 ft); minimum, 136 cfs Aug. 2, 1963.

Remarks.--Records excellent.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,020	596	554	640	506	559	983	722	948	383	237	234
2	1,100	601	596	640	502	570	1,020	798	1,120	391	352	223
3	1,100	601	612	623	488	554	1,110	920	1,330	368	334	223
4	1,020	590	623	580	492	520	1,190	927	1,260	356	532	217
5	983	570	645	549	502	479	1,150	955	1,110	341	492	217
6	927	544	645	525	502	544	1,070	990	990	341	453	220
7	844	511	634	530	511	617	983	997	906	334	470	220
8	735	484	617	544	530	628	886	1,170	825	319	492	214
9	680	532	623	559	511	772	805	1,280	728	309	470	211
10	674	831	686	570	506	716	798	1,360	704	305	436	208
11	645	948	728	590	511	680	831	1,540	645	288	407	211
12	601	976	754	596	506	722	886	1,500	596	285	379	214
13	585	976	741	585	535	798	906	1,250	590	271	352	217
14	554	865	686	580	511	886	872	1,040	564	265	330	217
15	516	851	651	590	516	983	818	892	511	256	305	217
16	488	851	530	575	506	1,040	716	792	484	252	312	208
17	484	851	444	554	506	1,190	698	716	466	252	334	211
18	492	865	470	559	516	1,260	692	651	444	256	436	217
19	540	886	453	564	530	1,180	766	601	427	256	341	220
20	662	872	423	530	540	1,050	934	564	419	281	334	223
21	766	872	379	554	544	1,030	976	559	444	246	312	226
22	772	886	461	525	549	1,090	879	554	427	256	305	217
23	741	906	564	511	540	1,050	722	559	411	252	316	203
24	735	920	601	506	544	983	634	601	391	252	319	195
25	704	990	559	506	559	906	554	698	371	237	305	190
26	662	1,000	554	470	554	865	544	858	364	220	295	188
27	656	1,050	544	474	554	858	502	983	383	234	291	185
28	645	969	575	470	554	851	554	955	383	246	271	183
29	628	651	580	474	—	879	656	913	387	234	262	180
30	612	564	623	488		927	716	858	379	300	249	178
31	601		617	497		983		865		271	246	
Total	22,172	23,609	18,172	16,958	14,625	26,170	24,851	28,068	19,007	8,857	10,969	6,287
Mean	715	787	586	547	522	844	828	905	634	286	354	210
Ac-ft	43,980	46,830	36,040	33,640	29,010	51,910	49,290	55,670	37,700	17,570	21,760	12,470

Calendar year 1965: Max 4,290 Min 281 Mean 893 Ac-ft 646,500
Water year 1965-66: Max 1,540 Min 178 Mean 602 Ac-ft 435,870

Peak discharge (base, 1,400 cfs).--May 11 (2400) 1,620 cfs (3.50).

8-2690. Rio Pueblo de Taos near Taos, N. Mex.

Location.--Lat 36°26'30", long 105°30'10", in sec.36, T.26 N., R.13 E., on right bank 2½ miles east of Taos Pueblo, 4½ miles northeast of Taos, and 5 miles upstream from Rio Lucero.

Drainage area.--66.6 sq mi.

Records available.--March to December 1910 (discharge measurements only), January 1911 to December 1951, May 1952 to September 1962 (annual maximum only), October 1962 to September 1966.

Gage.--Water-stage recorder. Concrete control since Nov. 20, 1962. Altitude of gage is 7,400 ft (from topographic map). Prior to Dec. 19, 1910, staff gage, and Dec. 19, 1910 to Dec. 2, 1916, water-stage recorder (pressure type) at same site at different datums. Jan. 31, 1940 to Dec. 31, 1951, water-stage recorder and May 8, 1952 to Nov. 19, 1962, crest-stage gage 0.2 mile upstream at different datums.

Average discharge.--21 years (1910-16, 1940-51, 1962-66), 30.8 cfs (22,300 acre-ft per year).

Extremes.--Maximum discharge during year, 161 cfs Aug. 4 (gage height, 1.85 ft); minimum, 2.2 cfs Feb. 3,11,16, result of freezeup. 1910-16, 1940-66: Maximum discharge, 970 cfs May 14, 1941 (gage height, 3.90 ft, from floodmark), from rating curve extended above 290 cfs by logarithmic plotting; minimum (except 1952-62), about 0.9 cfs Jan. 9, 1964, result of freezeup.

Remarks.--Records good except those for January and February, which are fair.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	8.8	12	8.0	6.4	7.0	42	62	47	18	19	13
2	12	8.4	11	6.5	6.4	7.3	51	59	44	17	22	13
3	11	8.4	9.5	6.5	6.0	7.0	55	61	41	16	25	13
4	11	8.4	9.5	7.0	6.0	6.5	43	66	39	14	96	12
5	11	8.8	9.9	8.0	6.1	7.0	36	69	36	14	76	12
6	11	8.4	9.2	8.8	6.4	7.5	33	70	35	14	59	12
7	11	8.4	9.9	8.8	6.4	8.4	32	74	33	14	43	12
8	11	8.0	10	8.4	6.1	8.4	33	82	31	14	36	14
9	10	8.4	11	8.0	5.8	8.8	38	87	30	14	33	12
10	10	8.4	12	7.7	5.5	9.9	43	87	34	14	31	12
11	9.9	8.0	12	7.7	5.5	11	48	78	30	14	28	11
12	9.9	8.0	11	7.3	6.0	11	44	69	28	12	26	11
13	9.9	8.0	9.5	6.7	6.4	12	40	61	27	13	24	11
14	9.9	7.7	9.9	6.5	6.0	15	39	53	26	15	22	11
15	9.9	8.0	9.5	7.5	6.0	18	40	50	25	14	21	10
16	9.9	8.4	9.2	7.0	6.0	22	46	51	26	14	20	9.9
17	13	8.0	8.4	7.0	6.0	26	55	53	28	12	20	9.2
18	12	8.0	9.5	7.0	6.0	22	56	56	25	14	19	9.2
19	12	8.0	6.5	7.5	6.0	22	55	58	22	14	17	9.2
20	12	7.7	7.5	8.0	6.0	22	50	59	22	12	17	9.5
21	11	8.0	8.5	7.7	6.4	25	41	59	24	12	16	9.5
22	11	6.4	10	6.0	6.5	24	38	61	23	11	16	9.5
23	11	17	11	6.0	7.0	20	36	62	20	12	17	9.5
24	10	21	9.2	6.0	7.0	20	38	61	19	12	20	9.9
25	9.9	22	8.5	6.0	7.7	20	36	56	17	12	17	9.9
26	9.9	23	8.5	6.5	7.7	23	39	55	18	12	15	9.5
27	9.5	13	9.0	6.5	7.3	28	43	52	21	14	14	9.2
28	9.2	11	9.0	7.0	7.3	29	50	44	20	17	14	9.9
29	9.2	9.5	9.2	7.0	-	28	56	43	19	25	14	9.2
30	8.8	10	9.5	6.7	----------	28	64	43	20	31	14	9.2
31	8.8	----------	9.2	6.7	----------	32	----------	44	----------	22	14	----------
Total	326.7	305.1	298.6	222.0	177.9	535.8	1,320	1,885	830	463	825	321.3
Mean	10.5	10.2	9.63	7.16	6.35	17.3	44.0	608	27.7	14.9	26.6	10.7
Ac-ft	648	605	592	440	353	1,060	2,620	3,740	1,650	918	1,640	637

Calendar year 1965: Max 177 Min 3 Mean 33.1 Ac-ft 23,930
Water year 1965-66: Max 96 Min 5.5 Mean 20.6 Ac-ft 14,900

Peak discharge (base, 70 cfs).--May 10 (0300) 89 cfs (1.57 ft); Aug. 4 (0800) 161 cfs (1.85 ft).

8-2710. Rio Lucero near Arroyo Seco, N. Mex.

Location.--Lat 36°30'30", long 105°32'00", in NE¼ sec.10, T.26 N., R.13 E. (projected), on right bank in Antoine Leroux Grant, 200 ft upstream from diversion dam for Tenorio and Indian ditches, 2 miles southeast of Arroyo Seco, and 7½ miles northeast of Taos.

Drainage area.--16.6 sq mi.

Records available.--April to December 1910 (discharge measurements and occasional gage heights), January 1911 to September 1915, March to December 1916 (fragmentary), October 1933 to December 1951, May 1952 to November 1962 (annual maximum only), October 1962 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Published as "near Taos," 1910-1915. Fragmentary records for October 1915 to February 1916, published in WSP 438, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder; concrete control since Nov. 21, 1962. Datum of gage is 8,051.44 ft above mean sea level, datum of 1929. Prior to Dec. 17, 1910, staff gage, Dec. 17, 1910, to Dec. 31, 1916, pressure type water-stage recorder at site 50 ft downstream at different datum. Nov. 14, 1933, to Jan. 1, 1952, water-stage recorder and wooden control after Mar. 17, 1936, at different datum. May 7, 1952 to Nov. 21, 1962, crest-stage gage at different datum. May 9, 1963 to Aug. 16, 1966, digital water-stage recorder at present site and datum.

Average discharge.--27 years (1910-15, 1933-51, 1962-66), 23.2 cfs (16,800 acre-ft per year).

Extremes.--Maximum discharge during year, 72 cfs Aug. 4 (gage height, 1.45 ft); minimum determined, 5.1 cfs Feb. 3, result of freezeup.

1911-15, 1933-66: Maximum discharge, 300 cfs May 13, 1941 (gage height, 3.12 ft); minimum daily (except 1952-62), 2.5 cfs Feb. 12, 1948, Feb. 1, 2, 1951, Jan. 13, 14, 1964.

Remarks.--Records good except those for December and January, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	17	12	10	8.0	6.8	6.4	26	29	52	29	18	18
2	17	12	9.0	7.5	6.7	6.2	31	29	49	27	23	18
3	16	12	9.0	7.5	6.2	6.4	29	32	49	26	23	17
4	16	12	9.0	7.5	6.7	6.8	25	37	47	25	53	16
5	16	12	9.0	8.0	6.6	6.8	22	40	45	24	42	16
6	15	12	9.0	8.5	6.6	6.8	18	43	44	23	37	16
7	15	12	9.0	8.5	6.7	6.6	17	45	44	21	34	16
8	15	11	9.0	8.1	6.8	6.5	19	48	43	21	32	16
9	15	11	10	8.0	6.6	6.8	22	58	41	21	30	15
10	15	11	11	7.9	6.6	7.1	24	61	45	21	29	15
11	14	11	10	7.6	6.0	7.8	24	50	43	20	26	14
12	14	11	10	7.6	6.5	8.8	23	44	41	19	26	14
13	14	10	10	7.4	6.6	10	21	40	39	20	24	13
14	14	10	9.8	7.0	6.5	12	20	36	38	19	23	13
15	13	10	9.8	7.4	6.5	14	20	37	37	20	23	13
16	14	10	9.4	6.8	6.5	16	23	40	37	20	23	12
17	16	10	9.0	6.5	6.5	18	26	43	35	19	21	12
18	14	9.9	9.2	6.5	6.5	17	26	46	34	19	21	12
19	14	9.6	8.0	6.5	6.5	16	24	49	32	18	21	12
20	14	9.5	8.0	7.3	6.5	15	22	52	31	17	22	12
21	14	9.5	8.5	7.2	6.5	15	19	54	31	17	21	12
22	14	9.2	9.0	6.5	6.5	14	17	57	30	16	21	12
23	14	12	9.6	6.5	6.5	13	17	58	28	17	22	12
24	14	11	8.5	6.5	6.5	12	17	57	27	17	22	12
25	14	12	8.0	6.5	6.5	11	17	56	26	16	21	12
26	14	9.9	8.0	6.7	6.5	11	19	54	26	17	20	12
27	14	9.5	8.0	6.8	6.5	12	23	51	29	17	19	11
28	13	9.0	8.0	6.6	6.5	13	25	48	27	17	19	11
29	13	9.0	8.0	6.5	------	14	28	46	28	19	19	11
30	13	9.0	8.6	6.6	------	14	30	47	30	19	19	11
31	13	------	8.6	6.7	------	19	------	50	------	18	19	------
TOTAL	448	318.1	280.0	223.2	182.9	349.0	674	1,437	1,108	619	773	406
MEAN	14.5	10.6	9.03	7.20	6.53	11.3	22.5	46.4	36.9	20.0	24.9	13.5
AC-FT	889	631	555	443	363	692	1,340	2,850	2,200	1,230	1,530	805

CALENDAR YEAR	1965	MAX	192		MIN	4.5		MEAN	28.0		AC-FT	20,240
WATER YEAR	1965-66	MAX	61		MIN	6.0		MEAN	18.7		AC-FT	13,530

Peak discharge (base, 70 cfs).--Aug. 4 (0515) 72 cfs (1.45 ft).

8-2750. Rio Fernando de Taos near Taos, N. Mex.

Location.--Lat 36°22'32", long 105°32'55", in W½NW¼ sec.27, T.25 N., R.13 E., on right bank 2½ miles southeast of Taos.

Drainage area.--71.7 sq mi.

Records available.--April to September 1910 (gage heights and discharge measurements only), October 1910 to June 1911 (discharge measurements only), October 1912 to September 1917, October 1927 to December 1929, and October 1962 to September 1966. Previously published figures of discharge for October 1917 to September 1927 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Concrete control since Oct. 1, 1962. Altitude of gage is 7,140 ft (from topographic map). Prior to Oct. 1, 1962, staff gage at several sites within 500 ft of present site at various datums.

Average discharge.--10 years (1912-17, 1927-28, 1962-66), 7.87 cfs (5,700 acre-ft per year).

Extremes.--Maximum discharge during year, 30 cfs Mar. 20 (gage height, 1.12 ft); minimum, 0.21 cfs Jan. 17.
1962-66: Maximum discharge, 82 cfs Aug. 9, 1964 (gage height, 1.64 ft), from rating curve extended above 22 cfs on basis of slope-area measurement of peak flow; minimum, 0.06 cfs Aug. 23, 1963.
Peak discharge not determined prior to 1962; maximum daily discharge observed, 132 cfs May 2-6, 1914.
A flood of undetermined magnitude occurred July 21, 1921.

Remarks.--Records good. A few very small diversions above station for irrigation. Randall's ditch diverts from left bank 175 ft downstream from gage for irrigation below station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	2.1	1.7	2.7	0.77	1.3	10	16	4.5	1.8	2.2	2.1
2	2.2	2.0	1.7	2.2	.47	1.4	12	15	4.6	1.4	4.6	2.0
3	2.2	2.1	1.7	1.6	.47	1.6	12	13	3.8	1.3	3.8	1.8
4	2.1	1.8	2.1	2.0	.89	1.6	11	13	3.1	.89	5.7	1.6
5	2.0	2.1	2.3	2.0	1.3	1.7	9.0	12	2.8	.77	4.1	1.3
6	1.8	2.1	2.3	1.8	1.1	2.0	10	12	2.7	.89	3.8	1.4
7	1.8	2.2	2.4	1.8	.77	2.0	9.6	12	2.6	.66	3.3	1.4
8	1.8	2.0	2.7	1.8	.47	2.1	9.6	12	2.3	.77	2.6	1.4
9	1.7	2.1	2.7	1.8	.39	2.6	9.6	12	2.3	.66	2.5	1.6
10	1.8	2.2	3.1	1.8	.56	3.0	11	11	3.3	1.2	4.5	2.0
11	1.8	2.2	4.0	1.7	.89	3.7	12	11	3.1	1.3	3.6	1.6
12	2.0	2.1	3.1	1.6	1.3	4.4	12	9.6	2.3	.89	2.8	1.6
13	1.7	2.2	2.3	1.4	1.6	5.6	12	9.6	2.0	.77	2.6	1.4
14	1.8	1.8	2.7	1.4	1.4	7.6	11	8.1	1.8	1.4	2.1	1.3
15	1.8	2.0	2.3	1.3	1.4	14	11	7.0	1.6	1.0	1.8	1.3
16	2.0	2.0	2.1	1.1	1.4	17	11	7.0	1.7	1.3	1.8	1.3
17	3.0	2.0	1.3	.77	1.6	19	12	6.2	2.5	1.2	2.0	1.4
18	3.1	2.0	1.6	.56	1.6	14	12	5.6	2.3	1.7	2.2	1.4
19	2.8	1.8	.66	.77	1.4	15	12	5.4	2.0	2.8	2.7	1.0
20	2.7	1.8	.89	1.1	1.3	19	12	4.8	1.6	2.6	2.0	.89
21	2.6	2.0	1.0	1.1	1.1	17	13	4.8	2.1	3.1	1.8	.89
22	2.3	1.6	1.3	1.0	.89	11	15	4.8	3.0	2.0	1.7	.89
23	2.3	2.5	1.8	1.3	.77	7.2	16	4.6	2.1	2.2	2.0	.77
24	2.2	4.8	2.1	1.4	.77	8.1	16	4.3	1.6	1.7	3.4	1.2
25	2.2	4.1	2.2	1.4	.89	9.8	15	4.1	1.3	1.1	2.7	1.0
26	2.2	5.4	2.5	1.7	.89	9.7	14	4.0	1.6	.89	2.2	.89
27	2.1	1.9	2.3	1.7	.89	9.2	13	4.0	2.5	1.3	2.0	.77
28	2.1	2.0	2.5	1.6	1.0	9.1	14	3.8	2.0	2.0	2.1	.77
29	2.2	1.0	2.5	1.4	-	7.6	14	3.6	1.7	2.8	2.6	.77
30	2.2	.89	3.0	1.3	----------	8.1	15	3.4	2.0	3.3	2.3	.77
31	2.1	----------	3.0	1.1	----------	9.1	----------	3.4	----------	3.4	2.2	----------
Total	66.8	66.79	67.85	46.20	28.28	244.5	365.8	247.1	72.8	49.09	85.7	38.51
Mean	2.15	2.23	2.19	1.49	1.01	7.89	12.2	7.97	2.43	1.58	2.76	1.28
Ac-ft	132	132	135	92	56	485	726	490	144	97	170	76

Calendar year 1965: Max 46 Min 0.6 Mean 7.21 Ac-ft 5,220
Water year 1965-66: Max 19 Min 0.39 Mean 3.78 Ac-ft 2,740

Peak discharge (base, 25 cfs).--March 20 (2200) 30 cfs (1.12 ft).

8-2753. Rio Pueblo de Taos near Ranchito, N. Mex.

Location.--Lat 36°23'30", long 105°37'30", on left bank 300 ft downstream from Rio Fernando de Taos and 1.6 miles southwest of Ranchito, Taos County.

Drainage area.--199 sq mi.

Records available.--March 1957 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6,747 ft above mean sea level, datum of 1929.

Average discharge.--9 years, 29.3 cfs (21,210 acre-ft per year).

Extremes.--Maximum discharge during year, 165 cfs Aug. 6 (gage height, 2.60 ft); maximum gage height, 2.65 ft Jan. 28 (ice jam); minimum discharge, 3.5 cfs July 22.
1957-66: Maximum discharge, 600 cfs May 13, 1958, (gage height, 3.72 ft), from rating curve extended above 230 cfs by logarithmic plotting; minimum, 0.8 cfs July 6, 1963, Aug. 6, 1964.

Remarks.--Records good. Diversions for irrigation of about 9,000 acres above station. Anderson ditch diverts from right bank about 125 ft below gage.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	25	29	29	23	30	54	45	38	15	9.3	13
2	20	25	27	26	22	30	67	43	36	14	56	13
3	19	24	26	21	21	27	69	40	29	13	20	12
4	19	24	27	22	22	25	69	39	27	13	76	11
5	19	24	28	22	23	26	63	40	24	12	94	10
6	19	24	26	23	25	27	61	51	22	11	105	10
7	18	24	29	24	27	33	54	55	21	10	64	8.9
8	18	24	30	26	27	31	53	55	17	8.9	51	9.3
9	18	24	30	26	24	32	58	61	15	7.5	44	9.3
10	18	24	44	26	22	34	67	71	25	7.8	46	8.9
11	19	24	36	26	20	36	68	63	19	8.9	46	8.5
12	18	24	35	25	20	39	67	53	19	8.2	32	8.5
13	18	24	30	24	22	42	67	47	17	7.8	28	9.3
14	19	23	32	23	19	45	64	39	16	7.1	25	9.3
15	21	22	32	24	20	50	60	34	15	6.0	22	9.6
16	22	23	32	21	19	53	56	32	14	6.3	22	9.6
17	36	24	29	21	20	55	55	36	26	6.6	19	9.3
18	42	24	30	21	21	41	58	37	22	6.3	17	8.9
19	33	22	24	21	22	39	60	39	16	5.8	16	8.9
20	30	22	25	22	24	41	64	40	15	5.2	16	8.5
21	28	22	26	23	24	42	53	37	20	4.7	15	8.9
22	28	22	27	20	25	41	48	38	17	4.2	16	8.2
23	27	26	30	20	27	35	41	36	15	4.2	19	8.5
24	27	35	30	20	25	37	39	40	15	4.7	21	8.5
25	27	42	25	20	27	40	36	43	11	5.2	18	8.5
26	27	43	26	20	28	40	36	43	10	5.5	17	8.2
27	27	30	26	21	30	44	34	41	18	5.8	15	8.5
28	27	30	27	21	30	42	36	38	14	5.5	14	8.5
29	27	26	27	21	-	46	36	36	14	6.3	14	8.5
30	27	26	36	23	----------	45	41	35	18	8.9	13	8.9
31	26	----------	35	24	----------	48	----------	35	----------	9.6	13	----------
Total	744	776	916	706	659	1,196	1,634	1,342	585	245.0	983.3	281.0
Mean	24.0	25.9	29.5	22.8	23.5	38.6	54.5	43.3	19.5	7.90	31.7	9.37
Ac-ft	1,480	1,540	1,820	1,400	1,310	2,370	3,240	2,660	1,160	486	1,950	557

Calendar year 1965: Max 245 Min 10 Mean 41.2 Ac-ft 29,820
Water year 1965-66: Max 105 Min 4.2 Mean 27.6 Ac-ft 19,970

Peak discharge (base, 130 cfs).--Aug. 6 (0400) 165 cfs (2.60 ft).

8-2755. Rio Grande del Rancho near Talpa, N. Mex.
(Formerly Rio Grande de Ranchos near Talpa, N. Mex.)

Location (revised).--Lat 36°18'02", long 105°34'53", in Rancho del Rio Grande Grant, on right bank 1½ miles downstream from Rito de la Olla (locally known as Pot Creek), 3 miles south of Talpa, and 4 miles upstream from Rio Chiquito.

Drainage area.--83 sq mi, approximately.

Records available.--October 1952 to September 1966. Prior to October 1955, published as Rio Grande del Rancho near Ranchos de Taos, and October 1955 to September 1965 as Rio Grande de Ranchos near Talpa.

Gage.--Water-stage recorder. Datum of gage is 7,236 ft above mean sea level, datum of 1929. Prior to Nov. 11, 1952, staff gage at site 35 ft downstream at datum 0.39 ft lower.

Average discharge.--14 years, 20.0 cfs (14,480 acre-ft per year).

Extremes.--Maximum discharge during year, 90 cfs May 10 (gage height, 3.13 ft); maximum gage height, 3.33 ft Jan. 28 (backwater from ice); minimum discharge determined, 4.0 cfs Mar. 3, result of freezeup.
1952-66: Maximum discharge, 435 cfs Sept. 10, 1964 (gage height, 4.01 ft); minimum, 0.2 cfs Jan. 5, 1955.

Remarks.--Records good except those for December to February, which are poor. Minor diversions upstream for irrigation. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	8.9	10	9.0	6.5	6.3	23	62	35	16	14	13
2	11	8.2	8.0	8.0	6.0	6.0	31	63	36	15	36	12
3	10	8.6	8.0	7.5	5.5	5.5	38	64	32	14	39	12
4	10	8.6	8.5	7.0	6.0	5.0	36	68	30	13	43	11
5	9.7	8.6	8.5	9.0	6.5	6.0	33	72	29	12	43	11
6	9.1	8.4	8.0	11	6.5	7.0	33	75	28	12	46	11
7	9.3	8.6	8.5	10	6.0	8.0	32	79	28	12	41	12
8	9.5	8.2	8.5	9.0	5.0	10	32	83	26	12	38	12
9	9.9	8.4	9.1	8.5	5.0	11	35	85	25	12	36	11
10	10	8.2	11	8.0	5.0	11	40	89	28	12	33	10
11	9.9	8.4	10	7.5	5.0	11	42	86	26	14	34	9.9
12	9.9	8.0	9.7	7.5	5.5	12	43	78	23	13	30	9.7
13	10	7.7	9.0	7.5	7.5	14	43	70	22	12	28	9.3
14	10	7.9	9.5	7.0	6.0	14	42	61	21	11	26	9.1
15	10	8.0	8.5	9.0	6.0	15	42	56	20	11	25	8.9
16	10	8.0	8.5	8.5	5.5	16	44	54	20	11	24	8.7
17	14	8.0	7.0	8.0	5.5	16	47	54	23	11	23	8.6
18	13	8.0	8.0	7.0	6.0	15	52	54	21	11	22	8.0
19	11	7.7	5.5	6.0	6.0	17	54	53	19	11	22	7.9
20	11	7.2	6.0	6.5	6.5	18	51	54	18	12	19	7.7
21	9.9	7.7	6.5	7.5	6.5	18	47	52	20	10	18	7.5
22	9.7	6.0	9.0	6.0	7.0	18	45	50	21	9.5	17	7.2
23	9.5	9.5	11	6.0	7.2	14	41	49	18	10	17	7.0
24	9.3	14	10	6.0	6.0	17	41	48	17	10	20	7.5
25	9.1	16	8.0	6.0	7.0	16	40	46	16	10	17	8.0
26	9.5	19	8.5	6.0	6.9	17	40	44	16	9.1	16	7.2
27	9.1	10	8.5	6.5	6.2	17	44	40	24	9.3	14	7.4
28	9.1	9.0	9.0	7.0	6.0	18	49	38	18	12	15	7.7
29	9.1	7.0	10	7.5	-	17	53	36	17	16	15	7.0
30	8.7	8.0	12	9.0	----------	17	60	34	18	17	13	6.8
31	8.9	----------	10	8.0	----------	19	----------	34	----------	15	13	----------
Total	310.2	269.8	272.3	237.0	170.3	411.8	1,253	1,831	695	374.9	797	276.1
Mean	10.0	8.99	8.78	7.65	6.08	13.3	41.8	59.1	23.2	12.1	25.7	9.20
Ac-ft	615	535	540	470	338	817	2,490	3,630	1,380	744	1,580	548

Calendar year 1965: Max 274 Min 4.0 Mean 33.9 Ac-ft 24,510
Water year 1965-66: Max 89 Min 5.0 Mean 18.9 Ac-ft 13,680

Peak discharge (base, 75 cfs).--May 10 (0930) 90 cfs (3.13 ft).

8-2756. Rio Chiquito near Talpa, N. Mex.

Location.--Lat 36°19'55", long 105°34'42" (revised), in Rancho del Rio Grande Grant, on right bank 1 mile southeast of Talpa, Taos County, and 2 miles (revised) upstream from mouth.

Drainage area.--37.0 sq mi.

Records available.--March 1957 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 7,223 ft above mean sea level, datum of 1929.

Average discharge.--9 years, 8.84 cfs (6,400 acre-ft per year).

Extremes.--Maximum discharge during year, 35 cfs Aug. 2 (gage height, 1.84 ft); minimum, 1.2 cfs Jan. 14, result of freezeup.
1957-66: Maximum discharge, about 144 cfs May 13, 1958 (gage height, 2.24 ft), from rating curve extended above 50 cfs by logarithmic plotting; minimum, about 0.3 cfs Jan. 13, 1964, result of freezeup.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	4.4	6.5	3.5	3.1	3.1	11	35	12	7.0	6.5	8.0
2	4.6	4.2	4.8	2.5	2.7	3.0	13	24	12	5.9	13	7.6
3	4.6	4.4	4.0	2.0	2.9	3.0	14	24	9.8	5.4	14	7.0
4	4.6	4.4	4.2	3.0	3.1	3.0	14	25	9.4	4.8	16	7.0
5	4.6	4.4	4.0	5.0	3.5	3.0	11	25	8.5	4.8	15	6.8
6	4.4	4.4	3.8	6.0	3.3	3.5	12	25	8.0	4.6	17	6.5
7	4.4	4.4	3.8	5.9	2.9	3.5	11	26	8.0	4.4	14	5.9
8	4.4	4.2	4.0	4.8	2.9	3.8	12	25	7.6	4.4	12	5.9
9	4.4	4.2	4.2	4.6	2.9	4.0	13	25	7.3	4.4	11	6.2
10	4.4	4.0	4.6	4.4	3.1	4.2	15	26	9.8	5.1	12	5.9
11	4.4	4.2	4.6	4.2	3.3	4.4	16	25	9.4	5.4	15	5.9
12	4.4	4.0	4.4	4.4	4.2	4.6	17	22	7.6	4.4	12	5.6
13	4.4	4.0	3.8	3.8	4.2	5.1	16	21	7.3	4.4	12	5.4
14	4.4	4.0	4.0	4.0	3.8	5.9	16	18	7.0	4.2	10	5.4
15	4.4	4.2	3.8	4.4	3.5	6.2	16	16	6.8	4.2	9.4	5.4
16	4.6	4.2	4.0	4.2	3.5	6.8	17	16	7.0	5.1	9.4	5.1
17	6.2	4.0	2.8	3.3	4.0	7.0	18	15	8.9	4.6	11	5.1
18	6.2	4.0	3.5	3.0	4.0	6.5	20	14	7.6	4.4	11	4.8
19	5.4	3.8	1.8	3.0	3.3	7.0	18	14	7.0	4.6	11	4.8
20	5.4	3.3	2.0	3.5	3.3	7.6	17	13	6.8	5.4	9.8	4.6
21	5.1	4.0	2.4	4.0	3.1	7.3	16	12	7.6	5.1	8.5	4.6
22	4.8	3.1	4.2	2.5	2.9	7.0	15	12	8.9	4.4	8.5	4.4
23	4.8	4.8	5.4	3.0	2.9	5.6	14	11	7.0	6.5	8.5	4.4
24	4.8	6.8	4.6	3.0	2.9	6.5	15	11	6.5	5.4	13	4.6
25	4.6	6.2	3.0	3.0	2.9	7.0	15	11	6.2	4.6	10	4.6
26	4.6	6.2	3.5	3.0	2.7	7.0	15	11	6.5	4.2	8.9	4.4
27	4.6	3.8	3.5	3.5	2.6	6.8	17	11	8.5	4.8	8.5	4.4
28	4.6	2.9	4.0	3.5	2.7	7.3	20	10	7.0	6.5	8.5	4.4
29	4.6	2.6	4.2	3.5	-	7.0	22	9.4	6.8	7.6	8.5	4.2
30	4.4	4.2	4.6	4.0	----------	7.0	25	9.4	7.0	10	8.5	4.2
31	4.4	----------	4.6	4.4	----------	8.5	----------	10	----------	7.6	8.0	----------
Total	145.9	127.3	122.6	116.9	90.2	172.2	471	551.8	239.8	164.2	340.5	163.1
Mean	4.71	4.24	3.95	3.77	3.22	5.55	15.7	17.5	7.99	5.30	11.0	5.44
Ac-ft	289	252	243	232	179	342	934	1,070	476	326	675	324

Calendar year 1965: Max 84 Min 1.0 Mean 13.5 Ac-ft 9,790
Water year 1965-66: Max 26 Min 1.8 Mean 7.38 Ac-ft 5,350

Peak discharge (base, 35 cfs).--Aug. 2 (0030) 35 cfs (1.84 ft).

8-2763. Rio Pueblo de Taos below Los Cordovas, N. Mex.

Location.--Lat 36°22'38", long 105°40'04", in Gijosa Grant, on left bank 2 miles southwest of Los Cordovas, Taos County, 2½ miles downstream from Rio Grande del Rancho, 4½ miles upstream from mouth.

Drainage area.--380 sq mi.

Records available.--March 1957 to September 1966.

Gage.--Digital water-stage recorder and crest-stage gage. Concrete control since July 16, 1963. Datum of gage is 6,652 ft above mean sea level, datum of 1929. Prior to July 16, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--9 years, 52.1 cfs (37,720 acre-ft per year).

Extremes.--Maximum discharge during year, 456 cfs Aug. 6 (gage height, 3.89 ft); minimum, 9.5 cfs July 22, 23, 27, 28.
1957-66: Maximum discharge, 2,380 cfs Aug. 24, 1957 (gage height, 5.80 ft), from rating curve extended above 900 cfs on basis of logarithmic plotting; minimum, 3.0 cfs July 14, 17, 22, 23, 25, 1963.

Remarks.--Records good except those from Dec. 15 to Feb. 15, which are fair. Diversions for irrigation of about 12,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	34	39	47	50	34	42	85	86	50	28	12	19
2	32	38	43	44	33	42	104	78	46	24	113	20
3	32	38	41	42	30	36	116	74	38	22	48	18
4	32	38	43	39	34	32	112	74	34	21	60	17
5	32	37	42	40	36	39	101	78	33	20	78	16
6	29	37	39	42	39	42	99	88	30	19	123	16
7	28	36	40	43	39	53	90	93	28	17	73	15
8	28	36	43	43	36	52	88	99	24	15	63	16
9	28	36	44	44	35	56	93	106	22	14	56	17
10	27	36	63	44	33	58	110	120	38	13	58	16
11	27	35	53	42	29	59	112	114	30	15	80	15
12	26	34	47	41	30	59	112	102	28	13	52	16
13	26	34	43	39	33	60	112	93	26	13	48	17
14	26	32	45	37	29	66	106	74	23	13	43	17
15	28	33	43	38	30	70	99	64	20	12	39	17
16	30	34	44	35	28	80	95	62	20	11	38	18
17	51	35	39	35	30	86	92	60	36	12	36	17
18	58	34	41	35	31	78	97	52	33	13	34	14
19	45	33	35	35	34	78	101	51	26	12	33	15
20	41	33	37	36	38	81	104	51	26	11	31	15
21	39	33	39	36	40	83	90	48	33	11	26	15
22	41	32	40	33	40	80	81	50	33	11	26	16
23	39	39	42	31	41	62	70	50	27	10	29	17
24	37	50	43	30	36	66	65	51	26	11	30	18
25	40	62	39	29	41	68	60	55	22	11	27	18
26	40	71	40	30	43	66	59	52	21	11	24	18
27	40	46	40	31	43	66	53	51	36	11	22	18
28	39	43	40	31	42	70	59	48	28	19	21	19
29	39	40	42	31	------	68	64	46	35	11	20	19
30	39	41	60	34	------	66	78	42	36	12	18	19
31	39	------	60	34	------	71	------	41	------	12	18	------
TOTAL	1,092	1,165	1,357	1,154	987	1,935	2,707	2,153	908	448	1,379	508
MEAN	35.2	38.8	43.8	37.2	35.3	62.4	90.2	69.5	30.3	14.5	44.5	16.9
AC-FT	2,170	2,310	2,690	2,290	1,960	3,840	5,370	4,270	1,800	889	2,740	1,010

CALENDAR YEAR	1965	MAX	522	MIN	16	MEAN	80.4	AC-FT	58,210
WATER YEAR	1965-66	MAX	123	MIN	10	MEAN	43.3	AC-FT	31,340

Peak discharge (base, 230 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-28	1430	3.29	249	8- 6	0100	3.89	456
8- 2	0030	3.48	308				

8-2765. Rio Grande below Taos Junction Bridge, near Taos, N. Mex.

Location.--Lat 36°19'00", long 105°45'30", in N½ sec.15, T.24 N., R.11 E., on left bank 2 miles downstream from Rio Pueblo de Taos and bridge on State Highway 96 and 12 miles southwest of Taos.

Drainage area.--9,730 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--July 1925 to September 1966. Monthly discharge only July 1925 to September 1930, published in WSP 1312.

Gage.--Water-stage recorder (digital prior to Aug. 9). Datum of gage is 6,050.3 ft above mean sea level (planetable survey). Prior to Apr. 14, 1934, at bridge 2 miles upstream at different datum.

Average discharge.--41 years, 739 cfs (535,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,740 cfs May 12 (gage height, 5.34 ft); minimum, 211 cfs Sept. 30.
1926-66: Maximum discharge, 9,730 cfs June 7, 1948, June 22, 1949; maximum gage height, 10.7 ft July 3, 1927 (site and datum then in use), from graph based on recorder record ending at a gage-height of 10.5 ft, 6 hours prior to peak; minimum daily discharge, 159 cfs Oct. 8-11, 1956.
Maximum flood known since at least 1888, about 14,000 cfs June 19, 1903, from records for Rio Grande at Embudo and estimated inflow. Other floods exceeding 10,000 cfs occurred June 9, 1905, May 28, 1920, and June 16, 1921, from comparison of records for stations near Lobatos and at Embudo.

Remarks.--Records good. Diversions for irrigation of about 650,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,060	655	633	708	556	619	1,040	795	983	420	263	270
2	1,120	662	640	700	563	633	1,080	859	1,120	425	538	265
3	1,150	662	670	678	549	619	1,190	943	1,370	409	419	260
4	1,080	655	678	648	556	584	1,270	980	1,340	390	544	255
5	1,030	633	692	612	563	549	1,270	1,010	1,160	374	605	255
6	969	612	700	591	570	605	1,180	1,040	1,040	373	703	255
7	900	584	700	584	591	662	1,070	1,080	958	368	562	250
8	787	556	692	605	598	747	987	1,220	874	355	579	260
9	731	549	678	619	584	827	909	1,360	780	348	556	250
10	723	827	755	626	570	884	909	1,460	768	340	528	245
11	700	960	795	640	570	763	926	1,650	718	333	521	240
12	648	1,010	803	648	570	763	987	1,670	662	329	442	245
13	626	1,010	811	640	598	819	1,010	1,400	641	308	423	245
14	605	926	779	626	577	900	996	1,140	622	303	387	250
15	577	892	715	640	577	987	934	977	573	293	364	255
16	549	900	640	619	570	1,060	851	881	530	291	358	245
17	563	892	514	605	563	1,230	803	807	523	288	364	245
18	584	900	535	605	584	1,320	803	734	511	307	448	250
19	598	926	507	626	584	1,270	851	682	478	293	393	260
20	692	918	480	591	598	1,130	1,020	643	457	313	364	260
21	795	918	435	619	605	1,100	1,040	632	484	275	348	265
22	827	918	500	591	612	1,130	987	616	479	284	326	260
23	795	943	598	570	605	1,110	827	623	458	280	348	255
24	779	969	662	570	605	1,050	731	650	432	280	348	235
25	763	1,040	619	563	619	969	648	740	409	268	336	230
26	731	1,100	626	535	626	934	619	877	391	255	320	225
27	723	1,120	612	535	619	918	570	1,000	417	250	315	220
28	708	1,060	633	528	619	918	605	1,000	413	272	305	220
29	692	771	640	535	------	926	700	954	420	272	295	220
30	678	655	685	542	------	969	771	900	435	277	285	216
31	670	------	715	556	------	1,020	------	888	------	326	275	------
TOTAL	23,853	25,223	20,142	18,755	16,401	28,015	27,584	30,211	20,446	9,899	12,862	7,406
MEAN	769	841	650	605	586	904	919	975	682	319	415	247
AC-FT	47,310	50,030	39,950	37,200	32,530	55,570	54,710	59,920	40,550	19,630	25,510	14,690

CALENDAR YEAR 1965 MAX 4,480 MIN 330 MEAN 996 AC-FT 721,000
WATER YEAR 1965-66 MAX 1,670 MIN 216 MEAN 660 AC-FT 477,600

Peak discharge (base, 1,600 cfs).--May 12 (0300) 1,740 cfs (5.34 ft).

8-2790. Embudo Creek at Dixon, N. Mex.

Location.--Lat 36°12'40", long 105°54'55", in NW¼SE¼ sec.19, T.23 N., R.10 E., at downstream end of bridge pier on U. S. Highway 64, 0.3 mile upstream from mouth, 0.4 mile east of Embudo Post Office, and 1.8 miles northwest of Dixon.

Drainage area.--305 sq mi.

Records available.--October 1923 to September 1955, April 1956 to September 1962 (annual maximum only). September 1962 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 5,849.54 ft above mean sea level, datum of 1929. Prior to Nov. 30, 1938, at site about 1 mile upstream at different datums. Nov. 30, 1938, to Aug. 1, 1941, at site about three-quarters of a mile upstream at datum about 69.0 ft higher. April 1956 to Sept. 21, 1962, crest-stage gage.

Average discharge.--35 years (1923-25, 1926-55, 1962-66), 80.5 cfs (58,280 acre-ft per year).

Extremes.--Maximum discharge during year, 820 cfs July 28 (gage height, 4.86 ft); minimum, 13 cfs Mar. 4, result of freezeup.
1923-66: Maximum discharge determined, 2,180 cfs Aug. 22, 1946 (gage height, 7.00 ft); minimum daily (except 1956-62), 0.2 cfs June 27, 1950, July 8, 22, Aug. 17, 1951.

Remarks.--Records good except those for November, January and February, which are poor. Diversions above station for irrigation of about 6,500 acres, a small part of which is below gage.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	51	46	36	31	28	95	92	146	57	29	37
2	56	51	41	29	28	27	139	88	172	46	94	35
3	56	51	40	23	26	26	168	87	122	37	142	33
4	56	51	41	22	27	26	155	89	106	33	162	26
5	56	51	41	24	29	29	129	90	92	29	135	24
6	53	48	38	34	33	34	112	101	76	26	133	24
7	52	50	40	41	34	37	101	112	61	23	114	25
8	52	50	42	40	34	42	108	122	53	17	92	24
9	51	50	45	39	31	56	126	144	50	15	80	23
10	50	49	51	36	28	56	155	168	77	14	82	25
11	47	48	50	35	25	57	160	158	83	14	82	25
12	45	47	46	35	30	57	153	155	66	14	80	24
13	47	46	38	34	36	58	146	139	58	14	80	22
14	47	45	44	30	25	64	137	110	51	16	62	21
15	42	46	42	32	28	64	129	106	45	16	65	20
16	44	48	42	30	25	65	133	101	42	17	61	21
17	72	47	35	29	25	68	142	99	57	17	55	21
18	66	46	40	27	26	60	156	97	61	20	51	19
19	61	46	26	25	27	66	148	95	57	26	66	17
20	60	44	29	30	28	70	144	95	55	22	57	17
21	58	44	31	33	29	68	112	99	62	23	47	16
22	56	44	41	26	27	66	103	106	58	22	44	16
23	53	44	52	25	31	58	82	116	51	20	53	16
24	53	60	47	23	29	64	74	116	44	21	110	16
25	50	60	36	25	32	62	70	114	36	20	80	16
26	48	80	36	23	33	62	66	114	36	15	58	15
27	50	45	37	25	32	64	65	108	61	14	48	15
28	50	40	37	26	29	68	68	101	51	46	49	16
29	50	33	41	28	-	74	74	99	48	50	51	16
30	50	35	55	31	----------	72	87	94	66	55	42	16
31	48	----------	53	32	----------	77	----------	103	----------	35	44	----------
Total	1,636	1,450	1,283	928	818	1,725	3,537	3,417	2,043	794	2,348	641
Mean	52.8	48.3	41.4	29.9	29.2	55.6	118	110	68.1	25.6	75.7	21.4
Ac-ft	3,240	2,880	2,540	1,840	1,620	3,420	7,020	6,780	4,050	1,570	4,660	1,270

Calendar year 1965 : Max 875 Min 15 Mean 117 Ac-ft 85,000
Water year 1965-66 : Max 172 Min 14 Mean 56.5 Ac-ft 40,900

Peak discharge (base, 800 cfs).--July 28 (1500) 820 cfs (4.86 ft).

8-2795. Rio Grande at Embudo, N. Mex.

Location.--Lat 36°12'20", long 105°57'50", in SW¼SW¼ sec.23, T.23 N., R.9 E., on right bank a quarter of a mile downstream from bridge at Embudo and 2½ miles downstream from Embudo Creek.

Drainage area.--10,400 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--January 1889 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge published in WSP 358 for period Oct. 4 to Nov. 30, 1896, have been found to be unreliable and should not be used.

Gage.--Digital water-stage recorder and crest-stage gage. Datum of gage is 5,789.14 ft above mean sea level, datum of 1929. Jan. 1 to Feb. 28, 1889, staff gage 1¼ miles upstream at different datum. March 1889 to December 1903, staff gage 1,300 ft upstream at different datum. September 1912 to June 1914, graphic water-stage recorder on downstream end of bridge pier at site 200 ft upstream at present datum. July 1914 to Mar. 25, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--77 years, 1,032 cfs (747,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,950 cfs May 12 (gage height, 4.91 ft); minimum, 220 cfs Sept. 30.
1889-1903, 1912-66: Maximum discharge, 16,200 cfs June 19, 1903 (gage height, about 15.9 ft); minimum daily, 130 cfs June 30, 1902.
A flood of about 14,000 cfs occurred between May 20 and June 10, 1905, from a comparison of records for Lobatos and Otowi Bridge. Another major flood occurred Sept. 29 or 30, 1904.

Remarks.--Records good. Diversions for irrigation of about 660,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,110	704	686	745	598	647	1,190	922	1,140	496	308	315
2	1,170	704	704	733	604	664	1,240	947	1,270	487	625	305
3	1,200	704	727	710	587	636	1,360	1,040	1,480	461	637	296
4	1,150	698	733	681	582	604	1,440	1,100	1,490	434	694	290
5	1,110	675	751	647	587	577	1,440	1,120	1,310	412	798	284
6	1,040	653	751	631	604	636	1,340	1,170	1,170	399	856	284
7	990	614	745	620	625	686	1,230	1,210	1,070	397	698	283
8	863	593	745	642	625	788	1,150	1,330	974	373	699	283
9	794	572	727	653	625	850	1,080	1,510	870	362	676	276
10	775	818	825	664	604	1,020	1,100	1,620	879	351	643	272
11	757	983	870	675	587	857	1,120	1,820	835	347	643	264
12	710	1,060	857	681	593	850	1,160	1,880	761	339	559	265
13	681	1,070	857	670	631	909	1,180	1,620	723	320	523	266
14	658	990	838	642	609	996	1,160	1,320	691	314	470	267
15	625	935	757	658	609	1,100	1,100	1,140	631	302	443	270
16	598	935	710	653	604	1,170	1,020	1,040	582	299	425	269
17	664	929	551	642	593	1,320	976	957	590	295	427	262
18	664	935	572	636	604	1,420	983	874	599	309	508	264
19	658	962	531	681	614	1,380	1,010	807	552	324	470	268
20	751	956	516	664	625	1,260	1,160	776	529	330	431	269
21	857	949	487	658	636	1,220	1,180	764	546	312	410	275
22	909	949	521	631	642	1,240	1,130	747	566	301	385	271
23	863	976	636	609	636	1,210	956	760	520	299	405	263
24	850	1,020	722	604	631	1,180	831	774	482	301	474	251
25	831	1,080	670	604	647	1,100	745	859	455	288	436	245
26	788	1,180	658	577	658	1,040	704	991	432	272	405	237
27	775	1,160	653	572	647	1,020	664	1,120	493	254	384	234
28	763	1,140	675	567	642	1,040	681	1,140	476	300	377	232
29	745	857	692	567	------	1,040	782	1,100	476	312	361	230
30	727	710	739	577	------	1,080	883	1,040	524	306	336	228
31	716	------	788	598	------	1,130	------	1,020	------	397	326	------
TOTAL	25,792	26,511	21,694	19,892	17,249	30,670	31,995	34,518	23,116	10,693	15,832	8,018
MEAN	832	884	700	642	616	989	1,067	1,113	771	345	511	267
AC-FT	51,160	52,580	43,030	39,460	34,210	60,830	63,460	68,470	45,850	21,210	31,400	15,900

CALENDAR YEAR 1965 MAX 5,090 MIN 381 MEAN 1,122 AC-FT 812,100
WATER YEAR 1965-66 MAX 1,880 MIN 228 MEAN 729 AC-FT 527,600

Peak discharge (base, 2,000 cfs).--No peak above base.

8-2801. San Juan lateral above San Juan Pueblo, N. Mex.

Location.--Lat 36°04'03", long 106°04'07", in SW¼NW¼ sec.11, T.21 N., R.8 E., on right bank upstream from second drop structure below division box, 500 ft downstream from Arroyo de Chinguague, 0.9 mile north of San Juan Pueblo, and 5 miles north of Espanola.

Records available.--April 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,660 ft (from topographic map). Prior to Mar. 4, 1965, at datum 3.51 ft higher. Apr. 17, 1964 to Aug. 7, 1966, digital water-stage recorder at present site.

Extremes.--1963-66: Maximum daily discharge, 20 cfs June 9, 1963; no flow for many days each year.

Remarks.--Records good prior to Aug. 8. This is one of three ditch stations operated to gage flow bypassing Rio Grande above San Juan Pueblo, N. Mex. (see station 8-2811). Takeouts between division box and gage irrigate a few acres, but percentage of total acreage is small.

Cooperation.--Subsequent to Aug. 7, records furnished by Bureau of Reclamation.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	4.0	0.10	1.40	86
November	3.9	.10	1.69	101
December	3.8	0	1.27	78
Calendar year 1965	13	0	1.30	945
January	.10	0	.01	.6
February	0	0	0	0
March	0	0	0	0
April	4.6	0	2.09	125
May	19	0	3.56	219
June	2.5	0	.73	44
July	4.7	0	.75	46
August	15	0	1.74	107
September	1.5	0	.49	29
Water year 1965-66	19	0	1.15	836

8-2802. San Juan Pueblo ditch above San Juan Pueblo, N. Mex.

Location.--Lat 36°03'55", long 106°04'10", in NW¼SW¼ sec.11, T.21 N., R.8 E., on right bank 1,000 ft downstream from Arroyo de Chinguague, 0.7 mile north of San Juan Pueblo, and 5 miles north of Espanola.

Records available.--March 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,660 ft (from topographic map). Prior to Mar. 4, 1965, at datum 4.00 ft higher. Apr. 17, 1964, to Aug. 10, 1966, digital water-stage recorder at same site.

Extremes.--1963-66: Maximum daily discharge, 26 cfs Aug. 22, 23, 1965; no flow for many days each year.

Remarks.--Records good prior to Aug. 11. This is one of three ditch stations operated to gage flow bypassing Rio Grande above San Juan Pueblo, N. Mex. (see station 8-2811). Takeouts for irrigation above and below gage.

Cooperation.--Subsequent to Aug. 10, records furnished by Bureau of Reclamation.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in Acre-feet
October	13	0.50	5.89	362
November	16	.60	8.18	487
December	3.5	0	1.11	68
Calendar year 1965	26	0	6.56	4,750
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	20	0	7.56	450
May	24	3.5	10.1	619
June	11	0	5.11	304
July	20	.20	7.06	434
August	18	1.3	8.62	530
September	14	.40	4.87	290
Water year 1965-66	24	0	4.90	3,540

8-2807. Guique ditch near San Juan Pueblo, N. Mex.

Location.--Lat 36°04'06", long 106°04'42", in NW¼NE¼ sec.10, T.21 N., R.8 E., on right bank above farm road culvert, 1,500 ft downstream from Pueblito, 1.1 miles south of Guique, 1.1 miles northwest of San Juan Pueblo, and 5 miles north of Espanola.

Records.--April 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,660 ft (from topographic map). Prior to Mar. 4, 1965, at datum 3.50 ft higher. Apr. 16, 1964, to Aug. 8, 1966, digital water-stage recorder at same site.

Extremes.--1963-66: Maximum daily discharge, 19 cfs May 8, 1965; no flow for many days each year.

Remarks.--Records good prior to Aug. 9. This is one of three ditches gaged to determine flow bypassing station Rio Grande above San Juan Pueblo, N. Mex. (see station 8-2811). Takeouts from ditch irrigate land above and below gage, or waste back to Rio Grande.

Cooperation.--Subsequent to Aug. 8, records furnished by Bureau of Reclamation.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in Acre-feet
October	10	0	4.06	250
November	13	0	6.43	383
December	0	0	0	0
Calendar year 1965	19	0	3.08	2,230
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	0	0	0	0
May	8.8	0	3.87	238
June	11	0	3.02	180
July	7.5	0	1.90	117
August	7.8	0	1.13	70
September	6.6	0	3.06	182
Water year 1965-66	13	0	1.96	1,420

8-2811. Rio Grande above San Juan Pueblo, N. Mex.

Location.--Lat 36°04'00", long 106°04'30", in NE¼SE¼ sec.10, T.21 N., R.8 E., on left bank three-quarters of a mile upstream from bridge on State Highway 74, three-quarters of a mile north of San Juan Pueblo, 1.8 miles upstream from Rio Chama, and 5 miles north of Espanola.

Drainage area.--10,550 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--March 1963 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,630 ft (from topographic map). May 1, 1964 to Aug. 9, 1966, digital water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 1,700 cfs May 12 (gage height, 2.76 ft); minimum, 227 cfs July 18, 27, 28, Sept. 26.
1963-66: Maximum discharge, 4,900 cfs June 22, 1965 (gage height, 4.95 ft); minimum, 96 cfs Aug. 1, 1963.
For years of outstanding floods see records for station at Embudo.

Remarks.--Records good. Diversions above station for irrigation of about 619,000 acres in Colorado and 42,000 in New Mexico; bypass canals irrigate a few hundred acres below station (see stations 8-2801, 8-2802, 8-2807).

Cooperation.--Subsequent to Aug. 9, records furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	1,030	705	665	738	580	650	1,140	886	1,030	457	295	315
2	1,070	689	681	738	588	673	1,190	886	1,180	441	614	304
3	1,110	681	714	722	580	642	1,290	956	1,340	423	685	304
4	1,080	681	714	730	573	634	1,370	1,040	1,380	390	601	304
5	1,030	665	722	714	580	588	1,380	1,060	1,250	352	767	298
6	973	650	738	673	596	626	1,300	1,080	1,090	314	827	315
7	928	610	730	626	610	665	1,190	1,120	993	309	715	309
8	831	588	730	642	618	772	1,120	1,200	909	291	685	304
9	755	573	705	658	618	840	1,040	1,350	826	278	697	304
10	730	755	780	665	596	1,010	1,060	1,440	843	275	673	298
11	697	937	865	673	580	865	1,070	1,590	833	272	657	304
12	658	1,020	848	681	596	840	1,080	1,670	762	253	595	293
13	634	1,030	848	673	618	892	1,110	1,520	713	294	543	282
14	610	964	831	658	603	973	1,100	1,270	687	273	507	277
15	580	910	763	665	603	1,060	1,060	1,100	639	248	452	287
16	566	910	730	658	610	1,140	993	983	632	242	418	282
17	665	910	588	642	588	1,250	951	903	609	246	393	272
18	681	910	550	626	596	1,370	925	821	623	245	452	277
19	658	937	550	658	610	1,350	937	756	597	275	459	304
20	697	937	550	650	626	1,240	1,060	707	592	271	445	315
21	806	928	543	634	634	1,190	1,110	684	607	294	412	293
22	865	919	522	642	642	1,200	1,090	668	617	269	386	277
23	840	946	610	618	642	1,190	945	683	574	269	438	272
24	822	982	714	642	626	1,150	821	696	523	270	445	261
25	806	1,030	673	610	650	1,080	728	778	485	265	495	241
26	772	1,140	642	588	658	1,040	662	890	457	251	432	236
27	763	1,110	658	550	650	1,020	630	1,020	492	235	399	236
28	747	1,120	658	522	642	1,030	621	1,060	470	267	380	231
29	730	901	681	486	------	1,020	708	1,050	449	285	374	236
30	730	714	714	479	------	1,050	811	974	490	295	343	231
31	714	------	797	558	------	1,090	------	945	------	354	326	------
TOTAL	24,578	25,852	21,514	19,819	17,113	30,140	30,492	31,786	22,692	9,203	15,910	8,462
MEAN	793	862	694	639	611	972	1,016	1,025	756	297	513	282
AC-FT	48,750	51,280	42,670	39,310	33,940	59,780	60,480	63,050	45,010	18,250	31,560	16,780

CALENDAR YEAR 1965 MAX 4,830 MIN 380 MEAN 1,088 AC-FT 787,200
WATER YEAR 1965-66 MAX 1,670 MIN 231 MEAN 706 AC-FT 510,900

Peak discharge (base, 2,000 cfs).--No peak above base.

8-2841. Rio Chama near La Puente, N. Mex.

Location.--Lat 36°39'45", long 106°38'00", in Tierra Amarilla Grant, on right bank 0.7 mile downstream from Rito de Tierra Amarilla, 3 miles southwest of La Puente, Rio Arriba County, 6.7 miles upstream from flow line of El Vado Reservoir, and at mile 91.4.

Drainage area.--480 sq mi, approximately.

Records available.--October 1955 to September 1966.

Gage.--Water-stage recorder. Concrete control since Nov. 9, 1965. Altitude of gage is 7,083 ft (from river-profile map).

Average discharge.--11 years, 321 cfs (232,400 acre-ft per year).

Extremes.--Maximum discharge during year, 2,490 cfs May 2 (gage height, 4.86 ft); minimum, about 19 cfs Sept. 19.
1955-66: Maximum discharge, 8,040 cfs June 7, 1957 (gage height, 6.07 ft), from rating curve extended above 3,000 cfs on basis of logarithmic plotting and an inflow-outflow study of El Vado Reservoir; minimum daily, 4.4 cfs Sept. 19, 1956.
A discharge of about 9,000 cfs occurred Apr. 16, 1937, based on flow of Rio Chama at Park View with allowance for tributary inflow. A peak on May 21 or 22, 1926, may have exceeded 10,000 cfs.

Remarks.--Records good except those for periods of no gage-height record and those for winter months, which are fair. Diversions for irrigation of about 10,300 acres above station (1962 determination).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	125	98	118	45	55	90	1,060	2,020	626	101	90	36
2	115	93	98	35	60	90	1,240	2,090	530	83	104	34
3	107	88	93	45	55	65	1,280	2,130	449	68	243	32
4	98	85	93	45	65	60	1,020	2,150	389	62	170	30
5	93	78	90	50	70	60	818	2,130	364	55	115	28
6	90	78	90	55	75	80	761	2,110	333	53	93	31
7	85	78	96	55	90	100	818	1,990	294	44	83	37
8	83	73	98	55	85	200	976	1,950	273	38	71	25
9	83	73	107	55	75	250	1,070	1,880	248	25	68	23
10	76	71	131	75	60	300	1,240	1,870	339	27	60	20
11	76	68	141	80	60	400	1,180	1,470	300	46	58	21
12	71	64	128	75	70	400	954	1,310	253	42	58	22
13	68	64	118	70	70	400	890	1,080	233	41	73	24
14	60	68	118	65	65	400	839	998	207	60	66	25
15	56	66	118	55	65	473	1,020	943	189	49	64	30
16	54	66	118	55	55	525	1,340	876	178	46	60	28
17	253	76	100	55	65	515	1,540	921	159	46	62	25
18	229	73	85	55	70	400	1,480	932	143	42	49	22
19	196	68	75	60	80	397	1,080	900	141	55	46	20
20	191	66	60	50	80	449	954	849	138	88	44	20
21	144	66	60	45	80	463	890	818	155	138	46	20
22	141	60	65	35	85	389	869	808	159	112	44	20
23	151	107	75	40	85	287	799	761	121	90	53	20
24	191	215	75	50	90	300	900	733	98	90	55	22
25	195	253	70	50	95	376	1,100	688	85	68	55	23
26	121	189	55	50	95	500	1,460	652	78	58	46	25
27	112	98	50	55	95	602	1,800	670	90	56	40	27
28	115	96	50	65	90	651	1,770	586	96	71	35	24
29	112	93	60	70	-	679	1,920	538	83	88	34	22
30	107	112	65	85	----------	697	2,020	515	104	101	35	20
31	101	----------	50	85	----------	896	----------	644	----------	169	37	----------
Total	3,574	2,783	2,750	1,775	2,095	11,504	35,088	33,112	6,860	2,112	2,157	756
Mean	115	92.8	88.7	57.3	74.8	371	1,170	1,229	229	68.1	69.6	25.2
Ac-ft	7,090	5,520	5,450	3,520	4,160	22,820	69,600	75,590	13,610	4,190	4,280	1,500

Calendar year 1965 : Max 4,720 Min 35 Mean 503 Ac-ft 363,800
Water year 1965-66 : Max 2,150 Min 20 Mean 300 Ac-ft 217,300

Peak discharge (base 2,700 cfs).--No peak above base.

Note.--No gage-height record Aug. 31 to Sept. 28.

8-2842. Willow Creek above Heron Reservoir, near Park View, N. Mex.

Location.--Lat 36°44'30", long 106°37'35", in Tierra Amarilla Grant, on right bank 3.6 miles west of Park View, 7½ miles upstream from Horse Lake Creek, Rio Arriba County, and at mile 9.6.

Drainage area.--112 sq mi.

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,210 ft (from topographic map). Prior to June 6, 1963, at datum 2.74 ft lower, and natural control.

Extremes.--Maximum discharge during year, 670 cfs Mar. 20 (gage height, 3.04 ft); minimum, 0.01 cfs Aug. 25 to Sept. 15.
1962-66: Maximum discharge, 1,300 cfs about Mar. 22, 1963 (gage height, 6.48 ft from floodmarks, former datum), from rating curve extended above 60 cfs on basis of slope-area measurement of peak flow; no flow many days most years.

Remarks.--Records good except those for December to February, which are poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.10	0.76	0.98	0.50	0.80	0.85	.84	6.4	7.4	5.8	38	0.01
2	.10	.67	.87	.20	.80	.90	78	5.8	7.4	3.6	2.5	.01
3	.10	.67	.67	.30	.50	.80	64	5.1	5.6	2.9	15	.01
4	.10	.67	.48	.50	.60	.30	37	4.8	4.6	2.5	7.4	.01
5	.10	.67	.41	.70	.70	.50	24	4.6	4.4	1.8	3.1	.01
6	.07	.67	.34	.75	.80	1.5	22	3.8	3.8	1.3	1.1	.01
7	.07	.58	.28	.80	.80	2.2	23	3.6	3.4	.87	.41	.01
8	.07	.67	.28	.80	.70	4.4	27	3.4	3.1	.48	.14	.01
9	.07	.76	.28	.80	.50	16	25	3.1	3.1	.41	.10	.01
10	.07	.87	3.5	.70	.30	34	25	3.1	4.1	1.4	.07	.01
11	.07	.67	9.6	.70	.25	58	21	3.2	7.1	4.1	.05	.01
12	.10	.58	4.6	.60	.30	119	16	3.2	6.1	1.1	.03	.01
13	.10	.34	3.1	.60	.80	200	16	2.9	4.6	2.4	.10	.01
14	.10	.28	2.2	.50	.20	275	14	2.4	3.6	2.5	.10	.01
15	.07	.23	1.6	.35	.80	237	13	2.0	3.4	4.1	.05	.17
16	.10	.23	1.4	.50	.20	300	13	1.7	2.7	4.4	3.1	1.2
17	4.8	.23	1.0	.25	.50	274	12	1.4	2.5	3.4	5.0	2.4
18	6.7	.18	.60	.25	.80	195	12	1.2	2.5	3.4	.76	1.7
19	5.1	.14	.40	.30	.85	252	14	.98	2.2	4.5	.28	.67
20	3.2	.10	.30	.40	.87	304	18	.98	1.7	13	.14	.28
21	1.4	.10	.35	.40	.67	278	15	.76	1.8	19	.05	.18
22	.76	.10	.40	.20	.87	138	19	.76	2.4	13	.03	.10
23	.41	1.3	.40	.30	.76	77	18	.67	3.2	8.0	.03	.05
24	.28	6.3	.40	.50	.87	101	13	1.6	2.2	4.6	.03	.07
25	.23	47	.35	.30	.87	156	11	2.0	1.1	2.0	.02	.10
26	.18	27	.35	.20	1.0	182	9.3	2.0	.76	1.4	.01	.23
27	.34	5.4	.35	.50	.95	148	8.7	4.1	1.1	1.7	.01	.14
28	.48	2.7	.35	.50	.80	116	7.7	5.6	.76	1.3	.01	.10
29	.67	1.7	.40	.60	—	90	7.1	5.6	4.3	1.7	.01	.07
30	.67	1.1	1.0	.80	----------	79	6.4	4.4	8.5	15	.01	.03
31	.58	----------	.50	1.0	----------	86	----------	4.4	----------	20	.01	----------
Total	27.19	102.67	37.74	15.80	18.86	3,746.45	673.2	95.55	109.42	151.66	43.45	7.63
Mean	0.877	3.42	1.22	0.510	0.674	121	22.4	3.08	3.65	4.89	1.40	0.254
Ac-ft	54	204	75	31	37	7,430	1,340	190	217	301	86	15

Calendar year 1965: Max 583 Min 0 Mean 20.6 Ac-ft 14,950
Water year 1965-66: Max 304 Min 0.01 Mean 13.8 Ac-ft 9,980

Peak discharge (base, 300 cfs).--Mar. 20 (1845) 670 cfs (3.04 ft).

8-2843. Horse Lake Creek above Heron Reservoir, near Park View, N. Mex.

Location.--Lat 36°42'30", long 106°44'50", in Tierra Amarilla Grant, on left bank 300 ft downstream from pond with open spillway, 5½ miles upstream from mouth, 8 miles downstream from Horse Lake, and 13 miles west of Park View, Rio Arriba County.

Drainage area.--45 sq mi, approximately.

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,220 ft (from topographic map). Prior to June 10, 1963, at datum 1.77 ft higher.

Extremes.--Maximum discharge during year, 159 cfs July 29 (gage height, 2.51 ft), from rating curve extended above 37 cfs as explained below; no flow most of time.
1962-66: Maximum discharge, 440 cfs Aug. 1, 1964 (gage height, 3.20 ft), from rating curve extended above 9.0 cfs on basis of slope-area measurement of peak flow; no flow most of time.

Remarks.--Records good. Diversions above station for irrigation of meadows and for off-channel stock tanks.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0.10		0	2.4			0	0	
2	0	0	0	0		0	2.1			0	1.2	
3	0	0	0	0		0	1.9			0	1.4	
4	0	0	0	0		0	1.3			0	.04	
5	0	0	0	0		0	1.1			0	0	
6	0	0	0	0		0	.97			0	0	
7	0	0	0	0		0	.78			0	0	
8	0	0	0	0		0	.55			0	0	
9	0	0	0	0		0	.50			0	0	
10	0	0	.39	0		0	.50			0	0	
11	0	0	1.6	0		.35	.50			0	0	
12	0	0	.55	0		13	.50			0	0	
13	0	0	.30	0		21	.42			0	0	
14	0	0	.15	0		29	.38			0	0	
15	0	0	.07	0		31	.30			0	0	
16	0	0	.04	0		38	.24			0	0	
17	2.2	0	0	0		21	.18			0	0	
18	.30	0	0	0		20	.15			0	.02	
19	.08	0	0	0		22	.50			0	.45	
20	0	0	0	0		25	1.2			0	0	
21	0	0	0	0		21	1.0			.30	0	
22	0	0	0	0		9.9	.66			.58	0	
23	0	.20	0	0		4.8	.50			0	0	
24	0	.44	0	0		7.5	.30			0	0	
25	0	11	0	0		11	.15			0	0	
26	0	5.7	0	0		10	.08			0	0	
27	0	.55	0	0		5.7	.02			0	0	
28	0	.06	0	0		3.3	.01			0	0	
29	0	0	0	0	-	2.7	0			15	0	
30	0	0	.30	0	----------	2.4	0			12	0	
31	0	----------	.25	0	----------	2.4	----------		----------	1.1	0	----------
Total	2.58	17.95	3.65	0.10	0	301.05	19.19	0	0	28.98	3.11	0
Mean	0.083	0.598	0.118	0.003	0	9.71	0.640	0	0	0.935	0.100	0
Ac-ft	5.1	36	7.2	0.2	0	597	38	0	0	57	6.2	0

Calendar year 1965: Max 42 Min 0 Mean 1.39 Ac-ft 1,010
Water year 1965-66: Max 38 Min 0 Mean 1.03 Ac-ft 747

Peak discharge (base, 50 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-14	1700	2.27	110	7-30	1900	2.22	102
7-29	1645	2.51	159				

8-2845. Willow Creek near Park View, N. Mex.

Location (revised).--Lat 36°40'05", long 106°42'15", in Tierra Amarilla Grant, on right bank 400 ft upstream from Willow Creek damsite, 0.7 mile downstream from Horse Lake Creek, 8½ miles southwest of Park View, Rio Arriba County, and at mile 0.4.

Drainage area.--193 sq mi.

Records available.--May 1936 to September 1966 (no winter records prior to 1943). Monthly or yearly discharges only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Datum of gage is 6,944.99 ft above mean sea level (Bureau of Reclamation datum). Prior to Oct. 1, 1937, at datum 0.79 ft higher. Apr. 19, 1949 to Aug. 8, 1951, at different datums. Aug. 9, 1951 to Sept. 30, 1960, at datum 0.41 ft higher. Subsequent to Nov. 8, 1965, supplementary water-stage recorders 0.7 mile upstream on Horse Lake Creek at mouth and 3 miles upstream on Willow Creek at Steel bridge.

Average discharge.--29 years (1936-38, 1939-66), 21.5 cfs (15,570 acre-ft per year).

Extremes.--Maximum discharge during year, 1,090 cfs Mar. 16; minimum, 0.15 cfs Sept. 10-12.
1936-66: Maximum discharge, 4,500 cfs Apr. 23, 1942 (gage height, 10.45 ft), from rating curve extended above 1,400 cfs on basis of slope-area measurement of peak flow; no flow at times.

Remarks.--Records good except those for December to February, which are poor. Small diversions above station for irrigation and stock tanks. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report. Subsequent to Nov. 8 published record is the composite of Horse Lake Creek at mouth and Willow Creek at steel bridge pending construction of Heron Dam.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.24	2.6	1.1	1.2	0.91	1.8	86	7.2	14	15	6.0	1.2
2	.28	2.9	1.2	.70	.91	2.0	80	6.1	14	9.5	9.3	1.1
3	.77	2.9	1.2	1.1	81	1.5	72	5.3	13	8.0	21	.76
4	.77	3.0	1.2	1.5	.91	1.0	43	4.7	12	68	13	.66
5	.67	2.9	.98	1.5	1.0	2.0	29	44	11	58	6.2	.66
6	1.1	2.7	.98	1.5	1.0	4.6	28	3.4	11	4.4	3.9	.66
7	2.1	2.7	.76	1.5	1.5	26	27	3.2	10	4.2	3.2	.41
8	2.1	2.3	.58	1.5	1.2	114	28	3.0	11	3.4	3.0	.37
9	2.0	2.3	.58	1.5	1.0	177	28	3.2	10	3.0	2.7	.25
10	1.5	2.3	1.7	1.5	81	182	28	28	13	5.3	2.5	.19
11	1.4	2.3	12	1.5	.61	186	24	28	16	12	2.3	.15
12	1.6	2.3	7.1	1.0	81	206	19	28	15	9.1	2.1	.98
13	1.9	2.3	4.2	1.0	1.3	226	17	2.6	13	9.5	2.5	1.4
14	2.1	2.1	3.4	1.0	.51	340	16	2.5	12	13	2.5	2.1
15	2.0	2.1	2.1	81	1.5	401	14	2.1	10	12	2.0	2.1
16	2.5	2.1	1.8	1.0	.61	480	13	2.3	9.1	55	3.4	2.6
17	17	2.1	1.4	.61	.76	343	13	2.3	9.5	14	11	3.9
18	16	2.0	1.2	.61	.91	235	12	2.3	12	9.1	4.4	3.6
19	8.8	1.8	.90	1.0	1.0	309	15	2.5	13	23	2.4	3.0
20	6.3	1.6	.69	1.0	1.0	348	22	2.6	12	31	1.8	2.8
21	3.6	2.0	.67	.91	1.0	304	19	3.0	13	35	1.6	2.6
22	2.3	1.6	.64	.61	1.3	162	20	44	12	28	1.4	2.6
23	1.8	5.7	80	.76	1.2	85	21	58	12	22	1.6	3.0
24	1.3	11	.79	.91	1.5	103	16	6.1	10	14	1.4	3.0
25	1.5	71	.65	.76	1.5	164	13	68	8.7	58	1.1	2.3
26	2.0	59	.65	.61	2.0	180	12	9.9	7.6	5.6	.86	2.1
27	2.1	11	.65	.81	2.0	143	10	13	7.6	4.7	.66	2.0
28	2.2	4.9	.65	.81	1.5	114	9.5	14	7.2	5.0	1.6	2.0
29	2.3	2.9	1.1	.81	-	92	8.4	13	6.1	92	1.4	2.0
30	2.6	2.0	3.5	1.0	----------	78	7.2	12	18	17	1.1	2.1
31	2.6	----------	1.4	1.5	----------	85	----------	13	----------	36	1.2	----------
Total	95.43	218.4	56.57	32.52	31.06	5,095.9	750.1	169.1	342.8	435.4	119.12	52.59
Mean	3.08	7.28	1.82	1.05	1.11	164	25.0	5.45	11.4	14.0	3.84	1.75
Ac-ft	189	433	112	65	62	10,110	1,490	335	680	864	236	104

Calendar year 1965: Max 619 Min 0 Mean 26.2 Ac-ft 18,990
Water year 1965-66: Max 480 Min 0.15 Mean 20.3 Ac-ft 14,680

Peak discharge (base, 500 cfs).--Mar. 16 (1900) 1,090 cfs; July 16 (1530) 590 cfs.

8-2850. El Vado Reservoir near Tierra Amarilla, N. Mex.

Location.--Lat 36°34'45", long 106°43'55", in Tierra Amarilla Grant, at left end of dam on Rio Chama, at village of El Vado, 13 miles southwest of Tierra Amarilla, and at mile 77.7.

Drainage area.--873 sq mi.

Records available.--January 1935 to September 1966.

Gage.--Water-stage recorder (records stages above spillway floor only) and inclined staff gage. Datum of gage is 8.21 ft above mean sea level, datum of 1929, leveling of 1953.

Extremes.--Maximum contents at 0730 during year, 44,650 acre-ft May 12,13 (gage height, 6,833.3 ft); no contents for extended periods. 1935-66: Maximum contents, 204,900 acre-ft June 4, 5, 1948 (gage height, 6,904.2 ft); no contents at times.

Remarks.--Reservoir is formed by rock-fill dam, steel faced. Storage began in January 1935. Capacity 196,500 acre-ft (revised) between gage heights 6,758.5 ft (stoplog seat) and 6,902.0 ft (top of spillway gate). No dead storage. Water is used for irrigation by Middle Rio Grande Conservancy District. Outlet works being rehabilitated during year. Storage normally held in El Vado was released to Abiquiu Reservoir (see station 8-2869), 46 miles downstream.

Cooperation.--Staff gage readings furnished by Middle Rio Grande Conservancy District. Capacity table furnished by Bureau of Reclamation.

Contents, in acre-feet, at 0730 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,250	52	12			0	2,040	19,230	27,290	30		
2	4,810	44	5			0	2,840	21,710	26,300	30		
3	4,300	44	5			0	3,840	24,750	25,040	30		
4	3,420	40	2			0	4,690	27,590	23,430	20		
5	2,910	36	2			0	5,020	30,690	21,620	20		
6	2,720	36	2			0	5,020	34,090	20,320	10		
7	2,430	32	2			0	5,020	36,860	18,900	10		
8	2,430	28	2			0	5,020	39,010	17,450	10		
9	768	24	2			0	5,260	40,850	16,000	10		
10	334	24	2			0	5,950	42,980	14,540	10		
11	211	12	12			0	6,770	44,140	13,020	10		
12	211	5	8			0	7,300	44,650	11,520	10		
13	211	5	5			10	7,400	44,650	10,120	10		
14	211	5	2			10	7,400	44,260	8,720	10		
15	211	5	2			310	7,400	43,500	7,350	0		
16	211	5	2			700	7,780	42,860	5,900	0		
17	231	5	2			1,240	8,780	42,230	4,460	10		
18	313	5	2			1,680	10,000	41,600	3,140	10		
19	261	5	2			1,240	10,720	40,980	1,980	0		
20	231	5	2			1,060	11,020	40,230	700	10		
21	231	5	2			1,040	11,020	39,380	240	490		
22	231	5	2			930	11,020	38,530	180	750		
23	221	5	2			810	10,720	37,690	130	750		
24	221	24	2			580	10,300	36,740	100	340		
25	221	52	2			640	10,120	35,690	100	0		
26	221	221	2			760	10,410	34,540	100	0		
27	166	106	2			830	11,650	33,410	80	0		
28	106	66	2			910	13,150	32,300	80	0		
29	66	24	2		-	980	14,680	31,000	50	0		
30	52	20	2			1,260	16,910	29,630	30	160		
31	52		a2			1,470		28,190		0		
(†)	6,759.9	6,759.1	6,758.6	6,758.6	6,758.6	6,777.3	6,806.5	6,819.1	6,762.3	6,759.1	6,758.6	6,758.6
(‡)	-5,468	-32	-18	0	0	+1,470	+15,440	+11,280	-28,160	-30	0	0

Calendar year 1965..... ‡ -2,578
Water year 1965-66..... ‡ -5,520

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
a Contents by capacity table used prior to Jan. 1, 1966; no contents Dec. 31, 1965, by capacity table used since Jan. 1, 1966.

8-2855. Rio Chama below El Vado Dam, N. Mex.

Location.--Lat 36°34'50", long 106°43'30", in Tierra Amarillo Grant, on left bank 1.5 miles downstream from El Vado Dam, 2.7 miles upstream from Rio Nutrias, 13 miles southwest of Tierra Amarilla, and at mile 76.2.

Drainage area.--877 sq mi, of which about 100 sq mi is probably noncontributing.

Records available.--October 1913 to November 1915, April to November 1916, March, April 1920, September 1920 to August 1924, October 1935 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Published as "Chama River" prior to 1935, as near Tierra Amarilla 1913-14, 1935-47, as "near El Vado" 1915-17, and as "at El Vado" 1920-24.

Gage.--Water-stage recorder. Datum of gage is 6,696.12 ft above mean sea level, datum of 1929. Prior to October 1935, at site 1.5 miles upstream at different datum. October 1935 to September 1938 at site 1.1 miles upstream at datum 30.34 ft higher.

Average discharge.--5 years (1913-15, 1920-23), 448 cfs (324,300 acre-ft per year), prior to completion of El Vado Dam; 31 years (1935-66), 381 cfs (275,800 acre-ft per year), after completion of El Vado Dam.

Extremes.--Maximum daily discharge during year, 1,260 cfs May 11, 12 (gage height, 3.78 ft); minimum, 2.7 cfs Nov. 5.
1913-16, 1920-22, 1923-24: Maximum discharge observed, 9,000 cfs May 22, 1920 (gage height, 12 ft, site and datum then in use); minimum unknown.
1935-66: Maximum discharge, 6,010 cfs May 17, 1941 (gage height, 6.89 ft at present site and datum); no flow Mar. 25, 26, 31, 1955.

Remarks.--Records good except those for the winter period, which are poor. Flow regulated since 1935 by El Vado Reservoir (see station 8-2850). Diversions for irrigation of about 10,600 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	330	119	131	60	75	100	777	1,050	1,170	114	122	35
2	340	95	140	50	70	100	812	1,070	1,170	111	118	35
3	355	80	105	40	55	80	833	1,090	1,160	95	316	34
4	290	80	117	35	60	65	840	1,120	1,150	80	226	31
5	137	63	111	40	70	70	840	894	1,140	69	150	30
6	149	100	105	45	75	90	833	1,200	1,130	60	122	30
7	271	78	119	50	85	120	808	1,210	1,130	54	90	35
8	305	90	105	55	85	250	833	1,230	1,100	47	80	27
9	209	75	103	60	80	400	840	1,230	1,090	42	70	25
10	146	75	111	70	65	500	862	1,250	1,070	32	60	22
11	95	73	131	80	55	600	862	1,260	1,060	35	55	20
12	75	69	128	80	65	628	862	1,260	1,050	49	55	21
13	75	65	119	80	70	660	862	1,250	1,010	47	55	23
14	75	65	100	70	60	700	862	1,240	998	79	60	25
15	67	75	92	60	70	735	862	1,240	968	69	65	25
16	71	73	90	60	65	770	885	1,230	945	69	58	26
17	128	75	80	60	70	713	922	1,230	915	78	69	27
18	174	75	80	60	70	798	938	1,230	870	52	68	23
19	137	71	80	60	70	784	945	1,220	798	56	52	20
20	125	70	80	60	75	777	945	1,220	414	103	47	18
21	125	67	60	50	80	784	945	1,210	199	111	47	19
22	114	69	70	35	80	756	945	1,210	174	140	47	19
23	114	85	80	40	90	661	938	1,210	163	188	52	19
24	100	131	80	40	90	375	930	1,210	140	299	49	21
25	108	128	70	50	100	455	930	1,210	103	83	54	22
26	131	318	60	50	100	598	938	1,200	117	69	45	23
27	160	418	50	50	100	670	960	1,200	92	62	38	25
28	147	105	50	60	100	676	982	1,190	103	65	35	25
29	98	100	50	70	-	694	998	1,180	100	87	32	25
30	125	100	70	80		682	1,020	1,170	97	209	32	21
31	105		60	90		700		1,170		212	32	
Total	4,881	3,087	2,827	1,790	2,130	15,991	26,809	36,884	21,626	2,866	2,401	751
Mean	157	103	91.2	57.7	76.1	516	894	1,190	721	92.5	77.5	25.0
Ac-ft	9,680	6,120	5,610	3,550	4,220	31,720	53,170	73,160	42,890	5,680	4,760	1,490

Calendar year 1965: Max 1,560 Min 21 Mean 554 Ac-ft 401,240
Water year 1965-66: Max 1,260 Min 18 Mean 334 Ac-ft 242,100

8-2865. Rio Chama above Abiquiu Reservoir, N. Mex.

Location.--Lat 36°19'05", long 106°35'50", in NW¼ sec.14, T.24 N., R.3 E. (projected), on left bank 7.7 miles downstream from Rio Gallina, 10 miles northwest of Youngsville, 16 miles upstream from Abiquiu Dam, 30 miles downstream from El Vado Dam, and at mile 47.4.

Drainage area.--1,600 sq mi, of which about 100 sq mi is probably noncontributing.

Records available.--August 1961 to September 1966.

Gage.--Digital water-stage recorder and crest-stage gage. Altitude of gage is 6,280 ft (from river-profile map). Prior to Oct. 1, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--5 years, 380 cfs (275,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,520 cfs Mar. 9 (gage height, 4.86 ft); minimum, 18 cfs Sept. 30.
1961-66: Maximum discharge, 4,520 cfs Aug. 1, 1965 (gage height, 7.22 ft), from rating curve extended above 1,600 cfs by logarithmic plotting; minimum, 7.5 cfs Oct. 17, 18, 1963.

Remarks.--Records good except those for January, which are fair. Flow regulated by El Vado Reservoir (see station 8-2850). Diversions for irrigation of about 15,000 acres above station. Records of suspended sediment loads and water temperatures for water year 1966 are published in part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	264	96	118	80	95	132	787	1,140	1,200	139	185	34
2	300	112	127	70	95	123	846	1,160	1,190	126	150	37
3	327	89	114	55	70	94	885	1,200	1,170	118	522	54
4	322	88	113	55	70	85	913	1,230	1,160	101	309	34
5	196	82	108	60	85	80	907	992	1,150	86	189	31
6	120	73	103	65	90	100	902	1,320	1,140	74	133	30
7	187	104	95	75	97	184	876	1,350	1,120	65	100	31
8	290	88	109	85	94	586	891	1,330	1,110	61	87	94
9	254	106	117	95	93	887	904	1,320	1,090	52	77	34
10	147	87	128	100	80	924	925	1,330	1,070	46	94	46
11	130	90	146	100	70	841	947	1,340	1,050	34	68	33
12	92	82	149	100	75	852	951	1,330	1,030	37	61	35
13	78	78	128	100	85	807	951	1,330	1,010	51	59	29
14	81	75	113	100	80	792	945	1,320	988	49	73	27
15	72	74	108	90	85	843	941	1,310	962	85	92	50
16	71	85	103	80	80	843	954	1,310	935	84	70	35
17	150	83	78	80	80	791	988	1,300	902	93	70	28
18	194	89	85	80	85	827	1,020	1,300	866	78	77	30
19	158	88	90	80	87	839	1,050	1,290	817	71	120	27
20	122	83	90	80	88	831	1,030	1,290	630	226	59	26
21	117	84	70	70	90	832	1,030	1,270	265	366	48	24
22	114	81	84	55	104	809	1,020	1,260	197	205	55	22
23	104	107	117	50	105	756	1,020	1,250	183	147	110	20
24	106	144	120	70	121	493	1,010	1,250	164	338	74	32
25	94	196	90	70	121	449	1,010	1,240	139	146	108	25
26	108	271	70	70	130	572	1,010	1,240	135	84	67	23
27	136	529	65	70	131	668	1,030	1,230	125	75	48	22
28	140	195	65	80	130	701	1,050	1,230	166	90	40	21
29	125	122	70	90	------	724	1,070	1,220	118	145	35	21
30	94	106	90	100	------	721	1,110	1,210	113	387	35	22
31	116	------	100	110	------	733	------	1,200	------	203	39	------
TOTAL	4,809	3,587	3,163	2,465	2,616	18,919	28,973	39,092	22,195	3,862	3,254	977
MEAN	155	120	102	79.5	93.4	610	966	1,261	740	125	105	32.6
AC-FT	9,540	7,110	6,270	4,890	5,190	37,530	57,470	77,540	44,020	7,660	6,450	1,940

CALENDAR YEAR 1965	MAX	2,300	MIN	40	MEAN	589	AC-FT	426,700
WATER YEAR 1965-66	MAX	1,350	MIN	20	MEAN	367	AC-FT	265,600

8-2869. Abiquiu Reservoir near Abiquiu, N. Mex.

Location.--Lat 36°14'15", long 106°25'35", in SW¼ sec.8, T.23 N., R.5 E., in Abiquiu Dam on Rio Chama, 6½ miles morthwest of Abiquiu, and at mile 31.8.

Drainage area.--2,146 sq mi, of which about 100 sq mi is probably noncontributing.

Records available.--February 1963 to September 1966.

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

Extremes.--Maximum contents during year, 99,050 acre-ft Oct. 29, 31 (elevation, 6,186.41 ft); no contents Jan. 7 to Mar. 6. 1963-66: Maximum contents, 99,580 acre-ft Sept. 13, 1965 (elevation, 6,186.61 ft); no contents at times.

Remarks.--Reservoir is formed by earth-fill dam, completed Feb. 5, 1963. Capacity, 1,223,100 acre-ft (revised) between elevations 6,060 (invert of outlet tunnel) and 6,350 ft (crest of spillway). No dead storage. Original plan for reservoir was to hold water for one day to desilt before release, and for flood control as needed. Reserve capacity for flood control will usually be more than adequate. Much of the storage during 1966 would normally have been held in El Vado Reservoir (see station 8-2850), 46 miles upstream. Outlet works of El Vado Reservoir were being rehabilitated which prevented normal storage.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97,990	98,760	57,800	1,220		0	3,820	2,550	2,440	24,490	24,650	23,670
2	98,020	96,710	55,990	1,050		0	3,990	2,610	2,410	24,560	24,980	23,660
3	98,050	94,660	53,980	725		0	4,180	2,590	2,400	24,560	25,390	23,680
4	98,100	92,750	52,050	463		0	4,100	2,570	2,400	24,530	25,070	23,630
5	98,050	91,030	50,080	251		0	3,950	2,230	2,360	24,490	24,630	23,600
6	97,970	89,240	48,210	117		0	3,970	2,530	3,150	24,430	24,480	23,580
7	97,810	87,490	46,280	0		7	4,000	3,120	4,560	24,400	24,420	23,580
8	98,280	85,720	44,390	0		545	3,970	3,670	5,900	24,380	24,360	23,650
9	98,630	83,970	42,530	0		1,380	4,000	3,820	7,320	24,340	24,300	23,580
10	98,680	82,410	40,670	0		2,360	4,070	3,690	8,930	24,390	24,320	23,540
11	98,760	81,270	38,850	0		2,700	4,100	3,540	10,520	24,340	24,260	23,560
12	98,730	80,140	37,060	0		2,800	4,080	3,380	12,070	24,290	24,240	23,510
13	98,760	79,000	35,240	0		2,750	4,070	3,220	13,600	24,300	24,240	23,470
14	98,710	77,830	33,250	0		2,670	4,060	3,030	15,120	24,270	24,260	23,480
15	98,680	76,670	31,370	0		2,700	4,040	2,830	16,440	24,280	24,280	23,510
16	98,710	75,530	29,440	0		2,760	4,040	2,710	18,010	24,320	24,230	23,480
17	98,730	74,420	27,480	0		3,080	4,120	2,690	19,700	24,320	24,210	23,450
18	98,860	73,350	25,500	0		2,680	4,200	2,650	21,180	24,320	24,200	23,450
19	98,890	72,120	23,590	0		2,740	4,260	2,620	22,520	24,250	24,480	23,420
20	98,790	70,720	21,520	0		2,800	4,290	2,610	23,720	24,480	24,230	23,410
21	98,760	69,290	19,160	0		2,830	4,220	2,600	24,040	25,100	23,970	23,360
22	98,790	67,940	16,690	0		2,790	4,220	2,580	24,180	24,480	24,050	23,360
23	98,810	66,660	14,240	0		2,710	4,230	2,540	24,290	24,370	24,480	23,350
24	98,810	65,580	11,950	0		2,440	4,260	2,540	24,340	24,630	24,050	23,360
25	98,810	64,660	9,740	0		2,520	4,250	2,550	24,350	24,710	23,880	23,340
26	98,840	63,710	7,630	0		3,120	3,860	2,550	24,630	24,650	23,890	23,320
27	98,920	63,340	5,640	0		3,950	2,990	2,550	24,650	24,570	23,820	23,300
28	99,020	63,370	3,490	0		4,040	2,300	2,550	24,510	24,560	23,780	23,290
29	99,050	61,020	1,480	0	-	3,760	2,170	2,520	24,430	24,640	23,760	23,280
30	99,020	59,500	787	0	----------	3,740	2,310	2,490	24,490	25,140	23,710	23,280
31	99,050	----------	1,220	0	----------	3,740	----------	2,450	----------	24,850	23,700	----------
(†)	6,186.41	6,168.59	6,081.30	-	-	6,105.50	6,099.75	6,100.41	6,142.60	6,143.00	6,141.69	6,141.20
(‡)	+980	-39,550	-58,280	-1,220	0	+3,740	-1,430	+140	+22,040	+360	-1,150	-420

Calendar year 1965..... ‡ +1,220
Water year 1965-66..... ‡ -74,790

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

8-2870. Rio Chama below Abiquiu Dam, N. Mex.

Location.--Lat 36°14'10", long 106°25'00", in SE¼SE¼ sec.8, T.23 N., R.5 E., on right bank half a mile downstream from Abiquiu Dam, 6 miles northwest of Abiquiu, and at mile 31.3.

Drainage area.--2,147 sq mi, of which about 100 sq mi is probably noncontributing.

Records available.--October 1961 to September 1966. Monthly discharge only for October 1961.

Gage.--Water-stage recorder. Concrete control since Jan. 25, 1966. Altitude of gage is 6,040 ft (from river-profile map and topographic map). Prior to Jan. 25, 1966, at datum 1.60 ft lower.

Average discharge.--5 years, 398 cfs (288,100 acre-feet per year).

Extremes.--Maximum discharge during year, 1,510 cfs Apr. 26 (gage height, 4.63 ft); maximum gage height, 6.12 ft Mar. 5 (ice jam); minimum discharge, about 0.5 cfs Mar. 17.
1961-66: Maximum discharge, 2,990 cfs July 1, 1965 (gage height, 6.69 ft); minimum, that of Mar. 17, 1966.

Remarks.--Records fair prior to February and good thereafter. Flow largely controlled by El Vado Reservoir (see 8-2850) about 46 miles upstream, and Abiquiu Reservoir (see 8-2869) ½ mile upstream. Diversions for irrigation of about 17,600 acres above station. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	305	300	1,070	204	119	171	914	1,070	1,190	86	279	39
2	265	1,170	1,120	199	105	178	955	1,160	1,190	98	171	37
3	265	1,120	1,150	171	116	150	955	1,230	1,140	98	286	31
4	262	1,060	1,170	100	95	100	1,030	1,260	1,130	98	455	48
5	262	969	1,160	90	95	115	1,040	1,260	1,130	91	379	41
6	208	963	1,150	120	105	130	934	1,140	757	79	196	30
7	97	963	1,150	130	119	139	927	1,120	417	58	119	31
8	90	951	1,140	130	119	184	962	1,140	412	51	105	40
9	180	951	1,140	130	113	354	962	1,310	330	45	93	63
10	160	859	1,130	130	111	480	969	1,470	259	37	77	43
11	120	697	1,110	120	105	754	990	1,450	235	47	81	27
12	115	693	1,110	120	100	914	1,010	1,440	235	47	71	47
13	90	693	1,100	120	111	941	997	1,430	231	35	58	33
14	80	693	1,080	120	108	948	990	1,420	220	48	58	20
15	70	693	1,080	115	125	948	983	1,410	224	50	75	31
16	100	688	1,060	115	113	948	990	1,360	138	56	91	45
17	160	693	1,080	115	122	770	990	1,320	91	75	81	40
18	160	684	1,080	110	119	1,040	1,020	1,320	105	81	71	30
19	180	768	1,080	120	130	855	1,050	1,310	103	91	77	34
20	170	853	1,110	115	139	855	1,080	1,280	103	103	186	32
21	140	847	1,220	105	158	874	1,100	1,270	105	246	160	29
22	100	842	1,240	100	164	881	1,070	1,270	103	491	50	24
23	105	817	1,270	105	155	848	1,060	1,260	103	248	100	23
24	100	783	1,250	115	152	713	1,050	1,250	105	181	280	21
25	100	778	1,210	125	155	425	1,070	1,240	103	105	160	32
26	100	778	1,170	115	164	313	1,220	1,230	108	105	55	30
27	105	778	1,140	125	161	326	1,460	1,210	164	130	73	30
28	100	778	1,160	125	152	715	1,380	1,210	209	103	51	30
29	100	783	1,100	130	-	961	1,160	1,210	152	98	41	22
30	100	912	383	142	----------	810	1,060	1,200	88	125	48	24
31	100	----------	197	122	----------	874	----------	1,200	----------	327	45	----------
Total	4,489	24,557	33,610	3,883	3,530	18,714	31,378	39,450	10,880	3,533	4,072	1,007
Mean	145	819	1,084	125	126	604	1,046	1,273	363	114	131	33.6
Ac-ft	8,900	48,710	66,660	7,700	7,000	37,120	62,240	78,250	21,580	7,010	8,080	2,000

Calendar year 1965: Max 2,780 Min 25 Mean 622 Ac-ft 450,400
Water year 1965-66: Max 1,470 Min 20 Mean 491 Ac-ft 355,200

8-2875. Rio Chama near Abiquiu, N. Mex.

Location.--Lat 36°13'00", long 106°15'00", in Juan Jose Lobato Grant, at downstream end of bridge pier on State Highway 96, 1¾ miles upstream from El Rito Creek, 5 miles downstream from Abiquiu, Rio Arriba County, 13.5 miles downstream from Abiquiu Dam, and at mile 18.2.

Drainage area.--2,284 sq mi, of which about 100 sq mi is probably noncontributing.

Records available.--October 1941 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Datum of gage is 5,873.17 ft above mean sea level, datum of 1929.

Average discharge.--25 years, 404 cfs (292,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,060 cfs July 21 (gage height, 5.92 ft); minimum, 15 cfs Sept. 23, 30.
1941-66: Maximum discharge, 7,870 cfs July 28, 1952, from rating curve extended above 2,900 cfs by logarithmic plotting; maximum gage height, 6.38 ft Aug. 5, 1959; minimum daily discharge, 1 cfs June 11, 1947.

Remarks.--Records good except those for January and February, which are fair. Flow regulated by El Vado Reservoir (see 8-2850) and Abiquiu Reservoir (see 8-2869). Diversions above station for irrigation of about 19,100 acres a few hundred of which is below station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	103	1,160	201	135	162	900	1,030	1,190	76	291	33
2	258	1,040	1,230	175	125	165	940	1,090	1,190	91	317	31
3	272	1,110	1,230	125	110	115	950	1,170	1,150	91	236	29
4	276	1,080	1,190	100	115	80	1,010	1,190	1,120	95	388	31
5	268	945	1,190	75	115	100	1,040	1,210	1,120	91	359	49
6	254	956	1,180	70	125	130	950	1,120	850	76	235	26
7	103	967	1,160	75	140	140	920	1,060	398	63	126	22
8	77	967	1,150	100	134	194	950	1,080	414	47	105	25
9	91	956	1,150	130	127	355	960	1,210	345	41	106	37
10	213	923	1,130	130	120	529	960	1,420	312	36	96	49
11	134	692	1,130	110	110	727	980	1,390	230	32	82	22
12	132	692	1,120	110	110	910	1,010	1,390	234	50	112	37
13	101	692	1,120	110	125	910	990	1,390	230	34	80	42
14	88	684	1,110	110	125	910	980	1,380	212	29	73	25
15	74	684	1,100	110	130	910	970	1,380	216	40	77	21
16	59	684	1,070	110	110	910	970	1,330	189	34	82	28
17	194	676	1,080	110	115	727	970	1,270	95	47	75	47
18	144	676	1,110	100	120	1,080	1,000	1,270	110	53	60	36
19	177	745	1,100	120	127	862	1,040	1,270	118	58	62	35
20	198	860	1,120	110	117	862	1,070	1,240	124	65	133	33
21	157	850	1,320	100	122	871	1,080	1,240	120	307	198	24
22	103	850	1,340	95	132	880	1,060	1,240	112	390	68	21
23	101	830	1,360	100	134	853	1,040	1,230	112	157	95	17
24	101	781	1,260	110	134	763	1,040	1,210	115	68	212	18
25	101	772	1,200	120	159	513	1,050	1,200	117	64	242	18
26	103	772	1,130	110	151	370	1,140	1,200	136	47	85	32
27	103	772	1,110	120	154	376	1,430	1,200	176	102	90	21
28	103	772	1,120	120	162	604	1,390	1,190	223	88	50	30
29	103	772	1,070	125	-	992	1,180	1,190	172	82	39	21
30	101	912	515	135	----------	817	1,030	1,190	100	100	47	16
31	101	----------	205	145	----------	862	----------	1,190	----------	188	55	----------
Total	4,610	24,215	34,460	3,561	3,583	18,679	31,000	38,170	11,230	2,742	4,276	876
Mean	149	807	1,112	115	128	603	1,033	1,231	374	88.5	138	29.2
Ac-ft	9,140	48,030	68,350	7,060	7,110	37,050	61,490	75,710	22,270	5,440	8,480	1,740

Calendar year 1965: Max 2,980 Min 25 Mean 633 Ac-ft 458,000
Water year 1965-66: Max 1,430 Min 16 Mean 486 Ac-ft 351,900

8-2890. Rio Ojo Caliente at La Madera, N. Mex.

Location.--Lat 36°20'59", long 106°02'38", in NW¼NE¼ sec.1, T.24 N., R.8 E., on left bank 400 ft upstream from bridge on State Highway 96 (corrected), 2¼ miles south of La Madera, 2¾ miles downstream from confluence of Rio Vallecitos and Rio Tusas, and 3¼ miles north of Ojo Caliente.

Drainage area.--419 sq mi.

Records available.--April 1932 to September 1966.

Gage.--Digital water-stage recorder and crest-stage gage. Datum of gage is 6,358.84 ft above mean sea level, datum of 1929. Prior to Apr. 23, 1934, at site about 2⅝ miles upstream at different datum. Apr. 23, 1934, to June 22, 1936, at datum 12.58 ft lower and June 23, 1936, to Oct. 27, 1956, at datum 13.84 ft lower, both at site 1,400 ft downstream. Prior to Mar. 27, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--34 years, 70.9 cfs (51,330 acre-ft per year).

Extremes.--Maximum discharge during year, 1,490 cfs June 19 (gage height, 7.25 ft, from floodmarks), from rating curve extended above 61 cfs on basis of slope-area measurement of peak flow; minimum, 4.1 cfs Sept. 18.

1932-66: Maximum discharge, 3,140 cfs Apr. 21, 1958, from rating curve extended above 1,300 cfs by logarithmic plotting; maximum gage height, 7.60 ft July 15, 1933, site and datum then in use; minimum daily discharge, 0.6 cfs Aug. 18, Sept. 17, 1956.

A flood which occurred in May 1920 may have exceeded 3,200 cfs, from information by local resident.

Remarks.--Records good except those for January and those subsequent to June 18, which are fair. Diversions above station for irrigation of about 3,500 acres (1962 determination).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	13	16	27	24	20	20	235	272	31	9.2	14	6.7
2	12	15	24	20	19	22	287	292	37	8.5	25	6.3
3	11	15	21	16	18	17	295	279	29	8.0	45	6.2
4	11	15	22	17	19	19	227	269	24	7.7	70	6.0
5	11	15	21	18	19	22	178	256	20	7.2	38	5.6
6	11	15	20	20	19	25	160	243	16	6.9	51	5.6
7	10	14	19	23	20	33	170	223	13	7.1	29	5.5
8	9.7	14	21	22	21	46	214	204	12	6.7	20	6.0
9	9.3	14	22	22	19	68	247	191	12	6.0	15	5.7
10	8.9	14	29	19	18	70	292	191	15	5.6	15	5.3
11	8.9	14	29	19	17	80	261	145	16	6.5	14	5.1
12	9.6	14	24	19	19	87	206	123	14	5.5	13	5.0
13	9.3	14	20	19	19	118	196	104	12	4.8	12	5.2
14	9.0	14	18	19	17	141	187	91	11	5.7	12	5.2
15	9.0	14	23	19	18	160	218	81	9.7	6.4	12	4.9
16	10	14	20	18	17	192	284	75	9.1	5.8	11	4.9
17	32	14	19	16	18	170	310	63	8.8	5.7	11	4.7
18	27	15	19	16	18	98	281	56	7.6	6.0	10	4.2
19	20	15	17	17	18	110	170	51	50	8.7	9.7	6.8
20	17	15	19	17	19	131	136	45	90	9.1	9.7	5.7
21	17	15	19	17	19	123	155	42	20	31	8.6	5.5
22	18	15	22	17	19	112	169	39	11	14	7.9	5.5
23	17	18	24	18	19	73	158	37	10	11	26	5.3
24	17	43	24	17	18	74	208	34	8.1	11	18	5.7
25	18	44	20	18	19	83	268	32	9.1	11	12	5.6
26	18	54	20	18	20	92	315	30	12	9.4	10	5.5
27	18	27	20	17	20	115	344	40	10	16	14	5.5
28	18	22	20	17	19	128	272	36	8.1	44	9.6	6.7
29	17	22	21	17	------	136	297	31	8.7	55	7.0	6.5
30	16	24	25	17	------	148	331	28	9.0	35	6.6	6.2
31	16	------	25	18	------	176	------	24	------	17	6.5	------
TOTAL	448.7	574	674	571	525	2,889	7,071	3,627	543.2	391.5	562.6	168.6
MEAN	14.5	19.1	21.7	18.4	18.8	93.2	236	117	18.1	12.6	18.1	5.62
AC-FT	890	1,140	1,340	1,130	1,040	5,730	14,030	7,190	1,080	777	1,120	334

CALENDAR YEAR	1965	MAX	1,390	MIN	5.2	MEAN	96.9	AC-FT	70,160
WATER YEAR	1965-66	MAX	344	MIN	4.2	MEAN	49.4	AC-FT	35,800

Note.--No gage-height record June 19-24.

8-2895. Chamita ditch near Chamita, N. Mex.

Location.--Lat 36°04'45", long 106°06'40", in NE¼SE¼ sec.5, T.21 N., R.8 E., on left bank at head of flume over Arroyo de la Presa, 1 mile downstream from heading from Rio Chama, 1 mile northwest of Chamita, 1 1/8 miles northeast of Hernandez, and 6½ miles north of Espanola.

Records available.--March 1936 to April 1941, February 1963 to September 1966.

Gage.--Water-stage recorder at head of half-round metal flume control. Altitude of gage is 5,690 ft (from topographic map). Prior to April 1941 at site ½ mile upstream at different datums. Apr. 16, 1964, to Aug. 8, 1966, digital water-stage recorder at present site and datum.

Extremes.--1936-41, 1963-66: Maximum daily discharge, 40 cfs Aug. 3, 1938; no flow many days.

Remarks.--Records fair prior to Aug. 9. This is one of two ditches gaged to determine flow bypassing station Rio Chama near Chamita, N. Mex. (see station 8-2900). Takeouts from ditch irrigate land above and below gage, or waste back to Rio Chama.

Cooperation.--Subsequent to Aug. 8, records furnished by Bureau of Reclamation.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in Acre-feet
October	12	0	4.22	259
November	15	.30	5.70	339
December	15	0	1.94	119
Calendar year 1965	19	0	4.77	3,450
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	16	0	6.54	389
May	16	6.5	12.8	784
June	15	0	6.66	396
July	18	4.0	8.68	534
August	17	0	7.17	441
September	7.7	1.0	3.97	236
Water year 1965-66	18	0	4.83	3,500

8-2898. Hernandez ditch at Hernandez, N. Mex.

Location.--Lat 36°04'20", long 106°07'10", in NE¼NW¼ sec.8, T.21 N., R.8 E., on right bank 75 feet upstream from culvert under U. S. Highway 285, 0.6 mile north of Hernandez, 1 mile downstream from heading on Rio Chama, 3 miles northwest of San Juan Pueblo and 6 miles northwest of Espanola.

Records available.--March 1963 to September 1966.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 5,670 ft (from topographic map). Prior to Mar. 5, 1965, at datum 1.01 ft higher. Apr. 16, 1964, to Sept. 30, 1965, digital water-stage recorder.

Extremes.--1963-66: Maximum daily discharge, 46 cfs July 3, 1964; no flow many days.

Remarks.--Records fair. This is one of the two ditches gaged to determine flow bypassing station Rio Chama near Chamita, N. Mex. (see station 8-2900). Takeouts from ditch irrigate land above and below gage, or waste back to Rio Chama.

Cooperation.--Subsequent to July 13, records furnished by Bureau of Reclamation.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	24	0	6.86	422
November	6.5	0	4.17	248
December	11	0	5.04	310
Calendar year 1965	33	0	7.16	5,180
January	0	0	0	0
February	0	0	0	0
March	15	0	1.23	75
April	37	0	19.0	1,130
May	34	0	23.1	1,420
June	28	0	12.3	734
July	15	0	8.09	498
August	22	0	4.67	287
September	23	.50	9.12	543
Water year 1965-66	37	0	7.83	5,670

8-2900. Rio Chama near Chamita, N. Mex.

Location.--Lat 36°04'25", long 106°06'39", in NE¼NE¼ sec.8, T.21 N., R.8 E., at downstream end of pier nearest left bank of bridge on U. S. Highway 285, half a mile west of Chamita, 2½ miles northwest of San Juan Pueblo, and at mile 2.8.

Drainage area.--3,144 sq mi, of which at least 100 sq mi is probably noncontributing.

Records available.--October 1912 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Datum of gage is 5,653.61 ft above mean sea level, datum of 1929. Prior to Oct. 4, 1933, at railroad bridge 2 miles downstream at different datums. Oct. 4, 1933, to Mar. 1, 1942, at site 50 ft downstream at datum 0.22 ft higher. March 2, 1942, to Dec. 31, 1963, at site 200 ft downstream, present datum.

Average discharge.--54 years, 551 cfs (398,900 acre-ft per year).

Extremes.--Maximum discharge during year, 3,590 cfs Aug. 2; maximum gage height, 6.58 ft Nov. 2; minimum discharge, 1.5 cfs Sept. 26,30.
1912-66: Maximum discharge, 15,000 cfs May 22, 1920; maximum gage height, 10.45 ft Aug. 22, 1961; no flow at times. The floods of Sept. 29, 1904, and Oct. 4 or 5, 1911, probably exceeded 15,000 cfs. Another major flood occurred in 1884, from newspaper accounts.

Remarks.--Records good. Diversions above station for irrigation of about 27,600 acres, a few hundred of which is below station. Flow partly regulated by El Vado Reservoir (see 8-2850) and Abiquiu Reservoir (see 8-2869), 75 and 29 miles upstream, respectively. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	364	95	1,130	258	155	192	1,110	1,230	1,220	90	328	22
2	337	839	1,220	258	160	198	1,220	1,290	1,220	70	545	14
3	265	1,280	1,220	250	126	145	1,240	1,340	1,180	80	500	12
4	258	1,200	1,240	180	140	87	1,220	1,390	1,140	80	450	9.4
5	223	1,080	1,240	164	140	92	1,220	1,390	1,130	80	500	17
6	265	1,040	1,260	157	150	123	1,140	1,310	1,030	70	300	17
7	140	1,000	1,240	160	164	145	1,070	1,220	382	50	185	12
8	112	1,000	1,230	198	169	211	1,160	1,230	400	35	123	9.4
9	87	1,060	1,230	198	150	330	1,180	1,290	328	25	163	6.4
10	200	958	1,240	174	145	555	1,230	1,540	396	20	145	17
11	126	718	1,220	169	134	682	1,220	1,500	272	20	90	10
12	126	694	1,180	170	136	986	1,180	1,520	242	25	139	9.0
13	99	658	1,180	160	155	1,030	1,140	1,520	229	20	101	14
14	92	670	1,180	160	140	1,060	1,130	1,480	211	10	63	11
15	106	658	1,160	150	164	1,060	1,140	1,450	211	5.1	63	6.4
16	92	670	1,140	150	140	1,070	1,170	1,430	223	6.4	68	4.5
17	295	658	1,140	150	145	913	1,200	1,370	110	12	65	5.8
18	155	658	1,170	160	145	1,240	1,220	1,350	92	15	49	9.8
19	136	706	1,130	170	160	1,010	1,160	1,340	90	12	47	7.0
20	180	847	1,140	150	140	1,040	1,110	1,310	212	51	72	3.6
21	174	874	1,280	150	155	1,040	1,130	1,280	150	137	242	2.0
22	106	902	1,320	120	164	1,060	1,160	1,280	116	435	78	1.8
23	123	916	1,390	130	155	1,000	1,110	1,280	102	382	91	1.9
24	95	888	1,240	140	160	916	1,140	1,240	99	150	305	1.9
25	92	888	1,230	136	192	694	1,200	1,230	95	160	310	1.7
26	106	888	1,200	125	186	480	1,280	1,220	102	66	49	1.8
27	90	860	1,130	145	180	511	1,670	1,220	198	90	47	3.0
28	109	860	1,130	131	186	599	1,540	1,220	217	66	43	2.2
29	116	834	1,080	136	-	1,110	1,400	1,220	192	127	30	2.5
30	109	930	733	155		972	1,280	1,200	123	112	27	1.9
31	109		288	174		1,040		1,200		132	32	
Total	4,887	25,329	35,911	5,128	4,336	21,591	36,370	41,090	11,712	2,633.5	5,250	238.0
Mean	158	844	1,158	165	155	696	1,212	1,325	390	85.0	169	7.93
Ac-ft	9,690	50,240	71,230	10,170	8,600	42,820	72,140	81,500	23,230	5,220	10,410	472

Calendar year 1965: Max 3,190 Min 38 Mean 733 Ac-ft 530,480
Water year 1965-66: Max 1,670 Min 1.7 Mean 533 Ac-ft 385,720

8-2910. Santa Cruz River at Cundiyo, N. Mex.

Location.--Lat 35°57'40", long 105°54'10", in SE¼NW¼ sec.17, T.20 N., R.10 E., on left bank 135 ft downstream from highway bridge at confluence of Rio Medio and Rio Frijoles, and 0.6 mile northwest of Cundiyo.

Drainage area.--86 sq mi, approximately.

Records available.--October 1930 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Concrete control since Jan. 3, 1954. Altitude of gage is 6,460 ft (from topographic map). Sept. 1, 1930, to Aug. 12, 1932, water-stage recorder at site about 1 mile downstream at different datum. Aug. 13, 1932, to Oct. 29, 1934, water-stage recorder at site 35 ft upstream at datum 0.42 ft higher. Oct. 30, 1934, to Jan. 2, 1954, water-stage recorder at present site at datum 0.64 ft lower.

Average discharge.--36 years, 29.7 cfs (21,500 acre-ft per year).

Extremes.--Maximum discharge during year, 123 cfs Aug. 2 (gage height, 2.53 ft); maximum gage height, 2.92 ft Jan. 27 (backwater from ice); minimum discharge, about 3.2 cfs Mar. 4, result of freezeup.
1930-66: Maximum discharge, 2,420 cfs Sept. 24, 1931 (gage height, 7.8 ft), from rating curve extended above 170 cfs by logarithmic plotting; minimum daily, 1.1 cfs Dec. 3, 1950.

Remarks.--Records good except those for December to February, which are fair. Diversions for irrigation of about 1,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	18	27	17	14	11	57	65	80	32	27	21
2	30	18	21	14	13	98	66	66	80	26	84	19
3	27	18	20	12	11	88	60	71	68	24	78	18
4	26	18	20	14	11	8.0	62	66	63	21	57	15
5	26	17	20	17	12	9.0	55	78	62	20	48	14
6	26	17	18	18	13	10	48	89	56	18	42	16
7	24	17	18	18	14	11	48	101	53	17	38	18
8	22	16	20	17	13	12	48	108	51	18	34	18
9	21	17	20	16	11	13	52	112	46	19	33	18
10	21	16	23	15	11	17	55	112	56	17	32	17
11	18	16	19	15	11	19	53	110	48	26	30	17
12	18	15	17	15	13	22	52	108	44	20	27	17
13	18	16	15	15	11	27	52	99	41	20	25	15
14	18	15	15	13	10	35	49	89	39	24	24	14
15	18	15	17	14	10	39	49	84	37	20	24	19
16	20	15	20	12	11	43	52	82	36	23	27	17
17	35	15	20	13	11	49	56	86	38	24	28	15
18	25	14	18	14	12	46	57	89	35	20	29	14
19	26	14	13	15	12	48	57	89	33	21	28	14
20	26	13	12	12	13	51	53	93	31	33	32	14
21	25	15	15	13	12	49	48	91	34	23	24	15
22	25	10	20	12	11	46	46	91	32	19	22	15
23	25	23	24	13	11	40	42	89	27	17	26	15
24	25	27	18	14	11	42	41	89	25	18	42	18
25	24	26	17	13	11	39	42	87	24	17	34	15
26	24	32	20	13	10	40	44	86	25	17	27	12
27	22	17	20	13	10	40	48	84	30	23	24	12
28	21	17	20	14	11	41	52	82	31	28	22	16
29	20	16	20	15	-	40	53	74	28	27	21	13
30	20	22	20	17	----------	40	65	73	33	31	22	13
31	19	----------	18	14	----------	46	----------	76	----------	34	24	----------
Total	726	525	585	447	324	951.6	1562	2719	1286	697	1035	474
Mean	23.4	17.5	18.9	14.4	11.6	30.7	52.1	87.7	42.9	22.5	33.4	15.8
Ac-ft	1440	1040	1160	887	643	1890	3100	5390	2550	1380	2050	940

Calendar year 1965: Max 162 Min 5.0 Mean 40.5 Ac-ft 29,290
Water year 1965-66: Max 112 Min 8.0 Mean 31.0 Ac-ft 22,480

Peak discharge (base 150 cfs).--No peak above base.

8-2943. Rio Nambe at Nambe Falls, near Nambe, N. Mex.

Location.--Lat 35°51'15", long 105°54'30", in SW¼ sec.29, T.19 N., R.10 E., on left bank at Nambe Falls, 4.4 miles southeast of Nambe Pueblo, 5.1 miles southeast of Nambe, and 8.4 miles upstream from Rio Tesuque.

Drainage area.--25.1 sq mi.

Records available.--May to December 1911, miscellaneous discharge measurements only. March 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,550 ft (from topographic map).

Extremes.--Maximum discharge during year, 53 cfs Aug. 23 (gage height, 1.09 ft); maximum gage height, 3.74 ft Jan. 7 (ice jam); minimum discharge, 1.9 cfs Jan. 2.
1963-66: Maximum discharge, 99 cfs June 18, 1965 (gage height, 1.27 ft); maximum gage height, that of Jan. 7, 1966; minimum discharge, 1.2 cfs Apr. 8 and Nov. 12, 1964, but may have been less during periods of ice effect.

Remarks.--Records good except those for December to February, which are poor. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Cooperation.--Subsequent to July 27, records furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	8.4	11	6.4	4.5	4.5	13	18	27	11	11	10
2	10	8.4	9.4	4.0	4.5	4.5	14	19	25	9.8	26	10
3	9.8	8.0	9.0	4.0	4.0	4.2	14	21	23	8.4	22	8.5
4	9.8	8.0	8.4	6.0	4.0	4.0	14	21	23	8.0	20	8.0
5	9.8	8.0	8.0	7.0	4.5	4.2	14	21	21	7.6	20	8.0
6	9.4	7.6	7.4	7.2	4.8	4.5	13	21	20	7.2	20	8.0
7	9.8	7.6	8.0	7.4	4.8	4.8	14	23	20	7.6	17	8.0
8	8.8	7.6	8.0	7.4	4.8	4.8	14	24	20	7.2	18	7.0
9	8.4	7.6	7.6	7.0	4.5	5.4	14	24	18	6.8	16	7.1
10	8.4	7.6	9.4	6.1	4.2	5.8	15	26	21	7.2	14	8.0
11	7.2	7.6	8.4	5.4	4.5	6.1	15	27	20	8.9	14	7.6
12	7.2	7.2	8.0	5.4	4.5	6.8	15	26	18	7.2	13	7.6
13	7.2	7.2	7.6	5.1	4.0	7.6	15	25	16	8.4	13	7.6
14	7.2	7.2	7.0	4.5	4.0	8.4	15	24	16	14	12	7.6
15	7.2	7.2	8.0	5.4	4.0	8.9	15	24	16	8.4	12	11
16	8.0	6.8	7.6	4.8	4.0	9.8	16	24	15	11	15	8.0
17	14	6.8	7.0	4.5	4.5	10	16	25	17	9.4	16	7.6
18	10	6.8	6.6	4.5	4.8	10	16	26	16	9.4	15	7.6
19	11	6.4	6.2	5.4	4.8	10	16	26	13	11	14	8.0
20	11	6.4	6.0	4.5	4.8	11	15	26	14	16	13	8.5
21	9.8	6.8	7.0	4.0	4.8	11	16	28	14	12	12	8.0
22	9.8	5.8	8.0	4.0	4.5	10	15	28	14	11	11	8.0
23	9.8	8.9	9.0	4.0	4.2	8.9	15	28	12	11	13	8.2
24	9.8	9.4	7.0	4.0	4.0	11	14	28	11	10	16	8.2
25	9.8	9.8	6.5	4.3	4.5	10	14	28	10	10	14	7.2
26	9.4	10	6.5	4.5	4.5	10	16	28	9.8	11	12	7.2
27	9.4	8.4	6.5	4.5	4.5	9.4	15	28	12	12	10	8.4
28	9.4	7.0	6.8	4.5	4.5	9.8	17	27	13	13	10	7.6
29	9.4	8.0	6.8	4.5	-	9.4	16	26	11	13	11	7.4
30	8.9	9.0	6.8	4.5	----------	9.4	20	25	12	14	10	7.6
31	8.4	----------	6.8	4.5	----------	11	----------	27	----------	12	8.9	----------
Total	288.1	231.5	236.3	159.3	124.0	245.2	451	772	497.8	313.5	448.9	241.5
Mean	9.29	7.72	7.62	5.14	4.43	7.91	15.0	24.9	16.6	10.1	14.5	8.05
Ac-ft	571	459	469	316	246	486	895	1530	987	622	890	479

Calendar year 1965: Max 51 Min 2.5 Mean 14.0 Ac-ft 10,160
Water year 1965-66: Max 28 Min 4.0 Mean 11.0 Ac-ft 7,950

Peak discharge (base, 40 cfs).--Aug. 23 (1915) 53 cfs (1.09 ft).

8-2952. Rio En Medio near Santa Fe, N. Mex.

Location.--Lat 35°47'30", long 105°47'38", in Santa Fe National Forest, on right bank 300 ft east of Ski Basin parking area and 16½ miles northeast of Santa Fe, Santa Fe County.

Drainage area.--0.63 sq mi.

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 10,600 ft (from topographic map).

Extremes.--Maximum discharge during year, 8.50 cfs Aug. 16 (gage height, 1.31 ft); minimum, 0.29 cfs Mar. 8.
1963-66: Maximum discharge, 16.3 cfs July 16, 1965 (gage height, 1.70 ft), from rating curve extended above 4.50 cfs on basis of theoretical rating; minimum, 0.20 cfs Dec. 24, 1964, result of freezeup.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.93	0.77	0.51	0.40	0.41	0.34	0.70	1.42	1.95	0.88	1.34	1.11
2	.88	.77	.51	.40	.41	.34	.95	1.50	1.65	.84	3.51	1.06
3	.88	.73	.51	.40	.41	.34	1.02	1.71	1.53	.77	2.72	1.02
4	.84	.69	.51	.40	.41	.30	.93	1.87	1.48	.69	2.48	.97
5	.84	.69	.50	.40	.40	.30	.84	2.04	1.36	.66	2.33	1.02
6	.80	.69	.50	.38	.40	.30	.77	2.11	1.31	.66	2.18	1.02
7	.77	.67	.48	.38	.40	.30	.77	2.21	1.26	.66	1.97	.97
8	.77	.67	.50	.37	.40	.30	.88	2.33	1.21	.66	1.84	.93
9	.73	.66	.51	.38	.40	.31	.88	2.48	1.16	.66	1.78	.93
10	.73	.67	.52	.40	.40	.31	.93	2.48	1.31	.73	1.65	.93
11	.73	.64	.51	.40	.38	.31	.93	2.25	1.21	.69	1.53	.93
12	.73	.64	.47	.38	.38	.33	.88	2.11	1.06	.66	1.48	.88
13	.73	.62	.47	.36	.38	.34	.84	1.84	1.02	.88	1.36	.84
14	.73	.64	.45	.38	.38	.36	.84	1.78	.97	.73	1.31	.93
15	.73	.64	.45	.38	.38	.38	.94	1.78	.93	1.00	1.51	.93
16	.84	.64	.45	.38	.38	.41	1.05	1.84	.95	.84	2.23	.84
17	.73	.59	.44	.38	.38	.44	1.11	1.90	1.04	.77	1.78	.80
18	.77	.54	.44	.40	.38	.45	1.06	1.90	.91	.95	1.71	.77
19	.80	.54	.42	.40	.35	.48	1.02	1.97	.84	1.13	1.65	.77
20	.84	.51	.41	.38	.35	.51	.93	1.97	.90	1.49	1.53	.77
21	.80	.51	.41	.38	.35	.51	.84	1.90	1.04	1.16	1.42	.77
22	.84	.50	.42	.38	.35	.50	.77	1.90	1.02	1.06	1.36	.73
23	.84	.77	.41	.40	.35	.48	.80	1.97	.90	1.02	1.73	.69
24	.84	.60	.41	.40	.35	.50	.80	1.90	.80	.97	1.59	.69
25	.84	.59	.41	.40	.35	.50	.77	1.90	.80	.93	1.48	.66
26	.84	.60	.40	.40	.35	.51	.83	1.84	.83	.88	1.36	.66
27	.80	.52	.40	.38	.34	.52	.87	1.78	.99	.98	1.31	.73
28	.80	.51	.38	.37	.34	.52	1.06	1.71	.93	1.14	1.31	.66
29	.80	.51	.38	.37	-	.50	1.35	1.59	1.02	1.31	1.21	.62
30	.80	.50	.38	.37	------	.51	1.42	1.59	.97	1.26	1.16	.62
31	.77	------	.40	.41	------	.57	------	1.87	------	1.21	1.16	------
Total	24.77	18.62	13.96	12.01	10.56	12.77	27.78	59.44	33.35	28.27	52.98	25.25
Mean	0.799	0.621	0.450	0.387	0.377	0.412	0.926	1.917	1.112	0.912	1.709	0.842
Ac-ft	49.1	36.9	27.7	23.8	20.9	25.3	55.1	118	66.1	56.1	105	50.1

Calendar year 1965: Max 6.72 Min 0.25 Mean 1.244 Ac-ft 901
Water year 1965-66: Max 3.51 Min 0.30 Mean 0.876 Ac-ft 634

Peak discharge (base, 5.00 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-15	1215	1.07	5.13	8- 2	0230	1.07	5.13
7-29	1215	1.06	5.01	8-16	1415	1.31	8.50

8-3022. North Fork Tesuque Creek near Santa Fe, N. Mex.

Location.--Lat 35°46'12", long 105°48'31", in Santa Fe National Forest, on left bank 75 ft upstream from culvert on State Highway 475, 250 ft upstream from Middle Fork Tesuque Creek, and 13 miles northeast of Santa Fe, Santa Fe County.

Drainage area.--1.60 sq mi.

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,670 ft (from topographic map). May 10, 1963, to Oct. 25, 1965, digital water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 32.9 cfs Aug. 1 (gage height, 2.25 ft), from rating curve extended above 9.0 cfs on basis of theoretical rating; minimum, 0.41 cfs Mar. 5.
1962-66: Maximum discharge, that of Aug. 1, 1966; minimum determined, 0.09 cfs Nov. 16, 1962.

Remarks.--Records good except those for September, which are fair, and those for February, which are poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.48	1.36	1.11	0.84	.62	.59	2.48	4.01	3.44	1.11	3.59	2.60
2	1.42	1.31	1.11	.80	.60	.57	3.06	4.12	3.24	1.06	7.72	2.50
3	1.36	1.31	1.06	.77	.60	.57	3.52	4.55	3.15	1.02	7.41	2.40
4	1.36	1.31	1.11	.77	.60	.51	3.42	4.89	3.06	.97	7.41	2.30
5	1.31	1.31	1.11	.80	.62	.48	3.24	5.25	2.88	.97	7.41	2.20
6	1.31	1.21	1.11	.77	.64	.48	3.06	5.75	2.80	.93	7.12	2.10
7	1.26	1.21	1.11	.80	.65	.45	2.88	6.14	2.72	.93	6.55	2.00
8	1.26	1.21	1.11	.80	.66	.48	2.72	6.69	2.56	.93	6.01	1.90
9	1.21	1.21	1.06	.80	.69	.64	2.88	7.12	2.40	.88	5.50	1.85
10	1.21	1.21	1.02	.77	.66	.73	3.06	7.56	2.56	.97	4.78	1.80
11	1.16	1.21	1.06	.80	.66	.93	3.15	7.56	2.25	.93	4.44	1.70
12	1.16	1.16	1.02	.77	.66	1.16	3.06	7.26	2.11	.88	4.01	1.65
13	1.16	1.16	1.02	.77	.66	1.42	2.97	6.83	1.97	1.08	3.61	1.65
14	1.11	1.16	1.02	.73	.65	1.65	2.80	6.41	1.90	.88	3.33	1.60
15	1.11	1.11	1.02	.73	.65	1.78	2.72	6.01	1.78	.97	3.24	1.59
16	1.21	1.06	.97	.73	.65	1.97	2.80	5.75	1.71	1.04	3.27	1.47
17	1.21	1.06	.97	.73	.65	2.11	2.97	5.50	1.71	.88	2.97	1.42
18	1.26	1.02	.97	.73	.62	2.11	3.15	5.25	1.59	1.06	2.88	1.42
19	1.26	1.02	.97	.73	.62	2.11	3.24	5.01	1.53	1.60	2.72	1.36
20	1.26	.97	.93	.71	.62	2.11	3.06	5.01	1.62	1.80	2.72	1.31
21	1.36	.97	.93	.73	.62	2.11	2.88	5.01	1.53	1.42	2.56	1.36
22	1.42	.97	.93	.73	.60	2.11	2.72	4.78	1.42	1.48	2.56	1.31
23	1.43	1.06	.88	.69	.60	1.90	2.56	4.78	1.36	1.53	2.80	1.26
24	1.48	1.06	.88	.66	.60	1.84	2.40	4.44	1.36	1.59	3.12	1.21
25	1.48	1.26	.88	.66	.59	1.78	2.25	4.44	1.31	1.59	2.72	1.16
26	1.48	1.06	.88	.65	.59	1.84	2.25	4.33	1.36	1.71	2.72	1.16
27	1.48	1.06	.88	.65	.57	1.84	2.33	4.01	1.40	1.86	2.97	1.26
28	1.42	1.06	.88	.65	.59	1.78	2.56	3.81	1.31	1.93	3.15	1.16
29	1.36	1.06	.88	.65	-	1.71	3.06	3.71	1.31	3.79	2.80	1.11
30	1.36	1.06	.88	.65	------	1.71	3.61	3.61	1.21	3.15	2.80	1.11
31	1.42	------	.88	.65	------	1.97	------	3.61	------	3.15	2.70	------
Total	40.82	34.20	30.64	22.72	17.54	43.44	86.86	163.20	60.55	44.09	127.59	48.92
Mean	1.317	1.140	0.988	0.733	0.626	1.401	2.895	5.265	2.018	1.422	4.116	1.631
Ac-ft	81.0	67.8	60.8	45.1	34.8	86.2	172	324	120	87.5	253	97.0

Calendar year 1965: Max 10.8 Min 0.31 Mean 2.304 Ac-ft 1,670.
Water year 1965-66: Max 7.72 Min 0.45 Mean 1.974 Ac-ft 1,430

Peak discharge (base, 7.00 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-10	1600	1.26	7.72	8-16	1400	1.39	9.86
7-29	1130	1.83	19.6	8-24	1330	1.46	11.2
8- 1	2345	2.25	32.9				

8-3023. Middle Fork Tesuque Creek near Santa Fe, N. Mex.

Location.--Lat 35°46'03", long 105°48'26", in Santa Fe National Forest, on right bank 1,000 ft upstream from road culvert on State Highway 475, 1,100 ft upstream from mouth, 13 miles northeast of Santa Fe, Santa Fe County.

Drainage area.--0.43 sq mi.

Records available.--November 1961 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,800 ft (from topographic map). May 9, 1963, to Sept. 30, 1965, digital water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 4.55 cfs Aug. 24 (gage height, 1.27 ft), from rating curve extended above 2.20 cfs on basis of theoretical rating; minimum, 0.060 cfs Oct. 17, result of freezeup.
1961-66: Maximum discharge, that of Aug. 24, 1966; minimum, 0.05 cfs Dec. 2, 1965.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.41	0.25	0.22	0.18	0.14	0.12	0.42	0.74	1.24	0.34	0.48	0.52
2	.39	.25	.22	.17	.14	.12	.50	.77	1.16	.32	1.55	.50
3	.39	.25	.22	.17	.13	.12	.52	.84	1.12	.31	1.16	.48
4	.38	.25	.22	.16	.13	.12	.43	.87	1.08	.30	1.08	.48
5	.38	.24	.22	.16	.13	.12	.37	.94	1.04	.30	1.16	.48
6	.36	.24	.22	.16	.13	.12	.34	1.08	1.01	.28	1.24	.48
7	.35	.24	.22	.16	.13	.12	.34	1.16	.94	.30	1.28	.46
8	.34	.23	.22	.16	.13	.12	.33	1.24	.90	.28	1.28	.46
9	.32	.23	.22	.16	.13	.13	.44	1.32	.84	.27	1.24	.46
10	.30	.23	.22	.16	.13	.13	.48	1.41	.87	.28	1.16	.43
11	.30	.23	.22	.16	.12	.15	.48	1.36	.74	.27	1.04	.43
12	.30	.22	.21	.16	.12	.17	.46	1.32	.68	.26	1.04	.41
13	.30	.22	.21	.16	.12	.19	.42	1.28	.66	.29	.94	.38
14	.29	.22	.20	.15	.12	.19	.38	1.20	.63	.26	.84	.41
15	.29	.22	.20	.16	.12	.20	.41	1.16	.58	.29	.77	.44
16	.30	.22	.20	.16	.12	.22	.46	1.12	.55	.30	.84	.35
17	.29	.22	.20	.16	.12	.25	.50	1.08	.55	.28	.71	.35
18	.34	.22	.20	.15	.12	.25	.50	1.04	.52	.32	.67	.33
19	.31	.21	.19	.16	.12	.25	.48	1.04	.50	.49	.63	.33
20	.30	.20	.19	.16	.12	.25	.46	1.08	.52	.50	.60	.33
21	.30	.20	.18	.16	.12	.25	.43	1.08	.50	.31	.55	.33
22	.30	.20	.18	.16	.12	.24	.41	1.12	.48	.28	.55	.31
23	.32	.28	.18	.16	.12	.23	.41	1.16	.43	.26	.59	.31
24	.32	.25	.18	.15	.12	.22	.40	1.16	.42	.25	.88	.30
25	.32	.28	.18	.15	.12	.23	.39	1.20	.41	.25	.68	.30
26	.31	.25	.18	.15	.12	.22	.43	1.24	.42	.27	.60	.29
27	.30	.25	.18	.15	.12	.22	.48	1.24	.43	.34	.58	.31
28	.29	.23	.18	.15	.12	.21	.52	1.28	.41	.41	.58	.29
29	.27	.23	.18	.15	-	.21	.63	1.28	.39	.74	.55	.28
30	.26	.22	.18	.15	------	.22	.68	1.24	.37	.52	.55	.28
31	.26	------	.18	.15	------	.30	------	1.28	------	.50	.55	------
Total	9.89	6.98	6.20	4.92	3.48	5.89	13.55	35.33	20.39	10.37	26.37	11.51
Mean	0.319	0.233	0.200	0.159	0.124	0.190	0.452	1.140	0.680	0.335	0.851	0.384
Ac-ft	19.6	13.8	12.3	9.76	6.90	11.7	26.9	70.1	40.4	20.6	52.3	22.8

Calendar year 1965 : Max 2.98 Min 0.07 Mean 0.497 Ac-ft 360
Water year 1965-66 : Max 1.55 Min 0.12 Mean 0.424 Ac-ft 307

Peak discharge (base, 1.70 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-19	1220	1.04	2.78	8-16	1420	0.95	2.22
7-29	1200	1.22	4.12	8-24	1320	1.27	4.55
8- 2	0030	1.06	2.91				

8-3024. South Fork Tesuque Creek near Santa Fe, N. Mex.

Location.--Lat 35°45'37", long 105°48'40", in Santa Fe National Forest, on left bank 150 ft upstream from road culvert on State Highway 475, 2,700 ft upstream from mouth, and 12 miles northeast of Santa Fe, Santa Fe County.

Drainage area.--0.47 sq mi.

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,740 ft (from topographic map). May 11, 1963, to Sept. 30, 1965, digital water-stage recorder at present site and datum.

Extremes.--Maximum discharge during year, 2.78 cfs Aug. 24 (gage height, 1.04 ft); minimum, 0.15 cfs many days January to March. 1962-66: Maximum discharge, that of Aug. 24, 1966; minimum, 0.07 cfs Nov. 16, 1962.

Remarks.--Records excellent except those for January, which are good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.38	0.25	0.23	0.18	0.15	0.15	0.31	0.36	0.87	0.29	0.33	0.48
2	.36	.25	.23	.18	.15	.15	.35	.33	.80	.28	1.07	.46
3	.35	.25	.22	.17	.15	.15	.40	.37	.74	.28	.90	.44
4	.34	.25	.22	.17	.15	.15	.40	.37	.68	.27	.90	.42
5	.33	.24	.22	.18	.15	.15	.37	.41	.66	.26	.97	.41
6	.32	.24	.22	.18	.15	.15	.35	.46	.60	.26	1.12	.40
7	.31	.23	.22	.18	.15	.15	.33	.55	.58	.25	1.08	.38
8	.31	.23	.22	.18	.15	.15	.33	.66	.55	.25	.97	.38
9	.30	.23	.20	.18	.15	.15	.34	.80	.55	.25	.94	.36
10	.29	.23	.22	.18	.15	.15	.35	.95	.55	.25	.94	.36
11	.29	.23	.21	.17	.15	.15	.35	.97	.50	.25	.97	.36
12	.28	.22	.21	.17	.15	.15	.34	.97	.48	.24	.97	.35
13	.28	.22	.21	.17	.15	.18	.33	.90	.46	.27	.97	.35
14	.28	.22	.20	.17	.16	.20	.31	.87	.43	.25	.90	.36
15	.29	.22	.20	.17	.16	.22	.30	.84	.42	.25	.87	.37
16	.30	.22	.20	.16	.16	.25	.31	.90	.41	.29	.87	.34
17	.31	.22	.20	.17	.16	.29	.33	.97	.39	.28	.77	.32
18	.30	.22	.20	.17	.16	.30	.33	1.04	.37	.28	.71	.31
19	.30	.21	.20	.16	.16	.32	.32	1.12	.36	.36	.66	.31
20	.28	.20	.20	.16	.16	.33	.30	1.16	.40	.46	.60	.31
21	.27	.22	.20	.16	.15	.34	.29	1.20	.36	.32	.58	.30
22	.27	.22	.19	.16	.15	.33	.28	1.20	.34	.30	.55	.30
23	.27	.26	.19	.16	.15	.32	.26	1.20	.33	.27	.55	.30
24	.27	.25	.19	.16	.15	.30	.26	1.20	.31	.25	.73	.29
25	.27	.30	.18	.16	.15	.30	.25	1.16	.30	.25	.66	.28
26	.26	.26	.18	.16	.15	.29	.26	1.12	.30	.27	.58	.27
27	.26	.25	.18	.16	.15	.28	.28	1.12	.31	.30	.55	.28
28	.26	.24	.18	.15	.15	.27	.30	1.04	.31	.35	.52	.27
29	.26	.23	.18	.15	-	.26	.33	1.01	.31	.41	.50	.26
30	.26	.23	.18	.15	----------	.26	.36	.97	.30	.36	.50	.26
31	.25	----------	.18	.15	----------	.27	----------	.90	----------	.34	.50	----------
Total	9.10	7.04	6.26	5.17	4.27	7.11	9.62	27.12	13.97	8.99	23.73	10.28
Mean	0.294	0.235	0.202	0.167	0.152	0.229	0.321	0.875	0.466	0.290	0.765	0.343
Ac-ft	18.0	14.0	12.4	10.3	8.47	14.1	19.1	53.8	27.7	17.8	47.1	20.4

Calendar year 1965: Max 1.78 Min 0.08 Mean 0.407 Ac-ft 295
Water year 1965-66: Max 1.20 Min 0.15 Mean 0.363 Ac-ft 263

Peak discharge (base, 1.30 cfs).--Aug. 2 (0315) 1.41 cfs (0.79 ft); Aug. 24 (1300) 2.78 cfs (1.04 ft).

8-3041. Little Tesuque Creek near Santa Fe, N. Mex.

Location.--Lat 35°44'42", long 105°49'39", in SW¼NE¼ sec.36, T.18 N., R.10 E., in Santa Fe National Forest, on right bank 1,200 ft upstream from East Boundary line of Hyde State park, 0.25 mile (by access road) east of State Highway 475, 9 miles northeast of Santa Fe.

Drainage area.--0.37 sq mi.

Records available.--June 1962 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,220 ft (from topographic map). May 11, 1963 to Sept. 30, 1965, digital water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 2.16 cfs Aug. 2 (gage height, 0.94 ft), from rating curve extended above 0.85 cfs as explained below; minimum, 0.099 cfs Mar. 5.
1962-66: Maximum discharge, 2.28 cfs July 30, 1965 (gage height, 0.97 ft), from rating curve extended above 0.85 cfs on basis of theoretical rating; minimum, 0.03 cfs Aug. 29, 1962, Aug. 30, Sept. 3, 1964.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.24	0.19	0.17	.12	.11	.11	.51	.40	.41	.16	.17	.20
2	.23	.18	.17	.14	.11	.11	.70	.40	.37	.13	1.41	.18
3	.22	.18	.16	.13	.11	.10	.82	.40	.34	.13	.76	.18
4	.22	.17	.16	.13	.11	.12	.79	.40	.32	.12	.56	.17
5	.21	.17	.16	.13	.11	.10	.67	.41	.30	.12	.39	.17
6	.20	.17	.16	.13	.11	.10	.59	.43	.29	.11	.36	.16
7	.20	.16	.16	.13	.11	.11	.54	.44	.27	.12	.36	.16
8	.20	.16	.16	.13	.11	.12	.54	.49	.27	.11	.36	.16
9	.20	.16	.16	.13	.11	.13	.56	.54	.25	.11	.37	.16
10	.19	.16	.18	.13	.11	.15	.59	.54	.31	.11	.36	.16
11	.18	.16	.17	.13	.11	.16	.59	.54	.25	.11	.35	.16
12	.19	.16	.16	.13	.11	.25	.54	.56	.24	.11	.32	.15
13	.18	.15	.16	.13	.11	.25	.51	.54	.22	.17	.30	.15
14	.18	.15	.16	.13	.11	.28	.47	.54	.22	.13	.29	.18
15	.17	.15	.16	.13	.11	.33	.44	.54	.21	.11	.29	.19
16	.20	.15	.16	.12	.11	.36	.44	.51	.20	.17	.30	.14
17	.24	.15	.16	.12	.10	.40	.47	.51	.21	.18	.29	.13
18	.22	.15	.15	.12	.10	.41	.44	.49	.20	.20	.27	.13
19	.23	.14	.15	.12	.10	.44	.44	.49	.18	.51	.25	.13
20	.22	.13	.14	.12	.10	.49	.41	.49	.21	.84	.24	.12
21	.22	.13	.14	.12	.11	.49	.38	.51	.21	.33	.22	.13
22	.22	.13	.14	.12	.10	.49	.35	.51	.19	.23	.22	.13
23	.24	.19	.14	.12	.10	.47	.34	.51	.17	.19	.27	.12
24	.24	.17	.15	.12	.10	.44	.32	.51	.16	.16	.53	.12
25	.24	.25	.15	.11	.10	.42	.31	.51	.16	.15	.40	.12
26	.22	.19	.15	.11	.10	.41	.33	.51	.17	.15	.30	.11
27	.21	.18	.15	.11	.10	.40	.36	.49	.18	.16	.25	.13
28	.20	.18	.15	.11	.10	.40	.36	.47	.17	.18	.24	.13
29	.20	.17	.15	.11	-	.38	.38	.44	.18	.19	.22	.11
30	.20	.17	.15	.11	------	.38	.40	.41	.18	.20	.21	.11
31	.20	------	.15	.11	------	.42	------	.42	------	.20	.20	------
Total	6.51	4.95	4.83	3.80	2.97	9.22	14.59	14.95	7.04	5.89	11.06	4.39
Mean	0.210	0.165	0.156	0.123	0.106	0.297	0.486	0.482	0.235	0.190	0.357	0.146
Ac-ft	12.9	9.82	9.58	7.54	5.89	18.3	28.9	29.7	14.0	11.7	21.9	8.71

Calendar year 1965: Max 1.05 Min 0.05 Mean 0.298 Ac-ft 216
Water year 1965-66: Max 1.41 Min 0.10 Mean 0.247 Ac-ft 179

Peak discharge (base, 1.00 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-19	1230	0.88	1.86	8-24	1320	0.87	1.79
8- 2	0730	0.94	2.16				

8-3042. Little Tesuque Creek tributary No. 4 near Santa Fe, N. Mex.

Location.--Lat 35°44'08", long 105°50'00", on right bank in Hyde State Park, 1,000 ft upstream from mouth, and 8 miles northeast of Santa Fe, Santa Fe County.

Drainage area.--0.69 sq mi.

Records available.--October 1964 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,600 ft (from topographic map).

Extremes.--Maximum discharge during year, 1.94 cfs July 20 (gage height, 1.10 ft), from rating curve extended above 0.60 cfs on basis of theoretical rating; minimum, 0.001 cfs July 15, 16.
1965-66: Maximum discharge, that of July 20, 1966; no flow Oct. 1 to Dec. 7, 1964.

Remarks.--Records good except those for October, which are fair and those for periods of backwater from debris, which are poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.070	0.063	0.060	0.090	0.036	0.060	0.58	0.41	0.13	0.057	0.060	0.027
2	.067	.057	.060	.078	.036	.060	.66	.41	.099	.047	1.01	.025
3	.063	.057	.053	.070	.036	.060	.68	.41	.070	.025	.49	.023
4	.060	.057	.057	.063	.036	.057	.63	.41	.063	.012	.32	.020
5	.057	.053	.067	.063	.036	.053	.55	.41	.057	.010	.22	.012
6	.057	.050	.078	.060	.036	.053	.48	.41	.039	.010	.16	.008
7	.057	.053	.078	.060	.039	.060	.46	.41	.034	.010	.12	.008
8	.057	.053	.074	.060	.042	.074	.46	.39	.023	.010	.12	.007
9	.053	.050	.078	.053	.042	.095	.48	.37	.016	.006	.10	.008
10	.047	.050	.14	.053	.039	.14	.52	.37	.046	.003	.10	.012
11	.036	.042	.11	.053	.039	.18	.50	.33	.047	.003	.095	.013
12	.036	.036	.095	.053	.042	.23	.48	.33	.043	.002	.074	.015
13	.039	.034	.086	.053	.042	.30	.46	.30	.047	.002	.067	.010
14	.057	.032	.078	.050	.042	.37	.43	.26	.044	.003	.053	.010
15	.057	.032	.078	.047	.042	.43	.43	.25	.042	.001	.050	.021
16	.074	.032	.074	.047	.042	.50	.46	.23	.032	.002	.050	.025
17	.25	.034	.074	.044	.039	.58	.48	.20	.030	.013	.071	.018
18	.18	.034	.074	.044	.039	.55	.50	.19	.027	.055	.067	.015
19	.17	.032	.070	.044	.039	.55	.50	.18	.021	.37	.057	.016
20	.15	.032	.070	.044	.042	.58	.48	.16	.015	.84	.053	.013
21	.12	.030	.070	.042	.044	.55	.46	.15	.024	.22	.050	.011
22	.13	.030	.074	.044	.044	.50	.43	.14	.032	.12	.044	.010
23	.15	.039	.082	.044	.044	.43	.41	.14	.032	.086	.042	.012
24	.15	.057	.090	.042	.047	.39	.39	.14	.032	.067	.10	.012
25	.14	.098	.090	.039	.047	.37	.37	.12	.027	.050	.090	.010
26	.12	.13	.095	.036	.047	.37	.35	.15	.020	.050	.057	.010
27	.082	.078	.099	.036	.050	.35	.35	.19	.018	.039	.042	.008
28	.067	.060	.095	.036	.053	.35	.33	.16	.044	.047	.032	.008
29	.060	.053	.095	.036	-	.33	.35	.14	.057	.057	.036	.015
30	.063	.053	.099	.036	----------	.35	.39	.10	.057	.099	.032	.026
31	.063	----------	.099	.036	----------	.43	----------	.095	----------	.090	.030	----------
Total	2.782	1.511	2.542	1.556	1.162	9.402	14.050	7.955	1.268	2.406	3.892	0.428
Mean	0.0897	0.0504	0.0820	0.0502	0.0415	0.303	0.468	0.257	0.0423	0.0776	0.126	0.0143
Ac-ft	5.52	3.00	5.04	3.09	2.30	18.6	27.9	15.8	2.52	4.77	7.72	0.85

Calendar year 1965: Max 0.94 Min 0.020 Mean 0.172 Ac-ft 125
Water year 1965-66: Max 1.01 Min 0.001 Mean 0.134 Ac-ft 97.1

Peak discharge (base, 1.50 cfs).--July 20 (0330) 1.94 cfs (1.10 ft); Aug. 2 (0630) 1.79 cfs (1.07 ft).

Note.--Stage-discharge relation affected by backwater from debris most of time June 3 to July 7, Aug. 6 to Sept. 21.

8-3043. Little Tesuque Creek tributary No. 3 near Santa Fe, N. Mex.

Location.--Lat 35°43'35", long 105°50'01", in Santa Fe National Forest, on right bank 1,900 ft upstream from mouth, and 8 miles northeast of Santa Fe, Santa Fe County.

Drainage area.--0.65 sq mi.

Records available.--September 1963 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,440 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.84 cfs Aug. 2 (gage height, 0.64 ft); no flow most of time.
1963-66: Maximum discharge, that of Aug. 2, 1966; no flow most of time.

Remarks.--Records good except those for December, which are poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0.017	0	0.032	0.25	0.078		0	0	
2	0		0	.015	0	.032	.35	.078		0	.47	
3	0		0	.018	0	.032	.44	.078		0	.46	
4	0		0	.020	0	.032	.40	.074		0	.27	
5	0		0	.012	0	.032	.35	.063		0	.19	
6	0		0	.002	0	.032	.31	.057		0	.15	
7	0		0	0	0	.032	.26	.050		0	.078	
8	0		0	0	0	.036	.23	.042		0	.057	
9	0		0	0	0	.042	.23	.030		0	.053	
10	0		0	0	0	.060	.25	.025		0	.036	
11	0		.011	0	0	.17	.27	.018		0	.023	
12	0		.012	0	0	.25	.27	.013		0	.015	
13	0		.011	0	0	.35	.25	.008		0	.002	
14	0		.010	0	0	.46	.22	.003		0	0	
15	0		.009	0	0	.52	.20	.001		0	0	
16	0		.008	0	0	.55	.20	0		0	0	
17	0		.008	0	0	.58	.20	0		0	0	
18	0		.008	0	0	.52	.20	0		0	0	
19	0		.007	0	0	.46	.20	0		0	0	
20	0		.007	0	0	.42	.20	0		.10	0	
21	0		.007	0	0	.39	.18	0		.18	0	
22	0		.008	0	0	.36	.15	0		.090	0	
23	.006		.009	0	0	.31	.14	0		.057	0	
24	.018		.008	0	0	.28	.12	0		.018	0	
25	.020		.007	0	0	.24	.11	0		.003	0	
26	.023		.008	0	0	.22	.10	0		0	0	
27	.020		.009	0	0	.20	.10	0		0	0	
28	.006		.010	0	.008	.22	.090	0		0	0	
29	0		.013	0	-	.20	.082	0		0	0	
30	0		.023	0	------	.19	.078	0		0	0	
31	0	------	.020	0	------	.20	------	0	------	0	0	------
Total	0.093	0	0.213	0.084	0.008	7.452	6.430	0.618	0	0.448	1.804	0
Mean	0.0030	0	0.0069	0.0027	0.0003	0.240	0.214	0.0199	0	0.0145	0.0582	0
Ac-ft	0.18	0	0.42	0.17	0.016	14.8	12.8	1.23	0	0.89	3.58	0

Calendar year 1965: Max 0.71 Min 0 Mean 0.0369 Ac-ft 26.7
Water year 1965-66: Max 0.58 Min 0 Mean 0.0470 Ac-ft 34.0

Peak discharge (base, 0.40 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-17	0600	0.56	0.60	8- 2	1615	0.64	0.84
4- 3	1500	0.50	0.46				

8-3044. Little Tesuque Creek tributary No. 2 near Santa Fe, N. Mex.

Location.--Lat 35°43'34", long 105°51'02", in SW¼SW¼ sec.2, T.17 N., R.10 E., on right bank in Santa Fe National Forest, 300 ft upstream from mouth and State Highway 475, 6¼ miles northeast of Santa Fe.

Drainage area.--0.45 sq mi.

Records available.--June 1962 to September 1966.

Gage.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 7,960 ft (from topographic map).

Extremes.--Maximum discharge during year, 0.31 cfs Aug. 2 (gage height, 0.44 ft), from rating curve extended above 0.11 cfs on basis of theoretical rating; no flow at times.
1962-66: Maximum discharge, that of Aug. 2, 1966; no flow at times.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.004	0.008	0.008	0.013	0.007	0.008	0.074	0.032	0.007	0.002	0.008	0.003
2	.004	.007	.008	.013	.007	.008	.078	.030	.006	.002	.18	.004
3	.004	.007	.008	.012	.007	.008	.082	.027	.006	.001	.099	.004
4	.004	.007	.008	.011	.007	.008	.078	.025	.006	.001	.070	.004
5	.004	.007	.008	.010	.007	.008	.074	.023	.006	.001	.057	.003
6	.004	.007	.008	.008	.007	.008	.067	.021	.004	.001	.042	.003
7	.004	.007	.008	.008	.008	.010	.060	.021	.004	.001	.032	.003
8	.004	.007	.008	.008	.008	.012	.053	.020	.004	.001	.023	.003
9	.004	.007	.008	.008	.008	.015	.053	.018	.004	.001	.018	.003
10	.004	.007	.018	.008	.008	.021	.050	.018	.004	0	.015	.004
11	.003	.007	.032	.008	.008	.025	.050	.016	.003	0	.013	.003
12	.003	.007	.025	.008	.008	.030	.050	.015	.003	0	.013	.003
13	.003	.006	.021	.008	.008	.032	.050	.013	.003	0	.012	.002
14	.003	.006	.018	.008	.007	.039	.047	.012	.003	0	.010	.002
15	.003	.006	.016	.008	.007	.047	.047	.011	.002	0	.010	.003
16	.003	.006	.015	.008	.007	.050	.047	.011	.002	0	.008	.003
17	.005	.007	.013	.008	.007	.053	.047	.011	.002	0	.008	.004
18	.005	.007	.013	.008	.007	.053	.044	.011	.002	0	.006	.005
19	.008	.008	.012	.008	.007	.053	.044	.010	.002	.002	.006	.008
20	.013	.008	.011	.008	.007	.053	.044	.010	.002	.029	.005	.006
21	.012	.008	.011	.008	.008	.057	.042	.008	.002	.011	.004	.004
22	.011	.008	.011	.008	.008	.057	.042	.008	.001	.007	.004	.002
23	.011	.008	.011	.007	.007	.053	.042	.008	.001	.005	.004	.002
24	.011	.008	.011	.007	.007	.050	.042	.008	0	.005	.005	.002
25	.010	.008	.011	.007	.007	.047	.039	.008	0	.004	.005	.002
26	.008	.010	.011	.007	.007	.044	.039	.008	.001	.004	.005	.002
27	.008	.008	.011	.007	.007	.047	.036	.008	.001	.004	.005	.002
28	.010	.008	.011	.007	.008	.053	.036	.007	.001	.005	.004	.002
29	.008	.008	.011	.007	-	.053	.034	.007	.001	.007	.004	.002
30	.008	.008	.011	.007	----------	.057	.034	.007	.002	.008	.004	.002
31	.008	----------	.013	.007	----------	.067	----------	.007	----------	.010	.003	----------
Total	0.194	0.221	0.389	0.258	0.206	1.126	1.525	0.439	0.085	0.112	0.682	0.095
Mean	0.0063	0.0074	0.0125	0.0083	0.0074	0.0363	0.0508	0.0142	0.0028	0.0036	0.0220	0.0032
Ac-ft	0.38	0.44	0.77	0.51	0.41	2.23	3.02	0.87	0.17	0.22	1.35	0.19

Calendar year 1965: Max 0.083 Min 0.001 Mean 0.0134 Ac-ft 9.72
Water year 1965-66: Max 0.18 Min 0 Mean 0.0146 Ac-ft 10.6

Peak discharge (base, 0.09 cfs).--Aug. 2 (0800) 0.31 cfs (0.44 ft).

8-3130. Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.

Location.--Lat 35°52'30", long 106°08'30", near right bank on downstream end of pier of former railway bridge, 400 ft downstream from bridge on State Highway 4, 1-3/4 miles southwest of San Ildefonso Pueblo, 2½ miles downstream from Pojoaque River, and 7 miles west of Pojoaque.

Drainage area.--14,300 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--February 1895 to December 1905, June 1909 to September 1966. Monthly discharge only for some periods, published in WSP 1312. In early reports this record was published as Rio Grande at water tank, as "at Rio Grande", and as "near Buckman."

Gage.--Water-stage recorder. Datum of gage is 5,488.48 ft above mean sea level, datum of 1929. Prior to May 19, 1904, and July 25 to Oct. 1, 1904, staff gage at site 180 ft upstream at datum 2.02 ft lower. May 19 to July 24, 1904, Oct. 2, 1904, to Dec. 31, 1905, and June 23, 1909, to May 31, 1910, staff gage or chain gage at same site and datum.

Average discharge.--67 years (1895-1905, 1909-66), 1,551 cfs (1,123,000 acre-ft per year).

Extremes.--Maximum discharge during year, 3,600 cfs May 10 (gage height, 6.25 ft); minimum, 221 cfs Sept. 30.
1895-1905, 1909-66: Maximum discharge, 24,400 cfs May 23, 1920; maximum gage height, 14.5 ft Sept. 29, 1904 (present site and datum); minimum daily discharge, 60 cfs July 4, 5, 1902.
The 1920 flood is greatest since at least 1884 and probably since 1741; information from H. W. Yeo's file on floods.

Remarks.--Records good. Flow partly regulated by El Vado and Abiquiu Reservoirs (see 8-2850, 8-2869) on Rio Chama which contributes about 40 percent of total flow. Diversion above station for irrigation of about 619,000 acres in Colorado and 75,000 acres in New Mexico. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,400	856	1,840	1,030	834	890	2,420	2,180	2,340	595	655	329
2	1,430	1,420	1,940	1,030	845	913	2,730	2,260	2,550	519	1,180	307
3	1,480	1,890	1,930	988	834	856	2,780	2,390	2,650	495	1,230	300
4	1,460	1,930	1,980	919	829	751	2,880	2,610	2,620	453	970	296
5	1,400	1,790	1,990	867	839	771	2,880	2,640	2,480	426	1,400	296
6	1,350	1,750	2,010	873	850	797	2,620	2,540	2,300	368	1,200	300
7	1,210	1,730	1,990	890	890	884	2,370	2,450	1,510	360	910	311
8	1,030	1,720	1,990	907	902	981	2,420	2,540	1,380	337	765	296
9	919	1,690	1,970	902	884	1,150	2,370	2,840	1,270	304	804	282
10	950	1,840	2,160	913	850	1,600	2,470	3,390	1,270	289	798	293
11	907	1,780	2,150	931	823	1,620	2,420	3,420	1,210	307	702	282
12	867	1,810	2,080	925	829	1,890	2,390	3,380	1,010	286	673	275
13	818	1,830	2,060	925	861	1,980	2,360	3,250	955	371	679	279
14	792	1,780	2,020	902	839	2,130	2,340	2,890	860	341	569	286
15	761	1,700	1,980	896	845	2,330	2,310	2,620	811	289	523	304
16	756	1,700	1,940	913	823	2,450	2,250	2,520	848	279	490	282
17	1,130	1,670	1,790	884	834	2,500	2,220	2,320	784	282	495	262
18	1,000	1,660	1,790	867	845	2,660	2,220	2,270	752	282	504	266
19	873	1,690	1,700	907	890	2,490	2,220	2,210	690	326	533	286
20	938	1,920	1,700	907	867	2,370	2,310	2,150	761	314	528	293
21	1,080	1,890	1,830	873	890	2,310	2,360	2,060	798	368	606	275
22	1,090	1,880	1,830	850	902	2,310	2,440	2,090	765	584	538	256
23	1,060	1,870	2,100	797	890	2,250	2,130	2,050	644	739	498	252
24	1,010	1,920	2,050	812	890	2,150	2,010	2,050	589	476	847	246
25	1,010	1,960	1,960	797	890	1,820	2,030	2,120	538	430	889	234
26	975	2,100	1,890	802	919	1,530	2,010	2,230	504	356	564	230
27	944	2,020	1,850	771	902	1,540	2,450	2,370	779	318	450	234
28	944	2,050	1,880	782	896	1,620	2,330	2,420	715	318	448	234
29	925	1,790	1,870	802	-	2,360	2,280	2,410	644	364	400	240
30	896	1,630	1,580	834	----------	2,060	2,080	2,300	746	467	380	227
31	878	----------	1,140	861	----------	2,220	----------	2,240	----------	467	360	----------
Total	32,283	53,266	58,990	27,357	24,192	54,183	71,100	77,210	35,773	12,110	21,588	8,253
Mean	1,041	1,776	1,903	882	864	1,748	2,370	2,491	1,192	391	696	275
Ac-ft	64,030	105,700	117,000	54,260	47,980	107,500	141,000	153,100	70,950	24,020	42,820	16,370

Calendar year 1965: Max 5,980 Min 435 Mean 1,912 Ac-ft 1,384,000
Water year 1965-66: Max 3,420 Min 227 Mean 1,305 Ac-ft 944,700

Peak discharge (base 5,200 cfs).--No peak above base.

8-3133.5 Rito de los Frijoles in Bandelier National Monument, N. Mex.

Location.--Lat 35°47'08", long 106°16'50", in Bandelier National Monument, 2,000 ft southeast of Ceremonial Cave, 3,600 ft upstream from Monument headquarters, 6 miles south of Los Alamos and 19 miles northwest of Santa Fe.

Drainage area.--17.5 sq mi.

Records available.--July 1963 to September 1966.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 6,140 ft (from topographic map).

Extremes.--Maximum discharge during year, 5.1 cfs Apr. 4 (gage height, 1.07 ft); minimum, 0.04 cfs July 22 (result of regulation). 1963-66: Maximum discharge, 19 cfs June 18, 1965 (gage height, 1.49 ft), from rating curve extended above 5.0 cfs on basis of theoretical rating; minimum, that of July 22, 1966.

Remarks.--Records good except those for Dec. 15 to Feb. 22, which are fair. Pipe line diversion upstream not presently in use.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.70	0.81	0.88	1.2	0.86	0.81	3.9	1.4	0.88	0.64	0.58	0.64
2	.70	.81	.88	.90	.94	.88	4.5	1.4	.81	.47	1.6	.58
3	.70	.81	.88	.70	.88	.76	4.9	1.4	.58	.37	.88	.58
4	.64	.76	.94	.70	.80	.53	5.0	1.3	.53	.28	.94	.53
5	.64	.76	.94	.75	.80	.65	5.0	1.3	.47	.32	.70	.53
6	.64	.76	.94	.80	.88	.90	4.7	1.3	.42	.32	.76	.58
7	.58	.76	.94	1.0	.94	1.0	4.4	1.2	.42	.28	.70	.70
8	.58	.76	1.0	1.1	1.0	1.0	4.2	1.2	.37	.28	.76	.76
9	.58	.76	1.0	1.1	.88	1.1	3.9	1.2	.42	.24	.64	.70
10	.58	.81	1.4	1.0	.64	1.2	3.7	1.2	.70	.24	.58	.70
11	.58	.81	2.0	1.0	.64	1.2	3.5	1.1	.70	.53	.53	.70
12	.58	.81	1.8	1.0	.76	1.2	3.4	1.1	.53	.53	.58	.76
13	.58	.81	1.6	.94	.94	1.2	3.2	1.1	.37	.53	.58	.64
14	.58	.76	1.4	.88	.94	1.4	3.1	1.0	.37	.47	.53	.70
15	.53	.76	1.1	.88	1.1	1.4	2.8	.94	.37	.42	.64	1.0
16	.58	.76	.77	.88	.80	1.5	2.6	.88	.37	.37	.53	.76
17	.70	.76	.80	.88	.80	1.6	2.5	.81	.42	.28	.53	.64
18	.64	.76	.65	.88	.85	1.6	2.3	.81	.47	.32	.47	.64
19	.58	.76	.70	.94	.90	1.6	2.2	.81	.42	.47	.42	.64
20	.58	.76	.80	.94	1.0	1.8	2.2	.76	.42	.53	.42	.64
21	.58	.76	.90	.88	1.0	2.0	2.1	.76	.81	.42	.53	.70
22	.58	.76	1.2	.81	1.0	2.0	2.0	.76	.70	.24	.64	.64
23	.53	.81	1.2	.70	.94	2.2	1.9	.70	.42	.28	.70	.58
24	.58	.94	1.3	.70	.94	2.4	1.8	.64	.32	.42	.88	.64
25	.58	.94	1.2	.80	.94	2.5	1.7	.64	.28	.37	.70	.64
26	.76	.94	1.2	.80	.81	2.4	1.7	.70	.32	.47	.64	.64
27	.81	.94	1.2	.90	.81	2.5	1.5	.81	.64	.42	.64	.64
28	.81	.88	1.2	.90	.76	2.7	1.5	.70	.53	.42	.76	.70
29	.81	.64	1.2	.90	-	3.0	1.5	.64	.53	.53	.64	.64
30	.81	.64	1.2	1.0	----------	3.3	1.5	.58	.76	.88	.64	.64
31	.81	----------	1.2	1.0	----------	3.6	----------	.64	----------	.76	.70	----------
Total	19.93	23.80	34.42	27.86	24.55	51.93	89.2	29.78	15.35	13.10	20.84	19.88
Mean	0.643	0.793	1.11	0.899	0.877	1.68	2.97	0.961	0.512	0.423	0.672	0.663
Ac-ft	40	47	68	55	49	103	177	59	30	26	41	39

Calendar year 1965: Max 3.9 Min 0.50 Mean 1.18 Ac-ft 8,540
Water year 1965-66: Max 5.0 Min 0.24 Mean 1.02 Ac-ft 735

Peak discharge (base 4.0 cfs).--Apr. 4 (1200) 5.1 cfs (1.07 ft).

8-3145. Rio Grande at Cochiti, N. Mex.

Location.--Lat 35°37'10", long 106°19'20", in SE¼NE¼ sec.17, T.16 N., R.6 E., on downstream end of concrete pier near left end of highway bridge, 1½ miles northeast of Cochiti, 3¼ miles north of Pena Blanca, and 8 miles upstream from Galisteo Creek.

Drainage area.--14,600 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--October 1924 to September 1966. Published as "near Cochiti" prior to 1928. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Digital water-stage recorder and crest-stage gage. Datum of gage is 5,224.70 ft above mean sea level, datum of 1929. Prior to July 16, 1925, staff gage 1 mile upstream at different datum. July 16, 1925, to Jan. 28, 1947, at or near right abutment of bridge at same datum. Jan. 28 to May 15, 1947, 600 ft upstream at same datum. Prior to May 15, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--42 years, 1,320 cfs (955,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,380 cfs May 12 (gage height, 5.47 ft); minimum, 53 cfs Sept. 26.
1927-66: Maximum discharge, 23,400 cfs May 15, 1941 (gage height, 10.93 ft); minimum, 0.7 cfs Aug. 10, 11, 1934.
The flood of May 23, 1920, probably exceeded 23,400 cfs, and is likely the highest since 1905.

Remarks.--Records good. Diversions above station for irrigation of about 700,000 acres, 6,000 of which are irrigated below by Cochiti eastside and Sili main canals which bypass station. Possible regulation by two reservoirs on Rio Chama.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,090	851	1,720	1,080	858	928	2,180	2,160	2,210	645	592	190
2	1,210	1,110	1,850	1,030	858	952	2,470	2,160	2,360	569	1,250	227
3	1,300	1,790	1,880	1,020	825	940	2,610	2,210	2,520	532	1,290	339
4	1,260	1,850	1,960	950	825	803	2,720	2,320	2,650	386	952	314
5	1,170	1,780	1,960	900	869	770	2,810	2,380	2,660	292	1,300	204
6	1,130	1,710	1,920	900	880	770	2,660	2,340	2,390	252	1,160	128
7	1,050	1,700	1,910	825	928	904	2,270	2,250	1,640	207	1,130	135
8	904	1,670	1,910	847	976	1,060	2,250	2,410	1,300	192	844	108
9	825	1,640	1,880	916	964	1,260	2,200	2,590	1,190	209	784	112
10	880	1,690	2,040	964	892	1,610	2,200	2,920	1,120	323	808	171
11	825	1,770	2,080	964	847	1,650	2,300	3,170	1,220	252	688	298
12	710	1,750	2,020	976	858	1,910	2,250	3,290	1,100	149	652	176
13	661	1,750	2,020	976	892	2,040	2,200	3,170	950	143	700	94
14	616	1,750	1,970	952	892	2,180	2,200	2,990	832	295	652	108
15	580	1,680	1,920	940	904	2,220	2,200	2,810	760	145	470	131
16	609	1,690	1,860	940	858	2,260	2,210	2,540	700	184	384	131
17	973	1,660	1,780	928	840	2,330	2,290	2,230	796	325	366	149
18	974	1,610	1,710	904	870	2,370	2,160	2,050	724	202	339	268
19	751	1,650	1,710	892	922	2,410	2,140	2,000	772	155	384	170
20	756	1,810	1,670	928	895	2,330	2,140	1,940	712	192	450	116
21	863	1,840	1,720	916	912	2,240	2,250	1,910	710	198	616	101
22	916	1,840	1,780	900	916	2,170	2,230	2,030	667	357	544	90
23	927	1,880	2,000	880	940	2,150	2,110	2,050	550	661	314	86
24	965	1,910	2,060	850	940	2,090	2,050	1,930	490	532	760	170
25	898	1,940	1,960	850	916	1,860	1,960	1,980	485	388	712	314
26	833	2,090	1,850	830	940	1,520	1,910	2,070	529	274	566	145
27	804	2,040	1,850	800	952	1,490	2,140	2,290	492	175	388	108
28	796	2,030	1,840	800	940	1,510	2,120	2,500	665	192	459	108
29	784	1,860	1,860	800	-	2,160	2,120	2,540	556	218	306	104
30	792	1,550	1,780	800	----------	2,020	2,070	2,320	589	442	223	104
31	808	----------	1,220	850	----------	2,020	----------	2,120	----------	490	195	----------
Total	27,660	51,891	57,690	28,108	25,109	52,927	67,420	73,670	34,339	9,576	20,278	4,899
Mean	892	1,730	1,861	907	897	1,707	2,247	2,376	1,145	309	654	163
Ac-ft	54,860	102,900	114,400	55,750	49,800	105,000	133,700	146,100	68,110	18,990	40,220	9,720
(†)	6,500	0	0	0	0	3,530	7,270	7,030	6,420	6,280	6,360	6,440

Calendar year 1965: Max 6,780 Min 343 Mean 1,827 Ac-ft 1,323,000
Water year 1965-66: Max 3,290 Min 86 Mean 1,243 Ac-ft 899,600

Peak discharge (base, 2,500 cfs, revised).--May 12 (2330) 3,380 cfs (5.47 ft); Aug. 2 (1100) 2,540 cfs (4.94 ft).

† Combined monthly diversion, in acre-ft, of Sili main and Cochiti eastside canals; records of this flow are furnished by Bureau of Reclamation.

8-3155. McClure Reservoir near Santa Fe, N. Mex.

Location.--Lat 35°41'20", long 105°50'10", in NE¼SW¼ sec.24, T.17 N., R.10 E., on outlet tower at McClure Dam on Santa Fe River, 2½ miles upstream from Nichols Reservoir, and 6 miles east of Santa Fe.

Drainage area.--17.4 sq mi.

Records available.--September 1929, July to October 1930, April 1931 to June 1946, September 1947 to September 1966 (see WSP 1312, 1732).

Gage.--Water-stage recorder. Datum of gage is 7,768.12 ft above mean sea level, datum of 1929. Prior to October 1, 1947, staff gages at same site and various datums all referred to the Public Service Company of New Mexico assumed datum, 165.9 ft lower.

Extremes.--Maximum contents during year, 3,120 acre-ft May 8-9 (gage height, 103.4 ft); minimum, 2,590 acre-ft Mar. 7-8 (gage height, 96.3 ft).
1947-66: Maximum contents, 3,140 acre-ft June 25, 1960 (gage height, 103.7 ft); no contents January 25 to May 8, 1951.

Remarks.--Reservoir is formed by earth-fill dam, completed in 1926 (capacity, 503 acre-ft), raised 5 ft in 1935 (capacity 650 acre-ft), and raised 36.5 ft more in 1947. Capacities and changes in height of dam are for effective height of spillway which includes 1 ft of flash boards above concrete crest 1926 to July 1935, 2 ft August 1935 to September 1947, and varying heights of sandbag bulkheads from October 1947 to May 1953 when spillway was equipped with radial gates which open automatically at gage height about 103.1 ft (some adjustment possible). Capacity, 3,090 acre-ft between gage heights -0.2 ft (bottom of lowest outlet tube) and 103.1 ft. No dead storage. Water is for municipal use of city of Santa Fe.

Cooperation.--Supplementary stage readings and capacity table furnished by Public Service Co. of New Mexico.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3,110	2,920	2,790	2,780	2,700	2,600	2,910	3,110	3,100	2,880	2,910	3,030
2	3,110	2,910	2,790	2,780	2,700	2,600	2,940	3,110	3,100	2,880	2,940	3,030
3	3,100	2,900	2,790	2,780	2,700	2,600	2,960	3,110	3,090	2,860	2,980	3,020
4	3,100	2,890	2,790	2,770	2,690	2,600	2,970	3,100	3,090	2,850	3,010	3,010
5	3,090	2,880	2,790	2,770	2,660	2,600	2,990	3,100	3,090	2,830	3,030	3,000
6	3,070	2,870	2,790	2,770	2,640	2,600	3,000	3,110	3,090	2,820	3,030	3,000
7	3,050	2,860	2,780	2,770	2,630	2,590	3,010	3,110	3,090	2,820	3,040	2,990
8	3,030	2,860	2,770	2,770	2,620	2,590	3,020	3,120	3,090	2,800	3,030	2,980
9	3,010	2,850	2,760	2,770	2,620	2,610	3,030	3,120	3,090	2,800	3,040	2,970
10	3,000	2,850	2,760	2,770	2,620	2,620	3,030	3,110	3,100	2,790	3,030	2,970
11	2,980	2,840	2,770	2,770	2,620	2,640	3,040	3,100	3,110	2,780	3,030	2,960
12	2,960	2,830	2,760	2,760	2,620	2,640	3,050	3,090	3,110	2,770	3,020	2,960
13	2,940	2,830	2,760	2,750	2,620	2,660	3,060	3,090	3,100	2,770	3,000	2,950
14	2,930	2,820	2,760	2,750	2,620	2,670	3,060	3,090	3,090	2,770	3,000	2,940
15	2,910	2,820	2,760	2,740	2,620	2,690	3,060	3,090	3,080	2,760	2,990	2,940
16	2,910	2,820	2,760	2,740	2,620	2,720	3,070	3,090	3,060	2,760	3,000	2,940
17	2,910	2,810	2,770	2,740	2,620	2,740	3,070	3,090	3,060	2,760	3,000	2,930
18	2,910	2,800	2,770	2,740	2,620	2,760	3,070	3,100	3,040	2,760	3,010	2,930
19	2,910	2,800	2,770	2,740	2,620	2,770	3,070	3,110	3,030	2,770	3,010	2,920
20	2,920	2,800	2,770	2,740	2,620	2,800	3,080	3,110	3,020	2,820	3,010	2,910
21	2,920	2,790	2,770	2,720	2,610	2,810	3,090	3,110	3,000	2,860	3,010	2,910
22	2,920	2,790	2,780	2,720	2,610	2,820	3,090	3,100	2,980	2,880	3,010	2,900
23	2,920	2,790	2,790	2,720	2,610	2,840	3,090	3,100	2,960	2,890	3,010	2,900
24	2,930	2,790	2,790	2,710	2,610	2,850	3,090	3,110	2,940	2,910	3,030	2,890
25	2,930	2,790	2,790	2,710	2,610	2,860	3,090	3,110	2,930	2,910	3,030	2,880
26	2,940	2,790	2,790	2,710	2,600	2,870	3,090	3,110	2,920	2,910	3,030	2,880
27	2,940	2,790	2,790	2,710	2,600	2,880	3,090	3,100	2,910	2,920	3,030	2,870
28	2,940	2,790	2,790	2,710	2,600	2,880	3,090	3,090	2,910	2,920	3,030	2,860
29	2,940	2,790	2,790	2,700	-	2,890	3,090	3,090	2,900	2,920	3,030	2,860
30	2,940	2,790	2,790	2,700	----------	2,900	3,100	3,090	2,890	2,920	3,030	2,850
31	2,930	----------	2,790	2,700	----------	2,910	----------	3,100	----------	2,920	3,030	----------
(†)	100.9	99.0	99.0	97.8	96.4	100.6	103.2	103.2	100.4	100.8	102.2	99.9
(‡)	-180	-140	0	-90	-100	+310	+190	0	-210	+30	+110	-180

Calendar year 1965..... ‡ +1,270
Water year 1965-66..... ‡ -260

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

8-3160. Santa Fe River near Santa Fe, N. Mex.

Location.--Lat 35°41'10", long 105°50'35", in NE¼SE¼ sec.23, T.17 N., R.10 E., on left bank 0.4 mile downstream from McClure Dam and 5½ miles east of Santa Fe.

Drainage area.--18.2 sq mi.

Records available.--January 1913 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1953, published as Santa Fe Creek near Santa Fe.

Gage.--Water-stage recorder and concrete control. Datum of gage is 7,718 ft above mean sea level, datum of 1929. Prior to Nov. 4, 1930, at site 1.5 miles downstream and Apr. 11, 1931, to September 1947 at site 0.3 mile upstream, each at different datum.

Average discharge.--53 years, 8.24 cfs (5,970 acre-ft per year).

Extremes.--Maximum discharge during year, 37 cfs Nov. 15 (gage height, 2.46 ft); minimum daily, 2.8 cfs Dec. 17-22, Mar. 7, 8.
1913-66: Maximum discharge, 1,500 cfs Aug. 14, 1921 (gage height, 5.17 ft, site and datum then in use), from rating curve extended above 150 cfs by logarithmic plotting; minimum daily, 0.1 cfs Feb. 7-10, 20, 1927, Aug. 1-4, 1951.
Peaks which probably exceeded 1,000 cfs occurred Aug. 19, 1872, and Sept. 29 or 30, 1904. Without regulation the flood of Sept. 23, 1929, might have exceeded 1,500 cfs.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flow regulated by McClure Reservoir (see 8-3155), completed in 1926, raised in 1935 and again in 1947.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	7.8	4.3	5.9	4.9	3.0	7.3	11	11	8.8	12	8.8
2	5.2	9.1	4.3	5.9	4.9	3.0	7.3	14	12	8.4	14	8.8
3	5.6	9.1	4.3	5.9	4.9	3.0	7.6	18	15	8.1	14	8.8
4	6.0	8.8	4.1	5.9	6.0	3.0	8.1	18	11	7.8	14	8.8
5	8.8	8.4	4.1	5.9	7.0	3.0	8.8	18	7.6	7.6	14	8.8
6	11	8.1	6.1	5.9	7.0	3.0	9.4	18	6.2	7.3	14	8.4
7	14	7.8	7.6	5.6	5.0	2.8	9.8	19	6.2	7.0	15	8.4
8	13	7.8	7.0	5.4	4.0	2.8	9.8	22	5.2	6.7	15	8.4
9	13	7.6	7.0	5.4	3.0	3.0	9.8	27	4.5	6.4	15	8.4
10	13	7.3	7.6	5.4	3.0	3.3	9.8	33	4.5	6.2	14	8.4
11	13	7.3	7.3	5.4	3.0	3.6	10	32	4.9	5.9	14	8.4
12	12	6.1	7.0	5.4	3.0	3.9	11	29	6.4	5.6	14	8.1
13	12	4.7	5.8	5.4	3.0	4.3	11	23	8.8	5.4	14	8.1
14	12	4.7	4.5	5.4	3.0	4.7	11	17	11	5.4	14	7.8
15	12	6.1	3.4	5.4	3.0	5.4	11	15	11	5.2	11	7.8
16	12	6.2	3.0	5.4	3.0	6.2	12	15	11	4.9	8.8	7.6
17	7.8	5.4	2.8	5.4	3.0	6.4	14	15	12	4.9	8.4	7.6
18	4.1	5.4	2.8	5.2	3.0	6.7	16	15	12	4.7	8.4	7.3
19	3.9	5.2	2.8	5.2	3.0	7.0	15	15	12	5.2	8.4	7.3
20	3.9	5.2	2.8	4.9	3.0	7.3	11	17	13	5.4	8.4	7.3
21	3.9	5.2	2.8	4.9	3.0	7.3	9.1	19	14	5.9	8.4	7.0
22	3.9	5.0	2.8	4.9	3.0	7.3	11	21	13	5.9	8.4	7.0
23	3.9	5.0	3.3	4.7	3.0	7.3	11	16	12	5.9	8.8	6.7
24	3.9	4.7	4.1	4.9	3.0	7.6	11	13	12	6.2	8.8	6.7
25	3.9	4.5	4.1	4.9	3.0	7.8	11	14	10	6.2	8.8	6.4
26	3.9	4.5	4.1	4.9	3.0	7.8	11	15	10	5.9	8.8	6.4
27	3.9	4.5	4.7	4.9	3.0	7.8	11	16	9.8	7.3	8.8	5.9
28	4.1	4.5	5.6	4.9	3.0	7.6	11	16	9.4	8.1	8.8	5.6
29	4.7	4.3	5.9	4.9	-	7.0	11	13	9.1	8.8	8.8	5.6
30	5.3	4.3	5.9	4.9	----------	7.0	11	9.8	8.8	9.8	8.8	5.4
31	7.3	----------	5.9	4.9	----------	----------	----------	9.8	----------	11	8.8	----------
Total	236.0	184.6	147.8	164.0	103.7	166.9	317.8	553.6	293.4	207.9	346.4	226.0
Mean	7.61	6.15	4.77	5.29	3.70	5.38	10.6	17.9	9.78	6.71	11.2	7.53
Ac-ft	468	366	293	325	206	331	630	1100	582	412	687	448

Calendar year 1965: Max 68 Min 1.4 Mean 8.11 Ac-ft 5,870
Water year 1965-66: Max 33 Min 2.8 Mean 8.08 Ac-ft 5,850

Note.--No gage-height record Feb. 4 to Mar. 6.

8-3165. Nichols Reservoir near Santa Fe, N. Mex.

Location.--Lat 35°41'20", long 105°52'40", in E½NE¼ sec.21, T.17 N., R.10 E., on outlet tower at dam on Santa Fe River, three-quarters of a mile upstream from Two Mile Reservoir, 2½ miles downstream from McClure Dam, and 3½ miles east of Santa Fe.

Drainage area.--22.8 sq mi.

Records available.--December 1942 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 7,313.2 ft above mean sea level, datum of 1929.

Extremes.--Maximum contents during year, 704 acre-ft May 9-11 (gage height, 167.6 ft); minimum, 306 acre-ft Sept. 30 (gage height, 151.4 ft).
1943-66: Maximum contents, 836 acre-ft June 8, 1952 (gage height, 171.8 ft); minimum, 16 acre-ft Feb. 11 to Mar. 10, 1944, Feb. 1-19, 1948.

Remarks.--Reservoir is formed by earth-fill dam. No storage prior to Mar. 16, 1943. Capacity, 796 acre-ft between gage heights 121.2 ft (bottom of lower operational gate) and 171.0 ft (top of flashboards in spillway). Dead storage, 14 acre-ft. Water is for municipal use of city of Santa Fe.

Cooperation.--Supplementary stage readings and survey to compute capacity table furnished by Public Service Co. of New Mexico.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	637	698	692	695	695	612	698	698	695	561	375	475
2	637	698	692	695	695	612	698	698	695	563	391	479
3	634	698	692	695	695	606	698	698	698	566	417	479
4	634	698	692	695	695	606	698	701	695	566	440	472
5	640	698	692	695	695	606	698	701	695	561	463	461
6	649	698	692	695	695	603	698	701	692	550	472	447
7	661	698	695	695	692	593	698	701	692	534	470	438
8	664	698	698	695	692	585	698	701	692	518	468	444
9	667	698	701	695	692	577	698	704	679	496	472	444
10	670	698	701	695	692	574	698	704	664	470	491	440
11	673	695	698	695	692	574	698	704	649	442	510	428
12	673	695	698	695	692	571	698	701	634	424	526	419
13	676	695	698	695	692	577	698	698	628	419	536	407
14	676	695	698	695	688	582	698	698	625	414	536	410
15	679	695	698	695	692	587	698	698	620	419	534	424
16	685	695	695	695	688	595	698	695	612	421	523	438
17	695	695	695	695	688	606	698	695	598	421	510	444
18	692	695	692	695	685	614	698	695	585	414	504	440
19	692	695	692	695	682	625	698	695	574	414	504	433
20	692	695	692	695	679	637	698	695	571	414	502	426
21	692	692	692	695	664	646	695	698	571	412	502	419
22	692	692	692	695	658	655	695	698	571	410	502	410
23	692	692	692	695	655	664	695	698	569	405	502	405
24	692	692	695	695	652	673	695	695	563	403	507	396
25	692	692	695	695	649	685	698	695	558	400	510	382
26	692	692	695	695	643	692	698	695	552	396	512	365
27	692	692	695	695	640	695	698	695	547	394	512	348
28	695	692	695	695	617	698	698	695	544	396	510	329
29	695	692	695	695	-	698	698	695	550	394	507	313
30	695	692	695	695	----------	698	698	695	555	386	496	306
31	698	----------	695	695	----------	698	----------	695	----------	380	479	----------
(†)	167.4	167.2	167.3	167.3	164.7	167.4	167.4	167.3	162.4	155.2	159.5	151.4
(‡)	+52	-6	+3	0	-78	+81	0	-3	-140	-175	+99	-173

Calendar year 1965..... ‡ +225
Water year 1965-66..... ‡ -340

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

8-3180. Galisteo Creek at Domingo, N. Mex.

Location.--Lat 35°30'45", long 106°19'00", in SW¼ sec.21, T.15 N., R.6 E., in Santo Domingo Pueblo Grant, 160 ft downstream from highway bridge, 0.3 mile northeast of Domingo, 2¾ miles east of Santo Domingo Pueblo, and 4 miles upstream from mouth.

Drainage area.--640 sq mi, approximately.

Records available.--October 1941 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 5,255.50 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to July 20, 1956, at site 160 ft upstream at same datum.

Average discharge.--25 years, 10.1 cfs (7,310 acre-ft per year).

Extremes.--Maximum discharge during year, 22,800 cfs Aug. 2 (gage height, 8.08 ft inside, 10.4 ft from floodmarks); no flow on many days.
1941-66: Maximum discharge, that of Aug. 2, 1966, from rating curve extended above 1,000 cfs on basis of field estimate of peak flow; no flow for most of time.
The floods of Sept. 23, 1929, and Aug. 20, 1935, probably exceeded 20,000 cfs. Discharge for the flood of Aug. 20, 1935, was estimated as 24,300 cfs by H. W. Yeo.

Remarks.--Records poor. Diversions for irrigation of about 50 acres above station. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	0				0	74	20	0.2
2	0	0	0	0	0				0	2.2	3,330	0
3	0	0	0	.1	0				0	.9	50	0
4	0	0	0	.3	0				0	0	10	0
5	0	0	0	.3	0				0	0	4.5	0
6	0	0	0	.2	0				0	0	2.0	0
7	0	0	0	.1	0				0	0	1.1	0
8	0	0	0	0	0				0	0	.4	78
9	0	0	0	0	0				0	0	3.3	0
10	0	0	1.7	0	0				0	0	1.8	0
11	0	0	.2	0	0				0	0	4.2	0
12	0	0	0	0	0				0	0	1.3	0
13	0	0	0	0	0				0	.5	.6	0
14	0	0	0	0	0				0	15	0	.1
15	0	0	0	0	0				0	2.6	2.6	.2
16	.2	0	0	0	.1				.4	32	19	0
17	19	0	0	0	.1				.1	48	37	0
18	3.5	0	0	0	0				0	5.2	9.7	0
19	.4	0	1.7	0	0				0	91	10	0
20	0	0	.7	0	0				1.0	44	8.3	0
21	0	0	.4	0	0				0	2.2	56	0
22	0	0	.4	.3	0				0	.6	146	0
23	0	0	.1	.4	0				0	4.9	4.5	14
24	0	0	0	1.1	0				0	.9	26	80
25	0	0	.1	.4	0				0	1.2	102	2.0
26	0	1.6	0	.2	0				0	0	5.6	.2
27	0	0	0	.2	0				150	81	13	.2
28	0	0	0	.4	0				119	268	.7	.1
29	0	0	0	.1	-				41	232	.4	0
30	0	0	0	0	-------				19	137	2.0	0
31	0	------	0	0	-------		------		------	7.1	.6	-------
Total	23.1	1.6	5.3	4.1	0.2	0	0	0	330.5	1,050.3	3,872.6	175.0
Mean	0.75	0.05	0.17	0.13	0.07	0	0	0	11.0	33.9	125	5.83
Ac-ft	46	3.2	11	8.1	0.4	0	0	0	656	2,080	7,680	347

Calendar year 1965 : Max 1,110 Min 0 Mean 13.1 Ac-ft 9,460
Water year 1965-66 : Max 3,330 Min 0 Mean 15.0 Ac-ft 10,840

Peak discharge (base, 1,500 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-26	0100	2.78	1,520	8-2	0430	8.08	22,800
7-28	2310	3.40	2,700	8-21	2250	1.68	1,900

8-3190. Rio Grande at San Felipe, N. Mex.

Location.--Lat 35°26'40", long 106°26'20", in SW¼NW¼ sec.17, T.14 N., R.5 E., in San Felipe Grant, on right bank 200 ft downstream from Tonque Arroyo, 1,800 ft upstream from steel highway bridge, three-quarters of a mile upstream from San Felipe Pueblo, and 11 miles northeast of Bernalillo.

Drainage area.--16,100 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--October 1925 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Datum of gage is 5,115.73 ft above mean sea level, datum of 1929, adjustment of 1951. Prior to Sept. 27, 1957, at site 1,800 ft downstream at datum 5.35 ft lower, except period May 16, 1945 to Sept. 30, 1946 when it was 5.94 ft lower than present datum.

Average discharge.--41 years, 1,404 cfs (1,016,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,600 cfs Aug. 2 (gage height, 6.62 ft); minimum, 96 cfs Sept. 26.
1927-66: Maximum discharge, 27,300 cfs June 26, 1937 (gage height, 11.13 ft, site and datum then in use), from rating curve extended above 15,000 cfs by logarithmic plotting; minimum, 32 cfs July 7, 1934.
Other major floods occurred in 1874, 1884 and 1904.

Remarks.--Records good. Diversions for irrigation of about 705,000 acres above station, some of which is irrigated below by Cochiti eastside main canal and San Felipe eastside acequia, which bypass station. Possible regulation by two reservoirs on Rio Chama.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,120	867	1,760	1,160	867	878	2,210	2,120	2,230	695	421	250
2	1,280	916	1,820	1,060	867	889	2,480	2,120	2,370	540	4,140	228
3	1,370	1,720	1,860	1,020	867	912	2,650	2,170	2,600	474	1,220	344
4	1,370	1,780	1,920	960	856	823	2,720	2,440	2,700	412	770	300
5	1,260	1,760	1,960	924	867	770	2,800	2,580	2,580	340	1,320	244
6	1,230	1,680	1,980	924	878	750	2,680	2,480	2,300	288	1,190	186
7	1,150	1,640	2,000	900	889	834	2,340	2,440	1,820	236	1,320	191
8	984	1,620	1,940	900	936	900	2,320	2,480	1,370	208	770	251
9	900	1,620	1,900	912	924	1,030	2,410	2,530	1,280	186	650	178
10	900	1,600	2,020	936	878	1,330	2,440	2,920	1,230	250	896	164
11	924	1,760	2,120	948	867	1,530	2,480	3,330	1,300	224	700	260
12	801	1,700	2,060	948	856	1,680	2,320	3,360	1,100	175	650	230
13	770	1,680	2,000	936	889	1,920	2,300	3,280	1,000	105	650	200
14	730	1,740	2,000	936	889	2,060	2,370	2,980	900	273	550	200
15	690	1,680	1,980	912	867	2,120	2,250	2,720	822	214	500	200
16	681	1,640	1,960	924	856	2,210	2,280	2,580	758	171	490	233
17	936	1,700	1,840	912	845	2,300	2,320	2,410	861	288	472	211
18	1,150	1,640	1,740	936	845	2,300	2,340	2,300	710	236	384	307
19	845	1,680	1,720	936	867	2,530	2,300	2,230	796	209	400	244
20	812	1,840	1,660	936	889	2,410	2,230	2,050	710	325	418	182
21	912	1,880	1,720	912	878	2,250	2,280	2,000	796	236	648	182
22	972	1,840	1,680	912	867	2,250	2,210	2,000	734	295	817	164
23	984	1,860	2,000	867	889	2,250	2,190	2,100	640	560	400	152
24	984	1,900	2,100	878	889	2,140	2,100	2,060	550	560	1,100	209
25	936	1,900	1,980	856	856	1,920	2,000	2,880	493	370	802	281
26	878	2,080	1,900	834	878	1,490	1,940	2,190	550	348	734	223
27	856	2,060	1,900	812	900	1,460	2,060	2,320	583	276	500	138
28	867	2,020	1,860	812	889	1,460	2,190	2,480	1,060	349	450	182
29	856	1,900	1,880	801	-	1,890	2,210	2,460	650	484	400	173
30	845	1,740	1,880	812	------	2,170	2,100	2,300	600	506	300	182
31	845	------	1,330	856	------	2,170	------	2,210	------	438	300	------
Total	29,838	51,443	58,470	28,372	24,545	51,626	69,520	76,520	36,093	10,271	24,362	6,489
Mean	963	1,715	1,886	915	877	1,665	2,317	2,468	1,203	331	786	216
Ac-ft	59,180	102,400	116,000	56,280	48,680	102,400	137,900	151,800	71,590	20,370	48,320	12,870
(†)	1,660	0	0	0	0	512	1,740	1,320	1,520	1,420	1,390	1,450

Calendar year 1965: Max 7,290 Min 380 Mean 1,856 Ac-ft 1,344,000
Water year 1965-66: Max 4,140 Min 105 Mean 1,281 Ac-ft 927,400

Peak discharge (base, 2,500 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-12	2100	4.63	3,600	8-2	0830	6.62	10,600
6-28	0100	5.31	6,180				

8-3215. Jemez River below East Fork, near Jemez Springs, N. Mex.

Location.--Lat 35°49'39", long 106°38'51", in NW¼ sec.5, T.18 N., R.3 E., on left bank 0.4 mile downstream from East Fork and boundary of Santa Fe National Forest and 5.3 miles northeast of Jemez Springs.

Drainage area.--173 sq mi.

Records available.--July 1949 to October 1950 (gaged separately above East Fork), May 1951 to September 1957 (irrigation seasons only), March 1958 to September 1966. Records for 1949-50 published as "near Jemez Springs" and "East Fork Jemez River near Jemez Springs".

Gage.--Digital water-stage recorder. Datum of gage is 6,702.7 ft above mean sea level (planetable survey). Prior to May 1951, at sites 3,000 ft upstream, at different datums and on separate channels. Prior to Sept. 9, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--9 years (1949-50, 1958-66), 25.2 cfs (18,240 acre-ft per year).

Extremes.--Maximum discharge during year, 580 cfs Apr. 1 (gage height, 3.60 ft); minimum, 5.2 cfs Dec. 7.
1949-50, 1958-66: Maximum discharge recorded, 2,520 cfs Apr. 21, 1958 (gage height, 7.35 ft), from rating curve extended above 1,100 cfs on basis of slope-area and contracted-opening measurements of peak flow; minimum, 3.2 cfs Dec. 3, 1963.

Remarks.--Records good except those for winter periods, which are poor. No diversion above station. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	12	18	16	12	14	340	22	14	17	17	11
2	11	12	13	13	12	15	272	21	15	14	35	11
3	11	12	13	13	10	10	183	20	12	11	44	12
4	11	12	14	13	10	10	86	18	10	10	22	11
5	11	11	13	14	12	11	65	17	9.9	9.4	15	12
6	11	12	12	14	12	12	61	17	9.4	9.0	12	13
7	11	12	11	14	12	13	63	16	9.4	9.0	11	14
8	10	12	13	14	13	14	61	16	9.4	9.4	9.9	14
9	9.9	12	15	14	13	16	61	16	10	9.4	9.9	14
10	9.9	12	30	14	12	17	51	15	18	9.4	10	14
11	10	12	38	14	10	20	48	15	18	11	9.9	12
12	9.9	12	21	13	12	21	42	14	12	11	9.9	12
13	10	12	17	12	13	26	40	14	10	17	9.4	12
14	9.9	12	17	12	13	28	38	14	8	19	11	13
15	9.9	12	15	11	13	34	37	13	8	17	13	21
16	12	12	12	12	13	39	35	13	7.2	15	11	18
17	26	12	14	12	13	46	32	13	9.9	12	12	13
18	25	12	14	12	13	45	32	13	9.4	14	11	12
19	18	12	14	12	14	57	30	12	9.9	23	9.9	12
20	19	12	14	12	14	72	32	12	12	18	10	12
21	19	12	14	13	13	96	32	12	17	14	9.9	12
22	17	12	14	13	13	96	29	13	16	11	9.4	11
23	15	19	15	13	12	95	29	12	10	10	9.4	13
24	14	33	16	13	12	103	27	11	9.0	12	18	14
25	13	26	14	12	16	106	25	12	9.0	9.9	17	10
26	12	36	15	11	15	147	24	12	11	9.9	15	9.4
27	12	19	15	11	17	195	22	12	21	10	11	9.4
28	11	17	14	11	15	216	20	12	19	11	11	9.9
29	12	14	14	12	-	212	20	12	17	18	11	9.0
30	12	14	16	12	----------	295	21	11	15	24	11	8.6
31	12	----------	17	12	----------	341	----------	12	----------	27	11	----------
Total	405.5	441	492	394	359	2,422	1,858	442	365.5	421.4	426.6	369.3
Mean	13.1	14.7	15.9	12.7	12.8	78.1	61.9	14.3	12.2	13.6	13.8	12.3
Ac-ft	804	875	976	781	712	4,800	3,690	877	725	836	846	732

Calendar year 1965: Max 318 Min 7 Mean 24.9 Ac-ft 18,000
Water year 1965-66: Max 341 Min 7.2 Mean 23.0 Ac-ft 16,650

Peak discharge (base, 350 cfs, revised).--Apr. 1 (0215) 580 cfs (3.60 ft).

8-3230. Rio Guadalupe at Box Canyon near Jemez, N. Mex.

Location.--Lat 35°43'55", long 106°45'45", in E½ sec.6, T.17 N., R.2 E. (projected), in Cañon de San Diego Grant, on left bank at downstream end of Guadalupe Box Canyon, 4.8 miles upstream from mouth, 5 miles southwest of Jemez Springs, and 7 miles north of Jemez.

Drainage area.--235 sq mi.

Records available.--May 1951 to September 1957 (irrigation seasons only), May 1958 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 6,015.5 ft above mean sea level, datum of 1929 (planetable survey). Prior to September 9, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--8 years (1958-66), 31.0 cfs (22,440 acre-ft per year).

Extremes.--Maximum discharge during year, 234 cfs May 5 (gage height, 4.75 ft); minimum, 3.9 cfs Feb. 24.
1951-66: Maximum discharge determined, 1,440 cfs Apr. 21, 1958 (gage height, 7.6 ft, from floodmarks), from rating curve extended above 750 cfs on basis of slope-area measurements of peak flow; minimum, 2.0 cfs Dec. 13, 1960.
Maximum discharge known probably occurred on May 13 or 14, 1941, when a discharge of 3,190 cfs was computed for a downstream station (drainage area, 239 sq mi) called Rio Guadalupe near Jemez Springs.

Remarks.--Records good except those for winter periods, which are poor. Some regulation by San Gregorio Reservoir on Clear Creek, tributary to Rio de Las Vacas, to Rio Guadalupe (constructed July to October 1958, capacity, 345 acre-ft), and by transmountain diversion into Rio Puerco Basin for irrigation of 200 to 300 acres in vicinity of Cuba.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	8.5	16	11	10	11	98	118	20	28	12	6.4
2	6.8	8.5	12	10	9.7	12	114	134	23	22	16	6.6
3	6.8	8.5	11	10	9	11	122	154	18	16	30	6.4
4	6.8	8.2	11	10	9	11	104	154	15	14	16	6.1
5	6.5	7.9	11	10	9	12	87	156	13	12	12	6.4
6	6.3	7.9	12	12	9	13	82	154	12	12	9.4	7.1
7	6.1	7.6	10	12	10	14	82	150	12	11	8.4	7.4
8	6.1	7.6	12	12	11	14	87	142	12	10	7.4	6.9
9	6.1	8.8	13	12	10	14	97	136	11	9.0	7.7	7.1
10	5.9	9.1	23	11	9	16	110	138	16	9.4	7.4	6.8
11	5.9	8.5	22	11	9	18	116	106	16	11	6.6	6.7
12	5.9	7.9	15	11	9	20	102	90	13	12	6.4	6.6
13	5.9	7.6	12	10	9	24	95	74	11	11	6.6	6.4
14	6.1	7.6	12	10	10	34	92	64	10	12	6.4	6.9
15	6.3	7.6	10	10	11	45	95	60	9.0	11	8.5	11
16	6.5	7.9	10	10	11	51	100	58	8.7	11	8.4	16
17	11	7.9	11	10	11	59	120	55	8.7	10	13	10
18	16	7.9	11	10	11	55	122	55	8.4	11	17	7.8
19	15	7.6	11	10	11	56	104	50	7.9	15	10	7.1
20	14	7.3	11	10	11	58	87	43	12	14	8.7	6.8
21	13	7.6	12	9	11	60	81	38	26	11	8.4	6.7
22	12	7.6	12	10	11	59	73	39	18	10	7.9	6.6
23	10	9.4	13	10	11	47	60	34	13	8.7	7.4	6.4
24	11	31	11	10	10	51	62	32	10	7.9	7.4	6.1
25	12	24	11	10	12	49	62	29	9.0	7.7	7.9	6.0
26	13	27	11	9	11	53	65	27	9.0	7.4	7.9	5.9
27	14	14	11	9	11	55	90	25	18	7.9	7.1	6.3
28	11	12	11	10	11	62	100	24	33	9.0	6.4	6.8
29	10	13	11	10	-	60	124	21	40	16	6.4	6.5
30	9.1	15	13	11	----------	64	148	19	28	18	6.4	6.2
31	8.8	----------	12	11	----------	79	----------	20	----------	15	6.4	----------
Total	280.7	321.0	384	321	286.7	1,187	2,881	2,399	460.7	380.0	297.5	216.0
Mean	9.05	10.7	12.4	10.4	10.2	38.3	96.0	77.4	15.4	12.3	9.60	7.20
Ac-ft	557	637	762	637	569	2,350	5,710	4,760	914	754	590	428

Calendar year 1965: Max 329 Min 5.9 Mean 41.4 Ac-ft 29,970
Water year 1965-66: Max 156 Min 5.9 Mean 25.8 Ac-ft 18,670

Peak discharge (base, 100 cfs).--May 5 (0100) 234 cfs (4.75 ft).

8-3240. Jemez River near Jemez, N. Mex.

Location.--Lat 35°39'45", long 106°44'30", in NW¼ sec.33, T.17 N., R.2 E. (projected), in Canyon de San Diego Grant, on left bank 0.7 mile downstream from Rio Guadalupe and 3½ miles north of Jemez, Sandoval County.

Drainage area.--470 sq mi.

Records available.--June 1936 to May 1941 (published as Jemez Creek near Jemez), August 1949 to October 1950, May 1951 to September 1952 (irrigation seasons only), March 1953 to September 1954, May 1955 to September 1957 (irrigation seasons only), May 1958 to September 1966.

Gage.--Digital water-stage recorder and crest-stage gage. Datum of gage is 5,622.3 ft above mean sea level, datum of 1929. June 22, 1936, to Mar. 11, 1937, at site 60 ft upstream at datum 0.50 ft higher. Mar. 12, 1937, to July 8, 1938, at present site at datum 0.70 ft higher. July 9, 1938, to May 6, 1941, at site 60 ft upstream at datum 0.70 ft higher. Prior to Mar. 22, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--18 years (1936-40, 1949-50, 1953-66), 64.9 cfs (46,990 acre-ft per year).

Extremes.--Maximum discharge during year, 770 cfs Apr. 2 (gage height, 5.80 ft); minimum, 7.6 cfs Mar. 4.
1936-41, 1949-66: Maximum discharge recorded, 5,600 cfs Aug. 1, 1964 (gage height, 8.10 ft, from floodmarks); minimum, 5.5 cfs Jan. 2, 1961.
Maximum flood known since at least 1890 occurred between May 6 and 15, 1941, after gage was destroyed (discharge probably exceeded 6,000 cfs), from information by local residents. A peak of 5,900 cfs occurred Apr. 21, 1958 (gage height, 8.2 ft), from rating curve extended above 2,200 cfs on basis of contracted-opening measurement.

Remarks.--Records good. Diversions for irrigation of about 300 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	27	36	28	30	29	435	141	40	52	89	16
2	18	26	36	26	28	34	450	147	42	42	72	15
3	20	26	32	24	25	25	324	162	37	28	86	17
4	17	26	32	24	25	25	215	165	29	23	52	17
5	18	27	32	24	25	28	167	162	26	22	31	16
6	17	25	32	28	25	30	158	160	24	21	25	19
7	17	26	28	32	30	29	156	156	21	19	22	23
8	17	26	33	32	33	33	158	149	20	18	25	23
9	17	27	35	33	30	38	162	141	24	18	20	20
10	17	28	78	28	28	44	169	147	46	18	20	20
11	17	28	78	29	25	49	171	120	46	19	18	20
12	17	28	56	28	26	53	156	108	35	24	17	22
13	17	28	42	26	28	60	147	97	27	24	16	20
14	17	27	39	26	29	74	137	88	23	33	20	19
15	18	27	42	28	31	93	137	83	22	28	21	28
16	18	27	28	27	28	108	141	81	23	24	20	30
17	40	27	28	27	31	123	156	81	21	22	24	23
18	47	27	33	24	31	120	162	78	20	27	33	20
19	39	28	25	30	30	128	145	72	20	38	23	18
20	37	28	33	29	31	145	129	68	27	41	20	18
21	37	28	30	28	30	163	122	62	49	30	15	19
22	35	28	34	24	31	168	114	63	41	25	14	18
23	32	34	41	24	28	152	103	59	29	19	16	18
24	30	60	39	24	29	169	102	54	23	21	38	20
25	30	60	33	24	33	167	96	51	20	19	30	20
26	30	70	32	24	31	193	97	45	30	19	23	19
27	30	40	33	24	31	239	116	44	54	19	19	21
28	30	40	32	28	30	296	123	41	61	19	16	21
29	27	36	34	28	-	272	143	36	73	23	15	18
30	25	36	38	30	----------	334	167	33	53	46	15	15
31	27	----------	41	31	----------	412	----------	36	----------	39	15	----------
Total	775	971	1,165	842	812	3,833	5,058	2,930	1,006	820	870	593
Mean	25.0	32.4	37.6	27.2	29.0	124	169	94.5	33.5	26.5	28.1	19.8
Ac-ft	1,540	1,930	2,310	1,670	1,610	7,600	10,030	5,810	2,000	1,630	1,730	1,180

Calendar year 1965: Max 400 Min 16 Mean 68.0 Ac-ft 49,240
Water year 1965-66: Max 450 Min 14 Mean 53.9 Ac-ft 39,040

Peak discharge (base, 700 cfs, revised).--Apr. 2 (0600) 770 cfs (5.80 ft).

8-3285. Jemez Canyon Reservoir near Bernalillo, N. Mex.

Location.--Lat 35°23'40", long 106°32'45", in SW¼SW¼ sec.32, T.14 N., R.4 E., at corner of outlet works control tower of Jemez Canyon Dam, about 2½ miles upstream from mouth and 6 miles north of Bernalillo, N. Mex.

Drainage area.--1,034 sq mi.

Records available.--October 1953 to September 1966.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 1,576 acre-ft Aug. 1 (elevation, 5,152.4 ft); no contents for most of year.
1953-66: Maximum contents, 71,220 acre-ft June 8, 1958 (elevation, 5,213.36 ft); no storage for most of time.

Remarks.--Reservoir is formed by earth-fill dam, completed Oct. 19, 1953. Capacity, 183,200 acre-ft (from capacity table adopted July 1, 1963) between elevations 5,125.0 (sill of outlet gates) and 5,252.3 ft (operating deck of spillway). Maximum controlled capacity, 114,000 acre-ft at elevation 5,232.3 ft (floor of spillway which is located about three-quarters of a mile south of dam; flows directly to Rio Grande). Original plan for reservoir operation was to desilt all flow above 30 cfs by storage for one day before releasing to Rio Grande, and for possible detention during flood stage on Rio Grande.

Cooperation.--Capacity tables and records furnished by Corps of Engineers.

Contents, in acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			0	787	162			1,576	
2			0			0	679	227			967	
3			0			0	469	296			0	
4			0			0	267	298			0	
5			0			0	194	282			0	
6			0			0	236	233			0	
7			0			0	272	229			0	
8			0			0	263	191			0	
9			0			0	267	215			0	
10			46			0	284	249			0	
11			12			0	291	236			0	
12			53			0	287	199			0	
13			28			0	249	176			0	
14			12			0	229	111			0	
15			42			0	238	29			0	
16			99			0	227	74			0	
17			82			0	219	74			0	
18			116			0	288	67			0	
19			70			0	286	67			0	
20			0			0	238	59			0	
21			21			106	201	0			0	
22			70			183	200	0			0	
23			232			231	215	0			0	
24			314			267	207	0			0	
25			337			296	191	0			0	
26			326			436	7	0			0	
27			314			47	0	0			0	
28			302			661	12	0			0	
29			0		-	714	23	0			0	
30			0			778	126	0			0	
31			0			845		0				
(†)	0	0	0	0	0	5,149.2	5,143.4	0	0	0	0	0
(‡)	0	0	0	0	0	+845	-719	-126	0	0	0	0

Calendar year 1965: (‡) 0
Water year 1965-66: (‡) 0

† Elevations, in feet, at midnight on last day of month.
‡ Change in contents (some months have storage as shown in daily table).

8-3290. Jemez River below Jemez Canyon Dam, N. Mex.

Location.--Lat 35°23'10", long 106°31'45", in NE¼ sec.5, T.13 N., R.4 E., on right bank three-quarters of a mile downstream from Jemez Canyon Dam, 1½ miles upstream from mouth, and 6 miles north of Bernalillo.

Drainage area.--1,040 sq mi.

Records available.--March 1936 to January 1938, March 1943 to September 1966. Published as "Jemez Creek" prior to 1948, and as "near Bernalillo" prior to 1954.

Gage.--Digital water-stage recorder. Datum of gage is 5,095.60 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark). Prior to Apr. 24, 1951, at site three-quarters of a mile upstream at datum 24.51 ft higher. Apr. 24, 1951, to June 25, 1958, at site 37 ft upstream at datum 4.40 ft above present datum. Supplementary water-stage recorder at gates on Jemez Canyon Dam at datum 5,125.00 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark) used at times since January 1953. Prior to Sept. 9, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--24 years (1936-37, 1943-66), 49.9 cfs (36,130 acre-ft per year).

Extremes.--Maximum discharge during year, about 1,800 cfs Aug. 2 (gage height, 8.40 ft); no flow for many days.
1936-38, 1943-66: Maximum discharge, 16,300 cfs Aug. 29, 1943 (gage height, 5.62 ft, site and datum then in use), from rating curve extended above 3,000 cfs by logarithmic plotting; no flow for many days most years.
A flood in 1900 was probably less than 16,000 cfs, but highest known outside period of record.

Remarks.--Records poor. Subsequent to October 1953, flow at this station can be completely regulated by Jemez Canyon Reservoir (see station 8-3285). However, reservoir is designed essentially for desilting and flood control rather than storage. Diversions for irrigation of about 3,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	14	29	25	19	22	456	108	3.3	23	3.3	0
2	0	14	20	16	19	22	456	80	3.4	19	828	0
3	0	15	19	10	22	15	444	87	2.4	11	558	0
4	0	12	20	14	22	15	338	120	0	5.4	146	0
5	0	10	24	12	20	20	183	136	0	.2	25	0
6	0	14	34	37	28	20	108	136	0	0	20	0
7	0	12	34	43	34	25	101	134	0	0	15	.1
8	0	13	24	24	43	27	142	132	0	0	15	.4
9	0	12	26	28	24	28	146	97	0	0	10	.5
10	0	15	94	26	25	40	142	92	1.0	0	14	0
11	0	14	76	27	23	38	144	106	34	1	17	0
12	0	11	46	25	19	37	142	106	10	1	12	0
13	0	12	38	20	26	38	140	88	2	.8	11	0
14	0	14	31	20	24	42	128	75	0	1.0	5	.1
15	0	14	17	23	26	65	108	67	0	0	5	1.2
16	0	14	25	24	16	94	102	34	0	0	3.2	.6
17	6.4	16	34	27	22	97	102	32	0	0	4.8	.4
18	44	15	28	25	23	114	101	30	0	.1	5.6	.1
19	27	12	24	46	29	122	122	25	0	0	6.4	0
20	19	15	20	34	32	158	136	33	.1	2.6	2	0
21	20	18	10	19	30	140	113	24	6.0	2.4	1	0
22	22	28	15	25	35	140	93	19	4.6	1.0	0	0
23	27	42	20	25	31	158	74	20	2.4	.9	0	0
24	30	37	18	25	26	164	74	18	.9	10	0	0
25	20	44	24	20	34	158	70	19	.6	1.7	.6	0
26	23	31	21	20	26	160	94	16	.4	1	.9	0
27	30	36	20	20	25	186	54	14	31	0	.5	0
28	18	28	17	15	21	204	72	11	80	0	0	1.2
29	17	19	81	15	-	250	91	5.9	29	0	0	.2
30	19	22	42	30	----------	269	101	3.3	26	0	0	0
31	18	----------	42	20	----------	361	----------	3.6	----------	0	.1	----------
Total	340.4	573	973	740	724	3,229	4,577	1,871.8	237.1	82.1	1,709.4	4.8
Mean	11.0	19.1	31.4	23.9	25.9	104	153	60.4	7.90	2.65	55.1	0.16
Ac-ft	675	1,140	1,930	1,470	1,440	6,400	9,080	3,710	470	163	3,390	9.5

Calendar year 1965: Max 360 Min 0 Mean 56.1 Ac-ft 40,610
Water year 1965-66: Max 828 Min 0 Mean 41.3 Ac-ft 29,870

8-3291. Bernalillo floodwater retarding reservoir No. 1 (Piedra Lisa Arroyo), near Bernalillo, N. Mex.

Location.--Lat 35°18'50", long 106°31'45", in NW¼ sec.33, T.13 N., R.4 E. (projected), in Bernalillo Grant, in reservoir 0.3 mile east of intersection of State Highways 44 and 422 and 1½ miles northeast of Bernalillo.

Drainage area.--4.1 sq mi, of which 2.0 sq mi has contouring, pitting and small dams to reduce runoff.

Records available.--September 1955 to September 1966.

Gage.--Water-stage recorder adjacent to outlet tower with fixed ports. Datum of gage is 5,169.98 ft above mean sea level (levels by Soil Conservation Service). Since July 21, 1958, supplementary outflow gage 390 ft below toe of dam, water-stage recorder and Parshall flume.

Average outflow.--11 years, 0.011 cfs (8.0 acre-ft per year).

Extremes.--Maximum outflow during year, 12.2 cfs Aug. 2; no inflow or outflow except that of July 16 and Aug. 2.
1955-66: Maximum outflow, 55 cfs July 19, 1956 (gage height, 11.23 ft). Maximum inflow, 2,330 cfs, July 19, 1956 (average for 5-minute interval), computed from outflow and change in reservoir contents. No inflow or outflow for most of time.

Remarks.--Records poor. Records of suspended sediment loads for the water year 1966 are published in part 2 of this report.

Reservoir is formed by earth-fill dam, completed in 1955. Capacity, 300 acre-ft (original survey, no dead storage). Gage height of spillway crest is 27 ft, crest of dam is 35 ft. Outlet tower has an inside opening 3 ft square and outlet pipe through dam is 2 ft in diameter. A total of 9 port openings are spaced at 5-ft vertical intervals on upstream and sides of tower. They are 2 ft wide by 1 ft high; sill of lowest upstream port is at gage-height 4.8 ft (modified in 1963) and lowest side ports at gage-heights 6.3 ft.

Outflow during water year October 1965 to September 1966, supplementary gage

Flow event	Date	Outflow (hours)	Maximum (cfs)	cfs-days	Runoff (acre-ft)
18	July 16	1.3	2.9	0.09	0.18
19	Aug. 2	4.2	12.2	1.34	2.66
Totals		5.5	-	1.43	2.84

8-3295. Rio Grande near Bernalillo, N. Mex.

Location.--Lat 35°17'05", long 106°35'45", in SE¼NW¼ sec.11, T.12 N., R.3 E. (projected), on right bank 2 miles northwest of Sandia Pueblo, 3 miles southwest of Bernalillo, 3.5 miles downstream from State Highway 44, and 8.5 miles downstream from Jemez River.

Drainage area.--17,300 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--May 1941 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Datum of gage is 5,030.57 ft above mean sea level, datum of 1929, adjustment of 1951. Supplemental water-stage recorder at a site 1,900 ft downstream used alternately 1953-58, 1961, 1964, 1966 at the same datum 1953-55, variable 1956-58 and 1.26 ft lower than primary gage in 1961.

Average discharge.--25 years, 1,083 cfs (784,100 acre-ft per year).

Extremes.--Maximum discharge during year, 7,300 cfs Aug. 2 (gage height, 5.04 ft); no flow for many days.
1941-66: Maximum discharge, 25,400 cfs May 16, 1941; maximum gage height, 6.83 ft Sept. 20, 1941; no flow at times.
Other major floods occurred as follows (based primarily on records for station at San Felipe); Sept. 23, 1929, about 23,000 cfs; Aug. 21, 1935, about 22,000 cfs; June 26, 1937, about 27,000 cfs.

Remarks.--Records fair except those for December, January and March to May, which are poor. Diversions above station for irrigation of about 710,000 acres, some of which is below station. Possible regulation by operation of two reservoirs on Rio Chama and flood-and-silt detention reservoir on Jemez River (see station 8-3285). Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	616	648	1,800	1,450	935	708	2,470	1,950	1,640	242	27	0
2	852	624	1,800	1,310	905	587	2,670	1,780	2,100	142	3,180	0
3	910	1,480	1,820	1,110	860	699	2,860	1,800	2,160	96	1,380	0
4	922	1,640	1,860	970	815	680	2,760	1,980	2,160	51	932	0
5	766	1,820	1,860	935	845	670	2,710	2,360	2,420	20	947	0
6	766	1,750	1,920	1,030	935	670	2,660	2,520	2,210	0	1,100	0
7	680	1,800	1,990	1,040	985	680	2,250	2,520	1,820	4.0	1,140	0
8	530	1,680	1,990	990	1,070	767	2,250	2,520	1,640	0	690	0
9	430	1,620	1,990	1,010	972	906	2,290	2,520	1,060	6.0	360	0
10	403	1,780	2,020	1,040	897	1,110	2,340	2,730	918	6.0	462	0
11	470	1,920	2,200	1,040	960	1,320	2,330	3,040	1,240	0	376	0
12	357	1,850	2,130	1,000	885	1,520	2,270	3,080	960	0	302	0
13	365	1,820	2,110	960	885	1,720	2,220	3,060	660	2.0	250	0
14	345	1,620	2,010	980	910	1,980	2,120	2,760	454	1.0	266	0
15	329	1,620	1,960	990	898	1,980	2,120	2,630	355	6.0	192	4.0
16	321	1,720	1,920	1,000	922	2,280	2,130	2,370	278	0	116	0
17	512	1,660	1,910	1,000	910	2,280	2,130	2,380	284	12	141	0
18	960	1,550	1,820	990	972	2,540	2,140	2,230	272	8.1	85	0
19	513	1,510	1,810	940	935	2,580	2,010	2,020	272	0	64	0
20	430	1,720	1,760	900	910	2,440	1,900	1,950	260	32	42	0
21	530	1,780	1,800	900	922	2,320	1,950	1,850	272	12	90	0
22	640	1,620	1,910	890	910	2,310	1,980	1,830	250	6.5	224	0
23	656	1,780	1,980	860	922	2,250	1,750	1,790	220	46	68	0
24	708	1,820	2,110	840	898	2,200	1,850	1,810	153	206	104	0
25	656	1,920	2,060	780	885	1,980	1,780	1,800	113	42	222	0
26	554	1,980	1,960	780	874	1,590	1,780	1,830	113	14	201	0
27	530	1,960	1,890	760	874	1,590	1,980	1,940	224	5.0	200	0
28	524	1,900	1,890	760	852	1,590	2,250	2,070	833	13	60	1.1
29	496	1,800	1,890	720	-	1,790	1,950	2,070	422	102	0	4.5
30	530	1,800	1,870	750	-------	2,010	1,820	1,980	255	64	0	0
31	648	------	1,500	830	------	2,270	------	1,600	------	56	0	------
Total	17,949	50,192	59,540	29,555	25,543	50,017	65,720	68,770	26,018	1,194.6	13,221	9.6
Mean	579	1,673	1,921	953	912	1,613	2,191	2,218	867	38.5	426	0.32
Ac-ft	35,600	99,550	118,100	58,620	50,660	99,210	130,400	136,400	51,610	2,370	26,220	19

Calendar year 1965: Max 6,200 Min 45 Mean 1,637 Ac-ft 1,185,000
Water year 1965-66: Max 3,180 Min 0 Mean 1,117 Ac-ft 808,700

Peak discharge (base, 2,500 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
5-12	0130	4.45	3,500	8-2	1330	5.04	7,300
6-28	0330	4.32	3,880				

8-3300. Rio Grande at Albuquerque, N. Mex.

Location.--Lat 35°05'20", long 106°40'50", in SE¼ sec.13, T.10 N., R.2 E. (projected), in Atrisco Grant at downstream side of Old Town bridge on U.S. Highway 66 at Albuquerque.

Drainage area.--17,440 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--October 1941 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Digital water-stage recorder. Datum of gages is 4,946.16 ft above mean sea level, datum of 1929. Prior to Sept. 18, 1947, at various sites at datum about 2.00 ft higher; Sept. 18, 1947, to Apr. 12, 1959, at site 550 ft to the left of present site; Apr. 13, 1959, to June 29, 1960, at site 150 ft to the right of present site. Supplemental water-stage recorders at sites 75 & 150 ft to right of present site used at various times since 1964. Prior to Sept. 6, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--25 years, 1,077 cfs (779,700 acre-ft per year).

Extremes.--Maximum discharge during year, 6,650 cfs Aug. 2 (gage height, 6.40 ft); no flow at times.
1941-66: Maximum discharge, 25,000 cfs Apr. 24, 1942, from rating curve extended above 13,900 cfs by logarithmic plotting; maximum gage height, 7.18 ft June 19, 1965; no flow at times.

Remarks.--Records good except for Aug. 2, which is poor. Possible regulation by operation of reservoirs on Rio Chama and by flood-and-silt-detention reservoir on Jemez River (see stations 8-2850, 8-2869, 8-3285). Diversions above station for irrigation of about 718,000 acres, several hundred of which are below station.

Cooperation.--Records for Albuquerque Riverside drain and Arenal, Armijo, and Atrisco canals furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	646	660	1,800	1,380	838	910	2,080	1,900	1,780	365	21	10
2	812	689	1,780	1,230	886	814	2,400	2,040	1,960	414	2,080	5.0
3	970	1,550	1,810	1,180	814	854	2,500	1,860	2,040	320	1,580	5.0
4	1,060	2,000	1,860	1,180	854	854	2,700	2,120	2,070	250	782	5.0
5	1,000	1,940	1,810	1,130	854	686	2,650	2,420	2,130	150	670	5.0
6	940	1,880	1,940	1,070	910	694	2,600	2,400	1,940	100	830	5.7
7	910	1,880	2,020	1,100	955	670	2,240	2,420	1,630	62	750	3.9
8	830	1,860	2,180	1,070	955	766	2,220	2,360	973	51	614	2.5
9	684	1,760	2,260	1,100	1,010	830	2,200	2,360	798	38	385	8.7
10	584	1,870	2,420	1,130	964	928	2,200	2,630	710	34	315	5.0
11	566	2,100	2,420	1,140	878	1,290	2,240	2,920	766	26	345	6.4
12	520	1,920	2,220	1,100	838	1,520	2,240	3,050	806	20	257	2.5
13	440	2,020	2,240	1,070	846	1,710	2,160	2,930	558	10	199	2.0
14	426	1,900	2,240	1,100	937	1,810	2,000	2,650	400	6.4	178	2.8
15	394	1,840	2,040	1,090	946	2,080	2,080	2,420	320	7.9	152	183
16	414	1,860	1,940	1,100	928	2,260	2,080	2,260	280	5.0	91	20
17	548	1,870	2,000	1,110	878	2,260	2,040	2,240	206	7.2	72	34
18	900	1,700	1,920	1,080	902	2,240	2,060	2,060	288	5.7	72	41
19	740	1,630	2,000	1,040	894	2,480	2,120	1,740	229	3.3	44	31
20	632	1,750	1,920	1,020	928	2,360	2,040	1,760	257	4.4	34	.50
21	653	1,810	1,940	940	902	2,280	2,140	1,740	257	16	21	3.0
22	756	1,820	2,140	900	894	2,280	2,000	1,690	257	5.0	69	.40
23	804	1,940	2,200	850	878	2,260	1,900	1,580	249	2.5	151	0
24	796	1,940	2,300	800	894	2,200	1,800	1,430	175	515	51	.20
25	700	1,980	2,260	700	870	1,860	1,700	1,440	128	66	175	4.5
26	653	2,040	2,160	700	862	1,700	1,590	1,540	80	23	188	0
27	660	2,140	2,080	750	919	1,440	1,800	1,680	203	12	144	0
28	611	2,080	2,060	798	902	1,350	2,080	1,920	554	2.5	26	0
29	611	2,060	2,040	838	-	1,470	1,740	1,960	613	62	20	0
30	611	1,800	1,960	886	----------	1,920	1,760	1,940	390	48	10	0
31	668	----------	1,700	902	----------	1,870	----------	1,760	----------	49	10	----------
Total	21,539	54,289	63,660	31,484	25,136	48,646	63,360	65,220	23,047	2,680.9	10,336	387.10
Mean	695	1,810	2,054	1,016	898	1,569	2,112	2,104	768	86.5	333	12.9
Ac-ft	42,720	107,700	126,300	62,450	49,860	96,490	125,700	129,400	45,710	5,320	20,500	768
(†)	12,810	1,850	1,380	2,320	3,650	9,180	15,890	17,080	15,590	16,140	20,340	14,010

Calendar year 1965: Max 6,950 Min 50 Mean 1,763 Ac-ft 1,276,000
Water year 1965-66: Max 3,050 Min 0 Mean 1,123 Ac-ft 812,800

Peak discharge (base, 4,000 cfs).--Aug. 2 (1530) 6,650 cfs (6.40 ft).

Note.--Stage-discharge relation indefinite Aug. 2.
(†) Combined flow, in acre-ft, of Albuquerque Riverside drain and Arenal, Armijo, and Atrisco canals. This flow, which bypasses river gage, can be added to river records to get entire surface flow in valley cross-section.

8-3319.9 Rio Grande conveyance channel near Bernardo, N. Mex.

Location.--Lat 34°24'55", long 106°48'10", in E½ sec.11, T.2 N., R.1 E. (projected), in Sevilleta or Belen Grant, 0.2 mile south of U.S. Highway 60, 1.8 miles east of Bernardo, about 3 miles upstream from floodway, and 4 miles upstream from Rio Puerco.

Records available.--June 1936 to September 1937, July 1943 to September 1966. Prior to October 1964 included in composite flow of "Rio Grande near Bernardo". This channel formerly called San Francisco Riverside drain.

Gage.--Water-stage recorder with concrete control. Datum of gage is 4,720.00 ft above mean sea level, datum of 1929, adjustment of 1951. Prior to October 1964, 0.2 mile upstream at various datums.

Average discharge.--14 years (1952-66), 469 cfs (339,500 acre-ft per year).

Extremes.--1952-66: Maximum daily discharge, 2,220 cfs Apr. 22, 1958; no flow at times.
Records prior to October 1952 are not equivalent due to channel stabilization and stable diversion control since this date.

Remarks.--Records excellent. Conveyance channel is 1 of 4 channels (see stations 8-3320.1, 8-3320.3, and 8-3320.5) carrying flow in valley cross-section. Original design and plan was for conveyance channel to carry flows up to about 2,000 cfs. For combined monthly flow in acre-ft of this channel, floodway, Bernardo interior drain and Lower San Juan Riverside drain see tabulation below daily table for station 8-3320.1. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	444	626	1,190	1,230	676	717	1,460	1,250	1,180	480	0	3.9
2	474	675	1,230	1,170	787	752	1,490	1,280	1,130	360	0	3.2
3	552	836	1,230	1,130	808	703	1,550	1,270	1,060	420	928	18
4	724	1,700	1,210	1,110	829	759	1,560	1,250	1,040	375	397	15
5	731	1,720	1,140	1,050	808	787	1,470	1,210	1,040	277	105	.1
6	780	1,730	1,090	976	787	605	1,360	1,220	1,020	146	78	.8
7	696	1,710	1,090	962	815	626	1,300	1,210	963	58	135	0
8	647	1,680	1,230	976	836	570	1,340	1,170	963	12	174	0
9	534	1,500	1,430	828	885	612	1,380	1,140	587	1.3	211	0
10	396	1,440	1,500	955	906	682	1,430	1,130	385	.6	113	0
11	385	1,440	1,500	969	878	758	1,390	1,110	385	.5	116	0
12	313	1,560	1,450	998	822	998	1,390	1,010	326	.4	100	0
13	295	1,540	1,440	948	801	990	1,350	969	440	82	113	0
14	254	1,550	1,360	927	808	1,160	1,290	906	300	.4	95	0
15	250	1,570	1,290	941	843	1,350	1,270	776	182	.3	58	0
16	226	1,560	1,210	899	829	1,430	1,280	721	134	.3	37	0
17	322	1,530	1,130	892	815	1,450	1,240	660	62	.2	23	0
18	450	1,520	1,110	892	787	1,370	1,250	760	40	.3	6.2	0
19	886	1,420	1,050	920	801	1,300	1,310	858	32	.3	.9	0
20	675	1,380	1,140	878	801	1,330	1,470	1,000	30	.3	6.2	0
21	570	1,340	1,390	934	808	1,290	1,400	1,080	14	.3	.7	0
22	534	1,340	1,420	864	822	1,300	1,410	1,080	8.8	.3	0	0
23	598	1,380	1,520	836	843	1,250	1,370	1,130	2.5	0	0	0
24	675	1,290	1,550	882	857	1,190	1,420	1,100	1.9	0	0	0
25	682	1,180	1,550	787	899	1,200	1,350	1,050	1.6	0	3.1	0
26	654	1,140	1,550	582	885	1,170	1,250	1,040	1.3	0	3.2	0
27	558	1,090	1,480	304	878	1,070	1,140	1,150	1.1	0	.1	0
28	498	990	1,470	464	878	1,030	1,220	1,250	.9	0	.2	0
29	480	1,110	1,550	577	-	1,010	1,260	1,310	169	0	3.5	0
30	522	1,230	1,530	570	----------	1,110	1,210	1,280	610	0	0	0
31	540	----------	1,370	520	----------	1,290	----------	1,260	----------	0	0	----------
Total	16,345	40,777	41,400	26,971	23,192	31,859	40,610	33,630	12,110.1	2,215.5	2,707.1	41.0
Mean	527	1,359	1,335	870	828	1,028	1,354	1,085	404	71.5	87.3	1.37
Ac-ft	32,420	80,880	82,120	53,500	46,000	63,190	80,550	66,700	24,020	4,390	5,370	81

Calendar year 1965: Max 1,730 Min 17 Mean 794 Ac-ft 575,100
Water year 1965-66: Max 1,730 Min 0 Mean 745 Ac-ft 539,200

8-3320.1 Rio Grande floodway near Bernardo, N. Mex.

Location.--Lat 34°25'03", long 106°48'00", in Belen or Sevilleta Grant on downstream side of bridge on U.S. Highway 60, 5 miles downstream from heading of conveyance channel and 2 miles east of Bernardo, Socorro County.

Drainage area.--19,230 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--June 1936 to January 1939, October 1941 to September 1966. Monthly discharge only October 1942 to June 1943 published in WSP 1312. Published as "Rio Grande near Bernardo" prior to October 1964. Prior to October 1952, flow of Bernardo interior drain was included only when it carried river overflow, the entire flow has been included from October 1952 to September 1964. Flow in the conveyance channel, formerly San Francisco Riverside drain, has been included in record prior to October 1964.

Gage.--Water-stage recorder. Datum of gage is 4,722.55 ft above mean sea level, datum of 1929, adjustment of 1951.

Average discharge.--19 years (1936-38, 1941-58) 1,142 cfs (826,800 acre-ft per year). Includes flow of floodway, conveyance channel, and Bernardo interior drain.
8 years (1958-66) 233 cfs (168,700 acre-ft per year). Floodway only.
8 years (1958-66) 805 cfs (582,800 acre-ft per year). Includes flow of floodway, conveyance channel, Bernardo interior drain, and Lower San Juan Riverside drain.

Extremes.--Maximum discharge during year, 1,780 cfs May 13 (gage height, 5.67 ft); no flow for extended periods.
1936-39, 1941-66: Maximum discharge, 21,000 cfs April 25, 1942 (gage height, 6.90 ft); no flow for many days most years.

Remarks.--Records fair. Floodway is 1 of 4 channels (see stations 8-3319.9, 8-3320.3 and 8-3320.5) carrying flow in valley cross-section. For combined monthly flow in acre-ft of floodway, conveyance channel, Bernardo interior drain and Lower San Juan Riverside drain see tabulation below. Normal plan is for floodway to carry flow when capacity of conveyance channel (about 2,000 cfs) is exceeded. Diversions for irrigation of about 740,000 acres above station. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	437	250	195	0	298	367	184		0	
2		0	386	96	16	0	577	354	173		0	
3		0	530	55	18	19	634	331	198		49	
4		107	620	9	17	1	756	263	194		7	
5		164	760	2	21	4	718	382	280		0	
6		120	862	0	19	0	684	533	328		0	
7		110	848	0	24	0	646	522	207		0	
8		117	791	0	26	0	437	745	133		0	
9		132	473	0	37	0	286	884	18		6	
10		152	570	0	50	0	396	902	0		6	
11		182	748	0	55	5	376	1,130	0		0	
12		277	660	0	34	382	544	1,310	0		0	
13		201	610	3	25	493	410	1,600	0		0	
14		238	760	26	23	514	236	1,200	0		0	
15		236	960	16	21	368	202	902	0		0	
16		117	834	19	23	419	220	860	0		0	
17		196	932	24	26	588	158	718	0		0	
18		164	736	25	24	769	236	511	0		0	
19		187	760	23	9	602	298	419	0		0	
20		221	644	14	11	566	189	176	0		0	
21		394	291	32	13	622	194	184	0		0	
22		520	291	31	17	566	126	143	0		0	
23		370	446	22	17	577	147	212	0		0	
24		510	491	14	18	718	90	169	0		0	
25		660	550	0	19	670	151	85	0		0	
26		784	540	194	9	480	66	42	0		0	
27		932	500	510	7	275	5	121	0		0	
28		1,140	446	356	4	172	39	154	0		0	
29		914	324	221	-	86	290	256	0		0	
30		660	350	304	----------	399	236	292	0		0	
31		----------	450	278	----------	594	----------	225	----------		0	----------
Total	0	9,805	18,600	2,524	778	9,889	9,645	15,992	1,715	0	68	0
Mean	0	327	600	81.4	27.8	319	322	516	57.2	0	2.19	0
Ac-ft	0	19,450	36,890	5,010	1,540	19,610	19,130	31,720	3,400	0	135	0
(†)	43,330	106,200	124,900	63,770	52,270	92,920	111,100	109,800	36,050	12,320	15,770	6,740

Calendar year 1965: Max 4,100 Min 0 Mean 669 Ac-ft 484,100 (†) Mean 1,600 Ac-ft 1,162,000
Water year 1965-66: Max 1,600 Min 0 Mean 189 Ac-ft 136,900 (†) Mean 1,071 Ac-ft 775,200

† Combined flow, in acre-ft and mean, in cfs, of floodway, conveyance channel, Bernardo interior drain, and Lower San Juan Riverside drain. Composite records good.

8-3320.3 Lower San Juan Riverside drain near Bernardo, N. Mex.

Location.--Lat 34°24'50", long 106°47'40", in SE¼NW¼ sec.12, T.2 N., R.1 E., on right bank, 1,400 feet downstream from bridge on U.S. Highway 60 and 2.5 miles east of Bernardo, Socorro County.

Records available.--August 1954 to September 1966. Monthly discharge only August 1955 to September 1960 published in WSP 1732. Daily records since July 1958 in files of Bureau of Reclamation.

Gage.--Water-stage recorder. Datum of gage is 4,722.35 ft above mean sea level, datum of 1929, adjustment of 1951.

Extremes.--1954-66: Maximum daily discharge, 200 cfs May 22, 1961; no flow for several days during 1963.

Remarks.--This drain is one of four channels (see stations 8-3319.9, 8-3320.1 and 8-3320.5) carrying flow in valley cross-section. For combined monthly flow in acre-ft of this drain, conveyance channel, floodway, and Bernardo interior drain see tabulation below daily table for station 8-3320.1.

Cooperation.--Since July 1958 records for this station or La Joya Eastside drain (records equivalent) furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	158	78	61	56	54	89	118	146	150	77	94	91
2	151	74	60	55	53	109	99	116	149	116	106	103
3	117	67	61	55	53	126	124	133	161	116	96	100
4	104	62	62	55	53	112	126	128	118	100	102	87
5	133	59	62	54	53	99	116	160	154	106	105	125
6	112	56	61	54	54	103	147	139	130	105	110	98
7	82	54	62	53	53	106	150	143	104	120	131	85
8	116	52	61	54	54	116	170	106	86	122	102	74
9	131	52	62	54	54	117	146	136	88	114	116	60
10	136	53	62	53	55	114	142	161	85	115	140	63
11	135	55	62	52	56	119	154	137	102	97	100	63
12	130	56	63	52	56	123	141	153	89	95	139	60
13	141	56	62	53	56	71	120	154	108	64	143	55
14	150	58	62	53	56	106	136	148	114	61	108	55
15	159	58	64	53	56	96	151	170	121	57	120	53
16	154	58	62	52	55	96	129	159	135	60	104	60
17	97	58	63	52	55	102	119	145	114	59	133	53
18	82	58	62	53	54	120	129	132	105	84	117	59
19	76	58	62	52	54	128	155	141	119	67	115	53
20	55	58	62	52	53	130	168	174	87	76	94	62
21	63	58	61	52	53	116	163	128	67	71	99	56
22	75	58	60	53	53	114	148	113	80	70	106	69
23	97	58	59	52	53	138	133	112	52	48	93	51
24	117	58	59	52	53	145	143	104	62	64	114	54
25	107	60	59	52	53	148	144	125	64	50	100	62
26	85	60	59	51	52	151	159	119	80	47	67	65
27	87	60	58	52	51	148	145	108	99	46	70	57
28	106	61	58	53	51	141	141	121	78	49	79	47
29	119	62	57	53	-	120	93	139	118	57	102	40
30	75	62	57	53	----------	105	143	146	88	60	83	45
31	69	----------	56	53	----------	109	----------	143	----------	70	66	----------
Total	3,419	1,777	1,881	1,643	1,506	3,617	4,152	4,239	3,107	2,443	3,254	2,005
Mean	110	59.2	60.7	53.0	53.8	117	138	137	104	78.8	105	66.8
Ac-ft	6,780	3,520	3,730	3,260	2,990	7,170	8,240	8,410	6,160	4,850	6,450	3,980

Calendar year 1965: Max 178 Min 26 Mean 93.4 Ac-ft 67,580
Water year 1965-66: Max 170 Min 51 Mean 90.5 Ac-ft 65,540

8-3320.5 Bernardo interior drain near Bernardo, N. Mex.

Location.--Lat 34°24'55", long 106°49'15", in NE¼ sec.10, T.2 N., R.1 E. (projected), on downstream side of bridge on U.S. Highway 60 and 1.0 mile east of Bernardo.

Records available.--June 1936 to May 1937, October 1943 to September 1964, included in composite flow "Rio Grande near Bernardo", October 1964 to September 1966. Monthly discharge only 1936-37 (WSP 828).

Gage.--Digital water-stage recorder. Datum of gage is 4,713.99 ft above mean sea level, datum of 1929, adjustment of 1951. June 4, 1936, to May 17, 1937, staff gage 150 ft downstream at datum 2.77 ft higher. Prior to Nov. 4, 1965, graphic water-stage recorder at same site and datum.

Extremes.--1952-66: Maximum daily discharge, 140 cfs May 2, 1963; no flow at times.
Prior to October 1952, drain was subject to overflow from floodway.

Remarks.--Records good. This drain is 1 of 4 channels (see stations 8-3319.9, 8-3320.1, and 8-3320.3) carrying flow in valley cross-section. For combined monthly flow in acre-ft of this drain, conveyance channel, floodway, and Lower San Juan Riverside drain see tabulation below daily table for station 8-3320.1. Records of chemical analyses, suspended sediment loads, and water temperatures for water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	75	37	36	32	30	63	58	52	78	38	64
2	56	51	37	35	31	34	56	53	51	93	37	81
3	56	39	36	34	31	30	66	56	34	94	43	64
4	68	38	35	34	32	28	84	61	39	90	48	58
5	62	38	35	33	31	31	78	47	37	79	50	74
6	62	37	35	33	31	40	61	52	46	95	66	56
7	53	37	35	33	32	35	61	50	44	91	72	59
8	58	37	35	33	33	33	39	52	29	81	67	56
9	63	37	35	32	32	35	69	42	27	66	69	50
10	60	36	36	32	32	35	78	42	27	56	58	45
11	63	36	36	32	32	42	57	38	25	50	60	56
12	64	37	36	32	32	49	41	48	31	42	90	53
13	71	36	36	32	32	35	38	38	31	37	95	35
14	78	36	36	32	31	33	38	33	33	34	75	34
15	76	36	36	32	31	36	48	42	23	31	90	39
16	81	35	36	32	31	49	54	45	16	31	79	40
17	76	35	36	32	31	53	48	41	15	37	68	38
18	67	36	35	32	31	63	47	37	19	33	66	44
19	65	37	35	32	31	65	46	53	19	30	75	38
20	62	37	36	32	31	55	37	55	30	32	60	35
21	70	37	36	33	31	45	44	48	49	38	77	41
22	78	37	36	33	30	57	39	46	59	36	64	42
23	74	37	36	33	31	53	48	58	54	34	50	43
24	71	37	35	32	31	63	48	48	50	36	52	32
25	70	38	36	32	31	71	53	46	53	31	62	33
26	60	38	36	32	31	64	58	50	55	25	44	27
27	71	38	36	32	31	61	58	50	51	27	59	31
28	77	38	36	32	30	73	56	44	56	31	61	28
29	77	38	36	32	-	52	50	54	88	31	65	27
30	70	38	36	32	----------	68	54	62	104	41	39	29
31	72	----------	36	32	----------	70	----------	57	----------	41	44	----------
Total	2,081	1,162	1,109	1,010	876	1,488	1,617	1,506	1,247	1,551	1,923	1,352
Mean	67.1	38.7	35.8	32.6	31.3	48.0	53.9	48.6	41.6	50.0	62.0	45.1
Ac-ft	4,130	2,300	2,200	2,000	1,740	2,950	3,210	2,990	2,470	3,080	3,810	2,680

Calendar year 1965 : Max 105 Min 23 Mean 48.1 Ac-ft 34,840
Water year 1965-66 : Max 104 Min 15 Mean 46.4 Ac-ft 33,560

8-3340. Rio Puerco above Arroyo Chico, near Guadalupe, N. Mex.

Location.--Lat 35°36'05", long 107°09'55", in SW¼ sec.21, T.16 N., R.3 W., on right bank 1.6 miles upstream from Arroyo Chico and 5½ miles northeast of village of Guadalupe, Sandoval County.

Drainage area.--420 sq mi, approximately.

Records available.--July 1951 to September 1966. Published as "Rio Puerco above Chico Arroyo, near Guadalupe" 1951-64.

Gage.--Digital water-stage recorder. Datum of gage is 5,950 ft above mean sea level, datum of 1929. Prior to Sept. 24, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--15 years, 13.0 cfs (9,410 acre-ft per year).

Extremes.--Maximum discharge during year, 3,380 cfs Aug. 1 (gage height, 9.13 ft); no flow for many days.
1951-66: Maximum discharge, 4,540 cfs Aug. 18, 1961, from rating curve extended above 1,300 cfs on basis of slope-area measurements at gage heights 7.75 and 10.60 ft; maximum gage height, 13.2 ft Aug. 12, 1952; no flow for many days in each year.
Flood of June 29, 1943, probably exceeded 5,000 cfs (based on records for stations above and below).

Remarks.--Records poor. Diversions for irrigation of about 3,700 acres above station in past years, but present diversion negligible.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.02	0	1.0	0.30	0	15	3.9	32	0.02	161	506	0.05
2	.02	0	.50	.30	0	5.0	6.3	23	.02	14	235	.01
3	.01	0	.28	.60	.01	4.0	13	32	0	1.0	50	0
4	.01	0	.12	.50	.02	3.0	20	41	0	.50	10	0
5	0	0	.10	.62	.05	2.0	18	40	0	.10	4.6	0
6	0	0	.15	1.2	.10	5.0	18	39	0	.05	1.8	35
7	0	0	.10	1.5	.20	28	18	35	0	.05	1.0	5.0
8	0	0	.06	1.5	.30	165	16	29	0	.02	.50	1.0
9	0	0	.06	2.0	.30	203	16	25	13	.01	.10	.50
10	0	0	13	.80	.30	232	19	24	104	0	10	.30
11	0	0	25	.50	.30	181	20	28	20	0	1.2	.10
12	0	0	12	.60	.20	110	21	22	5.0	0	.23	0
13	0	0	3.0	.82	.20	63	20	19	1.0	0	.12	0
14	0	0	.50	1.2	.20	38	20	15	.50	.02	.08	15
15	0	0	.20	.82	.20	24	19	10	.20	.05	14	15
16	.06	0	.10	.80	.20	20	20	5.0	.10	.02	4.0	2.0
17	.08	0	.10	.80	.20	18	20	3.6	.10	.03	110	.50
18	.05	0	.10	.72	.96	16	26	1.0	.02	.05	101	.20
19	5.0	0	.10	.80	5.9	12	27	.60	.01	.06	15	.05
20	3.3	0	.20	.80	6.3	15	20	.20	0	5.9	25	.01
21	1.4	0	.40	.60	6.8	12	17	.03	0	1.1	5.0	.01
22	.50	0	.20	.47	7.2	8.6	17	.02	0	.06	2.0	.01
23	.20	.07	.10	.72	45	2.4	16	.01	0	.07	60	.01
24	.05	.05	.10	.80	24	3.6	13	.01	0	.05	8.0	0
25	0	.05	.20	.80	24	5.4	14	0	0	.03	4.0	0
26	0	5.1	.30	.60	32	5.4	11	.01	2.6	5.1	1.4	0
27	0	8.6	.30	.20	29	3.6	8.6	.02	5.9	.02	.54	.82
28	0	2.4	.47	.20	12	2.7	17	.02	.82	0	.34	.15
29	0	2.2	.40	.20	-	3.9	21	.01	.39	145	.20	.02
30	0	1.5	.34	.10	----------	3.9	30	.01	7.2	82	.10	.01
31	0	----------	.28	0	----------	3.9	----------	.05	----------	2.0	.10	----------
Total	10.70	19.97	59.76	21.87	195.94	1,214.4	525.8	424.59	160.88	418.29	1,171.31	75.75
Mean	0.345	0.666	1.93	0.705	7.00	39.2	17.5	13.7	5.36	13.5	37.8	2.52
Ac-ft	21	40	119	43	389	2,410	1,040	842	319	830	2,320	150

Calendar year 1965 : Max 364 Min 0 Mean 13.2 Ac-ft 9,540
Water year 1965-66 : Max 506 Min 0 Mean 11.8 Ac-ft 8,530

Peak discharge (base, 700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
3-10	0440	4.16	714	7-29	2030	5.29	1,220
7-1	0450	5.25	1,140	8-1	1330	9.13	3,380

8-3405. Arroyo Chico near Guadalupe, N. Mex.

Location.--Lat 35°35'40", long 107°11'20", in NE¼ sec.30, T.16 N., R.3 W., on left bank a quarter of a mile upstream from mouth, 4½ miles northwest of Guadalupe, and 5½ miles southwest of Cabezon.

Drainage area.--1,390 sq mi, approximately.

Records available.--November 1943 to September 1966. Published as "Chico Arroyo near Guadalupe" 1943-64.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 5,923 ft above mean sea level, datum of 1929. Prior to Sept. 23, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--23 years, 23.8 cfs (17,230 acre-ft per year).

Extremes.--Maximum discharge during year, 2,680 cfs Aug. 1 (gage height, 5.82 ft), from rating curve extended as explained below; no flow for many days.
1943-66: Maximum discharge, 12,200 cfs July 17, 1953 (gage height, 15.1 ft), from rating curve extended above 2,900 cfs on basis of slope-area measurements at gage heights 9.6 and 12.8 ft; no flow for many days each year.

Remarks.--Records poor. Diversions for irrigation of about 100 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0.10	0.11	0.02	0	0	0	40	235	22
2	0	.02	0	.10	.09	.02	0	0	7.7	5.0	125	45
3	0	.02	.01	.12	.13	.01	0	0	.28	.50	20	120
4	0	.02	.02	.12	.15	.01	0	0	0	.10	10	5.0
5	0	.02	.02	.15	.13	.05	0	0	0	0	.22	41
6	0	.02	.02	.15	.09	.10	0	0	0	0	.04	9.2
7	0	.02	.01	.09	.09	.20	0	0	0	0	.02	5.9
8	0	.02	.01	.16	.05	128	0	0	0	0	.01	70
9	0	.02	.02	.13	.02	185	0	0	7.3	0	.02	5.0
10	0	.03	2.0	.11	.01	88	0	0	225	0	132	1.0
11	0	.02	3.0	.11	.01	48	0	0	247	0	7.6	.10
12	0	.02	.27	.13	.02	78	0	0	18	0	33	.01
13	0	.02	.05	.09	.02	78	0	0	5.0	0	9.9	0
14	0	.02	.01	.09	.05	118	0	0	2.0	0	127	0
15	0	.02	0	.11	.05	112	0	0	1.0	0	62	498
16	.01	.02	0	.09	.08	68	0	0	.50	0	8.0	41
17	.15	.02	0	.09	.08	36	.01	0	.10	0	55	6.1
18	.11	.02	0	.07	.09	15	0	0	0	17	421	2.0
19	.07	.02	.01	.09	.10	8.3	.01	0	0	127	26	.50
20	.04	.02	.05	.11	.10	2.0	.01	0	0	59	290	29
21	.03	.01	.13	.07	.10	.50	.01	0	0	13	13	5.0
22	.02	.02	.07	.07	.10	.09	.01	0	0	37	8.0	1.0
23	.01	.02	.11	.07	.08	.02	.01	0	0	5.0	23	.02
24	.01	.02	.08	.05	.06	.02	0	0	0	2.0	46	0
25	0	.02	.07	.07	.05	.01	.01	0	0	1.0	37	0
26	0	.02	.05	.07	.03	.01	0	0	.62	141	3.2	0
27	0	.01	.09	.05	.03	0	0	0	150	139	.14	606
28	0	0	.05	.05	.02	0	0	0	200	229	2.6	218
29	0	0	.09	.05	-	0	0	0	260	527	.04	10
30	0	.01	.10	.09	----------	0	0	0	60	371	23	2.0
31	0	----------	.10	.08	----------	0	----------	.03	----------	170	11	----------
Total	0.45	0.52	6.44	2.93	1.94	965.36	0.07	0.03	1184.50	1883.60	1728.79	1742.83
Mean	0.015	0.017	0.208	0.095	0.069	31.1	0.002	0.001	39.5	60.8	55.8	58.1
Ac-ft	0.9	1.0	13	5.8	3.8	1,910	0.1	0.1	2,350	3,740	3,430	3,460

Calendar year 1965: Max 1,510 Min 0 Mean 21.9 Ac-ft 15,870
Water year 1965-66: Max 606 Min 0 Mean 20.6 Ac-ft 14,910

Peak discharge (base, 2,500 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-26	2115	5.73	2,580	9-27	2145	5.79	2,620
8-1	2140	5.82	2,680				

8-3414. Bluewater Lake near Bluewater, N. Mex.

Location.--Lat 35°17'40", long 108°06'40", in SE¼ sec.4, T.12 N., R.12 W., on left end of dam and 9.5 miles west of Bluewater.

Drainage area.--201 sq mi.

Records available.--June 1927 to December 1950, April 1958 to September 1966. June 1927 to December 1950 in Water Bulletins (Nos. 10-20) of International Boundary and Water Commission (see also WSP 1732). January 1951 to June 1958 in files of Bluewater-Toltec Irrigation Co.

Gage.--Water-stage recorder. Datum of gage is 7,345.57 ft above mean sea level, datum of 1929. July 1958 to January 1961, inclined staff gage and supplemental staff sections. Gage heights have been converted to sea-level elevations.

Extremes.--Maximum contents observed during year, 13,850 acre-ft May 14 (elevation, 7,383.6 ft); minimum observed, 5,700 acre-ft Jan. 31 (elevation, 7,371.6 ft).

1927-50, 1958-66: Maximum contents determined, 47,100 acre-ft in April 1941 (date and elevation not available), from table then in use; no storage at times prior to 1947.

Remarks.--Reservoir is formed by concrete arch dam. Storage began in 1927. Capacity, 38,500 acre-ft at elevation 7,402.6 ft (crest of uncontrolled siphon spillway which is vented to avoid drawdown below crest), and 44,200 acre-ft at elevation 7,405.6 ft (crest of ungated spillway over dam). Dead storage, 3.4 acre-ft at elevation 7,345.4 ft (sill of lower outlet tube). Lake not usually drawn below conservation pool level (elevation, 7,365.36 ft), below which ownership is by State Game and Fish Department. Above this level, water is owned and used by Bluewater-Toltec Irrigation Co. Figures given herein represent total contents, based on table derived from 10-foot contour survey made in 1945 by Bureau of Reclamation. Prior to Jan. 27, 1961, contents computed from daily staff gage readings at about 0800; recorded gage heights at 2400 to September 1963; incomplete recorder record supplemented by monthly staff readings to September 1966.

Month-end elevations and contents, water year October 1965 to September 1966

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30	7,372.6	6,180	-
Oct. 31	7,371.8	5,790	- 390
Nov. 30	7,371.6	5,700	- 90
Dec. 31	7,371.9	5,830	+ 130
Calendar year 1965	-	-	+ 1,980
Jan. 31	7,371.6	5,700	- 130
Feb. 28	7,372.2	5,980	+ 280
Mar. 31	7,383.2	13,500	+ 7,520
Apr. 30	7,383.3	13,590	+ 90
May 31	7,381.3	11,940	- 1,650
June 30	7,378.3	9,680	- 2,260
July 31	7,376.2	8,250	- 1,430
Aug. 31	7,374.9	7,440	- 810
Sept. 30	7,374.4	7,150	- 290
Water year 1965-66	-	-	+ 970

8-3420. Bluewater Creek near Bluewater, N. Mex.

Location.--Lat 35°17'50", long 108°01'40", in W½SW¼ sec.5, T.12 N., R.11 W., on left bank 3½ miles northwest of Bluewater Village and 8 miles downstream from Bluewater Dam.

Drainage area.--209 sq mi.

Records available.--July 1912 to August 1915, April 1916 to June 1919, water years 1919-22, 1924, 1926 (annual maximum), January 1927 to September 1966. Figures of daily discharge for July 20-23, 1912, published in WSP 358, have been found to be unreliable and should not be used. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Digital water-stage recorder. Altitude of gage is 6,720 ft (by barometer). Prior to Mar. 4, 1918, at site 113 ft upstream at different datums. Mar. 4, 1918, to Mar. 17, 1939, at site 83 ft upstream; Mar. 4, 1918, to June 28, 1919 (destroyed by flood), at datum 1.92 ft higher; Apr. 6, 1921, to Mar. 17, 1939, at datum 1.57 ft higher. Prior to Sept. 8, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--44 years (1912-15, 1916-18, 1927-66), 9.80 cfs (7,090 acre-ft per year).

Extremes.--Maximum discharge during year, 174 cfs July 22 (gage height, 4.62 ft); minimum, 0.5 cfs Jan. 23-27.
1912-22, 1924, 1926, 1927-66: Maximum discharge determined, about 4,000 cfs, during period July 12-19, 1919 (gage height, 13.5 ft, from flood marks, site and datum in use Mar. 4, 1918 to June 28, 1919), estimated; no flow at times.
Maximum flood known occurred Sept. 6, 1909, when Bluewater Dam washed out, stage and discharge not determined. For other major floods during period 1919-26, see WSP 1732, p. 429, and WSP 1682, p. 410.

Remarks.--Records good except those for period of no gage-height record, which are fair. Flow regulated by Bluewater Lake (capacity at crest of uncontrolled siphon spillways, 38,500 acre-ft).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	1.5	1.9	1.2	2	1	3.9	16	28	20	12	13
2	6.0	1.3	1.9	1.2	2	1	3.7	18	28	17	12	12
3	6.0	1.3	1.7	1.2	2	1	3.9	23	28	16	18	13
4	6.0	1.3	1.7	1.3	2	1	3.9	25	28	15	5.8	14
5	6.0	1.5	1.7	1.3	2	1	3.7	25	28	20	4.1	8.9
6	6.0	1.5	1.6	1.5	2	1	3.7	24	29	22	3.7	8.1
7	5.7	1.5	1.7	1.2	2	1	3.5	22	30	22	2.5	7.7
8	5.7	1.5	1.7	1.0	2	1	3.5	22	30	22	2.2	7.7
9	6.0	1.5	1.9	1.2	2	1	3.7	22	32	22	4.0	11
10	6.0	1.5	2.5	1.0	2	1	3.7	29	33	22	6.7	11
11	6.0	1.5	1.7	1.2	2	1	3.7	33	33	23	7.0	11
12	4.7	1.5	1.5	1.0	2	2	3.7	33	33	22	7.0	14
13	4.4	1.5	1.5	1.2	1	2	3.7	33	33	22	7.7	14
14	4.4	1.5	1.3	1.2	1	2	4.1	30	31	23	8.5	16
15	4.4	1.5	1.5	1.2	1	1.6	3.9	28	30	24	15	15
16	3.2	1.5	1.5	1.0	1	1.6	4.1	28	30	25	18	12
17	2.2	1.6	1.6	1.0	1	1.7	3.9	28	30	25	21	11
18	1.9	1.6	1.5	1	1	1.6	3.9	28	28	29	22	11
19	1.7	1.6	1.0	1	1	1.7	4.3	30	28	29	28	12
20	1.7	1.6	1.2	1	1	1.9	4.6	30	27	28	22	9.6
21	1.7	1.6	1.3	1	1	2.2	4.9	28	12	26	19	2.2
22	1.7	1.7	1.6	1	1	2.3	6.1	25	10	32	19	1.8
23	1.7	2.0	1.9	.5	1	2.5	6.7	25	10	19	11	1.9
24	1.7	2.0	1.3	.5	1	2.9	6.1	27	12	10	7.7	1.9
25	1.5	2.3	1.2	.5	1	3.1	6.1	28	17	10	6.4	1.7
26	1.5	2.5	1.2	.5	1	3.3	6.4	28	20	17	6.1	1.7
27	1.5	2.0	.9	.5	1	3.3	8.1	28	20	20	5.5	1.9
28	1.5	1.7	1.0	1	1	3.5	10	28	20	21	5.8	2.1
29	1.5	1.9	1.2	1	-	3.5	11	28	20	20	12	1.7
30	1.5	1.9	2.3	1	----------	3.7	15	28	20	22	14	1.6
31	1.5	----------	1.9	1	----------	3.5	----------	28	----------	14	13	----------
Total	111.3	49.4	48.4	31.4	40	60.9	157.5	828	758	659	346.7	250.5
Mean	3.59	1.65	1.56	1.01	1.43	1.96	5.25	26.7	25.3	21.3	11.2	8.35
Ac-ft	221	98	96	62	79	121	312	1,640	1,500	1,310	688	497

Calendar year 1965 : Max 36 Min 0.9 Mean 8.60 Ac-ft 6,230
Water year 1965-66 : Max 33 Min 0.5 Mean 9.15 Ac-ft 6,620

Note.--No gage-height record Jan. 18 to Mar. 14.

8-3430. Bluewater Creek at Grants, N. Mex.

Location.--Lat 35°09'20", long 107°52'10", in SW¼NW¼ sec.26, T.11 N., R.10 W., on right bank at bridge on State Highway 53 at Grants, 0.2 mile south of U.S. Highway 66.

Drainage area.--1,020 sq mi, approximately.

Records available.--October 1912 to February 1914, June 1914, October 1914 to February 1915, May 1915 to June 1921, September 1921 to June 1923, October 1923 to May 1926, September to December 1926, May 1949 to September 1966. Monthly discharge only for some periods published in WSP 1312.

Gage.--Water-stage recorder. Datum of gage is 6,468.34 ft above mean sea level (levels by Corps of Engineers). Oct. 30, 1912, to Apr. 23, 1915, staff gage, Apr. 24, 1915, to Dec. 5, 1917, chain gage, and Dec. 6, 1917, to Dec. 31, 1926, staff gage, all at nearby sites at different datums.

Average discharge.--27 years (1912-13, 1914-20, 1921-22, 1923-25, 1949-66), 4.42 cfs (3,200 acre-ft per year).

Extremes.--Maximum discharge during year, 34 cfs July 28 (gage height, 2.26 ft); no flow for most of year.
1949-66: Maximum discharge recorded, 1,760 cfs Aug. 28, 1952 (gage height, 5.35 ft), from rating curve extended above 300 cfs on basis of velocity-area studies; no flow for long periods.
Maximum flood known occurred Sept. 6 or 7, 1909, when Bluewater Dam washed out. A flood in July 1919 probably exceeded the one in 1952.

Remarks.--Records fair. Flow partly regulated by Bluewater Lake (capacity at crest of uncontrolled siphon spillway, 38,500 acre-ft). Diversions and ground-water withdrawals for irrigation of about 4,500 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.54	0							0	0	0.1	2.8
2	.29	.15							0	0	.1	.08
3	.06	.04							0	0	.05	0
4	.02	.12							0	0	.01	0
5	.25	0							0	0	.44	0
6	.13	0							0	0	.12	0
7	.13	0							0	0	0	0
8	.11	0							0	0	0	0
9	.16	0							0	0	0	0
10	.04	0							0	0	0	0
11	0	0							0	0	0	0
12	0	0							0	0	0	0
13	.02	0							0	0	.11	0
14	.04	0							0	0	0	0
15	.04	0							0	0	0	0
16	.04	0							0	0	0	0
17	0	0							0	0	.17	0
18	.01	0							.02	0	.25	0
19	.05	0							0	0	0	0
20	.06	0							0	0	.26	0
21	.1	0							4.1	0	.56	0
22	.1	0							.98	0	1.5	0
23	.1	0							.04	0	7.0	0
24	0	0							0	0	1.1	0
25	0	0							.01	0	.01	0
26	.05	0							.01	0	0	0
27	.04	0							0	0	0	0
28	0	0							0	10	0	0
29	0	0							0	4	0	0
30	.06	0			----------				0	2	0	.08
31	0	----------			----------		----------		----------	.5	.35	----------
Total	2.44	0.31	0	0	0	0	0	0	5.16	16.5	12.13	2.96
Mean	0.079	0.010	0	0	0	0	0	0	0.172	0.532	0.391	0.099
Ac-ft	4.8	0.6	0	0	0	0	0	0	10	33	24	5.9

Calendar year 1965 : Max 50 Min 0 Mean 0.708 Ac-ft 512
Water year 1965-66 : Max 10 Min 0 Mean 0.108 Ac-ft 78

Peak discharge (base, 200 cfs).--No peak above base.

8-3431. Grants Canyon at Grants, N. Mex.

Location.--Lat 35°09'40", long 107°50'15", in NE¼NE¼ sec.25, T.11 N., R.10 W., at Roosevelt Avenue, in the town of Grants, 0.2 mile east of intersection of Roosevelt and First Avenue and 1.1 mile upstream from confluence with Bluewater Creek (to form Rio San Jose).

Drainage area.--13.0 sq mi.

Records available.--December 1961 to September 1966.

Gage.--Water-stage recorder and control formed by four culvert barrels. Altitude of gage is 6,450 ft (from topographic map).

Average discharge.--5 years, 0.161 cfs (117 acre-ft per year).

Extremes.--Maximum discharge during year, 339 cfs Aug. 3 (gage height, 2.53 ft); no flow for most of time.
1962-66: Maximum discharge, 1,550 cfs Aug. 26, 1963 (gage height, 5.10 ft), from rating curve extended above 218 cfs on basis of slope-area measurements at gage heights 3.17 and 5.10 ft; no flow for most of time.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0						0	0	0	
2			0						0	0	2.0	
3			0						0	0	5.7	
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			0						0	0	3.0	
10			0						0	0	0	
11			0						0	0	0	
12			0						0	0	0	
13			0						0	0	0	
14			0						0	0	0	
15			0						0	0	0	
16			0						0	0	0	
17			0						0	0	0	
18			0						0	0	0	
19			0						0	0	0	
20			0						0	0	0	
21			0						0	0	0	
22			0						0	0	0	
23			0						0	0	0	
24			0						0	0	0	
25			0						0	0	0	
26			0						0	0	0	
27			0						0	0	0	
28			0						0	0	0	
29			0						6.5	0	0	
30			.39		----------				2.0	.14	.23	
31		----------	0		----------		----------		----------	0	0	----------
Total	0	0	0.39	0	0	0	0	0	8.5	0.14	10.93	0
Mean	0	0	0.013	0	0	0	0	0	0.28	0.004	0.352	0
Ac-ft	0	0	0.8	0	0	0	0	0	17	0.3	22	0

Calendar year 1965 : Max 16 Min 0 Mean 0.208 Ac-ft 150
Water year 1965-66 : Max 6.5 Min 0 Mean 0.055 Ac-ft 40

Peak discharge (base, 175 cfs).--Aug. 3 (1820) 339 cfs (2.53 ft).

8-3435. Rio San Jose near Grants, N. Mex.

Location.--Lat 35°04'30", long 107°45'00", in SE¼SE¼ sec.23, T.10 N., R.9 W., on right bank at west boundary of Acoma Pueblo Grant; 8½ miles southeast of Grants.

Drainage area.--2,300 sq mi, approximately, of which about 1,130 sq mi does not contribute directly to surface runoff.

Records available.--June 1936 to September 1966. Prior to October 1955, published as San Jose River near Grants.

Gage.--Digital water-stage recorder and concrete control. Datum of gage is 6,269.47 ft above mean sea level, datum of 1929. Prior to Sept. 8, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--30 years, 6.60 cfs (4,780 acre-ft per year).

Extremes.--Maximum discharge during year, 156 cfs Aug. 12 (gage height, 2.45 ft); minimum, 3.2 cfs for many days.
1936-66: Maximum discharge, 1,400 cfs Sept. 20, 1963 (gage height, 4.87 ft), from rating curve exteneded above 438 cfs on basis of slope-area measurements at gage heights 3.19 and 4.87 ft; minimum, 3.1 cfs Sept. 18, 1948 & May 1, 1963.
Maximum flood known probably occurred Sept. 6 or 7, 1909, following destruction of Bluewater Dam. The peak of Sept. 20, 1963, may have been exceeded by those of July 1919, August and September 1929, and August 1935.

Remarks.--Records good. Flow partly regulated by Bluewater Lake (capacity at crest of uncontrolled siphon spillway, 38,500 acre-ft Diversions and ground-water withdrawal for irrigation of about 5,100 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.9	4.6	4.6	4.6	4.3	4.3	4.0	3.4	4.9	3.2	6.3	7.0
2	4.9	4.6	4.6	4.3	4.3	4.3	4.0	3.4	4.3	3.7	5.5	6.1
3	4.6	4.6	4.3	4.3	4.3	4.3	4.0	3.7	4.0	3.4	5.3	6.7
4	4.3	4.6	4.3	4.3	4.3	4.0	4.0	3.7	4.0	3.4	6.1	4.9
5	4.3	4.6	4.3	4.3	4.6	3.7	4.0	3.4	4.0	3.4	6.5	4.9
6	4.3	4.6	4.3	4.3	4.9	4.0	3.7	3.4	4.0	3.4	4.9	4.6
7	4.3	4.6	4.3	4.6	4.9	4.3	3.7	3.2	4.0	3.4	4.0	4.3
8	4.3	4.6	4.6	4.9	5.3	4.3	3.7	3.2	3.7	3.7	4.0	4.4
9	4.3	4.6	4.6	4.9	4.9	3.7	3.4	3.2	3.7	3.4	4.0	4.4
10	4.0	4.6	4.9	4.6	4.6	3.7	3.4	3.4	3.7	3.4	4.3	4.4
11	4.0	4.9	5.3	4.3	4.6	3.7	3.4	3.4	3.7	3.4	4.9	4.4
12	4.0	4.9	5.3	4.3	4.9	3.7	3.7	3.4	3.7	3.7	17	4.4
13	4.0	4.9	4.9	4.3	4.9	3.7	3.7	3.4	3.7	4.0	17	4.4
14	4.0	4.6	4.9	4.3	4.9	4.0	3.4	3.7	4.3	4.0	6.5	4.4
15	4.0	4.6	4.9	4.3	4.9	4.0	3.4	4.0	4.0	4.0	5.3	4.7
16	4.6	4.3	4.6	4.3	4.9	4.0	3.7	4.0	4.0	4.0	4.6	5.1
17	4.6	4.3	4.6	4.0	4.9	4.0	3.7	4.0	4.0	4.0	4.6	5.1
18	4.6	4.3	4.6	4.0	4.9	4.0	3.7	4.0	4.0	4.0	4.6	4.6
19	4.3	4.3	4.3	4.3	4.6	4.0	3.7	4.3	3.7	4.0	4.6	4.6
20	4.3	4.3	4.3	4.3	4.9	4.0	3.7	4.3	4.9	4.0	4.6	4.8
21	4.3	4.3	4.3	4.6	4.9	4.0	3.7	4.6	4.0	4.0	4.6	4.6
22	4.6	4.3	4.6	4.0	4.9	3.7	4.0	4.9	4.3	4.0	4.6	4.6
23	4.6	4.3	4.6	4.0	4.9	3.4	4.0	4.9	4.3	3.7	6.5	4.9
24	4.6	4.3	4.3	4.0	4.6	3.7	4.0	4.9	4.0	3.4	6.5	4.9
25	4.6	4.3	4.3	4.0	4.3	3.7	4.0	4.9	4.0	3.4	5.7	4.7
26	4.6	4.3	4.3	4.0	4.3	4.0	4.0	4.9	4.0	3.4	5.3	4.6
27	4.9	4.3	4.3	4.0	4.3	4.3	3.7	4.9	3.4	3.4	4.6	4.6
28	4.9	4.3	4.3	4.0	4.3	4.3	3.7	4.9	3.4	3.2	4.3	4.6
29	5.3	4.3	4.6	4.0	-	4.0	3.4	4.9	3.4	3.2	4.3	4.6
30	5.3	4.3	4.9	4.3	----------	4.0	3.4	4.3	3.4	3.7	4.9	4.6
31	4.9	----------	4.9	4.3	----------	4.0	----------	4.6	----------	3.7	7.5	----------
Total	139.2	134.4	141.9	132.7	131.3	122.8	111.9	125.2	118.5	112.6	183.4	144.9
Mean	4.46	4.48	4.58	4.28	4.69	3.96	3.73	4.03	3.95	3.63	5.92	4.83
Ac-ft	276	267	281	263	260	244	222	248	235	223	364	287

Calendar year 1965: Max 33 Min 4.0 Mean 5.22 Ac-ft 3,780
Water year 1965-66: Max 17 Min 3.2 Mean 4.39 Ac-ft 3,170

Peak discharge (base, 100 cfs).--Aug. 12 (1430) 156 cfs (2.45 ft).

8-3515. Rio San Jose at Correo, N. Mex.

Location.--Lat 34°58'05", long 107°11'15", in NE¼ sec.31, T.9 N., R.3 W., on right bank 0.7 mile upstream from State Highway 6, 0.8 mile northwest of Correo, and 14 miles upstream from mouth.

Drainage area.--3,660 sq mi, approximately, of which about 1,130 sq mi does not contribute directly to surface runoff.

Records available.--April 1943 to September 1966. Prior to October 1955, published as San Jose River at Correo.

Gage.--Water-stage recorder. Datum of gage is 5,492.43 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1958, water-stage recorder and concrete control at site 1 mile downstream at datum 17.55 ft lower.

Average discharge.--23 years, 11.2 cfs (8,110 acre-ft per year).

Extremes.--Maximum discharge during year, 626 cfs Aug. 2 (gage height, 3.06 ft), from rating curve extended above 700 cfs on basis of slope-area measurements at gage height 6.8 ft, discharge determined at former station downstream; no flow for many days.
1943-66: Maximum discharge, 7,150 cfs Aug. 11, 1955; maximum gage height, 20.7 ft Aug. 22, 1958, backwater from dam (site and datum then in use); no flow for long periods.
A flood which probably occurred Aug. 21, 1935, reached a stage of 15.4 ft, from floodmarks, former site and datum (discharge, about 11,000 cfs), but was probably exceeded by the flood of Sept. 23, 1929 (discharge not determined), based on study of records for Rio Puerco at Rio Puerco.

Remarks.--Records good except those for winter periods, which are poor. Flow partly regulated by Bluewater Lake (capacity at crest of uncontrolled siphon spillways, 38,500 acre-ft) and one small reservoir above station. Diversions and ground-water withdrawals for irrigation of about 7,800 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	4.8	8.0	2.8	1.3		0	0	23	0
2		0	0	4.0	8.0	2.8	.41		0	0	311	5.0
3		0	0	3.0	7.0	1.8	.03		0	0	72	29
4		0	0	4.0	7.0	1.6	0		0	0	28	10
5		0	0	5.0	6.0	1.4	.67		0	0	15	2.0
6		0	0	7.0	5.0	1.8	.15		0	0	2.5	.50
7		0	0	8.0	5.0	2.5	0		0	0	.06	0
8		0	0	10	6.0	3.0	0		0	0	0	0
9		0	0	6.0	5.0	3.5	0		0	0	.36	0
10		0	.89	3.0	3.0	4.0	0		0	0	137	0
11		0	1.2	2.5	2.0	5.2	0		0	0	62	0
12		0	.67	2.5	1.0	4.4	0		0	0	115	0
13		0	.36	2.5	.80	4.4	0		0	0	72	0
14		1.0	0	2.5	.60	4.0	0		0	0	2.0	0
15		1.2	0	2.5	.80	3.2	0		0	0	5.0	0
16		1.5	0	2.8	1.2	4.0	0		0	0	1.0	1.1
17		1.5	0	2.8	1.5	2.2	0		0	0	.50	.45
18		1.5	.10	2.8	2.3	2.8	0		0	0	0	0
19		1.7	.40	2.8	2.6	3.2	0		0	.34	0	0
20		.19	.60	2.8	2.7	2.5	0		0	60	10	8.5
21		0	1.0	3.0	2.5	3.6	0		0	.67	8.5	19
22		0	2.0	3.2	2.5	2.8	0		0	0	.05	8.8
23		0	2.5	3.5	3.2	2.5	0		0	6.9	15	1.0
24		0	3.0	3.5	3.2	4.4	0		0	9.0	138	8.9
25		0	4.0	3.5	4.0	4.0	0		0	21	32	17
26		0	4.0	3.0	3.6	4.4	0		0	4.8	10	1.0
27		0	4.0	2.5	2.8	4.0	0		0	27	3.0	34
28		0	5.0	2.5	3.2	3.2	0		0	29	2.0	28
29		0	5.0	2.5	-	2.2	0		3.4	40	1.0	5.0
30		0	6.2	3.5	----------	2.8	0		5.3	42	.50	1.0
31		----------	3.6	8.0	----------	2.2	----------		----------	19	0	----------
Total	0	8.59	44.52	120.0	100.50	97.2	2.56	0	8.7	259.71	1,066.47	180.25
Mean	0	0.286	1.44	3.87	3.59	3.14	0.085	0	0.29	8.38	34.4	6.01
Ac-ft	0	17	88	238	199	193	5.1	0	17	515	2,120	358

Calendar year 1965: Max 874 Min 0 Mean 11.8 Ac-ft 8,570
Water year 1965-66: Max 311 Min 0 Mean 5.17 Ac-ft 3,750

Peak discharge (base, 800 cfs).--No peak above base.

8-3525. Rio Puerco at Rio Puerco, N. Mex.

Location.--Lat 34°47'35", long 106°59'20", in NW¼ sec.31, T.7 N., R.1 W., in San Clemente Grant, on downstream end of pier nearest left abutment of the Atchison, Topeka and Santa Fe, Railway Co. bridge, 7 miles downstream from Rio San Jose.

Drainage area.--6,590 sq mi, approximately, of which at least 1,130 sq mi does not contribute directly to surface runoff.

Records available.--June 1909 to December 1912 (records fragmentary, gage heights only), March 1934 to September 1966. Records for January 1913 to December 1914 published in WSP 358, 388, and 408 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder and concrete control. Datum of gage is 5,008.59 ft above mean sea level, datum of 1929.

Average discharge.--32 years (1934-66), 59.0 cfs (42,710 acre-ft per year).

Extremes.--Maximum discharge during year, 2,570 cfs Aug. 2 (gage height, 2.99 ft); no flow for many days.
1934-66: Maximum discharge, 28,000 cfs Aug. 21, 1935 (gage height, 7.24 ft), by computation of peak flow over dam; no flow at times.
The damaging flood of Sept. 23, 1929, is the greatest since about 1880; it reached a stage of 18 ft (conditions prior to destruction of railroad bridge. Discharge, 37,700 cfs, by weir formula, from reports of State engineer). The flood of Aug. 12, 1929, reached a stage of about 16 ft (discharge, 31,300 cfs, by weir formula, from reports of State engineer). A flood on Oct. 4, 1913, reached a stage of 9.5 ft (discharge not determined) prior to construction of the concrete control.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 11,500 acres above station (includes 3,700 acres irrigated wholly or partly from wells).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.1	1.5	2	11	1	0	0	146	160	100
2	0	0	0	1.4	2	14	1	0	0	103	1,050	20
3	0	0	0	.8	1	3.8	1	6.9	0	10	440	5
4	0	0	0	.4	1	2.4	1	8.1	0	3	132	60
5	0	0	0	.2	2	2.6	1	5.7	0	1	57	20
6	0	0	0	1	3	3.3	1	13	0	0	14	10
7	0	0	0	.3	7.6	5.7	1	15	0	0	3.8	5
8	0	0	.1	.5	7.6	5.1	1	14	0	0	.3	50
9	0	0	.3	1	5	81	1	10	0	0	0	20
10	0	0	1.4	1	2	266	1	7.2	0	0	158	11
11	0	0	2.6	1	2	256	1	2	178	0	134	5.4
12	0	0	.3	1	2	152	1	2	202	0	145	2
13	0	0	.2	1	2	140	1	5	30	0	80	3.4
14	0	0	.1	1	2	120	1	5	4.3	0	60	4.0
15	0	0	.4	1	2	116	1	3	1.2	0	30	2
16	0	0	.1	1	2	100	1	2	.1	0	88	400
17	1	1.2	.2	1	2	80	2	2	0	0	50	60
18	1	0	1.2	1	3	60	2	2	0	8.5	234	20
19	0	0	0	1	3	40	2	1	0	12	332	10
20	0	.1	0	1	4	20	4.8	1	0	72	60	5
21	0	.6	0	1	4.0	10	13	1	0	61	193	5
22	0	.2	0	1	3.5	5	16	1	0	20	50	3
23	0	.1	1.3	.2	3.5	5	11	.5	0	4.5	20	3
24	0	.1	3.1	.2	2.8	3	7	.5	0	9.1	99	30
25	0	.1	2	.2	4.0	3	4	.5	0	20	176	10
26	0	.1	2	.5	5.1	3	2	.3	0	24	50	5
27	0	0	2	.5	4.8	1	1	.3	0	66	10	5
28	0	0	2	.7	4.0	1	1	.3	0	352	5	5
29	0	0	2	1	-	1	0	.1	9.0	160	5	3
30	0	0	2	2	----------	1	0	.1	413	491	30	2
31	0	----------	2	2	----------	1	----------	.1	----------	356	10	----------
Total	0.2	2.5	25.4	26.5	88.9	1,512.9	81.8	109.6	837.6	1,919.1	3,876.1	883.8
Mean	0.006	0.08	0.82	0.85	3.18	48.8	2.73	3.54	27.9	61.9	125	29.5
Ac-ft	0.4	5.0	50	53	176	3,000	162	217	1,660	3,810	7,690	1,750

Calendar year 1965 : Max 2,580 Min 0 Mean 43.8 Ac-ft 31,680
Water year 1965-66 : Max 1,050 Min 0 Mean 25.7 Ac-ft 18,570

Peak discharge (base, 1,500 cfs).--June 30 (1400) 1,840 cfs (2.62 ft); Aug. 2 (2320) 2,570 cfs (2.99 ft).

Note.--No gage-height record Mar. 16 to Apr. 19.

8-3530. Rio Puerco near Bernardo, N. Mex.

Location.--Lat 34°24'30", long 106°51'10", in SE¼ sec.8, T.2 N., R.1 E., on bridge on former U.S. Highway 85 and ¼ mile upstream from Interstate Highway 25, 1.2 miles southwest of Bernardo, 3 miles upstream from mouth, and 18 miles south of Belen.

Drainage area.--7,350 sq mi, approximately, of which at least 1,130 sq mi does not contribute directly to surface runoff.

Records available.--November 1939 to September 1966. Fragmentary gage-height record and footnotes concerning no flow for the period September 1910 to August 1914, published in WSP 358 and 388, have been found to be in error and should not be used.

Gage.--Water-stage recorder. Datum of gage is 4,725.44 ft above mean sea level, datum of 1929.

Average discharge.--26 years (1940-66), 49.8 cfs (36,050 acre-ft per year).

Extremes.--Maximum discharge during year, 1,800 cfs Aug. 31 (gage height, 9.00 ft); no flow for extended periods.
1939-66: Maximum discharge, 18,800 cfs Sept. 23, 1941, from rating curve extended above 7,800 cfs by logarithmic plotting; maximum gage height, 13.8 ft Aug. 12, 1955; no flow for extended periods.
The greatest flood known since about 1880 occurred Sept. 23, 1929, from information by local residents (discharge, about 35,000 cfs, estimated on basis of peak at Rio Puerco). Another flood occurred Aug. 12, 1929 (discharge 30,600 cfs, by slope-area method, from reports of State engineer).

Remarks.--Records good except those for August, which are fair. Diversions for irrigation of about 11,500 acres above station (includes 3,700 acres irrigated wholly or partly from wells). Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0	0	0	406	111	50
2						0	0	0	0	77	237	132
3						0	0	0	0	79	1,060	52
4						0	0	0	0	27	174	14
5						0	0	0	0	7.0	105	69
6						0	0	0	0	1.2	40	22
7						0	0	1.5	0	.1	11	12
8						0	0	8.9	0	0	4.6	23
9						0	0	7.8	0	0	168	23
10						122	0	5.6	0	0	157	10
11						283	0	3.2	29	6.5	184	8.9
12						174	0	.7	192	1.4	88	4.2
13						120	0	0	78	0	143	1.8
14						116	0	0	22	0	50	.8
15						100	0	2.2	5.6	0	20	.4
16						92	0	1.6	1.3	0	10	120
17						88	0	1.0	.3	0	40	236
18						49	0	.5	0	0	20	42
19						34	0	0	0	0	332	17
20						22	0	0	0	3.2	100	6.7
21						13	0	0	0	35	150	3.0
22						7.0	0	0	0	22	70	2.7
23						5.2	3.0	0	0	8.3	20	9.9
24						3.9	4.3	0	0	1.3	10	5.9
25						2.2	2.4	0	0	1.0	116	13
26						1.3	1.5	0	0	7.8	91	5.2
27						.5	.7	0	0	31	20	36
28						.1	0	0	46	91	10	325
29						0	0	0	12	230	5	706
30					-------	0	0	0	507	258	5	89
31		------			------	0	------	0	------	384	269	------
Total	0	0	0	0	0	1,233.2	11.9	33.0	893.2	1,677.8	3,820.6	2,040.5
Mean	0	0	0	0	0	39.8	0.40	1.06	29.8	54.1	123	68.0
Ac-ft	0	0	0	0	0	2,450	24	65	1,770	3,330	7,580	4,050

Calendar year 1965: Max 2,850 Min 0 Mean 42.0 Ac-ft 30,400
Water year 1965-66: Max 1,060 Min 0 Mean 26.6 Ac-ft 19,260

Peak discharge (base, 1,100 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-30	0800	7.89	1,420	8-31	1630	9.00	1,800
8-3	1030	8.92	1,750	9-29	0240	8.09	1,540
8-9	2020	7.95	1,180				

8-3540. Rio Salado near San Acacia, N. Mex.

Location.--Lat 34°16'55", long 106°52'50", in E½ sec.30, T.1 N., R.1 E., near right bank 1.0 mile downstream from bridge on Interstate Highway 25, 1.4 miles upstream from mouth, 2.0 miles northeast of San Acacia, and 15 miles north of Socorro.

Drainage area.--1,380 sq mi, approximately.

Records available.--October 1947 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,710.68 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 13.7 cfs (9,920 acre-ft per year).

Extremes.--Maximum discharge, 3,880 cfs Aug. 10 (gage height, 11.47 ft); no flow for most of time.
1947-66: Maximum discharge, 36,200 cfs July 31, 1965 (gage height, 18.3 ft, from floodmarks), from rating curve extended above 2,800 cfs on basis of slope-area measurements at gage heights 11.25 and 11.9 ft; no flow for most of time.
Another flood occurred Aug. 12, 1929 (discharge, 27,400 cfs, by slope-area method), from reports of State engineer.

Remarks.--Records poor. Diversions for irrigation of about 100 acres above station. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0	5	0	0
2									0	0	540	100
3									0	0	260	50
4									0	0	5	5
5									0	0	0	10
6									0	0	0	5
7									0	0	0	0
8									0	0	0	0
9									0	0	610	0
10									0	0	730	0
11									0	300	0	0
12									0	40	0	0
13									0	0	0	0
14									0	0	0	0
15									0	0	0	10
16									0	20	0	0
17									0	0	200	0
18									0	0	20	0
19									0	0	250	0
20									0	10	100	10
21									25	0	40	70
22									0	0	5	5
23									0	0	0	1
24									0	0	0	1
25									0	0	50	5
26									0	0	5	0
27									0	0	0	0
28									0	0	0	10
29									0	5	0	10
30					----------				620	200	0	0
31		----------			----------		----------		----------	0	0	----------
Total	0	0	0	0	0	0	0	0	645	580	2,815	292
Mean	0	0	0	0	0	0	0	0	21.5	18.7	90.8	9.73
Ac-ft	0	0	0	0	0	0	0	0	1,280	1,150	5,580	579

Calendar year 1965 : Max 2,500 Min 0 Mean 22.7 Ac-ft 16,450
Water year 1965-66 : Max 730 Min 0 Mean 11.9 Ac-ft 8,590

Peak discharge (base, 3,000 cfs).--Aug. 2 (0530) 3,600 cfs (11.10 ft); Aug. 10 (0030) 3,880 cfs (11.47 ft).

8-3545. Socorro main canal north at San Acacia, N. Mex.

Location.--Lat 34°15'15", long 106°53'45", in SE¼NW¼ sec.1, T.1 S., R.1 W., 0.5 mile downstream from point of diversion, on right bank at San Acacia.

Records available.--April 1936 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 4,660.16 ft above mean sea level, datum of 1929. Prior to Mar. 8, 1958, at site 300 ft upstream (in old channel) at datum 0.42 ft lower. Prior to Feb. 20, 1963, graphic water-stage recorder at same site and datum.

Extremes.--1936-66: Maximum daily discharge, 251 cfs July 30, 1965; no flow at times.

Remarks.--Records fair. This canal is 1 of 3 channels (see stations 8-3548, 8-3549) carrying flow in valley cross-section. For combined monthly flow in acre-ft of this canal, conveyance channel, and floodway see tabulation below daily table for station 8-3549. Canal diverts water from right bank of Rio Grande for irrigation of about 8,000 acres. Alamillo Acequia and 3 other smaller ditches divert water from canal above station for irrigation of about 400 acres. Discharge records collected at the canal heading October 1964 to September 1965, indicate 7,770 acre-ft or 9% of the initial canal flow was diverted before reaching the regular gaging station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	169	187			0	101	182	214	233	25	126	135
2	174	106			0	120	197	214	234	25	110	140
3	174	0			0	123	202	218	236	125	112	122
4	173	0			0	140	202	221	237	154	137	118
5	176	0			0	130	212	219	233	155	146	144
6	180	0			0	111	210	210	234	152	141	156
7	178	0			0	122	187	212	237	156	143	144
8	182	0			0	118	190	196	234	172	150	126
9	170	0			0	123	194	206	224	159	141	130
10	157	0			0	138	181	219	222	139	118	110
11	175	0			0	128	184	224	205	137	142	105
12	176	0			0	137	200	219	227	121	137	106
13	169	0			0	141	198	220	221	136	137	82
14	169	0			0	161	197	220	223	98	130	64
15	171	0			0	163	197	224	224	88	164	67
16	176	0			0	177	196	225	237	114	174	83
17	173	0			0	181	195	222	208	88	174	30
18	174	0			0	178	198	218	169	94	138	23
19	162	0			0	176	194	218	146	88	138	103
20	160	0			0	174	190	212	142	106	117	108
21	166	0			0	174	194	226	142	119	129	130
22	170	0			0	169	198	221	119	125	131	111
23	173	0			0	188	201	221	107	80	121	97
24	169	0			0	187	198	226	132	115	146	96
25	183	0			0	178	201	229	110	95	146	100
26	199	0			0	151	201	230	121	66	156	100
27	189	0			0	152	204	226	134	72	142	89
28	174	0			39	169	208	224	136	106	135	89
29	169	0			-	193	209	221	140	50	146	10
30	176	0			----------	192	210	220	30	1	126	0
31	176	----------			----------	185	----------	216	----------	4	122	----------
Total	5,382	293	0	0	39	4,780	5,930	6,791	5,497	3,165	4,275	2,918
Mean	17.4	9.77	0	0	1.39	154	198	219	183	102	138	97.3
Ac-ft	10,680	581	0	0	77	9,480	11,760	13,470	10,900	6,280	8,480	5,790

Calendar year 1965 : Max 251 Min 0 Mean 118 Ac-ft 85,410
Water year 1965-66 : Max 237 Min 0 Mean 107 Ac-ft 77,490

8-3548. Rio Grande conveyance channel at San Acacia, N. Mex.

Location.--Lat 34°15'55", long 106°54'00", in SW¼ sec.1, T.1 S., R.1 W., on right bank 75 ft upstream from railway crossing, 1.2 miles downstream from San Acacia diversion dam, and 0.5 mile south of San Acacia.

Records available.--October 1958 to September 1966. Prior to October 1964 records of flow included in composite flow published as "Rio Grande at San Acacia".

Gage.--Digital water-stage recorder. Datum of gage is 4,652.5 ft above mean sea level (Bureau of Reclamation datum). Prior to 1958 all flow in floodway and Socorro main canal north. Prior to May 20, 1964, graphic water-stage recorder at same site and datum.

Average discharge.--8 years, 438 cfs (317,100 acre-ft per year).

Extremes.--1958-66: Maximum daily discharge, 1,950 cfs May 12 & 13, 1966; no flow at times.

Remarks.--Records excellent except those for June, August and September, which are good. Conveyance channel is 1 of 3 channels (see stations 8-3545, 8-3549) carrying flow in valley cross-section. Original design and plan was for conveyance channel to carry all flows up to about 2,000 cfs. For combined monthly flow in acre-ft of this channel, floodway, and Socorro main canal north see tabulation below daily table for station 8-3549. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	350	512	1.710	1,490	846	723	1.440	1.320	1180	1,020	147	65
2	382	682	1.740	1.280	867	664	1.740	1.380	1.170	610	458	100
3	405	881	1.810	1.190	865	647	1.780	1.340	1.190	481	1,200	228
4	581	1.490	1.840	1.130	892	686	1.880	1.210	1.160	412	769	90
5	579	1.740	1.840	1.060	885	793	1,890	1.380	1.230	291	225	50
6	605	1.750	1.850	999	856	635	1.890	1.510	1,370	191	94	15
7	540	1.710	1.850	926	871	596	1.800	1.420	1,140	115	50	2
8	502	1.690	1.860	967	896	580	1.560	1.560	976	29	100	1
9	502	1.660	1.850	961	930	564	1.470	1.690	586	16	258	1
10	367	1.620	1.870	959	975	690	1.590	1.590	326	16	713	1
11	318	1.650	1,900	967	980	952	1.660	1.720	237	93	283	1
12	269	1.750	1.890	998	932	1.410	1.760	1,950	349	54	166	1.0
13	231	1.720	1.890	973	881	1.350	1.600	1.950	388	39	392	.5
14	218	1.760	1.900	955	840	1.730	1.400	1.910	215	3.4	171	.7
15	196	1.770	1.890	961	884	1.580	1.370	1.830	96	3.3	97	1.0
16	190	1.740	1.880	947	878	1.620	1.380	1.820	15	64	41	.7
17	232	1.760	1.890	914	863	1.720	1.290	1.510	6	2.2	148	262
18	333	1.750	1.860	935	844	1.790	1.410	1.200	5.1	1.7	93	115
19	725	1.680	1.780	936	844	1.740	1.500	1.100	4.8	1.6	367	5
20	635	1.700	1.800	905	837	1,840	1.520	1.050	4.2	5.7	385	14
21	519	1.740	1.740	971	835	1.830	1.550	1.090	14	2.9	188	20
22	477	1.810	1,700	964	860	1.740	1.450	1.050	2.0	2.8	158	.5
23	514	1.800	1.820	923	867	1.680	1.430	1.070	1.9	2.7	50	.4
24	619	1.790	1.820	892	900	1.690	1.350	1.060	1.9	2.2	60	.4
25	652	1.840	1.800	832	939	1.700	1.340	958	1.8	1.7	70	.3
26	623	1.850	1.810	763	948	1.510	1.150	888	1.8	1.9	60	.7
27	550	1,880	1.820	788	932	1.210	1,020	992	1.8	1.7	5	.4
28	467	1.870	1.840	831	895	1.070	1.050	1.080	8	1.4	5	43
29	442	1.870	1.750	787	-	919	1.280	1.160	154	305	10	762
30	457	1.860	1.760	793	----------	1.060	1.170	1.290	1.200	551	10	191
31	455	----------	1.750	792	----------	1.710	----------	1.210	----------	484	120	----------
Total	13.935	49.325	56.510	29.789	24.842	38.429	44.720	42.288	13.035.3	4.806.2	6.893	1.972.6
Mean	450	1,644	1,823	961	887	1,240	1,491	1,364	435	155	222	65.8
Ac-ft	27,640	97,830	112,100	59,090	49,270	76,220	88,700	83,880	25,860	9,530	13,670	3,910

Calendar year 1965 : Max 1,900 Min 9.8 Mean 925 Ac-ft 670,000
Water year 1965-66 : Max 1,950 Min 0.3 Mean 895 Ac-ft 647,700

8-3549. Rio Grande floodway at San Acacia, N. Mex.

Location.--Lat 34°15'28", long 106°53'30", in NE¼ sec.1, T.1 S., R.1 W. (projected), in Sevilleta Grant, 0.25 mile below San Acacia diversion dam, 2 miles downstream from Rio Salado, and 0.3 mile east of San Acacia.

Drainage area.--26,770 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--April 1936 to September 1966. Flow in the conveyance channel has been included prior to October 1964.

Gage.--Water-stage recorder. Datum of gage is 4,656.39 ft above mean sea level, datum of 1929, adjustment of 1951. Prior to Mar. 19, 1953, at several sites 0.1 mile upstream at different datums. Mar. 19, 1953 to Aug. 19, 1965, at site 0.4 mile downstream at datum 1.71 ft higher. Floodway is bypassed by Socorro main canal north and, since October 1958, by conveyance channel.

Average discharge.--22 years (1936-58), 1,192 cfs (863,000 acre-ft per year), prior to construction of conveyance channel; does not include Socorro main canal north.
8 years (1958-66), 286 cfs (207,100 acre-ft per year), flow of floodway only.
8 years (1958-66), 805 cfs (582,800 acre-ft per year), combined flow of floodway, conveyance channel and Socorro main canal north.

Extremes.--Maximum discharge during year, 7,550 cfs Aug. 9 (gage height, 5.91 ft); no flow at times.
1936-66: Maximum discharge, 27,400 cfs Aug. 5, 1936 (gage height, 10.75 ft, site and datum then in use); no flow at times.

Remarks.--Records fair except those above 500 cfs, which are poor. Floodway is 1 of 3 channels (see stations 8-3545, 8-3548) carrying flow in valley cross-section. For combined monthly flow in acre-ft of floodway, conveyance channel, and Socorro main canal north see tabulation below. Normal plan is for floodway to carry flow when combined capacities of conveyance channel (about 2,000 cfs) and Socorro main canal north (about 200 cfs) is exceeded, during periods of silt sluicing, and when river silt load is excessive. Diversions above station for irrigation of about 760,000 acres; this includes Socorro main canal north which bypasses station and irrigates about 8,000 acres. Records of suspended sediment loads and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	7.2	84	3.8	6.9	5.3	20	13	20	5.3	20	23
2	8.7	8.6	18	3.0	4.3	9.0	20	14	25	3.7	130	11
3	11	10	26	6.2	2.9	8.8	25	15	25	4.5	659	14
4	22	172	26	5.0	4.0	21	240	17	24	3.3	20	12
5	14	35	33	5.6	2.7	40	280	18	21	3.2	8	16
6	15	29	51	4.3	2.3	3.5	128	16	20	2.8	5	9.8
7	10	10	83	3.6	2.3	3.5	46	17	14	2.2	15	3.0
8	16	8.0	125	4.6	2.0	2.6	21	13	9.7	1.5	24	2
9	17	6.3	95	5.0	2.1	2.2	18	20	12	1.4	551	1
10	18	3.0	135	3.4	9.4	9.5	18	18	6.1	1.4	690	1
11	13	4.6	270	2.9	3.6	7.9	19	21	23	24	5	.5
12	9.2	43	246	3.8	2.3	17	34	222	12	3.3	5	.2
13	13	3.6	174	3.6	1.9	7.0	15	494	5.8	1.8	16	0
14	16	20	174	3.6	3.0	11	12	377	4.8	.2	6.8	.2
15	19	13	178	2.9	6.0	8.6	11	48	1.9	.1	10	3.2
16	19	6.8	148	2.7	3.2	6.6	12	106	.8	.1	3	4.0
17	12	3.4	65	3.4	2.9	8.9	11	17	.4	0	84	26
18	28	3.2	20	2.9	3.6	14	13	18	.3	0	5.3	1.2
19	66	2.3	3.0	4.0	2.5	64	75	17	.3	0	11	2.6
20	24	2.3	5.3	4.6	1.8	93	25	48	.2	0	3.8	6.7
21	18	3.6	3.0	3.6	2.0	52	13	15	.3	.2	26	4.0
22	17	36	5.4	3.2	1.4	7.4	14	12	.1	.2	9.5	.3
23	14	29	63	3.0	5.9	9.3	13	13	.1	0	1.4	.2
24	14	11	73	4.0	3.4	8.6	14	8.9	.1	1.6	16	2.6
25	17	44	206	4.0	2.9	8.2	14	7.8	.1	1.1	35	3.1
26	15	132	201	4.3	2.3	7.4	11	8.2	.1	1.0	11	1.3
27	5.0	240	58	3.4	2.5	8.9	9.7	10	.1	1.1	4.4	1.0
28	8.1	252	26	3.4	5.0	12	10	15	.1	1.8	2.9	12
29	6.9	201	15	2.9	-	9.7	14	25	27	7.9	2.7	12
30	7.7	102	43	2.5	-------	17	13	20	763	33	51	1.0
31	9.0	------	20	3.8	------	29	------	19	------	20	41	-------
Total	495.6	1441.9	2672.7	117.0	95.1	512.9	1168.7	1682.9	1017.3	126.7	2472.8	174.9
Mean	16.0	48.1	86.2	3.77	3.40	16.5	39.0	54.3	33.9	4.09	79.8	5.83
Ac-ft	983	2,860	5,300	232	189	1,020	2,320	3,340	2,020	251	4,900	347
(†)	39,300	101,300	117,400	59,320	49,540	86,720	102,800	100,700	38,780	16,100	27,050	10,050

Calendar year 1965 :	Max	5,350	Min	0.1	Mean	559	Ac-ft	404,700	(†)	Mean	1,602	Ac-ft 1,160,000
Water year 1965-66 :	Max	736	Min	0	Mean	32.8	Ac-ft	23,760	(†)	Mean	1,035	Ac-ft 749,000

(†) Combined flow, in acre-ft and mean, in cfs, of floodway, conveyance channel, and Socorro main canal north.

8-3560. Socorro main canal south near San Antonio, N. Mex.

Location.--Lat 33°53'30", long 106°52'00", in NW¼ sec.8, T.5 S., R.1 E., on right bank 1½ miles upstream from Bosque del Apache Grant and 1¾ miles south of San Antonio.

Records available.--April 1937 to July 1938 (published as "at end near San Antonio"), March 1948 to September 1966.

Gage.--Digital water-stage recorder. Artificial control since Mar. 27, 1954. Datum of gage is 4,526.41 ft above mean sea level, datum of 1929. April 1937 to July 1938 at two different sites about 1½ miles downstream at different datums. March 1948 to November 1951 at site 30 ft upstream at datum 7.29 ft higher. Prior to Feb. 18, 1963, graphic water-stage recorder at same site and datum.

Extremes.--1937-38, 1948-66: Maximum daily discharge, 51 cfs Sept. 20, 1965; no flow for many days each year.

Remarks.--Records good except those for periods of intermittent backwater from irrigation June 1 to Aug. 31, which are poor. Diversions made at San Acacia into Socorro main canal north are the main source of water but may be supplemented by diversions from the conveyance channel at 3 points and from San Antonio Riverside drain, 2 miles above gage. Some diversions occur between gage and north boundary of U.S. Fish and Wildlife Refuge (Bosque del Apache Grant). This is 1 of 3 stations gaging flow into refuge.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	37	4.6	20.8	1,280
November	18	0	1.15	68
December	0	0	0	0
Calendar year 1965	51	0	15.6	11,260
January	0	0	0	0
February	0	0	0	0
March	28	0	11.1	680
April	38	13	23.9	1,420
May	46	16	33.7	2,070
June	46	5.9	24.3	1,450
July	39	0	19.5	1,200
August	48	6.3	26.1	1,600
September	38	3.5	26.8	1,600
Water year 1965-66	48	0	15.7	11,370

8-3565. San Antonio Riverside drain near San Antonio, N. Mex.

Location.--Lat 33°53'00", long 106°51'05", in SW¼SW¼ sec.9, T.5 S., R.1 E., on left bank 1 mile east of old U.S. Highway 85, and 1.2 miles upstream from boundary of Bosque del Apache Grant (wildlife refuge), and 2 miles southeast of San Antonio.

Records available.--March 1948 to September 1966. May 1936 to February 1938, at site 50 ft downstream from Elmendorf interior drain; records not equivalent.

Gage.--Water-stage recorder. Datum of gage is 4,524.33 ft above mean sea level (levels by Bureau of Reclamation). Mar. 15, 1948, to Mar. 31, 1949, site 1.2 miles downstream at datum 1.14 ft lower.

Extremes.--1948-66: Maximum daily discharge, 161 cfs May 31, 1957; no flow at times since 1959.

Remarks.--Records good except those for period Aug. 4 to Sept. 1 which are poor. Diversions from drain above station, canal wasteways and interior drains entering channel above station. Flow represents 1 of 3 channels entering north boundary of Bosque del Apache Grant. Reduction in flow occurred after conveyance channel was completed in about 1957. Average pickup per mile between station and Grant boundary is about 5 percent (as determined from comparative discharge measurements).

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	19	0.9	13.9	855
November	28	12	21.3	1,270
December	33	26	29.5	1,820
Calendar year 1965	62	0.7	23.3	16,880
January	29	14	17.8	1,100
February	17	15	16.0	887
March	36	14	24.1	1,480
April	45	31	38.6	2,290
May	43	30	37.1	2,280
June	38	2	19.2	1,140
July	4.4	0	0.67	41
August	48	10	12.4	762
September	9.4	1.5	4.34	258
Water year 1965-66	48	0	19.6	14,180

8-3570. Elmendorf interior drain near San Antonio, N. Mex.

Location.--Lat 33°51'50", long 106°51'25", in NE¼ sec.20, T.5 S., R.1 E. (projected), in Bosque del Apache Grant (wildlife refuge), on right bank 2,000 ft downstream from north boundary of refuge, 1.0 mile east of railroad, and 3.7 miles south of junction of U.S. Highways 85 and 380.

Records available.--July 1936 to January 1938 (Published as "at end near San Antonio"), March 1948 to September 1966.

Gage.--Digital water-stage recorder and metal control. Datum of gage is 4,518.9 ft above mean sea level, datum of 1929 (levels by Bureau of Reclamation). July 1936 to January 1938, staff gage at site 0.5 mile upstream in former channel at datum about 0.34 ft higher. Mar. 11, 1948, to Nov. 10, 1949, at site about 2,500 ft upstream in former channel at different datum. Nov. 11, 1949, to Feb. 7, 1956, at site 2,000 ft upstream in present channel at datum about 0.26 ft lower. Prior to Feb. 21, 1963, graphic water-stage recorder at same site and datum.

Extremes.--1948-66. Maximum daily discharge, 59 cfs Aug. 21, 1965; no flow at times.

Remarks.--Records fair. Flow past station represents 1 of 3 channels entering north boundary of Bosque del Apache Grant.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	46	14	30.0	1,850
November	16	1.3	2.40	143
December	1.9	1.3	1.61	99
Calendar year 1965	59	0.1	21.5	15,583
January	1.9	0.5	1.23	76
February	1.7	0.8	1.29	72
March	44	0.7	16.6	1,020
April	54	17	36.1	2,150
May	52	13	36.8	2,260
June	42	11	24.8	1,480
July	46	2.9	18.8	1,150
August	45	11	23.6	1,450
September	38	2.5	23.6	1,400
Water year 1965-66	54	0.5	18.2	13,150

8-3575. San Antonio Riverside drain near San Marcial, N. Mex.

Location.--Lat 33°44'45", long 106°55'15", in Bosque del Apache Grant (wildlife refuge), on left bank 1.0 mile upstream from outlet to Rio Grande conveyance channel, 5 miles northeast of San Marcial, and 12 miles south of San Antonio.

Records available.--March 1948 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,489.12 ft above mean sea level, datum of 1929. Mar. 19, 1948, to July 28, 1960, water-stage recorder at present site and datum. July 28, 1960, to May 14, 1962, water-stage recorder 0.4 mile downstream and at datum 3.42 ft lower.

Extremes.--1948-66: Maximum daily discharge, 226 cfs May 22, 1957; no flow at times.

Remarks.--Records good. Flow represents surface outflow from wildflife refuge. Diversion for irrigation of a few hundred acres above station.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	73	28	53.4	3,280
November	50	17	26.5	1,580
December	49	14	31.1	1,910
Calendar year 1965	101	0.9	43.6	31,540
January	41	21	27.0	1,660
February	24	20	21.7	1,200
March	80	18	49.0	3,010
April	113	48	87.2	5,190
May	109	66	92.7	5,700
June	66	21	48.3	2,870
July	123	20	49.5	3,040
August	76	35	58.8	3,620
September	79	30	57.4	3,420
Water year 1965-66	123	14	50.4	36,490

8-3583. Rio Grande conveyance channel at San Marcial, N. Mex.

Location.--Lat 33°41'20", long 106°59'35", in Pedro Armendaris Grant No. 34, on right bank 0.4 mile northwest of Atchison, Topeka and Santa Fe Railway Co. bridge over floodway channel, 1.0 mile southwest of former site of San Marcial, Socorro County, 3.5 miles downstream from railroad bridge near Tiffany siding and 51 miles downstream from heading at San Acacia.

Records available.--April 1950 to September 1966. Flow included in composite flow of Rio Grande at San Marcial prior to October 1964.

Gage.--Water-stage recorder. Datum of gage is 4,454.00 ft above mean sea level (levels by Bureau of Reclamation). Prior to Apr. 29, 1958, at datum 4.19 ft higher. Apr. 14, 1950, to Feb. 28, 1954, bypass flow (included in composite) was measured in Tiffany channel at a site 4 miles upstream; prior to 1950 all flow through floodway.

Average discharge.--12 years, 441 cfs (319,300 acre-ft per year).

Extremes.--1954-66: Maximum daily discharge, 2,200 cfs May 14, 1966; no flow at times.

Remarks.--Records good. Original design and plan was for conveyance channel to carry all flows up to about 2,000 cfs. Conveyance channel is 1 of 2 channels (see station 8-3584) carrying flow in valley cross-section. For combined monthly flow in acre-ft of this channel and floodway see tabulation below daily table for station 8-3584. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	455	646	1,840	1,780	858	914	1,630	1,460	1,250	1,270	341	173
2	546	788	1,660	1,390	950	810	1,730	1,610	1,200	614	315	116
3	558	840	1,810	1,310	930	826	1,810	1,570	1,180	497	591	188
4	642	1,140	1,860	1,240	918	822	1,970	1,370	1,230	515	1,220	208
5	728	1,770	1,850	1,190	938	906	2,020	1,450	1,240	479	231	119
6	736	1,700	1,910	1,150	934	842	2,040	1,670	1,440	413	202	128
7	732	1,690	1,900	1,070	910	706	2,010	1,600	1,320	368	172	129
8	610	1,620	1,890	1,090	922	802	1,760	1,580	1,090	244	192	118
9	606	1,630	1,890	1,070	966	730	1,610	1,960	890	184	189	107
10	550	1,560	1,880	1,060	1,010	746	1,660	1,700	538	159	765	102
11	400	1,660	1,890	1,050	1,050	1,050	1,880	1,720	482	153	256	107
12	420	1,710	1,890	1,100	1,010	1,370	1,770	2,100	482	204	250	100
13	376	1,770	1,890	1,090	926	1,610	1,900	2,190	562	158	338	93
14	368	1,830	1,910	1,030	898	1,840	1,670	2,200	419	142	317	89
15	360	1,830	1,930	1,050	910	1,820	1,550	2,090	314	101	222	75
16	392	1,850	1,930	1,090	966	1,800	1,570	2,050	260	87	176	89
17	424	1,770	1,950	1,020	922	1,860	1,550	1,890	220	124	185	145
18	480	1,800	1,950	1,030	930	2,040	1,570	1,440	190	80	225	162
19	650	1,740	1,910	1,040	914	2,030	1,650	1,310	180	73	246	107
20	910	1,650	1,830	1,030	902	1,910	1,760	1,280	171	68	424	94
21	680	1,670	1,860	1,070	910	1,990	1,840	1,260	166	71	250	85
22	622	1,750	1,740	1,070	926	1,970	1,640	1,300	170	78	228	94
23	622	1,770	1,810	986	890	1,870	1,640	1,210	148	95	226	89
24	720	1,760	1,880	966	926	1,850	1,670	1,310	134	97	171	64
25	788	1,770	1,930	946	962	1,870	1,640	1,140	124	78	198	50
26	780	1,830	1,910	914	1,050	1,690	1,430	1,050	126	91	202	55
27	720	1,860	1,910	850	970	1,360	1,300	1,040	134	84	177	52
28	626	1,910	1,930	894	958	1,230	1,290	1,120	136	77	140	64
29	598	1,870	1,920	914	-	1,080	1,430	1,220	190	185	134	443
30	602	1,890	1,910	862	----------	1,060	1,380	1,410	834	353	114	188
31	614	----------	1,910	846	----------	1,810	----------	1,270	----------	442	93	----------
Total	18,315	49,074	58,280	33,198	26,356	43,214	50,370	47,570	16,820	7,584	8,790	3,633
Mean	591	1,636	1,880	1,071	941	1,394	1,679	1,535	561	245	284	121
Ac-ft	36,330	97,340	115,600	65,850	52,280	85,710	99,910	94,350	33,360	15,040	17,430	7,210

Calendar year 1965 : Max 1,950 Min 130 Mean 1,022 Ac-ft 740,100
Water year 1965-66 : Max 2,200 Min 50 Mean 995 Ac-ft 720,400

8-3584. Rio Grande floodway at San Marcial, N. Mex.

Location.--Lat 33°40'50", long 106°59'15", in Pedro Armendaris Grant No. 33 on pier of the Atchison, Topeka, and Santa Fe Railway Co. bridge, 1.1 miles downstream from former site of San Marcial, Socorro County, and 18.5 miles southwest of San Antonio.

Drainage area.--27,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo).

Records available.--January 1895 to September 1966. Published as "Rio Grande at San Marcial" prior to October 1964 with flow in the conveyance channel included.

Gage.--Water-stage recorder. Datum of gage is 4,455.19 ft above mean sea level, datum of 1929. Prior to June 25, 1943, floodway had water-stage recorder, inverted rod, inclined staff, and wire-weight gages at several sites within 2 miles of present site at various datums. Prior to 1950 all flow through floodway.

Average discharge.--63 years (1895-58), 1,363 cfs (986,800 acre-ft per year), includes flow of conveyance channel.
8 years (1958-66), 193 cfs (139,700 acre-ft per year), flow in floodway only.
8 years (1958-66), 726 cfs (525,600 acre-ft per year), includes flow of floodway and conveyance channel.

Extremes.--Maximum discharge during year, 1,510 cfs Aug. 11 (gage height, 11.30 ft); no flow for most of time.
1895-1966: Maximum discharge, about 50,000 cfs Oct. 11, 1904; no flow at times.

Remarks.--Records fair. Floodway is 1 of 2 channels (see station 8-3583) carrying flow in valley cross-section. For combined monthly flow in acre-ft see tabulation below. Normal plan is for floodway to carry flow when capacity of conveyance channel (about 2,000 cfs) is exceeded. Diversions for irrigation of about 775,000 acres above station (includes about 13,800 acre-ft diverted from conveyance channel, as based on weekly measurements, data furnished by Bureau of Reclamation). Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	34			0	0	0	0	153	0	2
2		0	6			0	0	0	0	3	0	12
3		0	1			0	0	0	0	0	0	0
4		0	0			0	0	0	0	0	209	0
5		8	0			0	33	0	0	0	44	0
6		5	0			0	86	0	0	3	0	0
7		0	0			0	24	0	0	9	0	0
8		0	0			0	2	0	0	0	0	0
9		0	0			0	1	0	0	0	0	0
10		0	2			0	0	0	0	0	84	0
11		0	1			0	0	0	0	0	330	0
12		0	120			0	0	0	0	0	1	0
13		0	116			0	0	0	0	0	0	0
14		0	74			0	0	66	0	0	0	0
15		0	68			0	0	72	0	0	0	0
16		0	70			0	0	2	0	0	0	0
17		0	63			0	0	0	0	0	18	0
18		0	12			0	0	0	0	0	317	0
19		0	2			0	0	0	0	0	133	0
20		0	0			0	0	0	0	0	0	0
21		0	0			12	0	0	5	0	9	0
22		0	0			2	0	0	0	0	13	0
23		0	1			3	0	0	0	0	0	0
24		0	0			0	0	0	0	0	0	0
25		0	0			0	0	0	0	0	0	0
26		0	0			0	0	0	0	0	0	0
27		0	51			0	0	0	0	0	0	0
28		55	14			0	0	0	0	14	0	0
29		61	0			0	0	0	5	2	0	0
30		34	0			0	0	0	0	0	0	0
31			0			0		0		0	0	
Total	0	163	635	0	0	17	146	140	10	184	1158	14
Mean	0	5.43	20.5	0	0	0.55	4.87	4.52	0.33	5.94	37.4	0.47
Ac-ft	0	323	1,260	0	0	34	290	278	20	365	2,300	28
(†)	36,330	97,660	116,900	65,850	52,280	85,740	100,200	94,630	33,380	15,400	19,730	7,240

Calendar year 1965 : Max 3,520 Min 0 Mean 409 Ac-ft 296,200 (†) Mean 1,431 Ac-ft 1,036,000
Water year 1965-66 : Max 330 Min 0 Mean 6.76 Ac-ft 4,890 (†) Mean 1,002 Ac-ft 725,300

(†) Combined flow, in acre-ft and mean, in cfs, of floodway and conveyance channel.

8-3600. Alamosa Creek near Monticello, N. Mex.
(Formerly published as "Alamosa River near Monticello, N. Mex.)

Location.--Lat 33°34'10", long 107°36'20", in SW¼ sec.31, T.8 S., R.7 W., on left bank at Alamosa damsite and below Old Fort Ojo Caliente, just downstream from Wildhorse Creek, 15 miles northwest of Monticello.

Drainage area.--403 sq mi.

Records available.--October to December 1929, May 1931 to April 1942, July 1956 to June 1958 (annual maximum only), July 1958 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder and crest-stage gage. Datum of gage is 6,142.04 ft above mean sea level, datum of 1929. Prior to Aug. 17, 1930, at different datum. May 2, 1931, to Dec. 14, 1939, water-stage recorder at datum 0.20 ft lower and Dec. 15, 1939, to Apr. 17, 1942, at present datum. July 16, 1956, to July 27, 1958, crest-stage gage only at present site and datum.

Average discharge.--18 years (1931-41, 1958-66), 8.47 cfs (6,130 acre-ft per year).

Extremes.--Maximum discharge during year, 3,260 cfs June 20 (gage height, 7.40 ft); minimum, 5.6 cfs June 28.
1931-42, 1956-66: Maximum discharge, 10,800 cfs Aug. 13, 1964 (gage height, 14.04 ft), from rating curve extended above 390 cfs on basis of slope-area measurements at gage heights 6.66 and 12.0 ft; minimum, 5.2 cfs Jan. 9, 1932, Sept. 3, 1938, July 2, 3, 1965. Maximum flood known probably occurred in 1895, from information by local residents. A flood in August 1943 was highest since 1917.

Remarks.--Records good except those for periods of no gage-height record and those for July to September, which are poor. No diversion above station. Entire normal flow diverted below station for irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0	9.1	6.8	7.5	7.0	7.0	6.8	7.0	7.0	7.0	8.3	7.3
2	7.0	9.3	6.8	7.5	7.0	7.0	6.8	7.0	7.0	7.0	7.0	7.3
3	7.0	8.8	6.6	7.8	7.0	7.0	6.8	7.0	6.8	7.0	7.0	7.3
4	8.0	8.0	6.6	7.8	7.0	7.0	6.8	7.0	6.8	7.0	29	7.3
5	8.0	8.0	6.6	7.5	7.0	7.0	6.8	7.0	6.8	7.0	8.8	7.3
6	8.0	7.5	6.6	7.5	7.0	7.0	6.8	7.0	7.0	7.0	7.0	10
7	8.0	7.0	6.6	7.5	7.0	7.3	6.6	7.0	7.0	7.4	7.7	7.0
8	8.3	6.8	6.8	7.5	7.0	7.3	6.6	7.0	7.0	7.0	11	6.0
9	9.1	6.8	7.0	7.3	7.0	7.3	6.6	7.0	7.0	7.0	8.6	7.0
10	8.8	7.3	7.3	7.5	7.0	7.5	6.4	7.0	6.8	7.0	8.3	6.8
11	8.3	7.3	7.3	7.3	7.0	7.3	6.4	7.0	6.8	7.0	7.0	8.8
12	8.3	7.0	7.3	6.8	7.0	7.3	6.6	6.8	6.8	10	7.0	8.6
13	8.8	6.8	7.3	6.8	7.0	7.3	6.8	6.8	6.8	14	7.0	7.5
14	8.3	7.0	7.5	6.8	7.0	7.3	6.8	6.6	7.0	8.0	7.0	7.3
15	7.0	7.3	7.5	6.8	7.0	7.3	6.8	6.6	7.0	7.0	7.3	8.7
16	7.0	7.5	7.5	6.8	7.0	7.3	6.8	6.6	7.0	7.0	9.3	8.0
17	7.3	7.8	7.8	7.0	7.0	7.3	6.6	6.6	7.0	7.0	7.0	7.5
18	7.3	7.3	7.5	7.0	7.0	7.3	6.6	6.4	7.0	7.0	7.0	7.3
19	7.8	7.3	7.5	7.0	7.0	7.3	6.8	6.4	7.0	8.0	43	7.3
20	8.0	7.3	7.0	7.0	7.0	7.3	7.3	6.4	202	7.0	8.8	75
21	8.3	7.3	7.0	7.0	7.0	7.3	7.0	6.4	8.0	9.9	12	7.5
22	8.6	7.3	7.3	7.0	7.0	7.3	7.0	6.2	7.0	7.0	11	7.0
23	8.3	7.0	7.0	7.3	7.0	7.3	7.0	6.4	6.0	6.8	13	7.0
24	8.0	7.3	7.0	7.0	7.0	7.3	7.0	6.6	6.0	6.8	11	23
25	7.5	7.3	6.8	7.0	7.0	7.3	7.0	6.6	6.0	7.3	7.3	7.0
26	8.0	6.8	6.8	7.0	7.0	7.3	7.0	7.0	6.0	7.0	7.3	8.0
27	7.8	6.8	6.8	7.0	7.0	7.3	7.0	7.3	6.6	19	8.3	7.3
28	7.8	6.8	6.8	7.0	7.0	7.3	7.0	7.0	6.0	7.0	11	7.3
29	7.5	6.6	6.8	7.0	-	7.3	7.0	7.0	34	8.0	7.5	7.3
30	8.0	6.6	7.0	7.0	----------	7.0	7.0	7.0	55	7.5	7.5	7.3
31	8.0	----------	7.5	7.0	----------	6.8	----------	7.0	----------	7.0	7.3	----------
Total	245.1	221.0	218.7	222.0	196.0	223.9	204.5	210.7	474.2	245.7	316.3	308.0
Mean	7.91	7.37	7.06	7.16	7.00	7.22	6.82	6.80	15.8	7.93	10.2	10.3
Ac-ft	486	438	434	440	389	444	406	418	941	487	627	611

Calendar year 1965: Max 219 Min 5.2 Mean 8.65 Ac-ft 6,260
Water year 1965-66: Max 202 Min 6.0 Mean 8.45 Ac-ft 6,120

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-20	1545	7.40	3,260	8-19	1600	5.41	1,100
6-30	1445	5.33	1,160	9-20	1430	6.31	2,150

Note.--No gage-height record Jan. 24 to Feb. 13, Feb. 15 to Mar. 6.

8-3605. Elephant Butte Reservoir at Elephant Butte, N. Mex.

Location.--Lat 33°09'15", long 107°11'30", in NW¼ sec.30, T.13 S., R.3 W. (survey by Bureau of Reclamation), at dam on Rio Grande, 1 mile west of Elephant Butte and 4 miles northeast of Truth or Consequences (Hot Springs), N. Mex.

Drainage area.--29,445 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--March 1915 to September 1966. Prior to January 1940 published in WSP 1312.

Gage.--Water-stage recorder. Datum of gage is 43.3 ft above mean sea level, datum of 1929. Oct. 16, 1939, to May 2, 1940, and prior to September 1930, staff gages.

Extremes.--Maximum daily contents during year, 573,000 acre-ft Feb. 1 (gage height, 4,338.30 ft); minimum daily, 258,400 acre-ft Sept. 5 (gage height, 4,311.03 ft).
1915-66: Maximum daily contents, 2,302,800 acre-ft June 16-18, 1942 (gage height, 4,409.19 ft); minimum daily after initial filling, 9,900 acre-ft Aug. 6, 1954 (gage height, 4,258.03 ft).

Remarks.--Reservoir is formed by concrete dam. Storage began Jan. 6, 1915. Dam completed May 13, 1916. Capacity, 2,195,000 acre-ft (survey of 1961) between gage heights 4,231.5 (sill of outlet gate) and 4,407.0 ft (crest of spillway). Capacity by original survey was 2,638,900 acre-ft. No adjustment made for decrease in capacity due to sedimentation between effective dates of capacity tables. No dead storage, surveys of 1957 and 1961. No storage allocated to flood control. Figures given herein represent usable contents. Water is used for power development and irrigation on Rio Grande Project of Bureau of Reclamation. Lake is major recreational area. Contents given herein are computed from mean daily gage heights.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in thousands of acre-feet, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	298.6	328.8	416.2	520.3	573.2	527.6	491.9	471.1	439.2	375.8	302.8	260.7
2	299.4	330.0	419.6	523.5	571.5	525.1	490.9	469.8	437.8	375.3	300.3	259.7
3	300.3	331.6	422.9	525.9	569.9	523.4	490.2	468.8	436.4	374.3	298.1	258.7
4	300.7	333.1	425.9	528.2	568.3	520.8	489.9	467.8	434.9	372.6	296.6	258.4
5	302.0	335.7	429.2	530.2	566.7	518.6	489.4	466.8	433.2	370.4	295.6	258.7
6	303.3	338.4	432.4	532.2	565.1	516.4	489.3	465.9	431.5	368.4	294.2	258.9
7	304.5	341.8	435.7	534.0	563.0	514.2	489.4	465.1	429.9	365.4	291.9	259.7
8	305.6	344.6	439.3	535.9	561.0	511.6	489.4	464.5	428.7	363.2	289.4	259.8
9	306.7	347.8	442.6	537.5	559.6	509.6	489.3	463.5	426.6	360.9	286.3	259.9
10	307.8	350.8	446.0	539.1	558.2	507.4	488.6	462.7	424.3	358.5	284.1	260.0
11	308.7	353.9	449.2	540.9	556.6	505.3	488.0	462.5	421.7	355.9	282.6	260.1
12	309.3	357.0	452.7	542.6	555.2	503.5	487.5	461.7	418.4	353.3	280.9	260.1
13	309.6	359.8	456.3	544.3	553.9	502.3	487.1	461.5	415.6	351.0	279.4	260.1
14	310.3	363.1	459.9	546.1	551.8	501.4	486.9	461.4	412.3	348.8	278.4	260.2
15	310.9	366.2	463.5	548.0	550.2	500.5	486.2	461.2	409.3	346.4	277.3	260.4
16	311.3	369.2	467.2	549.9	548.5	500.1	485.3	461.5	405.8	344.1	275.7	260.6
17	311.9	372.4	471.0	551.1	547.1	499.4	484.3	461.0	403.0	341.6	274.3	260.7
18	312.4	375.4	474.8	553.2	545.5	499.6	483.3	460.6	400.7	339.0	273.4	260.9
19	313.2	377.6	478.0	555.0	543.9	499.4	482.3	459.6	398.5	336.4	272.1	261.1
20	314.3	381.3	481.0	556.6	542.2	499.4	482.2	458.3	395.8	334.0	271.5	261.1
21	315.5	384.4	484.3	558.7	540.7	499.4	481.6	457.0	393.4	331.3	270.6	261.5
22	316.6	387.3	487.5	560.0	538.9	499.8	481.1	455.4	391.1	328.6	269.4	261.6
23	317.6	390.3	490.9	561.9	537.1	499.4	480.5	453.8	388.6	326.0	267.8	261.6
24	318.9	393.6	494.0	562.8	535.5	499.2	479.7	452.2	386.0	323.3	266.4	261.7
25	320.3	396.7	496.6	565.0	533.9	499.1	478.9	450.8	383.6	320.5	265.6	261.7
26	321.5	400.0	500.5	566.3	532.6	498.8	478.0	448.9	381.7	317.5	264.8	261.9
27	322.9	403.1	504.0	567.6	530.8	498.3	477.0	447.1	379.2	314.9	264.3	261.9
28	324.2	406.6	507.3	568.9	529.5	497.2	475.4	445.0	377.1	314.1	263.9	261.8
29	325.4	409.6	510.4	570.4		495.5	473.8	443.6	377.8	309.3	263.1	261.8
30	326.5	412.9	513.8	571.8	----------	494.0	472.4	442.1	376.4	306.7	262.3	262.3
31	327.6	----------	517.2	572.9	----------	492.5	----------	440.5	----------	304.8	261.3	----------
(†)	4,318.2	4,325.9	4,334.2	4,338.3	4,335.1	4,332.3	4,330.7	4,328.2	4,322.7	4,316.0	4,311.4	4,311.5
(‡)	+55.7	-43.4	-37.0	-20.1	-31.9	-64.1	-71.6	-43.5	+1.0	-0.1	+40.6	+41.2

Calendar year 1965: (‡) +429.9
Water year 1965-66: (‡) - 36.0

† Gage height, in feet, at end of month.
‡ Change in contents, in thousands of acre-feet.

8-3610. Rio Grande below Elephant Butte Dam, N. Mex.

Location.--Lat 33°08'45", long 107°12'20", in SW¼ sec.25, T.13 S., R.4W. (projected), in Pedro Armendaris Grant, on left bank 1.0 mile downstream from dam and 1½ miles upstream from Cuchillo Negro River.

Drainage area.--29,450 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--January 1915 to September 1966. Monthly or annual discharge only for some periods, published in WSP 1732. Figures of daily discharge, published in WSP 458 for October to December 1916, have been found to be unreliable and should not be used.

Gage.--Digital water-stage recorder and crest-stage gage. Datum of gage is 4,242.09 ft above mean sea level, datum of 1929. Prior to Jan. 1, 1931, at one of three sites 0.1 to 1.0 mile upstream at different datums. Jan. 1, 1931, to Jan. 16, 1939, at site 400 ft downstream from dam at datum 12.80 ft higher than present datum. Jan. 17, 1939, to Dec. 31, 1940, at site 0.7 mile upstream at datums 0.06 ft lower and 1.36 ft lower Jan. 17 to Mar. 29, 1939, and Mar. 30, 1939, to Dec. 31, 1940, respectively. Jan. 1, 1941, to Apr. 23, 1942, at site 128 ft upstream from preceding gage at datum 0.91 ft lower than present gage. Prior to Feb. 2, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--51 years, 1,025 cfs (742,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,080 cfs May 7 (gage height, 6.61 ft); minimum, 1.6 cfs Nov. 20-22.
1915-66: Maximum daily discharge, 8,220 cfs May 22, 1942; no flow at times prior to 1929.

Remarks.--Records good except those for April-July, which are fair. Flow regulated by Elephant Butte Reservoir (see station 8-3605). Diversion for irrigation of about 800,000 acres above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	5.1	4.8	16	5.5	1,470	1,870	1,850	1,910	1,860	1,270	1,260	510
2	4.6	5.1	28	5.1	1,600	1,850	1,850	1,880	1,860	1,250	1,240	502
3	6.0	4.6	16	5.1	1,600	1,870	1,850	1,910	1,860	1,240	1,250	510
4	5.5	4.6	14	9.0	1,600	1,870	1,840	1,910	1,860	1,230	1,260	33
5	6.0	5.5	13	11	1,600	1,850	1,840	1,910	1,850	1,230	1,260	18
6	4.6	6.5	12	8.8	1,600	1,870	1,850	1,920	1,850	1,380	1,260	15
7	4.2	6.5	11	8.2	1,610	1,870	1,850	1,920	1,850	1,800	1,250	10
8	5.1	6.3	8.2	7.7	1,610	1,880	1,840	1,920	1,790	1,250	1,260	9.7
9	4.6	6.0	8.6	7.5	1,600	1,880	1,850	1,910	1,850	1,240	1,270	12
10	5.1	6.3	8.7	7.2	1,600	1,880	1,850	1,910	1,860	1,240	1,240	10
11	4.2	5.6	7.6	6.5	1,600	1,880	1,850	1,910	1,860	1,240	1,270	10
12	4.6	5.5	7.5	6.2	1,610	1,880	1,840	1,900	1,860	1,250	1,270	9.0
13	4.6	5.5	7.5	6.0	1,610	1,880	1,840	1,890	1,850	1,240	802	9.0
14	5.1	5.5	7.1	6.0	1,610	1,880	1,840	1,890	1,860	1,250	810	8.5
15	4.6	5.5	11	5.6	1,610	1,870	1,700	1,870	1,860	1,240	818	8.0
16	4.2	5.5	9.4	5.1	1,610	1,870	1,850	1,870	1,860	1,240	806	7.5
17	4.2	5.5	8.5	5.1	1,610	1,870	1,840	1,870	1,260	1,240	808	7.0
18	4.2	5.5	7.8	5.3	1,610	1,610	1,850	1,860	1,240	1,240	848	6.5
19	3.4	4.9	7.5	5.5	1,620	1,870	1,860	1,860	1,250	1,250	830	6.0
20	3.8	4.6	8.3	9.0	1,610	1,870	1,440	1,860	1,250	1,240	830	5.5
21	3.8	4.6	8.8	14	1,600	1,870	1,870	1,850	1,250	1,250	821	5.0
22	3.4	5.0	8.5	13	1,600	1,860	1,860	1,830	1,260	1,240	820	4.5
23	4.6	5.8	8.7	12	1,600	1,870	1,850	1,830	1,260	1,260	815	4.0
24	4.2	4.9	6.9	11	1,620	1,870	1,860	1,810	1,280	1,250	820	3.5
25	4.2	5.8	6.5	42	1,610	1,870	1,850	1,860	1,270	1,240	832	3.3
26	6.5	5.4	6.0	39	1,610	1,870	1,840	1,840	1,270	1,260	518	3.4
27	6.0	4.6	6.0	15	1,580	1,860	1,840	1,800	1,270	1,250	182	2.8
28	5.5	4.4	6.0	23	1,590	1,850	1,860	1,890	1,270	1,250	497	2.2
29	5.5	4.2	6.0	15	-	1,830	1,880	1,860	1,260	1,250	508	1.8
30	5.5	8.2	6.0	14	------	1,850	1,900	1,860	1,250	1,250	504	1.4
31	4.6	------	5.5	27	------	1,850	------	1,870	------	1,250	353	------
TOTAL	147.5	162.7	292.6	360.4	44,800	57,620	54,990	58,180	47,280	39,310	28,312	1,738.6
MEAN	4.76	5.42	9.44	11.6	1,600	1,859	1,833	1,877	1,576	1,268	913	58.0
AC-FT	293	323	580	715	88,860	114,300	109,100	115,400	93,780	77,970	56,160	3,450

CALENDAR YEAR 1965	MAX	2,800	MIN	2.8	MEAN	720	AC-FT	521,500
WATER YEAR 1965-66	MAX	1,920	MIN	1.4	MEAN	913	AC-FT	660,900

8-3620. Caballo Reservoir near Arrey, N. Mex.

Location.--Lat 32°53'45", Long 107°17'30", in SE¼SW¼ sec.19, T.16 S., R.4 W., in control tower of Caballo Dam on Rio Grande, 0.5 mile downstream from mouth of Apache Canyon, 0.9 mile upstream from Bojarquez Bridge, 2 miles upstream from Percha diversion dam, 3.5 miles northeast of Arrey, and 5¼ miles south of Caballo, N. Mex.

Drainage area.--30,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--February 1938 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 43.3 ft above mean sea level, datum of 1929.

Extremes.--Maximum daily contents during year, 156,410 acre-ft June 9 (gage height, 4,162.02 ft); minimum daily, 11,560 acre-ft Oct. 1 (gage height, 4,128.29 ft).
1938-66: Maximum daily contents, 347,000 acre-ft Mar. 4, 1942 (gage height, 4,182.06 ft); minimum daily, 118 acre-ft Oct. 14, 1938 (gage height, 4,108.1 ft).

Remarks.--Reservoir is formed by earth-fill dam, completed Sept. 19, 1938. Storage began Feb. 8, 1938. Capacity (1958 survey), 344,000 acre-ft between gage heights 4,104 (bottom of tunnel entrance of gates) and 4,182 ft (gage height above which spillway gates operate automatically). No dead storage. Storage held for flood control, 100,000 acre-ft. Figures given herein represent usable contents. Water released from Elephant Butte Reservoir for power development is stored in Caballo Reservoir and released for irrigation on Rio Grande project of Bureau of Reclamation. Contents given herein are computed from mean daily gage heights.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in thousands of acre-feet, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11.56	13.37	14.72	17.89	20.54	100.68	83.88	115.66	151.25	144.98	103.01	75.10
2	11.65	13.39	14.76	18.13	23.10	103.73	81.77	117.74	152.06	145.71	101.95	73.52
3	11.72	13.45	14.86	18.26	26.27	107.57	80.18	119.81	152.58	146.58	100.00	71.98
4	11.77	13.54	14.90	18.32	29.34	111.29	78.83	121.65	153.46	147.51	99.88	70.43
5	11.84	13.56	14.94	18.41	32.48	113.62	77.67	123.60	154.27	148.24	100.00	68.11
6	11.95	13.58	15.00	18.52	35.72	115.27	77.00	125.48	155.08	148.60	99.94	66.46
7	12.04	13.66	15.06	18.58	38.31	116.57	76.85	126.96	155.89	149.41	99.71	64.78
8	12.11	13.73	15.08	18.67	41.20	118.00	77.38	128.46	156.18	150.00	99.88	63.32
9	12.16	13.75	15.12	18.71	44.11	119.16	78.44	129.56	156.41	150.00	99.94	61.76
10	12.25	13.79	15.25	18.82	47.07	120.20	79.55	130.60	156.26	150.22	99.25	60.31
11	12.30	13.87	15.35	18.88	50.10	120.98	80.62	131.70	155.74	150.51	98.51	58.86
12	12.32	13.92	15.43	18.97	52.98	121.11	81.77	132.60	155.67	150.43	97.70	57.54
13	12.40	13.96	15.49	19.02	55.96	120.65	83.42	133.50	155.89	149.04	97.08	55.92
14	12.46	14.00	15.55	18.99	58.78	120.33	85.08	134.39	155.96	146.65	95.30	53.55
15	12.51	14.00	15.57	19.11	61.55	119.94	86.41	135.38	155.82	143.98	93.33	51.05
16	12.52	14.07	15.69	19.18	64.35	118.90	87.78	136.29	155.52	141.02	91.14	48.91
17	12.60	14.11	15.77	19.18	67.03	118.00	89.19	137.56	154.71	138.06	88.25	47.18
18	12.63	14.15	15.84	19.20	69.94	116.57	90.77	138.84	153.24	135.16	86.00	46.21
19	12.72	14.24	15.88	19.34	72.77	114.49	92.67	139.68	151.84	132.67	83.52	46.24
20	12.79	14.28	15.92	19.38	75.56	112.61	94.48	140.53	150.73	129.77	81.52	46.41
21	12.80	14.32	15.96	19.56	78.49	110.11	95.96	141.66	149.41	126.83	81.21	46.76
22	12.84	14.32	16.04	19.63	81.16	107.99	97.76	142.67	147.51	123.94	80.52	46.96
23	12.92	14.36	16.40	19.67	83.83	105.53	99.88	143.69	145.86	121.25	80.08	47.03
24	12.98	14.43	16.90	19.72	86.68	103.01	101.59	144.55	143.90	117.87	81.32	47.18
25	13.01	14.49	17.11	19.76	89.46	100.51	103.67	145.13	142.02	115.66	82.67	47.50
26	13.07	14.53	17.24	19.83	92.23	97.36	105.53	145.64	140.18	113.30	82.37	47.61
27	13.11	14.55	17.37	19.92	95.30	94.31	107.63	146.43	139.40	110.92	81.77	47.79
28	13.15	14.66	17.46	19.99	97.93	91.74	109.48	147.44	139.40	108.79	80.76	47.86
29	13.20	14.68	17.52	20.04	-	89.87	111.55	148.46	140.82	106.85	79.89	47.90
30	13.28	14.70	17.57	20.08	----------	87.99	113.68	149.48	143.33	105.41	78.68	48.04
31	13.34	----------	17.68	20.17	----------	85.84	----------	150.51	----------	104.09	77.00	----------
(†)	4129.3	4130.0	4131.4	4132.6	4153.2	4151.0	4155.9	4161.2	4154.3	4158.8	4149.2	4142.3
(‡)	+1.83	+1.36	+2.98	+2.49	+77.76	-12.09	+27.84	+36.83	-7.18	-39.24	-27.09	-28.96

Calendar year 1965: (‡) + 6.62
Water year 1965-66: (‡) +36.53

† Gage height, in feet, at end of month.
‡ Change in contents, in thousands of acre-feet.

8-3625. Rio Grande below Caballo Dam, N. Mex.

Location.--Lat 32°53'05", long 107°17'30", in NE¼SW¼ sec.30, T.16 S., R.4 W., on left bank 2,000 ft upstream from Interstate Highway 25, 4,200 ft downstream from Caballo Dam, 1¼ miles downstream from Apache Canyon, 1⅓ miles upstream from Percha diversion dam, 3 miles northeast of Arrey, and 5 miles south of Caballo.

Drainage area.--30,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--January 1938 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,140.9 ft above mean sea level, datum of 1929. Prior to Oct. 7, 1938, at datum 7.0 ft higher, Oct. 7-12, 1938, at datum 6.0 ft higher, and Oct. 13, 1938, to Dec. 31, 1945, at datum 5.0 ft higher than present datum.

Average discharge.--28 years, 898 cfs (650,100 acre-ft per year).

Extremes.--Maximum daily discharge during year, 3,410 cfs Mar. 26; minimum daily, 0.6 cfs Nov. 21-26.
1938-66: Maximum daily discharge, 7,650 cfs May 20, 1942; minimum daily, 0.1 cfs Oct. 31 to Nov. 14, 1954, Nov. 7 to Dec. 31, 1955.

Remarks.--Records good. Flow regulated by Caballo Reservoir (capacity, 344,000 acre-ft, 1958 survey) and Elephant Butte Reservoir (capacity, 2,195,000 acre-ft, 1961 survey). Diversions for irrigation of about 800,000 acres above station. Figures of daily discharge do not include Bonita ditch which diverts from Caballo Dam and bypasses station for irrigation below. See monthly table below for record of ditch.

Cooperation.--Records furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	0.7	0.7	0.7	0.9	1.0	2,990	755	1,360	713	1,780	1,280
2	1.0	.7	.7	.7	.9	1.0	2,850	728	1,360	819	1,960	1,240
3	1.0	.7	.7	.7	.9	1.0	2,640	740	1,320	819	1,640	1,190
4	1.0	.7	.7	.7	.9	1.0	2,510	783	1,290	808	1,170	1,210
5	1.0	.7	.7	.7	.9	233	2,320	822	1,310	929	1,470	1,100
6	1.0	.7	.7	.7	.9	968	2,060	883	1,320	1,080	1,200	863
7	1.0	.7	.7	.8	.9	1,000	1,790	975	1,420	1,160	1,400	841
8	1.0	.7	.7	.8	.9	1,020	1,460	1,060	1,540	1,220	1,320	788
9	1.0	.7	.7	.9	.9	1,150	1,320	1,130	1,660	1,160	1,530	819
10	1.0	.7	.7	.9	.9	1,260	1,300	1,190	1,890	1,150	1,660	807
11	1.0	.7	.7	1.0	.9	1,540	1,300	1,260	1,920	1,180	1,660	796
12	1.0	.7	.7	1.0	.9	1,820	1,190	1,270	1,780	1,690	1,650	784
13	1.0	.7	.7	1.0	.9	1,960	1,090	1,270	1,700	2,260	1,620	1,050
14	1.0	.7	.7	.9	.9	1,980	1,050	1,240	1,810	2,470	1,800	1,260
15	1.0	.7	.7	.9	.9	2,140	1,070	1,220	1,900	2,600	1,850	1,180
16	1.0	.7	.7	.9	.9	2,300	1,080	1,180	1,920	2,690	2,080	1,070
17	1.0	.7	.7	.9	.9	2,310	1,020	1,130	1,960	2,690	2,250	869
18	1.0	.7	.7	.9	1.0	2,440	894	1,170	1,940	2,560	2,170	262
19	1.0	.7	.7	.9	1.0	2,560	842	1,270	1,840	2,630	1,990	8
20	1.0	.7	.7	.9	1.0	2,920	859	1,250	1,780	2,780	1,510	2
21	1.0	.6	.7	.9	1.0	2,980	894	1,180	1,980	2,780	1,100	1.5
22	1.0	.6	.7	.9	1.0	2,800	882	1,240	2,080	2,730	1,310	1.5
23	1.0	.6	.7	.9	1.0	2,900	832	1,270	2,060	2,680	1,140	1.5
24	.9	.6	.7	.9	1.0	2,960	842	1,360	2,170	2,660	977	1.5
25	.8	.6	.7	.9	1.0	3,180	801	1,440	2,280	2,630	951	1.5
26	.8	.6	.7	.9	1.0	3,410	807	1,380	1,950	2,460	967	1.5
27	.8	.7	.7	.9	1.0	3,200	788	1,320	1,460	2,340	862	1.5
28	.7	.7	.7	.9	1.0	2,930	726	1,280	1,080	2,320	880	1.5
29	.7	.7	.7	.9	-	2,820	716	1,280	646	2,140	957	1.4
30	.7	.7	.7	.9	----------	2,900	763	1,210	177	1,900	1,180	1.4
31	.7	----------	.7	.9	----------	3,040	----------	1,280	----------	1,790	1,340	----------
Total	29.1	20.4	21.7	26.8	26.3	60,725.0	39,686	35,566	48,903	59,838	45,374	17,433.8
Mean	0.94	0.68	0.70	0.86	0.94	1,959	1,323	1,147	1,630	1,930	1,464	581
Ac-ft	58	40	43	53	52	120,400	78,720	70,540	97,000	118,700	90,000	34,580
(†)	0	0	0	0	0	107	181	88	167	276	154	89

Calendar year 1965: Max 2,840 Min 0.6 Mean 698 Ac-ft 505,600
Water year 1965-66: Max 3,410 Min 0.6 Mean 843 Ac-ft 610,200

† Diversion, in acre-feet, by Bonita ditch. Bonita ditch diverts directly from Caballo Dam and this diversion is not included in the river records.

8-3636. Las Cruces Arroyo near Las Cruces, N. Mex.

Location.--Lat 32°18'55", long 106°45'00", in SW¼SW¼ sec.9, T.23 S., R.2 E. (projected), on left bank in Dona Ana Bend Colony Grant, 100 ft upstream from Interstate Highway 25, and 1½ miles northeast of Las Cruces City Hall.

Drainage area.--13.5 sq mi, approximately.

Records available.--May 1958 to September 1966 (discontinued).

Gage.--Water-stage recorder. Altitude of gage is 4,035 ft (from topographic map). Prior to Aug. 17, 1960, at two sites about 670 ft upstream at datum 11.96 ft higher.

Average discharge.--8 years, 0.089 cfs (64.4 acre-ft per year).

Extremes.--Maximum discharge during year, 500 cfs Aug. 16 (gage height, 1.40 ft), on basis of slope-area measurement of peak flow; no flow for most of time.
1958-66: Maximum discharge, 2,170 cfs Aug. 22, 1965 (gage height, 3.38 ft), on basis of slope-area measurement of peak flow; no flow for most of time.
Greatest flood since about 1934 occurred Sept. 21, 1941 (discharge, 2,630 cfs, as determined by Corps of Engineers from newspaper accounts and rainfall-runoff studies). Another flood of about 1,900 cfs occurred Aug. 30, 1935.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

July 21	5.0
Aug. 3	1.0
Aug. 16	18
Sept. 3	.10
Sept. 6	3.0
Sept.19	2.0

	Cfs-days	Maximum	Minimum	Mean	Runoff in Acre-feet
Calendar year 1965	53.2	40	0	0.15	106
July	5.0	5.0	0	0.16	9.9
August	19.0	18.0	0	0.61	38
September	5.1	3.0	0	0.17	10
Water year 1965-66	29.1	26.0	0	0.94	57.9

Note.--No gage-height record July 21; Aug. 3, 16; Sept. 3, 6, 19.

8-3637. Tortugas Arroyo near Las Cruces, N. Mex.

Location.--Lat 32°17'20", long 106°43'45", in SE¼SW¼ sec.22, T.23 S., R.2 E. (projected), in Dona Ana Bend Colony Grant, 30 ft downstream from flood detention dam, 1.2 miles northeast of New Mexico State University and 3.3 miles southeast of Las Cruces Post Office, Dona Ana County.

Drainage area.--20.7 sq mi.

Records available.--October 1962 to September 1966.

Gage.--Water-stage recorder and Parshall flume at downstream end of reservoir outlet pipe. Datum of gage is 4,071.62 above mean sea level (SCS bench mark).

Extremes.--Maximum discharge during year, 34 cfs Sept. 4 (gage height, 1.38 ft); no flow for most of time.
1963-66: Maximum discharge, 68 cfs Aug. 22, 1965 (gage height, 2.05 ft); no flow for most of time.

Remarks.--Records good. Records represent outflow from Tortugas Reservoir, completed in 1962. Records of suspended sediment loads for the water year 1966 are published in part 2 of this report.

Reservoir is designed to retard flood flows and detain silt. Dam is earth-fill, L-shaped, 3,400 ft long at crest and 44 ft high. Original capacity, 1,325 acre-ft at spillway crest. No dead storage, though deposition of silt is expected to reduce storage capacity. Outlet drop tower is 9'-2" x 4'-2" inside and 18'6" high. The tower has 9 rectangular outlet ports, each 8"x17", but 6 are presently closed. Tower is connected to downstream channel by a 30-inch diameter pipe. Records will be published in tabular form, as flow events.

Outflow during water year October 1965 to September 1966

Flow event	Date	Outflow (hours)	Maximum (cfs)	Cfs-days	Runoff (acre-ft)
10	June 29	6	10	0.67	1.3
11	Aug. 3,4	11	14	1.4	2.8
12	Aug. 5,6	12	1.9	0.29	0.6
13	Aug. 16	5	1.2	0.12	0.2
14	Aug 19-20	23	26	5.2	10
15	Sept. 4,5	29	36	16	32
16	Sept. 6,7	16	.90	0.13	0.2
17	Sept. 7,8	18	8.5	0.84	1.7
18	Sept. 20,21	30	31	12	24
Totals		150	129.5	36.65	72.8

8-3640 Rio Grande at El Paso, Tex.

Location.--Lat 31°48'10", long 106°32'25", on downstream side of first pier from left abutment of Courchesne Bridge at El Paso, 1.7 miles upstream from American Dam, 5.6 miles upstream from Santa Fe Street - Juarez Avenue Bridge between El Paso and Cd. Juarez, Chihuahua, and at mile 1,249.9.

Drainage area.--32,207 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--1889 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 3,722.30 ft above mean sea level (U.S.C. & G.S. datum).

Average discharge.--1938-1966 (calendar years), 550.6 cfs (398,594 acre-ft per year).

Extremes.--Maximum discharge during year, 4,560 cfs Aug. 4 (gage height, 6.63 ft); minimum, 9.5 cfs Mar. 4. Extreme discharges are those passing the El Paso station.
1889-1915: Maximum discharge, 24,000 cfs June 12, 1905; no flow at times.
1915-1966: Maximum discharge, 13,500 cfs Sept. 3, 1925, subsequent to closing of Elephant Butte Dam; no flow at times.

Remarks.--Mean daily discharges for 1966 were computed by adding the flows in the American Canal and the flows at the river station below the American Dam. Because the mean daily discharges are rounded, the monthly sum for this station may not equal the sum of the monthly sums of the other two stations. Measurements are made at the El Paso station only during high flows. Reservoirs, diversions, and drainage returns modify the river flow at this station.

Cooperation.--Records furnished by International Boundary and Water Commission, United States and Mexico.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52.5	21.5	168	15.7	13.8	12.1	1,210	292	584	1,120	1,020	352
2	47.9	22.8	16.4	16.2	14.4	11.9	1,130	348	554	637	987	346
3	45.2	23.4	16.4	15.4	12.8	10.6	1,200	387	636	515	1,080	332
4	44.5	21.8	16.8	14.9	13.6	10.1	1,010	262	633	662	1,870	362
5	44.9	21.4	19.4	15.3	14.5	10.8	978	221	630	689	1,070	516
6	45.2	22.5	16.0	15.4	15.4	11.2	1,090	243	637	589	779	716
7	44.2	21.4	15.7	15.5	15.2	11.3	979	246	672	473	1,120	740
8	44.5	21.5	15.7	15.9	16.7	11.5	846	263	655	399	834	511
9	44.2	19.1	15.4	16.0	13.8	106	714	361	668	468	1,110	436
10	39.9	18.7	18.8	16.1	12.7	364	607	400	734	437	743	310
11	38.5	20.7	19.8	16.2	12.5	384	524	489	1,000	590	794	276
12	34.6	20.4	19.0	15.8	12.9	422	589	463	1,210	497	817	307
13	35.9	19.7	18.7	15.8	11.1	577	568	492	1,090	419	757	282
14	33.0	20.6	18.4	16.0	11.3	797	546	513	915	758	870	272
15	28.8	21.2	19.2	16.0	13.4	705	420	579	833	1,040	743	268
16	29.3	20.0	18.1	15.6	14.5	760	425	631	824	1,110	756	312
17	33.1	20.7	18.0	15.6	16.4	975	424	616	875	1,170	886	387
18	32.3	21.8	18.4	15.8	14.0	752	556	588	862	1,140	836	408
19	30.6	21.2	18.7	16.0	14.0	718	566	513	917	1,180	999	562
20	32.0	21.1	18.5	15.8	12.6	1,140	465	460	929	1,020	1,000	450
21	28.1	20.9	17.1	16.0	11.5	1,560	373	498	897	1,020	1,820	356
22	29.1	19.7	17.4	15.8	12.6	1,640	315	511	778	1,290	1,140	262
23	28.9	19.1	19.2	16.3	12.4	1,320	333	426	818	1,090	746	216
24	24.3	18.9	18.6	16.1	11.5	1,430	368	468	767	1,160	850	216
25	26.8	18.2	17.6	16.3	13.3	1,180	402	557	735	1,200	876	188
26	25.2	16.9	17.6	14.9	14.0	1,410	415	581	952	1,370	826	177
27	23.3	16.7	17.6	16.5	12.9	1,650	366	673	1,670	1,160	594	180
28	24.3	16.9	17.4	23.3	12.2	1,520	365	661	1,230	1,110	515	169
29	23.4	15.2	16.0	16.5	-	1,170	394	596	932	968	420	157
30	21.2	15.3	15.9	15.2	----------	965	324	592	1,340	1,080	370	147
31	19.4	----------	15.3	15.0	----------	937	----------	579	----------	1,060	360	----------
Total	1,055.1	599.3	543.9	496.9	376.0	22,571.5	18,502	14,509	25,977	27,421	27,588	10,213
Mean	34.0	20.0	17.5	16.0	13.4	728	617	468	866	885	890	340
Ac-ft	2,093	1,189	1,079	986	746	44,771	36,699	28,779	51,525	54,390	54,721	20,257

Calendar year 1965: Max 1,320 Min 4.1 Mean 280 Ac-ft 202,392
Water year 1965-66: Max 1,870 Min 10.1 Mean 411 Ac-ft 297,235

8-3779. Rio Mora near Terrero, N. Mex.

Location.--Lat 35°46'38", long 105°39'26", in E½NE¼ sec.22, T.18 N., R.12 E., on left bank 450 ft upstream from bridge on State Highway 63, 600 ft upstream from mouth, and 3.1 miles by road north of Terrero.

Drainage area.--53.2 sq mi.

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,890 ft (from topographic map).

Extremes.--Maximum discharge during year, 145 cfs Aug. 2 (gage height, 2.41 ft); minimum determined, 2.4 cfs Nov. 22, may have been less during periods of ice effect.
1963-66: Maximum discharge, 451 cfs July 29, 1965 (gage height, 3.56 ft); minimum, 0.5 cfs Jan. 8, 1964.
Greatest flood since 1886 probably occurred Sept. 29, 1904 (based on statement for Pecos River near Pecos and history of that flood period).

Remarks.--Records good except those for November to March, which are poor. This is a bench mark station established to define hydrologic trend of the contiguous area. About 90 percent of the drainage is in the Pecos Wilderness Area and not subject to development, watershed management, or the building of highways; there is limited cattle grazing by permit. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	10	7.0	6.7	58	8.0	38	53	43	22	55	35
2	20	9.2	7.5	5.5	5.0	7.5	46	54	41	19	105	32
3	19	9.2	8.0	3.5	4.0	7.0	47	56	35	17	122	30
4	18	9.0	8.5	3.7	4.7	6.5	39	60	32	16	116	29
5	18	8.6	8.5	4.0	5.3	7.0	33	66	30	15	104	28
6	17	8.6	7.9	4.5	6.0	8.0	30	76	28	15	100	30
7	16	8.6	8.2	5.0	6.5	8.5	30	87	27	17	85	28
8	15	8.2	98	5.5	6.2	9.5	34	96	25	17	74	28
9	15	8.6	11	5.5	5.7	10	35	107	24	14	69	27
10	14	8.2	12	5.5	5.0	11	37	107	35	16	62	24
11	13	8.2	11	5.5	4.7	11	39	96	27	26	64	23
12	13	7.8	6.5	5.5	4.5	12	36	89	24	18	56	22
13	13	8.2	6.2	5.0	4.5	13	35	78	21	20	49	21
14	12	8.0	5.5	5.0	4.5	14	33	71	20	25	45	20
15	12	8.0	6.0	5.0	4.5	20	32	70	19	23	42	22
16	13	8.5	5.7	4.5	4.7	25	34	68	21	24	44	19
17	21	7.9	5.3	4.5	5.0	27	40	66	32	24	42	18
18	17	7.7	5.2	4.7	5.3	26	41	64	24	24	40	17
19	15	6.7	5.1	5.0	5.8	30	37	63	21	30	45	16
20	15	5.8	5.0	4.7	6.0	28	33	60	21	44	46	15
21	14	7.2	7.0	4.0	6.0	28	30	58	25	41	40	15
22	13	6.1	8.0	3.5	5.5	27	31	56	21	35	38	14
23	13	12	8.0	3.5	5.5	22	28	54	18	40	40	15
24	13	12	7.0	3.5	5.7	22	29	52	17	43	50	14
25	13	12	6.0	3.7	7.0	23	27	50	16	38	45	13
26	12	12	6.5	4.0	7.5	23	29	47	17	41	41	13
27	12	7.0	7.0	4.5	8.0	23	35	44	24	45	38	14
28	11	6.5	7.3	5.0	8.0	25	39	41	23	42	38	16
29	11	6.5	7.6	5.5	-	24	48	38	22	52	40	13
30	11	7.0	8.0	5.8	----------	23	55	35	23	64	39	12
31	11	----------	7.6	6.0	----------	28	----------	38	----------	58	39	----------
Total	451	253.3	229.9	1478	156.9	557.0	1.080	2.000	756	925	1.813	623
Mean	14.5	8.44	7.42	4.77	5.60	18.0	36.0	64.5	25.2	29.8	58.5	20.8
Ac-ft	895	502	456	293	311	1.100	2.140	3.970	1.500	1.830	3.600	1.240

Calendar year 1965: Max 312 Min 3.0 Mean 41.5 Ac-ft 30,030
Water year 1965-66: Max 122 Min 3.5 Mean 24.6 Ac-ft 17,840

Peak discharge (base, 100 cfs).--May 9 (2200) 114 cfs (2.23 ft); Aug. 2 (2245) 145 cfs (2.41 ft).

Note.--No gage-height record Jan. 21 to Mar. 13.

8-3785. Pecos River near Pecos, N. Mex.

Location.--Lat 35°42'30", long 105°40'55", in NE¼NE¼ sec.17, T.17 N., R.12 E., on left bank at downstream side of bridge on private road, 600 ft upstream from Indian Creek, 2 miles downstream from Holy Ghost Creek, and 9 miles north of Pecos.

Drainage area.--189 sq mi (contributing area).

Records available.--August 1919 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Published as "near Cowles" 1919-25, "at Irvins Ranch" 1926-29, and as "at Irvins Ranch, near Pecos" 1930-39.

Gage.--Water-stage recorder. Datum of gage is 7,502.94 ft above mean sea level, datum of 1929.

Average discharge.--47 years, 99.5 cfs (72,040 acre-ft per year).

Extremes.--Maximum discharge during year, 380 cfs May 9 (gage height, 3.31 ft); maximum gage height, 4.38 ft Dec. 19 (ice jam); minimum discharge, 17 cfs Nov. 22.
1919-66: Maximum discharge, about 4,500 cfs Sept. 21 or 22, 1929 (gage height, 6.2 ft, from floodmark), from rating curve extended above 1,600 cfs by logarithmic plotting; minimum daily, 6 cfs Dec. 22, 23, 1956, Jan. 18, 22, 30, 1957.
Flood of Sept. 29, 1904, was greatest since 1886, from information by local residents.

Remarks.--Records excellent except those for winter periods, which are poor. Diversions for irrigation of about 75 acres (1959 determination) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	47	37	36	29	35	132	217	226	30	110	92
2	84	44	38	30	27	34	164	217	208	70	211	76
3	80	44	40	27	25	32	180	223	174	64	252	71
4	78	42	40	31	27	30	156	242	158	59	226	70
5	76	41	42	33	30	32	132	258	151	58	193	68
6	71	41	41	34	31	35	118	290	139	56	205	68
7	68	41	40	35	32	38	120	294	134	63	169	68
8	64	39	40	35	31	43	134	302	127	64	151	68
9	64	41	41	34	28	48	146	348	120	56	141	66
10	63	39	55	34	24	50	161	344	169	61	130	59
11	59	39	47	33	23	51	161	314	132	85	134	58
12	59	37	39	32	22	56	151	290	118	68	116	56
13	58	38	37	32	21	61	148	266	108	68	103	53
14	56	37	35	30	22	63	141	233	103	86	97	53
15	56	37	37	30	24	76	139	233	93	75	101	75
16	59	39	35	25	26	76	148	239	105	78	110	58
17	89	38	35	28	30	89	169	239	127	78	112	51
18	75	37	33	30	32	89	166	245	103	76	105	50
19	70	32	33	32	34	91	158	242	93	99	108	48
20	71	31	30	25	35	97	155	242	95	151	112	47
21	66	37	35	25	35	91	154	239	105	118	97	47
22	64	28	40	22	33	89	148	239	91	95	89	45
23	64	61	40	23	31	79	139	242	82	101	93	48
24	61	73	35	23	30	80	134	235	76	108	134	47
25	58	70	32	25	35	76	127	226	71	91	108	42
26	56	80	38	26	36	76	134	214	73	114	95	41
27	53	59	39	27	34	82	158	208	93	110	89	45
28	51	35	40	28	36	84	177	190	93	105	93	55
29	50	35	40	30	-	80	199	182	84	123	93	45
30	48	36	47	31	----------	80	220	177	88	146	88	42
31	48	----------	39	31	----------	101	----------	205	----------	125	91	----------
Total	2,008	1,298	1,200	917	823	2,044	4,569	7,636	3,539	2,731	3,956	1,702
Mean	64.8	43.3	38.7	29.6	29.4	65.9	152	246	118	88.1	128	56.7
Ac-ft	3,980	2,570	2,380	1,820	1,630	4,050	9,060	15,150	7,020	5,420	7,850	3,380

Calendar year 1965: Max 738 Min 14 Mean 127 Ac-ft 92,230
Water year 1965-66: Max 348 Min 21 Mean 88.8 Ac-ft 64,310

Peak discharge (base, 310 cfs).--May 9 (2000) 380 cfs (3.31 ft); Aug. 2 (2300) 314 cfs (3.16 ft).

8-3795. Pecos River near Anton Chico, N. Mex.

Location.--Lat 35°10'45", long 105°06'30", in Anton Chico Grant, on right bank 2 miles upstream from Canyon Blanco, 2½ miles southeast of Anton Chico, Guadalupe County, and 10 miles downstream from Tecolote Creek.
Drainage area.--1,050 sq mi, approximately (contributing area).
Records available.--April 1910 to May 1916, October 1916 to September 1924, August to December 1925, January 1927 to September 1966. Monthly discharge only for some periods, published in WSP 1312.
Gage.--Digital water-stage recorder and crest-stage gage. Altitude of gage is 5,130 ft (from river-profile map). Prior to July 2, 1937, at five different sites from one-sixth mile to 8½ miles upstream at various datums. July 2, 1937, to June 21, 1951, at site 345 ft upstream at datum 2.42 ft higher. Prior to Apr. 22, 1963, graphic water-stage recorder at same site at present datum.
Average discharge.--53 years (1910-15, 1916-24, 1926-66), 137 cfs (99,180 acre-ft per year).
Extremes.--Maximum discharge during year, about 4,800 cfs Aug. 6 (gage height, about 8.70 ft); no flow at times.
1911-66: Maximum discharge, 40,300 cfs July 1, 1937 (gage height, 20.34 ft, from floodmarks, at site and datum then in use), by slope-area measurement; no flow at times.
The greatest flood since 1879 occurred Sept. 29, 1904 (discharge, about 73,000 cfs), from information by a local resident.
Remarks.--Records fair. Diversions above station for irrigation of about 4,900 acres (1959 determination) above and below station. Acequia del Bodo Juan Paiz (see table below) diverts water about 8 miles above gage and bypasses this station on left bank; ditch flow not included in record. Discharge measurements made at point opposite regular gage. A portion of this flow may be returned to the river about five miles downstream.

Discharge measurements, in cubic feet per second, of Acequia del Bodo Juan Paiz, water year October 1965 to September 1966

Date	Discharge	Date	Discharge	Date	Discharge
Oct. 1	35.9	Feb. 24	0	June 15	2.74
21	33.2	Mar. 16	0	July 29	41.0
Nov. 8	8.33	30	0	Aug. 3	27.4
Dec. 1	.34	Apr. 19	33.5	9	27.1
30	1.47	29	4.24	18	25.5
Jan. 12	.30 (est.)	May 10	25.1	Sept. 7	33.0
Feb. 2	6.54	June 1	5.28	20	38.8

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	53	41	42	55	33	37	106	110	239	73	182	118
2	47	42	34	41	33	33	140	122	190	43	822	102
3	38	42	34	13	26	20	163	134	192	34	532	71
4	33	39	34	10	21	15	170	145	154	22	810	68
5	29	39	32	15	28	15	161	168	123	10	575	55
6	31	39	32	25	25	20	143	182	106	8.0	1,760	21
7	30	37	34	50	27	25	118	204	95	25	918	16
8	31	28	34	55	31	29	95	228	77	7.5	769	22
9	27	26	32	52	28	32	99	279	78	7.0	620	16
10	28	27	27	50	11	30	101	292	176	6.0	732	14
11	27	28	27	46	10	30	112	303	169	5.0	354	6.4
12	20	28	37	46	11	40	112	292	137	50	307	0
13	22	28	46	36	13	48	112	276	103	80	314	0
14	23	27	43	35	11	54	110	235	92	161	175	0
15	23	26	32	20	11	77	101	198	86	52	207	2.3
16	22	24	29	10	13	99	95	193	39	84	273	9.3
17	30	23	25	8.0	17	109	88	187	324	48	260	26
18	49	23	24	15	22	124	95	191	125	72	152	3.3
19	92	20	28	18	20	126	102	196	76	21	163	0
20	51	24	32	20	20	129	112	203	422	51	395	17
21	42	24	35	18	44	135	110	204	140	213	222	7.2
22	39	27	38	5.0	47	124	93	197	73	165	584	.40
23	37	28	76	15	50	122	95	196	87	113	177	2.1
24	39	28	86	20	37	104	85	197	88	98	163	.80
25	55	37	70	21	41	109	83	198	57	84	265	.30
26	82	45	55	22	42	105	71	200	10	63	191	0
27	76	76	52	23	39	85	60	195	1.5	217	127	0
28	70	65	48	25	38	83	58	186	25	203	166	0
29	67	58	44	25	------	100	76	163	15	206	193	.50
30	56	55	44	30	------	97	102	143	161	422	138	7.4
31	41	------	53	32	------	94	------	240	------	209	130	------
TOTAL	1,310	1,054	1,259	856.0	749	2,250	3,168	6,257	3,660.5	2,852.5	12,676	586.00
MEAN	42.3	35.1	40.6	27.6	26.8	72.6	106	202	122	92.0	409	19.5
AC-FT	2,600	2,090	2,500	1,700	1,490	4,460	6,280	12,410	7,260	5,660	25,140	1,160

CALENDAR YEAR 1965 MAX 1,620 MIN 2.2 MEAN 144 AC-FT 104,300
WATER YEAR 1965-66 MAX 1,760 MIN 0 MEAN 100 AC-FT 72,750

Peak discharge (base, 3,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-2	1830	8.13	3,750	8-10	2200	8.48	4,380
8-6	about 0230	8.70	about 4,800				

8-3805. Gallinas Creek near Montezuma, N. Mex.

Location.--Lat 35°39'00", long 105°19'10", in Las Vegas Grant, on left bank 2 miles west of Montezuma, San Miguel County, and 6 miles northwest of Las Vegas.

Drainage area.--84 sq mi, approximately.

Records available.--March to September 1915, June 1916 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1964 published as Gallinas River near Montezuma.

Gage.--Water-stage recorder. Altitude of gage is 6,950 ft (from topographic map).

Average discharge.--50 years (1916-66), 19.9 cfs (14,410 acre-ft per year).

Extremes.--Maximum discharge during year, 7,120 cfs Aug. 2 (gage height, 9.7 ft, from floodmarks), from rating curve extended above 500 cfs on basis of slope-area measurements at gage heights 5.25, 8.25, and 9.7 ft; minimum, 0.80 cfs Jan. 16, result of freezeup.
1915-66: Maximum discharge, that of Aug. 2, 1966; minimum, 0.20 cfs Dec. 13, 1964.
The greatest flood since about 1900 occurred the night of Sept. 29, 1904 (discharge not determined), from information by local residents and G. B. Monk's report on floods.

Remarks.--Records good except those for winter months and those above 600 cfs, which are poor. Diversions for irrigation of about 80 acres (1959 determination) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	3.9	4.6	5.0	4.4	3.1	10	11	5.8	5.3	16	37
2	5.8	4.2	4.4	4.5	4.2	3.3	12	12	6.5	4.4	700	31
3	5.5	4.4	4.0	4.0	3.9	3.3	13	11	5.3	3.9	305	25
4	5.5	4.4	3.9	4.5	4.2	3.0	12	11	4.6	4.0	135	22
5	5.3	4.4	4.0	4.9	4.4	3.3	10	11	4.0	3.7	74	20
6	5.1	4.2	3.9	5.1	4.6	3.5	10	12	3.9	3.5	100	18
7	4.9	4.0	3.9	5.3	5.1	3.5	9.3	12	3.5	3.5	139	17
8	4.6	4.0	4.0	6.2	3.8	3.9	9.7	13	3.0	3.7	60	16
9	4.6	3.9	4.0	5.3	3.3	4.9	10	14	3.1	4.2	43	16
10	4.4	3.9	5.8	5.1	3.0	5.3	11	15	8.5	4.4	35	13
11	4.4	4.0	7.1	5.1	3.2	5.5	11	14	5.1	4.4	31	12
12	4.4	4.0	5.1	4.4	3.3	5.3	11	13	4.2	4.9	28	11
13	3.9	3.9	4.6	4.4	3.5	6.2	11	12	4.2	5.8	24	11
14	3.1	3.7	4.4	4.2	3.3	7.4	10	11	3.7	25	21	11
15	3.7	3.7	3.5	4.2	3.0	8.2	11	10	3.3	14	20	15
16	4.4	3.9	3.3	4.0	3.0	8.7	10	9.3	4.0	12	17	12
17	6.8	4.0	3.1	4.0	3.3	11	9.7	8.7	4.6	23	22	10
18	7.6	4.0	2.5	3.7	3.5	9.7	10	8.7	4.4	15	18	9.8
19	6.5	4.0	3.5	3.9	3.5	10	10	8.4	4.6	13	59	9.1
20	6.0	3.9	4.5	3.9	3.5	10	9.7	8.2	7.1	63	68	10
21	5.8	3.1	4.5	3.5	3.5	9.0	9.3	8.7	5.8	42	88	10
22	5.5	3.5	5.0	3.0	3.0	8.7	9.7	7.6	4.6	25	92	8.2
23	5.3	3.9	5.5	3.3	3.0	7.1	9.3	7.4	3.9	49	86	7.6
24	4.6	5.3	6.0	3.3	3.2	7.9	8.2	6.8	3.5	26	130	7.4
25	4.2	5.3	5.5	3.3	3.5	8.2	8.4	6.0	3.1	19	95	7.1
26	5.1	9.0	6.0	3.5	3.3	7.4	8.2	6.0	3.1	17	72	7.1
27	4.9	6.0	4.6	3.5	3.3	7.1	7.9	6.2	3.1	18	56	6.5
28	4.6	4.6	5.3	3.5	3.3	7.1	8.2	6.0	3.5	16	59	6.8
29	4.6	4.6	5.1	3.7		7.4	8.7	5.8	3.7	24	71	6.8
30	4.4	4.6	5.5	4.2		7.4	9.3	5.1	4.6	24	55	6.5
31	4.2		6.2	4.6		8.4		5.1		17	45	
Total	155.5	130.3	143.3	131.1	100.1	204.8	297.6	296.0	132.3	497.7	2,764	399.9
Mean	5.02	4.34	4.62	4.23	3.58	6.61	9.92	9.55	4.41	16.1	89.2	13.3
Ac-ft	308	258	284	260	199	406	590	587	262	987	5,480	793

Calendar year 1965: Max 304 Min 2.0 Mean 14.4 Ac-ft 10,460
Water year 1965-66: Max 700 Min 2.5 Mean 14.4 Ac-ft 10,420

Peak discharge (base, 250 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-23	0415	2.84	270	8- 6	1430	3.60	600
8- 2	about 0015	9.7	7,120	8- 7	1315	5.45	2,200
				8-19	1815	3.35	460
8- 3	2145	6.25	3,080	8-21	1450	3.45	512

Note.-No gage height record Aug. 2 .

8-3810. Gallinas Creek at Montezuma, N. Mex.

Location.--Lat 35°39'15", long 105°16'30", in Las Vegas Grant, at downstream end of middle pier of highway bridge, half a mile downstream from Montezuma, San Miguel County, and 5 miles northwest of Las Vegas.

Drainage area.--87 sq mi, approximately.

Records available.--August 1903 to September 1904 (gage heights only), October 1904 to May 1912, October 1912 to September 1966. Yearly estimate for water year 1912 (incomplete) and monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for the periods Oct. 8-22, 1904, and Jan. 1 to Feb. 20, 1906, published in WSP 177 and 213, respectively, have been found to be unreliable and should not be used. Prior to October 1964 published as Gallinas River at Montezuma.

Gage.--Water-stage recorder. Altitude of gage is 6,675 ft (from topographic map). Prior to Mar. 24, 1926, staff gage at site a quarter of a mile upstream. Gages at various datums prior to Sept. 3, 1942.

Average discharge.--62 years (1904-66), 19.1 cfs (13,830 acre-ft per year).

Extremes.--Maximum discharge during year, 4,270 cfs Aug. 2 (gage height, 9.19 ft), by slope-area measurement; minimum, 0.63 cfs July 4, 6-11.

1904-66: Maximum discharge, 9,140 cfs Aug. 4, 1957 (gage height, 11.8 ft, from floodmark), from rating curve extended above 450 cfs on basis of slope-area measurement of peak flow; no flow at times in 1934, 1956-57, 1963.

Flood of Sept. 30, 1904, is the highest since about 1900 (discharge, 11,600 cfs by slope-area method), from G. B. Monk's report on floods and WSP 147.

Remarks.--Records fair. Flow partly regulated at low flows by reservoirs owned by Public Service Co. of New Mexico. Diversions above station for irrigation of about 180 acres (1959 determination) and for Las Vegas city water supply.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	1.1	3.2	1.1	1.2	1.2	6.8	7.6	4.5	1.1	3.9	27
2	2.6	1.1	1.5	1.1	1.2	1.2	9.2	8.2	6.4	1.0	508	18
3	2.2	1.1	1.4	1.1	1.1	1.2	11	6.4	2.6	.95	249	19
4	2.2	1.1	1.4	1.1	1.1	1.2	12	5.6	2.0	.78	179	19
5	2.2	1.1	1.2	1.4	1.1	1.2	10	6.4	1.6	.70	73	17
6	1.8	1.0	3.7	1.8	1.1	1.4	7.2	7.2	1.5	.70	123	14
7	1.1	1.1	4.9	1.5	1.2	1.5	6.0	8.2	1.6	.70	139	16
8	1.0	1.1	4.2	1.5	1.2	2.8	6.0	9.8	1.5	.70	37	11
9	.86	1.5	4.0	1.5	1.2	4.9	7.2	10	1.5	.70	44	9.0
10	.78	1.8	6.4	1.4	1.2	3.7	8.2	11	8.7	.70	34	9.6
11	.78	1.5	8.2	1.2	1.1	2.0	9.8	9.8	7.2	.70	26	14
12	.86	1.4	6.4	1.1	1.1	1.8	9.2	9.2	3.9	.78	18	8.6
13	.95	1.4	5.6	1.1	1.1	2.8	6.8	8.6	2.0	.78	13	6.2
14	.95	1.4	5.2	.95	1.1	9.2	4.9	8.2	1.8	14	12	12
15	.95	1.5	5.2	1.0	1.1	7.2	6.8	6.8	1.6	4.0	12	10
16	1.0	1.5	4.2	.95	1.1	10	8.6	4.5	1.8	3.0	10	8.9
17	1.2	4.5	5.6	.95	1.1	8.2	7.6	3.4	2.2	26	14	6.4
18	1.4	4.5	4.2	1.0	1.1	3.2	8.2	3.0	1.6	16	4.4	5.4
19	1.2	4.5	4.9	1.0	1.1	4.2	7.2	2.0	3.5	13	60	2.0
20	1.2	1.6	4.5	1.0	1.1	2.8	6.4	1.8	2.6	77	73	5.4
21	1.4	1.4	2.0	1.0	1.1	2.6	6.8	2.0	3.5	55	115	5.8
22	1.4	1.2	2.2	1.0	1.2	5.6	7.6	1.8	1.5	14	110	4.6
23	1.2	1.4	3.2	1.0	1.2	4.9	7.6	1.2	1.4	56	104	1.4
24	1.0	1.4	2.0	1.0	1.2	5.2	5.2	2.5	1.4	30	182	1.4
25	.95	1.6	1.6	1.0	1.2	6.0	5.2	1.6	1.4	16	115	2.0
26	.95	3.4	1.5	1.0	1.2	4.9	4.9	1.5	1.4	13	73	2.7
27	1.0	4.0	1.5	1.0	1.2	4.9	3.2	1.4	1.5	15	52	2.7
28	1.0	2.0	1.4	1.0	1.2	4.9	4.0	1.4	1.2	16	67	2.7
29	1.1	1.5	1.4	1.0	--	5.6	4.9	1.5	1.2	25	83	2.7
30	1.1	2.0	1.4	1.1	------	6.0	5.6	2.2	1.2	37	54	2.5
31	1.1	------	1.2	1.2	------	6.0	------	2.0	------	21	42	------
Total	40.03	55.7	105.3	35.05	32.1	128.3	214.1	156.8	75.8	461.29	2,629.3	267.0
Mean	1.29	1.86	3.40	1.13	1.15	4.14	7.14	5.06	2.53	14.9	84.8	8.90
Ac-ft	79	110	209	70	64	254	425	311	150	915	5,220	530

Calendar year 1965 : Max 337 Min 0.78 Mean 13.7 Ac-ft 9,890
Water year 1965-66 : Max 508 Min 0.70 Mean 11.5 Ac-ft 8,330

Peak discharge (base, 200 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
7-23	0540	5.29	237	8- 7	1330	6.38	1,010
8- 2	0045	9.19	4,270	8-19	1900	5.75	560
8- 3	2215	7.53	2,180	8-21	1530	5.75	560
8- 6	1500	5.60	566				

8-3825. Gallinas River near Colonias, N. Mex.

Location.--Lat 35°11'10", long 104°54'40", in Anton Chico Grant, on right bank 1½ miles upstream from mouth, 2 miles south of San Miguel - Guadalupe County line, and 6½ miles northwest of Colonias Guadalupe County.

Drainage area.--610 sq mi, approximately.

Records available.--January 1951 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,940 ft (from river-profile map).

Average discharge.--15 years, 16.4 cfs (11,870 acre-ft per year).

Extremes.--Maximum discharge during year, 4,840 cfs Aug. 6 (gage height, 12.00 ft); no flow for most of time.
1951-66: Maximum discharge, 9,360 cfs June 16, 1963 (gage height, 16.65 ft), from rating curve extended above 1,900 cfs on basis of slope-area measurements at gage heights 8.64, 12.74, 16.65, and 27.2 ft; no flow for most of time.
Maximum flood known occurred about June 1, 1937, when a stage of about 27.2 ft was reached; discharge determined as 26,700 cfs by slope-area measurement made in 1951. A flood of about the same magnitude occurred Sept. 29-30, 1904.

Remarks.--Records poor. Diversions for irrigation of about 7,000 acres (1959 determination) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	.54	0	0						1.2	0	97	3.9
2	.18	0	0						0	0	322	.50
3	0	0	0						0	0	155	0
4	.51	0	0						0	0	71	0
5	.81	0	0						0	0	143	0
6	.36	0	0						0	0	1,200	0
7	.12	0	0						0	0	146	0
8	0	.38	0						0	0	56	0
9	0	.63	0						.18	0	86	0
10	0	.54	0						18	0	32	0
11	0	.63	0						6.0	0	143	0
12	0	.45	0						.45	36	49	0
13	0	.45	0						.63	1.5	26	0
14	0	.54	0						0	20	26	0
15	0	.45	0						0	.50	18	0
16	0	.13	0						0	0	7.3	0
17	0	.36	0						0	0	26	0
18	0	.36	0						23	0	9.5	0
19	0	.04	0						68	0	1.0	0
20	1.0	0	0						19	0	54	0
21	1.0	0	0						57	0	12	0
22	.45	0	0						3.4	0	149	0
23	.21	0	0						.27	0	74	0
24	0.0	0	.87						0	0	27	0
25	0	0	.79						0	0	12	2.5
26	0	0	2.4						0	0	39	0
27	0	0	.79						0	0	22	0
28	0	0	0						0	0	7.7	0
29	0	0	0		-				0	0	20	0
30	0	0	0		----------				0	69	37	0
31	0	----------	0		----------		----------		----------	578	12	----------
Total	5.19	4.96	4.85	0	0	0	0	0	197.13	705.00	3,079.5	6.90
Mean	0.167	0.165	0.156	0	0	0	0	0	6.57	22.7	99.3	0.230
Ac-ft	10	9.8	9.6	0	0	0	0	0	391	1,400	6,110	14

Calendar year 1965 : Max 482 Min 0 Mean 12.5 Ac-ft 9,020
Water year 1965-66 : Max 1,200 Min 0 Mean 11.0 Ac-ft 7,940

Peak discharge (base 1,700 cfs).--July 31 (0515) 2,690 cfs (9.16 ft); Aug. 6 (0930) 4,840 cfs (12.00 ft).

8-3828. Pecos River above Los Esteros damsite, near Santa Rosa, N. Mex.

Location.--Lat 35°02'26", long 104°40'52", in Jose Perea Grant, on left bank 1.4 miles downstream from Catfish Falls, 1.6 miles southwest from mouth of Esteros Creek at Horseshoe Bend, and 11.5 miles north of Santa Rosa.

Drainage area.--2,430 sq mi, approximately.

Records available.--October 1965 to September 1966. Operated as a low-flow station only.

Gage.--Water-stage recorder. Altitude of gage is 4,625 ft (from topographic map).

Extremes.--Records of low flows only. No maximums or minimums will be published.

Remarks.--Records poor. Diversions for irrigation of about 12,000 acres (1959 determination) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	18	18	19	17	16	22	17	118	134	-	45
2	22	18	17	15	17	16	19	17	199	51	-	38
3	21	18	16	13	17	15	29	18	117	10	-	31
4	21	17	17	15	18	11	53	23	110	-	-	30
5	20	19	17	16	16	16	86	31	-	-	-	29
6	19	19	16	17	17	17	91	45	-	-	-	28
7	19	19	17	19	17	17	79	52	-	-	-	28
8	18	19	16	18	18	17	62	68	-	-	-	26
9	18	19	17	17	17	17	39	86	-	-	-	24
10	18	19	18	14	17	16	31	138	-	-	-	24
11	17	17	16	14	17	17	32	184	104	-	-	24
12	17	17	16	14	17	17	32	208	30	-	-	46
13	17	17	17	14	18	17	39	202	-	-	-	21
14	17	17	17	12	20	17	37	178	-	-	-	21
15	17	17	18	11	17	17	40	126	21	-	214	24
16	22	17	14	10	14	16	30	79	21	-	153	22
17	168	18	16	11	16	16	21	54	152	63	247	20
18	35	18	10	10	17	16	19	48	-	-	232	19
19	25	18	12	13	17	20	16	46	-	-	84	19
20	22	17	15	15	17	33	17	50	-	-	-	19
21	21	17	17	13	17	38	23	52	-	-	-	19
22	19	17	19	10	17	42	29	56	126	52	-	19
23	19	17	20	8.0	18	46	23	48	-	79	-	19
24	19	17	19	9.0	17	46	17	41	-	-	244	19
25	19	18	17	10	17	46	17	41	-	-	153	22
26	19	18	17	11	17	37	17	51	-	-	238	21
27	19	18	17	13	17	36	16	53	-	-	172	19
28	19	19	17	14	17	29	16	48	-	82	-	20
29	19	19	17	15	-	21	17	43	-	180	-	19
30	19	19	18	17	----------	22	16	39	18	-	135	19
31	18	----------	18	16	----------	28	----------	30	----------	-	84	----------
Total	766	537	516	423.0	478	735	985	2,172	-	-	-	734
Mean	24.7	17.9	16.6	13.6	17.1	23.7	32.8	70.1	-	-	-	24.5
Ac-ft	1,520	1,070	1,020	839	948	1,460	1,950	4,310	-	-	-	1,460

Note.-Well silted June 5-10, 13, 14, 23-29, July 4-11, 18-21, 24-27; storm peaks June 18-21, July 12-16, July 30 to Aug. 14, Aug. 20-23, 28, 29.

8-3830. Pecos River at Santa Rosa, N. Mex.

Location.--Lat 34°56'35", long 104°41'55", in NW¼SE¼ sec.3, T.8N., R.21 E., on left bank 0.6 mile upstream from bridge on U. S. Highway 66 in Santa Rosa and 1.9 miles upstream from Rio Agua Negra Chiquita.

Drainage area.--2,650 sq mi, approximately (contributing area).

Records available.--May 1903 to December 1905 (gage heights only), January to December 1906, February 1910 to July 1911, September 1912 to December 1925, March to May 1927, July 1927, January 1928 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for Apr. 5-20, May 4-7, 11, Aug. 13, 16-18, 24, Sept. 7-9, 11, 13, 19, 21, 23, 25, 27, Oct. 1-31, Nov. 3, 4, 9, 11, 20, 22, 1910, and Feb. 1 to Mar. 31, June 1 to July 31, 1911, published in WSP 358 have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 4,537.56 ft above mean sea level, datum of 1929. May 5, 1903, to Dec. 31, 1906, staff gage at site 0.5 mile downstream at datum 6.68 ft lower. Feb. 2, 1910, to May 4, 1922, chain gage at site 0.6 mile downstream at different datum. May 5, 1922, to Sept. 30, 1936, water-stage recorder at site 800 ft downstream at datum 3.56 ft lower. Oct. 1, 1936, to June 1, 1937, water-stage recorder at site 800 ft downstream at datum 4.62 ft lower. June 2, 1937 to June 30, 1958, water-stage recorder at site 0.6 mile downstream at datum 7.79 ft lower. July 1, 1958, to Sept. 30, 1963, water-stage recorder at site 800 ft downtream at datum 4.16 ft lower. Supplemental water-stage recorder at site 800 ft downstream 1964-65, datum 4.16 ft lower than primary gage.

Average discharge.--50 years (1912-24, 1928-66), 145 cfs (105,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,420 cfs Aug. 6 (gage height, 6.40 ft); minimum, 10 cfs Mar. 4.
1930-66: Maximum discharge, 55,200 cfs June 2, 1937 (gage height, 25.7 ft, site and datum then in use), from rating curve extended above 32,000 cfs by logarithmic plotting; minimum, 3.0 cfs July 7, 1957.
The flood of June 2, 1937, is the greatest since about 1886. Flood of Sept. 30, 1904, reached a stage of 24.7 ft (site and datum then in use), discharge, 45,500 cfs, by Kutter's formula. Flood of June 9, 1903, reached a stage of 21.1 ft (same site and datum as in 1904), discharge, 34,000 cfs, by comparison with 1904 flood.

Remarks.--Records fair. Diversions for irrigation of about 12,000 acres (1959 determination) above station. Records of water temperatures and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	21	23	23	20	20	28	21	56	65	336	48
2	32	21	23	21	23	20	25	22	200	81	150	41
3	30	22	22	20	21	14	28	23	116	30	1,060	37
4	28	23	22	23	21	12	58	30	104	25	676	34
5	28	23	21	22	21	18	91	43	78	23	722	32
6	26	23	20	23	20	20	97	63	63	22	3,110	32
7	26	23	21	23	20	18	91	78	41	22	984	32
8	26	23	22	22	20	18	68	74	28	22	952	32
9	26	24	22	22	18	18	45	94	26	22	816	32
10	25	24	22	21	17	18	37	116	30	22	448	32
11	25	23	22	20	17	18	34	179	70	28	1,210	30
12	25	23	22	20	16	18	34	189	116	32	391	48
13	25	23	22	20	20	18	39	160	88	184	315	28
14	26	23	22	21	17	18	41	137	46	37	313	25
15	26	23	22	23	18	18	41	94	21	304	186	25
16	28	23	26	21	17	18	41	74	17	148	88	25
17	143	24	28	23	18	18	34	58	140	40	155	23
18	55	25	26	18	18	18	25	53	429	30	194	23
19	32	23	20	25	18	21	21	41	686	21	94	23
20	25	22	20	26	18	37	15	45	199	19	63	23
21	23	21	21	20	18	48	18	48	629	17	645	25
22	23	21	22	18	18	53	26	50	129	27	730	25
23	23	22	22	25	18	50	30	48	50	75	445	26
24	23	22	22	32	18	43	21	41	32	53	155	26
25	22	22	22	25	20	48	18	41	26	37	91	28
26	22	22	20	23	18	43	20	45	26	32	145	34
27	22	22	21	25	20	45	18	50	25	26	108	30
28	22	21	20	23	20	41	17	55	23	63	266	28
29	22	21	22	22	-	34	18	48	22	127	290	22
30	21	22	23	30	----------	28	18	45	22	294	112	21
31	21	----------	22	23	----------	32	----------	30	----------	615	104	----------
Total	938	675	685	703	528	843	1,097	2,095	3,538	2,543	15,354	890
Mean	30.3	22.5	22.1	22.7	18.9	27.2	36.6	67.6	118	82.0	495	29.7
Ac-ft	1,860	1,340	1,360	1,390	1,050	1,670	2,180	4,160	7,020	5,040	30,450	1,770

Calendar year 1965: Max 2,000 Min 8.2 Mean 115 Ac-ft 83,010
Water year 1965-66: Max 3,110 Min 12 Mean 81.9 Ac-ft 59,280

Peak discharge (base, 4,000 cfs).--Aug. 6 (1550) 6,420 cfs (6.40 ft).

8-3835. Pecos River near Puerto de Luna, N. Mex.

Location.--Lat 34°44'00", long 104°31'30", in SE¼NW¼ sec.20, T.6N., R.23 E., on left bank 9 miles southeast of Puerto de Luna and 17½ miles upstream from Alamogordo Dam.

Drainage area.--3,970 sq mi, approximately (contributing area).

Records available.--April 1938 to September 1966.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 4,315 ft (from river-profile map). Prior to Apr. 15, 1954, at datum 1 ft higher. Prior to Dec. 8, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--28 years, 223 cfs (161,400 acre-ft per year).

Extremes.--Maximum discharge during year, 22,700 cfs Aug. 21 (gage height, 10.52 ft); minimum, 64 cfs July 8.
1938-66: Maximum discharge, 48,600 cfs Sept. 1, 1942 (gage height, 17.00 ft), from rating curve extended above 7,400 cfs on basis of flow at Santa Rosa; minimum, 11 cfs Jan. 31, 1951.
Maximum flood known since at least 1886 occurred June 2, 1937, when peak at Santa Rosa was 55,200 cfs. Flood of July 24, 1895, was reported as "highest in 10 years." Other major floods occurred on June 9, 1903, Sept. 30, 1904, and May 1, 1914.

Remarks.--Records good. Diversions for irrigation of about 12,500 acres (1959 determination) above station. Discharge represents inflow to Alamogordo Reservoir (capacity, 110,700 acre-ft).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	101	104	108	113	112	110	86	82	154	83	493	185
2	96	101	106	108	110	109	90	77	293	168	654	145
3	94	101	106	108	114	108	85	74	204	132	1,230	129
4	92	106	104	106	112	108	93	73	153	89	1,190	115
5	90	101	106	110	108	111	122	80	149	84	1,710	115
6	90	99	108	110	106	116	160	91	124	78	2,990	112
7	90	101	108	110	105	115	160	97	106	73	2,030	127
8	90	101	106	109	108	112	140	111	92	70	1,170	107
9	90	99	106	107	104	111	128	123	85	70	1,380	104
10	88	101	106	106	103	106	110	149	83	67	660	104
11	88	99	113	106	107	105	105	213	86	72	1,760	103
12	86	96	111	103	110	106	104	237	140	115	1,010	103
13	86	99	111	104	113	106	97	244	153	296	490	124
14	90	104	108	102	112	105	106	214	125	257	344	100
15	78	99	111	102	105	105	103	196	96	283	308	105
16	101	96	111	104	104	103	108	163	78	296	203	103
17	171	101	111	104	105	101	108	131	1,060	182	180	98
18	192	104	113	102	107	96	99	113	683	110	175	96
19	118	101	111	104	105	98	93	113	1,400	90	196	94
20	106	99	113	113	106	100	90	105	279	80	195	97
21	101	99	113	105	103	113	89	99	605	75	3,170	95
22	101	101	116	98	104	121	97	100	300	71	2,460	92
23	101	99	116	100	104	123	108	106	170	95	956	90
24	96	104	121	100	103	133	100	102	121	139	470	91
25	99	101	116	103	108	130	95	99	127	115	285	88
26	99	101	113	104	110	133	89	131	140	115	234	92
27	99	99	111	109	112	118	77	127	113	107	281	94
28	99	99	113	109	111	110	74	120	94	101	2,690	93
29	101	101	113	109	------	102	76	110	88	215	1,870	92
30	94	104	111	111	------	92	78	101	87	357	305	91
31	94	------	113	113	------	85	------	101	------	620	264	------
TOTAL	3,121	3,020	3,433	3,292	3,011	3,391	3,070	3,882	7,388	4,705	31,353	3,184
MEAN	101	101	111	106	108	109	102	125	246	152	1,011	106
AC-FT	6,190	5,990	6,810	6,530	5,970	6,730	6,090	7,700	14,650	9,330	62,190	6,320

CALENDAR YEAR 1965 MAX 1,910 MIN 64 MEAN 194 AC-FT 140,400
WATER YEAR 1965-66 MAX 3,170 MIN 67 MEAN 200 AC-FT 144,500

Peak discharge (base, 5,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8- 6	2100	5.50	5,780	8-28	1830	7.73	11,900
8-21	2315	10.52	22,700				

8-3840. Alamogordo Reservoir near Fort Sumner, N. Mex.

Location.--Lat 34°36'30", long 104°23'10", in SW¼ sec.34, T.5 N., R.24 E., at dam on Pecos River, 5 miles northeast of Guadalupe and 12 miles northwest of Fort Sumner.

Drainage area.--4,390 sq mi (contributing area).

Records available.--January 1939 to September 1966.

Gage.--Staff gage. Datum of gage is at mean sea level, Bureau of Reclamation datum.

Extremes.--Maximum contents at 0800 hours during year, 59,770 acre-ft Sept. 4-10 (elevation, 4,261.20 ft); minimum, 2,520 acre-ft July 12 (elevation, 4,222.70 ft).
1939-66: Maximum contents, 138,300 acre-ft May 23-30, June 1-10, July 21, Sept. 22, 23, 30, Oct. 12, Nov. 4, 5, 30, 1941 (elevation, 4,275.00 ft); maximum elevation, 4,276.10 ft June 3, Sept. 8, 1958; no storage July 28 to Aug. 2, 1951 (elevation, 4,200.70 ft).

Remarks.--Reservoir is formed by Alamogordo Dam, completed and storage began in August 1937. Capacity, 110,700 acre-ft (revised), at elevation 4,275.0 ft (top of spillway gates). No dead storage. No storage allocated for flood control. Figures given herein represent total contents.

Cooperation.--Elevation record furnished by Bureau of Reclamation and Carlsbad Irrigation District. Capacity table based on data furnished by Bureau of Reclamation, Corps of Engineers, and Carlsbad Irrigation District.

Contents, in acre-feet, at 0800 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42,970	36,100	40,440	45,690	50,960	54,790	26,750	26,580	27,880	14,530	7,530	59,180
2	43,200	36,300	40,660	45,940	51,090	54,930	25,750	26,500	27,960	12,280	8,100	59,480
3	43,430	36,500	40,770	46,070	51,230	55,070	26,750	26,500	28,320	10,320	9,760	59,620
4	43,540	36,600	40,990	46,190	51,360	55,210	26,750	26,410	28,580	8,100	12,380	59,770
5	43,650	36,700	41,100	46,320	51,500	55,210	26,750	26,410	28,840	5,940	16,420	59,770
6	43,540	35,910	41,220	46,570	51,630	55,350	26,750	26,330	29,020	5,660	18,990	59,770
7	43,540	37,020	41,450	46,700	51,770	55,490	26,750	26,330	29,020	2,670	24,760	59,770
8	43,430	37,120	41,560	46,820	51,900	55,630	26,750	26,330	29,020	2,670	25,410	59,770
9	43,430	37,330	41,790	46,950	52,180	55,770	26,750	26,330	28,930	2,640	25,740	59,770
10	43,430	37,540	41,900	47,080	52,310	55,910	26,750	26,410	28,840	2,600	26,410	59,770
11	43,320	37,750	42,020	47,200	52,450	56,040	26,750	26,500	28,840	2,560	26,410	59,620
12	43,320	37,960	42,130	47,450	52,580	53,950	26,750	26,580	28,840	2,520	27,440	59,620
13	43,200	38,070	42,240	47,580	52,720	51,900	26,750	26,840	28,760	3,120	27,610	59,620
14	43,080	38,170	42,260	47,700	52,850	50,040	26,750	27,000	28,760	3,880	26,750	59,480
15	43,080	38,380	42,590	47,830	52,990	47,960	26,750	27,170	28,760	4,290	27,260	59,480
16	42,970	38,490	42,820	48,080	53,120	45,690	26,750	27,170	28,760	4,720	27,880	59,330
17	42,970	38,590	43,040	48,210	53,390	43,390	26,750	27,260	33,330	5,110	28,050	59,180
18	43,080	38,700	43,270	48,340	53,530	41,100	26,750	27,260	36,300	5,250	28,840	59,180
19	43,200	38,800	43,390	48,470	53,670	38,800	26,750	27,350	37,960	5,280	29,110	59,180
20	43,200	38,910	43,630	48,730	53,810	36,500	26,750	27,440	37,120	5,280	29,380	59,180
21	43,200	39,020	43,880	48,860	53,950	34,300	26,750	27,440	34,990	5,250	29,480	59,180
22	43,200	39,130	44,000	49,120	54,090	32,080	26,750	27,520	33,520	5,180	38,590	59,180
23	43,200	39,240	44,120	49,250	54,090	29,750	26,750	27,520	31,610	5,150	42,700	59,330
24	43,200	39,460	44,360	49,520	54,230	27,350	26,750	27,520	29,380	5,150	44,480	59,330
25	43,200	39,570	44,600	49,780	54,370	26,580	26,750	27,520	27,000	5,250	44,960	59,330
26	43,200	39,680	44,720	49,910	54,370	26,580	25,750	27,610	25,160	5,210	45,570	59,480
27	43,320	39,790	44,840	50,170	54,510	26,670	26,750	27,880	23,180	5,350	45,820	59,480
28	43,320	40,010	44,960	50,300	54,650	26,670	26,670	27,880	21,000	5,350	46,190	59,480
29	43,320	40,120	45,090	50,560	-	26,670	26,670	27,880	18,850	5,350	56,900	59,480
30	43,320	40,220	45,330	50,690	---------	26,750	25,580	27,880	16,780	5,660	58,470	59,480
31	43,540	---------	45,450	50,820	---------	26,750	---------	27,880	---------	6,080	58,750	---------
(†)	4,251.65	4,253.65	4,255.90	4,258.00	4,259.40	4,246.70	4,246.60	4,247.35	4,239.90	4,228.80	4,260.85	4,261.10
(‡)	+570	+4,220	+5,230	+5,370	+3,830	-27,900	-170	+1,300	-11,100	-10,700	+52,670	+730

Calendar year 1965: (‡) +23,280
Water year 1965-66: (‡) +24,050

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--Change in contents from capacity table effective Nov. 1, 1965; contents Oct. 31, 1965 from capacity table used since Nov. 1, 1965 is 36,000.

8-3845. Pecos River below Alamogordo Dam, N. Mex.

Location.--Lat 34°36'20", long 104°23'10", in lot 1, sec.2, T.4 N., R.24 E., on left bank 1,200 ft downstream from Alamogordo Dam, 1½ miles downstream from Alamogordo Creek, and 4½ miles northeast of Guadalupe.

Drainage area.--4,390 sq mi, approximately (contributing area).

Records available.--October 1912 to April 1926, August 1926 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1944, published as "near Guadalupe."

Gage.--Digital water-stage recorder and Parshall flume, with concrete control above top of flume. Datum of gage is 4,142.67 ft above mean sea level (Bureau of Reclamation datum). Prior to Sept. 10, 1936, at site 1½ miles upstream at different datum. Sept. 14, 1936, to Mar. 8, 1941, and June 11 to Sept. 21, 1941, at site a quarter of a mile downstream at different datums. Sept. 22, 1941 to July 10, 1963, graphic water-stage recorder at present site and datum.

Average discharge.--23 years (1912-25, 1926-36), 236 cfs (170,900 acre-ft per year), prior to completion of Alamogordo Dam; 30 years (1936-66), 219 cfs (158,500 acre-ft per year).

Extremes.--Maximum daily discharge during year, 1,290 cfs June 25 (gage height, 3.34 ft); minimum discharge, 0.13 cfs Nov. 9.
1912-66: Maximum discharge, 42,800 cfs Sept. 1, 1942, by computation of flow over spillway and through outlet gates of Alamogordo Dam by Bureau of Reclamation; maximum gage height, 15.5 ft May 1, 1914, site and datum then in use; no flow at times.

Remarks.--Records good. Diversion for irrigation of about 12,500 acres (1959 determination) above station. Flow regulated by Alamogordo Reservoir (see station 8-3840). Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	71	21	0.50	1.2	3.3	15	102	96	103	1,240	93	17
2	71	13	.50	1.4	3.2	14	102	90	61	1,260	34	17
3	71	3.0	.50	1.4	3.2	13	103	90	1.1	1,270	.50	16
4	78	1.7	.50	1.5	3.3	12	103	90	1.0	1,230	.80	13
5	96	1.3	.50	1.6	3.1	12	102	90	36	1,200	.60	40
6	97	1.0	.50	1.8	2.8	12	101	90	102	1,040	466	77
7	97	.80	.50	1.9	2.7	12	100	90	103	95	1,010	77
8	97	.60	.50	2.1	2.7	13	100	90	103	98	1,000	79
9	97	.60	.50	2.0	2.5	13	100	90	104	97	1,020	91
10	97	.40	.50	2.0	2.4	13	101	90	102	97	1,010	93
11	98	.40	.50	2.2	2.4	761	100	90	101	92	1,020	91
12	99	1.0	.60	2.2	2.5	1,150	98	90	102	91	1,020	89
13	99	1.0	.60	2.2	2.4	1,150	97	90	96	94	1,020	98
14	100	.60	.60	2.3	2.4	1,140	98	91	94	88	294	98
15	100	.40	.60	2.3	2.4	1,200	98	90	95	88	81	98
16	92	.50	.60	2.2	2.2	1,230	98	88	95	90	83	101
17	89	.60	.60	2.2	2.2	1,230	99	88	755	88	84	101
18	89	.50	.60	2.2	2.3	1,230	100	91	1,070	88	94	99
19	90	.50	.60	2.2	3.3	1,230	97	92	1,150	90	98	100
20	89	.50	.60	2.2	6.8	1,240	97	93	1,230	90	101	64
21	89	.50	.60	2.4	12	1,250	98	91	1,220	88	102	40
22	89	.50	.70	2.4	18	1,270	97	90	1,210	83	41	38
23	90	.50	.80	2.5	26	1,260	95	90	1,220	89	1.9	38
24	81	.50	.70	2.7	32	994	95	91	1,280	90	21	71
25	67	.60	.70	2.8	29	98	96	91	1,290	90	2.4	68
26	67	.60	.80	2.9	16	101	97	90	1,260	91	1.7	68
27	68	.60	.80	3.1	15	102	97	89	1,260	91	1.9	75
28	61	.50	.90	3.0	15	102	95	89	1,250	91	2.3	76
29	45	.50	1.1	3.0	------	102	96	89	1,240	92	18	66
30	40	.50	1.1	3.3	------	102	96	94	1,260	92	20	65
31	11	------	1.1	3.3	------	102	------	101	------	93	18	------
TOTAL	2,525	54.70	20.20	70.5	221.1	17,173	2,958	2,814	17,994.1	9,516	8,760.10	2,064
MEAN	81.5	1.82	0.65	2.27	7.90	554	98.6	90.8	600	307	283	68.8
AC-FT	5,010	108	40	140	439	34,060	5,870	5,580	35,690	18,870	17,380	4,090

CALENDAR YEAR 1965	MAX 1,140	MIN .30	MEAN 142	AC-FT 102,900
WATER YEAR 1965-66	MAX 1,290	MIN .40	MEAN 176	AC-FT 127,300

8-3850. Fort Sumner main canal near Fort Sumner, N. Mex.

Location.--Lat 34°30'30", long 104°16'45", in SW¼SW¼ sec.1, T.3N., R.25 E., on right bank 200 ft downstream from diversion dam on Pecos River, and 3½ miles northwest of Fort Sumner.

Records available.--March 1939 to November 1943 (gage heights only March to November 1943), April 1954 to September 1966. Monthly discharge only for some periods, published in WSP 1732. Published as "Fort Sumner Irrigation District canal" 1939-40.

Gage.--Water-stage recorder. Datum of gage is 4,034.7 ft (from Bureau of Reclamation Bench Mark). April 1954 to March 1965 at site 0.45 mile downstream at datum 1.7 ft lower.

Extremes.--1939-43, 1954-66: Maximum daily discharge, 174 cfs July 22, 1941; no flow many days.

Remarks.--Records fair. Canal diverts water from Pecos River for irrigation of about 6,600 acres (1961 determination) by the Fort Sumner Irrigation District.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	90	8	76.0	4,670
November	0	0	0	0
December	0	0	0	0
Calendar year 1965	96	0	45.4	32,890
January	0	0	0	0
February	0	0	0	0
March	105	0	43.4	2,670
April	105	80	95.2	5,660
May	91	72	79.4	4,880
June	110	3.9	79.6	4,740
July	108	64	88.7	5,450
August	94	0	38.2	2,350
September	100	0	47.2	2,810
Water year 1965-66	110	0	45.9	33,240

8-3855.2. Pecos River below Fort Sumner, N. Mex.

Location.--Lat 34°21'00", long 104°10'20", in SW¼SW¼ sec.36, T.2N., R.26 E., on left bank 3/4 mile upstream from Taiban Creek and 9½ miles southeast of Fort Sumner.

Drainage area.--5,600 sq mi, approximately.

Records available.--August 1957 to May 1958, March 1962 to September 1966. Operated as a low-flow station only.

Gage.--Water-stage recorder. Altitude of gage is 3,920 ft (from river-profile map). Prior to Mar. 27, 1962 at different datum.

Extremes.--Records of low flows only; no maximums or minimums will be published.

Remarks.--Records poor. Flow partly regulated by Alamogordo Reservoir (see station 8-3840). Diversions for irrigation of about 19,100 acres (1959 determination) above station. Discharge represents in general, return flow from irrigated areas in Fort Sumner Irrigation Project.

Discharge, in cubic feet per second, August to September 1957

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1												41
2												34
3												45
4												41
5												36
6												36
7												45
8												32
9												34
10												41
11												37
12												41
13												45
14												55
15												57
16												39
17												-
18												-
19												-
20												-
21												-
22											88	-
23											55	-
24											37	157
25											32	89
26											32	78
27											32	54
28											30	60
29											37	60
30											39	46
31											43	---------
Total											-	-
Mean											-	-
Ac-ft											-	-

Note.--Release from Alamogordo Reservoir Sept. 17-23.

8-3855.2. Pecos River below Fort Sumner, N. Mex.--Continued

Discharge, in cubic feet per second, October 1957 to May 1958

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	33	17	12	12	10	27	-				
2	34	32	17	12	12	11	22	-				
3	30	32	16	12	12	11	17	-				
4	30	33	16	15	12	11	18	-				
5	30	32	17	19	11	11	27	-				
6	67	28	17	17	11	17	24	-				
7	82	24	16	17	11	28	27	-				
8	64	22	16	16	11	28	42	94				
9	45	21	16	16	11	22	50					
10	32	21	16	17	11	19	29					
11	28	20	16	17	11	18	15					
12	28	20	15	17	12	18	40					
13	28	19	15	16	12	-	72					
14	27	20	16	16	11	-	45					
15	25	19	16	15	11	-	29					
16	39	20	16	15	10	-	17					
17	64	21	15	14	10	-	17					
18	91	21	15	14	10	-	10					
19	78	20	14	18	10	-	8					
20	52	20	13	17	10	-	7					
21	32	19	13	17	10	-	-					
22	31	19	13	15	10	-	-					
23	25	19	12	15	11	-	-					
24	25	20	12	15	11	104	-					
25	24	20	13	14	11	70	-					
26	28	18	13	15	11	54	-					
27	28	17	13	15	11	43	-					
28	28	18	13	14	11	35	-					
29	31	17	13	13	-	28	-					
30	34	18	13	12	---	26	-					
31	34	---	13	12	---	28	---					
Total	1,246	663	456	469	307	-	-	-				
Mean	40.2	22.1	14.7	15.1	11.0	-	-	-				
Ac-ft	2,470	1,320	904	930	609	-	-	-				

Note.--Releases from Alamogordo Reservoir Mar. 13-23, April 21-28. No gage-height record April 29 to May 7.

Discharge, in cubic feet per second, March to September 1962

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							56	24	-	37	47	-
2							54	25	-	34	53	-
3							53	26	-	34	45	-
4							43	27	-	33	41	-
5							40	28	-	36	33	-
6							38	28	-	99	30	-
7							38	28	-	74	29	111
8							33	28	-	71	27	83
9							30	28	-	218	27	57
10							30	26	-	64	27	61
11							29	25	-	57	28	57
12							30	28	-	42	30	52
13							29	28	-	37	35	51
14							26	30	190	32	32	48
15							25	29	121	32	30	49
16							26	25	87	32	30	43
17							29	22	70	33	30	40
18							34	30	60	39	30	39
19							37	24	57	41	29	40
20							33	28	56	39	29	39
21							30	30	56	38	30	37
22							29	30	54	34	29	35
23							28	28	51	36	32	34
24							35	27	48	90	32	40
25							37	27	45	61	33	92
26							34	-	159	-	32	92
27							33	-	136	117	-	59
28						51	30	-	75	70	-	56
29						47	27	-	52	59	-	59
30						51	26	-	43	52	-	49
31						57	---	-	---	52	-	---
Total						-	1,022	-	-	-	-	-
Mean						-	34.1	-	-	-	-	-
Ac-ft						-	2,030	-	-	-	-	-

Note.--Releases from Alamogordo Reservoir May 26 to June 13, Aug. 27 to Sept. 6.

8-3855.2. Pecos River below Fort Sumner, N. Mex.--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	41	54	32	26	25	25	27	33	59	28	-	-
2	38	56	32	26	24	24	29	34	86	28	-	121
3	36	46	30	25	23	24	26	31	104	28	-	89
4	36	40	27	25	23	23	26	32	53	27	-	72
5	35	38	27	25	22	23	33	37	41	26	-	60
6	40	35	27	25	22	23	27	38	33	28	-	54
7	41	34	27	25	22	23	28	32	28	28	-	59
8	37	32	27	25	22	-	24	33	27	30	-	46
9	39	32	27	26	23	-	24	28	27	30	-	39
10	40	29	27	25	24	-	26	28	27	30	-	38
11	34	27	25	24	30	-	30	30	28	-	-	53
12	30	27	25	15	26	-	29	29	28	-	-	41
13	32	27	25	20	23	-	30	27	32	-	-	38
14	30	27	25	24	24	-	29	27	32	-	-	38
15	30	27	25	24	25	-	44	25	59	-	128	39
16	33	27	24	25	24	-	38	27	-	-	98	71
17	33	36	24	26	23	-	36	24	-	-	81	44
18	39	36	25	27	23	-	38	23	148	-	74	40
19	41	33	25	20	23	-	39	22	81	-	78	40
20	39	32	25	21	23	-	36	25	-	-	65	38
21	35	32	25	22	23	96	33	28	67	-	59	37
22	35	30	25	24	24	48	34	30	50	-	53	41
23	35	30	25	20	24	37	40	36	41	-	50	37
24	35	30	25	22	23	32	37	33	37	-	48	36
25	32	30	25	24	24	31	33	28	32	-	53	49
26	36	29	25	27	25	32	38	27	33	-	51	42
27	38	29	27	25	24	32	37	33	34	-	46	46
28	33	29	27	23	26	32	28	28	30	-	42	36
29	38	29	26	25	-	31	28	29	29	-	50	33
30	38	29	26	28	---	30	28	29	31	-	53	32
31	35	---	26	25	---	28	---	27	---	-	-	---
Total	1,114	992	813	744	667	-	955	913	-	-	-	-
Mean	35.9	33.1	26.2	24.0	23.8	-	31.8	29.5	-	-	-	-
Ac-ft	2,210	1,970	1,610	1,480	1,320	-	1,890	1,810	-	-	-	-

Note.--Releases from Alamogordo Reservoir Mar. 8-20, July 11 to Aug. 14.

Discharge, in cubic feet per second, water year October 1963 to September 1964

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	57	20	14	14	43	26	41	23	-	22	24
2	38	50	20	14	13	15	24	40	22	-	21	26
3	39	45	20	14	12	27	20	37	27	-	20	31
4	44	40	20	14	17	31	21	34	23	-	19	27
5	40	35	20	14	18	38	27	34	22	-	20	33
6	41	31	20	14	16	36	-	42	23	-	18	32
7	44	29	19	14	16	37	-	37	23	-	-	27
8	40	28	19	14	16	33	-	33	25	-	-	26
9	41	30	19	14	14	26	-	31	28	121	60	20
10	41	27	19	15	14	27	-	28	26	74	42	20
11	39	27	20	15	14	26	-	30	29	60	27	20
12	44	26	19	14	14	26	-	27	30	92	30	23
13	41	26	19	12	14	32	-	27	31	59	32	28
14	45	25	19	13	14	29	-	27	32	45	33	29
15	51	25	18	14	14	20	-	27	27	44	26	79
16	40	24	19	15	14	19	-	26	28	41	22	38
17	37	23	18	15	13	20	-	25	27	53	23	28
18	37	23	18	14	12	24	-	23	28	41	24	27
19	41	22	18	14	12	34	-	26	28	34	27	27
20	49	22	18	14	12	36	133	27	27	30	29	30
21	53	22	18	14	14	27	104	26	33	28	28	30
22	51	21	18	14	12	27	87	27	24	27	28	28
23	48	21	18	14	12	32	76	25	23	26	28	26
24	45	21	18	14	12	25	65	24	24	26	28	28
25	41	20	17	15	12	30	54	25	22	25	27	30
26	44	20	16	14	12	24	49	24	21	27	28	45
27	48	20	16	14	12	25	46	30	21	27	27	34
28	44	21	15	14	12	19	45	29	-	24	27	36
29	53	21	14	14	14	23	48	27	-	25	24	54
30	54	21	14	14	---	34	49	29	-	25	25	52
31	53	---	14	14	---	25	---	31	---	23	25	---
Total	1,365	823	560	436	395	870	-	919	-	-	-	968
Mean	44.0	27.4	18.1	14.1	13.6	28.1	-	29.6	-	-	-	32.3
Ac-ft	2,710	1,630	1,100	865	783	1,730	-	1,820	-	-	-	1,920

Note.--Releases from Alamogordo Reservoir April 6-19, June 28 to July 8.

8-3855.2. Pecos River below Fort Sumner, N. Mex.--Continued

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	59	45	18	15	14	14	80	22	27	-	54	29
2	32	41	18	16	14	12	59	22	26	-	65	24
3	40	40	19	16	14	12	49	23	20	-	56	29
4	36	35	18	16	13	12	42	22	18	-	80	27
5	39	-	18	15	14	12	37	23	19	-	72	31
6	40		18	14	12	10	34	22	22	-	62	38
7	33	40	18	14	14	11	29	18	25	-	38	46
8	28	35	18	14	20	11	27	22	18	-	31	54
9	27	30	18	14	15	10	25	19	11	-	27	57
10	28	25	18	14	14	11	25	21	15	-	30	64
11	23	25	18	14	14	14	25	23	27	68	27	56
12	26	20	18	14	14	14	25	23	17	51	29	45
13	27	20	17	14	12	12	27	-	19	42	27	42
14	36	20	17	14	13	11	33	-	22	37	28	37
15	32	25	18	14	12	10	32	56	23	37	23	38
16	29	-	17	13	12	-	28	39	22	31	24	40
17	22	-	15	13	12	-	24	33	29	27	28	54
18	27	-	15	13	12	-	21	27	37	27	30	60
19	33	28	15	12	12	-	21	23	26	26	23	36
20	33	25	15	12	12	-	19	23	24	27	81	54
21	40	23	15	12	10	-	24	23	-	27	40	41
22	41	22	16	13	11	-	23	29	-	26	38	44
23	40	21	16	14	11	-	21	41	-	23	96	49
24	49	20	16	14	16	-	21	-	-	22	54	45
25	40	20	16	16	12	-	22	-	-	24	39	44
26	38	20	17	18	12	-	36	62	-	22	36	31
27	29	18	17	16	10	-	42	44	-	22	34	30
28	26	18	16	16	10	-	27	33	-	24	32	34
29	29	18	16	14	-	-	25	37	-		32	39
30	27	18	16	14	----------	-	23	32	-	78	31	34
31	31	---------	15	14	----------	-	---------	32	---------	57	32	----------
Total	1,040	-	522	442	361	-	926	-	-	-	1,309	1,252
Mean	33.5	-	16.8	14.3	12.9	-	30.9	-	-	-	42.2	41.7
Ac-ft	2,060	-	1,040	877	716	-	1,840	-	-	-	2,600	2,490

Note.--Releases from Alamogordo Reservoir Mar. 16-31, June 21 to July 10.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	28	19	14	15	24	49	31	44	-	19	68
2	44	26	17	14	15	23	46	29	46	-	-	59
3	48	24	18	14	16	22	42	30	41	-	186	51
4	49	23	18	14	16	21	41	30	24	-	130	48
5	51	22	18	14	15	22	42	33	20	-	-	44
6	56	22	17	14	15	21	46	31	20	-	140	39
7	41	22	17	14	15	20	40	30	22	-	-	39
8	36	20	17	14	16	20	40	34	22	98	-	45
9	37	21	17	14	15	20	33	34	27	67	-	50
10	37	21	18	14	15	20	28	38	34	57	-	40
11	44	20	17	14	15	34	32	42	28	49	-	36
12	50	19	17	14	15	-	32	28	25	42	-	37
13	50	19	17	14	14	-	32	28	26	82	-	37
14	37	19	17	14	15	-	28	23	24	42	-	34
15	31	19	18	14	14	-	30	23	28	36	-	41
16	36	19	18	14	14	-	33	36	26	36	96	42
17	34	19	18	14	14	-	29	26	-	31	78	48
18	31	19	16	14	14	-	38	29	-	28	57	48
19	44	18	16	15	14	-	34	30	-	27	65	50
20	40	18	16	16	14	-	28	28	-	23	55	170
21	39	18	15	16	14	-	46	29	-	22	67	100
22	41	18	15	15	14	-	44	25	-	20	-	76
23	33	18	16	15	17	-	27	26	-	19	-	54
24	33	18	14	18	24	-	30	29	-	19	118	60
25	34	18	14	16	31	-	31	30	-	20	87	56
26	32	17	14	18	36	118	31	49	-	22	68	54
27	40	17	14	15	27	123	30	41	-	21	56	59
28	57	17	14	15	25	70	30	29	-	20	54	57
29	51	17	14	16	-	59	30	33	-	20	-	49
30	41	17	14	16	----------	50	30	32	-	18	98	54
31	37	----------	14	15	----------	46	----------	28	----------	19	76	----------
Total	1,268	593	504	458	484	-	1,052	964	-	-	-	1,655
Mean	40.9	19.8	16.3	14.8	17.3	-	35.1	31.1	-	-	-	55.2
Ac-ft	2,520	1,180	1,000	908	960	-	2,090	1,910	-	-	-	3,280

Note.--Releases from Alamogordo Reservoir Mar. 12-25, June 17 to July 7, Aug. 7-15.

8-3856.2. Pecos River below Yeso Arroyo, near Fort Sumner, N. Mex.

Location.--Lat 34°13'40", long 104°13'45", in SW¼SE¼SE¼ sec.8, T.1S., R.26 E., on left bank 0.9 mile downstream from Yeso Arroyo and 17 miles south of Fort Sumner.

Drainage area.--7,000 sq mi, approximately (contributing area).

Records available.--November 1964 to September 1966. Operated as a low-flow station only.

Gage.--Water-stage recorder. Altitude of gage is 3,845 ft (from river-profile map).

Extremes.--Records of low flows only; no maximums or minimums will be published.

Remarks.--Records poor. Flow partly regulated by Alamogordo Reservoir (see station 8-3840). Diversions for irrigation of about 19,100 acres (1959 determination) above station.

Discharge, in cubic feet per second, November 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	20	-	10	12	124	24	31	-	55	21
2		-	-	-	11	11	88	23	28	-	55	18
3		-	-	-	12	11	70	23	26	-	47	-
4		-	-	-	11	10	59	22	21	-	59	43
5		-	-	16	12	11	53	18	18	-	76	29
6		-	-	15	11	12	47	20	20	-	67	32
7		-	-	15	12	12	42	18	22	-	-	46
8		-	-	13	20	12	37	15	21	-	-	50
9		-	-	-	20	12	33	17	15	-	-	43
10		-	-	-	16	11	32	18	19	175	-	56
11		16	-	-	16	14	32	22	25	97	-	50
12		16	-	-	14	17	32	24	22	70	-	43
13		16	-	-	12	13	31	-	13	55	-	30
14		15	-	-	13	12	31	-	17	46	-	23
15		16	-	-	13	10	43	86	18	52	-	20
16		-	18	-	12	-	35	61	18	39	-	20
17		81	20	-	12	-	32	49	19	32	-	45
18		47	18	12	11	-	28	38	28	29	-	-
19		37	25	12	11	-	25	32	21	26	-	52
20		31	35	12	11	-	24	31	18	26	-	42
21		29	-	12	10	-	22	31	20	26	-	46
22		26	-	11	10	-	28	33	-	24	-	36
23		26	-	12	9	-	24	47	-	22	-	46
24		25	-	12	9	-	24	-	-	19	-	42
25		23	-	10	8	-	26	-	-	20	-	46
26		23	-	12	12	-	36	79	-	21	29	32
27		22	-	12	10	-	55	56	-	18	29	26
28		21	-	14	9	-	43	46	-	19	25	26
29		20	-	11	-	-	30	29	-	-	24	31
30		20	-	11	---	-	28	36	-	82	22	35
31		---	-	10	---	-	---	33	---	50	22	---
Total		-	-	-	337	-	1,214	-	-	-	-	-
Mean		-	-	-	12.0	-	40.5	-	-	-	-	-
Ac-ft		-	-	-	668	-	2,410	-	-	-	-	-

Note.--Releases from Alamogordo Reservoir Mar. 16-31, June 22 to July 9. No gage-height record Nov. 1-10, Dec. 2-15, Dec. 21 to Jan. 4, Jan. 9-17, Aug. 7-25.

8-3856.2. Pecos River below Yeso Arroyo near Fort Sumner, N. Mex.--Continued

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	36	18	14	14	251	-	28	115	-	26	88
2	36	28	17	13	14	22	-	26	-	-	-	97
3	42	26	16	12	13	20	-	25	56	-	-	-
4	47	26	15	10	12	26	-	26	35	-	138	77
5	50	24	15	10	12	22	-	26	19	-	-	64
6	52	23	14	14	12	24	-	28	16	-	-	56
7	50	23	14	12	12	21	-	26	13	-	-	53
8	32	21	15	12	13	21	35	26	13	160	-	59
9	33	21	15	12	12	20	35	30	17	97	-	67
10	31	21	16	11	11	20	26	36	80	74	-	62
11	33	21	15	12	12	20	24	35	35	92	-	55
12	38	19	14	12	12	-	25	42	23	62	-	55
13	52	19	14	12	12	-	28	28	17	70	-	55
14	35	18	14	12	8	-	26	26	16	67	-	52
15	31	18	16	12	13	-	25	22	16	46	-	81
16	26	17	17	12	12	-	24	26	17	42	150	55
17	31	18	16	13	13	-	26	26	-	38	118	47
18	39	18	17	13	13	-	28	25	-	31	101	49
19	32	17	16	14	12	-	28	26	-	30	95	52
20	36	16	16	14	12	-	26	28	-	28	94	-
21	35	16	16	10	12	-	29	26	-	23	86	-
22	33	16	16	-	13	-	47	24	-	20	-	84
23	35	16	19	-	13	-	33	21	-	18	-	70
24	28	16	18	-	16	-	28	22	-	17	-	59
25	26	16	16	-	25	-	35	25	-	17	-	55
26	30	14	15	-	32	-	29	84	-	19	-	50
27	29	14	15	-	35	-	26	59	-	-	-	49
28	42	14	15	-	29	-	26	37	-	-	-	55
29	64	15	15	-	-	-	26	28	-	32	-	42
30	46	15	15	-	----------	-	28	30	-	28	-	43
31	42	----------	15	-	----------	-	----------	26	----------	26	109	----------
Total	1,164	582	485	-	419	-	-	943	-	-	-	-
Mean	37.5	19.4	15.6	-	15.0	-	-	30.4	-	-	-	-
Ac-ft	2,310	1,150	962	-	831	-	-	1,870	-	-	-	-

Note.-Clock stopped Jan. 22-31, Mar. 27 to Apr. 7, Aug. 25-29; releases from Alamogordo Dam Mar. 12-26, June 17 to July 7, Aug. 7-15; storm peaks July 27, 28, Aug. 2, 3, 5, 6, 22-24, 30, Sept. 3, 20, 21.

8-3856.4. Pecos River above Huggins Creek, near Roswell, N. Mex.

Location.--Lat 33°54'55", long 104°16'40", in NW¼SW¼NW¼ sec.36, T.4 S., R.25 E., on right bank 1.7 miles downstream from Hernandez Draw, 4.3 miles upstream from Huggins Creek, and 38 miles northeast of Roswell.

Drainage area.--7,800 sq mi, approximately (contributing area).

Records available.--October 1964 to September 1966. Operated as low-flow station only.

Gage.--Water-stage recorder. Altitude of gage is 3,680 ft (from river-profile map). Supplemental water-stage recorder since June 9, 1966 at site opposite base gage at same datum.

Extremes.--Records of low flows only; no maximums or minimums will be published.

Remarks.--Records poor. Flow partly regulated by Alamogordo Reservoir (see station 8-3840). Diversions for irrigation of about 19,100 acres (1959 determination) above station.

Discharge, in cubic feet per second, water year October 1964 to September 1965

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		17	14	11	8	8	-	17	11	-	122	7
2		19	13	10	8	8	-	18	10	-	47	7
3		21	15	10	8	7	-	10	10	-	32	-
4		26	14	10	8	7	-	10	8	-	25	129
5		25	13	11	10	8	-	8	7	-	20	34
6		22	12	11	10	8	46	6	7	-	42	34
7		22	12	11	11	8	44	5	7	-	33	44
8		22	12	11	17	7	40	5	7	-	20	24
9		20	12	10	20	7	33	4	7	-	17	25
10		19	11	10	20	7	29	3	8	-	12	26
11		17	10	9	18	8	24	5	-	-	5	26
12		15	10	10	13	9	26	-	12	-	3	33
13		13	9	10	9	10	26	-	10	67	2	29
14		12	8	10	9	9	26	-	8	49	2	19
15		11	8	10	11	8	22	144	8	42	2	13
16		-	8	10	10	6	30	77	7	67	2	8
17		-	8	10	10	-	36	53	7	46	2	36
18		70	8	11	10	-	26	34	7	29	2	-
19		46	5	11	10	-	25	30	7	14	4	101
20		34	8	10	10	-	21	26	7	5	-	60
21		32	14	10	9	-	18	22	7	2	77	40
22		29	18	10	8	-	16	21	7	2	65	28
23		25	14	9	8	-	15	-	-	1	60	26
24		24	12	9	7	-	15	-	-	1	46	22
25		21	10	8	8	-	14	-	-	5	40	26
26		18	10	7	8	-	32	80	-	1	26	26
27	24	17	10	7	10	-	33	21	-	0	20	25
28	22	17	10	7	8	-	46	14	-	5	18	21
29	19	16	10	8	-	-	44	12	-	1	16	13
30	17	14	10	9	---	-	26	11	-	83	13	10
31	17	---	10	8	---	-	---	14	---	83	10	---
Total	-	-	338	298	296	-	-	-	-	-	-	-
Mean	-	-	10.9	9.6	10.6	-	-	-	-	-	-	-
Ac-ft	-	-	670	591	587	-	-	-	-	-	-	-

Note.--Releases from Alamogordo Reservoir Mar. 17 to Apr. 5, June 23 to July 12.

8-3856.4. Pecos River above Huggins Creek near Roswell, N. Mex.--Continued

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	36	11	13	-	21	46	20	30	-	3.1	104
2	14	34	12	12	-	19	42	21	-	-	-	70
3	13	33	12	10	-	14	34	21	-	-	-	80
4	18	28	-	9.7	-	11	33	21	53	-	126	-
5	28	25	-	9.7	-	10	33	18	22	-	33	40
6	33	22	-	10	-	11	30	19	9.7	-	-	32
7	36	21	-	12	-	14	29	17	4.3	-	63	41
8	38	20	-	12	-	15	32	17	1.6	-	-	40
9	36	20	-	12	-	15	29	15	1.9	-	-	30
10	29	20	-	11	-	14	25	19	37	114	-	34
11	21	19	-	11	-	13	20	18	92	98	-	34
12	19	17	-	11	-	-	17	18	51	111	-	29
13	19	15	-	11	-	-	16	22	18	122	-	58
14	25	14	11	10	-	-	19	28	6.7	58	-	24
15	32	13	13	10	-	-	21	14	2.5	70	-	25
16	28	13	13	10	-	-	19	11	2.2	33	-	70
17	26	13	14	10	-	-	19	7.9	-	36	122	38
18	24	12	14	11	-	-	19	8.5	-	22	89	32
19	25	12	13	15	-	-	19	9.7	-	17	75	33
20	28	11	12	15	-	-	20	12	-	12	63	-
21	28	10	12	20	-	-	20	11	-	9.7	65	-
22	29	9.7	12	22	-	-	24	7.3	-	5.2	-	-
23	30	9.7	21	-	8.5	-	34	4.6	-	2.8	-	101
24	30	10	19	-	8.5	-	63	3.7	-	2.0	-	70
25	29	10	16	-	8.5	-	60	3.1	-	1.4	101	58
26	25	9.7	15	-	9.7	-	40	26	-	12	58	49
27	22	9.1	14	-	12	-	28	34	-	17	32	44
28	24	8.5	13	-	18	144	17	49	-	-	21	44
29	25	8.5	13	-	-	101	19	33	-	55	-	47
30	36	8.5	13	-	----------	63	20	24	-	11	-	40
31	42	----------	13	--	----------	58	----------	21	----------	3.7	--	----------
Total	823	491.7	-	-	-	-	847	553.8	-	-	-	-
Mean	26.5	16.4	-	-	-	-	28.2	17.9	-	-	-	-
Ac-ft	1630	975	-	-	-	-	1680	1100	-	-	-	-

Note.--No gage height record Dec. 4-13. Jan. 23 to Feb. 22; releases from Alamogordo Dam Mar. 12-27, June 17 to July 8, Aug. 8-16.

8-3860. Pecos River near Acme, N. Mex.

Location.--Lat 33°32'10", long 104°22'40", in NW¼ sec.14, T.9 S., R.25 E., on right bank 1 mile southeast of Melena railroad station, 3 miles south of U. S. Highway 70, 3½ miles downstream from Salt Creek, 5 miles southwest of Acme, and 13 miles northeast of Roswell.

Drainage area.--11,380 sq mi, approximately (contributing area).

Records available.--September 1921 to June 1923, July 1937 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Altitude of gage is 3,500 ft (from river-profile map). Prior to Nov. 1, 1938, at site on highway bridge 3 miles upstream at various datums. Supplemental water-stage recorder since Oct. 25, 1963, at site opposite base gage at same datum.

Average discharge.--29 years (1937-66), 207 cfs (149,900 acre-ft per year).

Extremes.--Maximum discharge during year, 3,470 cfs Sept. 20 (gage height, 7.34 ft); no flow several days.
1937-66: Maximum discharge, 45,000 cfs Sept. 23, 1941 (gage height, 13.71 ft), from rating curve extended above 26,000 cfs by logarithmic plotting; no flow at times.
The flood of May 28, 1937, reached a discharge of 53,000 cfs (gage height, 14.82 ft, from floodmarks, site and datum then in use), by slope-area method, but may have been exceeded by the flood of Oct. 1, 1904. For other peaks prior to 1937, see Pecos River below Alamogordo Dam.

Remarks.--Records fair. Flow regulated by Alamogordo Reservoir (see station 8-3840). Diversions for irrigation of about 20,000 acres (1959 determination) above station. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	25	1.6	5.0	2.8	5.6	58	12	1.4	940	13	130
2	.54	20	2.5	4.7	2.7	9.7	46	12	.07	940	395	68
3	0	19	3.0	2.7	2.7	8.9	39	12	52	970	1,490	57
4	2.7	16	3.6	3.3	2.7	5.6	37	12	84	970	296	58
5	2.0	13	4.2	3.0	3.0	5.0	34	11	36	850	164	68
6	8.1	10	4.2	3.3	3.5	5.0	33	11	16	860	103	44
7	12	9.3	3.6	3.6	4.5	4.7	30	8.9	6.8	830	153	32
8	13	13	3.3	3.9	5.5	5.3	27	7.6	1.3	679	142	26
9	13	63	3.6	3.9	5.0	7.2	26	6.4	0	258	935	34
10	13	17	4.4	3.9	4.5	7.2	26	6.8	0	200	1,040	24
11	8.5	11	4.4	3.6	4.5	6.8	20	5.6	0	92	900	22
12	2.7	8.1	4.2	3.9	4.5	6.0	18	4.4	0	63	890	23
13	1.4	6.4	4.2	3.9	4.5	300	16	5.3	5.9	77	880	19
14	.40	5.6	4.2	3.6	2.3	734	15	6.0	2.0	66	820	28
15	.54	4.7	4.4	3.6	2.5	870	15	7.6	0	92	762	24
16	6.8	4.4	5.3	3.0	2.5	880	16	6.4	0	52	365	22
17	9.7	4.4	5.6	2.5	2.3	1,000	16	2.3	0	30	192	28
18	6.4	4.4	6.0	2.5	2.2	1,060	14	1.6	847	29	108	24
19	6.8	4.2	5.0	3.0	2.2	1,080	11	.72	1,590	22	82	17
20	5.6	3.6	4.7	5.6	2.5	1,090	11	.45	1,340	14	56	1,200
21	8.1	2.7	4.4	5.0	3.0	1,050	10	.06	1,210	6.8	47	528
22	8.1	2.5	5.6	1.0	3.0	1,080	12	0	1,130	3.0	52	199
23	11	2.2	5.6	.80	2.7	1,080	14	.17	1,150	1.5	1,860	122
24	11	2.3	6.4	.80	2.5	1,080	36	0	1,150	0.5	2,670	90
25	11	2.3	7.2	.90	2.5	1,080	118	0	1,160	0	1,010	65
26	11	1.4	6.8	1.1	3.3	512	56	19	1,130	0	409	50
27	8.1	1.6	6.8	1.4	3.0	203	30	17	1,310	51	223	40
28	7.6	1.4	6.8	2.0	3.6	133	22	21	1,180	27	145	34
29	7.6	1.4	6.4	2.0	-	125	15	27	1,130	70	92	33
30	8.1	1.3	6.0	2.2	------	94	12	14	1,000	45	167	33
31	14	------	5.6	2.5	------	71	------	5.3	------	22	306	------
Total	220.78	281.2	149.6	92.20	90.5	13,599.0	833	243.60	15,532.47	8,260.8	16,767	3,142
Mean	7.12	9.37	4.83	2.97	3.23	439	27.8	7.86	518	266	541	105
Ac-ft	438	558	297	183	180	26,970	1,650	483	30,810	16,390	33,260	6,230

Calendar year 1965: Max 3,090 Min 0 Mean 105 Ac-ft 76,200
Water year 1965-66: Max 2,670 Min 0 Mean 162 Ac-ft 117,400

Peak discharge (base, 2,500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-19	2130	7.11	3,090	8-24	0300	7.19	3,210
8- 3	0330	7.25	3,150	9-20	1300	7.34	3,470

8-3870. Rio Ruidoso at Hollywood, N. Mex.

Location.--Lat 33°19'50", long 105°36'25", in NE¼ sec.30, T.11 S., R.14 E., on right upstream end of bridge on road leading to Ruidoso Downs, 0.9 mile east of Hollywood, 2¾ miles downstream from Carrizo Creek, and 2½ miles east of Ruidoso.

Drainage area.--120 sq mi, approximately.

Records available.--March 1953 to September 1966.

Gage.--Digital water-stage recorder and crest-stage gage. Datum of gage is 6,365.42 ft above mean sea level, datum of 1929. Prior to October 14, 1961, at datum 0.30 ft higher. Oct. 14, 1961, to Mar. 8, 1962, at datum 0.60 ft higher. Mar. 9, 1962, to June 18, 1965, at datum 1.0 ft higher. Prior to Feb. 11, 1965, graphic water-stage recorder at present site at datum 1.0 ft higher.

Average discharge.--13 years, 11.1 cfs (8,040 acre-ft per year).

Extremes.--Maximum discharge during year, 184 cfs Dec. 31 (gage height, 2.87 ft); minimum, 4.1 cfs Dec. 19, 20.
1953-66: Maximum discharge, 1,340 cfs June 17, 1965 (gage height, 9.05 ft), from rating curve extended above 110 cfs on basis of slope-area measurement of peak flow; minimum, 0.3 cfs Jan. 1, 1962, May 8-9, 1964.
The flood of Sept. 29, 1941, is probably the highest since at least 1904 (discharge not determined).

Remarks.--Records good except those for period of doubtful or no gage-height record, which are poor. Figures of discharge do not include F. Herrera ditch-S., which diverts from right bank 1½ miles upstream and bypasses station for irrigation of 75 acres (1959 determination) below. See monthly table below for record of ditch. Village of Ruidoso diverts from right bank 7 miles upstream for municipal use and returns a portion of this to river as effluent from sewage disposal plant 1½ miles upstream from station. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	14	6.7	6.0	60	9.5	12	52	45	12	10	11	27
2	13	6.7	6.0	38	10	13	61	41	11	9.1	10	26
3	12	6.1	6.0	40	9.0	12	69	41	11	8.1	9.5	25
4	12	6.0	6.0	26	9.2	11	71	40	11	7.5	10	30
5	11	6.1	6.5	22	9.4	12	63	39	11	7.2	18	36
6	11	5.8	6.0	20	9.5	14	54	38	10	7.4	14	38
7	11	5.9	6.5	18	10	15	49	40	9.3	7.6	11	44
8	9.7	6.1	7.0	17	10	19	51	45	8.4	7.4	11	47
9	9.3	6.3	8.5	17	10	34	53	50	9.0	7.4	11	43
10	9.2	5.5	9.5	16	11	37	57	52	9.9	8.9	11	39
11	9.1	5.5	9.5	16	9.9	43	56	48	9.7	7.8	8.6	35
12	9.1	5.5	9.0	15	9.0	49	53	42	8.9	9.0	7.9	32
13	8.6	5.5	8.5	14	10	53	50	37	7.7	12	7.2	28
14	8.1	5.5	7.7	13	9.0	64	49	35	7.1	9.3	6.7	26
15	8.0	5.4	6.3	13	9.0	67	46	32	6.6	9.2	6.8	27
16	10	5.1	6.0	12	9.5	71	44	32	6.5	7.6	7.0	23
17	11	5.5	7.4	13	9.5	78	46	34	6.7	7.3	12	21
18	9.6	5.5	6.7	13	10	80	47	33	6.3	8.0	10	19
19	8.7	5.5	6.0	12	11	81	43	32	6.3	8.0	21	18
20	7.9	5.5	6.5	11	11	85	37	30	6.6	8.0	18	18
21	7.5	5.5	6.3	10	11	89	34	28	6.5	8.4	20	16
22	7.4	5.5	10	7.0	10	82	32	25	6.0	7.4	31	14
23	7.2	5.5	18	8.0	9.5	73	30	25	5.7	8.4	66	14
24	7.0	6.0	12	9.0	10	65	34	24	5.1	8.6	78	15
25	7.2	7.0	10	10	11	58	36	22	5.1	7.4	63	14
26	7.3	8.0	10	10	12	55	33	22	6.6	8.2	48	12
27	6.7	6.0	10	10	13	58	33	19	11	40	39	13
28	6.5	6.0	9.6	9.7	12	55	35	17	8.6	22	33	13
29	6.5	6.0	9.7	9.3	------	48	39	16	14	15	32	12
30	6.5	6.0	14	9.8	------	43	46	14	15	11	30	11
31	6.4	------	109	9.7	------	42	------	12	------	11	31	------
TOTAL	278.5	177.2	360.2	508.5	284.0	1,518	1,403	1,010	258.6	314.2	692.7	736
MEAN	8.98	5.91	11.6	16.4	10.1	49.0	46.8	32.6	8.62	10.1	22.3	24.5
AC-FT	552	351	714	1,010	563	3,010	2,780	2,000	513	623	1,370	1,460
(†)	0	0	0	0	0	0	28.91	35.18	74.1	38.69	13.34	4.13

CALENDAR YEAR 1965 MAX 161 MIN 1.8 MEAN 14.9 AC-FT 10,780
WATER YEAR 1965-66 MAX 109 MIN 5.1 MEAN 20.7 AC-FT 14,960

Peak discharge (base, 100 cfs).--Dec. 31 (0915) 184 cfs (2.87 ft); July 27 (1815) 153 cfs (2.66 ft).

† Diversion, in acre-feet, by F. Herrera ditch-S.
Note.--Doubtful or no gage-height record Nov. 10 to Dec. 13.

8-3905. Rio Hondo at Diamond A Ranch, near Roswell, N. Mex.

Location.--Lat 33°20'55", long 104°51'05", in NE¼NE¼ sec.20, T.11 S., R.21 E., on right bank 15 ft downstream from county road bridge at Diamond A Ranch, 13 miles upstream from Two Rivers Reservoir, 21 miles upstream from mouth of Rocky Arroyo, and 18 miles west of Roswell, Chaves County.

Drainage area.--947 sq mi (contributing area).

Records available.--May 1908 to August 1909, May 1939 to September 1966. Monthly discharge only for 1908-09, published in Technical Report No. 7, State of New Mexico, Streamflow and Reservoir Content 1888 - 1954.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,185 ft (from topographic map). Prior to Nov. 11, 1965 at site on opposite bank at same datum. Supplemental water-stage recorder on opposite bank since Nov. 11, 1965 at same datum.

Average discharge.--27 years (1939-66), 25.4 cfs (18,390 acre-ft per year).

Extremes.--Maximum discharge during year, 1,770 cfs Sept. 1 (gage height, 17.15 ft); no flow most of time.
1939-66: Maximum discharge, 54,800 cfs June 18, 1965 (gage height, 26.40 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurement of peak flow; maximum gage height, 28.78 ft, Sept. 22, 1941; no flow most of time.
A flood on June 1, 1937, reached a discharge of 24,900 cfs at Riverside about 13 miles upstream. Other major floods occurred Oct. 31, 1901, Sept. 29, 30, 1904, and July 25, 1905.

Remarks.--Records poor. Diversions and ground-water withdrawals above station for irrigation of about 6,500 acres (1959 determination) above and below station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22		0	58		0	23	12		0	0	332
2	22		0	60		0	23	20		0	0	35
3	22		0	40		0	31	21		0	0	39
4	21		0	40		0	42	13		0	0	25
5	22		0	30		0	50	10		0	0	11
6	20		0	25		0	44	3.5		0	0	26
7	21		0	20		0	41	.34		0	0	22
8	19		0	10		0	36	0		0	0	26
9	22		0	5.0		0	32	0		0	0	42
10	24		0	5.0		0	30	0		0	0	42
11	21		0	1.0		0	32	0		0	0	42
12	16		0	.90		0	31	0		0	0	121
13	18		0	.90		0	30	0		33	0	42
14	17		0	.90		0	24	0		79	0	29
15	9.7		0	.90		0	21	0		.41	0	26
16	.11		0	.80		0	22	0		.08	0	21
17	.06		0	.05		10	21	0		0	0	17
18	0		0	0		25	17	0		0	0	17
19	0		0	0		15	14	0		0	0	12
20	0		0	0		30	14	0		0	53	5.0
21	0		0	0		36	11	0		0	49	7.7
22	0		0	0		57	6.4	0		0	458	3.3
23	0		0	0		52	29	0		0	633	.86
24	0		0	0		48	36	0		0	122	11
25	0		.67	21		40	61	0		0	110	15
26	0		1.1	45		32	30	0		0	91	3.2
27	0		1.2	32		28	17	0		0	68	.48
28	0		1.2	20		32	12	0		0	38	0
29	0		1.2	10		33	12	0		0	30	0
30	0		.90	1.0	----------	31	9.8	0		0	10	0
31	0	----------	.80	0	----------	28	----------	0	----------	0	39	----------
Total	296.87	0	7.07	427.45	0	497	802.2	79.84	0	41.39	1,701	973.54
Mean	9.58	0	0.228	13.8	0	16.0	26.7	2.58	0	1.34	54.9	32.5
Ac-ft	589	0	14	848	0	986	1,590	158	0	82	3,370	1,930

Calendar year 1965: Max 4,270 Min 0 Mean 42.1 Ac-ft 30,470
Water year 1965-66: Max 633 Min 0 Mean 13.2 Ac-ft 9,570

Peak discharge (base, 1,000 cfs).--Aug. 23 (0330) 1,320 cfs (14.70 ft); Sept. 1 (1415) 1,770 cfs (17.15 ft).

8-3906. Two Rivers Reservoir near Roswell, N. Mex.

Location.--Lat 33°17'55", long 104°43'20", in SW¼SE¼NE¼ sec.4, T.12 S., R.22 E., near center of Diamond A Dam on Rio Hondo, 13 miles southwest of Roswell, and lat 33°16'20", long 104°43'20", in NW¼SE¼NE¼ sec.16, T.12 S., R.22 E., at left end of Rocky Dam on Rocky Arroyo, 14 miles southwest of Roswell.

Drainage area.--1,030 sq mi (Rio Hondo, 963 sq mi; Rocky Arroyo, 64 sq mi).

Records available.--July 1963 to September 1966.

Gage.--Water-stage recorders. Datum of gages is at mean sea level, datum of 1929.

Extremes.--Maximum contents at 0800 hours of Rio Hondo Reservoir during year, 964 acre-ft Aug. 23 (elevation, 3,983.6 ft); no contents most of time. Maximum contents at 0800 hours of Rocky Arroyo Reservoir during year, 2,360 acre-ft Aug. 23 (elevation, 3,962.6 ft); no contents most of time.

1963-66: Maximum contents at 0800 hours of Rio Hondo Reservoir, 1,260 acre-ft July 29, 1965 (elevation 3,985.7 ft); Rocky Arroyo Reservoir at 0800 hours, 6,090 acre-ft June 18, 1965 (elevation 3,970.7 ft); no contents both reservoirs most of time.

Remarks.--Two Rivers Reservoir, completed July 16, 1963, is formed by earth-fill dams on Rio Hondo, which forms Rio Hondo Reservoir, and Rocky Arroyo, which forms Rocky Arroyo Reservoir. Above elevation 3,980.0 ft the pools of the two reservoirs combine to form Two Rivers Reservoir with a total capacity of 167,900 acre-ft at elevation 4,032.0 ft (crest of ungated spillway). Capacity of Rio Hondo Reservoir, 550 acre-ft between elevations 3,957.0 (sill of outlet gate) and 3,980.0 ft. Capacity of Rocky Arroyo Reservoir, 14,240 acre-ft between elevations 3,945.0 (sill of outlet gate) and 3,980.0 ft. No appreciable dead storage in Rio Hondo Reservoir. Dead storage in Rocky Arroyo Reservoir, 39 acre-ft. Primary objective of project is flood control. Outlet conduits in Rocky Dam have fixed openings. Figures given herein represent total contents (in table, reservoirs separated as indicated).

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre feet, water year October 1965 to September 1966

	Hondo Res.	Rocky Arroyo Res.
Aug. 22	461	0
23	964	2,360
24	0	1,240
25	0	725
26	0	72
Sept. 1	573	2,320
2	0	1,760
3	0	1,020
4	0	434

Note.-Storage only on days listed above. Month-end, calendar year and water year contents were all zero.

8-3908. Rio Hondo below Diamond A Dam, near Roswell, N. Mex.

Location.--Lat 33°18'05", long 104°43'10", in NE¼SE¼NE¼ sec.4, T.12 S., R.22 E., on left bank, 500 ft downstream from outlet conduit of Diamond A Dam (Two Rivers Reservoir) and 13 miles southwest of Roswell.

Drainage area.--963 sq mi (contributing area).

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,949.68 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Extremes.--Maximum discharge during year, 625 cfs Aug. 23 (gage height, 4.55 ft); no flow most of time.
1963-66: Maximum discharge, 659 cfs July 29, 1965 (gage height 4.91 ft); no flow most of time.
The flood of Oct. 7, 1954, reached a discharge of 7,250 cfs, by slope-area method, at site about ½ mile upstream. This same flood produced a peak of 23,000 cfs at Rio Hondo at Diamond A Ranch, near Roswell (see station 3905), 11 miles upstream. A portion of this peak overflowed into Rocky Arroyo at a point about one mile upstream and contributed to a peak of 6,620 cfs, by slope-area measurement, at a point about three miles downstream from the present site of Rocky Dam.

Remarks.--Records poor. Diversions and ground-water withdrawals for irrigation of about 6,500 acres (1959 determination) above station. This record represents the outflow from Two Rivers Reservoir through Diamond A Dam.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				6.4		0	8.0	0	0	0	0	147
2				18		0	2.0	2.2	0	0	0	232
3				8.2		0	1.5	1.9	0	0	0	13
4				7.7		0	12	.12	0	0	0	12
5				11		0	20	0	0	0	0	3.0
6				9.0		0	21	0	0	0	0	4.0
7				7.9		0	23	0	0	0	0	5.5
8				6.4		0	15	0	0	0	0	4.4
9				4.4		0	5.8	0	0	0	0	11
10				2.0		0	4.0	0	0	0	0	16
11				5.0		0	2.0	0	0	0	0	15
12				3.0		0	3.1	0	0	0	0	36
13				.77		0	5.5	0	0	1.1	0	34
14				2.3		0	.30	0	0	7.5	0	15
15				.75		0	0	0	0	.01	0	4.5
16				4.0		0	0	0	0	0	0	.30
17				.50		0	0	0	0	0	0	0
18				0		0	.85	0	0	0	0	0
19				0		7.5	.89	0	0	0	0	0
20				0		2.1	.31	0	.20	0	20	0
21				0		10	0	0	.14	0	25	0
22				0		33	0	0	0	0	212	0
23				0		37	5.8	0	0	0	409	0
24				0		35	9.0	0	0	0	334	0
25				0		25	38	0	0	0	104	7.2
26				0		14	21	0	0	0	60	4.0
27				0		9.0	12	0	0	0	42	.10
28				0		13	5.5	0	0	0	31	0
29				0		16	2.3	0	0	0	15	0
30				0		20	.05	0	0	0	15	0
31				0		12		0		0	31	
Total	0	0	0	97.32	0	233.6	218.90	4.22	0.34	8.61	1,298	564.00
Mean	0	0	0	3.14	0	7.54	7.30	0.136	0.011	0.278	41.9	18.8
Ac-ft	0	0	0	193	0	463	434	8.4	0.7	17	2,570	1,120

Calendar year 1965: Max 459 Min 0 Mean 19.7 Ac-ft 14,290
Water year 1965-66: Max 409 Min 0 Mean 6.64 Ac-ft 4,810

8-3910. Rocky Arroyo above Two Rivers Reservoir, near Roswell, N. Mex.

Location.--Lat 33°17'07", long 104°47'47", in NE¼SW¼ sec.11, T.12 S., R.21½ E., on right bank, 2.1 miles upstream from mouth of Buchnan Draw, 5.2 miles upstream from Rocky Dam (Two Rivers Reservoir), and 17 miles southwest of Roswell, Chaves County.

Drainage area.--31 sq mi.

Records available.--May 1963 to September 1966.

Gage.--Water-stage recorder. Altitude of gage 4,056 ft (from topographic map).

Extremes.--Maximums and minimums (discharge in cubic feet per second, gage height in feet).

Annual maximum discharge (*) and peak discharges above base (90 cfs), May 1963 to September 1966

Date	Time	Discharge	Gage height	Date	Time	Discharge	Gage height
June 2, 1963	0330.	* 2,130	9.64	Apr. 25, 1966	1200	158	6.64
June 13, 1964	1830	* 208	6.79	Aug. 23	0330	2,070	9.58
Sept. 2	1730	98	6.42	31	1830	247	6.90
1965		* 0		Sept. 1	2045	* 3,580	10.86

No flow most of time, May 1963 to September 1966.

1963-66: Maximum discharge, 3,580 cfs Sept. 1, 1966 (gage height, 10.86 ft), from rating curve extended above 350 cfs on basis of slope-area measurements at gage heights 9.64 and 10.86 ft; no flow most of time.

Remarks.--Records good. No diversions above station. Flow past station represents inflow to Two Rivers Reservoir.

Discharge, in cubic feet per second, May 1963 to September 1966

June 1, 1963	30
2	148
3	.09
14	2.7
15	2.5
June 13, 1964	18
14	1.2
Sept. 2	6.9
3	.47
26	9.1
27	2.4
Apr. 25, 1966	.41
26	.57
Aug. 22	62
23	708
24	4.0
31	33
Sept. 1	627
2	59
3	.03

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
June 1963	183.29	148	0	6.11	364
Water year 1962-63	-	-	-	-	-
June 1964	19.2	18	0	.64	38
September	18.87	9.1	0	.629	37
Calendar year 1963	-	-	-	-	-
Water year 1963-64	38.07	18	0	.104	76
Calendar year 1964	38.07	18	0	.104	76
Water year 1964-65	0	0	0	0	0
April 1966	41.57	41	0	1.39	82
August	807.0	708	0	26.0	1,600
September	686.03	627	0	22.9	1,360
Calendar year 1965	0	0	0	0	0
Water year 1965-66	1,534.60	708	0	4.20	3,040

8-3911. Rocky Arroyo below Rocky Dam, near Roswell, N. Mex.

Location.--Lat 33°15'55", long 104°42'05", in SE¼NE¼SE¼ sec.15, T.12 S., R.22 E., on left bank, 1¾ miles downstream from Rocky Dam (Two Rivers Reservoir) and 13 miles southwest of Roswell.

Drainage area.--65 sq mi.

Records available.--May 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,906.90 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Extremes.--Maximum discharge during year, 548 cfs Aug. 21 (gage height, 4.57 ft), from rating curve extended above 260 cfs by logarithmic plotting; no flow most of time.
1963-66: Maximum discharge, that of Aug. 21, 1966; no flow for most of time.
The flood of Oct. 7, 1954, reached a discharge of 6,620 cfs, by slope-area measurement, at site about 2 miles downstream near Lambert's Well. At the same site the flood of 1941 (probably September) was estimated at 9,000 cfs from old drift marks.

Remarks.--Records good. No diversions above station. This record represents the outflow from Two Rivers Reservoir through Rocky Dam plus any runoff in the 1¾ miles of intervening area between the dam and the gage. Outlet conduits in Rocky Dam have fixed openings.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0		0		0	62
2							0		0		0	228
3							0		0		0	205
4							0		0		0	177
5							0		0		0	58
6							0		0		0	4.0
7							0		0		0	.42
8							0		0		0	.13
9							0		0		0	0
10							0		0		0	0
11							0		0		0	0
12							0		0		0	0
13							0		0		0	0
14							0		0		0	0
15							0		0		0	0
16							0		0		0	0
17							0		0		0	0
18							0		0		0	0
19							0		0		0	0
20							0		.70		0	0
21							0		101		28	0
22							0		10		9.3	0
23							0		2.8		257	0
24							0		1.0		232	0
25							0		.15		202	0
26							.04		0		131	3.2
27							0		0		11	.48
28							0		0		1.3	.04
29							0		0		.17	0
30					—		0		0		0	0
31		----------			----------		----------		----------		0	----------
Total	0	0	0	0	0	0	0.04	0	115.65	0	871.77	738.27
Mean	0	0	0	0	0	0	0.001	0	3.86	0	28.1	24.6
Ac-ft	0	0	0	0	0	0	0.1	0	229	0	1,730	1,460

Calendar year 1965: Max 257 Min 0 Mean 8.76 Ac-ft 6,350
Water year 1965-66: Max 257 Min 0 Mean 4.73 Ac-ft 3,420

8-3936. North Spring River at Roswell, N. Mex.

Location.--Lat 33°23'45", long 104°32'55", in NW¼SW¼SE¼ sec.31, T.10 S., R.24 E., in Roswell Municipal Golf Course, on left bank 2,400 ft upstream from Montana Avenue, in Roswell.

Drainage area.--19.5 sq mi.

Records available.--May 1958 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,570 ft (from topographic map).

Average discharge.--8 years, 0.05 cfs (36 acre-ft per year).

Extremes.--Maximum discharge during year, 204 cfs June 1 (gage height, 4.01 ft); no flow for most of time.
1958-66: Maximum discharge, 387 cfs June 13, 1964 (gage height, 4.65 ft), from rating curve extended above 80 cfs on basis of slope-area measurement; no flow for most of time.

Remarks.--Records good. No diversions above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

April 25	0.87
June 1	26
2	15
20	.69
21	25
22	1.3
August 23	.10

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
April 1966	0.87	0.87	0	0.029	1.7
June	67.99	26	0	2.27	135
August	.10	.10	0	.003	.2
Calendar year 1965	21.1	20	0	.058	42
Water year 1965-66	68.96	26	0	.189	137

Note.-Flow occurred only on days listed above.

8-3945. Rio Felix at old highway bridge, near Hagerman, N. Mex.

Location.--Lat 33°07'30", long 104°20'40", in SW¼ sec.4, T.14 S., R.26 E., near left bank on downstream side of abandoned bridge pier, 0.6 mile upstream from U. S. Highway 285, 1¼ miles northwest of Hagerman, and 2½ miles upstream from mouth.

Drainage area.--932 sq mi (contributing area).

Records available.--April 1939 to September 1966. March 1932 to April 1939 at site 1 mile downstream; records for periods of low flow not equivalent.

Gage.--Water-stage recorder. Datum of gage is 3,403.40 ft above mean sea level, datum of 1929.

Average discharge.--27 years, 17.0 cfs (12,310 acre-ft per year).

Extremes.--Maximum discharge during year, 19,900 cfs Aug. 23 (gage height, 21.56 ft); no flow for most of time.
1939-66: Maximum discharge, 74,000 cfs Oct. 7, 1954 (gage height, 27.5 ft, from floodmarks), from rating curve extended above 12,000 cfs on basis of slope-area measurement at point 5½ miles upstream from gage (adjusted for channel storage); no flow for many periods.
Flood in 1954 is the highest since 1894, from information by local residents. Flood of Oct. 1, 1904, is probably second highest. Another major flood occurred in April 1915.

Remarks.--Records fair. Diversions for irrigation of about 350 acres (1959 determination) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0		0	2.1		0	0	0		0	2.1
2	0	0		0	0		0	0	0		0	1,130
3	.82	0		0	0		0	0	0		0	48
4	1.5	0		0	0		0	0	0		0	.23
5	0	0		0	0		0	0	0		0	0
6	0	0		0	2.2		0	0	0		0	0
7	0	0		0	2.6		0	0	0		0	0
8	0	0		0	0		0	.10	0		0	0
9	0	275		0	0		0	.56	0		0	0
10	0	1.5		0	0		0	0	0		0	0
11	0	1.9		0	0		0	.12	0		0	0
12	0	0		0	.01		0	0	0		0	0
13	0	0		0	1.8		0	0	0		0	0
14	0	0		0	1.6		0	0	0		0	0
15	0	0		0	0		0	0	0		0	0
16	0	0		0	0		0	0	0		0	0
17	0	0		0	0		0	0	0		0	0
18	0	0		0	0		0	0	0		0	0
19	0	0		0	0		0	0	0		0	0
20	0	0		0	0		0	0	0		0	0
21	0	0		1.6	0		0	0	0		0	0
22	0	0		30	0		0	0	0		0	0
23	0	0		3.6	0		0	0	0		3,580	0
24	0	0		5.2	0		0	0	0		698	0
25	0	0		6.2	0		0	0	0		38	0
26	1.2	0		6.0	0		14	0	0		26	0
27	1.0	0		2.8	0		.02	0	0		9.0	0
28	.12	0		3.1	0		0	0	45		.74	0
29	0	0		2.6	--		0	0	0		6.3	0
30	0	0		3.6	-------		0	0	0		0	0
31	0	------		2.7	------		------	0	------		3.0	-------
Total	4.64	278.4	0	404	10.31	0	14.02	0.78	45	0	9,361.04	1,180.33
Mean	0.150	9.28	0	1.30	0.368	0	0.467	0.025	1.50	0	302	39.3
Ac-ft	9.2	552	0	80	20	0	28	1.5	89	0	18,570	2,340

Calendar year 1965: Max 3,800 Min 0 Mean 15.4 Ac-ft 11,130
Water year 1965-66: Max 8,580 Min 0 Mean 30.0 Ac-ft 21,690

Peak discharge (base, 500 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 9	0500	12.01	1,850	9-2	1030	15.30	4,720
8-23	0815	21.56	19,900				

8-3955. Pecos River near Lake Arthur, N. Mex.

Location.--Lat 32°59'18", long 104°19'20", in SW¼NE¼ sec.27, T.15 S., R.26 E., on left bank 400 ft upstream from county bridge, 2½ miles east of Lake Arthur, 7 miles upstream from Cottonwood Creek, and 11 miles northeast of Artesia.

Drainage area.--14,760 sq mi, approximately (contributing area).

Records available.--August 1938 to September 1966.

Gage.--Digital water-stage recorder with crest-stage gage and rock control. Datum of gage is 3,327.07 ft above mean sea level, datum of 1929. Prior to Jan. 6, 1965, graphic water-stage recorder at same site and datum.

Average discharge.--28 years, 274 cfs (198,400 acre-ft per year).

Extremes.--Maximum discharge during year, 11,500 cfs Aug. 24 (gage height, 14.53 ft); minimum, 0.89 cfs June 17.
1938-66: Maximum discharge, 49,600 cfs Sept. 24, 1941 (gage height, 21.90 ft), from rating curve extended above 16,100 cfs on basis of slope-area measurement at gage height 21.77 ft and logarithmic plotting; no flow at times in 1947, 1953-4, 1962, 1964.
Flood of May 30, 1937, reached a stage of 21.77 ft (discharge, 51,500 cfs, on basis of slope-area measurement of peak flow), but may have been exceeded by floods in 1904 and 1919.

Remarks.--Records good. Flow partly regulated by Alamogordo Reservoir (see station 8-3840). Diversions and ground-water withdrawals for irrigation of about 124,000 acres (1959 determination) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	15	13	40	45	39	30	63	40	3.5	912	1.5	450
2	15	12	39	45	37	26	49	41	5.8	876	1.4	995
3	14	17	38	44	36	25	58	38	1.7	875	619	434
4	12	32	36	44	41	25	57	38	1.3	838	707	311
5	12	28	36	44	49	28	41	35	2.7	852	251	248
6	17	26	36	43	51	29	43	30	42	782	141	214
7	17	24	36	42	46	29	38	27	15	806	78	167
8	16	24	35	40	43	27	40	24	5.6	760	52	105
9	14	221	37	40	40	23	38	26	2.2	493	116	83
10	9.9	99	42	39	41	24	44	24	2.0	204	778	62
11	12	82	45	38	41	25	42	22	1.9	208	922	59
12	14	56	41	37	41	27	30	18	1.8	98	925	52
13	16	39	40	38	41	27	32	15	1.5	73	730	42
14	16	35	40	36	39	255	29	16	1.3	38	781	49
15	13	39	43	35	39	732	25	16	1.2	56	704	47
16	13	37	44	34	39	769	25	17	1.3	51	647	39
17	10	37	43	34	41	834	24	16	1.2	66	281	37
18	18	36	48	35	40	905	26	14	1.3	45	164	28
19	14	37	46	36	37	912	25	13	651	39	101	29
20	16	37	46	36	36	940	27	11	1,440	28	85	35
21	23	35	45	38	37	940	25	8.6	1,120	22	55	968
22	18	36	44	34	37	899	26	5.4	1,070	15	84	524
23	18	37	46	35	37	927	23	3.7	1,020	12	4,710	219
24	15	37	46	40	36	934	31	2.6	973	9.5	7,470	159
25	19	36	44	40	36	943	54	2.2	972	6.0	2,780	133
26	18	36	44	38	35	911	183	3.0	1,020	3.0	1,170	98
27	19	34	45	38	35	356	141	3.2	1,060	2.5	724	68
28	16	33	43	39	34	189	88	9.1	1,170	1.5	452	52
29	16	33	46	39	------	131	60	11	970	1.5	284	48
30	16	33	48	39	------	109	47	12	924	1.5	239	44
31	12	------	47	39	------	106	------	6.3	------	1.5	192	------
TOTAL	473.9	1,281	1,309	1,204	1,104	12,137	1,434	548.1	12,483.3	8,176.0	26,244.9	5,799
MEAN	15.3	42.7	42.2	38.8	39.4	392	47.8	17.7	416	264	847	193
AC-FT	940	2,540	2,600	2,390	2,190	24,070	2,840	1,090	24,760	16,220	52,060	11,500

CALENDAR YEAR 1965 MAX 2,840 MIN 1.1 MEAN 122 AC-FT 88,370
WATER YEAR 1965-66 MAX 7,470 MIN 1.2 MEAN 198 AC-FT 143,200

Peak discharge (base, 2,500 cfs).--Aug. 24 (0445) 11,500 cfs (14.53 ft); Sept. 2 (1615) 2,960 cfs (6.97 ft).

8-3965. Pecos River near Artesia, N. Mex.

Location.--Lat 32°50'25", long 104°19'25", in NW¼NW¼ sec.18, T.17 S., R.27 E., near left bank on downstream end of bridge pier on State Highway 83, 4.3 miles east of Artesia, 7.0 miles north of mouth of Rio Penasco, and 17 miles north of McMillan Dam.

Drainage area.--15,300 sq mi, approximately (contributing area).

Records available.--September 1905 to June 1909, August 1909 to September 1936, May 1937 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Records for Aug. 22-31, 1934, and October 1936 to April 1937, published in WSP 763 and 828, respectively, have been found to be unreliable and monthly figures only should be used. Prior to February 1936, published as "near Dayton."

Gage.--Water-stage recorder. Datum of gage is 3,291.05 ft (Bureau of Reclamation bench mark). Prior to Aug. 27, 1914, staff gage and Aug. 27, 1914, to Feb. 20, 1936, water-stage recorder at site 6½ miles downstream at different datum. Feb. 21, 1936, to Apr. 4, 1941, water-stage recorder at site 600 ft downstream at different datum.

Average discharge.--30 years (1905-8, 1909-36), 365 cfs (264,200 acre-ft per year), prior to completion of Alamogordo Reservoir; 30 years (1936-66), 295 cfs (213,600 acre-ft per year).

Extremes.--Maximum discharge during year, about 7,000 cfs Aug. 24 (gage height, 12.42 ft, flow bypassing gage); minimum 0.25 cfs Aug. 2, 3.

1905-66: Maximum discharge probably occurred May 30, 1937, when a discharge of 51,500 cfs was measured by slope-area method at a point 15 miles upstream (gage height, 14.7 ft, site and datum then in use); maximum gage height, 17.4 ft Sept. 30, 1932, site and datum then in use (discharge, 19,000 cfs); no flow at times in 1934, 1946-47, 1953-54, 1957, 1964-65.

Greatest flood known since at least 1893 occurred Oct. 2, 1904 (discharge not determined). (The peak inflow to Lake McMillan, which includes Rio Penasco and Fourmile Draw, was estimated as 82,000 cfs). The second highest flood occurred July 25, 1905 (discharge below Rio Penasco, 50,300 cfs, based on gain in storage and spill from Lake McMillan). The floods in August 1893 and October 1904 damaged McMillan Dam and washed out Avalon Dam.

Remarks.--Records fair except those for discharges below 10 cfs and for the period of bypass flow Aug. 23-26, which are poor. Flow partly regulated by Alamogordo Reservoir (see station 8-3840) since August 1937. Diversions and ground-water withdrawals for irrigation of about 154,000 acres (1959 determination) above station. Discharge represents inflow to Lake McMillan which is part of the storage system for the irrigation of about 25,000 acres of the Carlsbad project. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	13	35	47	45	37	85	51	12	968	.50	463
2	13	14	46	46	44	33	68	49	6.0	944	.45	705
3	13	13	41	46	43	29	54	39	5.7	947	78	664
4	13	18	38	47	43	32	71	34	3.2	917	876	309
5	14	33	36	47	48	35	62	39	1.8	914	324	302
6	11	29	38	46	56	35	56	37	1.6	842	165	238
7	18	27	38	45	56	38	56	37	30	812	78	217
8	15	28	38	44	51	37	49	33	14	772	58	151
9	14	111	37	43	50	35	51	28	8.2	675	54	116
10	15	214	41	42	46	29	52	34	6.0	256	542	93
11	9.9	89	48	43	48	29	56	31	4.8	196	965	80
12	9.9	78	47	42	47	29	48	28	12	119	905	78
13	11	60	45	43	45	32	41	26	4.2	88	860	68
14	14	44	43	44	45	34	39	25	2.6	58	750	67
15	14	41	46	42	43	513	35	25	9.8	48	720	71
16	12	44	47	41	42	702	32	22	18	42	690	66
17	14	43	47	40	42	758	29	23	12	34	431	60
18	9.9	41	50	42	45	842	27	19	6.3	44	188	50
19	15	39	49	43	42	878	30	20	312	35	112	47
20	14	40	47	42	40	917	29	22	1,330	25	70	48
21	17	39	46	43	39	929	31	16	1,180	15	54	618
22	25	36	45	36	40	905	30	13	1,060	8.6	54	650
23	21	37	46	43	40	944	28	9.9	1,020	7.8	1,250	382
24	19	39	47	44	40	950	33	8.2	1,000	6.0	5,100	214
25	16	40	46	47	40	944	46	7.8	983	4.0	4,000	165
26	19	37	45	44	39	920	94	8.2	1,010	2.0	1,500	128
27	18	37	44	43	39	570	184	8.6	1,040	1.0	775	88
28	19	36	44	43	39	236	110	7.0	1,120	1.0	560	72
29	17	35	45	43	-	122	75	7.0	1,020	.5	412	62
30	17	35	48	44	----------	92	56	10	932	.5	343	59
31	17	----------	49	45	----------	93	----------	13	----------	.5	295	----------
Total	467.7	1,390	1,362	1,350	1,237	11,779	1,657	730.7	12,165.2	8,782.9	23,209.95	6,331
Mean	15.1	46.3	43.9	43.5	44.2	380	55.2	23.6	406	283	749	211
Ac-ft	928	2,760	2,700	2,680	2,450	23,360	3,290	1,450	24,130	17,420	46,040	12,560

Calendar year 1965: Max 3,010 Min 1 Mean 121 Ac-ft 87,910
Water year 1965-66: Max 6,100 Min 0.45 Mean 193 Ac-ft 139,800

Peak discharge (base, 2,000 cfs).--June 20 (2030) 2,200 cfs (8.94 ft); Aug. 24 (about 1000) about 7,000 cfs (12.42 ft).

Note.-Overbank flow bypassed gage on Aug. 23 - 26.

8-3985. Rio Penasco at Dayton, N. Mex.

Location.--Lat 32°44'30", long 104°22'30", in SW¼SW¼ sec.15, T.18 S., R.26 E., on right bank 3 ft upstream from crest of abandoned diversion dam, 1 mile northeast of old Dayton railway station, 3½ miles upstream from mouth, and 7 miles southeast of Artesia.

Drainage area.--1,070 sq mi, approximately.

Records available.--April 1951 to September 1966. Prior to October 1953, published as "near Dayton."

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,340.89 ft above mean sea level, datum of 1929.

Average discharge.--15 years, 5.95 cfs (4,310 acre-ft per year).

Extremes.--Maximum discharge during year, 29,800 cfs Aug. 23 (gage height, 7.90 ft), from rating curve extended above 6,000 cfs on basis of indirect measurements at gage heights 6.82 and 7.90 ft; no flow most of time.
1951-66: Maximum discharge, that of Aug. 23, 1966; no flow most of time.
The greatest flood known occurred about Sept. 22, 1941, when a stage of about 9 ft (from old logs) was reached, and peak discharge for station near Dunken (about 50 miles upstream) was 70,000 cfs (as determined for that station in 1956, from floodmarks and rating curve extended above 36,300 cfs).
Revisions.--The maximum discharge for the water year 1955 has been revised to 14,100 cfs Oct. 7, 1954 (gage height, 6.82 ft), superseding figure published in WSP 1392, 1512, and 1732.

Remarks.--Records poor. Diversions and ground-water withdrawals for irrigation of about 3,200 acres (1959 determination) above station. Records of water temperatures and suspended sediment loads for the water year 1966 are published in Part 2 of this report.

Revisions.--Revised figures of discharge, in cubic feet per second for a highwater period in water year 1955, superseding figures published in WSP 1392, 1512, and 1732, are given herewith:

October 7, 1954..... 5,730

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1954.....	6,242	5,730	0	201	12,380
Calendar year 1954.....	7,773	5,730	0	21.3	15,420
Water year 1954-55.....	8,149	5,730	0	22.3	16,160

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											0	
2											0	
3											0	
4											0	
5											0	
6											0	
7											0	
8											0	
9											0	
10											0	
11											0	
12											0	
13											0	
14											0	
15											0	
16											0	
17											0	
18											0	
19											0	
20											0	
21											0	
22											433	
23											9,490	
24											246	
25											.5	
26											0	
27											0	
28											0	
29					—						0	
30					----------						0	
31		----------			----------		----------		----------			----------
Total	0	0	0	0	0	0	0	0	0	0	10,169.5	0
Mean	0	0	0	0	0	0	0	0	0	0	328	0
Ac-ft	0	0	0	0	0	0	0	0	0	0	20,170	0

Calendar year 1965: Max 1,270 Min 0 Mean 3.64 Ac-ft 2,630
Water year 1965-66: Max 9,490 Min 0 Mean 27.9 Ac-ft 20,170

Peak discharge (base, 750 cfs).--August 23 (0600) 29,800 cfs (7.90 ft).

8-3995. Pecos River (Kaiser Channel) near Lakewood, N. Mex.

Location.--Lat 32°41'22", long 104°17'53", in NW¼SE¼ sec.5, T.19 S., R.27 E., on left bank 3 miles upstream from high-water line of Lake McMillan, 6 miles northeast of Lakewood, 7 miles northeast of gates in McMillan Dam, and 12 miles southeast of Artesia.

Records available--May 1950 to September 1966. Prior to October 1954, published as Kaiser Lake-McMillan Channel near Lakewood.

Gage.--Water-stage recorder. Datum of gage is 3,268.53 ft above mean sea level (Bureau of Reclamation bench mark). Prior to March 23, 1955, at site 3 miles downstream at datum 7.83 ft lower. Mar. 23, 1955 to Sept. 30, 1963, at present site at datum 2.00 ft higher.

Average discharge.--16 years, 159 cfs (115,100 acre-ft per year).

Extremes.--Maximum daily discharge during year, 2,300 cfs Aug. 26; no flow July 24 to Aug. 4.
1950-66: Maximum daily discharge, 2,920 cfs July 12, 1960; no flow at times in most years.

Remarks.--Records good except those below 10 cfs, which are fair. Flow partly regulated by Alamogordo Reservoir (see station 8-3840). Diversions and ground-water withdrawals for irrigation of about 170,000 acres (1959 determination) above station. Above about 1,500 cfs flow will begin bypassing station and, depending on the magnitude and duration of flow, may reach Lake McMillan.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	10	34	45	41	33	86	45	8.5	960	0	405
2	7.4	9.0	36	44	41	30	62	43	5.4	918	0	530
3	8.5	9.5	39	44	40	26	48	39	1.6	905	0	965
4	8.5	9.0	35	44	40	25	52	32	1.2	874	927	379
5	8.5	20	34	44	43	29	58	33	1.1	869	321	350
6	8.0	23	34	43	49	31	47	35	.76	822	153	260
7	7.4	23	34	43	52	33	48	33	4.7	799	77	250
8	11	21	35	43	49	32	43	30	13	791	52	200
9	10	48	34	43	44	31	43	24	4.1	740	38	153
10	10	248	38	41	41	26	43	26	2.2	300	425	127
11	8.5	84	39	41	43	26	47	28	.92	162	882	101
12	5.4	74	45	41	43	26	47	25	.60	146	809	94
13	5.9	54	40	41	40	26	34	22	3.8	92	845	82
14	8.0	40	40	41	40	29	34	19	.76	54	710	72
15	9.5	34	41	41	38	436	32	20	.48	31	735	76
16	9.0	38	43	39	38	680	29	18	6.0	34	695	71
17	8.0	35	44	38	38	720	28	18	5.9	28	500	61
18	8.5	35	47	39	41	825	26	17	3.2	41	230	52
19	5.9	34	47	41	40	861	26	13	141	26	127	45
20	11	34	45	40	38	900	28	17	991	21	82	45
21	9	34	44	41	36	921	26	13	1,160	13	64	566
22	15	31	44	35	35	887	29	9.5	1,080	5.9	45	682
23	18	32	44	40	35	913	26	6.9	986	1.6	798	374
24	15	32	43	44	36	931	31	4.8	960	0	1,660	220
25	12	34	44	40	36	952	39	4.1	942	0	1,870	180
26	12	33	43	41	35	960	58	4.1	955	0	2,300	136
27	14	32	43	40	35	656	193	4.1	978	0	1,880	101
28	13	32	43	40	35	271	125	3.8	1,050	0	929	79
29	14	31	43	40	--	153	79	1.9	1,020	0	628	62
30	13	30	47	40	------	109	56	2.5	947	0	460	55
31	13	------	48	41	------	94	------	5.1	------	0	357	------
Total	316.5	1,203.5	1,270	1,278	1,122	11,672	1,523	596.8	11,274.22	8,633.5	18,599	6,773
Mean	10.2	40.1	41.0	41.6	40.1	377	50.8	19.3	376	278	600	226
Ac-ft	628	2,390	2,520	2,530	2,230	23,150	3,020	1,180	22,360	17,120	36,890	13,430

Calendar year 1965: Max 1,560 Min 0 Mean 112 Ac-ft 81,300
Water year 1965-66: Max 2,300 Min 0 Mean 176 Ac-ft 127,500

8-4000. Fourmile Draw near Lakewood, N. Mex.

Location.--Lat 32°40'22", long 104°22'10", in SE¼NE¼SW¼ sec.10, T.19 S., R.26 E., on right bank 50 ft upstream from ford on Lakewood - Dayton road, 1.8 miles downstream from U. S. Highway 285, 2.8 miles north of Lakewood, 3⅜ miles upstream from mouth, and 11½ miles south of Artesia.

Drainage area.--265 sq mi, approximately.

Records available.--October 1951 to September 1966. Prior to October 1964, published as Four Mile Draw near Lakewood.

Gage.--Water-stage recorder. Datum of gage is 3,305.22 ft above mean sea level, datum of 1929. Prior to June 19, 1962, at site 1.8 miles upstream at datum 24.53 ft higher.

Average discharge.--15 years, 3.94 cfs (2,850 acre-ft per year).

Extremes.--Maximum discharge during year, 29,300 cfs Aug. 23 (gage height, 19.9 ft, from floodmarks), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; no flow most of time.
1951-66: Maximum discharge, that of Aug. 23, 1966; no flow most of time.
The flood of Aug. 23, 1966 (from information by local resident) is believed to be the greatest known.

Remarks.--Records poor. No known diversions above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

June	1	Aug.	22 2,000
	2		23 13,000
	3 2.3		24 125
	4 .07		25 15
July	10 .40		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
June 1965	46.37	28	0	1.55	92
July	.40	.40	0	.013	.8
August	15,140	13,000	0	488	30,030
Calendar year 1965	95	84	0	.30	189
Water year 1965-66	15,186.77	13,000	0	41.6	30,120

Peak discharge (base, 200 cfs).--June 2 (1345) 214 cfs (3.24 ft); Aug. 23 (time unknown) 29,300 cfs (19.9 ft, from floodmarks).

Note.-No gage height record Aug. 3 to Sept. 30.

8-4005. Lake McMillan near Lakewood, N. Mex.

Location.--Lat 32°35'45", long 104°20'55", in SE¼ sec.2, T.20 S., R.26 E., near outlet gates of dam on Pecos River, 3 miles southeast of Lakewood.

Drainage area.--16,990 sq mi (contributing area).

Records available.--January 1939 to September 1966. Gage heights since January 1918 published in reports of Pecos River Commission.

Gage.--Float-tape gage. Datum of gage is 3,241.6 ft above mean sea level, Bureau of Reclamation datum.

Extremes.--Maximum contents at 0800 hours during year, 42,970 acre-ft Aug. 24 (gage height, 27.65 ft); minimum, 1,370 acre-ft June 18,19 (gage height 16.35 ft).
1939-66: Maximum contents observed, 68,500 acre-ft Sept. 26, 1941 (gage height, 29.95 ft); no storage for periods in 1944-54, 1957, 1964, 1965.

Remarks.--Lake is formed by McMillan Dam, completed and storage began in 1893. The structure was damaged by floods of October 1893 and Oct. 2, 1904. Capacity, 27,300 acre-ft (from revised table based on survey of August 1964 made by Carlsbad Irrigation District) between gage heights 0.0 ft (sill of outlet gate) and 24.9 ft (crest of spillway 2). Flashboards may be used to increase this capacity. Maximum capacity without spill, 33,620 acre-ft at gage height 26.1 ft (crest of spillway 1). No dead storage. No storage allocated to flood control. Figures given herein represent usable contents. Gage heights may be affected by variable drawdown due to flow through gates. Water is used for irrigation by Carlsbad Irrigation District.

Cooperation.--Gage-height record and capacity table furnished by Carlsbad Irrigation District.

Contents, in acre-feet, at 0800 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4,860	3,810	4,640	5,960	7,120	7,720	23,900	10,600	4,330	17,880	13,620	32,790
2	4,860	3,810	4,750	5,960	7,120	7,720	23,670	10,600	4,440	19,080	13,140	33,060
3	4,860	3,810	4,750	6,080	7,120	7,720	23,670	10,600	4,330	20,320	12,660	33,060
4	4,860	3,710	4,750	6,080	7,240	7,720	23,440	10,600	4,330	21,400	12,360	32,520
5	4,750	3,710	4,750	6,080	7,240	7,720	22,750	10,600	4,220	22,520	13,620	32,520
6	4,750	3,710	4,750	6,200	7,240	7,600	22,060	10,460	4,220	23,440	14,450	32,790
7	4,640	3,710	4,860	6,200	7,240	7,600	21,180	10,320	4,120	23,900	13,940	33,060
8	4,640	3,710	4,860	6,310	7,240	7,600	19,900	10,320	4,120	24,380	14,110	33,060
9	4,640	3,710	4,860	6,310	7,360	7,600	18,480	10,320	3,910	24,860	14,110	33,060
10	4,640	3,710	4,860	6,310	7,360	7,600	17,310	10,040	3,510	25,340	13,940	32,790
11	4,540	4,120	4,860	6,420	7,360	7,600	16,560	10,040	3,310	25,340	14,790	32,790
12	4,440	4,220	4,970	6,420	7,360	7,600	15,660	10,040	3,120	25,100	15,380	32,790
13	4,440	4,220	4,970	6,420	7,360	7,600	14,790	9,900	2,930	24,620	17,860	32,790
14	4,330	4,220	4,970	6,420	7,480	7,600	13,940	9,900	2,320	23,670	19,280	32,790
15	4,330	4,330	5,080	6,540	7,480	7,600	13,300	9,760	1,590	22,520	20,320	32,790
16	4,330	4,330	5,080	6,540	7,480	8,200	12,660	9,760	1,440	21,620	21,400	32,790
17	4,330	4,330	5,190	6,540	7,480	9,370	12,060	9,630	1,440	21,180	22,520	32,520
18	4,120	4,440	5,300	6,540	7,480	10,450	11,760	9,110	1,370	20,740	22,980	32,520
19	4,120	4,440	5,410	6,540	7,600	11,760	11,460	8,850	1,370	20,530	22,750	32,520
20	4,120	4,540	5,410	6,660	7,600	13,140	10,740	8,460	1,440	19,900	22,290	32,250
21	4,120	4,540	5,520	6,660	7,600	14,620	10,320	8,200	3,120	19,080	22,060	32,250
22	4,120	4,540	5,520	6,770	7,600	16,380	10,180	7,840	5,190	18,280	22,520	33,340
23	4,020	4,540	5,630	6,770	7,600	17,310	10,040	7,600	7,000	17,690	41,040	33,060
24	4,020	4,540	5,630	6,770	7,720	18,880	10,040	7,240	8,590	17,310	42,970	33,340
25	3,910	4,640	5,740	6,880	7,720	20,320	10,180	7,000	9,630	16,930	34,460	33,620
26	3,910	4,640	5,740	6,880	7,720	21,620	10,180	6,650	11,020	15,560	25,060	33,340
27	3,910	4,640	5,740	7,000	7,720	23,210	10,180	6,420	12,210	16,200	--	33,340
28	3,910	4,640	5,740	7,000	7,720	23,670	10,320	6,650	13,620	15,660	23,820	33,060
29	3,910	4,640	5,850	7,000	-	23,900	10,180	6,410	14,960	14,960	32,250	33,060
30	3,810	4,640	5,850	7,000	--------	23,900	10,600	5,190	15,380	14,450	32,790	33,060
31	3,810	--------	5,850	7,000	--------	23,900	--------	4,540	--------	13,940	32,790	--------
(†)	17.75	18.15	18.70	19.20	19.50	24.20	20.60	18.10	22.40	21.70	25.95	26.00
(‡)	-1,160	+830	+1,210	+1,150	+720	+16,180	-13,300	-6,060	+11,840	-2,440	+18,850	+270

Calendar year 1965: (‡) +5,110
Water year 1965-66: (‡) +28,090

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

8-4010. Pecos River below McMillan Dam, N. Mex.

Location.--Lat 32°35'40", long 104°21'00", in NE¼ sec.11, T.20 S., R.26 E., on left bank 700 ft downstream from gates in McMillan Dam and 3 miles southeast of Lakewood.

Drainage area.--16,990 sq mi, approximately (contributing area).

Records available.--January 1906 to March 1908, January 1909 to December 1911, August 1939 to December 1940, December 1946 to September 1966 (January 1906 and January 1910 to December 1911, gage heights and discharge measurements only). Published as "near Lakewood" 1906-11, and as "below McMillan Dam, near Lakewood" 1939-40.

Gage.--Water-stage recorder and rock control. Datum of gage is 3,238.21 ft above mean sea level, datum of 1929. January 1906 to December 1911 staff gage at three different sites within half a mile of present gage at different datums. August 1939 to December 1940 water-stage recorder at site 30 ft downstream at datum 0.10 ft higher; December 1946 to Mar. 11, 1957, at present site at datum 1.09 ft higher. Supplemental water-stage recorders on McMillan Dam spillways, Nos. 1 and 2, since July 9, 1960, and Apr. 6, 1960, respectively.

Average discharge.--21 years (1906-7, 1939-40, 1947-66), 103 cfs (74,570 acre-ft per year).

Extremes.--Maximum discharge during year, 16,500 cfs Aug. 23, includes flow of two spillways; no flow for many days.
1939-40, 1947-66: Maximum discharge, that of Aug. 23, 1966; no flow for many days.
Flood of Oct. 2, 1904, may have reached 60,000 cfs; figure of 82,000 cfs previously published has been found to be "inflow to McMillan Reservoir," and is considered too high. This station may have had a higher discharge in August 1893 when part of McMillan Dam was blasted to prevent total destruction of the dam (that flood was described as "highest in 50 years" and it also destroyed Avalon Dam).

Remarks.--Records good. Flow regulated by Alamogordo Reservoir and Lake McMillan (see stations 8-3840, 8-4005). Flow over McMillan Dam spillways bypasses station but is gaged and included with discharge. Diversions and ground-water withdrawals for irrigation of about 171,000 acres (1959 determination) above station. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						1.4	0	0.30	92	59	99	109
2						0	0	.26	20	59	257	699
3						0	0	.23	.03	59	159	739
4						0	44	.23	.02	59	64	542
5						0	210	.23	.02	96	64	130
6						0	313	73	.02	196	63	1.7
7						0	545	31	.03	320	51	92
8						0	659	.17	78	252	.34	142
9						0	565	.14	144	218	.30	41
10						0	426	.10	115	150	.26	37
11						0	398	.06	.10	113	.30	4.2
12						0	395	.04	57	140	.20	4.2
13						0	391	.04	229	326	.17	4.2
14						0	387	.04	340	445	.17	5.4
15						0	340	.04	165	402	.17	3.2
16						0	243	.04	.08	246	.17	3.1
17						0	144	149	.06	115	84	4.1
18						0	101	196	.04	70	176	2.1
19						0	222	196	.04	116	198	3.1
20						0	252	134	.06	294	108	3.1
21						0	130	106	.06	291	.34	3.1
22						0	103	106	.08	218	16	421
23						0	86	106	23	110	9,020	205
24						0	34	106	103	70	9,920	20
25						0	.45	106	103	68	4,860	131
26						0	.34	106	130	99	3,550	40
27						0	.34	161	193	159	833	34
28						0	.34	188	130	254	94	7.6
29					-	0	.30	188	70	235	214	2.9
30					-------	0	.30	188	59	161	190	27
31		------			-------	0	----------	136	----------	94	281	----------
Total	0	0	0	0	0	1.4	5,990.07	3,277.92	2,051.64	5,494	30,303.42	3,461.0
Mean	0	0	0	0	0	0.05	200	73.5	68.4	177	978	115
Ac-ft	0	0	0	0	0	2.8	11,880	4,520	4,070	10,900	60,110	6,860

Calendar year 1965: Max 384 Min 0 Mean 54.0 Ac-ft 39,080
Water year 1965-66: Max 9,920 Min 0 Mean 136 Ac-ft 98,340

8-4012. South Seven Rivers near Lakewood, N. Mex.

Location.--Lat 32°35'20", long 104°25'20", in SE¼SE¼NW¼ sec.7, T.20 S., R.26 E., on downstream side of bridge on U. S. Highway 285, 0.4 mile south of Seven Rivers, 3 miles upstream from mouth, and 4 miles southwest of Lakewood, Eddy County.

Drainage area.--220 sq mi, approximately.

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,276 ft (from topographic map). Prior to July 8, 1965, at site 400 ft upstream at datum 0.57 ft higher.

Extremes.--Maximum discharge during year, 20,100 cfs Aug. 23 (gage height, 18.15 ft), from rating curve extended as explained below; no flow at times.

1963-66: Maximum discharge, 25,500 cfs(revised) May 30, 1965 (gage height, 20.0 ft, from floodmarks, present site and datum) from rating curve extended above 5,700 cfs on basis of slope-area measurements at gage heights 18.15 and 20.0 ft; no flow most of time.

Maximum discharge since at least 1941, about 30,000 cfs(revised), (gage height, 22.8 ft, from old debris on left bank, former site and datum), from rating curve extended above 5,700 cfs on basis of slope-area measurement at gage height 21.8 ft. Probable date of flood, Oct. 7, 1954.

Revisions.--The maximum discharge for the water year 1965 has been revised to 25,500 cfs (gage height, 21.8 ft, from floodmarks, site and datum then in use) superseding figures published in the 1965 Surface Water Records of New Mexico.

Remarks.--Records fair. No known diversions above gage.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0		8.0		0	0
2							0		.34		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							0		0		0	0
10							0		0		0	0
11							0		0		0	0
12							0		0		0	57
13							0		0		6.5	10
14							0		0		0	0
15							0		0		0	0
16							0		0		0	0
17							0		0		0	0
18							0		0		0	0
19							0		0		0	0
20							0		0		0	0
21							0		0		0	0
22							0		0		1,950	0
23							0		0		9,300	0
24							5.0		0		84	0
25							0		0		8.6	0
26							0		0		0	0
27							0		0		0	0
28							0		0		68	0
29							0		0		14	0
30							0		0		0	0
31											0	
Total	0	0	0	0	0	0	5.0	0	8.34	0	11,431.1	67
Mean	0	0	0	0	0	0	0.167	0	0.278	0	369	2.23
Ac-ft	0	0	0	0	0	0	9.9	0	17	0	22,670	133

Calendar year 1965 : Max 2,500 Min 0 Mean 7.1 Ac-ft 5,160
Water year 1965-66 : Max 9,300 Min 0 Mean 31.5 Ac-ft 22,830

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-22	1015	7.95	1,820	8-28	2045	7.10	1,270
8-23	0530	18.15	20,100	9-12	2115	5.80	630

8-4019. Rocky Arroyo at highway bridge, near Carlsbad, N. Mex.

Location.--Lat 32°30'20", long 104°22'28", in SE¼SE¼ sec.3, T.21 S., R.25 E., at downstream end of bridge pier nearest left bank on U. S. Highway 285, 2 miles upstream from mouth, and 10 miles northwest of Carlsbad.

Drainage area.--285 sq mi, approximately.

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,248 ft (from topographic map).

Extremes.--Maximum discharge during year, 31,600 cfs Aug. 23 (gage height, 15.35 ft), from rating curve extended above 5,500 cfs on basis of slope-area measurement of peak flow; no flow most days.
1963-66: Maximum discharge, that of Aug. 23, 1966; no flow most days.
Since about 1941 the highest peak probably occurred Oct. 7, 1954, discharge 63,600 cfs (gage height, 19.2 ft, from highwater marks on downstream end of bridge pier), by slope-area measurement at site 5 miles upstream.

Remarks --Records fair. Diversions for irrigation of 220 acres (from Agricultural Stabalization and Conservation Service) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											0	0.44
2											0	.11
3											0	0
4											0	0
5											0	0
6											0	0
7											0	4.6
8											0	6.2
9											0	1.4
10											0	7.1
11											0	3.6
12											0	3.8
13											0	3.1
14											0	8.1
15											0	4.5
16											0	2.6
17											0	1.6
18											0	.66
19											0	.33
20											0	0
21											0	0
22											4,950	0
23											13,900	0
24											182	0
25											28	0
26											11	0
27											5.5	0
28											2.1	0
29											.88	0
30					-------						.99	0
31		------			------		------		------		.66	-------
Total	0	0	0	0	0	0	0	0	0	0	19,081.13	590.04
Mean	0	0	0	0	0	0	0	0	0	0	619	19.7
Ac-ft	0	0	0	0	0	0	0	0	0	0	37,850	1,170

Calendar year 1965: Max 1,050 Min 0 Mean 3.70 Ac-ft 2,710
Water year 1965-66: Max 13,900 Min 0 Mean 53.9 Ac-ft 39,020

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
8-22	0345	9.90	5,290	9-7	1715	8.95	3,930
8-23	0330	15.35	31,600				

8-4020. Pecos River at damsite 3, near Carlsbad, N. Mex.

Location.--Lat 32°30'40", long 104°20'00", in lot 14, sec.6, T.21 S., R.26 E., on right bank at damsite 3 of Carlsbad project of Bureau of Reclamation, about 1 mile upstream from flow line of Lake Avalon, 1.3 miles downstream from Rocky Arroyo, and 8 miles northwest of Carlsbad.

Drainage area.--17,980 sq mi, approximately (contributing area).

Records available.--August 1939 to December 1940, August 1944 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 3,172.31 ft above mean sea level (Bureau of Reclamation datum). Prior to Aug. 10, 1944, at site 1,000 ft downstream at same datum.

Average discharge.--23 years, 177 cfs (128,100 acre-ft per year).

Extremes.--Maximum discharge during year, 69,000 cfs Aug. 23 (gage height, 20.32 ft, from floodmark), from rating curve extended above 25,000 cfs on basis of slope-area measurement at gage height 18.53 ft; minimum, 15 cfs Mar. 2.
1939-40, 1944-66: Maximum discharge, that of Aug. 23, 1966; minimum, 4.3 cfs Aug. 5, 1954.
Peaks which probably exceeded 40,000 cfs occurred in August 1893, Oct. 2, 1904, July 25, 1905, Apr. 17, 1915, Aug. 7, 1916, and May 30, 1937, based primarily on records for station at Carlsbad. Floods of 1893 and 1904 originated above McMillan Dam and contributed to the two failures of Avalon Dam. The flood of Oct. 2, 1904 probably did not exceed 60,000 cfs; the estimate of 82,000 cfs erroneously published as flow over McMillan Dam was actually inflow to Lake McMillan, and is thought to be high.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Alamogordo Reservoir and Lake McMillan (see stations 8-3840, 8-4005). Diversions and ground-water withdrawals for irrigation of about 173,000 acres (1959 determination) above station. Discharge represents inflow to Lake Avalon. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	22	22	22	23	22	26	35	126	74	92	275
2	29	22	22	22	24	19	26	36	161	75	258	522
3	29	22	21	22	24	21	27	36	39	76	255	786
4	29	22	21	22	24	21	28	36	34	78	110	715
5	28	22	21	23	24	21	170	36	33	90	92	302
6	28	22	21	23	23	21	252	45	33	154	92	137
7	27	23	21	23	24	21	481	89	32	320	92	449
8	26	23	21	23	23	21	645	35	41	289	75	386
9	26	24	21	23	22	21	564	34	150	240	42	135
10	26	23	22	23	22	21	436	34	157	201	40	182
11	26	22	21	23	24	21	389	33	60	137	39	123
12	25	21	21	23	23	21	389	34	32	135	40	142
13	25	22	22	23	23	20	389	34	167	298	48	197
14	24	22	22	23	24	20	385	34	323	416	39	115
15	22	22	22	24	23	20	374	35	272	420	38	115
16	22	23	22	23	23	20	282	34	42	300	38	110
17	22	23	22	23	23	19	184	93	33	171	100	106
18	22	23	23	25	23	19	110	218	33	100	205	106
19	22	23	22	25	22	20	186	212	32	96	265	106
20	23	22	22	25	22	20	292	176	32	290	175	104
21	22	22	22	26	22	19	162	123	31	313	45	100
22	22	22	22	25	22	20	112	121	30	266	3,000	311
23	22	22	22	24	22	20	112	119	29	168	39,000	418
24	22	22	21	24	22	21	146	116	80	96	14,600	110
25	22	22	22	24	22	22	49	116	108	92	5,430	110
26	22	22	22	24	22	24	35	116	110	104	3,590	230
27	22	22	22	23	22	24	34	150	184	135	1,200	102
28	22	22	22	24	22	24	34	204	162	275	160	100
29	22	22	22	23	—	25	34	204	102	272	481	94
30	22	22	22	23	----------	25	35	201	75	170	248	106
31	22	----------	22	22	----------	26	----------	170	----------	132	387	----------
Total	752	668	673	725	639	659	5,388	2,953	2,743	5,983	70,276	6,794
Mean	24.3	22.3	21.7	23.4	22.8	21.3	213	95.3	91.4	193	2,267	226
Ac-ft	1,490	1,320	1,330	1,440	1,270	1,310	12,670	5,860	5,440	11,870	139,400	13,480

Calendar year 1965: Max 3,450 Min 15 Mean 84.1 Ac-ft 60,900
Water year 1965-66: Max 39,000 Min 19 Mean 272 Ac-ft 196,900

Peak discharge (base, 1,700 cfs).--Aug. 23 (about 1030) 69,000 cfs (20.32 ft); Sept. 7 (1900) 2,470 cfs (5.05 ft).

Note.--No gage height record Aug. 16-23.

8-4035. Carlsbad main canal at head, near Carlsbad, N. Mex.

Location.--Lat 32°29'28", long 104°15'08", in N½SW¼SW¼ sec.12, T.21 S., R.26 E., on right bank 220 ft downstream from headgates in Avalon Dam and 5.0 miles north of Carlsbad.

Records available.--July 1939 to December 1940 (published as Carlsbad project main canal near Carlsbad), April 1951 to September 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,156.50 ft above mean sea level (Bureau of Reclamation datum). July 1939 to December 1940 at site 20 ft upstream at datum 0.9 ft higher.

Extremes.--1939-40, 1951-66: Maximum daily discharge, 490 cfs July 13, 1940; no flow many days.

Remarks.--Records good. Discharge measurements made at least twice a month during irrigation season. Carlsbad main canal diverts water from Lake Avalon for irrigation of about 25,000 acres of Carlsbad Irrigation District. About 1,600 acres is irrigated on left bank of the Pecos River, most of it above gaging station on Pecos River at Carlsbad. The remaining acreage is on right bank, most of it downstream from Pecos River at Carlsbad gage.

Monthly discharge, in cubic feet per second, water year October 1965 to September 1966

Month	Maximum	Minimum	Mean	Diversion in acre-feet
October	22	0	3.13	192
November	0	0	0	0
December	0	0	0	0
Calendar year 1965	349	0	62.0	44,890
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	448	0	217	12,900
May	185	0	76.7	4,720
June	251	0	74.5	4,430
July	300	78	182	11,180
August	213	0	58.8	3,620
September	247	0	108	6,440
Water year 1965-66	448	0	60.0	43,480

8-4038. Lake Avalon near Carlsbad, N. Mex.

Location.--Lat 32°29'25", long 104°15'00", in SW¼ sec.12, T.21 S., R.26 E., on headwall at outlet gate of dam on Pecos River, 5 miles north of Carlsbad.

Drainage area.--18,070 sq mi (contributing area).

Records available.--January 1939 to September 1966. Gage heights since January 1919 published in reports of Pecos River Commission.

Gage.--Staff gage. Datum of gage is 3,157.0 ft above mean sea level, Bureau of Reclamation datum.

Extremes.--Maximum contents at 0800 hours during year, 8,820 acre-ft Aug. 23 (gage height, 23.90 ft); no storage Oct. 1-17.
1939-66: Maximum contents, 11,000 acre-ft May 22, 1941 (gage height, 25.0 ft); no storage at times when natural flow was passing through reservoir.

Remarks.--Lake is formed by Avalon Dam. The original Eddy (Avalon) dam was completed and storage began in 1893. The dam was destroyed by flood of October 1893 (date of reconstruction not available), was destroyed again by flood of Oct. 2, 1904; present dam rebuilt in 1905-6. Capacity, 4,970 acre-ft between gage heights 0.0 (sill of outlet gates) and 20.4 ft (crest of spillway 2). No dead storage. No storage allocated to flood control. Figures given herein represent usable contents. Water is used by Carlsbad Irrigation District.

Cooperation.--Capacity table based on data furnished by Carlsbad Irrigation District.

Contents, in acre-feet, at 0800 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	517	982	1,480	1,770	1,910	1,880	1,440	1,440	1,070	955	5,470
2	0	517	1,010	1,480	1,770	1,910	1,880	1,480	1,540	1,100	738	5,420
3	0	540	1,010	1,480	1,770	1,910	1,880	1,480	1,610	1,040	845	5,920
4	0	564	1,040	1,510	1,800	1,880	1,580	1,410	1,480	955	1,010	5,820
5	0	564	1,040	1,510	1,800	1,880	955	1,280	1,410	845	955	5,470
6	0	587	1,040	1,510	1,800	1,880	686	1,130	1,320	738	900	5,370
7	0	587	1,070	1,510	1,800	1,880	564	1,100	1,160	738	818	5,170
8	0	612	1,070	1,510	1,800	1,880	791	1,190	955	955	955	5,670
9	0	636	1,100	1,510	1,840	1,880	1,220	1,190	791	1,070	1,010	5,220
10	0	661	1,130	1,540	1,840	1,880	1,350	1,280	818	1,130	1,040	5,170
11	0	686	1,130	1,540	1,840	1,880	1,480	1,320	928	1,070	1,100	5,170
12	0	686	1,160	1,540	1,840	1,880	1,440	1,350	818	845	1,160	5,070
13	0	686	1,150	1,580	1,840	1,880	1,380	1,380	712	661	1,190	5,170
14	0	712	1,190	1,580	1,840	1,880	1,380	1,410	738	661	1,250	5,120
15	0	738	1,190	1,580	1,840	1,880	1,410	1,440	872	982	1,190	5,070
16	0	764	1,220	1,580	1,840	1,880	1,480	1,280	1,070	1,250	1,070	4,970
17	0	791	1,220	1,580	1,840	1,840	1,480	982	1,100	1,350	872	4,840
18	58	791	1,320	1,580	1,880	1,840	1,350	872	1,100	1,220	738	4,790
19	167	818	1,350	1,580	1,880	1,840	900	1,010	1,130	928	845	4,700
20	220	818	1,350	1,580	1,880	1,840	818	1,160	1,130	540	1,010	4,560
21	258	845	1,350	1,610	1,880	1,840	928	1,280	1,160	661	1,130	4,340
22	286	845	1,380	1,610	1,880	1,840	900	1,350	1,070	845	1,410	4,160
23	324	872	1,410	1,640	1,880	1,800	900	1,380	872	928	8,820	4,700
24	324	872	1,410	1,670	1,880	1,800	955	1,280	738	928	5,470	4,840
25	344	900	1,410	1,700	1,880	1,800	1,220	1,070	738	845	5,020	4,700
26	385	900	1,440	1,700	1,880	1,800	1,250	955	712	738	5,420	4,700
27	406	928	1,440	1,700	1,880	1,800	1,280	845	818	686	4,790	4,520
28	428	955	1,440	1,740	1,910	1,840	1,320	845	955	686	5,420	4,200
29	449	955	1,440	1,740	-	1,880	1,380	1,010	1,100	764	5,620	3,850
30	472	982	1,480	1,740	--------	1,880	1,410	1,220	1,130	872	5,120	3,490
31	494	--------	1,480	1,740	--------	1,880	--------	1,350	--------	1,010	5,470	----------
(†)	14.20	15.15	15.95	16.35	16.60	16.55	15.85	15.75	15.40	15.20	20.90	18.70
(‡)	+274	+488	+498	+260	+170	-30	-470	-60	-220	-120	+4,460	-1,980

Calendar year 1965: (±) +470
Water year 1965-66: (±) +3,270

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

8-4040. Pecos River below Avalon Dam, N. Mex.

Location.--Lat 32°28'53", long 104°15'43", in SW¼SW¼NE¼ sec.14, T.21 S., R.26 E., on right bank 5,200 ft below Avalon Dam and 4.5 miles northwest of Carlsbad.

Drainage area.--18,080 sq mi, approximately (contributing area).

Records available.--January 1906 to March 1907 (published as "at Avalon"), June 1951 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,130 ft (from topographic map). January 1906 to March 1907 staff gage at site half a mile upstream at different datum.

Average discharge.--15 years (1951-66), 43.1 cfs (31,200 acre-ft per year).

Extremes.--Maximum discharge during year, 55,500 cfs Aug. 23 (gage height, 26.4 ft, from floodmarks), from rating curve extended above 33,000 cfs on basis of computation of peak flow over Tansill Dam 5.8 miles downstream; no flow most of time.
1951-66: Maximum discharge, that of Aug. 23, 1966; no flow most of time.
Flood of Oct. 2, 1904, caused in part, by failure of Avalon Dam, was described at that time as the greatest flood known. Flood in August 1893 is probably second highest, and was described as "greatest in 50 years"; it damaged McMillan Dam and washed out the original Avalon Dam.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Alamogordo Reservoir, Lake McMillan and Lake Avalon (see stations 8-3840, 8-4005, 8-4038). Diversions and ground-water withdrawals above station for irrigation of about 198,000 acres (1959 determination). Station bypassed by Carlsbad main canal (see station 8-4035).

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											0	310
2											0	274
3											0	876
4											0	751
5											0	290
6											0	151
7											0	130
8											0	553
9											0	100
10											0	68
11											0	45
12											0	19
13											0	61
14											0	38
15											0	17
16											0	3.2
17											0	.20
18											0	0
19											0	0
20											0	0
21											0	0
22											500	0
23											33,600	0
24											16,800	0
25											6,000	0
26											3,930	0
27											1,110	0
28											175	0
29					—						601	0
30					---						80	0
31		---			---		---		---		265	---
Total	0	0	0	0	0	0	0	0	0	0	63,061	3,686.40
Mean	0	0	0	0	0	0	0	0	0	0	2,034	123
Ac-ft	0	0	0	0	0	0	0	0	0	0	125,100	7,310

Calendar year 1965: Max 1,940 Min 0 Mean 5.34 Ac-ft 3,860
Water year 1965-66: Max 33,600 Min 0 Mean 183 Ac-ft 132,400

Note.--No gage height record Aug. 22, 23.

8-4050. Pecos River at Carlsbad, N. Mex.

Location.--Lat 32°25'05", long 104°13'25", in NW¼SE¼ sec.6, T.22 S., R.27 E., in downstream end of pier near center of Greene Street Bridge in Carlsbad, half a mile upstream from Dark Canyon.

Drainage area.--18,100 sq mi, approximately (contributing area).

Records available.--May 1903 to March 1908 (January 1907 to March 1908, gage heights and discharge measurements only), May 1914 to September 1915, and April 1920 to September 1966 in reports of Geological Survey. Monthly discharges only for some periods, published in WSP 1312. Records (except maximum discharges) for October 1915 to March 1920, published in WSP 438, 458, 478, and 508, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Datum of gage is 3,080.28 ft above mean sea level, datum of 1929. Prior to June 1, 1920, staff gages in immediate vicinity of present site, and at different datums prior to Jan. 6, 1938.

Average discharge.--19 years (1903-4, 1905-6, 1914-15, 1920-36), 255 cfs (184,600 acre-feet per year), prior to completion of Alamogordo Dam; 30 years (1936-66), 184 cfs (133,200 acre-ft per year).

Extremes.--Maximum discharge during year, 54,400 cfs Aug. 23, from rating curve extended above 30,000 cfs on basis of computation of peak flow over dam; maximum gage height, 21.9 ft Aug. 23, from floodmarks (backwater from Dark Canyon); minimum, 0.45 cfs Mar. 5. 1903-6, 1914-15, 1920-66: Maximum discharge probably exceeded 90,000 cfs Oct. 2, 1904 (gage height, 23.44 ft, from floodmarks); minimum, 0.1 cfs June 19, 1954.

Flood of Oct. 2, 1904, caused in part by failure of Avalon Dam, was described at that time as "greatest flood known at Carlsbad." Flood in August 1893 is probably second highest, and was described as "greatest in 50 years"; it damaged McMillan Dam and washed out the original Avalon Dam.

Remarks.--Records good except those for period of backwater or no gage-height record, which are fair. Flow regulated by Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see stations 8-3840, 8-4005, 8-4038), and at low stages by powerplant above station. Gage is bypassed on left bank by Carlsbad main canal east which irrigates several hundred acres adjacent to and below gage site, and on right bank by Carlsbad main canal south which with supplemental groundwater withdrawals irrigates about 23,000 acres below. This bypass flow is not presently gaged. Diversions and ground-water withdrawals above station for irrigation of about 198,000 acres (1959 determination). Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	5.7	9.4	13	11	25	10	9.9	5.3	1.2	4.9	369
2	6.6	7.0	9.9	11	11	26	8.9	10	22	1.8	4.9	287
3	7.0	7.5	9.9	10	10	23	9.9	10	1.1	2.6	5.3	917
4	7.5	7.0	8.9	11	10	41	6.6	11	.95	3.3	5.3	764
5	8.4	6.6	9.9	12	11	.52	7.5	17	1.8	2.8	5.3	305
6	9.4	7.5	9.4	11	11	5.7	7.5	17	3.3	2.1	5.3	200
7	8.9	8.0	9.4	13	11	11	6.1	10	3.6	2.8	6.8	150
8	8.9	9.4	9.4	11	13	13	5.3	9.0	3.0	3.9	1.6	600
9	8.4	8.4	9.9	13	13	14	4.5	8.0	3.6	6.1	.82	157
10	8.0	8.4	11	12	12	15	6.6	8.0	9.7	4.5	1.1	109
11	8.9	8.9	11	12	12	41	6.1	39	1.4	4.9	4.4	106
12	6.6	8.4	9.4	13	14	6.1	4.2	3.0	1.4	4.9	.95	109
13	8.4	8.9	10	13	14	1.1	3.6	4.0	1.8	4.9	.95	106
14	8.4	8.9	9.9	13	13	23	3.6	4.0	1.4	4.9	.95	106
15	8.0	8.9	9.9	15	14	1.6	2.8	5.0	1.2	4.9	.95	86
16	8.0	8.9	9.9	13	14	13	3.6	6.0	1.2	4.5	.95	45
17	8.4	8.4	11	13	16	28	7.0	6.1	1.1	4.5	.95	45
18	6.6	8.9	14	14	18	.70	6.6	4.9	1.0	3.3	.95	55
19	6.6	9.4	10	15	18	8.9	6.6	8.1	.70	4.9	1.1	15
20	6.1	8.9	11	17	20	14	8.4	9.9	.70	8.4	.95	5.0
21	5.3	9.4	11	11	20	14	7.5	9.9	.70	9.4	1.1	2.0
22	5.3	8.9	11	12	21	23	13	9.4	.70	10	230	1.1
23	5.7	9.4	14	13	22	3.6	11	9.9	.70	10	32,800	38
24	4.9	9.4	9.9	14	24	7.5	25	7.5	.70	10	16,900	54
25	5.7	9.4	11	14	26	12	14	4.5	.70	9.9	6,350	28
26	5.7	9.4	11	13	29	13	13	5.3	.70	7.5	4,210	27
27	6.1	8.4	13	20	26	13	11	6.4	4.2	5.3	1,470	26
28	6.1	8.9	12	6.6	24	19	10	6.1	12	4.5	200	25
29	6.6	8.4	12	10	—	13	11	5.7	1.1	4.9	636	27
30	5.7	9.4	12	12	----------	11	12	5.3	.95	5.3	86	23
31	5.7	----------	13	14	----------	11	----------	4.9	----------	6.1	297	----------
Total	218.0	255.0	333.1	394.6	458	451.72	252.9	274.8	88.70	164.1	63,234.52	4,787.1
Mean	7.03	8.50	10.7	12.7	16.4	14.6	8.43	8.86	2.96	5.29	2,040	160
Ac-ft	432	506	661	783	908	896	502	545	176	325	125,400	9,500

Calendar year 1965: Max 1,750 Min 0.60 Mean 13.5 Ac-ft 9,750
Water year 1965-66: Max 32,800 Min 0.52 Mean 194 Ac-ft 140,700

Note.--Backwater or no gage-height record Aug. 22, 23.

8-4055. Black River above Malaga, N. Mex.

Location.--Lat 32°13'40", long 104°09'05", in SW¼ sec.12, T.24 S., R.27 E., on right bank 0.6 mile upstream from Black River diversion dam, 4.8 miles west of Malaga, Eddy County, and 7 miles upstream from mouth.

Drainage area.--343 sq mi.

Records available.--March to December 1940, December 1946 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 3,070 ft (from topographic map). March to December 1940 water-stage recorder and Cippoletti weir at site 0.3 mile downstream at different datum.

Average discharge.--19 years (1947-66), 15.0 cfs (10,860 acre-ft per year).

Extremes.--Maximum discharge during year, 74,600 cfs Aug. 23 (gage height, 21.7 ft, from floodmarks), from rating curve extended above 6,000 cfs on basis of slope-area measurements at gage heights 12.60 and 21.7 ft; minimum, 1.8 cfs Nov. 3.
The flood of Aug. 23, 1966 is the greatest known; it exceeded the previous known maximum stage which occurred in 1908 by about 1 ft (from information by local resident). Flood of Sept. 20 or 21, 1941 reached a stage of 19.0 ft, determined in 1947 from well-defined floodmarks (discharge, 33,000 cfs, from rating curve extended above 1,400 cfs on basis of slope-area measurements at gage heights 8.41 and 12.60 ft). Flood of Apr. 17, 1915, reached a stage of 11 ft at bridge on Loving - Malaga road.

Remarks.--Records excellent except those for period of no gage-height record, which are poor. Diversions and ground-water withdrawals for irrigation of about 1,000 acres (1959 determination) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	2.1	8.4	4.0	4.6	10	4.6	8.4	6.8	5.8	3.8	14
2	6.8	1.9	8.8	3.8	4.6	11	7.2	8.0	7.2	5.4	3.8	15
3	5.8	1.9	9.6	3.8	4.8	10	7.6	8.0	6.8	5.2	21	17
4	5.2	1.9	9.2	3.8	4.8	9.6	8.0	8.0	6.5	4.8	5.8	14
5	5.2	1.9	6.5	3.8	4.8	10	8.0	8.0	6.2	4.8	4.2	14
6	5.2	1.9	4.8	3.8	5.2	10	8.0	7.6	5.8	4.6	4.2	13
7	4.8	3.7	4.2	3.8	5.2	10	8.0	7.6	5.8	4.6	642	628
8	4.8	12	4.0	4.0	5.4	10	8.0	7.2	5.8	4.6	745	188
9	4.2	738	4.0	4.0	5.4	10	8.0	7.2	6.2	4.6	31	28
10	3.8	45	4.2	4.0	6.8	10	8.0	7.2	25	4.6	15	16
11	3.8	17	4.2	4.0	9.2	7.6	7.6	6.8	27	4.6	11	16
12	3.2	12	4.0	4.0	10	5.8	7.2	6.5	10	4.6	9.2	16
13	3.2	10	4.0	4.0	10	4.8	7.6	6.5	18	4.2	8.8	16
14	3.5	9.2	4.2	4.0	9.6	4.6	7.6	7.2	13	4.2	8.4	16
15	3.0	9.2	4.6	4.0	10	4.6	8.0	6.8	6.5	4.2	8.2	16
16	2.8	8.8	4.6	4.0	10	4.2	8.0	6.5	6.2	4.0	8.2	16
17	2.8	8.8	4.2	4.2	10	4.0	12	6.5	6.2	4.0	8.0	16
18	2.6	8.8	4.8	4.6	10	4.0	8	6.5	6.2	4.0	8.0	16
19	2.5	8.8	6.2	4.8	10	3.8	7.2	6.5	6.2	4.0	8.0	16
20	2.6	8.4	5.8	4.8	10	4.0	7.2	7.2	58	4.0	8.0	15
21	2.6	8.4	5.4	5.4	10	3.8	7.2	7.2	6.5	3.8	80	16
22	2.8	8.4	4.6	5.2	10	3.5	8.0	6.5	6.5	3.8	3,200	15
23	2.8	8.4	4.6	5.2	10	3.5	8.0	6.5	5.4	3.5	12,000	15
24	2.8	8.0	4.0	4.8	9.6	3.5	169	6.2	5.4	3.5	130	16
25	2.8	7.6	4.0	4.8	8.8	3.8	43	6.5	5.2	3.5	50	16
26	2.8	7.6	4.0	4.8	8.4	4.0	17	6.5	5.2	3.5	40	16
27	3.0	7.6	4.0	4.8	8.0	4.0	11	15	5.8	3.5	25	16
28	3.0	7.2	4.0	4.8	8.4	4.2	9.2	12	6.2	3.5	20	15
29	2.8	7.6	4.2	4.8	—	4.2	8.8	7.6	6.2	3.5	20	17
30	2.6	8.4	4.2	4.8	------	4.0	8.4	7.2	6.2	3.5	15	16
31	2.3	------	4.0	4.8	------	3.8	------	7.2	------	3.8	15	------
Total	113.7	990.5	157.3	135.4	223.6	190.3	445.4	232.6	245.8	130.2	17,156.6	1,264
Mean	3.67	33.0	5.07	4.37	7.99	6.14	14.8	7.50	8.19	4.20	553	42.1
Ac-ft	226	1,960	312	269	444	377	883	461	488	258	34,030	2,510

Calendar year 1965: Max 2,710 Min 2.1 Mean 22.6 Ac-ft 16,380
Water year 1965-66: Max 12,000 Min 1.9 Mean 58.3 Ac-ft 42,220

Peak discharge (base, 450 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 9	0540	7.48	4,360	8-21	2200		(about) 1,300
4-24	1300	3.12	538				
8- 7	2100	8.17	5,220	8-23	(about) 0430	21.7	74,600
				9- 7	1725	7.14	4,290

Note.--No gage height record Aug. 15-30.

8-4065. Pecos River near Malaga, N. Mex.

Location.--Lat 32°12'30", long 104°01'20", in N½ sec.19, T.24 S., R.29 E., on right bank 4 miles downstream from Black River and 3 miles southeast of Malaga, Eddy County.

Drainage area.--19,190 sq mi, approximately (contributing area).

Records available.--May 1920 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Digital water-stage recorder. Datum of gage is 2,895.64 ft above mean sea level, datum of 1929. May 1, 1920 to Mar. 24, 1949, at datum 3 ft higher. Prior to April 30, 1963, graphic water-stage recorder.

Average discharge.--16 years (1920-36), 274 cfs (198,400 acre-ft per year), prior to completion of Alamogordo Reservoir; 30 years (1936-66), 232 cfs (168,000 acre-ft per year).

Extremes.--Maximum discharge during year, 120,000 cfs Aug. 23 (gage height, 42.1 ft, from floodmarks), from rating curve extended above 36,000 cfs on basis of slope-area measurement at gage height 42.1 ft; minimum, 8.1 cfs July 23-26.
1920-66: Maximum discharge, that of Aug. 23, 1966; minimum 5.0 cfs Mar. 9, 1965.
Flood in 1966 is the greatest known. A major flood occurred in 1904, discharge not determined. Flood of Aug. 7, 1916, reached a discharge 70,000 cfs at Carlsbad, 27 miles upstream. Flood in September 1919 reached a stage of 29.4 ft, present datum (discharge, 40,400 cfs).

Remarks.--Records good except those above 1,000 cfs, which are poor. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see stations 8-3840, 8-4005, 8-4038), and by small diversion dams that divert for power or irrigation. Diversions and ground-water withdrawals above station for irrigation of about 202,000 acres (1959 determination). Harroun canal bypasses gage on left bank and irrigates approximately 1,000 acres adjacent to and below gage. This bypass is not gaged. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	11	20	16	18	15	13	13	11	11	9.4	396
2	13	11	21	16	18	13	12	12	13	11	8.6	394
3	12	11	21	16	18	13	12	12	12	11	13	716
4	12	11	21	16	18	14	12	12	12	10	18	812
5	12	11	21	16	18	14	12	12	12	10	13	581
6	12	11	20	16	18	14	12	12	10	10	9.2	335
7	12	11	18	16	16	15	12	12	9.4	9.9	31	759
8	11	12	17	17	15	15	12	12	9.2	9.7	1,680	1,320
9	11	595	17	17	14	15	12	13	22	9.5	104	489
10	11	93	17	17	14	15	12	12	21	9.6	40	204
11	11	27	16	17	14	14	12	11	56	9.1	24	154
12	10	16	16	17	14	16	12	12	32	11	18	135
13	11	13	17	17	16	17	13	12	21	12	16	128
14	10	12	17	17	14	17	12	12	32	11	15	122
15	11	12	17	17	14	16	12	12	18	10	14	122
16	10	12	17	17	14	16	12	11	13	9.5	13	110
17	10	12	17	17	14	16	12	11	12	9.8	13	79
18	9.9	12	18	17	14	16	11	11	11	9.5	14	72
19	11	12	17	18	14	16	12	11	11	8.8	30	70
20	11	12	18	18	18	15	13	12	11	8.7	25	64
21	11	12	18	19	22	15	13	12	10	8.7	29	55
22	10	12	18	18	23	15	13	12	12	8.7	1,770	44
23	10	13	17	18	23	15	13	12	10	8.6	68,000	38
24	10	13	16	18	23	14	160	12	9.9	8.2	37,300	38
25	10	12	16	18	23	15	114	11	9.8	8.4	10,400	41
26	10	12	16	18	20	15	34	11	9.9	8.5	5,480	48
27	10	13	16	18	17	14	18	12	12	8.7	3,190	52
28	10	13	16	19	16	14	15	11	12	9.8	508	56
29	10	13	17	18	-	14	13	12	13	10	776	56
30	10	18	17	18	------	13	13	12	12	9.5	411	60
31	11	------	17	17	------	13	------	11	------	9.4	235	------
Total	336.9	1,048	547	534	480	459	648	365	459.2	299.6	130,207.2	7,550
Mean	10.9	34.9	17.6	17.2	17.1	14.8	21.6	11.8	15.3	9.66	4,200	252
Ac-ft	668	2,080	1,080	1,060	952	910	1,290	724	911	594	258,300	14,980

Calendar year 1965: Max 7,160 Min 5.8 Mean 43.9 Ac-ft 31,780
Water year 1965-66: Max 68,000 Min 8.2 Mean 392 Ac-ft 283,500

Peak discharge (base, 1,800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
11- 9	1130	8.34	2,130	8-23	1600	42.1	120,000
8- 8	0400	12.61	5,520	9- 7	2330	9.05	2,640
8-22	2300	18.26	12,500				

Note.--No gage-height record during part of Aug. 22, 23.

8-4070. Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.

Location.--Lat 32°11'20", long 103°58'45", in NW¼NW¼SW¼ sec.27, T.24 S., R.29 E., on right bank 400 ft (corrected) upstream from Pierce Canyon Crossing and 6 miles southeast of Malaga, Eddy County.

Drainage area.--19,260 sq mi, approximately (contributing area).

Records available.--July 1938 to September 1941, August 1951 to September 1966.

Gage.--Digital water-stage recorder. Datum of gage is 2,889.18 ft above mean sea level, datum of 1929. July 1938 to September 1941 at datum 1.19 ft higher. Prior to Nov. 30, 1965, graphic water-stage recorder.

Average dischage.--18 years, 198 cfs (143,300 acre-ft per year).

Extremes.--Maximum gage height during year, 31.6 ft (from floodmarks), Aug. 23 (discharge not determined); minimum discharge, 2.0 cfs July 11.
1938-41, 1951-66: Maximum gage height, that of Aug. 23, 1966; minimum discharge, 0.54 cfs May 30, 1965.

Remarks.--Records good except those above 200 cfs and periods of no gage-height record, which are poor. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see stations 8-3840, 8-4005, 8-4038), and by several small diversion dams that divert for power or irrigation. Diversions and groundwater withdrawals above station for irrigation of about 202,000 acres (1959 determination). Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	12	18	20	18	18	9.0	17	9.4	8.2	4.4	400
2	12	12	21	18	19	18	8.7	17	12	11	4.1	400
3	11	12	21	17	20	15	8.4	16	13	11	4.4	650
4	10	12	21	17	19	14	8.1	16	12	8.9	9.1	750
5	9.6	12	21	19	20	15	8.6	16	11	6.0	11	600
6	9.1	12	20	20	20	15	10	16	11	4.1	6.5	400
7	9.1	12	20	20	19	17	11	15	10	3.6	4.8	700
8	9.6	13	20	19	19	17	11	11	7.6	3.7	1,730	1,150
9	9.6	449	20	20	16	17	11	12	24	3.5	151	500
10	9.6	172	20	20	16	18	11	7.9	45	3.7	49	230
11	11	48	20	20	16	17	11	7.0	39	3.4	30	170
12	12	27	19	20	15	16	10	5.7	43	3.6	21	140
13	12	20	19	21	16	19	9.4	6.9	30	3.9	21	130
14	12	18	19	20	16	19	7.2	6.1	33	4.6	19	120
15	12	17	19	21	16	18	6.5	7.1	27	7.1	18	120
16	11	18	20	20	15	17	6.5	6.8	17	4.3	17	115
17	12	17	20	20	15	16	6.6	4.3	14	3.5	16	85
18	11	17	20	21	16	15	6.6	3.9	13	3.4	21	74
19	11	16	20	22	17	13	6.5	7.9	12	3.1	138	70
20	12	16	20	22	19	11	6.8	11	10	2.9	125	66
21	12	16	21	24	23	11	7.0	6.5	6.2	2.8	121	58
22	12	16	21	23	25	11	7.6	6.7	8.3	2.8	1,240	39
23	12	16	21	22	27	9.6	11	10	20	2.4	65,000	35
24	12	15	20	22	27	9.4	113	5.0	12	2.6	38,000	34
25	12	15	19	22	28	10	172	4.2	8.2	2.6	12,000	36
26	12	14	19	21	27	11	54	5.1	13	2.4	5,600	40
27	12	13	19	21	23	12	32	9.6	28	2.8	3,300	45
28	12	14	19	22	19	12	22	11	24	2.8	600	52
29	12	14	19	21	_	10	19	11	15	3.7	700	49
30	12	15	19	21	----------	9.6	18	12	12	4.1	430	57
31	12	----------	20	21	----------	9.4	----------	10	----------	4.8	250	----------
Total	350.6	1,080	615	637	546	440.0	629.5	301.7	539.7	137.3	129,641.3	7,315
Mean	11.3	36.0	19.8	20.5	19.5	14.2	21.0	9.73	18.0	4.43	4,182	244
Ac-ft	695	2,140	1,220	1,260	1,080	873	1,250	598	1,070	272	257,100	14,510

Calendar year 1965: Max 7,720 Min 2.8 Mean 44.5 Ac-ft 32,240
Water year 1965-66: Max 65,000 Min 2.4 Mean 390 Ac-ft 282,100

Note.--No gage-height record Nov. 30 to Jan. 6, Aug. 23 to Sept. 22.

8-4075. Pecos River at Red Bluff, N. Mex.

Location.--Lat 32°04'30", long 104°02'20", in sec.1, T.26 S., R.28 E., on right bank at Red Bluff, 0.2 mile downstream from Red Bluff Draw and 5.5 miles upstream from Delaware River.

Drainage area.--19,540 sq mi, approximately (contributing area).

Records available.--October 1937 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 2,850.05 ft above mean sea level, datum of 1929.

Average discharge.--29 years (1937-66), 222 cfs (160,700 acre-ft per year).

Extremes.--Maximum discharge during year, 111,000 cfs Aug. 23 (gage height, 33.32 ft), from rating curve extended above 30,000 cfs on basis of slope-area measurement of peak flow; minimum, 0.19 cfs Aug. 1.
1937-66: Maximum discharge, that of Aug. 23, 1966; minimum, that of Aug. 1, 1966.
The flood of Aug. 23, 1966 is probably greatest known. Flood in October 1904 reached a stage of 28.0 ft, from information by Panhandle and Santa Fe Railway Co. For dates of other historiaal floods see stations 8-4050, 8-4065.

Remarks.--Records good. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan and Lake Avalon (see stations 8-3840, 8-4005, 8-4038), and by several small diversion dams that divert for power or irrigation. Diversions and groundwater withdrawals above station for irrigation of about 202,000 acres (1959 determination). Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	12	16	17	20	17	9.8	15	9.2	9.8	.22	318
2	15	12	20	17	16	15	8.6	14	8.6	5.8	.50	571
3	13	12	20	15	18	17	9.2	14	10	6.2	4.0	409
4	12	12	20	15	18	14	8.0	13	12	8.0	3.1	936
5	11	12	20	16	18	13	7.6	13	12	7.1	2.9	824
6	10	12	21	16	18	14	8.0	13	10	5.3	11	443
7	9.8	12	20	16	18	14	13	13	10	3.3	94	340
8	9.8	13	19	16	15	16	13	12	8.6	2.4	1,850	1,270
9	10	203	18	16	15	16	13	9.2	169	1.8	452	901
10	10	454	18	16	13	17	13	9.2	353	1.4	81	324
11	9.8	76	18	16	13	17	13	5.8	396	1.3	37	206
12	11	36	18	17	12	16	13	5.8	70	1.3	22	173
13	12	23	17	16	13	16	12	4.4	116	1.2	16	159
14	12	18	17	17	14	18	11	4.8	152	.99	15	151
15	13	16	17	17	13	19	6.6	5.3	39	.90	14	151
16	13	15	17	17	14	18	6.2	4.4	25	2.2	12	151
17	11	15	18	16	13	18	6.2	5.8	17	5.3	12	132
18	12	15	18	18	13	18	5.3	3.5	13	4.4	12	100
19	11	15	18	18	14	15	4.4	2.7	12	2.4	102	92
20	12	14	18	18	14	15	4.8	4.8	9.8	1.6	209	89
21	12	13	18	20	17	12	5.8	9.8	9.2	1.2	219	81
22	12	13	19	20	20	12	7.6	5.8	11	1.1	2,200	72
23	12	13	20	19	22	12	8.0	4.4	54	.82	46,430	60
24	12	13	20	19	23	9.8	416	8.6	7.6	.67	50,710	53
25	12	13	18	18	23	9.8	234	4.8	5.3	.50	14,110	53
26	12	13	17	18	23	11	80	3.3	5.0	.45	6,820	54
27	12	13	17	18	23	12	36	12	5.8	.37	4,070	61
28	12	12	17	18	20	13	22	9.2	32	.33	1,470	70
29	12	13	17	18		12	18	9.8	18	.37	474	69
30	12	13	18	18	----------	11	16	9.2	17	.33	775	69
31	12	----------	18	17	----------	10	----------	9.8	----------	.25	347	--------
Total	364.4	1,126	567	533	473	447.6	1,029.1	259.4	1,617.1	79.08	130,574.72	8,382
Mean	11.8	37.5	18.3	17.2	16.9	14.4	34.3	8.37	53.9	2.55	4,212	279
Ac-ft	723	2,230	1,120	1,060	938	888	2,040	515	3,210	157	259,000	16,630

Calendar year 1965 : Max 7,060 Min 2.0 Mean 57.0 Ac-ft 41,250
Water year 1965-66 : Max 50,710 Min 0.22 Mean 398 Ac-ft 288,500

Peak discharge (base 1,800 cfs).--Aug. 8 (1530) 2,740 cfs (8.21 ft); Aug. 23 (2200) 111,000 cfs (33.32 ft).

8-4085. Delaware River near Red Bluff, N. Mex.

Location.--Lat 32°01'25", long 104°03'15", in SE¼ sec.23, T.26 S., R.28 E., near center of channel on downstream side of pier of bridge on U. S. Highway 285, 3.5 miles upstream from mouth, 4 miles south of Red Bluff, and 14 miles south of Malaga.

Drainage area.--689 sq mi.

Records available.--April 1912 to September 1913, May 1914 to June 1915, October 1937 to September 1966. Published as "near Malaga, N. Mex." 1912-13, and as "near Angeles, Tex." 1914-15.

Gage.--Digital water-stage recorder and crest-stage gage and concrete control. Datum of gage is 2,900.66 ft above mean sea level, datum of 1929. Prior to May 1914, at site 3 miles upstream at different datum. May 1914 to June 1915 at site 2½ miles downstream at different datum. Prior to Nov. 30, 1965 graphic water-stage recorder at present site and datum.

Average discharge.--29 years (1937-66), 14.6 cfs (10,570 acre-ft per year).

Extremes.--Maximum discharge during year, 33,200 cfs Aug. 22 (gage height, 17.48 ft), from rating curve extended above 6,800 cfs on the basis of slope area measurements at 17.48, 18.00 and 27.0 ft; no flow many days.
1912-13, 1914-15, 1937-66: Maximum discharge, 81,400 cfs Oct. 2, 1955 (gage height, 27.0 ft, from floodmark), from rating curve extended above 1,500 cfs on basis of slope-area measurements at gage heights 8.65, 12.84, 18.00, and 27.0 ft; no flow many days.
Maximum stage known since at least 1911, that of Oct. 2, 1955. Flood of June 27, 1938, reached a stage of 18.00 ft, from floodmark.

Remarks.--Records fair. One small upstream diversion.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	0	0.36	0.36	0.03	0.13	1.2	0.83	8.4	5.6	0	24
2	2.2	0	1.5	.74	.09	.09	1.2	.58	5.1	7.1	0	16
3	2.1	0	.13	1.10	.13	.01	1.2	.38	3.8	16	0	16
4	2.0	0	.02	.36	.13	0	1.2	.34	2.4	2.4	0	11
5	1.7	0	.05	.13	.05	.02	1.2	.30	1.1	1.3	0	9.7
6	1.6	0	.02	.09	.05	.05	1.2	.28	.74	.83	147	8.8
7	1.5	0	.05	.09	.05	.09	1.2	.26	.49	.58	21	8.2
8	1.2	0	.02	.09	.03	.09	1.2	.16	.30	.49	610	8.5
9	1.2	108	.02	.18	.05	.09	1.2	.16	192	.49	85	18
10	1.0	80	.03	.30	.05	.09	1.2	.16	909	.46	20	11
11	1.0	13	.01	.85	.13	.09	.99	.12	1,660	.30	9.6	8.8
12	.20	3.7	.01	1.90	.80	.09	.85	.03	56	.32	6.0	7.6
13	0	1.6	.01	2.0	.18	.03	.85	.02	20	.32	67	6.8
14	0	.96	.03	2.0	.09	.03	.85	.01	21	.20	13	6.6
15	0	.67	.05	2.0	.09	.03	.85	.26	19	.18	6.5	7.1
16	0	.57	.09	2.1	.09	.01	.85	.74	11	.12	4.1	6.8
17	0	.34	.10	2.0	.09	.01	.85	.62	8.7	.12	3.2	6.3
18	0	.03	.13	2.0	.05	.50	.85	.55	7.7	.36	11	6.1
19	0	1.0	.12	1.8	.09	1.2	.80	.55	7.1	.07	5.4	6.1
20	0	1.5	.08	1.7	.09	1.4	.67	.55	6.5	.04	72	5.9
21	0	.34	.09	1.7	.05	1.5	.50	.46	6.3	.01	22	5.6
22	0	.01	.10	1.7	.09	1.4	1.0	.36	9.7	0	2,500	5.4
23	0	.01	.30	1.7	.13	1.2	1.0	.16	8.8	0	5,240	5.1
24	0	0	.22	.74	.24	1.2	708	.08	5.6	0	908	5.1
25	0	0	.13	.13	.13	1.5	167	.01	4.7	0	159	5.1
26	0	0	.14	.09	.09	1.7	26	0	5.2	0	66	4.9
27	0	0	.24	.09	.09	1.7	5.9	67	9.3	0	37	4.6
28	0	0	.30	.09	.09	1.7	2.1	12	6.3	0	23	4.6
29	0	.02	.34	.09	_	1.7	1.2	3.0	48	0	18	4.6
30	0	.09	.38	.09	------	1.6	.74	1.6	15	0	16	4.4
31	0	------	.38	.09	------	1.5	------	1.2	------	0	30	------
Total	1830	211.84	5.45	28.30	3.27	20.74	933.85	92.77	3,059.23	37.29	10,099.8	248.7
Mean	0.590	7.06	0.176	0.913	0.117	0.669	31.1	2.99	102	1.20	326	8.29
Ac-ft	36	420	11	56	6.5	41	1,850	184	6,070	74	20,030	493

Calendar year 1965: Max 1,090 Min 0 Mean 12.9 Ac-ft 9,340
Water year 1965-66 Max 5,240 Min 0 Mean 40.4 Ac-ft 29,280

Peak discharge (base, 1,700 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
4-24	0945	6.59	2,300	8- 8	1615	5.86	1,780
6-10	2330	10.98	6,950	8-22	2300	17.48	33,200

8-4100. Red Bluff Reservoir near Orla, Texas

Location.--Lat 31°54'05", long 103°54'40", at right end of Red Bluff Dam on Pecos River, 3 miles upstream from Salt (Screwbean) Draw, and 4.5 miles north of Orla, Reeves County.

Drainage area.--20,720 sq mi, approximately (contributing area).

Records available.--February 1937 to September 1966. Monthly contents only for some periods, published in WSP 1312.

Gage.--Staff gage read at irregular intervals. Datum of gage is 0.30 ft below mean sea level, datum of 1929.

Extremes.--Maximum contents observed during year, 276,000 acre-ft Sept. 10-17 (gage height, 2,838.6 ft); minimum observed, 43,000 acre-ft Aug. 6-7 (gage height, 2,801.6 ft).

1937-66: Maximum contents observed, 352,000 acre-ft Sept. 27-28, 1941 (gage height, 2,846.2 ft, observed on staff gage at service spillway, affected by variable drawdown due to flow through tainter gates); minimum observed, 11,080 acre-ft May 13, 1948 (gage height, 2,781.4 ft).

Remarks.--Reservoir is formed by a rock-faced earth-fill dam 9,200 ft long. Dam completed and storage began in September 1936. The concrete service spillway is equipped with 12 tainter gates 25 ft wide by 15 ft high. The emergency spillway, located on the right bank, is 790 ft long. Water is used for power development and irrigation from Mentone to Grandfalls. Inflow partly regulated by major reservoirs above station include, Alamogordo Reservoir, Lake McMillan, and Lake Avalon, with a total combined capacity of 154,400 acre-ft. Also several small diversion dams that divert water for power and irrigation. Contents computed from intermittent gage readings and figures given herein represent total contents. Data regarding dam and reservoir are given in the following table:

	Gage height (feet)	Capacity (acre-feet)
Crest of emergency spillway	2,845.0	340,000
Top of tainter gates	2,842.0	310,000
Crest of service spillway	2,827.0	166,500
Bottom of two 7.0- by 9.0-foot conduits	2,764.0	3,000

Cooperation.--Gage-height records and capacity curve furnished by Red Bluff Water Power and Control District. Capacity curve based on Geological Survey topographic map, survey of 1925. Records furnished by Texas District for publication.

Contents, in acre-feet, observed at irregular intervals, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53,000	51,200	51,800	51,500	51,800	51,800	--	52,700	51,200	57,200	43,750	270,000
2	52,700	51,200	--	--	51,800	--	50,900	52,700	51,200	57,200	--	270,000
3	52,700	51,200	--	51,500	51,800	--	50,900	52,700	51,200	56,850	43,500	270,000
4	52,700	--	51,800	51,500	51,800	51,500	50,900	52,700	51,200	56,850	43,250	--
5	52,700	51,200	51,800	--	51,800	51,500	--	52,400	50,900	56,500	43,250	272,000
6	--	50,900	51,800	51,800	51,800	51,500	50,600	52,400	50,900	56,500	43,000	273,000
7	52,400	50,900	--	51,800	51,800	51,500	50,600	52,400	50,900	56,150	43,000	273,000
8	52,400	51,200	51,800	--	51,800	51,500	--	52,400	50,900	55,150	43,500	--
9	52,400	51,200	51,800	51,800	51,800	51,500	50,600	--	50,600	55,800	48,800	275,000
10	52,400	52,100	51,800	51,800	--	51,500	50,600	52,400	51,200	55,800	49,400	276,000
11	--	52,400	51,800	51,800	51,800	51,500	50,600	52,400	56,500	55,450	49,400	276,000
12	52,100	52,700	51,800	51,800	51,800	51,500	50,600	--	58,600	55,450	49,400	276,000
13	52,100	52,700	51,800	51,800	51,800	51,500	50,300	52,100	58,200	55,100	--	276,000
14	52,100	52,700	--	--	51,800	51,500	50,300	52,100	58,600	54,750	49,100	276,000
15	51,800	52,400	51,800	--	51,800	51,500	50,300	52,100	58,600	54,750	49,100	--
16	51,800	52,400	51,800	--	51,800	51,500	50,300	51,800	58,600	54,400	48,800	276,000
17	51,800	52,400	51,800	51,800	51,800	--	50,300	51,800	--	54,400	48,800	276,000
18	51,800	52,400	--	51,800	51,800	51,500	--	51,800	58,600	53,350	48,800	275,000
19	51,800	52,400	51,500	51,800	51,800	51,500	50,000	51,500	58,250	52,400	48,800	275,000
20	--	52,400	--	51,800	51,800	51,500	50,000	51,500	58,250	51,800	48,800	275,000
21	51,500	--	51,500	--	51,800	51,200	50,000	51,500	57,900	50,900	48,800	274,000
22	51,500	52,400	--	51,800	51,500	51,200	49,700	51,800	57,900	49,700	50,600	274,000
23	--	52,400	51,500	51,800	51,500	51,200	--	51,500	57,900	48,800	68,700	274,000
24	51,200	52,100	51,500	51,800	51,500	51,200	50,000	51,500	57,900	47,600	--	274,000
25	51,200	52,100	51,500	51,800	51,800	51,200	52,100	51,500	57,550	46,700	232,000	273,000
26	--	--	51,500	51,800	51,800	51,200	52,700	51,200	57,550	45,500	255,000	273,000
27	51,200	52,100	51,500	51,800	--	51,200	52,700	51,500	57,550	44,600	264,000	273,000
28	51,200	--	51,500	51,800	51,800	51,200	52,700	51,800	57,550	44,300	270,000	272,000
29	--	51,800	51,500	51,800	--------	51,200	52,700	51,500	57,200	44,300	270,000	272,000
30	51,200	51,800	51,500	51,800	--------	51,200	52,700	51,500	57,200	44,000	270,000	272,000
31	51,200	--------	51,500	51,800	--------	50,900	---------	51,500	--------	43,750	271,000	----------
(†)	--	2,804.6	2,804.5	2,804.6	2,804.6	2,804.3	2,804.9	2,804.5	2,806.2	2,801.9	2,838.1	--
(‡)	-1,800	+600	-300	+300	0	-900	+1,800	-1,200	+5,700	-13,450	+227,200	+1,000

Calendar year 1965: (‡) 32,140
Water year 1965-66: (‡) 219,000

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
Note.--No gage height Oct. 31, Sept. 30, contents interpolated.

8-4125. Pecos River near Orla, Tex.

Location.--Lat 31°48'14", long 103°48'25", on left bank 600 ft upstream from Pasotex pipeline crossing, 6 miles southeast of Orla, Reeves County, 12 miles downstream from Salt (Screwbean) Draw, and 15 miles downstream from Red Bluff dam.

Drainage area.--21,300 sq mi, approximately (contributing area).

Records available.--May 1937 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 2,718.05 ft above mean sea level, datum of 1929.

Average discharge.--29 years, 207 cfs (149,900 acre-ft per year).

Extremes.--Maximum discharge during year, 3,520 cfs June 11 (gage height, 13.52 ft); minimum, 0.66 cfs Mar. 2.
1937-66: Maximum discharge, 23,700 cfs Sept. 29, 1941 (gage height, 20.74 ft); no flow at times in 1946 and 1965.

Remarks.--Records good except those above 500 cfs, which are fair. Flow largely regulated by Red Bluff Reservoir (see station 8-4100) and reservoirs above Carlsbad, N. Mex. Occasional runoff from draws between dam and station. Many diversions above Red Bluff Reservoir for irrigation. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of Texas State report.

Cooperation.--Records furnished by Texas district.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.7	3.1	5.3	6.4	6.4	0.74	4.5	4.9	6.4	55	67	58
2	3.7	3.1	5.8	5.8	5.3	.74	4.1	4.9	6.4	58	71	62
3	3.7	3.1	5.8	6.4	5.8	1.2	4.1	4.9	6.4	60	382	98
4	3.7	3.4	5.3	10	5.8	2.3	4.1	4.5	5.8	62	619	64
5	3.7	3.1	5.3	24	5.8	4.5	4.1	4.5	5.3	64	73	58
6	3.4	3.4	5.3	6.4	5.3	4.5	3.7	4.1	5.8	67	49	58
7	3.4	3.7	5.3	4.9	5.3	4.5	3.7	4.1	6.4	69	45	55
8	3.1	122	5.3	4.9	5.3	4.5	3.7	3.7	12	69	43	55
9	2.8	35	5.3	4.9	5.8	4.5	3.4	4.1	6.4	71	43	55
10	2.8	13	5.3	4.9	5.8	4.5	3.4	3.7	53	76	41	55
11	2.8	7.0	5.8	4.9	5.3	4.5	3.4	4.1	3,180	76	41	55
12	2.8	5.3	5.8	4.9	5.8	4.5	3.1	8.3	1,140	76	41	55
13	2.8	4.5	5.8	4.9	5.8	4.5	3.1	8.3	103	79	41	55
14	3.1	4.1	5.8	5.3	7.8	4.5	3.4	9.0	42	81	43	55
15	2.8	4.1	5.8	4.9	19	4.5	3.4	9.0	25	81	41	58
16	3.1	19	5.8	4.9	2.6	4.7	3.4	8.3	20	87	39	58
17	2.8	5.3	5.8	5.3	1.6	4.7	3.4	8.3	19	91	41	58
18	2.8	4.9	6.4	5.8	1.4	4.7	3.4	9.0	17	449	39	55
19	2.8	4.9	7.0	6.4	1.0	4.7	3.1	9.0	17	463	69	55
20	2.8	4.9	6.4	6.4	1.0	4.7	3.1	9.0	17	449	36	58
21	2.8	4.9	5.8	6.4	1.0	4.7	3.1	9.8	17	444	58	58
22	2.8	4.9	6.4	6.4	1.0	4.7	3.4	9.0	19	439	982	58
23	2.8	4.9	7.0	6.4	1.2	4.9	4.1	9.0	19	434	2070	58
24	2.8	4.9	7.0	6.4	1.0	4.9	55	9.0	20	425	1360	58
25	2.8	4.9	6.4	5.8	.93	4.9	151	9.0	21	420	124	55
26	2.8	4.9	6.4	5.8	.93	4.9	18	10	34	420	103	55
27	2.8	4.9	6.4	5.8	.83	4.9	7.6	624	53	338	70	55
28	2.8	4.9	7.0	5.8	.83	4.9	5.3	95	53	67	62	55
29	2.8	4.9	7.0	5.8	-	4.9	5.3	14	53	58	60	51
30	3.1	5.3	7.0	5.8	----------	4.9	4.9	9.0	55	58	58	51
31	3.1	----------	6.4	6.4	----------	4.5	----------	7.0	----------	62	58	----------
Total	94.0	306.3	187.2	199.1	115.62	131.08	329.3	930.5	5,037.9	5,748	6,869	1,734
Mean	3.03	10.2	6.04	6.42	4.13	4.23	11.0	30.0	168	185	222	57.8
Ac-ft	186	608	371	395	229	260	653	1,850	9,990	11,400	13,620	3,440

Calendar year 1965: Max 593 Min 0 Mean 17.2 Ac-ft 12,430
Water year 1965-66: Max 3,180 Min 0.74 Mean 59.4 Ac-ft 43,000

8-4763. Mimbres River at McKnight damsite, near Mimbres, N. Mex.

Location.--Lat 32°55'15", long 108°00'55", in SW¼SE¼ sec.6, T.16 S., R.11 W., on right bank 0.3 mile upstream from Mimbres Ranger station, 0.4 mile downstream from Cottonwood Canyon and 8 miles northwest of Mimbres.

Drainage area.--

Records available.--November 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 6,236.73 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 280 cfs Dec. 23 (gage height, 3.13 ft); no flow for many days.
1963-66. Maximum discharge, 646 cfs Aug. 18, 1964 (gage height, 3.74 ft), from rating curve extended above 220 cfs on basis of slope-area measurement of peak flow; no flow for many days.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.5	1.2	0	100	6.9	2.0	35	6.9	1.6	0	0	1.4
2	6.5	1.1	0	62	6.5	1.8	43	6.5	1.5	0	0	1.5
3	6.5	.80	0	42	6.5	1.7	53	6.9	1.4	0	27	1.5
4	6.2	.50	0	34	6.2	1.7	59	6.5	1.3	0	6.2	1.6
5	6.2	.22	0	26	6.2	1.7	54	6.2	1.1	0	2.7	1.8
6	5.9	.04	0	22	6.2	1.7	44	6.2	1.0	0	2.1	1.8
7	5.9	0	0	20	6.5	1.7	37	6.5	.90	0	.19	1.8
8	5.9	0	0	18	6.9	2.0	32	5.9	.80	0	12	1.8
9	5.6	0	0	16	6.2	7.6	32	5.6	.60	0	4.7	1.8
10	5.6	0	.15	15	5.9	17	31	5.2	.40	0	0	1.8
11	5.2	0	0	15	5.2	23	39	5.2	.15	0	0	1.8
12	5.2	0	0	14	5.2	28	26	5.2	.06	0	0	2.4
13	4.9	0	0	12	4.9	44	23	4.9	0	0	0	2.2
14	4.6	0	0	12	4.6	62	22	4.9	0	0	5.1	2.2
15	4.9	0	0	12	4.2	77	20	5.2	0	0	0	2.2
16	5.2	0	0	11	4.2	88	20	4.9	0	0	13	2.0
17	4.6	0	0	10	3.9	95	21	4.6	0	0	2.4	2.0
18	3.9	0	0	11	3.9	90	18	3.9	0	0	1.7	2.0
19	3.7	0	0	9.9	3.7	85	17	3.5	0	0	0	2.0
20	3.5	0	0	9.4	3.5	83	15	3.5	0	0	0	2.0
21	3.3	0	0	9.0	3.3	83	14	3.3	0	0	0	2.0
22	3.5	0	88	8.6	3.1	74	12	3.3	0	0	0	1.8
23	3.1	0	207	8.1	2.8	67	11	3.1	0	0	9.0	1.8
24	2.8	0	73	7.6	2.8	58	10	2.8	0	0	15	1.8
25	2.6	0	42	7.2	2.6	50	9.4	2.6	0	0	17	1.7
26	2.4	0	31	7.2	2.4	46	9.0	2.6	0	0	4.7	1.7
27	2.2	0	26	7.2	2.2	43	8.1	2.4	0	0	1.3	1.7
28	1.8	0	22	7.6	2.0	40	7.6	2.4	0	3.3	1.1	1.5
29	1.7	0	22	7.6	-	34	7.2	2.0	0	4.1	1.1	1.5
30	1.5	0	59	8.1	----------	32	7.2	1.8	0	1.1	1.2	1.6
31	1.4	----------	146	7.2	----------	32	----------	1.7	----------	0	1.3	----------
Total	132.8	3.86	716.15	556.7	128.5	1272.9	736.5	136.2	10.81	8.5	128.79	54.7
Mean	4.28	0.129	23.1	18.0	4.59	41.1	24.6	4.39	0.360	0.27	4.15	1.82
Ac-ft	263	7.6	1,420	1,100	255	2,520	1,460	270	21	17	255	108

Calendar year 1965: Max 207 Min 0 Mean 4.95 Ac-ft 3,580
Water year 1965-66: Max 207 Min 0 Mean 10.6 Ac-ft 7,710

Peak discharge (base,200 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-23	0320	3.13	280	8-16	2015	3.01	258
8-3	1750	2.93	238				

8-4770. Mimbres River near Mimbres, N. Mex.

Location.--Lat 32°52'30", long 107°59'00", in SE¼NW¼ sec.33, T.16 S., R.11 W., on left bank, 0.7 mile downstream from Bear Canyon and 1½ miles northwest of Mimbres.

Drainage area.--152 sq mi.

Records available.--June 1921 to September 1930 (fragmentary), October 1930 to September 1966. Monthly discharge only for some periods, published in WSP 1312.

Gage.--Water-stage recorder. Concrete control since Mar. 26, 1938. Datum of gage is 5,972 ft above mean sea level, datum of 1929. Prior to Sept. 12, 1923, at site 10 ft downstream at datum 0.3 ft higher. Sept. 12, 1923, to Jan. 17, 1934, at datum of 0.1 ft lower.

Average discharge.--36 years, 10.2 cfs (7,380 acre-ft per year).

Extremes.--Maximum discharge during year, 774 cfs Dec. 23 (gage height, 5.67 ft); minimum, 2.4 cfs Sept. 26.
1930-66: Maximum discharge determined, 1,560 cfs Aug. 2, 1952 (gage height, 6.22 ft), from rating curve extended above 230 cfs by logarithmic plotting; minimum, 0.7 cfs Aug. 10, 1951.

Remarks.--Records good. Some regulation by Bear Canyon Reservoir (capacity, 700 acre-ft). Diversions for irrigation of about 300 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	9.4	8.5	208	20	15	49	15	5.8	9.8	6.5	7.6
2	19	9.4	8.2	148	19	15	54	13	6.1	9.8	6.0	7.6
3	21	9.4	7.9	98	19	15	65	11	8.8	9.1	50	7.7
4	22	9.4	7.9	73	19	13	78	12	8.2	9.1	27	7.9
5	22	9.4	7.7	55	19	13	73	12	10	6.7	13	10
6	21	9.8	7.7	46	19	13	65	12	8.2	5.9	16	10
7	17	9.8	7.7	39	20	14	55	12	7.6	5.3	11	9.8
8	14	10	7.7	32	21	19	49	12	7.2	5.5	24	8.8
9	13	9.8	9.1	32	21	32	46	8.8	6.5	7.7	33	9.1
10	11	9.8	66	31	19	52	48	6.2	6.5	15	16	8.8
11	12	8.8	13	30	20	67	43	6.1	7.4	19	16	9.4
12	13	8.5	9.1	28	19	85	39	11	7.6	16	16	10
13	13	9.1	8.8	28	19	120	39	14	11	8.8	20	9.4
14	12	9.8	8.5	28	18	142	35	15	8.5	9.1	17	9.8
15	12	9.4	9.8	27	17	160	32	16	7.9	8.8	10	10
16	12	9.4	9.1	25	17	168	31	11	8.2	8.5	32	10
17	12	9.4	9.1	25	17	170	28	9.8	7.9	7.7	36	11
18	12	8.5	9.1	27	17	162	26	10	7.2	8.8	13	10
19	12	7.7	8.5	24	16	145	24	10	8.2	8.5	23	11
20	11	7.9	8.5	23	17	138	22	12	8.2	6.4	15	13
21	12	8.2	9.1	23	17	132	20	13	8.2	7.2	16	12
22	12	8.8	238	21	18	124	20	13	7.4	7.2	12	13
23	11	9.4	591	21	18	98	21	8.6	7.4	5.8	29	12
24	11	9.1	200	20	17	82	19	4.3	6.3	4.9	69	13
25	11	9.8	122	21	17	69	18	4.4	4.6	8.2	71	13
26	11	9.1	85	20	18	59	18	4.2	4.2	13	34	8.0
27	11	8.8	65	20	16	57	17	3.8	4.0	13	19	2.9
28	10	8.8	50	20	16	54	17	4.1	7.1	17	14	3.1
29	10	8.5	46	20		49	18	4.4	10	22	11	3.2
30	11	8.5	117	21		46	15	4.7	9.8	15	9.1	3.6
31	9.8		285	21		48		5.8		7.6	7.7	
Total	418.8	273.7	2,040	1,255	510	2,376	1,084	299.2	226.0	306.4	762.3	274.7
Mean	13.5	9.12	65.8	40.5	18.2	76.6	36.1	9.65	7.53	9.88	24.6	9.16
Ac-ft	831	543	4,050	2,490	1,010	4,710	2,150	593	448	608	1,510	545

Calendar year 1965: Max 591 Min 2.1 Mean 14.5 Ac-ft 10,470
Water year 1965-66: Max 591 Min 2.9 Mean 26.9 Ac-ft 19,490

Peak discharge (base, 200 cfs, revised)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-23	0300	5.67	774	8-16	2300	4.80	447
8-3	1930	4.30	291				

8-4775. Mimbres River near Faywood, N. Mex.

Location.--Lat 32°35'10", long 107°55'10", in NW¼ sec.7, T.20 S., R.10 W., on right bank 6 miles northeast of Faywood Hot Springs, 10 miles northeast of Faywood, and 12 miles upstream from San Vicente Arroyo.

Drainage area.--440 sq mi (revised).

Records available.--January 1909 to May 1914, January 1916 to December 1917, October 1920 to May 1921, October 1927 to September 1930, all fragmentary. October 1930 to September 1955, October 1963 to September 1966. Monthly discharge only for some periods, published in WSP 1312. Records for August and September 1934, published in WSP 763, have been found to be unreliable and should not be used.

Gage.--Water-stage recorder. Altitude of gage is 5,030 ft (from topographic map). Prior to Aug. 16, 1909, chain gage 300 ft upstream at different datums. Aug. 16, 1909, to Sept. 25, 1920, water-stage recorder at site 500 ft upstream at different datums (datum lowered 0.5 ft Jan. 21, 1915, and 1.0 ft Jan. 1, 1916). Water-stage recorder at present site since Sept. 26, 1920, at datums 2.0 ft higher Sept. 26, 1920, to Sept. 30, 1942, and 1 ft higher Oct. 1, 1942, to Sept. 30, 1949.

Average discharge.--28 years (1912-13, 1930-33, 1934-55, 1963-66), 13.5 cfs (9,770 acre-ft per year).

Extremes.--Maximum discharge during year, 2,580 cfs Dec. 23 (gage height, 6.54 ft); minimum, 1.3 cfs Oct. 2.
1930-54, 1963-66: Maximum discharge, 20,000 cfs Aug. 4, 1939 (gage height, 12 ft, present site and datum), from rating curve extended above 600 cfs on basis of slope-area measurements at gage heights 7.80 and 11.7 ft; no flow at times.

Remarks.--Records poor. Diversions for irrigation of 1,750 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	1.8	2.1	384	30	28	36	4.7	3.3	13	3.3	20
2	1.6	1.8	2.1	230	29	24	34	4.7	3.3	4.7	3.0	13
3	1.6	1.8	2.1	163	27	21	33	3.9	3.3	4.3	111	8.6
4	1.6	1.8	2.1	136	27	19	36	3.5	3.3	3.5	48	7.0
5	1.8	1.8	2.1	105	28	12	39	4.7	3.3	3.0	20	7.0
6	1.8	1.8	2.3	86	28	10	37	4.7	3.0	3.0	30	68
7	2.1	1.8	2.5	74	30	8.0	34	5.1	3.0	3.0	12	7.4
8	2.1	2.1	2.8	68	36	8.6	34	5.4	3.0	3.0	7.0	5.1
9	2.3	2.1	5.1	64	36	9.8	33	4.3	3.0	3.0	12	4.3
10	2.5	2.1	16	64	34	21	30	3.9	3.3	3.0	24	3.9
11	2.5	2.1	9.2	62	32	45	32	3.3	3.3	2.5	22	3.5
12	2.8	2.1	5.1	60	32	64	34	3.0	3.3	2.8	8.6	7.9
13	2.8	2.1	4.3	52	32	78	33	3.3	3.3	2.5	7.0	3.3
14	2.5	2.1	3.5	50	30	102	26	3.3	3.3	2.5	6.2	3.5
15	2.5	2.1	4.3	47	29	136	23	3.0	3.3	2.5	5.4	4.3
16	2.5	1.8	3.9	44	28	169	23	3.0	3.3	2.8	6.2	13
17	2.3	1.8	3.5	44	28	182	26	3.3	3.3	2.5	33	17
18	2.1	1.8	3.9	48	28	166	26	3.3	3.5	2.5	22	13
19	2.1	1.8	3.5	47	26	154	22	3.3	3.5	2.8	68	8.6
20	1.8	1.8	4.7	40	26	142	17	3.5	3.5	3.9	133	7.0
21	2.1	2.1	6.2	39	27	139	12	3.5	3.5	6.2	48	10
22	2.1	2.1	381	37	29	127	13	3.3	3.5	3.3	65	9.8
23	1.8	2.1	1,700	39	30	124	5.4	3.5	3.5	3.3	351	5.8
24	1.8	2.1	696	39	30	110	7.0	3.5	3.5	3.0	212	5.1
25	1.8	2.3	418	36	32	95	3.5	3.5	3.9	3.0	136	4.7
26	1.8	2.1	286	36	30	96	3.5	3.5	3.9	3.0	90	4.3
27	1.8	1.8	203	36	29	80	3.3	3.5	3.9	3.3	50	3.9
28	1.8	1.8	142	34	28	72	3.5	3.5	173	3.3	23	3.9
29	1.8	1.8	115	33		56	4.7	3.5	47	3.9	10	3.9
30	1.8	2.1	115	32	-------	48	5.1	3.5	8.0	4.3	3.9	3.5
31	1.8	------	459	32	------	40	------	3.3	------	3.5	22	------
Total	63.3	58.7	4,606.3	2,261	831	2,386.4	669.0	115.3	319.1	110.9	1,592.6	280.3
Mean	2.04	1.96	149	729	29.7	77.0	22.3	3.72	10.6	3.58	51.4	9.34
Ac-ft	126	116	9,140	4,480	1,650	4,730	1,330	229	633	220	3,160	556

Calendar year 1965: Max 1,700 Min 0 Mean 19.1 Ac-ft 13,800
Water year 1965-66: Max 1,700 Min 1.6 Mean 36.4 Ac-ft 26,370

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-23	0600	6.54	2,580	8-20	1850	5.20	1,280
6-28	2350	5.52	1,660	9-6	1550	5.60	1,730
8-3	1510	5.35	1,500				

8-4775.3 Mimbres River near Spalding, N. Mex.

Location.--Lat 32°27'55", long 107°56'50", in N½ sec.23, T. 21 S., R.11 W., on right bank 360 ft downstream from U.S. Highway 180, 3 miles upstream from San Vicente Arroyo and 17 miles northwest of Deming.

Drainage area.--472 sq mi.

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,749.8 ft above mean sea level (levels by New Mexico State engineer).

Extremes.--Maximum discharge during year, 3,730 cfs Aug. 23 (gage height, 4.78 ft), on basis of slope-area measurement of peak flow; no flow for most of time.

1964-66: Maximum discharge determined, that of Aug. 23, 1966; maximum gage height, 5.40 ft Sept. 1, 1965 (discharge not determined); no flow for most of time.

Major floods probably occurred July 21, 1895, Sept. 9, 1938 and Aug. 4, 1939, by comparison with upstream station, nearby station, and newspaper accounts.

Remarks.--Records poor. Diversions for irrigation of about 2,900 acres (1967 determination) above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	258	14	0	17		0		0	0
2			0	185	14	0	14		0		1.6	0
3			0	122	14	0	12		0		42	0
4			0	112	13	0	15		0		6.9	0
5			0	93	12	0	16		0		0	0
6			0	85	12	0	18		0		0	21
7			0	79	13	0	19		0		.09	.25
8			0	74	15	0	17		0		.12	0
9			0	69	16	0	16		0		.09	0
10			12	56	18	0	15		0		4.7	0
11			17	44	15	0	14		0		3.8	0
12			19	42	15	0	14		0		.30	0
13			5.0	38	14	0	12		0		0	0
14			0	34	15	38	8.3		0		0	0
15			0	32	14	96	4.6		0		0	0
16			0	32	15	154	0		0		.84	0
17			0	27	16	193	0		0		7.6	0
18			0	32	14	186	0		0		7.9	0
19			11	28	8.1	172	0		0		18	0
20			20	28	0	154	0		0		75	0
21			38	24	0	143	0		0		24	0
22			100	21	0	134	0		0		177	0
23			1,000	19	0	118	0		0		356	0
24			560	19	0	86	0		0		134	0
25			316	18	0	64	0		0		44	0
26			190	16	0	68	0		0		5.8	0
27			130	14	0	41	0		0		.50	0
28			122	14	0	41	0		117		0	0
29			96	14	-	39	0		56		0	0
30			99	15	------	28	0		0		0	0
31		------	288	15	------	24	------		------		.01	------
Total	0	0	3,023.0	1,659	267.1	1,779	211.9	0	173	0	910.25	21.25
Mean	0	0	97.5	53.5	9.54	57.4	7.06	0	5.77	0	29.4	.708
Ac-ft	0	0	6,000	3,290	530	3,530	420	0	343	0	1,810	42

Calendar year 1965: Max 1,000 Min 0 Mean 13.6 Ac-ft 9,830
Water year 1965-66: Max 1,000 Min 0 Mean 22.0 Ac-ft 15,960

Peak discharge (base, 260 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-23	unknown	unknown	1,500	8-23	1830	4.78	3,730
6-28	2330	4.53	2,300	9-6	1650	4.70	1,750
8-3	1650	4.15	925				

8-4783. Wamel Canal at head near Deming, N. Mex.

Location.--Lat 32°18'05", long 107°53'45", in NW¼SE¼ sec.17, T.23 S., R.10 W., on left bank 110 ft downstream from heading gates and the Mimbres River and 8½ miles west of Deming.

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder. Datum of gage is 4,468.5 ft above mean sea level (levels by New Mexico State engineer).

Extremes.--1963-66: Maximum daily discharge, 500 cfs Dec. 23, 1965; no flow for most of time.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	179					0		0	0
2			0	114					0		0	0
3			0	84					0		3.8	0
4			0	46					0		18	0
5			0	16					0		.14	0
6			0	7.0					0		0	1.8
7			0	3.5					0		0	3.7
8			0	.12					0		0	0
9			0	0					0		0	0
10			0	0					0		0	0
11			0	0					0		1.2	0
12			0	0					0		0	0
13			0	0					0		0	0
14			0	0					0		0	0
15			0	0					0		0	0
16			0	0					0		7.8	0
17			0	0					0		5.8	0
18			0	0					0		3.9	0
19			0	0					0		0	0
20			0	0					0		53	0
21			0	0					0		49	0
22			5.0	0					0		.15	0
23			500	0					0		165	0
24			400	0					0		152	0
25			250	0					0		111	0
26			150	0					0		78	0
27			50	0					0		22	0
28			30	0					0		.34	0
29			23	0					98		0	0
30			18	0	----------				.60		0	0
31		----------	145	0	----------		----------		----------		0	----------
Total	0	0	1571.0	449.62	0	0	0	0	98.60	0	671.13	5.5
Mean	0	0	50.7	14.5	0	0	0	0	3.29	0	21.6	0.18
Ac-ft	0	0	3,120	892	0	0	0	0	196	0	1,330	11

Calendar year 1965: Max 500 Min 0 Mean 7.38 Ac-ft 5,340
Water year 1965-66: Max 500 Min 0 Mean 7.66 Ac-ft 5,550

8-4784. Mimbres River below Wamel heading, near Deming, N. Mex.

Location.--Lat 32°18'05", long 107°53'45", in NW¼SE¼ sec.17, T.23 S., R.10 W., on right bank 200 ft downstream from Wamel Canal heading and 8½ miles west of Deming, N. Mex.

Drainage area.--1,101 sq mi.

Records available.--October 1963 to September 1966.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,468.9 ft above mean sea level (levels by New Mexico State engineer).

Extremes.--Maximum discharge during year, 636 cfs Dec. 23 (gage height, 3.59 ft); no flow for most of time.
1963-66: Maximum discharge, 812 cfs Sept. 2, 1965 (gage height, 3.98 ft, from floodmarks), from rating curve extended above 350 cfs on basis of logarithmic plotting; no flow for most of time.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	92					0		0	
2			0	65					0		0	
3			0	44					0		2.1	
4			0	32					0		3.4	
5			0	17					0		0	
6			0	1.7					0		0	
7			0	0					0		0	
8			0	0					0		0	
9			0	0					0		0	
10			0	0					0		0	
11			0	0					0		0	
12			0	0					0		0	
13			0	0					0		0	
14			0	0					0		0	
15			0	0					0		0	
16			0	0					0		1.4	
17			0	0					0		.2	
18			0	0					0		0	
19			0	0					0		0	
20			0	0					0		0	
21			0	0					0		13	
22			1.2	0					0		0	
23			446	0					0		99	
24			220	0					0		56	
25			178	0					0		13	
26			123	0					0		5.2	
27			52	0					0		0	
28			32	0					0		0	
29			21	0					50		0	
30			15	0	----------				13		0	
31		----------	81	0	----------		----------		----------		0	----------
Total	0	0	1169.2	251.7	0	0	0	0	63	0	193.3	0
Mean	0	0	37.7	8.12	0	0	0	0	2.10	0	6.24	0
Ac-ft	0	0	2,320	499	0	0	0	0	125	0	383	0

Calendar year 1965: Max 446 Min 0 Mean 4.67 Ac-ft 3,380
Water year 1965-66: Max 446 Min 0 Mean 4.60 Ac-ft 3,330

Peak discharge (base, 300 cfs).--December 23 (0245) 636 cfs (3.59 ft); August 23 (0125) 510 cfs (3.20 ft).

8-4815. Rio Tularosa near Bent, N. Mex.

Location.--Lat 33°08'40", long 105°53'50", in SE¼NW¼ sec.32, T.13 S., R.11 E., on right bank 50 ft downstream from bridge on U. S. Highway 70, 2.6 miles west of Bent, and 8.5 miles northeast of Tularosa.

Drainage area.--120 sq mi, approximately.

Records available.--December 1947 to September 1966.

Gage.--Digital water-stage recorder with crest-stage gage and concrete control. Altitude of gage is 5,450 ft (from topographic map). Prior to May 6, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--18 years (1948-66), 9.56 cfs (6,920 acre-ft per year).

Extremes.--Maximum discharge during year, 1,580 cfs Aug. 24 (gage height, 3.70 ft), from rating curve extended as explained below; minimum, 0.35 cfs Aug. 7.

1947-66: Maximum discharge, 4,280 cfs June 18, 1965 (gage height, 5.02 ft), from rating curve extended above 160 cfs on basis of slope-area measurement of peak flow; no flow May 14, 1955, result of unusual regulation.

A major flood probably occurred Sept. 3, 1938, when a peak of 9,640 cfs was computed for station near Tularosa. Another high peak may have occurred July 2, 1914.

Remarks.--Records poor. Diversion for irrigation of about 1,000 acres (1959 determination) above station. Records of chemical analyses and water temperatures for the water year 1966 are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1965 TO SEPTEMBER 1966

DAY	OCT.	NOV.	DEC.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.
1	6.5	7.3	16	10	11	9.6	7.6	8.2	8.3	15	5.8	9.0
2	7.3	5.0	14	9.1	9.7	9.7	7.7	7.6	8.8	15	5.5	9.2
3	6.5	5.7	14	9.1	10	8.4	7.3	7.6	9.1	14	5.2	9.1
4	7.3	7.3	13	9.1	9.3	7.8	7.9	11	8.2	11	3.3	11
5	6.5	7.3	14	9.1	9.6	8.3	8.3	11	8.3	11	2.6	6.6
6	8.2	6.5	14	10	9.6	9.7	8.6	9.9	6.2	7.2	2.2	8.1
7	9.1	7.3	14	10	9.2	9.4	8.8	11	5.8	6.4	2.4	7.2
8	9.1	6.5	14	10	11	9.1	10	11	4.8	5.3	1.9	8.7
9	9.1	7.3	14	11	10	9.9	11	8.0	3.8	6.2	1.9	8.7
10	7.7	7.3	13	11	10	10	6.6	7.1	5.3	7.5	3.0	10
11	7.4	7.6	12	11	10	10	5.8	6.8	6.1	7.0	3.5	11
12	6.9	8.5	10	9.0	10	10	6.3	5.4	3.9	6.6	3.6	11
13	8.5	9.1	10	9.7	10	11	8.5	3.3	4.0	8.1	2.7	9.8
14	9.5	10	10	10	10	11	9.0	3.0	4.4	7.9	3.9	9.8
15	9.4	10	10	10	9.9	11	12	2.9	6.7	8.1	6.5	11
16	9.8	9.1	11	10	9.9	11	17	2.8	7.6	8.0	5.0	11
17	8.8	10	11	10	10	10	9.7	4.0	7.2	7.4	7.2	11
18	6.8	10	10	10	10	11	10	7.2	5.2	5.8	4.7	12
19	5.5	11	10	10	9.9	9.8	11	8.0	7.5	3.4	4.3	13
20	4.7	12	10	9.6	11	8.4	13	8.3	5.4	3.2	3.2	30
21	5.4	11	11	10	10	7.8	13	8.6	5.5	2.9	2.0	12
22	5.7	11	11	10	9.7	7.9	13	9.4	4.2	3.2	2.9	11
23	6.3	11	11	8.2	10	7.5	13	6.3	4.6	4.3	2.8	10
24	7.1	12	10	8.4	9.6	9.4	15	4.1	6.3	3.5	90	10
25	7.1	12	9.1	8.4	9.7	10	9.4	4.4	5.6	3.0	3.7	10
26	7.2	12	10	9.0	10	9.0	8.3	4.1	5.3	3.6	3.5	9.5
27	7.5	12	10	8.6	11	7.1	8.6	5.2	9.3	5.5	3.3	9.5
28	8.5	12	10	9.1	10	7.6	8.5	5.4	12	7.3	6.6	9.5
29	9.1	12	10	8.8	------	7.2	8.0	3.8	16	7.2	7.3	9.5
30	9.1	14	10	10	------	6.9	7.0	2.2	15	6.4	8.0	9.9
31	8.2	------	14	11	------	7.3	------	4.6	------	5.9	8.9	------
TOTAL	235.8	283.8	360.1	299.2	280.1	283.0	289.9	202.2	210.4	216.9	217.4	318.1
MEAN	7.61	9.46	11.6	9.65	10.0	9.13	9.66	6.52	7.01	7.00	7.01	10.6
AC-FT	468	563	714	593	556	561	575	401	417	430	431	631

CALENDAR YEAR 1965 MAX 140 MIN 3.4 MEAN 9.80 AC-FT 7,100
WATER YEAR 1965-66 MAX 90 MIN 1.9 MEAN 8.76 AC-FT 6,340

Peak discharge (base, 125 cfs).--Aug. 24 (0330) 1,580 cfs (3.70 ft); Sept. 20 (1345) 533 cfs (3.17 ft).

8-4862. Tularosa Valley Tributary at White Sands, N. Mex.

Location.--Lat 32°22'05", long 106°28'44", in SE¼NE¼ sec.25, T.22 S., R.4 E., on left upstream wingwall of culvert 2,000 ft south of Raritan Avenue in White Sands.

Drainage area.--21.0 sq mi.

Records available.--August 1965 to September 1966.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,230 ft (from topographic map).

Extremes.--1965: Maximum discharge during period, 42 cfs Sept. 17 (gage height, 2.94 ft); no flow for most of time.
1965-66: Maximum discharge during water year, 657 cfs June 29 (gage height, 5.25 ft in gage well, 5.7 ft from outside gage), from rating curve extended above 50 cfs on basis of slope-area measurements at gage heights 5.25 (5.7, outside) and 4.04 ft (4.7, outside); no flow for most of time.

Remarks.--Records poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1											-	0
2											-	0
3											-	0
4											-	0
5											-	0
6											-	.14
7											-	0
8											-	.17
9											-	0
10											-	0
11											0	0
12											0	0
13											0	0
14											0	0
15											0	0
16											0	0
17											0	2.2
18											.17	0
19											1.9	0
20											0	0
21											0	0
22											.75	0
23											0	0
24											0	0
25											0	0
26											0	0
27											0	0
28											0	0
29											0	0
30					----------						0	0
31		----------			----------		----------		----------		0	----------
Total											-	2.51
Mean											-	0.084
Ac-ft											-	5.0

Calendar year 1964: Max Min Mean Ac-ft
Water year 1964-65: Max - Min - Mean - Ac-ft -

8-4862. Tularosa Valley Tributary at White Sands, N. Mex.--continued

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0				0		0	0	0	0
2			0				0		0	0	0	0
3			0				0		0	0	0	0
4			0				0		0	0	0	8.2
5			0				0		0	0	0	0
6			0				0		0	0	0	0
7			0				0		0	0	0	0
8			0				0		0	0	0	0
9			0				0		0	0	0	0
10			0				0		12	.51	0	0
11			.12				0		0	0	0	0
12			0				0		0	11	2.8	0
13			.14				0		0	0	0	0
14			0				0		0	0	0	0
15			0				0		0	0	0	0
16			0				0		0	0	0	0
17			0				0		0	0	0	0
18			0				0		0	0	0	0
19			0				0		0	0	0	0
20			0				0		0	0	0	0
21			0				0		0	0	0	0
22			.13				0		0	0	0	0
23			0				0		0	0	0	0
24			0				.15		0	0	0	0
25			0				0		0	0	0	0
26			0				0		0	0	0	0
27			0				0		4.6	0	0	0
28			0				0		0	0	0	0
29			0				0		60	0	0	0
30			0		------		0		.10	0	0	0
31		------	0		------		------		------	0	0	------
Total	0	0	0.39	0	0	0	0.15	0	76.70	11.51	2.8	8.2
Mean	0	0	0.013	0	0	0	0.005	0	2.56	0.371	0.09	0.27
Ac-ft	0	0	0.8	0	0	0	0.3	0	152	23	5.6	16

Calendar year 1965 : Max - Min - Mean - Ac-ft -
Water year 1965-66 : Max 60 Min 0 Mean 0.273 Ac-ft 198

Peak discharge (base, 350 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
6-10	1600	4.04	388	7-12	1350	4.53	508
6-29	0715	5.25	657	9-4	1920	3.97	381

9-3464. San Juan River near Carracas, Colo.

Location.--Lat 37°00'47", long 107°18'39", in SE¼SW¼ sec.17, T.32 N., R.4 W., on right bank just above flow line of Navajo Reservoir and 3 miles northwest of Carracas, Colo., 7.2 miles upstream from Piedra River, and at mile 178.8.

Drainage area.--1,230 sq mi, approximately.

Records available.--October 1961 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 6,090 ft (from river-profile map). Prior to May 16, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--5 years, 648 cfs (469,100 acre-ft per year).

Extremes.--Maximum discharge during year, 3,650 cfs May 8 (gage height, 5.42 ft); minimum, 56 cfs Sept. 26.
1961-66: Maximum discharge, 6,120 cfs May 22, 1965 (gage height, 6.85 ft); minimum, about 5 cfs Dec. 10, 1961, result of freezeup.
Maximum flood known occurred Oct. 5, 1911. Major floods occurred Sept. 5 or 6, 1909 and June 29, 1927.

Remarks.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 11,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	634	297	222	465	150	140	2,230	2,190	2,750	853	321	108
2	576	264	224	342	145	140	2,500	2,330	2,380	658	334	101
3	546	278	210	214	145	130	2,380	2,580	2,260	552	432	100
4	520	265	218	167	150	125	1,790	2,720	2,070	492	360	95
5	496	259	235	167	160	130	1,380	2,900	1,930	449	348	84
6	486	250	232	168	165	170	1,250	3,130	1,750	404	311	84
7	461	244	238	169	165	250	1,300	3,160	1,620	367	255	88
8	435	234	242	170	160	350	1,420	3,350	1,480	347	216	87
9	416	232	246	172	155	450	1,430	3,190	1,450	320	204	79
10	395	232	336	170	150	600	1,610	3,280	1,740	294	185	77
11	379	224	460	168	140	800	1,560	2,640	1,530	304	173	88
12	361	203	318	162	135	1,100	1,340	2,170	1,430	297	157	83
13	349	198	263	155	135	1,400	1,220	1,760	1,450	267	163	114
14	328	199	235	150	140	1,700	1,120	1,540	1,370	267	170	98
15	320	199	228	150	140	2,060	1,150	1,280	1,370	239	156	105
16	386	209	221	155	140	2,240	1,400	1,620	1,230	273	144	204
17	635	211	182	155	140	2,120	1,620	1,680	1,170	237	206	140
18	614	215	194	155	140	1,460	1,680	2,060	1,100	215	162	109
19	489	204	191	155	145	1,480	1,490	2,280	1,040	246	154	96
20	455	197	159	145	150	1,750	1,330	2,480	995	290	173	90
21	446	192	123	135	150	1,800	1,130	2,490	992	360	226	92
22	437	187	176	130	155	1,430	1,170	2,590	951	347	174	94
23	422	238	210	130	155	940	1,080	2,530	879	319	195	82
24	408	374	207	135	155	1,010	1,050	2,720	795	286	214	82
25	394	1,270	210	140	155	1,300	1,110	2,630	729	267	188	90
26	379	764	191	150	150	1,580	1,330	2,290	678	237	150	84
27	363	310	173	155	145	1,740	1,660	2,170	673	231	134	86
28	351	266	179	160	140	1,860	1,800	1,970	627	210	123	86
29	332	232	191	170	-	1,790	1,780	1,900	603	237	117	86
30	319	207	354	170	----------	1,660	2,090	2,180	699	321	105	78
31	315	----------	495	160	----------	1,930	----------	2,700	----------	381	114	----------
Total	13,447	8,654	7,363	5,389	4,155	35,635	45,400	74,510	39,741	10,567	6,364	2,890
Mean	434	288	238	174	148	1,150	1,513	2,404	1,325	341	205	96.3
Ac-ft	26,670	17,160	14,600	10,690	8,240	70,680	90,050	147,800	78,830	20,960	12,620	5,730

Calendar year 1965: Max 5,370 Min 80 Mean 1,095 Ac-ft 792,400
Water year 1965-66: Max 3,350 Min 77 Mean 696 Ac-ft 504,000

Peak discharge (base 2,000 cfs, revised).--Nov. 25 (1930) 2,210 cfs (4.53 ft); May 8 (0530) 3,650 cfs (5.42 ft).

9-3498. Piedra River near Arboles, Colo.

Location.--37°05'17", long 107°23'52", in NE¼SW¼ sec.21, T.33 N., R.5 W., on left bank 3 miles downstream from Ignacio Creek, 5.2 miles northeast of Arboles Post Office, 8 miles upstream from mouth.

Drainage area.--629 sq mi.

Records available.--August 1962 to September 1966. Gage operated 1895-1899, 1910-1927 at a site 7½ miles downstream at altitude 6,000 ft. Low flow records probably not equivalent.

Gage.--Digital water-stage recorder. Datum of gage is 6,147.52 ft above mean sea level (from Colorado State Highway Department bench mark). Prior to May 16, 1963, graphic water-stage recorder at same site and datum.

Extremes.--Maximum discharge during year, 2,260 cfs Apr. 3 (gage height, 4.03 ft); minimum, 50 cfs Sept. 30.
1962-66: Maximum discharge, 4,000 cfs Apr. 23, 1965 (gage height, 5.20 ft); minimum, 11 cfs Dec. 9, 1963.
Maximum flood known occurred Oct. 5, 1911. A major flood occurred Sept. 5 or 6, 1909.

Remarks.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 2,800 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	141	99	120	75	92	1,670	1,260	1,380	385	257	85
2	249	140	102	100	75	98	1,840	1,360	1,230	310	238	77
3	238	136	92	90	75	94	1,740	1,430	1,170	264	337	74
4	232	134	95	90	75	88	1,280	1,430	1,070	233	246	71
5	223	133	102	90	75	94	1,020	1,580	1,010	207	270	68
6	209	132	98	100	80	98	953	1,720	931	153	236	67
7	248	130	101	100	80	100	1,050	1,780	850	168	192	64
8	240	124	110	100	80	117	1,140	1,870	743	151	168	70
9	226	121	113	90	80	160	1,120	1,790	702	136	164	66
10	218	123	142	90	75	215	1,200	1,790	730	126	144	63
11	211	117	153	90	70	290	1,110	1,480	674	140	131	63
12	199	111	142	90	70	360	927	1,290	667	142	129	73
13	195	111	129	90	70	408	832	1,070	653	122	145	85
14	191	112	118	85	70	558	785	935	625	127	126	71
15	186	111	117	85	90	702	828	853	597	116	113	110
16	179	115	113	80	70	777	961	973	534	112	106	133
17	233	116	109	80	70	771	1,070	1,030	527	112	114	100
18	207	121	109	80	80	584	1,060	1,220	502	105	105	88
19	175	114	107	85	80	611	953	1,350	478	101	99	80
20	173	112	100	85	80	731	845	1,410	466	118	119	80
21	169	110	90	70	90	767	722	1,390	472	159	122	76
22	168	105	80	75	90	714	772	1,380	460	153	103	73
23	166	122	80	75	100	533	810	1,350	418	147	96	70
24	167	127	90	70	106	534	801	1,390	380	139	99	67
25	168	282	90	70	92	617	806	1,310	340	135	90	63
26	166	195	90	70	92	774	919	1,170	310	131	84	59
27	161	122	95	75	85	1,020	1,070	1,040	370	150	80	57
28	157	110	95	70	84	1,190	1,100	959	335	140	83	56
29	150	100	100	80	-	1,330	1,120	915	300	145	76	54
30	146	102	110	80	----------	1,300	1,240	1,080	325	192	73	53
31	144	----------	120	80	----------	1,470	----------	1,430	----------	359	83	----------
Total	6,058	3,829	3,291	2,635	2,259	17,197	31,744	41,035	19,249	5,178	4,428	2,216
Mean	195	128	106	85.0	80.7	555	1,058	1,324	642	167	143	73.9
Ac-ft	12,020	7,590	6,530	5,230	4,480	34,110	62,960	81,390	38,180	10,270	8,780	4,400

Calendar year 1965: Max 3,090 Min 50 Mean 569 Ac-ft 412,000
Water year 1965-66: Max 1,870 Min 53 Mean 381 Ac-ft 275,900

Peak discharge (base, 1,000 cfs, revised).--Apr. 3 (0130) 2,260 cfs (4.03 ft).

9-3545. Los Pinos River at La Boca, Colo.
(Locally known as Pine River)

Location.--Lat 37°00'40", long 107°35'55", in S½ sec.15, T.32 N., R.7 W., on downstream end of right abutment of the Denver & Rio Grande Western Railroad Co. bridge at southeast edge of La Boca, 0.1 mile upstream from Spring Creek and 13 miles upstream from mouth.

Drainage area.--510 sq mi, approximately.

Records available.--October 1950 to September 1966. Monthly discharge only for some periods, published in WSP 1733.

Gage.--Digital water-stage recorder. Datum of gage is 6,143.58 ft above mean sea level, datum of 1929. Prior to Sept. 14, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 194 cfs (140,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,760 cfs Mar. 14 (gage height, 6.05 ft); minimum, 58 cfs Oct. 30.
1950-66: Maximum discharge, 6,400 cfs July 27, 1957 (gage height, 8.95 ft); minimum determined, 13 cfs Apr. 23, 1951 (may have been lower during periods of freezeup).
Maximum flood known occurred Oct. 5, 1911.

Remarks.--Records good except those for winter periods, which are poor. Flow regulated by Vallecito Reservoir (capacity, 126,280 acre-ft). Diversions for irrigation of about 33,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	358	200	97	90	90	105	607	173	1,420	240	200	161
2	342	258	93	70	80	102	628	161	836	208	220	155
3	354	286	93	70	80	98	628	138	772	212	326	161
4	338	290	93	70	75	85	564	80	756	212	308	149
5	330	286	88	75	75	80	522	105	804	212	224	149
6	330	282	88	75	80	80	504	98	884	179	182	149
7	314	286	86	75	85	130	304	115	656	176	167	158
8	310	302	81	80	90	273	268	130	510	179	170	155
9	294	298	81	80	90	344	264	314	444	173	179	155
10	294	298	157	80	80	467	228	740	316	173	167	155
11	286	277	171	80	80	664	212	719	292	182	185	167
12	286	147	114	80	70	734	194	733	288	164	197	191
13	252	130	102	75	75	699	185	298	304	158	197	167
14	222	123	97	70	65	845	170	628	312	149	170	141
15	240	132	99	70	70	895	170	408	330	146	179	249
16	322	160	100	70	70	736	155	146	438	143	173	137
17	362	160	108	70	65	526	167	105	401	154	161	109
18	461	160	102	75	65	335	140	130	244	154	155	101
19	498	147	97	80	70	330	98	130	173	167	204	99
20	468	147	97	80	70	350	98	149	185	197	212	94
21	400	147	90	70	65	335	149	202	224	204	212	98
22	444	147	90	65	80	304	244	405	216	228	252	111
23	450	274	80	80	90	260	256	490	204	212	228	114
24	462	171	80	80	100	272	236	726	200	208	200	117
25	403	385	90	75	110	280	212	712	191	212	155	121
26	396	276	90	75	115	320	197	764	185	208	108	125
27	112	134	90	80	105	370	182	684	197	208	112	132
28	82	117	90	75	108	395	164	456	179	204	122	137
29	76	108	100	75	-	438	146	438	194	212	128	146
30	67	104	100	85	----------	345	167	474	240	224	132	147
31	174	----------	100	90	----------	534	----------	1,110	----------	200	155	----------
Total	9,727	6,232	3,044	2,365	2,298	11,731	8,059	11,961	12,395	5,898	5,780	4,250
Mean	314	208	98.2	76.3	82.1	378	269	386	413	190	186	142
Ac-ft	19,290	12,360	6,040	4,690	4,560	23,270	15,980	23,720	24,590	11,700	11,460	8,430

Calendar year 1965 : Max 1,790 Min 44 Mean 371 Ac-ft 268,600
Water year 1965-66 : Max 1,420 Min 65 Mean 229 Ac-ft 166,100

9-3550. Spring Creek at La Boca, Colo.

Location.--Lat 37°00'50", long 107°35'40", in S½ sec.15, T.32 N., R.7 W., on right bank in an excavated channel, a quarter of a mile upstream from mouth and a quarter of a mile east of La Boca.

Drainage area.--58 sq mi, approximately.

Records available.--October 1950 to September 1966. Monthly discharge only for some periods, published in WSP 1733.

Gage.--Digital water-stage recorder. Altitude of gage is 6,160 ft (from topographic map). Prior to September 14, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--16 years, 27.7 cfs (20,050 acre-ft per year).

Extremes.--Maximum discharge determined during year, 220 cfs Nov. 25 (gage height, 2.60 ft); maximum gage height, 3.15 ft Mar. 11 (backwater from ice; discharge not determined but may have exceeded flow of 220 cfs); minimum discharge, 2.5 cfs Apr. 16-18.
1951-66: Maximum discharge, 580 cfs Aug. 12, 1964 (gage height, 4.35 ft), from rating curve extended above 260 cfs by logarithmic plotting; maximum gage height, 5.98 ft Mar. 9, 1960 (ice jam); minimum discharge, 0.6 cfs Nov. 27, 1960.

Remarks.--Records good except those for winter periods, which are poor. Part of flow is return waste from irrigation.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	10	3.0	4.0	4.0	10	10	12	58	58	54	49
2	50	10	3.0	3.0	4.0	6.0	10	12	53	58	57	47
3	44	10	3.0	3.0	4.0	4.0	10	10	53	56	85	47
4	44	9.8	3.0	3.0	4.0	4.0	7.8	20	75	59	56	46
5	40	10	3.0	3.0	4.0	6.0	6.3	23	80	55	52	46
6	35	9.8	3.0	3.0	4.0	8.0	5.8	35	50	54	50	46
7	35	8.5	3.0	3.0	4.0	10	5.0	28	24	52	50	46
8	31	7.8	4.0	3.0	4.0	25	4.5	25	36	52	49	46
9	29	8.8	6.0	4.0	3.0	35	4.5	36	40	52	49	43
10	31	10	25	4.0	3.0	45	4.5	32	44	52	49	42
11	31	12	6.0	4.0	3.0	60	4.3	26	42	57	46	43
12	34	12	5.0	4.0	3.0	80	4.1	31	40	54	47	50
13	36	12	5.0	4.0	3.0	80	3.7	38	41	54	48	46
14	34	12	5.0	4.0	3.0	70	3.3	31	39	54	49	46
15	32	12	5.0	4.0	3.0	60	3.1	46	38	55	50	65
16	54	9.1	5.0	4.0	3.0	126	2.9	42	40	55	54	49
17	60	5.0	4.0	4.0	3.0	84	2.7	31	40	55	57	46
18	70	4.5	4.0	4.0	3.0	48	2.7	34	38	55	53	45
19	32	4.1	4.0	4.0	3.0	20	29	33	39	53	59	47
20	20	3.9	4.0	4.0	3.0	10	9.1	36	41	57	65	46
21	18	4.1	4.0	3.0	4.0	10	6.6	45	46	55	61	42
22	17	3.9	4.0	3.0	4.0	10	18	49	46	60	60	41
23	17	30	4.0	3.0	4.0	7.1	22	53	47	57	59	41
24	17	17	4.0	3.0	6.0	6.3	23	51	47	54	61	42
25	16	104	4.0	3.0	8.0	7.1	20	54	47	52	60	43
26	16	30	6.0	3.0	8.0	10	9.1	56	51	53	40	43
27	16	20	6.0	3.0	10	12	10	66	54	53	35	42
28	14	10	6.0	3.0	10	12	10	56	52	56	35	40
29	13	4.0	6.0	3.0		12	12	57	53	54	40	40
30	11	3.0	6.0	3.0	----------	10	12	56	61	60	43	42
31	10	----------	6.0	3.0	----------	10	----------	76	----------	55	47	----------
Total	957	407.3	159.0	106.0	122.0	897.5	276.0	1,200	1,415	1,706	1,620	1,357
Mean	30.9	13.6	5.13	3.42	4.36	29.0	9.20	38.7	47.2	55.0	52.3	45.2
Ac-ft	1,900	808	315	210	242	1,780	547	2,380	2,810	3,380	3,210	2,690

Calendar year 1965: Max 124 Min 1.5 Mean 32.1 Ac-ft 23,270
Water year 1965-66: Max 126 Min 3.0 Mean 28.0 Ac-ft 20,270

Peak discharge (base, 180 cfs, revised).--Nov. 25 (1900) 220 cfs (2.60 ft); Mar. 11 (2000) Discharge not determined (3.15 ft).

9-3551. Navajo Reservoir near Archuleta, N. Mex.

Location.--Lat 36°48'35", long 107°36'35", in SW¼SE¼ sec.18, T.30 N., R.7 W., in gage shaft of outlet works structure near right abutment of Navajo Dam on San Juan River at river mile 145.0, 5½ miles east of Archuleta and 33 miles east of Farmington.

Drainage area.--3,230 sq mi, approximately.

Records available.--June 1962 to September 1966.

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

Extremes.--Maximum contents during water year, 746,600 acre-ft Oct. 1 (elevation, 5,999.6 ft); minimum, 206,700 acre-ft Mar. 7 (elevation, 5,893.6 ft).
1962-66: Maximum contents, 854,200 acre-ft Aug. 3, 1965 (elevation, 6,012.4 ft); minimum, 12,400 acre-ft June 30, 1962 (elevation, 5,774.6 ft).

Remarks.--Reservoir is formed by earth-rock-fill dam, completed in June 1963; storage began June 27, 1962. Capacity, 1,709,000 acre-ft between elevations 5,720 ft (upstream toe of dam) and 6,085 ft (crest of spillway). Usable capacity, 1,036,000 acre-ft above elevation 5,990.0 ft (minimum operating level). Reservoir will not usually be drawn below elevation 5,882.5 ft (sill of intake structure), leaving a minimum pool or dead storage of 175,200 acre-ft. Figures given herein are total contents and are based on daily elevations at midnight. Reservoir is used for irrigation storage, river regulation, desilting, flood control, and recreation.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in thousands of acre-feet, at 2400 hours, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	746.6	674.1	543.1	412.2	279.2	215.9	264.0	259.9	396.1	495.4	510.1	515.7
2	746.2	669.6	538.5	408.2	276.0	214.5	268.4	261.6	403.8	496.8	510.7	515.5
3	744.3	665.2	533.6	403.9	273.4	212.7	272.6	263.8	410.4	498.0	512.3	515.3
4	742.6	660.9	528.8	399.2	270.7	210.8	274.4	266.1	416.8	499.0	513.6	514.9
5	740.5	656.7	524.4	394.6	267.8	208.9	274.5	269.2	422.9	500.0	514.6	514.3
6	738.4	652.6	519.7	390.2	265.2	207.2	274.1	273.2	428.6	500.6	515.0	514.0
7	736.8	648.2	514.9	386.3	263.1	206.7	273.5	277.3	433.5	501.1	515.4	513.7
8	735.8	643.8	510.2	384.7	260.6	207.0	273.4	282.1	437.6	501.5	515.8	513.6
9	734.0	639.7	505.6	380.1	258.2	208.7	273.2	287.2	441.6	501.8	516.0	513.3
10	731.9	634.7	501.9	376.3	255.8	211.1	273.4	294.7	445.6	502.1	516.2	513.0
11	729.1	630.2	498.8	371.8	253.3	214.8	273.6	301.1	449.3	502.5	516.3	512.9
12	726.8	625.3	493.8	367.5	250.6	219.1	272.9	305.7	452.8	502.8	516.5	512.8
13	724.0	620.0	489.9	363.0	248.3	223.1	271.7	308.9	456.3	503.0	516.5	512.7
14	722.0	615.5	485.5	358.5	245.6	228.9	270.0	311.3	459.3	503.1	516.6	512.5
15	719.3	611.0	481.1	354.0	243.1	234.7	268.5	313.3	462.9	503.1	516.7	512.7
16	717.2	606.4	476.6	349.6	240.6	240.2	267.6	315.2	466.4	503.3	516.7	512.8
17	715.7	601.7	473.3	345.0	238.2	244.6	267.5	317.3	469.5	503.3	516.8	512.7
18	714.8	597.1	472.0	340.8	235.6	246.3	267.5	321.2	472.1	503.6	516.8	512.7
19	713.0	592.3	467.4	336.3	233.3	248.5	266.9	325.5	474.3	503.7	516.9	512.2
20	711.0	587.6	462.8	332.1	231.0	251.4	265.8	330.4	476.8	504.1	517.2	511.8
21	709.0	582.7	457.9	327.8	228.6	254.5	264.1	335.4	479.1	504.5	517.2	511.6
22	706.9	578.4	453.2	323.6	226.4	256.7	262.9	341.1	480.8	505.1	517.4	511.2
23	704.7	574.3	449.3	318.8	224.7	256.1	261.5	346.8	482.8	505.6	517.7	510.9
24	702.0	570.0	445.1	314.5	223.1	253.9	259.9	353.2	484.8	506.0	517.8	510.6
25	699.5	569.1	440.4	310.0	221.6	252.8	258.4	359.3	486.3	506.2	517.8	510.4
26	696.8	566.6	435.9	305.0	220.1	252.8	257.3	364.5	487.8	506.7	517.6	510.0
27	692.5	562.2	432.0	300.6	218.8	253.6	257.1	369.2	489.1	506.9	517.2	509.6
28	689.7	557.3	427.4	296.1	217.3	255.3	257.4	372.8	490.4	507.2	516.8	509.4
29	685.9	552.4	422.9	291.6	-	257.2	257.6	376.1	491.9	507.5	516.6	509.0
30	681.8	547.5	419.2	287.4	----------	258.4	258.6	380.5	493.6	508.0	516.2	508.7
31	678.6	----------	415.9	283.6	----------	260.7	----------	387.2	----------	509.0	516.0	----------
(†)	5,990.8	5,971.7	5,948.0	5,916.8	5,897.2	5,910.4	5,909.8	5,942.0	5,962.7	5,965.3	5,966.5	5,965.3
(‡)	-66.2	-131.1	-131.6	-132.3	-66.3	+43.4	-2.1	+128.6	+106.4	+15.4	+7.0	-7.3

† Elevations, in feet, at midnight on last day of month.
‡ Change in contents, in thousands of acre-feet.

9-3555. San Juan River near Archuleta, N. Mex.

Location.--Lat 36°48'10", long 107°41'55", in N½ sec.20, T.30 N., R.8 W., on left bank at river mile 136.8, half a mile upstream from Gobernador Canyon, 0.8 mile northeast of Archuleta, and 7.2 miles downstream from Navajo Dam. Dec. 29, 1959, to Oct. 15, 1964, at site 0.4 mile upstream. Prior to Dec. 29, 1959, at site 5.0 miles upstream.

Drainage area.--3,260 sq mi, approximately.

Records available.--December 1954 to September 1966.

Gage.--Digital water-stage recorder. Altitude of gage is 5,655 ft (from river-profile survey). Dec. 29, 1959 to Oct. 15, 1964, at site 0.4 mile upstream at altitude 5 ft higher. Prior to Dec. 29, 1959, at site 5.0 miles upstream at altitude 55 ft higher. Prior to September 12, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--11 years, 1,209 cfs (875,300 acre-ft per year).

Extremes.--Maximum discharge during year, 3,420 cfs Nov. 12 (gage height, 3.52 ft); minimum, 55 cfs Dec. 18.
1954-66: Maximum discharge, 18,900 cfs July 27, 1957 (gage height, 11.00 ft, site and datum then in use); minimum determined, 8 cfs Feb. 28, 1963.

Remarks.--Records good. Flow completely regulated at Navajo Dam (see station 9-3551) except for minor inflow from 30 sq mi intervening drainage area. Diversions above station for irrigation of about 47,000 acres. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	366	2860	3060	2970	2700	1270	3060	3050	1030	454	461	542
2	1350	2950	2940	2930	2230	1260	3060	3060	433	468	454	534
3	2200	3050	3060	2830	1800	1340	3060	3140	398	461	454	534
4	2130	3010	3060	2930	1800	1340	2990	3140	433	454	454	534
5	2180	3060	2900	2930	1800	1340	3080	3140	454	454	454	534
6	2150	2820	2920	2820	1780	1340	3080	3140	454	454	517	510
7	1970	2970	3050	2860	1750	1350	3060	3180	461	447	454	496
8	1720	2970	3050	1060	1780	1350	3060	3140	461	447	412	475
9	2010	3100	2930	2810	1750	1320	3080	2990	461	447	412	454
10	2220	2970	3030	2740	1730	1340	3080	2370	447	447	433	454
11	2220	3060	2990	2810	1700	1320	3000	1840	454	454	433	454
12	2150	3060	2970	2810	1700	1310	3080	1860	454	454	433	370
13	2220	3060	2950	2760	1700	1320	3080	1860	447	454	433	433
14	2210	2900	2910	2810	1690	1310	3050	1840	440	454	433	433
15	2210	3030	2990	2810	1730	1550	3050	1880	454	517	433	440
16	2220	3060	2910	2810	1680	1650	3060	1880	342	440	447	440
17	2210	3100	2560	2660	1670	1650	3030	1730	433	433	518	440
18	2060	3030	761	2770	1660	1650	3060	1550	440	433	496	440
19	2200	3080	3030	2790	1660	1650	3080	1530	412	440	496	489
20	2180	2900	2880	2740	1640	1650	3030	1540	391	440	496	433
21	2180	3140	2950	2790	1650	1680	3010	1550	312	519	503	430
22	2200	2970	2990	2790	1640	1680	2990	1550	440	447	510	430
23	2160	3120	2970	2790	1360	2270	2990	1510	461	440	503	430
24	2460	3060	2990	2650	1340	2920	2990	1570	461	440	503	420
25	2320	3100	2990	2770	1320	2900	2950	1570	461	433	503	410
26	2440	3050	2990	2740	1310	2920	3030	1570	468	433	503	398
27	2480	3060	2810	2670	1300	2920	3030	1580	468	537	503	405
28	2450	2970	2970	2740	1280	2860	3010	1590	461	461	503	412
29	2490	2970	2970	2740	-	3010	3010	1600	461	461	510	412
30	2370	3060	2900	2740	----------	3030	3050	1620	461	461	503	426
31	2340	----------	2970	2640	----------	3030	----------	1620	----------	461	475	----------
Total	66066	90540	89451	84710	47150	57530	91190	65190	13753	14145	14642	13612
Mean	2,131	3,018	2,886	2,733	1,684	1,856	3,040	2,103	458	456	472	454
Ac-ft	131,000	179,600	177,400	168,000	93,520	114,100	180,900	129,300	27,280	28,060	29,040	27,000

Calendar year 1965 : Max 6,420 Min 360 Mean 2,088 Ac-ft 1,512,000
Water year 1965-66 : Max 3,180 Min 312 Mean 1,775 Ac-ft 1,285,000

9-3635. Animas River near Cedar Hill, N. Mex.

Location.--Lat 37°02'15", long 107°52'25", in sec.7, T.32 N., R.9 W., on right bank three-quarters of a mile downstream from Florida River, 2.5 miles upstream from Colorado-New Mexico State line, and 8.5 miles north of Cedar Hill.

Drainage area.--1,090 sq mi, approximately.

Records available.--October 1933 to September 1966. Monthly discharge only for October and November 1933, published in WSP 1313.

Gage.--Digital water-stage recorder. Altitude of gage is 5,960 ft (from topographic map). Prior to Sept. 14, 1937, at datum between 1.52 and 1.36 ft higher. Sept. 15, 1937, to Sept. 30, 1946, at datum 1.36 ft higher. Prior to Sept. 12, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--33 years, 900 cfs (651,600 acre-ft per year).

Extremes.--Maximum discharge during year, 4,140 cfs May 8 (gage height, 7.02 ft); minimum, 210 cfs Mar. 4.
1933-66: Maximum discharge, 13,100 cfs June 19, 1949 (gage height, 11.45 ft); minimum, 63 cfs Jan. 21, 1935.
Maximum flood known occurred Oct. 5 or 6, 1911.

Remarks.--Records good except those for September, which are fair. Diversions for irrigation of about 20,000 acres above station. During water years 1944-49, Twin Rocks Canal diverted above station for irrigation below. Possible regulation by Lemon Dam on Florida River (capacity, 40,100 acre-ft), storage started in November 1963.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	998	620	395	386	326	290	1,350	1,600	3,160	1,540	698	290
2	924	600	400	350	310	294	1,500	1,780	3,010	1,360	670	295
3	900	580	386	250	302	278	1,570	2,020	2,920	1,260	908	292
4	868	560	386	280	302	249	1,410	2,260	2,950	1,170	804	288
5	836	500	382	320	302	230	1,180	2,520	2,760	1,080	631	282
6	812	500	382	360	298	270	1,050	3,020	2,490	1,030	563	275
7	788	500	386	390	302	374	998	3,480	2,100	940	490	270
8	733	490	382	404	302	437	1,050	3,820	1,940	876	460	262
9	698	480	386	395	294	489	1,070	3,860	1,800	836	426	265
10	677	470	512	372	278	506	1,150	3,840	1,830	788	404	268
11	670	450	480	368	263	592	1,170	3,130	1,770	772	372	295
12	644	422	413	359	286	635	1,090	2,470	1,830	796	350	308
13	618	418	404	350	298	657	964	2,060	2,000	726	354	305
14	599	422	395	350	270	829	884	1,830	2,060	698	354	308
15	581	418	395	354	290	956	884	1,710	2,080	670	350	401
16	599	426	390	330	256	930	1,020	1,740	1,860	644	372	386
17	677	408	360	300	278	836	1,240	1,800	1,710	691	350	356
18	726	422	350	290	286	691	1,260	2,060	1,650	705	364	329
19	698	404	320	346	278	698	1,240	2,430	1,670	698	395	305
20	664	400	320	408	278	726	1,100	2,780	1,740	677	368	298
21	657	395	280	342	282	740	972	3,100	1,670	677	386	292
22	605	395	360	290	286	705	998	2,960	1,650	712	368	280
23	670	490	418	260	290	618	972	2,880	1,660	691	359	265
24	700	470	382	340	278	618	916	3,080	1,590	650	372	262
25	720	763	359	338	298	650	932	3,130	1,490	624	350	258
26	720	584	338	346	298	684	1,050	2,840	1,430	551	322	252
27	677	436	342	364	290	756	1,230	2,530	1,370	523	306	250
28	644	390	364	382	298	844	1,340	2,240	1,270	512	282	255
29	660	390	372	395	-	964	1,340	2,040	1,250	512	261	255
30	660	382	465	395	----------	1,030	1,460	2,400	1,500	557	245	245
31	660	----------	431	359	----------	1,140	----------	2,940	----------	670	250	----------
Total	22,083	14,185	11,935	10,773	8,119	19,716	34,390	80,350	58,210	24,636	13,184	8,692
Mean	712	473	385	348	290	636	1,146	2,592	1,940	795	425	290
Ac-ft	43,800	28,140	23,670	21,370	16,100	39,110	68,210	159,400	115,500	48,860	26,150	17,240

Calendar year 1965: Max 6,460 Min 180 Mean 1,329 Ac-ft 961,900
Water year 1965-66: Max 3,860 Min 245 Mean 839 Ac-ft 607,500

Peak discharge (base, 1,200 cfs).--Nov. 25 (1540) 1,220 cfs (4.83 ft); May 8 (1100) 4,140 cfs (7.02 ft).

9-3645. Animas River at Farmington, N. Mex.

Location.--Lat 36°43'20", long 108°12'00", in SE¼ sec.16, T.29 N., R.13 W., on left bank at bridge on former State Highway 17, 0.6 mile downstream from bridge on State Highway 17, and 1.3 miles upstream from mouth.

Drainage area.--1,360 sq mi, approximately.

Records available.--June 1904 to October 1905 (published as "near Farmington"). September 1912 to September 1966. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Altitude of gage is 5,278 ft (from bridge-profile plans). Prior to Nov. 1, 1905, chain gage at old bridge a quarter of a mile upstream at different datum. Sept. 17, 1912, to Oct. 4, 1938, water-stage recorder at site 0.6 mile downstream at lower datums (datum lowered 2.0 ft Aug. 15, 1927, and raised 0.2 ft Dec. 16, 1929).

Average discharge.--55 years, 941 cfs (681,300 acre-ft per year).

Extremes.--Maximum discharge during year, 3,760 cfs May 8 (gage height, 5.83 ft); minimum, 99 cfs Sept. 29.
1904-5, 1912-66: Maximum discharge, about 25,000 cfs June 29, 1927 (gage height, 8.5 ft, site and datum then in use), from rating curve extended above 10,000 cfs by logarithmic plotting; minimum, 1.4 cfs Sept. 4, 1956.
Maximum flood known occurred Oct. 6, 1911, when a stage of about 16.5 ft was reached (present site and datum). Flood of Sept. 6, 1909, reached a stage of 11.1 ft, 1904-5 site and datum (discharge, about 19,000 cfs).

Remarks.--Records good except those for Mar. 8-24 and July to September, which are fair. Diversions for irrigation of about 30,000 acres above station. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,000	590	404	434	389	290	1,240	1,310	2,820	1,260	358	193
2	900	590	404	410	356	296	1,260	1,440	2,730	1,200	340	190
3	858	575	401	371	353	284	1,270	1,800	2,730	1,000	554	180
4	825	565	395	398	344	254	1,200	2,080	2,670	880	618	180
5	815	540	401	335	356	242	1,080	2,310	2,560	780	394	170
6	775	530	401	371	353	251	1,000	2,600	2,370	708	322	170
7	745	530	401	398	359	290	955	3,040	2,080	650	280	160
8	690	515	398	425	362	608	930	3,340	1,800	650	236	155
9	640	495	398	428	356	732	940	3,500	1,680	530	202	148
10	625	500	467	419	335	783	955	3,480	1,650	490	195	125
11	620	490	506	407	314	789	1,000	2,970	1,620	402	173	143
12	615	448	437	413	305	891	990	2,430	1,620	482	159	166
13	600	430	413	410	335	891	925	2,190	1,830	482	156	149
14	605	424	416	395	335	925	835	1,720	1,940	358	150	142
15	600	400	425	389	323	1,020	785	1,530	1,940	322	150	166
16	595	418	431	401	317	993	805	1,460	1,740	256	148	199
17	665	418	425	386	308	950	925	1,530	1,490	256	159	213
18	800	418	416	371	308	835	1,030	1,710	1,430	346	206	195
19	775	400	398	335	323	775	1,080	2,130	1,430	358	168	179
20	710	370	383	425	323	800	945	2,420	1,430	402	160	168
21	690	358	377	410	320	815	882	2,740	1,470	346	159	165
22	685	370	392	353	320	810	852	2,730	1,320	434	166	153
23	690	466	473	317	326	745	870	2,560	1,320	490	169	135
24	665	530	440	362	326	715	805	2,670	1,290	402	171	125
25	675	615	407	353	320	730	785	2,790	1,100	418	171	127
26	680	765	383	335	335	770	815	2,600	1,060	378	150	120
27	670	560	365	347	314	800	910	2,370	1,100	277	136	115
28	670	472	371	377	290	876	1,010	2,140	1,080	235	122	114
29	650	418	386	374	-	980	1,100	1,880	1,120	185	114	110
30	630	401	440	389	----------	1,040	1,010	2,070	1,100	235	109	107
31	615	----------	482	401	----------	1,140	----------	2,550	----------	220	177	----------
Total	21,778	14,601	12,836	11,939	9,305	22,320	29,189	72,090	51,520	15,432	6,772	4,662
Mean	703	487	414	385	332	720	973	2,325	1,717	498	218	155
Ac-ft	43,200	28,960	25,460	23,680	18,460	44,270	57,900	143,000	102,200	30,610	13,430	9,250

Calendar year 1965: Max 6,000 Min 155 Mean 1,261 Ac-ft 913,100
Water year 1965-66: Max 3,500 Min 107 Mean 746 Ac-ft 540,400

Peak discharge (base, 1,000 cfs).--May 8 (1800) 3,760 cfs (5.83 ft).

9-3650. San Juan River at Farmington, N. Mex.

Location.--Lat 36°43'25", long 108°13'30", in SE¼ sec.17, T.29 N., R.13 W., on left bank at river mile 97.4, 360 ft downstream from highway bridge, 4,000 ft downstream from Animas River and 1 mile west of Farmington.

Drainage area.--7,240 sq mi, approximately.

Records available.--June to December 1904, January 1905 to September 1906 (gage heights and discharge measurements only; discharge records for January to December 1905, published in WSP 175, have been found to be unreliable and should not be used), September 1912 to September 1966. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Digital water-stage recorder. Datum of gage is 5,230.37 ft above mean sea level, datum of 1929. June 19, 1904, to May 10, 1906, wire-weight gage at site 1½ miles downstream at different datum. May 11 to Sept. 22, 1906, chain gage and Sept. 19, 1912, to July 2, 1918, staff gage, at site half a mile upstream at different datums. Nov. 1, 1921, to Nov. 18, 1933, water-stage recorder at site 360 ft upstream at datum 1.04 ft higher prior to October 1932, and 0.53 ft higher thereafter. Prior to Sept. 15, 1966, graphic water-stage recorder at same site and datum.

Average discharge.--54 years (1912-66), 2,500 cfs (1,810,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 6,770 cfs May 8 (gage height, 4.86 ft); minimum, 362 cfs Aug. 13.
1912-66: Maximum discharge, about 68,000 cfs June 29, 1927 (gage height, 10.2 ft, site and datum then in use), from rating curve extended above 37,000 cfs; minimum, 14 cfs Aug. 22, 1939.
Maximum flood known occurred Oct. 6, 1911. Flood of Sept. 6, 1909, reached a stage of about 12.3 ft, site and datum in use May to September 1906.

Remarks.--Records good. Since June 1962 flow is partly controlled by operation of Navajo Reservoir. Diversions above station for irrigation of about 86,000 acres, 4,000 of which is irrigated by Farmers Mutual ditch (see table below) which diverts from Animas River and bypasses this station; ditch flow not included in record. At times this ditch may be supplied partly or entirely by diversion from San Juan River below this station. Records of chemical analyses and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge in cubic feet per second, of Farmers Mutual ditch, water year October 1965 to September 1966

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
Oct. 8	124	Dec. 10	119	Feb. 9	0	Apr. 20	102	June 10	*107	Aug. 1	125
14	123	29	0	18	0	May 2	102	20	112	11	*140
27	125	Jan. 4	0	Mar. 1	80	9	110	29	*127	Sept. 1	135
Nov. 1	125	14	0	14	0	20	112	July 1	69	16	115
15	124	26	0	25	0	26	104	13	134	27	100
Dec. 1	123	Feb. 2	0	Apr. 1	0	June 1	131	27	112		

* Result of discharge measurement.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,500	3,540	3,520	3,500	3,180	1,550	4,220	4,130	4,380	1,790	632	616
2	1,420	3,680	3,500	3,420	2,980	1,570	4,400	4,250	3,280	1,710	600	588
3	2,940	3,650	3,380	3,280	2,110	1,600	4,580	4,600	3,140	1,320	1,040	530
4	2,780	3,480	3,480	3,220	2,080	1,580	4,380	4,880	3,100	1,180	1,130	520
5	2,780	3,520	3,330	3,280	2,120	1,570	4,320	5,180	2,980	1,060	736	510
6	2,760	3,480	3,310	3,240	2,120	1,630	4,110	5,630	2,740	950	608	505
7	2,760	3,320	3,420	3,240	2,080	1,630	3,940	6,050	2,400	850	564	490
8	2,350	3,430	3,440	2,390	2,180	2,430	3,940	6,290	2,140	760	500	460
9	2,350	3,630	3,440	2,550	2,120	2,480	3,960	6,290	2,130	672	425	435
10	2,710	3,650	3,650	3,300	2,050	2,560	3,940	6,230	2,120	656	430	445
11	2,710	3,590	3,630	3,280	2,040	2,240	3,870	4,880	2,080	608	386	546
12	2,670	3,590	3,480	3,280	2,040	2,240	3,870	4,090	2,030	656	366	558
13	2,620	3,630	3,420	3,200	2,050	2,150	3,760	3,630	2,260	656	449	455
14	2,670	3,450	3,420	3,220	2,010	2,080	3,630	3,340	2,460	608	374	420
15	2,690	3,650	3,440	3,300	2,070	2,470	3,540	3,160	2,460	570	374	450
16	2,780	3,670	3,460	3,300	2,010	2,700	3,580	3,100	2,240	656	378	485
17	2,890	3,540	3,480	3,180	2,010	2,650	3,740	3,040	1,850	558	445	500
18	3,120	3,540	1,690	3,140	2,010	2,520	3,850	3,060	1,790	588	645	485
19	2,940	3,460	2,580	3,220	1,980	2,430	4,000	3,420	1,800	600	770	475
20	2,930	3,420	3,440	3,280	2,010	2,470	3,910	3,740	1,820	624	490	490
21	2,960	3,460	3,300	3,280	1,970	2,470	3,670	4,020	1,870	863	450	455
22	2,910	3,260	3,480	3,200	1,980	2,560	3,650	4,130	1,680	950	512	455
23	2,890	3,540	3,800	3,180	1,800	2,610	3,650	3,890	1,710	760	912	440
24	2,980	3,580	3,540	3,120	1,630	3,690	3,580	4,070	1,670	640	510	440
25	3,150	3,690	3,460	3,140	1,600	3,630	3,540	4,250	1,560	656	455	430
26	3,160	3,670	3,400	3,180	1,640	3,650	3,650	4,130	1,450	632	440	425
27	3,100	3,560	3,240	3,100	1,630	3,650	3,760	3,850	1,420	530	415	430
28	3,160	3,440	3,380	3,180	1,540	3,670	3,890	3,580	1,280	582	410	430
29	3,210	3,440	3,440	3,180	-	3,890	3,910	3,240	1,190	616	410	435
30	3,260	3,400	3,560	3,180	----------	4,020	3,960	3,470	1,470	1,100	410	440
31	3,180	----------	3,690	3,140	----------	4,070	----------	4,090	----------	594	618	----------
Total	86,330	105,960	104,800	98,700	57,040	80,460	116,800	131,710	64,500	24,995	16,884	14,343
Mean	2,785	3,532	3,381	3,184	2,037	2,595	3,893	4,249	2,150	806	545	478
Ac-ft	171,200	210,200	207,900	195,800	113,100	159,600	231,700	261,200	127,900	49,580	33,490	28,450

Calendar year 1965 : Max 11,800 Min 670 Mean 3,317 Ac-ft 2,401,000
Water year 1965-66 : Max 6,290 Min 366 Mean 2,473 Ac-ft 1,790,000

Peak discharge (base, 5,000 cfs, revised).--May 8 (1730) 6,770 cfs (4.86 ft).

9-3665. La Plata River at Colorado-New Mexico State line

Location.--Lat 36°59'59", long 108°11'17", in NE¼SE¼ sec.10, T.32 N., R.13 W., on right bank at Colorado-New Mexico State line, 0.2 mile downstream from Ponds Arroyo and 4.8 miles north of La Plata, N. Mex.

Drainage area.--331 sq mi.

Records available.--January 1920 to September 1966. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 5,975.15 ft above mean sea level, datum of 1929. Prior to Apr. 30, 1920, staff gage at site 2 miles upstream at different datum. May 1 to June 18, 1920, staff gage and June 19, 1920, to Sept. 30, 1924, water-stage recorder, at present site at datum 1.26 ft higher. Oct. 1, 1924, to Mar. 16, 1934, water-stage recorder at present site at datum 0.26 ft higher.

Average discharge.--46 years, 33.8 cfs (24,470 acre-ft per year).

Extremes.--Maximum discharge during year, 506 cfs Aug. 3 (gage height, 3.52 ft); no flow July 18, 19.
1920-66: Maximum discharge, 4,750 cfs Aug. 24, 1927 (gage height, 11.36 ft, present datum), from rating curve extended above 750 cfs on basis of slope-area measurement of peak flow; no flow at times in many years.

Remarks.--Records fair except those for winter period, which are poor. Diversions above station for irrigation of about 15,000 acres, mostly above station.

Cooperation.--Records furnished by Colorado district.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	12	22	38	22	23	186	74	85	26	1.3	2.2
2	11	12	20	32	21	21	184	98	60	23	1.9	1.9
3	9.2	12	20	30	21	18	178	98	15	17	109	1.7
4	8.0	11	20	30	23	20	168	74	3.2	12	3.8	1.6
5	7.1	11	20	50	24	25	147	74	1.2	8.0	2.7	1.6
6	6.8	12	20	69	27	26	135	76	1.0	5.9	2.3	1.6
7	5.3	11	20	60	27	52	124	80	.9	4.6	2.0	2.0
8	5.3	11	20	52	27	68	125	94	.8	3.6	1.5	1.7
9	3.8	10	20	31	26	151	128	92	.7	1.9	1.2	1.5
10	5.6	10	30	28	26	66	132	79	.9	1.2	1.0	1.4
11	7.1	10	38	27	21	73	135	80	62	1.6	.9	10
12	7.4	10	32	26	19	127	114	91	83	1.4	1.0	11
13	8.4	9.6	29	26	18	91	97	68	85	1.9	1.6	6.8
14	8.4	8.8	29	28	16	83	77	61	78	1.6	2.0	5.3
15	6.8	9.6	30	26	19	78	52	46	76	.8	1.7	26
16	14	10	30	24	19	111	47	44	73	.1	1.9	3.6
17	20	12	30	23	20	109	60	49	70	.2	2.3	2.9
18	28	12	31	24	20	89	59	75	36	0	2.2	2.9
19	26	11	29	27	21	78	62	85	26	0	2.6	2.9
20	23	10	30	27	23	85	57	83	22	1.1	2.2	3.0
21	19	10	33	24	21	88	56	75	24	7.1	2.2	2.2
22	17	10	39	22	21	86	62	82	24	5.0	2.3	1.7
23	16	18	38	23	21	83	50	82	21	2.2	2.3	1.7
24	15	20	38	22	21	77	43	80	19	1.7	2.2	1.9
25	13	26	40	24	21	78	39	88	16	1.9	2.2	1.7
26	14	43	39	21	22	88	29	80	15	1.5	1.7	1.7
27	10	30	38	22	22	98	29	68	17	1.3	1.4	1.9
28	11	23	38	23	25	110	39	73	17	2.0	1.4	1.9
29	11	22	32	25	-	116	48	58	19	2.0	1.4	1.9
30	10	26	45	25	----------	116	65	68	42	2.4	1.4	1.7
31	11	----------	40	26	----------	137	----------	84	----------	1.6	1.9	----------
Total	370.2	443	940	935	616	2,471	2,727	2,359	993.7	140.6	165.5	109.9
Mean	11.9	14.8	30.3	30.2	22.0	79.7	90.9	76.1	33.1	4.54	5.34	3.66
Ac-ft	734	879	1,860	1,850	1,220	4,900	5,410	4,680	1,970	279	328	218

Calendar year 1965: Max 334 Min - Mean 43.2 Ac ft 31,280
Water year 1965-66: Max 186 Min 0 Mean 33.6 Ac ft 24,340

9-3675. La Plata River near Farmington, N. Mex.

Location.--Lat 36°44'30", long 108°14'45", in SW¼ sec.7, T.29 N., R.13 W., on right bank 1,300 ft upstream from bridge on U.S. Highway 550, 1,800 ft upstream from mouth, and 2½ miles northwest of Farmington.

Drainage area.--583 sq mi.

Records available.--March 1938 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,215 ft (from river-profile map).

Average discharge.--28 years, 24.9 cfs (18,030 acre-ft per year).

Extremes.--Maximum discharge during year, 616 cfs Aug. 3 (gage height, 4.27 ft), from rating curve extended above 130 cfs on basis of slope-area measurement of peak flow; no flow for part of Aug. 2.
1938-66: Maximum gage height, 6.03 ft Sept. 10, 1939 (discharge not determined); no flow for long periods.
Major floods occurred Sept. 5 or 6, 1909, and Oct. 5 or 6, 1911.

Remarks.--Records fair except those for November to February, which are poor. Diversions for irrigation of about 24,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	19	28	60	27	30	144	3.3	6.9	2.3	0.10	2.9
2	6.3	16	25	46	30	25	154	3.3	6.6	1.0	0	3.3
3	6.9	15	25	36	24	20	182	4.3	4.1	.50	147	2.4
4	7.5	14	25	34	26	17	174	11	3.3	.30	18	2.0
5	6.9	15	25	32	27	20	154	7.2	3.1	.30	6.3	1.6
6	6.6	13	26	32	31	28	126	6.3	2.9	.30	3.5	1.8
7	6.3	14	28	33	33	38	100	4.8	2.7	.30	2.5	1.2
8	6.0	14	28	36	33	77	85	6.9	3.1	.30	2.5	1.0
9	5.7	14	26	38	28	82	80	8.7	2.2	.20	2.0	1.0
10	5.1	14	30	40	26	86	70	5.7	2.0	.30	2.0	9.6
11	5.1	14	30	40	23	89	66	3.9	1.6	.30	1.3	9.9
12	4.8	14	30	38	23	95	56	6.6	1.6	.30	1.4	9.9
13	4.8	13	30	34	30	98	36	7.5	1.2	.30	1.3	8
14	4.5	13	30	35	23	90	25	4.1	1.4	.20	1.4	6
15	4.8	13	28	33	28	98	15	3.1	1.8	.20	1.3	15
16	22	14	28	34	22	102	10	3.3	1.6	.20	1.0	10
17	26	13	28	27	25	110	10	6.3	1.3	.20	1.3	6
18	47	13	26	22	28	95	8.0	3.3	1.2	.20	1.3	4
19	25	12	26	30	32	100	8.0	4.1	.60	.20	12	4
20	15	12	26	34	32	102	6.0	3.5	.90	.20	5.1	2.9
21	10	12	25	27	32	105	6.0	2.9	1.0	.20	2.4	8.9
22	10	12	25	23	36	100	4.0	3.9	.50	.30	1.8	3.5
23	10	30	24	26	36	95	4.0	3.5	.30	.20	1.6	2.5
24	10	80	22	23	36	98	4.0	3.3	.30	.20	1.6	1.6
25	10	60	30	21	35	102	4.1	2.2	.30	.20	1.8	1.3
26	9.9	40	35	23	35	110	4.1	2.2	.20	.30	1.4	1.0
27	8.7	30	38	24	35	120	4.1	1.9	.30	.20	1.0	.90
28	8.7	30	40	22	35	126	3.5	3.7	.40	.30	.90	.50
29	11	30	42	23	—	126	3.3	5.4	.40	.30	.90	.40
30	13	30	56	28	----------	120	3.5	4.5	.40	.20	2.8	.30
31	16	----------	70	34	----------	120	----------	6.3	----------	.30	2.5	----------
Total	339.0	633	955	988	831	2,624	1,549.6	147.0	54.20	10.80	230.00	123.40
Mean	10.9	21.1	30.8	31.9	29.7	84.6	51.7	4.74	1.81	0.348	7.42	4.11
Ac-ft	672	1,260	1,890	1,960	1,650	5,200	3,070	292	108	21	456	245

Calendar year 1965 : Max 378 Min 0.3 Mean 29.6 Ac-ft 21,460
Water year 1965-66 : Max 182 Min 0 Mean 23.2 Ac-ft 16,830

9-3680. San Juan River at Shiprock, N. Mex.

Location.--Lat 36°47'35", long 108°43'55", in SW¼ sec.22, T.30 N., R.18 W., on left bank at river mile 61.0, 3 miles west of Shiprock and 6 miles downstream from Chaco River.

Drainage area.--12,900 sq mi, approximately.

Records available.--January to October 1911, February 1927 to September 1966. Monthly or yearly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,848.68 ft above mean sea level (river-profile survey). Prior to Apr. 6, 1922, chain gage and Apr. 7, 1922, to Oct. 25, 1933, water-stage recorder, at site 3 miles upstream at different datum. Oct. 26, 1933, to Sept. 30, 1936, water-stage recorder at present site at datum 3.31 ft higher and Oct. 1, 1936, to Sept. 30, 1952, at datum 1.77 ft higher. Supplementary water-stage recorders (one equipped with digital recorder) at nearby sites, same datum, used at times.

Average discharge.--40 years (1926-66), 2,302 cfs (1,667,000 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 7,260 cfs May 9 (gage height, 5.63 ft); minimum, 210 cfs Aug. 13.
1927-66: Maximum discharge, about 80,000 cfs Aug. 11, 1929 (gage height, 5.7 ft, site and datum then in use); minimum, 9 cfs Aug. 25-27, 1939.
Maximum flood known occurred Oct. 6, 1911, and reached a stage of 22 ft, site and datum then in use.

Remarks.--Records fair. Since 1962 flow partly regulated by Navajo Reservoir (see station 9-3551). Diversions for irrigation of about 118,000 acres above station. Ungaged canals bypass station on both right and left bank, though some of bypass flow is returned to river below gage. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,790	3,150	3,500	3,820	3,020	1,690	4,740	3,620	4,660	1,550	771	702
2	1,220	3,500	3,450	3,400	3,180	1,640	4,780	3,740	3,890	1,630	330	602
3	2,160	3,380	3,380	3,280	2,800	1,620	4,860	4,080	3,200	1,370	952	532
4	2,800	3,420	3,450	3,100	2,060	1,620	4,620	4,400	3,050	1,140	1,470	504
5	2,800	3,380	3,500	3,020	2,060	1,690	4,290	4,660	2,980	1,010	1,040	466
6	2,760	3,300	3,380	3,050	2,100	1,700	4,320	5,020	2,760	880	686	418
7	2,780	3,210	3,420	3,100	2,010	1,720	4,180	5,850	2,380	816	595	388
8	2,400	3,220	3,500	2,830	2,030	2,230	4,080	6,200	2,020	700	478	345
9	2,130	3,170	3,670	2,240	2,060	2,870	4,010	6,300	1,820	616	370	330
10	2,300	3,120	3,730	3,180	2,030	3,000	3,900	6,050	1,740	560	266	340
11	2,370	3,200	3,760	3,150	2,030	2,830	3,840	4,520	1,760	539	248	370
12	2,380	3,380	3,700	3,080	1,960	2,630	3,740	3,800	1,680	504	222	504
13	2,300	3,380	3,580	3,150	2,010	2,450	3,710	3,380	1,720	532	222	503
14	2,380	3,320	3,480	3,120	2,050	2,360	3,620	3,150	1,950	497	316	360
15	2,380	3,550	3,550	3,200	2,050	2,720	3,350	2,960	1,960	472	311	325
16	2,580	3,580	3,550	3,280	2,060	3,050	3,200	2,920	1,960	473	270	448
17	3,050	3,700	3,450	3,350	2,050	3,120	3,400	2,920	1,630	454	298	560
18	3,350	3,580	2,660	3,050	2,050	2,920	3,560	2,600	1,500	394	517	504
19	3,280	3,580	1,980	3,150	1,990	2,700	3,740	2,920	1,430	430	707	460
20	3,320	3,610	3,320	3,300	2,010	2,680	3,650	3,420	1,430	454	587	448
21	3,020	3,520	3,500	3,250	2,010	2,680	3,380	3,740	1,490	496	448	430
22	3,080	3,700	3,420	3,200	1,990	2,620	3,350	3,840	1,370	442	382	388
23	3,080	3,910	3,850	3,320	1,990	2,820	3,320	3,800	1,290	424	801	360
24	3,000	3,940	3,730	3,320	1,820	3,110	3,180	3,800	1,400	335	532	340
25	3,200	3,940	3,450	3,200	1,750	3,800	3,080	4,220	1,360	270	484	340
26	3,300	4,480	3,320	3,220	1,750	3,900	3,000	4,040	1,230	360	406	306
27	3,250	3,910	3,280	3,200	1,820	3,800	3,180	3,680	1,210	370	370	306
28	3,200	3,700	3,050	3,150	1,720	3,980	3,420	3,380	1,080	404	325	330
29	3,260	3,500	3,250	3,150	-	4,010	3,450	2,920	1,000	412	298	320
30	3,250	3,450	3,450	3,180	----------	4,320	3,500	2,780	1,160	1,760	280	293
31	3,080	----------	3,700	3,200	----------	4,460	----------	3,840	----------	930	378	----------
Total	85,250	105,780	106,010	98,240	58,460	86,740	112,450	122,550	58,110	21,224	15,360	12,522
Mean	2,750	3,526	3,420	3,169	2,088	2,798	3,748	3,953	1,937	685	495	417
Ac-ft	169,100	209,800	210,300	194,900	116,000	172,000	223,000	243,100	115,300	42,100	30,470	24,840

Calendar year 1965: Max 12,200 Min 834 Mean 3,327 Ac-ft 2,408,000
Water year 1965-66: Max 6,300 Min 222 Mean 2,418 Ac-ft 1,751,000

Peak discharge (base, 6,000 cfs, revised).--May 9 (0150) 7,260 cfs (5.63 ft).

9-3860.5 Largo Creek near Mangas, N. Mex.

Location.--Lat 34°08'30", long 108°30'05", in SW¼ sec.10, T.2 S., R.16 W., on right bank at El Caso Ranch, half a mile upstream from Sawmill Canyon, 10½ miles southwest of Mangas, and 14 miles south of Quemado.

Drainage area.--63 sq mi, approximately.

Records available.--September 1959 to September 1966 (discontinued).

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,600 ft (from topographic map).

Average discharge.--7 years, 1.06 cfs (767 acre-ft per year).

Extremes.--Maximum discharge during year, 98 cfs Mar. 16 (gage height, 1.90 ft); minimum, 0.1 cfs on several days.
1959-66: Maximum discharge, 258 cfs Feb. 1, 1963 (gage height, 2.65 ft); minimum daily, 0.02 cfs July 25-27, 1961.

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

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.2	0.2	0.5	0.2	0.3	2.5	0.7	0.5	0.4	0.1	0.2
2	.1	.2	.2	.3	.2	.2	3.2	.6	.5	.4	.4	.2
3	.1	.2	.2	.2	.2	.2	1.8	.6	.5	.4	.2	.1
4	.1	.2	.2	.2	.2	.2	1.5	.6	.5	.3	.2	.1
5	.1	.2	.2	.2	.2	.2	1.1	.6	.5	.3	.2	.1
6	.1	.2	.2	.2	.2	.3	1.0	.6	.5	.3	.2	.1
7	.1	.2	.2	.3	.2	.4	.8	.5	.5	.3	.1	.1
8	.1	.2	.2	.3	.4	.5	.7	.5	.5	.2	.1	.1
9	.1	.2	.3	.2	.3	2.0	.7	.5	.5	.2	.1	.1
10	.1	.2	1.1	.2	.3	5.0	.6	.5	.5	.2	.1	.1
11	.1	.2	.6	.2	.3	11	.6	.5	.5	.2	.3	.1
12	.1	.2	.3	.2	.3	18	.6	.5	.5	.2	.3	.1
13	.1	.2	.3	.2	.3	21	.6	.5	.5	.2	.2	.2
14	.1	.2	.2	.2	.4	27	.6	.5	.5	.2	.4	.2
15	.1	.2	.2	.2	.3	32	.6	.5	.5	.2	.2	.5
16	.1	.2	.2	.2	.4	39	.6	.5	.5	.2	.2	.2
17	.3	.2	.2	.2	.3	56	.6	.5	.4	.2	.2	.2
18	.5	.2	.2	.2	.2	49	.6	.5	.4	.2	.2	.2
19	.4	.2	.3	.2	.4	51	.6	.5	.4	.2	.3	.1
20	.3	.2	.2	.2	.5	48	.7	.6	.5	.2	.2	.2
21	.2	.2	.2	.2	.4	33	.7	.6	.6	.2	.2	.2
22	.2	.2	.3	.5	.4	24	.7	.6	.5	.2	.2	.2
23	.2	.2	.4	.6	.4	11	.7	.6	.4	.2	.2	.2
24	.2	.2	.3	.2	.4	7.1	.6	.6	.4	.2	.2	.2
25	.2	.3	.3	.2	.3	5.6	.6	.6	.4	.2	.2	.2
26	.2	.4	.3	.2	.2	7.7	.6	.6	.4	.1	.2	.2
27	.2	.2	.3	.1	.2	6.3	.6	.6	.4	.2	.1	.2
28	.2	.2	.2	.2	.4	4.9	.6	.6	.4	.2	.1	.2
29	.2	.2	.3	.2	-	4.3	.6	.4	.5	.3	.2	.2
30	.2	.2	1.1	.2	----------	3.5	.6	.5	.6	.2	.2	.2
31	.2	----------	.9	.2	----------	3.2	----------	.5	----------	.2	.2	----------
Total	5.3	6.3	10.3	7.4	8.5	471.9	26.3	17.0	14.3	8.1	6.7	5.3
Mean	0.17	0.21	0.33	0.24	0.30	15.2	0.88	0.55	0.48	0.26	0.22	0.18
Ac-ft	11	12	20	15	17	936	52	34	28	16	13	11

Calendar year 1965: Max 8.2 Min 0.1 Mean 0.39 Ac-ft 280
Water year 1965-66: Max 56 Min 0.1 Mean 1.61 Ac-ft 1,170

Peak discharge (base, 30 cfs).--Mar. 16 (2030) 98 cfs (1.90 ft).

9-3957. Whitewater Arroyo near Cheechilgeetho, N. Mex.

Location.--Lat 35°15'35", long 108°55'15", in sec.24, T.12 N., R.20 W., on left bank in Navajo Indian Reservation, at highway bridge, 1¼ miles northwest of Cheechilgeetho and 14 miles north of Zuni.

Drainage area.--78.5 sq mi.

Records available.--June 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 6,670 ft (from topographic map).

Extremes.--Maximum discharge during year, 840 cfs Aug. 30 (gage height, 3.35 ft); no flow for many days during winter freezeup.
1964-66: Maximum discharge, 2,480 cfs July 30, 1964 (gage height, 7.80 ft), from rating curve extended above 35 cfs on basis of slope-area measurement at gage height 6.48 ft; no flow for many days.

Remarks.--Records good Oct. 1 to Dec. 15, poor thereafter.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.10
2	0	.01	.02	.01	.01	.01	.01	.01	.02	.02	.02	.01
3	0	.05	.01	.01	.01	.01	.01	.01	.02	.02	.02	.01
4	0	.05	.02	.01	.01	.01	.01	.01	.02	.02	.02	.01
5	0	.09	.02	.01	.01	.01	.01	.01	.02	.02	.02	.01
6	0	.05	.02	.01	.01	.01	.01	.01	.02	.02	.02	.01
7	0	.01	.02	.01	.01	5.8	.01	.01	.02	.02	.02	.01
8	0	.02	.05	.01	.01	7.0	.01	.01	.02	.02	.02	.01
9	0	.01	.05	.01	.01	.01	.01	.01	.02	.02	.02	.01
10	0	.05	.05	.01	.01	.01	.01	.01	.02	.02	.02	.01
11	0	.09	.05	.01	.01	.01	.01	.01	.02	.02	.02	.01
12	0	.05	.02	.01	.01	.01	.01	.01	.02	.02	.02	.20
13	0	.09	.09	.01	.01	.01	.01	.01	.02	.02	.02	.01
14	0	.02	.05	.01	.01	.01	.01	.01	.02	.02	.02	11
15	0	.02	.02	.01	.01	.01	.01	.01	.02	.02	.02	17
16	.09	.05	.02	.01	.01	.01	.01	.01	.02	.02	.02	.50
17	.05	.05	.02	.01	.01	.01	.01	.01	.02	.02	.02	.10
18	.09	.15	.02	.01	.01	.01	.01	.01	.02	.02	.02	.05
19	.02	.15	.02	.01	.01	.01	.01	.01	.02	.01	.50	.01
20	0	.15	.02	.01	.01	.01	.01	.01	.02	20	.05	.01
21	0	.10	.02	.01	.01	.01	.01	.01	.02	1.0	.02	.01
22	0	.10	.02	.01	.01	.01	.01	.01	.02	.10	6.8	.01
23	0	.10	.02	.01	.01	.01	.01	.01	.02	.02	.50	.01
24	0	.10	.02	.01	.01	.01	.01	.01	.02	.02	.10	.01
25	0	.10	.02	.01	.01	.01	.01	.01	.02	.02	.03	.01
26	0	.05	.02	.01	.01	.01	.01	.01	.02	.02	.03	.01
27	0	0	.02	.01	.01	.01	.01	.01	.02	.02	.02	.01
28	0	0	.02	.01	.01	.01	.01	.01	.02	.02	.02	.01
29	0	0	.02	.01	-	.01	.01	.01	.02	.02	.02	.01
30	0	0	.02	.01	----------	.01	.01	.01	.02	.02	37	.01
31	0	----------	.02	.01	----------	.01	----------	.01	----------	.02	1.0	----------
Total	0.25	1.71	0.82	0.31	0.28	13.09	0.30	0.31	0.60	21.65	46.45	29.18
Mean	0.008	0.057	0.026	0.010	0.010	0.042	0.010	0.010	0.020	0.698	1.50	0.973
Ac-ft	0.5	3.4	1.6	0.6	0.6	26	0.6	0.6	1.2	43	92	58

Calendar year 1965 : Max 156 Min 0 Mean 1.35 Ac-ft 979
Water year 1965-66 : Max 37 Min 0 Mean 0.315 Ac-ft 228

Peak discharge (base, 600 cfs).--Aug. 30 (1230) 840 cfs (3.35 ft).

Note.--No gage-height record for flows below 1 cfs from Dec. 16 to Sept. 30.

9-4301.5 Sapillo Creek below Lake Roberts, near Silver City, N. Mex.

Location.--Lat 33°01'55", long 108°10'10", in SE¼SE¼ sec.34, T.14 S., R.13 W., on left bank 1,400 ft below Lake Roberts Dam, about 1 mile upstream from former mining town of Meerschaum and 18 miles north of Silver City.

Drainage area.--78 sq mi.

Records available.--May 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 5,990 ft (from topographic map).

Extremes.--Maximum discharge during year, 970 cfs Dec. 22 (gage height, 5.40 ft); no flow for part of June 16.
1964-66: Maximum discharge, 1,210 cfs Sept. 23, 1964 (gage height, 5.58 ft), from rating curve extended above 166 cfs on basis of slope-area measurement of peak flow; no flow for many days.

Remarks.--Records good except those for Dec. 22 & 23, which are poor.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.0	4.2	3.1	90	5.7	6.2	5.1	4.4	3.8	6.6	4.2	4.2
2	5.0	4.2	2.9	50	4.7	6.2	3.0	4.4	3.7	4.3	3.5	3.9
3	4.8	4.2	2.8	28	4.7	7.0	8.1	4.4	3.5	3.5	4.5	3.8
4	5.0	4.1	2.8	21	4.7	7.0	7.5	4.4	3.2	2.9	30	4.3
5	5.0	3.9	2.7	17	4.7	6.2	6.2	4.4	3.2	2.6	34	6.1
6	5.0	3.9	2.6	14	4.7	6.2	6.2	4.4	3.1	2.4	18	6.4
7	5.0	3.9	2.6	13	4.7	7.7	5.7	4.4	3.1	2.3	10	8.2
8	5.0	3.9	2.6	12	8.5	9.3	5.2	4.4	3.1	2.2	9.0	6.6
9	5.4	3.9	2.7	11	7.7	26	5.2	4.4	3.0	2.1	7.7	5.3
10	5.6	3.9	111	9.2	7.0	43	5.2	3.9	3.0	2.2	7.2	4.7
11	5.2	3.8	21	8.5	7.0	42	5.7	3.9	3.0	2.1	5.3	4.5
12	5.2	3.6	7.6	8.5	7.0	47	4.4	3.9	3.0	2.5	4.2	4.6
13	5.2	3.6	6.0	7.7	7.0	58	3.4	3.4	3.0	5.6	3.6	4.9
14	5.2	3.5	5.4	7.0	6.2	63	4.8	3.4	3.0	12	3.5	6.1
15	5.4	3.5	5.6	6.2	6.2	66	4.8	3.4	2.4	6.6	3.4	17
16	5.8	3.5	5.0	7.0	6.2	63	4.8	3.4	.64	4.2	3.5	16
17	5.8	3.5	5.4	6.2	6.2	54	5.2	3.4	2.0	3.1	5.8	8.4
18	5.4	3.5	5.0	7.0	6.2	42	5.2	3.6	2.8	2.9	9.2	6.6
19	5.4	3.5	4.4	7.0	6.2	32	4.8	4.0	5.7	2.8	6.6	5.5
20	5.4	3.5	4.2	7.0	6.2	29	4.4	4.0	4.5	2.7	4.7	12
21	5.2	3.4	4.4	7.0	6.2	26	4.4	4.2	3.8	2.7	3.9	11
22	5.2	3.4	248	6.2	6.2	22	4.8	4.3	3.4	2.5	3.6	7.2
23	5.2	3.4	276	6.2	6.2	16	4.8	4.2	2.6	2.5	3.7	14
24	5.0	3.2	94	6.2	6.2	12	4.8	4.2	2.5	2.9	22	14
25	5.0	3.5	55	6.2	6.2	10	5.2	4.2	3.1	3.5	22	9.0
26	4.8	4.2	38	6.2	6.2	9.9	5.2	4.2	4.0	3.1	7.9	7.4
27	4.8	3.8	28	5.7	6.2	9.9	4.8	3.8	4.0	2.7	5.3	6.6
28	4.8	3.5	23	5.7	6.2	9.3	4.8	3.8	7.2	3.1	5.6	6.4
29	3.9	3.4	20	5.7	-	8.1	4.4	3.7	10	4.5	6.6	6.4
30	4.4	3.2	107	5.2	----------	8.1	4.4	3.8	13	6.1	5.0	6.4
31	4.6	----------	188	5.2	----------	7.5	----------	3.8	----------	5.9	4.5	----------
Ac-ft	157.7	110.6	1,286.8	402.8	171.1	759.6	152.5	124.1	116.34	115.1	268.0	227.4
Mean	5.08	3.69	41.5	13.0	6.11	24.5	5.08	4.00	3.88	3.71	8.65	7.58
Ac-ft	313	219	2,550	799	339	1,510	302	246	231	228	532	451

Calendar year 1965: Max 276 Min 0.6 Mean 6.98 Ac-ft 5,050
Water year 1965-66: Max 276 Min 0.64 Mean 10.7 Ac-ft 7,720

Note.--Indefinite stage-discharge relation Dec. 22 & 23.

9-4305. Gila River near Gila, N. Mex.

Location.--Lat 33°03'45", long 108°32'20", in NW¼ sec.30, T.14 S., R.16 W., on left bank at Hooker damsite, 1 mile upstream from Mogollon Creek, and 7 miles northeast of Gila.

Drainage area.--1,864 sq mi.

Records available.--April to December 1914, December 1927 to September 1966. Monthly discharge only December 1927 to September 1930, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,655.8 ft above mean sea level (river-profile survey). Prior to Dec. 31, 1928, at site 5 miles upstream at different datum. Dec. 31, 1928, to Jan. 7, 1942, at site 200 ft upstream at same datum.

Average discharge.--39 years (1927-66), 127 cfs (91,940 acre-ft per year).

Extremes.--Maximum discharge during year, 6,240 cfs Dec. 23 (gage height, 8.77 ft); minimum, 47 cfs June 25.
1929-66: Maximum discharge, 25,400 cfs Sept. 29, 1941 (gage height, 17.2 ft, from floodmark), from rating curve extended above 3,900 cfs on basis of velocity-area studies and logarithmic plotting; minimum, 15 cfs July 7, 1956.
Other major floods occurred in November 1905, December 1906, and January 1916.

Remarks.--Records good except those above 1,000 cfs, which are fair. Diversions for irrigation of about 500 acres above station. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	57	79	1,880	151	195	556	245	100	96	107	90
2	64	55	75	1,090	151	208	588	242	95	78	90	85
3	61	55	75	716	149	220	628	230	90	69	90	75
4	61	55	77	538	149	208	652	230	85	61	131	70
5	59	55	75	450	149	198	616	230	80	57	177	85
6	57	57	72	386	151	205	556	230	75	54	193	79
7	55	59	72	338	160	222	520	218	74	51	156	77
8	54	57	70	301	255	299	500	232	70	50	142	78
9	52	55	77	286	270	520	460	245	68	50	122	72
10	52	55	1,410	262	250	728	420	252	66	52	115	68
11	52	55	1,960	247	230	830	380	255	64	52	113	64
12	54	55	900	235	218	1,020	380	242	62	50	100	63
13	54	55	538	223	212	1,300	360	218	59	76	91	67
14	54	55	438	214	205	1,490	360	192	58	62	84	77
15	55	61	386	199	198	1,870	340	180	58	65	80	122
16	63	59	342	184	190	1,990	320	171	58	63	87	145
17	70	55	358	178	188	2,210	320	167	56	54	77	162
18	66	55	350	202	188	2,120	305	166	56	54	100	140
19	64	57	298	217	190	1,600	305	166	54	56	143	131
20	63	55	259	193	200	1,420	299	164	56	54	122	127
21	59	55	259	205	218	1,330	281	160	59	94	113	152
22	59	55	1,390	175	233	1,140	275	160	60	69	108	127
23	57	55	4,020	151	235	925	255	151	57	60	140	110
24	57	55	1,720	139	228	775	235	143	51	58	186	154
25	54	55	1,060	136	218	700	222	142	49	66	260	122
26	54	80	788	130	218	628	210	134	50	86	200	104
27	54	90	645	125	212	612	205	127	62	82	150	118
28	54	90	554	133	198	588	218	120	107	85	125	111
29	72	85	498	136	-	564	230	114	117	127	130	110
30	75	82	855	136	------	556	242	108	111	134	110	110
31	61	------	3,000	152	------	548	------	102	------	127	100	------
Total	1,830	1,824	22,700	9,957	5,614	27,219	11,238	5,736	2,107	2,192	3,942	3,095
Mean	59.0	60.8	732	321	200	878	375	185	70.2	70.7	127	103
Ac-ft	3,630	3,620	45,020	19,750	11,140	53,990	22,290	11,380	4,180	4,350	7,820	6,140

Calendar year 1965: Max 4,020 Min 26 Mean 167 Ac-ft 121,000
Water year 1965-66: Max 4,020 Min 49 Mean 267 Ac-ft 193,300

Peak discharge (base, 600 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-11	0130	6.55	2,700	12-31	0800	7.24	3,560
12-23	0200	8.77	6,240	3-17	1400	6.48	2,540

9-4315. Gila River near Redrock, N. Mex.

Location.--Lat 32°43'30", long 108°40'30", in W½ sec.23 T.18 S., R.18 W., on left bank 0.2 mile downstream from Copper Canyon, a quarter of a mile upstream from lower end of box canyon, 4.7 miles northeast of Redrock, and 14 miles downstream from Mangas Creek.

Drainage area.--2,829 sq mi.

Records available.--September 1904 to May 1927, fragmentary (see WSP 1313), July 1927 to September 1955, October 1962 to September 1966. Published as "near Cliff" 1904-7.

Gage.--Water-stage recorder. Altitude of gage is 4,090 ft (planetable survey). Prior to Dec. 31, 1907, staff gage at site 13½ miles upstream at different datum. May 14, 1908, to July 16, 1909, staff gage at site a quarter of a mile downstream at different datum.

Average discharge.--50 years (1905-6, 1908-10, 1912-55, 1962-66), 195 cfs (141,200 acre-ft per year).

Extremes.--Maximum discharge during year, 16,800 cfs Dec. 23 (gage height, 18.50 ft), from rating curve extended above 2,200 cfs on basis of logarithmic plotting; minimum, 25 cfs Aug. 17.
1905-55, 1962-66: Maximum discharge, 40,000 cfs Sept. 29, 1941 (gage height, 31 ft, from floodmark), computed on basis of known peak flow for station below Blue Creek; minimum, 2.2 cfs Aug. 5, 1947.

Remarks.--Records fair except those for Dec. 22 & 23, which are poor. Diversions for irrigation of about 5,000 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	79	59	98	2,880	208	295	780	232	100	180	106	139
2	76	57	96	1,480	205	292	850	230	100	140	84	132
3	77	60	90	1,120	200	304	880	218	87	122	74	126
4	74	57	87	952	195	295	826	218	81	102	397	145
5	68	57	87	805	195	270	785	212	82	90	344	96
6	63	58	88	715	195	260	660	218	82	70	208	71
7	60	59	84	620	205	272	590	222	70	57	195	74
8	61	60	86	558	255	337	550	222	64	49	168	78
9	61	57	88	514	367	530	518	225	64	41	113	69
10	55	57	1,410	462	352	820	518	240	80	41	116	62
11	50	59	3,320	426	346	1,090	506	268	78	41	105	51
12	54	60	1,280	402	334	1,250	466	258	64	40	83	46
13	54	62	722	378	328	1,580	458	248	63	54	74	113
14	54	68	614	361	310	1,910	438	232	46	104	59	66
15	50	69	565	352	301	2,260	414	218	44	68	46	266
16	50	67	525	340	295	2,640	406	195	42	59	46	266
17	54	64	590	331	307	2,780	410	190	44	57	42	182
18	52	61	626	340	301	2,500	402	198	44	54	148	172
19	52	60	530	337	298	2,100	386	185	36	45	584	169
20	58	65	466	316	301	1,880	374	173	43	77	312	149
21	57	68	470	304	304	1,720	364	162	43	83	205	149
22	54	72	3,130	280	310	1,540	343	168	43	62	219	152
23	54	73	12,400	255	310	1,340	316	180	43	50	225	119
24	48	74	3,270	235	310	1,190	298	165	44	52	195	102
25	50	77	1,540	225	304	1,030	280	158	48	50	300	126
26	54	106	1,260	218	307	922	258	140	54	50	290	99
27	58	99	1,170	208	313	862	235	128	59	164	229	76
28	55	97	1,090	205	304	826	220	118	238	182	185	64
29	55	98	988	200	-	775	218	110	200	135	172	81
30	56	97	1,010	198	----------	755	218	112	182	217	149	76
31	59	----------	5,360	205	----------	745	----------	110	----------	130	149	----------
Total	1,802	2,077	43,140	16,222	7,960	35,370	13,967	5,953	2,268	2,666	5,622	3,516
Mean	58.1	69.2	1,392	523	284	1,141	466	192	75.6	86.0	181	117
Ac-ft	3,570	4,120	85,570	32,160	15,790	70,160	27,700	11,810	4,500	5,290	11,150	6,970

Calendar year 1965: Max 12,400 Min 7 Mean 240 Ac-ft 173,400
Water year 1965-66: Max 12,400 Min 36 Mean 385 Ac-ft 278,800

Peak discharge (base, 2,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-11	0930	13.65	4,170	3-17	2100	11.05	3,320
12-23	0200	18.50	16,800	8-4	2100	11.35	3,890
12-31	1330	12.90	6,520	8-19	1715	10.80	3,160

Note.--Stage-discharge relation indefinite Dec. 22 & 23.

9-4320. Gila River below Blue Creek, near Virden, N. Mex.

Location.--Lat 32°38'55", long 108°50'45", in SE¼SW¼ sec.18, T.19 S., R.19 W., on left bank at head of canyon, 1¼ miles downstream from Blue Creek, 10 miles east of Virden, and 16 miles upstream from New Mexico-Arizona State line.

Drainage area.--3,203 sq mi, excluding Animas River basin.

Records available.--May to November 1914, March to September 1915, July 1927 to September 1966. July 1927 to May 1931 monthly discharge only, published in WSP 1313, computed as sum of flow at Virden Bridge, 8½ miles downstream, and in Sunset Canal. Published as Gila River near Duncan, Ariz., 1914-15 and as Gila River at Fuller's Ranch, near Duncan, Ariz. 1931-38.

Gage.--Water-stage recorder at present site and datum since July 8, 1931. Altitude of gage is 3,875 ft (from river-profile map). May 11, 1914, to Sept. 30, 1915, at site 6 miles downstream, 1,000 ft upstream from intake of Sunset Canal. June 1 to July 7, 1931, staff gage at present site and datum.

Average discharge.--39 years (1927-66), 167 cfs (120,900 acre-ft per year); median of yearly mean discharges, 130 cfs (94,100 acre-ft per year).

Extremes.--Maximum discharge during year, 10,900 cfs Dec. 23 (gage height, 17.30 ft); minimum daily, 35 cfs June 20-22.
1927-66: Maximum discharge, 41,700 cfs Sept. 29, 1941 (gage height, 25.78 ft); minimum, 1 cfs July 14, 1934.

Remarks.--Records fair. Station is above all Duncan Valley diversions. Diversions for irrigation of about 6,200 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	60	99	3,040	238	304	761	270	106	127	110	122
2	82	61	98	1,860	242	304	803	270	95	117	100	112
3	76	65	95	1,270	236	310	830	260	89	106	93	91
4	78	58	93	998	233	306	815	258	83	95	116	66
5	70	57	93	838	235	304	761	248	77	85	515	118
6	65	58	95	746	236	300	665	244	80	76	186	199
7	60	61	88	662	250	306	569	250	76	70	173	107
8	60	65	89	590	284	330	509	254	69	70	180	90
9	61	63	94	527	372	412	468	270	60	70	154	80
10	58	58	718	472	372	614	452	260	73	60	147	71
11	52	57	2,910	442	336	878	452	260	76	60	146	69
12	50	58	1,640	412	326	1,070	432	256	70	60	135	67
13	52	58	842	390	320	1,440	418	252	60	50	123	99
14	53	65	663	368	310	1,840	412	236	50	70	122	87
15	50	69	688	352	304	2,220	392	230	50	70	113	452
16	50	69	670	334	294	2,560	390	210	45	60	125	282
17	52	67	730	324	292	2,640	386	200	45	60	113	191
18	54	67	838	320	290	2,560	380	200	45	60	157	184
19	50	66	688	320	288	2,300	370	180	40	70	726	182
20	56	66	515	312	294	2,080	362	180	35	70	491	191
21	58	69	503	308	308	1,970	352	170	35	106	340	176
22	55	73	2,920	302	322	1,780	346	160	35	90	300	176
23	55	79	8,180	288	336	1,610	328	150	40	70	260	145
24	55	80	4,870	276	336	1,340	318	140	40	50	250	128
25	55	88	1,980	266	326	1,200	310	140	50	50	290	136
26	55	100	1,320	260	318	1,030	310	130	50	50	226	127
27	55	120	1,080	254	320	942	300	123	60	101	198	115
28	55	106	990	248	308	858	290	118	144	148	161	106
29	55	109	938	244	-	830	290	112	130	148	147	115
30	55	102	906	242	------	779	280	110	129	206	139	118
31	60	------	3,090	238	------	761	------	110	------	140	135	------
Total	1,822	2,174	38,523	17,503	8,326	36,178	13,751	6,251	2,037	2,665	6,471	4,202
Mean	58.8	72.5	1,243	568	297	1,167	458	202	67.9	86.0	209	140
Ac-ft	3,610	4,310	76,410	34,720	16,510	71,760	27,270	12,400	4,040	5,290	12,840	8,330

Calendar year 1965: Max 8,180 Min 9.7 Mean 223 Ac-ft 162,000
Water year 1965-66: Max 8,180 Min 35 Mean 383 Ac-ft 277,500

Peak discharge (base, 1,900 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-11	0600	10.30	3,270	3-17	2400	10.05	2,960
12-23	1000	17.30	10,900	8-19	2100	10.77	3,140
12-31	2000	12.22	4,420				

9-4330. Sunset Canal near Virden, N. Mex.

Location.--Lat 32°39'20", long 108°56'00", in NW¼ sec.17, T.19 S., R.20 W., on left bank 1.7 miles downstream from intake and 4.5 miles southeast of Virden.

Records available.--October 1914 to September 1915, July 1922 to September 1931, January 1936 to September 1966. Monthly discharge only January 1936 to December 1938, published in WSP 1313. Prior to 1939, published as "near Duncan, Ariz."

Gage.--Digital water-stage recorder and Parshall flume. Altitude of gage is 3,790 ft (from topographic map). Oct. 1, 1914, to Sept. 30, 1915, staff gage at site 0.4 mile upstream and July 15, 1922, to Sept. 30, 1931, staff gage at site 0.5 mile downstream at different datums. Mar. 9, 1936, to Feb. 20, 1942, water-stage recorder and submerged rectangular weir at site 300 ft downstream at different datum. Prior to Oct. 14, 1964, graphic water-stage recorder at same site and datum.

Extremes.--1914-15, 1922-31, 1936-66: Maximum daily discharge, 62 cfs Sept. 21, 22, 1929; no flow at times.

Remarks.--Records excellent. Canal diverts from right bank of Gila River in SW¼NW¼ sec.21, T.19 S., R.20 W., for irrigation of about 2,750 acres in Virden-Duncan Valley. No diversion between intake and station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	5.7	8.2	9.2	0	0	34	35	18	17	14	32
2	14	5.9	7.9	0	0	0	34	34	17	13	15	33
3	5.6	6.0	7.4	0	0	0	34	33	16	13	16	32
4	0	5.9	5.2	0	0	0	34	33	13	12	23	29
5	1.3	6.4	0	.8	0	0	34	33	13	13	30	34
6	0	7.7	2.9	1.1	0	0	33	33	12	13	27	24
7	0	7.4	12	0	0	7.2	33	34	12	12	32	24
8	2.6	12	17	0	.9	4.7	33	33	12	13	32	30
9	2.7	16	17	0	.1	8.2	33	33	12	13	22	33
10	0	13	9.1	3.9	7.2	8.8	34	33	16	13	16	33
11	0	14	0	8.8	6.4	20	34	34	19	16	16	21
12	2.4	15	0	6.6	0	25	33	33	19	19	17	15
13	0	16	0	0	0	19	33	33	18	19	19	16
14	0	17	3.5	0	0	20	33	33	18	19	19	12
15	0	18	9.7	0	0	24	33	32	19	19	19	14
16	0	18	9.7	0	0	28	33	32	19	18	18	15
17	0	17	10	0	0	33	34	32	19	20	15	15
18	0	16	9.7	0	0	32	33	32	18	19	14	5.8
19	6.8	15	9.4	0	0	33	33	29	18	18	22	20
20	12	16	9.1	0	0	32	33	26	18	19	15	33
21	12	18	8.8	0	0	32	34	25	12	19	20	32
22	10	19	4.2	0	0	32	33	25	8.6	15	29	32
23	4.8	18	0	0	0	29	33	26	20	12	31	32
24	0	17	0	0	0	33	33	26	19	12	28	32
25	0	18	0	0	0	33	33	26	20	12	28	33
26	0	18	0	3.5	0	33	33	25	19	12	30	33
27	0	19	0	8.5	0	34	33	24	19	13	32	30
28	0	19	0	8.5	0	33	33	23	19	12	32	15
29	1.8	19	0	6.2	-	32	33	23	19	12	32	16
30	6.0	13	0	0	----------	34	33	24	20	11	33	16
31	6.5	----------	7.7	0	----------	33	----------	20	----------	11	33	----------
Total	98.3	426.0	168.5	57.1	14.6	652.9	999	917	501.6	459	729	741.8
Mean	3.17	13.7	5.44	1.84	0.52	21.1	33.3	29.6	16.7	14.8	23.5	24.7
Ac-ft	195	845	334	113	29	1,300	1,980	1,820	995	910	1,450	1,470

Calendar year 1965: Max 35 Min 0 Mean 12.1 Ac-ft 8,770
Water year 1965-66 Max 35 Min 0 Mean 15.8 Ac-ft 11,430

9-4360. New Model Canal near Virden, N. Mex.

Location.--Lat 32°40'30", long 108°59'30", in NE¼ sec.10, T.19 S., R.21 W., 1 mile downstream from intake, 1 mile southeast of Virden, and 3¼ miles east of State line.

Records available.--October 1914 to September 1915, July 1922 to September 1931, January 1936 to September 1966. Monthly discharge only January 1936 to December 1938, published in WSP 1313. Published as Model Canal near Duncan, Ariz., 1914-15, as Moddle Canal near Duncan, Ariz., 1922-31, and as Moddle Canal near Virden, N. Mex., 1936-51.

Gage.--Digital water-stage recorder and Parshall flume. Altitude of gage is 3,745 ft (from topographic map). Prior to Nov. 25, 1926, staff gage and Nov. 25, 1926, to Feb. 21, 1942, water-stage recorder, at several sites within half a mile upstream at different datums. Prior to Oct. 14, 1964, graphic water-stage recorder at same site and datum.

Extremes.--1914-15, 1922-31, 1936-66: Maximum daily discharge, 74 cfs Sept. 9, 1930; no flow at times:

Remarks.--Records excellent. Canal diverts from left bank of Gila River in NE¼SE¼ sec.11, T.19 S., R.21 W., for irrigation of about 2,450 acres in Virden-Duncan Valley. For additional history and gage data, see page 599 of WSP 1313.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	0	7.1			0	18	29	2.0	4.5	0.6	10
2	14	0	10			0	25	29	0	0	2.2	9.0
3	9.4	0	3.8			0	27	26	0	0	2.8	8.7
4	11	0	3.6			0	28	25	0	0	13	5.0
5	11	0	5.4			0	27	25	0	0	19	5.9
6	11	0	2.8			0	21	26	0	0	9.5	4.7
7	8.8	0	2.1			0	20	28	0	0	15	6.8
8	8.0	0	3.8			0	20	28	0	0	14	6.1
9	2.2	0	4.3			0	19	28	0	0	14	5.2
10	5.5	0	1.8			0	19	25	2.9	0	3.2	2.6
11	13	0	0			0	20	24	9.2	2.8	3.2	5.1
12	11	0	0			0	19	22	7.6	3.9	4.0	4.6
13	11	0	0			0	18	24	6.5	1.9	5.3	3.7
14	10	0	0			0	19	25	5.8	5.7	5.5	8.6
15	11	0	0			0	18	25	5.8	7.7	6.7	22
16	11	0	0			0	17	22	4.5	7.8	4.9	20
17	7.2	0	0			0	16	21	3.4	7.2	0	12
18	5.7	3.0	0			7.8	16	22	2.8	8.7	0	12
19	0	5.4	0			9.1	17	23	3.1	10	15	10
20	0	4.7	0			7.0	19	23	2.6	7.8	21	9.3
21	0	5.4	0			10	19	20	4.3	7.7	7.6	9.6
22	0	6.9	.4			18	18	21	9.2	3.5	14	14
23	0	5.6	14			15	17	26	2.4	0	15	15
24	0	6.9	0			11	17	25	.3	0	9.6	15
25	0	5.9	0			13	17	25	0	0	16	17
26	0	4.0	1.0			8.8	16	23	.4	0	27	17
27	0	0	0			6.6	15	21	.5	0	19	13
28	0	1.3	0			4.7	20	25	18	0	11	14
29	0	4.9	0			3.4	27	26	12	0	7.4	14
30	0	2.6	0		----------	4.9	28	24	9.1	.1	8.1	15
31	0	----------	0		----------	14	----------	15	----------	.5	11	----------
Total	170.6	56.6	60.1	0	0	133.3	597	751	112.4	79.8	304.6	314.9
Mean	5.50	1.89	1.94	0	0	4.30	19.9	24.2	3.75	2.57	9.83	10.5
Ac-ft	338	112	119	0	0	264	1,180	1,490	223	158	604	625

Calendar year 1965: Max 30 Min 0 Mean 8.22 Ac-ft 5,950
Water year 1965-66: Max 29 Min 0 Mean 7.07 Ac-ft 5,120

9-4426.8 San Francisco River near Reserve, N. Mex.

Location.--Lat 33°44'30", long 108°46'15", in SW¼NE¼ sec.35, T.6 S., R.19 W., on left bank 500 ft upstream from mouth of Rainbow Bridge Canyon and 2 miles northwest of Reserve.

Drainage area.--350 sq mi, approximately.

Records available.--March 1959 to September 1966.

Gage.--Digital water-stage recorder, crest-stage gage, and concrete control. Altitude of gage is 5,850 ft above mean sea level (from topographic map). Prior to Feb. 27, 1963, graphic water-stage recorder at same site and datum.

Average discharge.--7 years, 21.8 cfs (15,830 acre-ft per year).

Extremes.--Maximum discharge during year, 596 cfs Mar. 17 (gage height, 2.45 ft); minimum, 1.2 cfs Nov. 13.
1959-66: Maximum discharge, 1,160 cfs July 26, 1965, estimated (gage height, 3.9 ft, inside, 4.9 ft from floodmarks), from rating curve extended above 460 cfs on basis of slope-area measurements at gage heights 2.92 and 3.05 ft; minimum, 1.0 cfs March 16, 1959.
Maximum stage known, about 15 ft, as determined in 1962 from old floodmarks. Major floods of Nov. 26, 1905 and Dec. 3, 1906, exceeded 20,000 cfs at Alma (downstream). See WSP 1313.

Remarks.--Records good except those for Jan. 1-12 and Mar. 12-20, which are poor. Slight regulation at times by one small reservoir. Diversion for irrigation of about 500 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.6	6.0	6.5	248	22	30	246	22	6.8	6.1	6.1	15
2	6.6	6.0	6.3	153	19	34	245	22	6.4	5.4	26	13
3	6.6	6.0	5.5	72	20	26	240	21	5.9	5.2	11	11
4	6.6	6.0	5.3	60	21	26	226	20	5.9	4.9	20	10
5	6.0	6.0	5.2	55	22	28	182	19	5.6	4.8	12	20
6	6.6	6.0	5.3	52	24	31	159	18	5.6	4.6	8.6	17
7	6.0	6.3	5.7	46	24	42	136	17	5.0	4.3	7.6	13
8	6.2	6.2	5.9	46	26	65	122	17	5.0	3.5	6.7	10
9	6.6	6.0	15	42	24	85	110	16	4.8	3.5	6.7	8.4
10	6.6	5.9	138	41	19	99	102	14	5.0	3.6	11	7.3
11	6.6	5.9	52	42	22	188	91	14	5.0	5.5	10	8.7
12	6.6	5.5	32	38	19	362	79	12	5.0	4.9	8.9	21
13	6.0	6.0	27	32	22	417	70	12	4.6	6.3	11	12
14	6.0	6.1	23	31	18	493	65	11	4.5	5.9	7.7	16
15	6.1	6.2	23	30	21	500	66	11	5.0	6.2	9.2	32
16	7.1	6.0	23	29	21	504	69	11	5.4	7.1	7.6	28
17	8.3	6.1	23	29	21	501	67	9.9	5.3	5.3	9.5	18
18	7.2	5.9	22	31	22	514	64	9.9	4.9	4.7	8.3	14
19	7.0	5.9	16	32	21	490	51	9.2	4.8	5.6	7.9	11
20	6.6	5.6	12	28	26	478	43	9.2	5.7	6.3	12	38
21	6.2	5.6	13	27	31	451	43	9.2	6.9	11	9.6	35
22	6.0	5.6	19	21	30	403	42	8.5	6.1	9.0	7.3	18
23	6.0	5.9	156	22	28	316	39	8.5	5.1	18	11	17
24	6.0	6.0	43	21	28	290	37	7.8	4.7	15	21	19
25	6.1	11	29	19	29	267	35	7.2	4.4	12	14	15
26	6.0	8.3	27	18	30	257	30	6.6	4.5	10	9.7	11
27	6.0	5.9	26	18	27	244	27	6.6	5.0	10	8.3	9.5
28	6.2	5.4	25	19	26	273	25	6.6	5.8	8.9	18	8.5
29	6.0	4.5	29	18	-	280	22	6.6	6.9	8.9	12	7.8
30	6.0	5.1	332	22	----------	256	21	6.6	6.8	8.0	13	8.2
31	6.0	----------	444	22	----------	249	----------	6.6	----------	6.7	18	----------
Total	198.4	182.9	1594.7	1364	663	8199	2754	376.0	162.4	221.2	349.7	472.4
Mean	6.40	6.10	51.4	44.0	23.7	264	91.8	12.1	5.41	7.14	11.3	15.7
Ac-ft	394	363	3,160	2,710	1,320	16,260	5,460	746	322	439	694	937

Calendar year 1965: Max 444 Min 3.2 Mean 29.4 Ac-ft 21,310
Water year 1965-66: Max 514$_e$ Min 4.4 Mean 45.3 Ac-ft 32,800

Peak discharge (base, 450 cfs).--Dec. 30 (1000) 520 cfs (2.40 ft); Mar. 17 (0100) 596 cfs (2.45 ft).

9-4426.92. Tularosa River above Aragon, N. Mex.

Location.--Lat 33°53'30", long 108°30'56", in NW¼ sec.9, T.5 S., R.16W., on right bank 0.4 mile upstream from first diversion, 1.4 miles northeast of Aragon, and 8 miles upstream from Apache Creek.

Drainage area.--94 sq mi.

Records available.--June to September 1966. 1955 to 1965 at site 0.6 mile upstream (drainage area, 89 sq mi), annual maximum only.

Gage.--Digital water-stage recorder and concrete control. Altitude of gage is 6,750 ft (from topographic map).

Extremes.--Maximum discharge during period, 7.2 cfs Sept. 18 (gage height 1.35 ft); minimum, 0.80 cfs Sept. 18.
1955-66: Maximum discharge, about 181 cfs Mar. 28, 1966 (gage height, 4.77 ft); minimum, not determined.

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	2.4	2.8	2.7
2									-	2.4	2.7	2.7
3									-	2.4	2.9	2.6
4									-	2.4	2.7	2.6
5									-	2.4	2.7	2.6
6									-	2.4	2.6	2.6
7									-	2.4	2.6	2.6
8									-	2.4	2.6	2.6
9									-	2.4	2.6	2.6
10									-	2.9	2.6	2.6
11									-	2.9	2.7	2.7
12									-	2.9	2.6	2.7
13									-	3.0	2.6	2.8
14									-	3.0	2.6	2.7
15									-	2.9	2.7	3.0
16									-	2.9	2.7	2.6
17									-	2.9	2.9	2.6
18									-	2.8	2.8	2.7
19									-	2.9	2.8	2.6
20									-	2.9	2.8	2.7
21									-	3.0	2.7	2.7
22									-	2.9	2.7	2.7
23									-	2.8	2.8	2.7
24									-	2.8	2.9	2.7
25									-	2.8	2.7	2.7
26									2.4	2.8	2.7	2.7
27									2.4	2.8	2.7	2.9
28									2.4	2.9	2.7	2.8
29									2.8	3.0	2.7	2.8
30					----------				2.5	2.8	2.7	2.9
31		----------			----------		----------		----------	2.8	2.7	----------
Total									-	85.0	84.0	80.9
Mean									-	2.74	2.71	2.70
Ac-ft									-	169	167	160

Calendar year 1965 : Max - Min - Mean - Ac-ft -
Water year 1965-66 : Max - Min - Mean - Ac-ft -

9-4430. San Francisco River near Alma, N. Mex.

Location.--Lat 33°21'50", long 108°54'50", in SE¼SW¼ sec.4, T.11 S., R.20 W., on right bank 1¼ miles downstream from Alma, 4 miles northwest of Glenwood and 6 miles upstream from Whitewater Creek.

Drainage area.--1,546 sq mi.

Records available.--September 1904 to January 1914, fragmentary (see WSP 1313), January 1964 to September 1966.

Gage.--Water-stage recorder. Altitude of gage is 4,800 ft (from topographic map). Prior to Aug. 11, 1912, staff gages at various sites, within 500 ft of each other, three-quarters of a mile upstream, at different datums. Aug. 11, 1912, to Feb. 2, 1914, staff gage at approximately present site and datum.

Extremes.--Maximum discharge during year, 7,500 cfs Dec. 30 (gage height, 7.45 ft); no flow for many days.
1904-14, 1964-66: Maximum stage or discharge not determined; no flow at times.
Dishcarges of 25,000 cfs, Nov. 26, 1905 and 21,000 cfs Dec. 3, 1906 (gage heights, 14 ft and 13.4 ft, respectively, datum then in use), were measured by float-area method. Major floods probably occurred Jan. 19 and Oct. 14, 1916, when discharges of 90,000 cfs (or greater) were computed at Clifton, Ariz.

Remarks.--Records good except those for Dec. 30, 31, which are poor. Diversions for irrigation of about 1,500 acres above station.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	12	1,170	42	66	342	40	3.6	1.7	8.5	30
2	0	.1	13	672	37	75	342	36	3.4	1.7	6.3	30
3	0	1.1	11	468	35	73	372	34	3.1	1.7	96	20
4	0	1.4	9.8	312	34	62	372	35	3.1	1.4	41	20
5	0	2.6	8.6	220	35	60	306	34	3.4	1.4	38	20
6	0	3.0	7.5	174	37	66	246	30	2.9	1.4	43	30
7	0	3.8	6.6	154	44	71	205	24	2.9	1.4	32	22
8	0	4.6	6.6	143	56	109	186	23	2.9	1.4	24	21
9	0	5.4	8.1	132	61	215	174	21	3.1	1.4	21	18
10	0	5.8	663	118	55	504	162	16	3.1	1.4	38	15
11	0	5.8	580	109	49	672	154	17	3.1	1.2	25	13
12	0	6.6	312	109	49	780	136	16	3.1	1.2	22	13
13	0	6.6	170	87	48	960	118	14	2.9	1.4	32	25
14	0	6.2	110	81	48	1,200	112	12	2.9	1.2	37	24
15	0	6.2	95	75	43	1,270	104	11	2.9	1.2	27	38
16	0	6.2	85	69	43	1,260	104	9.5	3.1	1.2	25	84
17	0	6.6	125	65	44	1,260	104	7.0	3.1	1.2	190	52
18	0	6.6	125	67	44	1,200	101	6.3	3.1	1.2	34	32
19	0	6.6	95	67	46	1,000	90	6.0	2.9	1.4	38	22
20	0	7.0	80	64	52	928	79	5.6	2.9	30	30	86
21	.7	7.0	85	60	66	801	69	5.6	2.6	16	30	71
22	1.4	7.0	1,570	52	75	672	66	6.7	2.6	4.3	40	44
23	0	6.6	3,260	46	71	492	60	6.7	2.4	4.3	80	28
24	0	6.6	729	48	71	414	56	5.6	2.4	24	150	48
25	0	9.8	388	44	67	384	54	5.3	2.2	20	80	31
26	0	22	328	40	71	384	49	3.9	2.2	12	35	28
27	0	18	225	39	71	384	47	3.6	2.4	18	25	23
28	0	14	150	42	64	366	39	3.1	2.4	15	20	22
29	0	14	90	38	-	384	40	3.1	3.1	8.5	20	20
30	0	11	3,670	39	-------	360	43	3.1	2.4	32	20	110
31	0	-------	3,380	42	-------	348	-------	3.6	-------	14	25	-------
Total	2.1	208.2	16,398.2	4,846	1,458	16,820	4,332	447.7	86.2	224.2	1,332.8	1,040
Mean	0.68	6.94	529	156	52.1	543	144	14.4	2.87	7.23	43.0	34.7
Ac-ft	4.2	413	32,530	9,610	2,890	33,360	8,590	888	171	445	2,640	2,060

Calendar year 1965: Max 3,670 Min 0 Mean 77.8 Ac-ft 56,310
Water year 1965-66: Max 3,670 Min 0 Mean 129 Ac-ft 93,610

Peak discharge (base, 1,000 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-23	0830	7.10	5,900	8-3	1620	2.82	1,180
12-30	1900	7.45	7,500	8-17	1620	5.14	3,710
3-15	0830	3.37	1,700	8-24	unknown	3.64	1,940

Note.--Doubtful gage height record Dec. 30, 31.

9-4440. San Francisco River near Glenwood, N. Mex.

Location.--Lat 33°15'05", long 108°52'40", in NE¼NW¼ sec.23, T.12 S., R.20 W., on left bank at river mile 64.6, a quarter of a mile upstream from hot springs, 5 miles south of Glenwood, and 6 miles downstream from Whitewater Creek.

Drainage area.--1,653 sq mi.

Records available.--October 1927 to September 1966. Monthly discharge only for some periods, published in WSP 1313.

Gage.--Water-stage recorder. Datum of gage is 4,552.06 ft above mean sea level, datum of 1929. Prior to Feb. 15, 1934, at site 4½ miles upstream at datum 98.82 ft higher.

Average discharge.--39 years, 64.6 cfs (46,770 acre-ft per year).

Extremes.--Maximum discharge during year, 8,200 cfs Dec. 30 (gage height, 11.00 ft), from rating curve extended above 2,800 cfs on basis of slope-area measurement at gage height 10.74 ft; minimum, 6.0 cfs Oct. 11.
1927-66: Maximum discharge, that of Dec. 30, 1965; minimum, 1.5 cfs Aug. 6, 1961.
Major floods probably occurred Jan. 19 and Oct. 14, 1916 when discharges of 90,000 cfs (or greater) were computed for station at Clifton, Ariz. On Nov. 26, 1905, a peak of 25,000 cfs was measured (by float-area method) at station at Alma (about 12 miles upstream, drainage area, 1,560 sq mi); a similar measurement of 21,000 cfs was made at the Alma station for peak of Dec. 3, 1906.

Remarks.--Records good Oct. 1 to Dec. 21, Jan. 1 to Feb. 7, Mar. 8 to Apr. 7, others poor. Diversions for irrigation of about 2,000 acres above station. One small reservoir (capacity unknown) in headwaters. Records of chemical analyses, suspended sediment loads, and water temperatures for the water year 1966 are published in part 2 of this report.

Discharge, in cubic feet per second, water year October 1965 to September 1966

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.2	8.0	30	1,430	66	89	444	118	44	25	35	52
2	7.5	8.0	30	747	62	72	485	110	42	23	25	49
3	10	9.0	32	510	59	85	505	118	39	22	73	42
4	9.0	9.0	32	395	56	80	495	118	37	21	87	37
5	7.2	9.5	32	320	55	80	436	119	35	20	52	38
6	6.6	12	32	263	58	85	340	115	33	20	44	46
7	7.2	11	32	230	73	90	281	110	30	22	33	58
8	8.0	11	32	212	86	74	275	100	29	20	30	50
9	8.0	15	36	200	92	180	265	102	30	19	30	44
10	8.5	18	799	183	79	423	250	100	34	21	30	38
11	7.2	21	620	177	65	540	220	80	34	19	60	34
12	6.9	22	223	171	60	792	210	66	33	20	40	37
13	7.5	22	145	157	60	1,040	200	60	33	21	35	70
14	8.5	22	118	137	55	1,250	185	60	29	19	60	78
15	8.0	23	112	114	55	1,450	175	64	29	18	45	117
16	13	23	105	104	50	1,520	180	72	31	18	40	178
17	14	23	125	100	50	1,530	185	70	30	17	111	135
18	11	21	125	104	50	1,390	185	73	31	21	80	89
19	15	22	100	102	60	1,220	183	67	32	25	54	67
20	15	24	88	98	70	1,150	159	66	33	26	59	75
21	13	24	95	94	75	1,040	145	66	34	58	52	122
22	10	23	1,710	83	85	876	140	59	34	30	63	93
23	9.5	22	4,310	77	88	700	130	64	31	20	92	76
24	8.5	24	908	84	83	600	130	64	30	30	147	76
25	8.0	27	426	73	76	535	125	60	30	44	124	68
26	9.5	58	258	67	77	492	120	59	28	35	55	62
27	13	46	192	65	85	472	120	55	28	29	40	54
28	15	38	130	65	80	444	120	55	28	33	38	49
29	13	34	108	64	-	472	119	49	40	33	35	48
30	7.2	33	3,030	62	------	440	124	46	30	33	35	47
31	11	------	4,350	69	------	428	------	43	------	59	40	------
Total	303.0	662.5	18,365	6,557	1,910	19,639	6,931	2,408	981	821	1,744	2,029
Mean	9.77	22.1	592	212	68.2	634	231	77.7	32.7	26.5	56.2	67.6
Ac-ft	601	1,310	36,430	13,010	3,790	38,950	13,750	4,780	1,950	1,630	3,460	4,020

Calendar year 1965: Max 4,370 Min 6.6 Mean 103 Ac-ft 74,700
Water year 1965-66: Max 4,350 Min 6.6 Mean 171 Ac-ft 123,700

Peak discharge (base, 800 cfs)

Date	Time	Gage height	Discharge	Date	Time	Gage height	Discharge
12-10	1030	4.83	1,230	3-17	1045	4.79	1,830
12-23	1100	10.14	6,860	8-17	1845	3.67	1,050
12-30	2230	11.00	8,200				

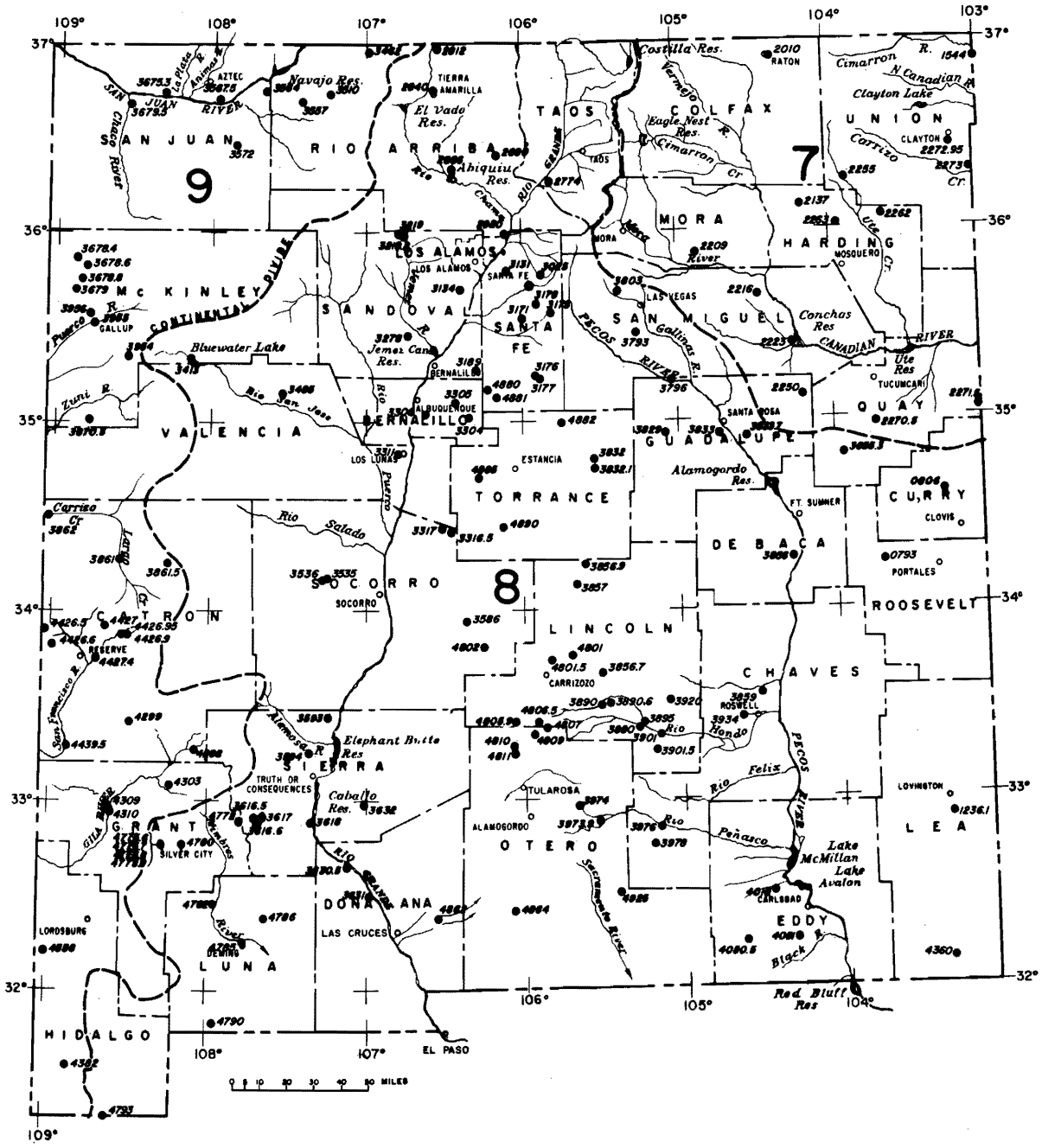

Figure 2.--Map of New Mexico showing location of partial-record stations.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analysis, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the state at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a general picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1966

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
		Rio Grande basin				
8-3865	Rio Ruidoso near Ruidoso, N. Mex.	SW¼ sec.19,T.11 S., R.13 E., at Mescalero Apache Indian Reservation boundary, 3 miles west of Ruidoso.	17.2	1953-66	1 -11-66 4 - 4-66 7 -14-66 9 -30-66	7.29 66.5 6.75 5.88
8-3866	Carrizo Creek at Ruidoso, N. Mex.	SW¼ sec.26, T.11 S., R.13 E., at mouth at Ruidoso.	24.2	1953-66	1 -11-66 4 - 4-66 7 -14-66 9 -30-66	3.15 8.44 3.30 2.24
		Gila River basin				
9-4299*	Snow Creek near Mogollon, N. Mex.	Lat 33°24'50", long 108°29'40", about 1,000 ft below Gila Wilderness boundary, 17.5 miles east of Mogollon.	89.6	1958-66	6 - 3-66	1.64

* Also a crest-stage station.

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum stage has been determined; for some stations, publication of discharge is delayed pending definition of stage-discharge relationship.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Arkansas River basin					
7-1544	Carrizozo Creek near Kenton, Okla.	NE¼ sec.31, T.31 N., R.37 E., under bridge on New Mexico State Highway 18, 4 miles southwest of Kenton.	111	1953-66	6-17-66	7.84	3,800
7-2010	Raton Creek at Raton, N. Mex.	Lat 36°54', long 104°26', 60 ft above bridge on State Highway 72 at Raton.	14.4	1953-66	b 6- 6-58 8-21-66	5.00 3.54	1,060 380
7-2137	Canadian River tributary near Mills, N. Mex.	NE¼ sec.3, T.22 N., R.25 E., on downstream end of left bridge abutment on State Highway 39, 6 miles north of Mills.	a4.2	1954-66	7-23-66	(f)	1,280
7-2209	Dog Creek near Shoemaker, N. Mex.	Lat 35°49'32", long 104°53'28", 0.5 mile above Valmora-Shoemaker road, and 1.8 miles northwest of Shoemaker.	11.2	1954-66	8- 9-66	9.98	2,150
7-2216	Lagartija Creek tributary near Sanchez, N. Mex.	SW¼SE¼ sec.5, T.16 N., R.24 E., at bridge on State Highway 65, 0.9 mile northeast of Sanchez.	a1	1961-66	10-17-65	(c)	(†)
7-2223	Trementina Creek at Trementina, N. Mex.	NW¼ sec.8, T.14 N., R.24 E., at bridge on State Highway 65 at Trementina.	a65	1959-66	10-17-65	7.61	(†)
7-2250	Pajarito Creek at Newkirk, N. Mex.	SW¼SW¼ sec.24, T.10 N., R.25 E., on downstream side of bridge on U. S. Highway 66, 1 mile east of Newkirk.	a35	1954-66	6-17-66	6.35	2,500
7-2255	Ute Creek near Gladstone, N. Mex.	On line of secs. 14 and 23, T.24 N., R.28 E., on bridge on State Highway 58, 3 miles east of Gladstone.	256	1953-66	8-16-53 5-24-54 5-19-55 8-19-56 8-23-57 5-15-58 8-24-59 7- 4-60 b10-17-60 b 5-17-62 9- 1-63 1964 8-31-65 6-10-66	d6.80 -.13 e6.55 3.72 1.47 1.40 2.97 1.32 -.58 .63 6.85 (c) .41 1.67	10,600 (†) a10,000 6,190 3,730 3,650 5,260 3,600 (†) (†) 10,700 (†) (†) 3,950
7-2262	Bueyeros Creek at Bueyeros, N. Mex.	E½ sec.7, T.20 N., R.31 E., on upstream end of right abutment of bridge on State Highway 102 at Bueyeros.	a34	1957-66	1966	(c)	(†)
7-2263	Carrizo Creek near Roy, N. Mex.	NW¼SE¼ sec.16, T.21 N., R.28 E., 800 ft below State Highway 120, and 15 miles northeast of Roy.	a68	1954-66	7-22-66	3.15	185
7-2270.5	Plaza Larga Creek tributary near Ragland, N. Mex.	NE¼ sec.15, T.7 N., R.30 E., at culvert on State Highway 18, 1.2 miles northwest of Ragland.	a.5	1952-66	8- 2-66	6.96	215
7-2271.5	Arroyo del Puerto near Endee, N. Mex.	SW¼SW¼ sec.26, T.10 N., R.36 E., at bridge on State Highway 93, 5.4 miles south of Endee.	a25	1961-66	9-15-66	1.92	(†)
7-2272.95	Sandy Arroyo tributary near Clayton N. Mex.	NW¼ sec.21, T.25 N., R.34 E., above culvert on State Highway 58, 8 miles southwest of Clayton.	4.3	1952-66	8-22-52 10-16-65	6.56 4.27	298 174
7-2273	Sandy Arroyo near Clayton, N. Mex.	At center of boundary of secs. 2 and 3, T.24 N., R.35 E., on downstream side of bridge on State Highway 18, 7.5 miles south of Clayton.	a42	1953-66	10-16-65	5.59	(†)

Explanation of symbols used with partial-record crest-stage station listings are given at end of the tables.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Brazos River basin					
8-0793	Blackwater Draw tributary near Floyd, N. Mex.	NW¼SW¼ sec. 13, T.1 S., R.30 E., 0.5 mile below section road and 10 miles west of Floyd.	a10	1963-66	7-27-66	1.05	(†)
8-0806	Running Water Draw near Clovis, N. Mex.	In NE¼ sec.31, T.4 N., R.36 E., ¼ mile upstream from State Highway 18 and 8 miles north of Clovis.	109	1953-56 1957-64‡ 1965-66	 6-10-65 6- 2-66	 1.04 3.10	 (†) 320
		Colorado River basin					
8-1236.1	Seminole Draw tributary near Lovington, N. Mex.	NW¼NE¼ sec.4, T.17 S., R.35 E., ¼ mile above culvert on State Highway 483, and 5.1 miles south of Lovington.	a2	1963-66[k]	8-23-66	3.21	(†)
		Rio Grande basin					
8-2774	Rio Grande tributary at Rinconada, N. Mex.	SW¼NW¼ sec.21, T.23 N., R.10 E., at culvert on U. S. Highway 64, 0.6 mile west of Rinconada.	.02	1952-66	8-20-66	.94	(†)
8-2812	Wolf Creek near Chama, N. Mex.	Lat 36°57'20", long 106°32'10", at bridge on State Highway 17, and 4½ miles northeast of Chama.	27.7	1959-66	4- 3-66	2.20	(†)
8-2840	Rito de Tierra Amarilla at Tierra Amarilla, N. Mex.	Lat 36°41'55", long 106°33'25", 400 ft below culvert on U. S. Highway 84, at Tierra Amarilla.	49.7	1957-66	4-30-66	3.08	280
8-2866.5	Arroyo Seco above Abiquiu Reservoir, N. Mex. (Station 8-2867 was within Abiquiu Reservoir).	Lat 36°18'55", long 106°29'05", in Piedra Lumbre Grant, 300 ft upstream from bridge on U. S. Highway 84, 0.2 mile northwest of entrance to Ghost Ranch and about 12 miles northwest of Abiquiu.	144	1966	6- 1-66	2.80	200
8-2880	El Rito near El Rito, N. Mex.	Sec.19, T.25 N., R.7 E., 3 miles northwest of El Rito	49.8	1932-51‡ 1952-66	6- 9-66	2.46	98
8-2920	Santa Clara Creek near Espanola, N. Mex.	SW¼SW¼ sec.11, T.20 N., R.7 E., 5½ miles southwest of Espanola.	34.5	1936-41‡ 1949-50‡ 1952-66	4- -60 8- 2-66	b2.86 2.99	82 94
8-2950	Rio Nambe near Nambe, N. Mex.	Discontinued, see regular station 8-2943 in this report	-	-	-	-	-
8-3025	Tesuque Creek above diversions, near Santa Fe, N. Mex.	NW¼ sec.5, T.17 N., R.10 E., 500 ft above point of diversion of Cajon Grande ditch, 1 mile above Little Tesuque Creek, and 4 miles northeast of Santa Fe.	11.7	1936-51‡ 1953-66	4-23-66	2.47	< 20
8-3131	Canada Ancha tributary near Santa Fe, N. Mex.	Lat 35°44'05", long 106°07'00", in Caja del Rio Grant, 9 miles northwest of Santa Fe.	1.23	1940-48[j] 1952-66	12-10-65	5.89	209
8-3134	Bland Canyon near Cochiti, N. Mex.	Lat 35°42'11", long 106°24'56", 200 ft south of Forest Service Road, 0.3 mile inside Santa Fe National Forest, 7.5 miles north of Cochiti.	a9	1962-66	12-10-65	1.05	(†)
8-3171	Arroyo Yupa tributary near Cerrillos, N. Mex.	S½NE¼ sec.13, T.15 N., R.7 E., 300 ft above culvert on U. S. Highway 85, 1.4 miles southwest of Turquoise Trading Post, and 6.5 miles north of Cerrillos.	.47	1957-66	8- 2-66	1.51	(†)
8-3175	Galisteo Creek at Canoncito, N. Mex.	NW¼NW¼ sec.7, T.15 N., R.11 E., above railroad bridge, 0.2 mile above Apache Canyon at Canoncito	11.3	1955-56 1959-66	8-23-66	5.25	2,000
8-3176	San Cristobal Arroyo near Galisteo, N. Mex.	Lat 35°22'55", long 105°51'05", at bridge on U. S. Highway 285, 5½ miles east of Galisteo	116	1955-66	8-17-61 9-21-63 8-21-66	13.34 6.47 6.86	b9,500 b1,630 1,930
8-3177	Jaspe Arroyo tributary near Galisteo, N. Mex.	Lat 35°21'55", long 105°50'40", at culvert on U. S. Highway 285, 6 miles southeast of Galisteo.	a1.5	1952-66	8-21-66	15.62	390

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
8-3178	Canada de las Minas tributary near Santa Fe, N. Mex.	Lat 35°36'27", long 105°54'42", at culvert on U. S. Highway 84, 85, and 285, 1.3 miles northeast of Seton Village, and 5.7 miles south of Santa Fe.	0.56	1952-66	1952	6.13	260
					1953	(f)	(†)
					1954	2.97	66
					1955	2.97	66
					1956	(c)	<20
					7-24-57	4.14	126
					1958	(c)	<20
					1959	1.67	21
					7- 5-60	2.19	36
					8-22-61	3.28	80
					1962	(c)	<10
					7-10-63	2.75	56
					1964	(c)	<10
					8- 1-65	1.58	19
					7-27-66	d7.20	366
8-3189	San Pedro Creek near Golden, N. Mex.	Lat 36°13'45", long 106°18'00", 1 mile below bridge on State Highway 10 and 5½ miles southwest of Golden.	45.2	1953-66	7- 6-53	2.05	1,450
					8-15-54	.17	b178
					9-24-55	d12.45	10,800
					7-30-56	d150	1,020
					7-26-57	3.32	2,450
					10-12-57	1.51	1,050
					8-20-59	d1.20	830
					9-19-60	bd-.20	10
					8-23-61	1.25	878
					7-10-62	2.98	2,150
					9-21-63	1.12	780
					8-15-64	.78	550
					7-27-65	d6.62	2,730
					7-20-66	1.53	1,070
8-3219	Rio de las Vacas near Senorita, N. Mex.	Lat 35°59'35", long 106°47'45", at bridge on side road, 0.1 mile south of State Highway 126 and 6.5 miles east of Senorita.	26.8	1957-66	5-23-58	5.05	a800
					4-22-66	3.36	167
8-3219.2	Rock Creek near Cuba, N. Mex.	W½ sec. 6, T.20 N., R.2 E., 1 mile east of State Highway 126, 8 miles east of village of Senorita, and 11 miles east of Cuba.	a3.7	1960-66	4- 6-60	b1.57	(†)
					4-17-61	b2.55	(†)
					4- 3-62	b1.78	(†)
					3-23-63	b2.10	(†)
					4-16-64	b1.69	(†)
					8- 1-65	2.55	(†)
					3-10-66	2.87	(†)
8-3278	Arroyo Ojito at Zia Pueblo, N. Mex.	SE¼SE¼ sec.21, T.15 N., R.2 E., 100 ft upstream from culvert on State Highway 44, in Zia Pueblo Grant, 0.7 mile south of Zia Pueblo.	17.7	1961-66	8- 2-66	6.25	(†)
8-3304	Juan Toro Canyon near Miera, N. Mex.	W½SE¼ sec.7, T.9 N., R.6 E., 150 ft east of State Highway 10, 1 mile southeast of Cedro, and 4½ miles northwest of Miera.	1.57	1959-66	1966	(c)	(†)
8-3305	Tijeras Arroyo at Albuquerque, N. Mex.	Lat 35°03'40", long 106°28'40", 300 ft south of U. S. Highway 66 and 0.4 mile southeast of city limits of Albuquerque.	75.3	1943-48‡ 1958-66	8-17-66	2.02	(†)
8-3306	Tijeras Arroyo near Albuquerque, N. Mex.	SE¼SW¼ sec.17, T.9 N., R.3 E., at culvert on State Highway 47, 5.7 miles south of Central Avenue (U. S. Highway 66) in Albuquerque.	133	1952-66	1958	b1.04	(†)
					10-17-65	1.05	(†)
8-3311	Belen Highline Canal tributary near Los Lunas, N. Mex.	Lat 34°49'20", long 106°49'10", above culvert on State Highway 6, 5.0 miles west of Los Lunas.	.16	1952-53 1955-66	8-18-66	5.60	(†)
8-3316.5	Canada Montoso near Scholle, N. Mex.	SW¼SW¼ sec.12, T.2 N., R.4 E., 130 ft upstream from dip on abandoned highway, 700 ft upstream from bridge on U. S. Highway 60, 3.6 miles southwest of Scholle.	a35	1961-66	8-11-61	bd3.08	720
					9-25-62	2.89	546
					9- 5-63	1.66	72
					7-11-64	2.02	128
					8- 1-65	d6.27	3,830
					7-19-66	3.99	1,500
8-3317	Abo Arroyo tributary near Scholle, N. Mex.	Lat 34°24'10", long 106°30'35", at culvert on U. S. Highway 60, 2.5 miles southeast of junction of U. S. Highway 60 and State Highway 6, and 5.5 miles southwest of Scholle.	a.2	1954-66	8-10-66	13.61	40

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
8-3413	Bluewater Creek above Bluewater Dam, near Bluewater, N. Mex.	NE¼ sec.20, T.12 N., R.12 W., 2.3 miles south of Bluewater Dam, and 8 miles west of Bluewater.	a75	1953-66	9-15-66	3.33	210
8-3485	Encinal Creek near Casa Blanca, N. Mex.	NW¼NW¼ sec.34, T.11 N., R.6 W., 1.8 miles north of village of Encinal and 6.8 miles north of Casa Blanca.	6.19	1937-39‡ 1959-66	7-20-66	3.17	78
8-3535	La Jencia Creek near Magdalena, N. Mex.	S½ sec.1, T.2 S., R.4 W., 3½ miles northwest of Magdalena.	195	1957-66	7-24-66	2.66	1,180
8-3536	La Jencia Creek tributary near Magdalena, N. Mex.	NE¼SE¼ sec.13, T.2 S., R.4 W., at Santa Fe Railroad bridge, 2.7 miles northeast of Magdalena.	5.67	1957-66	7-21-66	.99	(†)
8-3586	Chupadera Wash tributary at Bingham, N. Mex.	NE¼SW¼ sec.12, T.5 S., R.5 E., 75 ft upstream from culvert on U. S. Highway 380, 0.1 mile west of Bingham.	1.29	1961-66	6-25-66	e2.58	(†)
8-3593	San Jose Arroyo near Monticello, N. Mex.	NW¼SW¼ sec.3, T.10 S., R.4 W., at head of box canyon just below major tributary, 800 ft below culvert on U. S. Highway 85, 13 miles northeast of Monticello.	a27	1959-66	6-29-66	2.46	h1,500
8-3594	Lumber Canyon tributary near Monticello, N. Mex.	N½NE¼ sec.5, T.11 S., R.4 W., at culvert on U. S. Highway 85, 0.2 mile north of road to Red Rock Ranger station, and 10.5 miles east of Monticello.	a.9	1952-66	8-24-66	1.48	(†)
8-3616.5	Percha Creek near Kingston, N. Mex.	NE¼NE¼ sec.15, T.16 S., R.8 W., at bridge on State Highway 180, 3.3 miles east of Kingston.	21.5	1953-66	1953	1.72	720
					9-24-54	d-.3	35
					7-11-55	3.58	2,260
					7-28-56	.88	310
					7-25-57	2.12	970
					9-13-58	1.57	620
					8- 9-59	g5.51	904
					7- 8-60	d1.8	90
					b8-16-61	7.35	1,220
					8-17-62	4.27	638
					10-26-62	5.59	920
					7-26-64	3.75	512
					b9- 7-65	b2.47	213
					8-24-66	4.09	390
8-3616.6	Percha Creek tributary near Kingston, N. Mex.	NW¼SW¼ sec.14, T.16 S., R.8 W., 500 ft above culvert on State Highway 180, and 3.5 miles east of Kingston.	.58	1957-66	1957	2.63	205
					9- -58	2.48	185
					8- -59	b1.09	65
					1960	d.45	34
					9- -61	1.31	80
					8-21-62	3.50	323
					10- -62	1.85	120
					1964	(c)	<40
					1965	-	0
					1966	-	0
8-3617	Percha Creek near Hillsboro, N. Mex.	SE¼NW¼ sec.18, T.16 S., R.7 W., 150 ft south of State Highway 180, and 2 miles west of Hillsboro.	35.4	1957-66	8-24-66	3.93	880
8-3618	Percha Creek at Caballo Dam near Arrey, N. Mex.	SW¼ sec.24, T.16 S., R.5 W., at bridge on U. S. Highway 85, 0.5 mile above mouth and Caballo Reservoir, and 3.5 miles north of Arrey.	119	1953-66	8-24-66	3.20	(†)
8-3630.5	Arroyo Angostura near Rincon, N. Mex.	SE¼ sec.13, T.19 S., R.3 W., 140 ft below dip on U. S. Highway 85, and 2.2 miles southwest of Rincon.	a8.5	1959-66	8- 8-66	1.63	(†)
8-3631	Rio Grande tributary near Radium Springs, N. Mex.	N½NW¼ sec.9, T.21 S., R.1 W., above culvert on U. S. Highway 85, 120 ft above mouth, and 1.4 miles west of Radium Springs.	.40	1955-66	8- 5-66	6.82	236

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
8-3632	Aleman Draw at Aleman, N. Mex.	SW¼ sec.13, T.15 S., R.2 W., on Santa Fe Railroad bridge, 140 ft above dip on Engle-Rincon road, and ½ mile west of Aleman.	a27	1959-66	6-26-66	7.05	2,450
8-3793	Tecolote Creek at Tecolote, N. Mex.	Lat 35°27'20", long 105°16'55", on bridge on U. S. Highway 85 at Tecolote.	122	1954-66	6-30-54	9.13	3,600
					9-24-55	11.22	b7,500
					6-28-56	6.65	1,130
					8-29-57	10.22	5,320
					7- 6-58	8.85	3,240
					8-24-59	5.70	620
					8-11-60	7.69	1,950
					8-17-61	12.92	12,300
					1962	7.94	2,140
					9- -63	6.08	800
					1964	(c)	(†)
					7-31-65	9.57	4,180
					8- 2-66	8.35	2,600
8-3796	Pecos River tributary near Dilia, N. Mex.	Lat 35°12'50", long 105°04'50", above culvert on U. S. Highway 84, and 1.7 miles northwest of Dilia.	.16	1952-66	7- 1-66	.63	7
8-3803	Sandoval Canyon at Gallinas, N. Mex.	Lat 35°41'19", long 105°21'17", about 500 ft upstream from culvert on State Highway 65, at north edge of Gallinas.	7.6	1957 1961-66	8- 1-66	5.26	2,530
8-3829	Pecos River tributary near Pintada, N. Mex.	Lat 34°58'06", long 105°05'38", in Anton Chico Grant, 1,500 ft south of U. S. Highway 66, 6.8 miles north of Pintada.	a16	1961-66	8-22-66	1.16	< 100
8-3832	Pintada Arroyo tributary near Clines Corners, N. Mex.	Lat 34°50'40", long 105°35'05", above culvert on U. S. Highway 285, 12.2 miles south of Clines Corners.	-	1952-66	8-11-52	2.47	156
					5-12-53	d7.1	(†)
					9-12-54	1.36	34
					8-19-55	1.67	57
					8- 1-56	2.16	110
					7-20-57	3.20	305
					9-10-58	2.61	182
					8-19-59	2.56	161
					7-15-60	1.52	45
					8-12-61	2.52	160
					7- 9-62	1.64	54
					8-25-63	1.54	46
					7-17-64	1.83	72
					5-30-65	2.90	237
					8- 1-66	2.18	113
8-3832.1	Pintada Arroyo tributary near Encino, N. Mex.	Lat 34°48'40", long 105°34'00", above culvert on U. S. Highway 285, 0.1 mile south of ranch road, and 12½ miles northwest of Encino.	a1	1959-66	8- 1-66	1.80	(†)
8-3833	Pintada Arroyo near Santa Rosa, N. Mex.	NE¼ sec.29, T.8 N., R.21 E., 300 ft above culvert on U. S. Highway 54, and 4½ miles southwest of Santa Rosa.	896	1959-66	8-22-66	d6.11	2,950
8-3833.7	Pecos River tributary near Puerto de Luna, N. Mex.	SW¼NW¼ sec.32, T.8 N., R.22 E., 25 ft upstream from culvert on State Highway 91, 3.1 miles north of Puerto de Luna.	.37	1961-66	9-12-61	d8.0	116
					7-25-62	6.39	32
					8-25-63	5.23	< 10
					6- 3-64	5.87	16
					8- 4-64	6.73	46
					8-22-66	d13.93	514
8-3855.3	Alamosa Creek tributary near Jordan, N. Mex.	SW¼SW¼ sec.27, T.7 N., R.28 E., 500 ft upstream from dip on State Highway 156, 6.9 miles west of Jordan.	a10	1962-66	1966	(c)	(†)
8-3856	Yeso Arroyo near Fort Sumner, N. Mex.	SE¼ sec.35, T.1 N., R.25 E., at abandoned bridge 1 mile below State Highway 20, and 14.5 miles south of Fort Sumner.	242	1937 1952-66	8-22-66	3.89	(†)
8-3856.7	Aragon Creek tributary near Encinoso, N. Mex.	NE¼NE¼ sec.22, T.7 S., R.14 E., 0.3 mile upstream from wooden bridge on dirt road, 1.2 miles north of State Highway 48, 4.3 miles west of Encinoso.	6.07	1961-66	9-15-66	3.86	500

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
8-3856.9	Bonita Canyon tributary near Corona, N. Mex.	S½ sec.7, T.1 S., R.13 E., above culvert on U. S. Highway 54, and 1.8 miles southwest of Corona.	a.6	1959-66	8- 2-66	1.61	(†)
8-3857	Cloud Canyon near Gallinas, N. Mex.	SW¼ sec.15, T.2 S., R.12 E., above culvert on U. S. Highway 54, and 2.0 miles southwest of Gallinas.	a10	1957-66	8-24-57 1958 1959 7- -60 1961 1962 1963 9-12-64 8-13-65 8- 2-66	d8.28 (c) 2.12 b2.19 (c) 2.15 (c) 2.87 d3.90 d8.96	639 <10 16 19 <10 18 <10 46 115 706
8-3859	Salt Creek tributary near Roswell, N. Mex.	NE¼NE¼ sec.17, T.9 S., R.24, E., at culvert on U. S. Highway 285, 4.7 miles north of junction of U. S. Highways 70 and 285, and 10 miles north of Roswell.	.04	1952-66	1955 8-23-66	b1.64 .81	(†) (†)
8-3880	Rio Ruidoso at Hondo, N. Mex.	NE¼SW¼ sec.4, T.11 S., R.17 E., ½ mile above confluence with Rio Bonito, and ½ mile southwest of Hondo.	290	1931-55‡ 1956-66	7-31-56 8-29-66	b5.97 4.50	934 337
8-3890	Rio Bonito near Fort Stanton, N. Mex.	SW¼ sec.16, T.9 S., R.15 E., at bridge on U. S. Highway 380, 2.5 miles northeast of Fort Stanton.	a85	1955-66	9-15-66	5.13	(†)
8-3890.6	Rio Bonito tributary near Fort Stanton, N. Mex.	SW¼SW¼ sec.15, T.9 S., R.15 E., at culvert on U.S. Highway 380, 150 ft above mouth, and 3.5 miles northeast of Fort Stanton.	.72	1955-66	1959 1966	- (c)	b0 (†)
8-3895	Rio Bonito at Hondo, N. Mex.	NE¼NW¼ sec.4, T.11 S., R.17 E., at bridge on U. S. Highway 70, at Hondo.	i295	1931-55‡ 1956-66	8-22-66	1.84	289
8-3901	Rio Hondo at Picacho, N. Mex.	W½W½ sec.15, T.11 S., R.18 E., by road bridge just off U. S. Highway 70, 1.3 miles northwest of Picacho.	715	1956-62‡ 1963-66	8-10-63 8-14-64 6-17-65 8-29-66	b11.35 b9.65 d26.9 9.06	b1,930 b940 115,000 690
8-3901.5	Gallo Canyon near Picacho, N. Mex.	NE¼NE¼ sec.8, T.12 S., R.18 E., 500 ft east of road, 5 miles south of Picacho.	a2	1962-66	8-22-66	6.01	(†)
8-3920	Pancho Canyon near Arabella, N. Mex.	SE¼SE¼ sec.19, T.9 S., R.18 E., 200 ft downstream from dip on State Highway 368, 5.6 miles south of Arabella.	a16	1962-66	1966	(c)	(†)
8-3934	Eight Mile Draw near Roswell, N. Mex.	SW¼NE¼ sec.32, T.10 S., R.23 E., and 6.5 miles west of Roswell.	397	1941 1952-66	8-23-66	15.91	(†)
8-3973.9	Curtis Canyon near Mayhill, N. Mex.	E½NE¼ sec.4, T.17 S., R.14 E., ½ mile above SCS dam, 0.4 mile west of State Highway 130, and 2.5 miles southwest of Mayhill.	10.3	1959-66	1966	(c)	(†)
8-3974	Hyatt Canyon near Cloudcroft, N. Mex.	NW¼NW¼ sec.9, T.16 S., R.13 E., ½ mile south of State Highway 83, and 7 miles east of Cloudcroft.	3.08	1953-66	8-19-66	.15	(†)
8-3976	Rio Penasco near Dunken, N. Mex.	NW¼NE¼ sec.35, T.16 S., R.17 E., on bridge on State Highway 24, 5 miles north of Dunken.	583	1952-56 1956-62‡ 1963-66	8-23-66	8.31	(†)
8-3978	Bluewater Creek near Dunken, N. Mex.	SE¼NE¼ sec.33, T.17 S., R.17 E., 300 ft above dip on State Highway 24, and 1.3 miles south of Dunken.	143	1958-66	8-23-66	3.87	(†)
8-4018	Rocky Arroyo near Carlsbad, N. Mex.	SW¼ sec.23, T.21 S., R.24 E., 0.1 mile north of State Highway 137, 0.7 mile above dip on State Highway 137, and 14 miles west of Carlsbad.	254	1953-66	5-30-57 8-23-66	41.78 50.07	3,650 26,000

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Rio Grande basin--Continued					
8-4050.5	Last Chance Canyon tributary near Carlsbad Caverns, N. Mex.	E½NW¼ sec.21, T.23 S., R.23 E., above culvert on State Highway 137, 0.1 mile north of road to Sitting Bull Falls, and 12½ miles northwest of Carlsbad Caverns.	a.2	1959-66	1959	(c)	< 10
					7- 6-60	5.72	439
					1961	(c)	(†)
					9- 5-62	2.75	111
					8-31-63	3.90	220
					9-22-64	2.79	115
					5-30-65	1.37	< 30
					8-23-66	d7.77	683
8-4051	Mosley Canyon near White City, N. Mex.	SE¼ sec.34, T.23 S., R.25 E., 600 ft below dip on Dark Canyon road, and 5½ miles north of White City.	14.6	1959-66	8-23-66	9.93	5,100
8-4360	San Simon Swale tributary near Jal, N. Mex.	NE¼NE¼ sec.4, T.25 S., R.35 E., 0.4 mile south of State Highway 128, and 10.7 miles west of Jal.	a20	1963-66	8-23-66	1.81	280
		Mimbres River basin					
8-4772	Iron Creek near Kingston, N. Mex.	Lat 32°54'50", long 107°46'35", 50 ft east of State Highway 180, 1.6 road miles west of Emory Pass, and 4.5 miles west of Kingston.	.74	1955-66	1966	(c)	(†)
8-4775.6	Little Walnut Creek near Silver City, N. Mex.	NW¼NE¼ sec.28, T.17 S., R.14 W., 85 ft above dip on Bear Mountain Road, and 2 miles north of Silver City.	5.10	1959-66	7-29-66	3.51	990
8-4775.7	Silva Creek tributary at Silver City, N. Mex.	SE¼SW¼ sec.27, T.17 S., R.14 W., 350 ft above dip on Little Walnut Road, and 0.7 mile north of boundary of Silver City.	2.12	1958-66	7-30-61	b3.57	b550
					8-16-63	d6.78	1,830
					6-28-66	3.45	510
8-4775.8	Silva Creek at Silver City, N. Mex.	Lat 32°46'41", long 108°16'41", 190 ft above Twelfth Street Bridge at Silver City.	10.0	1958-66	7-26-62	3.43	b1,020
					8-24-66	3.90	1,400
8-4775.9	Pinos Altos Creek at Silver City, N. Mex.	Lat 32°46'52", long 108°16'04", 2 blocks below U. S. Highway 260 at Silver City.	4.63	1958-66	6-26-66	3.37	(†)
8-4780	Cameron Creek at Central, N. Mex.	SW¼NE¼ sec.36, T.17 S., R.13 W., 2,500 ft above culvert on U. S. Highway 260, at north edge of Central.	18.8	1954-66	9-15-66	1.70	(†)
8-4782	Mimbres River tributary near Spalding, N. Mex.	S½ sec.5, T.22 S., R.10 W., at culvert on U. S. Highway 260, 0.7 mile northeast of junction with State Highway 61, 4.5 miles southeast of Spalding.	1.17	1952-66	7-21-66	1.40	(†)
8-4785	Mimbres River at Deming, N. Mex.	On section line 22 and 27, T.23 S., R.9 W., at bridge on U. S. Highway 260, at north end of Deming.	1,370	1954-66	12-23-65	2.37	770
8-4786	Mimbres basin tributary near Florida, N. Mex.	Near boundary of sec.25 and 36, T.22 S., R.8 W., above culvert on State Highway 26, and 5 miles southwest of Florida.	a.4	1959-66	8-17-66	2.14	(†)
8-4790	Hermanas Draw tributary at Hermanas, N. Mex.	SW¼ sec.22, T.28 S., R.11 W., at Southern Pacific Railroad bridge, 110 ft above State Highway 9, 0.3 mile west of Hermanas.	10.8	1959-66k	9- 7-66	4.38	(†)
8-4793	Deer Creek tributary near Antelope Wells, N. Mex.	Sec.6, T.34, R.18 W., 0.1 mile below dip on State Highway 79, 2½ miles east of San Luis Pass, and 12 miles west of Antelope Wells.	4.3	1959-66	8- 8-66	1.78	253
		Tularosa Valley					
8-4801	White Oaks Canyon at White Oaks, N. Mex.	NW¼SW¼ sec.20, T.6 S., R.13 E., 40 ft upstream from culvert on State Highway 349, 1 mile northeast of White Oaks.	1.14	1961-66	8-18-66	1.54	(†)
8-4801.5	White Oaks Canyon near Carrizozo, N. Mex.	NW¼SE¼ sec.6, T.7 S., R.11 E., 100 ft upstream from culvert on U. S. Highway 54, 6 miles north of Carrizozo.	31	1959 1961-66	6-29-66	d4.25	1,620

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Tularosa Valley--Continued					
8-4802	Taylor Canyon tributary near Bingham, N. Mex.	SE¼NE¼ sec.15, T.6 S., R.7 E., 200 ft north of U. S. Highway 380, 12 miles southeast of Bingham.	2.66	1961-66	1966	(c)	(†)
8-4805.9	Tularosa basin tributary near Oscura, N. Mex.	SW¼NW¼ sec.25, T.10 S., R.8 E., 50 ft below culvert on U. S. Highway 54, and 5.2 miles south of Oscura.	3.22	1958-66	1966	(c)	(†)
8-4806.5	Minnie Hall Draw near Three Rivers, N. Mex.	NE¼SE¼ sec.35, T.10 S., R.9 E., 8 miles northeast of Three Rivers.	9.70	1956-66	8-29-66	11.29	(†)
8-4807	Indian Creek near Three Rivers, N. Mex.	SW¼NE¼ sec.10, T.11 S., R.10 E., 150 ft above diversion dam, and 11½ miles east of Three Rivers.	a6.8	1956-58‡ 1959-66	b8-19-65 8-29-66	4.44 3.82	318 175
8-4809	Indian Creek at mouth near Three Rivers, N. Mex.	Lat 33°22'45", long 105°57'25", 75 ft above diversion dam, 0.35 mile above mouth, and 5½ miles east of Three Rivers.	10.9	1956-58‡ 1959-66	8-19-65 8-29-66	4.00 4.19	278 340
8-4810	Three Rivers at Three Rivers, N. Mex.	NE¼SW¼ sec.3, T.12 S., R.9 E., 150 ft below Southern Pacific Railroad bridge, 400 ft above bridge on U. S. Highway 54, and 1.3 miles south of Three Rivers.	96.0	1956-66	7- 4-61 8-29-66	5.67 4.14	b7,200 4,000
8-4811	Tularosa basin tributary near Three Rivers, N. Mex.	SW¼SE¼ sec.3, T.12 S., R.9 E., at culvert on U. S. Highway 54, 1.6 miles south of Three Rivers.	13.8	1952-66	1952 1953 b8-24-54 8-10-55 b9- 5-56 7-26-57 10-12-57 8-24-59 b7-10-60 7- 4-61 b7-28-62 10- 5-62 9-12-64 8- 1-65 8-24-66	- - .50 .87 (c) .78 .84 .32 (c) b.18 .83 .30 .65 .43 .01	h517 h383 600 2,340 b<60 1,700 2,100 280 b<60 b 160 1,980 260 1,050 440 72
8-4862	Black Prince Canyon tributary near Organ, N. Mex.	NE¼SE¼ sec.33, T.21 S., R.4 E., above culvert on U. S. Highway 70, 2.3 miles east of San Augustin Pass, and 4.0 miles east of Organ.	.73	1959-66	7- 7-66	0.99	(†)
8-4864	Tularosa basin tributary near Orogrande, N. Mex.	S½SE¼ sec.1, T.22 S., R.8 E., at bridge on U. S. Highway 54, and 2.7 miles northeast of Orogrande.	2.53	1959-66	8-21-66	5.03	(†)
		Estancia Valley					
8-4880	Estancia Valley Tributary at Cedar Grove, N. Mex.	NE¼NE¼ sec.21, T.11 N., R.7 E., 50 ft upstream from culvert on State Highway 344, 0.1 mile south of Cedar Grove.	1.21	1955 1961-66	1966	(c)	(†)
8-4881	Juan Tomas Canyon near Edgewood, N. Mex.	SE¼NE¼ sec.19, T.10 N., R.7 E., 140 ft upstream from culvert on U. S. Highway 66, 2.5 miles northwest of Edgewood.	a20	1962-66	1966	(c)	(†)
8-4882	Osita Draw near Clines Corners, N. Mex.	SW¼NW¼ sec.17, T.9 N., R.11 E., 100 ft upstream from culvert on U. S. Highway 66, 7.5 miles west of Clines Corners.	a10	1961-66	9-19-61 8-20-62 9-21-63 7-17-64 7-31-65 8-15-66	5.05 2.80 2.67 2.88 1.83 2.42	1,260 310 285 325 153 235
8-4885	Canon de Torreon at Torreon, N. Mex.	Lat 34°43'20", long 106°17'50", at culvert on State Highway 19, in Torreon.	18.2	1954-66	6-30-66	1.78	10
8-4890	Canada del Leon near Mountainair, N.Mex.	SE¼ sec.10, T.2 N., R.7 E., ¼ mile above culvert on State Highway 10, and 814 miles southeast of Mountainair.	3.9	1953-66	8- 2-66	4.78	240

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Salt basin					
8-4925	Cornucopia Canyon near Pinon, N. Mex.	NE¼ sec.6, T.21 S., R.16 E., 0.2 mile above dip in ranch road, and 7.5 miles south of Pinon.	17.2	1959-66	1959	d2.6	(†)
					1960	(c)	(†)
					8- -61	6.00	3,500
					1962	5.06	1,140
					1963	5.92	3,200
					8-14-64	5.12	1,220
					6-10-65	5.86	2,900
					8-22-66	4.61	660
		San Juan River basin					
9-3462	Rio Amargo at Dulce, N. Mex.	NW¼ sec.1, T.31 N., R.2 W., under bridge on State Highway 17, at Dulce.	168	1956-66	3-13-66	5.23	(†)
9-3510	Vaqueros Canyon near Gobernador, N. Mex.	SW¼ sec.17, T.29 N., R.4 W., 100 ft east of State Highway 17 and 4.2 miles east of Gobernador.	a60	1956-66	5-17-62	2.07	68
					4-13-66	3.10	157
9-3557	Gobernador Canyon near Gobernador, N. Mex.	NW¼ sec.36, T.29 N., R.6 W., 0.2 mile south of State Highway 17, and 4 miles southwest of Gobernador.	a22	1956-66	1966	(c)	(†)
9-3564	Manzanares Canyon near Turley, N. Mex.	W½SW¼ sec.8, T.29 N., R.8 W., 600 ft above culvert on State Highway 17, and 4.2 miles east of Turley.	a3.1	1956-66	6-29-66	1.97	(†)
9-3567.5	Valdez Draw near Bloomfield, N. Mex.	NE¼SW¼ sec.20, T.29 N., R.10 W., above culvert on State Highway 17, 4 miles east of Bloomfield.	a1.3	1956-66	1966	(c)	(†)
9-3572	Gallegos Canyon tributary near Nageezi, N. Mex.	E½ sec.11, T.25 N., R.10 W., at culvert on State Highway 44, 1.1 miles northwest of Huerfano Trading Post, and 12.5 miles northwest of Nageezi.	.20	1952-66	11-24-65	1.24	54
9-3675.3	San Juan River tributary near Kirtland, N. Mex.	NW¼NE¼ sec.15, T.29 N., R.14 W., on upstream side of abandoned culvert, 200 ft above U. S. Highway 550, 0.4 mile above mouth, and 3.3 miles east of Kirtland.	a3.0	1951-66	1951	d1.24	72
					1952	(c)	< 50
					8- 1-53	2.04	121
					7-22-54	5.27	385
					8-16-55	3.02	194
					8-16-56	.94	56
					8-29-57	d9.1	812
					8-21-58	1.06	62
					8- 6-59	1.03	60
					b7-27-60	2.28	137
					8-17-61	2.12	127
					1962	(c)	< 50
					8- 4-63	d4.9	350
					7-13-64	2.30	140
					8-17-65	2.57	157
					1966	(c)	< 70
9-3678.4	Yazzie Wash near Mexican Springs, N. Mex.	Lat 35°50'40", long 108°53'00", 5.0 miles northwest of Mexican Springs, and 23 miles north of Gallup.	a2.1	1953-54, 1956-66	7-18-53	b3.27	b170
					7-22-54	4.76	b511
					1955	(f)	(†)
					8-16-56	3.86	b270
					7-19-57	3.86	b270
					8-17-58	5.39	b837
					8-23-59	4.21	b350
					b3-23-60	3.54	b250
					8-24-61	4.11	322
					7-26-62	1.33	26
					8- 4-63	3.19	155
					9-24-64	4.65	480
					8- 1-65	5.01	625
					9-15-66	5.01	625
9-3678.6	Chusca Wash near Mexican Springs, N. Mex.	Lat 35°48'40", long 108°50'50", 1.8 miles northwest of Mexican Springs, and 20 miles north of Gallup.	a8.7	1953-66	9-15-66	4.37	2,100

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		San Juan River basin--Continued					
9-3678.8	Catron Wash near Mexican Springs, N. Mex.	Lat 35°46'15", long 108°49'40", 1.5 miles south of Mexican Springs and 18 miles north of Gallup.	26.9	1954 1956-66	9-15-66	d2.84	820
9-3679	Black Springs Wash near Mexican Springs, N. Mex.	Lat 35°45'40", long 108°49'00", 2.5 miles south of Mexican Springs and 17 miles north of Gallup.	7.05	1954-66	9-15-66	.15	190
9-3679.5	Chaco River near Waterflow, N. Mex.	NE¼ sec.19, T.29 N., R.16 W., at Stanolind, 7 miles southwest of Waterflow, and 8 miles southeast of Shiprock.	4,350	1959-66	10-18-65	2.75	640
		Little Colorado River basin					
9-3861	Largo Creek near Quemado, N. Mex.	NE¼SE¼ sec.8, T.1 N., R.16 W., on downstream side of bridge on ranch road 2½ miles southwest of Quemado.	151	1954-66	9-15-66	2.23	330
9-3861.5	Mangas Creek tributary near Pietown, N. Mex.	About at corner common secs. 13, 14, 23 and 24, T.1 N., R.13 W., above culvert on U. S. Highway 60, 1.3 miles west of Pietown Post Office.	a.08	1952-66	8-22-66	2.27	(†)
9-3862	Carrizo Creek near Salt Lake, N. Mex.	SE¼ sec.3, T.3 N., R.21 W., on downstream side of bridge, 1.3 miles east of New Mexico-Arizona State line and 15 miles west of Salt Lake.	i560	1957-66	1966	(c)	(†)
9-3870.5	Galestena Canyon tributary near Black Rock, N. Mex.	SE¼ sec.30, T.9 N., R.17 W., 100 ft below bridge on State Highway 32 and 10.5 miles southeast of Black Rock.	a19	1957-66	8-10-66	4.11	285
9-3954	Puerco River tributary near Fort Wingate, N. Mex.	Lat 35°25'55", long 108°33'30", 0.5 mile below culvert on secondary road between Fort Wingate and McGaffey and 3 miles south of Fort Wingate.	14.5	1949 1953-66	12- 9-65	.61	100
9-3955	Puerco River at Gallup, N. Mex.	SW¼NW¼ sec.15, T.15 N., R.18 W., on right bank north of the Santa Fe RR freight depot, 1,500 ft above Second Street Bridge at Gallup.	558	1940-46± 1956-66	8- 1-66	d7.1	3,850
9-3956	Puerco River tributary near Gamerco, N. Mex.	SE¼NE¼ sec.7, T.16 N., R.18 W., above abandoned culvert on former U. S. Highway 666, 0.5 mile north of junction of U. S. Highway 666 and State Highway 68, 4.5 miles north of Gamerco.	.42	1951-66	8- 1-66	2-86	192
		Gila River basin					
9-4298	Diamond Creek near Beaverhead, N. Mex.	E½ sec.7, T.12 S., R.12 W., 3.5 miles west of State Highway 61, 4 miles above Gila River and 13 miles south of Beaverhead.	106	1957-66	1966	(c)	(†)
*9-4299	Snow Creek near Mogollon, N. Mex.	Lat 33°24"50", long 108°29'40", 1,000 ft below Gila Wilderness boundary and 17.5 miles east of Mogollon.	89.6	1958-66	1958 1959 12-23-65	9.08 8.14 10.87	335 34 500
9-4303	Copperas Canyon near Pinos Altos, N. Mex.	NE¼SW¼ sec.17, T.14 S., R.13 W., on east side of Copperas Canyon road and 15 miles north of Pinos Altos.	a4	1963-66	12-22-65	1.70	(†)
9-4309	Duck Creek at Cliff, N. Mex.	SW¼SW¼ sec.28, T.15 S., R.17 W., at Cliff below bridge on State Highway 211, and 0.6 mile above mouth.	228	1957-66	8- 4-66	7.46	4,100
9-4310	Gila River near Cliff, N. Mex.	S½ sec.4, T.16 S., R.17 W., on downstream end of pier of bridge on U. S. Highway 260, 1½ miles downstream from Bear Creek, 1½ miles south of Cliff, and 2½ miles southwest of Gila.	2,438	1942-51± 1952-66	12-23-65	12.18	13,500
9-4382	Animas Creek near Cloverdale, N. Mex.	NE¼ sec.33, T.31 S., R.20 W., near head of small box canyon, 0.1 mile west of State Highway 338, and 11 miles north of Cloverdale.	157	1959-66	8- 8-66	3.57	250

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
		Gila River basin--Continued					
9-4426.5	Trout Creek near New Mexico-Arizona State line near Luna, N. Mex.	W½ sec.34, T.4 S., R.21 W., at culvert on Luna-Underwood Lake road, about 1 mile east of New Mexico-Arizona State line, and 8 miles northwest of Luna.	a9.9	1958-66	b4-16-58	8.50	b45
					b10-13-58	8.31	b28
					b10-31-59	8.52	b47
					b4- 6-61	8.12	17
					b2- 9-62	8.48	b42
					b10-18-62	8.21	b22
					7- 8-64	9.18	(†)
					3-11-65	8.22	20
					3-22-66	8.67	82
9-4426.6	Trout Creek near Luna, N. Mex.	NW¼ sec.29, T.5 S., R.20 W., 500 ft downstream from bridge on Luna-Red Hill road and 2.6 miles north of Luna.	a32	1954-66	3-22-66	2.21	265
9-4426.9	Tularosa River near Aragon, N. Mex.	NW¼ sec.3, T.5 S., R.16 W., about 100 ft to the left of State Highway 12 and 2 miles northeast of Aragon.	a89	1955-66	8-20-55	4.04	22
					10- 4-55	3.54	9
					8-24-57	4.12	24
					3- 9-58	4.15	25
					7-28-59	4.04	22
					3-26-60	4.29	28
					b10-16-60	4.07	23
					3-28-62	4.21	26
					8-30-63	3.96	20
					10-19-63	3.56	12
					6-11-65	4.33	29
					3-28-66	4.77	h181
9-4426.95	Rito Negrito at Aragon, N. Mex.	NW¼NW¼ sec.18, T.5 S., R.16 W., above culvert on State Highway 12, at west edge of Aragon.	9.46	1958-66	9-27-58	3.9	457
					7-28-59	11.6	5,200
					8-10-60	1.86	35
					9-10-61	d6.0	1,050
					1962	(c)	(†)
					9-19-63	3.68	b410
					9-10-64	1.51	10
					8-13-65	3.36	335
					1966	(c)	(†)
9-4427	Apache Creek near Apache Creek, N. Mex.	E½ sec.25, T.4 S., R.18 W., 7 miles north of Apache Creek.	94.6	1957-66	3-16-66	2.43	395
9-4427.4	Tularosa River near Reserve, N. Mex.	SE¼ sec.33, T.6 S., R.18 W., 150 ft west of Eagle Peak Lookout road and 3.3 miles northeast of Reserve.	426	1956-66	8-13-65	5.76	720
					12-23-65	4.35	465
9-4439.5	Colt Canyon at Pleasanton, N. Mex.	E½NE¼ sec.14, T.12 S., R.20 W., 175 ft above abandoned dip, 350 ft above culvert on U. S. Highway 260, about 1 mile south of Pleasanton.	3.1	1959-66	1966	(c)	(†)
9-4558	Steins Creek at Steins, N. Mex.	S½SE¼ sec.9, T.24 S., R.21 W., at culvert on State Highway 14, 0.9 mile west of Steins.	1.3	1959-66	9- 3-63	4.08	262
					9-11-66	3.86	(†)

† Discharge not yet determined.
‡ Operated as continuous-record gaging station.
* Also low-flow station.
a Approximately.
b Revised
c Peak did not reach bottom of gage.
d From floodmark.
e Doubtful.
f Gage height not determined.
g New site and datum.
h Estimated.
i Contributing area.
j Operated as a continuous-record gaging station by SCS.
k Discontinued at end of water year.
< Less than.

Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations or partial-record stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*); measurements of peak flow by a dagger (†). Listings are in downstream order, by basins, streams, and individual measuring points. The order of major basins in this report will be: LOWER MISSISSIPPI BASIN, WESTERN GULF OF MEXICO BASINS, COLORADO RIVER BASIN.

Discharge measurements made at miscellaneous sites during water year 1966

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Rio Grande basin						
Red River	Rio Grande	In SW¼SW¼ sec.3, T.28 N., R.12 E., ¼ mile above State Fish Hatchery and 3¼ miles southwest of Questa, N. Mex.	-	-	3-10-66	46.0
Rio Chama	do	Lat 36°39'44", long 106°41'58", at river mile 86.1, 0.3 mile upstream from mouth of Willow Creek, and 8.5 miles southwest of Tierra Amarilla, N. Mex.	-	-	9- 1-65	57.1
					10-13-65	69.0
					7-12-66	47.2
					8-30-66	32.7
					9-29-66	21.6
do	do	Lat 36°39'40", long 106°43'08", at river mile 84.8, 1.0 mile downstream from mouth of Willow Creek and 9.6 miles southwest of Tierra Amarilla, N. Mex.	-	-	9- 1-65	66.6
					10-13-65	78.7
					7-12-66	55.4
					8-30-66	34.6
					9-29-66	23.8
Carrizo Creek	Rio Ruidoso	SW¼ sec.33, T.11 S., R.13 E., at Mescalero Apache Indian Reservation boundary, 2 miles above mouth and 1½ miles south of Ruidoso, N. Mex.	-	1961-65	1-11-66	e 2.03
Silver Springs Canyon	Elk Canyon	SE¼SE¼ sec.15, T.15 S., R.13 E., at Mescalero Apache Indian Reservation boundary, 6.2 miles northeast of Cloudcroft, N. Mex.	-	1958-65	1-11-66	e 0.37
do	do	SE¼NE¼ sec.14, T.15 S., R.13 E., at Parshall flume 1 mile downstream from Mescalero Apache Indian Reservation boundary, 7.2 miles northeast of Cloudcroft, N. Mex.	-	1961-65	1-11-66	* 0.74
					4- 4-66	1.01
					7-14-66	0.93
					9-30-66	* 0.61
Black River	Pecos River	NE¼SE¼ sec.3, T.26 S., R.24 E., below Mayes Ranch, 10 miles southwest of White City, N. Mex.	-	1953-65	10- 4-65	e 0.42
					11- 5-65	e 0.47
					11-26-65	e 0.54
					1-12-66	e 0.56
					2- 3-66	e 0.55
					3-18-66	e 0.53
					6- 3-66	e 0.50
					9- 5-66	e 0.70
Rattlesnake Springs	Black River	SE¼SW¼ sec.23, T.25 S., R.24 E., 5 miles south of Carlsbad Caverns, 7.2 miles southwest of White City, and 25 miles southwest of Carlsbad, N. Mex.	-	1952-65	10- 4-65	e 1.08
					11- 5-65	f 1.48
					11-26-65	e 1.94
					1-12-66	e 2.25
					2- 3-66	e 1.95
					3-18-66	f 1.24
					6- 3-66	e 0.57
					9- 5-66	e 2.74
Blue Springs	Black River	SW¼ sec.27, T.24 S., R.26 E., above all diversions 5½ miles east of White City, N. Mex.	-	1907	10- 4-65	e 7.99
				1952-65	11- 5-65	e 8.90
					11-30-65	e10.4
					12-30-65	e12.0
					2- 3-66	e11.5
					3- 1-66	e11.7
					6- 3-66	e10.6
					9- 6-66	e13.0
Pecos River	Rio Grande	SE¼SW¼NE¼ sec.17, T.24 S., R.29 E., at Fishing Rock Crossing, 4 miles east of Malaga, N. Mex.	-	1953-54	10- 1-65	16.1
				1962-65	11- 5-65	11.5
					11-30-65	17.4
					12-29-65	18.6
					2- 4-66	17.6
					3- 7-66	15.5
					3-31-66	13.6
					5- 6-66	12.5
					5-18-66	10.3
					6- 3-66	12.2
					7- 1-66	11.7
					8- 5-66	14.6

Measurements at miscellaneous sites

Discharge measurements made at miscellaneous sites during water year 1966

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Rio Grande basin--Continued						
Pecos River	Rio Grande	NE¼NE¼NE¼ sec.20, T.24 S., R.29 E., at old ford near well USGS 11, 4½ miles southeast of Malaga, N. Mex.	-	1962-65	10- 1-65	12.8
					11- 5-65	12.0
					11-30-65	15.6
					12-29-65	17.7
					2- 4-66	18.4
					3- 7-66	15.9
					3-31-66	9.38
					5- 6-66	13.5
					5-13-66	12.2
					5-18-66	h 3.49
					6- 3-66	12.4
					7- 1-66	4.87
					7-25-66	1.09
					8- 5-66	8.34
San Juan River basin						
San Juan River	Colorado River	Lat 37°00', long 109°02', sec.21, T.32 N., R.20 W., at river mile 31.3, 1,300 ft upstream from bridge on Colorado Highway 40, 0.1 mile north of New Mexico-Colorado State line, 1.0 mile east of Four Corners Monument, and 3 miles downstream from Mancos River.	-	1964-65	10-11-65	2,730
Gila River basin						
Sapillo Creek	Gila River	SW¼ sec.33, T.14 S., R.13 W., in Gila National Forest, above Heart Bar Ranch, 0.7 mile downstream from Meadow Creek, 2 miles downstream from Lake Roberts dam and 18 miles north of Silver City, N. Mex.	-	1962	11- 4-65	3.76
				1964-66	12- 6-65	2.70
					4-26-66	6.43
					6-15-66	2.90
					7- 7-66	2.13
					8- 1-66	5.26
					9- 9-66	5.65
Mangas Creek	Gila River	NW¼SE¼SW¼ sec.5, T.17 S., R.16 W., about 2,300 ft downstream from old CCC Camp, 9½ miles southeast of Gila, N. Mex.	-	1953-56	10-25-65	1.51
				1965-66	11- 9-65	2.22
					12-16-65	2.62
					1-18-66	2.50
					2-10-66	2.61
					3-15-66	1.94
					4-14-66	1.63
					5-12-66	1.26
					6- 8-66	1.16
					7-25-66	1.23
					8-10-66	1.56
					9- 8-66	1.36
New Model Canal	Gila River	NE¼SW¼ sec.6, T.19 S., R.21 W., 500 ft above New Mexico-Arizona State line and 2-3/4 miles west of Virden, N. Mex.	-	1939-53‡	10- 3-65	5.16
				1953-66	11- 5-65	dry
					12- 9-65	2.54
					1-19-66	dry
					2- 9-66	dry
					3-20-66	dry
					4- 7-66	16.4
					4-25-66	14.5
					6- 2-66	dry
					6-12-66	dry
					7-20-66	6.78
					8-17-66	dry
					9-13-66	dry

* Base flow.
‡ Operated as a continuous-record gaging station.
e Spring flow.
f Discharge affected by pumping for Carlsbad Caverns water supply.
h Discharge affected by diversion between Fishing Rock Crossing and this site.

See paragraph under SUPPLEMENTAL DATA, page 7. A seepage or low-flow investigation along a watercourse involves discharge measurements or observations of no flow at selected sites in a given reach of the channel, plus measurements of inflow and diversions, field commentary relative to observations, water samples and temperatures, and any other relevant data. Measuring sites are described to the extent that they may be used in subsequent investigations. Sometimes temporary recording installations are used to supplement records at regular gaging stations in the study of flow trends. 24-hour time is used (0500 equals 5 a.m.; 1730 equals 5:30 p.m.).

Field work proceeds from the most upstream measuring site. Hydrographers may alternate measurements, or the main reach may be subdivided and hydrographers assigned to each subreach, with overlap measurements to be made at joining points (These would be listed together, the discharge above the line representing last measurement of the hydrographer working the upper reach).

Processed data are tabulated and published in the current WSP or, beginning with 1961, Water Resources Data for New Mexico, Part I. The results of chemical analyses will be published in Part 2 of this report. Indicated gains or losses may sometimes appear incompatible because of diurnal or other flow variations, or because of small inaccuracies in open-channel measurements. Trends in a given reach may vary with the seasons, or because of regulation. Successive investigations can serve to delineate a sustained trend, or a progressive change in trend.

RIO GRANDE BASIN

Red River - below Zwergle damsite to the mouth, near Questa, N. Mex.

Reach.--From regular gage "below Zwergle damsite, near Red River" (river mile 24.1) to the regular gage "at mouth, near Questa" (river mile 0). The streambed above Red River is that of a typical mountain stream with steep, wooded hillsides. Through the village of Red River (river mile 22 to 19.5) the gradient decreases, causing meanders in a flood plain that averages 500 ft in width. Streambed ranges from sand to coarse gravel. Discharge from Pioneer Creek enters several ponds and ditches which eventually flow into Red River. From mile 19.5 to 9.0 streambed is again a typical mountain stream with a steep gradient. Through the village of Questa (river mile 9.0 to 5.5) the valley again widens as the river leaves the mountains. About 3,000 acres are irrigated from Red River and Cabresto Creek, a major tributary from the north. The remaining 5.5 miles is through a deep canyon with little or no flood plain. There are many seeps and springs through this canyon. U.S.G.S. Plan an Profile of Red River (1948) maps were used to establish location and river mile of measurement sites.

Previous investigations.--1959, 1963, 1965 (river mile 9.0 to mouth only).

Date.--Nov. 4, 1965.

Summary.--Weather clear with no precipitation. No ice effect. Conditions at the recording gages through the reach were as follows:

Red River at Zwergle damsite (station 8-2645), mile 24.1 - discharge decreased from 12 cfs at 2400 hours Nov. 3 to 11 cfs at 0930 hours Nov. 4.

South ditch near Questa (station 8-2649), diversion at mile 9.3 - no change in diversion.

Red River near Questa (station 8-2650), mile 9.0 - discharge remained practically constant from 2400 hours Nov. 3 to 1700 hours Nov. 4.

Cabresto Creek near Questa (station 8-2660), mouth at mile 7.7 - no change in discharge from 2400 Nov. 3 to 1100 Nov. 4.

Red River at mouth near Questa (station 8-2670), mile 0 - discharge constant at 67 cfs from 0200 to 1215 hours Nov. 4. The Fish Hatchery apparently dumped water causing a small peak of 72 cfs at 1220 hours. This receded to 68 cfs at 1350 hours, the time of the measurement. This slug probably increased the discharge measured at mile 2.1, thus increasing the indicated gain at this site. The overall gain from mile 3.5 to the mouth is unaffected.

Results of this investigation are rated good to excellent.

The Red River Pollution Survey was conducted at the time of this seepage investigation by the U. S. Public Health Service and the New Mexico Dept. of Public Health. Results of this survey are available from these agencies.

Red River mile	Stream	Location	Time	Water temp. °F	Discharge, in cubic feet per second		
					Main stream	Tributary or Diversion	Indicated gain or loss
24.1	Red River	NE¼SW¼ sec.7, T.28 N., R.15 E. (projected), below Zwergle damsite near Red River (regular gaging station).	0930	32	11.0	-	-
22.2	do	NW¼NE¼ sec.1, T.28 N., R.14 E. (projected), 100 ft below mouth of Placer Creek near Red River.	1030	36	a 9.94	-	-1.1
-	Pioneer Creek	SW¼NE¼ sec.35, T.29 N., R.14 E., above diversions at Arrowhead Lodge, 20 ft below bridge above mouth at Red River.	1115	38	-	+0.81	-
19.5	Red River	SW¼NW¼ sec.35, T.29 N., R.14 E., 600 ft above Lewis Ranch near Red River.	1200	44	b 16.3	-	+5.6
15.7	do	SE¼SE¼ sec.31, T.29 N., R.14 E. (projected), 0.7 mi. above Molycorp Refinery near Questa.	1310 0910	40 36	c 16.2 17.8	- -	- .1 -
15.0 (mouth)	Inflow	NW¼NW¼ sec.6, T.28 N., R.14 E. (projected), from left bank at Molycorp Refinery near Questa.	0830	-	-	d +0.17	-
13.5	Red River	NW¼NW¼ sec.12, T.28 N., R.13 E. (projected), below Molycorp Refinery near Questa.	1005	36	18.2	-	+ .2
13.1 (mouth)	Columbine Creek	NE¼NE¼ sec.11, T.28 N., R.13 E. (projected), 60 ft above mouth near Questa.	1100	38	-	+5.29	-
12.7	Red River	NW¼NE¼ sec.11, T.28 N., R.13 E. (projected), below mouth of Columbine Creek near Questa.	1155	40	23.6	-	+ .1

Red River - below Zwergle damsite to the mouth, near Questa, N. Mex.--Continued

Red River mile	Stream	Location	Time	Water temp. °F	Discharge, in cubic feet per second		
					Main stream	Tributary or Diversion	Indicated gain or loss
12.2	do	SE¼SW¼ sec.2, T.28 N., R.13 E.(projected), below Molycorp well field near Questa.	1330	42	24.1	-	+ .5
9.3	South ditch	SW¼SW¼ sec.33, T.29 N., R.13 E.(projected), 500 ft below head near Questa.	0945	-	-	-0.12	-
9.0	Red River	NE¼SE¼ sec.32, T.29 N., R.13 E.(projected), near Questa (regular gaging station).	1435 0855	48 39	e 25.5 26.8	- -	+1.5 -
7.7 (mouth)	Cabresto Creek	SW¼SE¼ sec.21, T.29 N., R.13 E., near Questa (regular gaging station), 3½ miles upstream from mouth.	1055	39	-	+6.27	-
5.7	Red River	SW¼NW¼ sec.1, T.28 N., R.12 E., below mouth of canyon from right bank near Questa.	1210	48	31.8	-	f -1.3
3.5	do	NW¼NW¼ sec.10, T.28 N., R.12 E., below Red River State Fish Hatchery near Questa.	1320 0900	51 46	g 55.2 47.4	- -	+23.4 -
2.1	do	NE¼NW¼ sec.16, T.28 N., R.12 E., 300 ft below mouth of Alamo Canyon near Questa.	1130	50	60.4	-	h+13.0
0	do	SW¼NW¼ sec.20, T.28 N., R.12 E., at mouth near Questa (regular gaging station).	1350	52	68.0	-	+7.6

a Estimate 0.10 cfs from spring at base of road embankment on right bank 500 ft upstream. Flow bypasses measuring section and enters Red River about 750 ft below measuring section.
b Estimate 0.03 cfs bypassing measuring section on right bank and entering pond just downstream.
c Stage fell 0.01 ft from 0910 hours.
d Waste from pipeline carrying domestic water to Molycorp Refinery.
e No change in stage from 0855 hours.
f Includes unmeasured diversions and returns.
g No change in stage from 0900 hours.
h See Summary paragraph above.

Pecos River - Acme to Lake McMillan, N. Mex.

Reach.--From the regular gage "near Acme" (river mile 94.0) to the head of Lake McMillan, a distance of about 100 river miles. The streambed is mostly sand with an occasional rock outcrop. Banks are relatively low and salt cedar covered. The river channel from "near Artesia" to the head of Kaiser Channel has been realigned during recent years and many of the former elbows have been eliminated. Used U. S. G. S. Plan and Profile of the Pecos River, Lake McMillan to Pecos, N. Mex. maps for river mile and U. S. G. S. topographic maps for land locations.

Previous investigations.--At least once a year 1953-60, 1962-65.

Date.--Jan. 20, Feb. 2, 1966. Used Mountain Standard Time, 24-hour basis (0730 equals 7:30 a.m., 1730 equals 5:30 p.m.).

Weather.--The following maximum and minimum temperatures were recorded at Bitter Lakes National Wildlife Refuge: Jan. 19, 44/28; Jan. 20, 42/19; Jan. 21, 35/17; precipitation Jan. 18, 0.04 inch; Jan. 19, 0; Jan. 21, 0.28 inch; evaporation and winds were low on Jan. 19, 20.

Roswell: Jan. 19, 44/21; Jan. 20, 35/20; Jan. 21, 32/-.6; Feb. 1, 50/29; Feb. 2, 53/20; Feb. 3, 49/19; precipitation (snow) was recorded on Jan. 16, 0.01 inch; Jan. 17, trace; Jan. 18, 0.04 inch; Jan. 19, trace; Jan. 20, 0.04 inch; Jan. 21, 0.44 inch; Feb. 1-3, none.

Artesia: Jan. 19, 32/26; Jan. 20, 47/23; Jan. 21, 34/24; Feb. 1, 54/31; Feb. 2, 52/24, Feb. 3, 55/22; precipitation Jan. 18, 0.16 inch; Jan. 19, 0; Jan. 20, 0.13 inch, Feb. 1-3, none.

Lake Avalon: Wind and evaporation were fairly low on Feb. 2. On Jan. 20 the sky was overcast throughout the day and occasionally during the afternoon hours heavy misting occurred. During the waning hours of Jan. 20 and the morning hours of Jan. 21 a heavy snowfall occurred. On Feb. 2 the sky was clear.

Summary.--This investigation was started on Jan. 20 with the reach from "near Acme" to "near Lake Arthur" being completed that day. Inclement weather conditions necessitated the postponement of the reach from "near Lake Arthur" to Lake McMillan. This reach was completed on Feb. 2. There were no known diversions from the river during the two periods of this investigation. On Jan. 20 floating ice and thin shore ice were noted at the time the measurements were made at the two upper sites, river miles 94.0 and 91.7 respectively. Fluctuations in discharge at the various regular and temporary gages occurred as follows:

"near Acme" (8-3860), river mile 94.0 - On Jan. 18 the discharge increased from 1.6 cfs at 0500 to 2.3 cfs at 0700, to 3.6 cfs at 2000, then it decreased to 2.3 cfs at 0600 on Jan. 19. The discharge then rose to 3.9 cfs at 0900 and decreased to 2.7 cfs at 2400. On Jan. 20 at 0300 the discharge was 4.4 cfs; at 1500, 7.2 cfs.

Below Rio Hondo, temporary gage, river mile 74.5 - Discharge fluctuated between 15.8 cfs and 17.6 cfs from 0100 Jan. 18 to 2300 Jan. 20. The discharge increased from 17.0 cfs at 2300 on Jan. 20 to 21.0 cfs at 1100 on Jan. 21. A part of this increase was probably due to snowfall on Jan. 20-21.

At Dexter bridge, temporary gage, river mile 58.1 - The flow remained constant at 26.2 cfs from 1200 Jan. 15 to 1600 Jan. 19. The flow then decreased to 25.7 cfs at 0700 Jan. 20. Between 2100 and 2400, Jan. 20, the flow increased from 25.7 to 27.5 cfs and held steady until 0900 Jan. 21. Part of the rise possibly resulted from snowfall.

At Hagerman bridge, temporary gage, river mile 46.7 - The flow remained fairly constant at about 32.0 cfs from 0100 Jan. 19 to about 2200 Jan. 20. From 2200 Jan. 20 to 0900 Jan. 21 the flow increased to about 35 cfs. Snowfall may have contributed to the rise.

"near Lake Arthur" (8-3955), river mile 30.6 - Throughout the day Jan. 19 and until 1100 Jan. 20 the flow remained constant at 35.1 cfs. The flow then decreased to 34.1 cfs and held until 1500. At 1600 the flow had increased to 35.1 cfs. The flow then remained constant until 2400 when it started to rise and by 1400 Jan. 21 the discharge was 39.5 cfs. On Feb. 1 at 0200 the discharge was 38.0 cfs; at 1200, 40.2 cfs; at 2000, 36.9 cfs. From 2000 Feb. 1 to 0800 Feb. 2 the flow remained constant at 36.9 cfs. At 0900 Feb. 2 the flow was 35.8 cfs and remained constant until 2000.

"near Artesia" (8-3965), river mile 12.4 - The discharge fluctuated daily between 43.5 and 44.5 cfs on Feb. 1-3.

"(Kaiser Channel) near Lakewood", (8-3995) - The flow remained constant at 42.4 cfs throughout the day Feb. 2. The flow decreased to 41.7 cfs at 0200 on Feb. 3 and held constant until 1200. From 1200 to 2000 the flow decreased to 39.1 cfs.

Results of this seepage investigation should be excellent to good.

Pecos River - Acme to Lake McMillan, N. Mex.

Pecos River mile	Stream	Location	Time	Water temp. °F	Discharge, in cfs		
					Main stream	Tributary or Diversion	Indicated gain or loss
		January 20, 1966					
94.0	Pecos River	NE¼SW¼NW¼ sec.14, T.9 S., R.25 E., near Acme (regular gaging station)	0815	32	4.83	-	-
91.7	do.	W½SW¼NE¼ sec.22, T.9 S., R.25 E., at pipeline crossing.	0945	32	6.15	-	+1.32
89.1	do.	SE¼SW¼SE¼ sec.27, T.9 S., R.25 E., above Bitter Lakes.	1135	37	2.33	-	-3.82
84.9	do.	NE¼SW¼SW¼ sec.11, T.10 S., R.25 E., at Bitter Lakes above inflow.	1300	36	3.51	-	+1.18
84.9	Inflow*	NE¼SW¼SW¼ sec.11, T.10 S., R.25 E., from old river channel at Bitter Lakes	1300	36	-	0.06	-
78.4	Pecos River	NE¼NE¼NE¼ sec.33, T.10 S., R.25 E., above mouth of Bitter Creek	1440	37	4.25	-	+.68
-	Bitter Creek*	NW¼NE¼SW¼ sec.28, T.10 S., R.25 E., 0.9 mi. above mouth.	0855	48	-	(1.33)	-
78.4	do.	NE¼NE¼NE¼ sec.33, T.10 S., R.25 E., at mouth.....	1520	46	-	2.96	-
77.3	Pecos River	SE¼SW¼SW¼ sec.34, T.10 S., R.25 E., below Tatum bridge	1610	40	7.61	-	+.40
74.7	do.	SE¼SE¼NE¼ sec.9, T.11 S., R.25 E., above Rio Hondo....	1650 0750	38 34	8.79 8.97	- -	+1.18 -
-	Hagerman Canal	NW¼SW¼NE¼ sec.31, T.10 S., R.25 E., at head.....	0720	44	-	(10.7)	-
-	South Spring Creek*	SE¼SE¼SE¼ sec. 8, T.11 S., R.25 E., at entrance to Hagerman Canal	1400	45	-	(1.91)	-
-	Pamona Drain*	NW¼NW¼SE¼ sec.22, T.11 S., R.25 E., at entrance to Hagerman Canal	1200	58	-	(1.24)	-
-	Rio Hondo	NE¼SW¼SE¼ sec.32, T.10 S., R.25 E., at U. S. Hwy. 380 bridge.	1030	42	-	(2.61)	-
-	South Spring Drain*	SE¼NW¼SE¼ sec.9, T.11 S., R.25 E., at road crossing (tributary to Rio Hondo)	0800	42	-	(.76)	-
74.6	Rio Hondo*	NE¼NE¼SE¼ sec.9, T.11 S., R.25 E., at mouth.....	0820	43	-	7.14	(+3.77)
74.5	Pecos River	SE¼NE¼SE¼ sec.9, T.11 S., R.25 E., below Rio Hondo (temporary recorder)	0900	36	15.8	-	-.31
74.1	East Grand Plains Drainage District "D" line*	SE¼SW¼SW¼ sec.10, T.11 S., R.25 E., at mouth.....	0825	59	-	.90	-
73.6	East Grand Plains Drainage District "A-B-C" line*	NW¼SW¼NE¼ sec.15, T.11 S., R.25 E., at mouth.....	0845	39	-	.10	-
72.7	Gravel Pit Drain*	SE¼SE¼NW¼ sec.14, T.11 S., R.25 E., at mouth.....	1130	44	-	1.82	-
71.4	Pecos River	NW¼SE¼SW¼ sec.13, T.11 S., R.25 E.....	1015	38	20.4	-	+1.78
67.6	do.	SE¼SW¼NW¼ sec.36, T.11 S., R.25 E., below Oasis-Miller drain	1135	38	23.8	-	+3.40
64.5	do.	S½NE¼NE¼ sec.17, T.12 S., R.26 E., at Transwestern pipeline crossing.	1230	38	23.8	-	0
61.7	do.	SE¼NE¼SE¼ sec.29, T.12 S., R.26 E.....	1350	38	25.8	-	+2.0
61.4	Nine Mile Draw*	SW¼SE¼SE¼ sec.29, T.12 S., R.26 E., at mouth.....	0945	34	-	.31	-
60.9	Pecos River	NW¼SW¼NW¼ sec.33, T.12 S., R.26 E.....	1450	38	24.5	-	-1.61
58.9	Max Wiggins Drain †	SE¼NE¼ sec.4, T.13 S., R.26 E. at mouth, 2½ mi. NE of Dexter	1600	38	-	.67	-
58.4	Zuber Hollow Wasteway*	SE¼SE¼SE¼ sec.4, T.13 S., R.26 E., at mouth.....	1100	34	-	.79	-

Pecos River - Acme to Lake McMillan, N. Mex.

Pecos River mile	Stream	Location	Time	Water temp. °F	Discharge, in cfs		
					Main stream	Tributary or Diversion	Indicated gain or loss
		January 20, 1966 (continued)					
58.1	Pecos River	SW¼NW¼NW¼ sec.10, T.13 S., R.26 E., at Dexter bridge (temporary recorder)	1610 0735	37 37	26.8 25.7	- -	+0.84 -
55.5	Berry drain*	NW¼NW¼SW¼ sec.14, T.13 S., R.26 E., at mouth.....	1300	42	-	0.57	-
55.4	Pecos River	NE¼NW¼SW¼ sec.14, T.13 S., R.26 E.....	0830	35	27.3	-	+1.03
53.2	do.	SW¼SW¼SE¼ sec.23, T.13 S., R.26 E.....	0920	35	27.6	-	+.3
50.7	do.	NW¼SW¼NW¼ sec.35, T.13 S., R.26 E.....	1010	36	29.4	-	+1.80
-	Rio Felix*	SW¼SE¼SE¼ sec.34, T.13 S., R.26 E., ¾ mi. above mouth.	1050	43	-	1.16	-
49.2	Pecos River	SE¼SE¼NW¼ sec.2, T.14 S., R.26 E.....	1130	37	30.9	-	+.34
47.4	Hagerman Drainage District "D" line*	SE¼NW¼NW¼ sec.12, T.14 S., R.26 E., at mouth.....	1420	60	-	.10	-
46.7	Pecos River	SE¼NE¼NE¼ sec.12, T.14 S., R.26 E., at Hagerman bridge (temporary recorder)	1235	38	31.8	-	+.80
44.2	do.	SW¼SW¼SE¼ sec.13, T.14 S., R.26 E.....	1315	39	31.9	-	+.1
43.0	do.	NW¼NW¼NE¼ sec.25, T.14 S., R.26 E.....	1400	39	33.4	-	+1.5
41.9	do.	NE¼SW¼SW¼ sec.25, T.14 S., R.26 E.....	1445	38	33.5	-	+.1
39.8	do.	SE¼SE¼SW¼ sec.31, T.14 S., R.27 E., above Buffalo Valley pump	1535	39	33.9	-	+.4
38.6	R. S. Derrick drain†	SE¼NE¼SE¼ sec.6, T.15 S., R.27 E.....	1530	46	-	.05	-
35.1	Steve Mason drain†	NE¼NW¼SW¼ sec.18, T.15 S., R.27 E., at mouth.....	1610	45	-	.10	-
34.7	Pecos River	NW¼SW¼SE¼ sec.13, T.15 S., R.26 E.....	1615	39	35.0	-	+.95
30.6	do.	NE¼SW¼NE¼ sec.27, T.15 S., R.26 E., near Lake Arthur (regular gaging station)	1700	39	35.1	-	+.1
		February 2, 1966					
30.6	Pecos River	NE¼SW¼NE¼ sec.27, T.15 S., R.26 E., near Lake Arthur (regular gaging station)	0800	36	38.8	-	-
26.5	do.	SE¼SE¼SE¼ sec.32, T.15 S., R.26 E.....	0920	-	39.5	-	+0.7
21.1	Lawrence Ranch drain*	SW¼SE¼SW¼ sec.23, T.16 S., R.26 E., at mouth.....	1000	-	-	a0.03	-
20.65	Pecos River	NE¼SE¼NW¼ sec.26, T.16 S., R.26 E.....	1050	38	40.8	-	+1.27
20.6	Cottonwood Creek*	NE¼SE¼NW¼ sec.26, T.16 S., R.26 E., at mouth.....	1025	38	-	.66	-
16.0	Pecos River	NW¼NW¼NW¼ sec.12, T.17 S., R.26 E.....	1240	45	39.3	-	-2.16
16.0	Artesia sewage effluent*	NW¼NW¼NW¼ sec.12, T.17 S., R.26 E., at mouth.....	1305	48	-	1.13	-
12.4	Pecos River	SE¼NW¼NW¼ sec.18, T.17 S., R.27 E., near Artesia (regular gaging station)	1420 0920	45 36	43.4 44.8	- -	+2.97 -
3.4	do.	NW¼NW¼SE¼ sec.7, T.18 S., R.27 E.....	1100	37	43.1	-	-1.7
-	do.	NE¼NW¼SE¼ sec.5, T.19 S., R.27 E., (Kaiser Channel) near Lakewood (regular gaging station)	1330	43	42.4	-	-.7
-	do.	SE¼NE¼SE¼ sec.18, T.19 S., R.27 E.....	1500	46	41.5	-	-.9

Note.--Measurements not involved in the computation of gains or losses of the Pecos River are enclosed in parentheses.
* Right bank.
† Left bank.
a Estimated.

RIO GRANDE BASIN
SEEPAGE INVESTIGATIONS

Pecos River - Carlsbad to mouth of Delaware River

Reach.--From the regular gage "at Carlsbad" to mouth of the Delaware River, a distance of about 50 miles. The streambed above the "near Malaga" regular gage is mostly conglomerate rock overlain with small boulders, gravel, and silt. Below this site the streambed is mostly sand overlying gravel and rock. Throughout the entire reach there are many long pools. The banks, in general, are densely covered with salt cedar growth. Used U. S. G. S. topographic maps, U. S. G. S. Plan and Profile of Malaga Bend and New Mexico Highway Department maps for locations.

Previous investigations.--February 1955, March 1959, January, October 1961, March 1962, July 1963, February and July 1964.

Date.--May 17, 18, 1966. Used Mountain Standard Time, 24-hour basis (0730 equals 7:30 a.m., 1730 equals 5:30 p.m.).

Weather.--Maximum temperatures at the Carlsbad airport ranged from a high of 101° on May 16 to 85° on May 18; minimums, 75° - 71°. Very light showers occurred in the area on May 13. From May 14 - 18 there was no additional precipitation in the area. There were moderate winds on May 17, 18 and evaporation was fairly high.

Summary.--Discharges at the various regular and temporary gages in the reach fluctuated as follows:

"at Carlsbad" (8-4050) - Vandals broke into the gage and no record was obtained prior to the beginning of the investigation. Judging from the subsequent record obtained there should have been only minor changes in discharge preceding the investigation.

"below mouth of Cass Draw", temporary gage - The discharge remained constant at 7.1 cfs from 1400 May 16 to 0900 May 17 when it started to increase, and by 1400 the discharge was 8.1 cfs. From 1400 May 17 until 1400 May 19 the discharge remained nearly constant.

Harroun Canal, at diversion, State Engineer gage - Figures of lake stage for 10 Mile Lake, from which the Harroun Canal diverts, were furnished by the U. S. Borax and Chemical Co. The lake stages indicate that water was being ponded in 10 Mile Lake and the indicated loss between site Nos. 315.6 and 316 should not be used.

"near Malaga" (8-4065) - The discharge made almost daily fluctuations between 10.8 cfs and 12.1 cfs from May 16 to May 19. These fluctuations appeared to be the result of moderate winds and evapo-transpiration.

"at well USGS 11", temporary gage.- Operation of the Moutray pump diversion just above this site caused considerable change in discharges between May 13-15. The pump was started at 2200 on May 15 and remained in constant operation until 2100 May 18. Discharges decreased from 11.3 at 2000 May 15 to 4.0 cfs at 1000 May 17. From 1000 May 17 to 0600 May 18 the discharge held fairly steady at about 4.0 cfs. By 1000 May 18 the discharge had dropped to 3.5 cfs and then held constant until Moutray's pump was turned off at 2100.

"at Pierce Canyon Crossing" (8-4070) - The discharge was uniform at 3.8 cfs from 1600 on May 17 to 0600 May 18. At 0800 May 18 the discharge was 4.9 cfs; it then decreased and held steady at 4.2 cfs from 0900 to 1600. The discharge then gradually decreased to 3.5 cfs at 2400. At 0030 May 19 the flow gradually began to increase and by 1100 May 19 the discharge was 8.6 cfs as a result of Moutray's pump diversion being turned off.

"at Red Bluff" (8-4075) - The flow decreased from 8.0 cfs at 0400 on May 17 to 4.4 cfs at 1000 on May 18, then to 2.7 cfs at 2400 where it remained constant until 1100 May 19. The flow then decreased to 2.2 cfs and held fairly constant through the remainder of the day.

Water was being stored by Six Mile Dam and no loss or gain was computed between the site above and the site below.

U. S. Borax and Chemical Corp. furnished some once-daily readings of lake stage for Ten Mile Lake. These lake stages showed that water was being stored and no losses or gains were computed between the site above the Harroun Canal diversion and the site below.

The measurements made during the investigation were rated from good to fair. The discharge for the Carlsbad sewer effluent was furnished by the City of Carlsbad.

Site numbers included in the tabulation are used for filing purposes and have no relation to river mile.

RIO GRANDE BASIN
SEEPAGE INVESTIGATIONS
May 17 - 18, 1966
Pecos River - Carlsbad to mouth of Delaware River

Site No.	Stream	Location	Time	Water temp. °F	Discharge, in cfs		
					Main stream	Tributary or Diversion	Indicated gain or loss
		May 17, 1966					
308	Pecos River	NW¼SE¼ sec.6, T.22 S., R.27 E., at Greene St. Bridge (regular gage).	0650	68	6.67	-	-
309.2	do.	NW¼NW¼ sec.8, T.22 S., R.27 E., at mouth of Dark Canyon.	0800	70	6.76	-	+0.09
310	do.	NW¼SW¼ sec.9, T.22 S., R.27 E., above Carlsbad sewage inflow.	0940	73	6.26	-	-.50
310.5	Carlsbad sewage inflow†	SE¼NW¼ sec.10, T.22 S., R.27 E.	1015	-	-	a3.87	-
311	Pecos River	NW¼SE¼ sec.10, T.22 S., R.27 E., below sewage inflow.	1050	75	10.5	-	+.4
312	CID drain "A"*	NW¼NW¼ sec.14, T.22 S., R.27 E., at mouth.	-	-	-	b.001	-
312.2	CID drain "B"*	SE¼SE¼ sec.14, T.22 S., R.27 E., at mouth	-	-	-	b.001	-
313	Pecos River	NW¼NE¼ sec.24, T.22 S., R.27 E., below Six Mile Dam.	1210	76	7.01	-	-
314.4	do.	NW¼SW¼ sec.29, T.22 S., R.28 E., below Dickson Crossing .	1340	83	7.08	-	+.07
315	Cass Draw*	SE¼NW¼ sec.5, T.23 S., R.28 E., at mouth	1430	82	-	.03	-
315.2	Pecos River	NE¼SW¼ sec.5, T.23 S., R.28 E., below Cass Draw.	1500 0720	80 72	8.08 7.06	- -	+.97 -
315.6	do.	NE¼NW¼ sec.9, T.23 S., R.28 E., above Harroun Dam.	0810	75	9.77	-	+2.71
316	Harroun canal†	SW¼SE¼ sec.11, T.23 S., R.28 E., at State Engineer gage.	0910 0810	73 71	- -	(9.70) (10.3)	- -
316.2	U. S. Borax & Chem. Co. Diversion	NE¼SW¼ sec.13, T.23S., R.28 E., at head.	0915	68	-	(7.88)	-
316.4	Harroun canal	NE¼SW¼ sec.13, T.23 S., R.28 E., below U. S. Borax and Chemical Co. Diversion.	1000	71	-	(.94)	-
316.6	do.	SW¼NW¼ sec.32, T.23 S., R.29 E., at head of concrete canal lining.	1105	74	-	(.33)	-
316.8	do.	NE¼SW¼ sec.6, T.24 S., R.28 E., at upper entrance Harroun Lake.	1150	74	-	(.34)	-
318	Pecos River	SE¼SW¼ sec.11, T.23 S., R.22 E., below Harroun Dam.	0950	74	.47	-	-
318.3	do.	NE¼NW¼ sec.24, T.23 S., R.28 E., at slab crossing.	1035	76	.52	-	+.05
318.4	do.	NE¼SE¼ sec.30, T.23 S., R.29 E., east of Loving.	1125	82	1.04	-	+.52
332	Black River*	SW¼SE¼ sec.2, T.24 S., R.28 E., ½ mile above mouth.	1240	79	-	1.81	-
333	Pecos River	SW¼SW¼ sec.1, T.24 S., R.28 E., at Harroun's Crossing.	1210	80	6.18	-	+3.33
333.5	do.	NE¼NW¼ sec.19, T.24 S., R.29 E., near Malaga (regular gage).	1320	80	11.2	-	+5.0
		May 18, 1966					
333.5	Pecos River	NE¼NW¼ sec.19, T.24 S., R.29 E., near Malaga (regular gage)	0720	73	11.2	-	-
334	do.	SE¼NE¼ sec.17, T.24 S., R.29 E., at Fishing Rock Crossing	0815	74	10.3	-	-.90
335	do.	SE¼NE¼ sec.16, T.24 S., R.29 E., above Dogtown drain	0910	74	10.6	-	+.3

Note.--Measurements not involved in the computation of gains or losses of the Pecos River are enclosed in parentheses.
* Right bank
† Left bank
a Discharge furnished by city of Carlsbad.
b Estimate.

Pecos River - Carlsbad to mouth of Delaware River -- Continued

Site No.	Stream	Location	Time	Water temp. °F	Discharge, in cfs		
					Main stream	Tributary or Diversion	Indicated gain or loss
		May 18, 1966--Continued					
337	Moutray pump†	NW¼NW¼ sec.21, T.24 S., R.29 E.	0945	74	-	6.80	-
337.2	Pecos River	NE¼NE¼ sec.20, T.24 S., R.29 E., near well USGS 11.	1040	80	3.49	-	-0.3
338.2	do.	NW¼SW¼ sec.27, T.24 S., R.29 E., at Pierce Canyon Crossing (regular gage).	1120	80	4.16	-	+.67
338.3	do.	SE¼SW¼ sec.27, T.24 S., R.29 E., at dry wash.	1200	81	3.87	-	-.29
338.5	do.	SE¼NW¼ sec.33, T.24 S., R.29 E., at 1st ford.	1250	87	3.64	-	-.23
339.5	do.	SE¼SW¼ sec.32, T.24 S., R.29 E., at 2nd ford.	1340 0800	83 74	3.98 4.28	- -	+.34 -
340	do.	NW¼SE¼ sec.6, T.25 S., R.29 E., above Reed's pump.	0900	72	4.05	-	-.23
341	do.	SE¼SW¼ sec.13, T.25 S., R.28 E., above Salt Draw.	1035	76	4.49	-	+.44
342	do.	NW¼NE¼ sec.1, T.26 S., R.28 E., at Red Bluff (regular gage).	1220	81	4.44	-	-.05
343	do.	SW¼SE¼ sec.5, T.26 S., R.29 E., above pipeline crossing.	1400	78	4.58	-	+.14
344	do.	NW¼NE¼ sec.19, T.26 S., R.29 E., at mouth of Delaware River.	1525	78	4.40	-	-.18

† Left bank.

Pecos River - near Malaga, N. Mex. to State Line

Reach.--From the regular gage "near Malaga" to the lower falls, ¾ mile upstream from the New Mexico - Texas state line. The channel is lined with salt cedars throughout the reach. In most areas there are fairly large pools with riffles at rock outcrops and occasionally at gravel bars. There were few available measuring sites downstream from the Red Bluff gage. Locations were taken from New Mexico State Highway Department maps. Site numbers have no relation to river miles and are used for filing purposes only.

Previous investigations.--Investigations encompassing at least part of the reach were made during years 1955, 1959, 1961-64.

Date.--July 23, 25, Aug. 5, 1966. Used Mountain Standard Time, 24-hour basis (0730 equals 7:30 a.m.,1730 equals 5:30 p.m.).

Weather conditions.--During the period July 16 to Aug. 1 the daily maximum temperatures at the Carlsbad airport ranged between 98° and 106°F; minimums, 73° to 82°F. There was no precipitation. On Aug. 3, 4, thunder showers occurred in the area and temperatures dropped somewhat. There was no appreciable inflow from the thunderstorms to the subreach, "near Malaga" gage to "Pierce Canyon Crossing" gage. On Aug. 5 the maximum temperature at the Carlsbad airport was 95°; minimum 76°F.

Summary.--The only diversion (Moutray's pump) located near well USGS 11 was in operation for several days prior to and during this investigation.

The subreach from the "Red Bluff" gage to the lower falls was considered to be the most important and was made first on July 23. Numerous measuring sites in this reach were poor and available only at extreme low flows. Discharge at the Pecos River at Red Bluff gage (8-4075) made a steady decline from 1.6 cfs at 1200 July 20 to 0.2 cfs at 1800 Aug. 1.

Site No. 343.5 was on a gypsum outcrop and there should have been no sub-surface flow. There may have been some sub-surface flow through the fill in the streambed at the "near Angeles" discontinued gaging station.

The seepage inflow as estimated below site No. 350 originated along the right bank at the contact zone of a conglomerate overlying a limestone formation. There was no practical way to measure this seepage inflow.

The subreach from near well USGS 11 to the "Red Bluff" gage was made on July 25. Moutray's pump was still in operation and there was no surface return downstream from the diversion. Flow at the "Pierce Canyon" gage fluctuated between 2.1 cfs and 2.8 cfs from July 20 - 28. Measuring sites in this reach were generally good. The site, at mouth of Salt Draw, was in an area of recent fill with possible sub-surface flow occurring. A new site, above Red Bluff arroyo, was added to check this possibility. Very slight seepage inflow was found at the site, at second ford.

It was desired that Moutray's pump be off when the investigation of the subreach from the "near Malaga" gage to the "Pierce Canyon Crossing" gage was made. For this reason this reach was postponed. On Aug. 3, 4 thunderstorms occurred in the area and it was decided that the investigation should be completed on Aug. 5 though the pump was still running.

Discharge at the "near Malaga" gage decreased from 20 cfs at 1500 on Aug. 4 to 10 cfs at 2400 on Aug. 5.

Discharge at the "at Pierce Canyon Crossing" gage decreased from 13 cfs at 0300 on Aug. 5 to 5.3 cfs at 1600 on Aug. 6.

Measuring sites in the reach were good to fair.

Results of chemical analyses will be found in part two of this report.

August 5, 1966

Site No.	Stream	Location	Time	Water temp. °F	Discharge, in cfs	Indicated gain or loss
333.5	Pecos River	NE¼NW¼ sec.19, T.24 S., R.29 E., near Malaga (regular gage)	0850	80	13.6	-
334	do.	SE¼NE¼ sec.17, T.24 S., R.29 E., at Fishing Rock Crossing	1005	80	14.6	+1.0
335	do.	SE¼NE¼ sec.16, T.24 S., R.29 E., above Dogtown drain	1050	82	15.2	+.6
337	Moutray pump†	NW¼NW¼ sec.21, T.24 S., R.29 E.	1130	80	7.38	-
337.2	Pecos River	NE¼NE¼ sec.20, T.24 S., R.29 E., near well USGS 11	1220	85	8.34	+.5
338.2	do.	NW¼SW¼ sec.27, T.24 S., R.29 E., at Pierce Canyon Crossing (regular gage)	1310	85	9.99	+1.65

† Left bank.

Pecos River - near Malaga, N.Mex. to State Line

Site No.	Stream	Location	Time	Water temp.°F	Discharge, in cfs	Indicated gain or loss
		July 25, 1966				
337.2	Pecos River	NE¼NE¼ sec.20, T.24 S., R.29 E., near well USGS 11.	0720	78	1.09	-
338.2	do.	NW¼SW¼ sec.27, T.24 S., R.29 E., at Pierce Canyon Crossing (regular gage).	0800	80	2.70	+1.61
338.3	do.	SE¼SW¼ sec.27, T.24 S., R.29 E, at dry wash.	0850	78	2.62	-.08
338.5	do.	SE¼NW¼ sec.33, T.24 S., R.29 E., at 1st ford.	0930	85	2.52	-.10
339.5	do.	SE¼SW¼ sec.32, T.24 S., R.29 E., at 2nd ford.	1015	87	2.14	-.38
340	do.	NW¼SE¼ sec.6, T.25 S., R.29 E., above Reed's pump.	1110	86	1.88	-.26
341	do.	SE¼SW¼ sec.13, T.25 S., R.28 E., above Salt Draw.	1205	88	.67	-1.21
341.5	do.	SW¼NE¼ sec.25, T.25 S., R.28 E., at mouth of arroyo from right bank.	1345	88	.82	+.15
342	do.	NW¼NE¼ sec.1, T.26 S., R.28 E., at Red Bluff (regular gage).	1425	95	.52	-.30
		July 23, 1966				
342	Pecos River	NW¼NE¼ sec.1, T.26 S., R.28 E., at Red Bluff (regular gage).	0835	79	1.02	-
342.5	do.	NW¼SE¼ sec.6, T.26 S., R.29 E.	0920	82	.78	-0.24
343	do.	SW¼SE¼ sec.5, T.26 S., R.29 E., above pipeline crossing.	1000	83	.56	-.22
343.5	do.	SW¼SW¼ sec.8. T.26 S., R.29 E.	1035	88	.60	+.04
345	do.	NE¼NE¼ sec.19, T.26 S., R.29 E., 100 ft below old gage.	1135	88	.34	-.26
346	do.	SE¼SW¼ sec.17, T.26 S., R.29 E.	1225	92	.40	+.06
347	do.	SE¼NW¼ sec.21, T.26 S., R.29 E., above arroyo from right bank.	1305	88	.49	+.09
348	do.	SE¼SW¼ sec.21, T.26 S., R.29 E., above large arroyo from right bank.	1340	85	.44	-.05
349	do.	NE¼SE¼ sec.28, T.26 S., R.29 E., above lower falls.	1455	85	.63	+.19
350	Seepage inflow	NE¼SE¼ sec.28, T.26 S., R.29 E., above lower falls.	1510	-	(.050 est.)	-

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