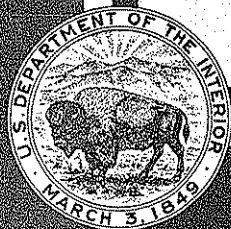


1972

Schafers

# 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

# CALENDAR FOR 1972

## JANUARY 1972

S	M	T	W	T	F	S
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## FEBRUARY 1972

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## MARCH 1972

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## APRIL 1972

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## MAY 1972

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## JUNE 1972

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## JULY 1972

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## AUGUST 1972

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## SEPTEMBER 1972

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## OCTOBER 1972

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## NOVEMBER 1972

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## DECEMBER 1972

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1972

**Water Resources Data  
for  
New Mexico**

Part 1. Surface Water Records



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DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY**

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

Prepared in cooperation with

Office of the State Engineer

Interstate Stream Commission

Pecos River Commission

State Highway Department

Costilla Creek Compact Commission

Albuquerque Metropolitan Arroyo Flood Control Authority

Bureau of Reclamation, U.S. Department of the Interior

Corps of Engineers, U. S. Army

White Sands Missile Range, Department of the Army

Federal Highways Administration, U.S. Department of Transportation

Bureau of Indian Affairs, U.S. Department of the Interior

Soil Conservation Service, U.S. Department of Agriculture

Water resources records, 1972, 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

Copies of this report may be obtained from  
District Chief, Water Resources Division  
U.S. Geological Survey  
P.O. Box 4369  
Albuquerque, New Mexico 87106

1974



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## WATER RESOURCES DATA FOR NEW MEXICO, 1972

### PART 1. SURFACE-WATER RECORDS

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#### INTRODUCTION

Surface-water records for the 1972 calendar year for New Mexico, including records of streamflow or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, are given in this report and their locations shown in figures 1, 2. Records for a few pertinent gaging stations in bordering States also are included. 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. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in New Mexico.

Through September 30, 1960, the records of discharge and stage of streams and canals 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."

Beginning with the 1961 water year, surface-water records have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. The discharge and reservoir storage records for 1961-65 also are published in a Geological Survey water-supply paper series entitled "Surface Water Supply of the United States 1961-65." There will be a similar series of water-supply papers for the water years 1966-70.

#### COOPERATION

The first gaging station established by the Geological Survey in the United States was on the Rio Grande at Embudo on 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 1972 are:

Office of the State Engineer, S. E. Reynolds.

Interstate Stream Commission, S. E. Reynolds, secretary.

Pecos River Commission, H. M. Babcock, federal representative and chairman, J. B. Walker, commissioner for New Mexico, R. M. McGowen, commissioner for Texas.

State Highway Department, L. G. Boles, State Highway engineer.

Costilla Creek Compact Commission, S. E. Reynolds, commissioner for New Mexico, C. J. Kuiper, commissioner for Colorado.

Albuquerque Metropolitan Arroyo Flood Control Authority, J. B. Robert, executive engineer.

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

Corps of Engineers, U.S. Army in the operation of 29 gaging stations.

White Sands Missile Range, Department of the Army in the operation of 2 gaging stations.

Bureau of Reclamation, U.S. Department of the Interior in the operation of 16 gaging stations.

Federal Highway Administration, U.S. Department of Transportation for research study on small drainage areas.

Bureau of Indian Affairs, U.S. Department of the Interior in the operation of 6 gaging stations.

Soil Conservation Service, U.S. Department of Agriculture in the operation of 2 gaging stations.

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

Forest Service, U.S. Department of Agriculture; National Oceanic and Atmospheric Administration, U.S. Department of Commerce; the city of Ruidoso; Carlsbad Irrigation District; Public Service Company of New Mexico; State Department of Game and Fish.



## DEFINITION OF TERMS

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

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or 325,851 gallons.

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, 1.9835 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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

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

Cubic foot per second (cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second, and is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

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

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

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

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

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.

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

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

## SPECIAL NETWORKS AND PROGRAMS

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

## DOWNSTREAM ORDER AND STATION NUMBERS

Records are listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, 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 08314500, includes the part number "08" and a 6-digit station number. In this report the complete number 08314500 appears 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 SURFACE-WATER DATA

Collection and Computation of Data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that gives a continuous graph of the fluctuations (for digital recorders, a tape punched at 15-, 30-, or 60-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks on the measurement of stream discharge. (See also SELECTED REFERENCES.) Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For a stream-gaging station 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, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The application of the daily mean gage heights to the rating table 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 basically the shifting-control method.

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

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

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

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

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

The data in this report generally comprise a description of the station and tabulations of basic data. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily gage heights or elevations at, 0800 hours, are included for some reservoir stations. A calendar for the current year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey, unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or the minimum contents), and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation. In the first paragraph headed "Current year": the data given are for the complete current calendar year unless otherwise specified. In the second paragraph usually headed "Period of record": the data given are for the period of record given in the PERIOD OF RECORD paragraph. Otherwise the data given are for a shorter period and the heading shows the period for which extremes are available. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge or contents, it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is also given under "REMARKS."

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

Skeleton capacity tables are published for all reservoirs for which records of contents are published on a daily basis, except those reservoirs for which a table of daily elevations (or gage heights) is published.

The daily tables for stream-gaging stations give the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading.

The daily tables for reservoir stations give the contents corresponding to the water-surface elevation at a given time, usually at 2400 each day. For some reservoirs the elevation at a given time is given in the daily table.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month is expressed in acre-feet (line headed "AC-FT").

For reservoir stations the monthly summary gives the elevation (or gage height) at the end of the month and the change in contents during the month, except for those stations for which a table of daily elevations (or gage heights) is published.

In the yearly summary below the monthly summary, the figures following MAX are the maximum daily discharges for the calendar and water years; likewise, those following MIN are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calendar year and for the water year.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. 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 canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030 and 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 an unusual source, or ~~an~~ 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. Footnotes to reservoir tables may be used to explain the use of new capacity tables or for other special conditions.

#### Accuracy of Data

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

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

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

Discharge of some stations, as indicated by the monthly mean, may vary widely from natural runoff, due to the effects of diversions, consumptive use, regulation by storage, increases or decreases in evaporation due to artificial causes or other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents.

#### Publications

Each volume of the 1960 series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States" contains a listing of the numbers of all water-supply papers in which records of surface-water data were published for the area covered by the individual volumes. Each volume also contains a list of water-supply papers that give detailed information on major floods for the area. A new series of water-supply papers containing surface-water records for the 5-year period October 1, 1960 to September 30, 1965, also include lists of annual and special reports published as water-supply papers. Records for this period for the area covered by this report are published in Water-Supply Paper 1921(7), 1923(8), 1925(9).

Records through September 1950 for the area covered by this report have been compiled and published in Water-Supply Papers 1311(7), 1312(8), and 1313(9); records for October 1950 to September 1960 have been compiled and published in Water-Supply Papers 1731(7), 1732(8), and 1733(9). These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station.

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

#### Other Data Available

Data collected at partial-record stations and at miscellaneous sites are given in three tables at the end of the surface-water records in this report. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

More detailed information than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Many gaging-station records in New Mexico through 1968 have been analyzed to give several statistical summaries: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

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

## HYDROLOGIC CONDITIONS

As is common in New Mexico, streamflow varied greatly in the 1972 calendar year. This holds true with respect to both time and geographic location. The variations are related to differences in precipitation, temperature, topography and geology. The yearly mean discharge for the calendar year at four key gaging stations ranged from 37 to 252 percent of the medians for the base period, 1931-60.

For the calendar year streamflow was deficient (in the lower 25 percentile of the reference period) in the Canadian and upper Rio Grande basins, near the median value in the Pecos River basin, above median in the San Juan River basin, and excessive (in the upper 25 percentile of the reference period) in the Gila River basin.

During the first quarter of the year streamflow was near median except in the Gila River basin, where it was excessive in January. During the second quarter there was very little snow in the mountains to produce the usual runoff, consequently streamflow was deficient in all those streams that head in the mountains. In May streamflow was the lowest of record for many of such streams. During the third quarter streamflow varied from below median in the upper Rio Grande and Canadian River basins to excessive in the Pecos and Gila River basins. During the last quarter streamflow varied from deficient on the east side of State to excessive on the west side.

The storm of October 17-20 caused flooding in the west side of the State. Mean monthly streamflow for October and November was the highest of record in the Gila River basin for those months. Other major floods occurred on the Percha Creek in the lower Rio Grande basin on September 3 and on the Puerco River at Gallup on July 17.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE  
GEOLOGICAL SURVEY

Records of discharge not published by the Geological Survey were collected at 80 sites in New Mexico during the current year by the following agencies: Records at 76 sites (in Pecos River basin) were collected by the office of the State Engineer; at 3 sites by the International Boundary and Water Commission, U.S. Department of State and at 1 site by the Bureau of Reclamation, U.S. Department of Interior, The Office of Water Data Coordination, Water Resources Division, U.S. Geological Survey, Washington, D.C., 20242, maintains an index of these sites. Information on records at specific sites can be obtained from that office upon request.

## SELECTED REFERENCES

- Carter, R.W., and Davidian, Jacob, 1968, General procedure for gaging streams: U.S. Geol. Survey Techniques Water-Resources Inv., book 3, chap. A6, 13 p.
- Corbett, D.M., and others, 1943, Stream-gaging procedure, a manual describing methods and practices of the Geological Survey: U.S. Geol. Survey Water-Supply Paper 888, 245 p.
- Langbein, W.B., and Iseri, K.T., 1960, General introduction and hydrologic definitions: U.S. Geol. Survey Water-Supply Paper 1541-A, 29 p.



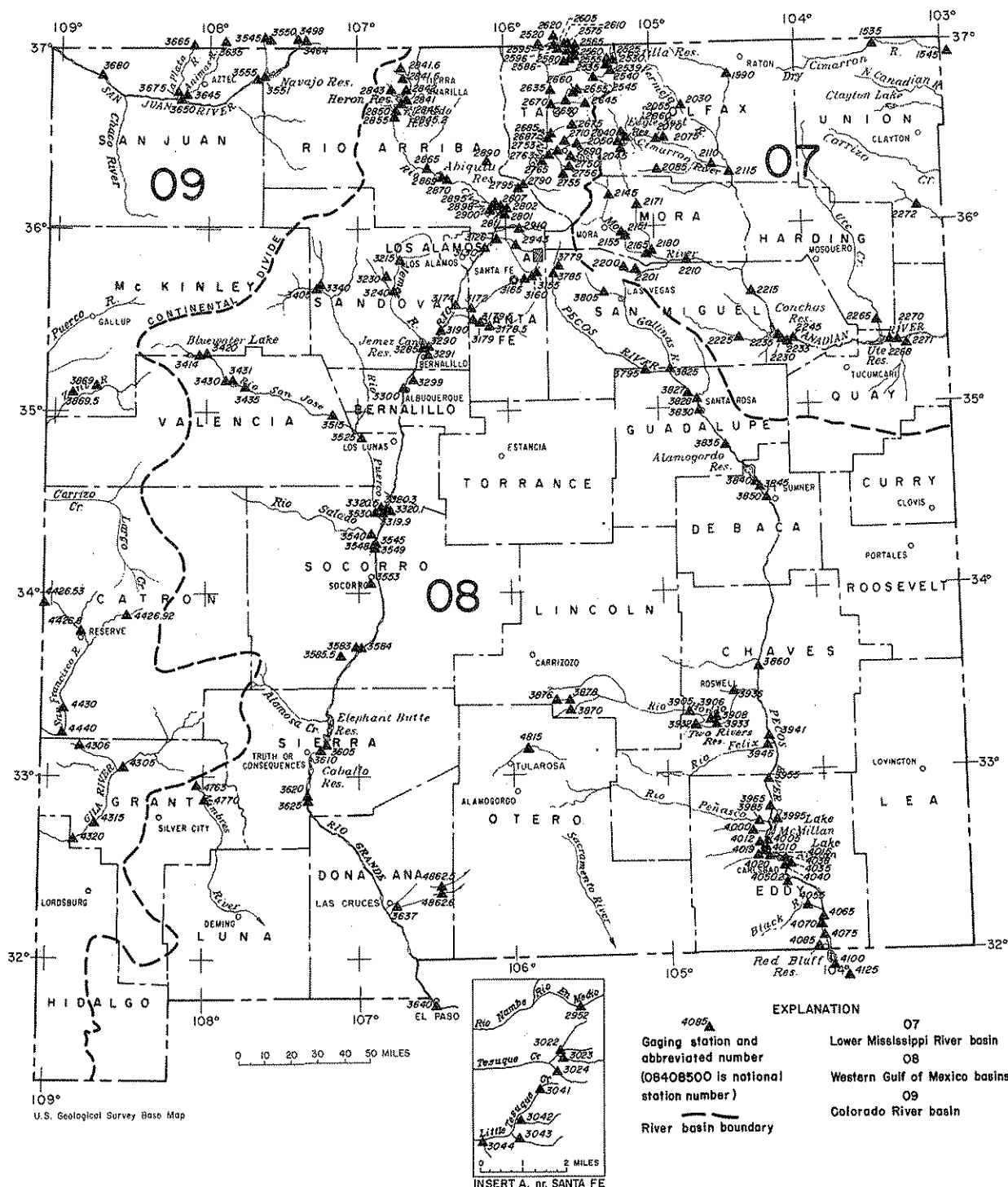


Figure 1.—Map of New Mexico showing location of active gaging stations.

## GAGING-STATION RECORDS

## LOWER MISSISSIPPI RIVER BASIN

## ARKANSAS RIVER BASIN

07153500 Dry Cimarron River near Guy, N. Mex.

LOCATION.--Lat 36°59'15", long 103°25'25", in SE¼ sec.21, T.32 N., R.33 E., Union County, on right bank 1.5 miles upstream from Baker damsite, 1.7 miles northwest of Valley, 3.0 miles upstream from Travesser Creek, 12 miles north of Guy, and 26 miles northwest of Kenton, Okla.

DRAINAGE AREA.--545 sq mi.

PERIOD OF RECORD.--April 1942 to current year. Prior to October 1965, published as Cimarron River near Guy.

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.--30 calendar years, 10.3 cfs (7,460 acre-ft per year); 20 calendar years (1953-72), 10.1 cfs (7,320 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 723 cfs June 17 (gage height, 4.41 ft); minimum, 0.01 cfs June 7.

Period of record: 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 poor. Diversions for irrigation of about 6,500 acres above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1177: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.5	3.4	2.0	1.7	.21	.11	2.7	1.0	1.6	.72	3.7	2.3
2	1.2	2.8	2.1	1.5	.15	.09	13	1.3	133	.72	3.4	1.7
3	1.0	2.6	2.0	1.5	.13	.07	14	1.4	22	.64	2.5	1.7
4	.79	3.0	1.9	1.5	.11	.06	11	1.1	8.6	.72	2.3	2.1
5	1.0	3.2	2.0	1.4	.11	.05	6.8	11	3.9	.72	2.1	1.5
6	2.0	3.4	2.0	1.3	.13	.05	4.2	11	3.4	.79	1.9	1.5
7	2.8	3.0	2.0	1.2	.18	.02	18	1.4	2.8	.79	1.8	1.6
8	3.5	2.7	2.0	1.2	.21	.05	5.5	1.2	2.5	.94	1.7	1.8
9	3.5	2.4	2.1	1.0	.21	.06	9.4	1.1	2.4	.94	1.7	2.0
10	3.2	2.4	2.0	1.0	.38	.07	2.3	1.1	2.1	.94	1.7	2.0
11	2.8	2.4	2.0	.86	56	7.6	1.8	.57	2.0	.86	1.8	2.0
12	2.4	2.7	2.0	.64	26	48	1.4	.43	1.9	.86	1.9	2.0
13	1.9	2.4	2.0	.34	2.1	3.2	1.2	.34	1.8	.86	2.3	2.0
14	2.1	2.4	2.0	.24	.72	1.2	1.1	.30	2.5	1.3	2.3	2.0
15	3.0	2.3	1.9	.30	.30	1.0	1.0	.27	2.0	1.2	2.3	2.0
16	3.5	2.3	1.9	.27	.18	.86	1.1	.27	2.0	1.1	2.3	2.0
17	3.9	2.1	1.8	.15	.13	62	1.2	.27	1.8	1.0	2.4	2.1
18	3.7	2.1	1.8	.15	.07	15	1.2	.15	1.7	1.0	2.5	2.2
19	3.2	2.0	1.7	.13	.04	1.3	2.1	.18	1.5	1.1	2.5	2.3
20	2.7	1.9	1.4	.24	9.2	1.2	3.1	.24	1.4	1.3	2.4	2.4
21	2.4	1.9	1.5	.30	1.0	.86	1.7	.38	1.3	1.3	2.3	2.4
22	2.4	1.9	1.5	.34	.57	4.3	1.4	.79	1.3	7.2	2.2	2.0
23	2.3	2.1	1.5	.24	.43	13	1.9	1.0	1.2	2.7	2.2	2.1
24	2.1	2.3	1.5	.18	.30	4.2	1.8	6.6	1.2	2.1	2.2	2.4
25	2.1	2.1	1.7	.18	.18	2.5	2.0	1.8	1.2	2.1	2.2	1.2
26	2.1	2.1	1.5	.21	.18	2.0	3.3	.79	1.1	2.0	2.3	1.3
27	2.4	2.1	1.4	.21	.15	1.8	1.1	.72	1.0	2.0	2.4	1.3
28	2.5	2.1	1.7	.21	2.4	1.5	14	1.0	1.0	2.0	2.5	1.5
29	2.7	2.1	2.0	.21	.47	2.4	7.4	2.7	.86	1.7	2.5	1.3
30	2.8	-----	2.1	.21	.27	3.5	1.9	22	.79	1.7	2.5	1.4
31	2.8	-----	1.9	-----	.18	-----	1.1	4.2	-----	2.3	-----	2.1
TOTAL	76.29	70.2	56.9	18.91	102.69	178.05	139.7	76.60	212.05	45.60	68.8	58.2
MEAN	2.46	2.42	1.84	.63	3.31	5.94	4.51	2.47	7.07	1.47	2.29	1.88
MAX	3.9	3.4	2.1	1.7	56	62	18	22	133	7.2	3.7	2.4
MIN	.79	1.9	1.4	.13	.04	.02	1.0	.15	.79	.64	1.7	1.2
AC-FT	151	139	113	38	204	353	277	152	421	90	136	115

CAL YR 1972 TOTAL 1,103.99 MEAN 3.02 MAX 133 MIN .02 AC-FT 2,190

WTR YR 1972 TOTAL 1,124.99 MEAN 3.07 MAX 133 MIN .02 AC-FT 2,230

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

07154500 Cimarron River near Kenton, Okla.

LOCATION.--Lat 36°55'36", long 102°57'31", in SE¼ sec.4, T.5 N., R.1 E., Cimarron County, near right bank on downstream side of pier of county road bridge, 1.5 miles upstream from North 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.

PERIOD OF RECORD.--April 1904 to July 1905 (gage heights only), October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,262.08 ft above mean sea level, (levels by State Highway Department). April 1904 to July 1905 nonrecording gage at site 0.9 mile upstream at different datum. Oct. 1, 1950 to Sept. 19, 1967, water-stage recorder at same site and a datum 5.00 ft higher.

AVERAGE DISCHARGE.--22 calendar years (1951-72), 24.2 cfs (17,530 acre-ft per year); 20 calendar years (1953-72), 25.2 cfs (18,260 acre-ft per year).

EXTREMES.--Current year: Maximum discharge 6,100 cfs June 23 (gage height, 14.09 ft); no flow at times. Period of record: Maximum discharge 43,400 cfs Oct. 17, 1965 (gage height, 22.32 ft, present datum), from rating curve extended above 7,000 cfs on basis of contracted-opening measurement of peak flow; no flow at times in most years.

REMARKS.--Records fair. Extensive diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1711: 1956(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.43	1.4	.55	1.2	.10	3.8	.30		0	0	.16	.16
2	.44	.70	.52	.88	.10	2.3	.27	254	0	.08	.18	.18
3	.35	.50	.57	.56	.10	1.5	.17	66	0	.08	.15	.15
4	.25	.70	.49	.50	.10	.57	.13	71	0	.07	.14	.14
5	.23	1.5	.45	.76	.10	.23	.10	15	0	.07	.13	.13
6	.80	1.0	.57	.58	.10	.13	.08	5.4	0	.07	.06	.06
7	2.5	.78	.79	.35	.10	.05	.06	2.0	0	.09	.18	.18
8	4.1	.90	.77	.27	.10	.01	.05	.78	0	.10	.16	.16
9	4.8	.82	.86	.17	.10	.01	.05	.67	0	.09	.20	.20
10	4.9	.68	.85	.16	.10	.01	.04	.27	0	.07	.14	.14
11	5.5	.56	.85	.15	245	.01	.04	.14	0	.08	.31	.31
12	5.1	.60	.78	.13	365	.02	57	.06	0	.09	.33	.33
13	2.5	.68	.78	.13	54	0	4.2	0	0	.10	.30	.30
14	.30	.76	.69	.13	16	.02	.07	0	0	.10	.32	.32
15	.13	.67	.70	.13	6.3	.06	0	.01	0	.03	.34	.34
16	1.0	.74	.72	.13	5.3	0	0	0	0	0	.44	.44
17	4.5	1.0	.79	.13	3.3	0	0	0	0	0	.60	.60
18	9.8	.60	.59	.13	1.7	.04	0	0	0	.01	.90	.90
19	9.4	.80	.55	.10	1.2	8.0	0	0	0	.03	.96	.96
20	9.1	1.0	.43	.16	1.2	11	0	.05	0	.07	.90	.90
21	7.7	.70	.36	.14	.70	374	0	0	0	.10	.94	.94
22	5.3	.60	.44	.16	.26	287	0	0	41	.05	1.1	1.1
23	3.0	.64	.47	.12	.21	1,380	21	0	6.2	.17	1.0	1.0
24	1.2	.72	.44	.11	.19	55	13	0	.25	.27	.96	.96
25	.80	.93	.29	.10	.09	8.7	.10	0	.04	.13	1.1	1.1
26	.50	.90	.25	.10	.06	1.9	0	0	.04	.16	1.2	1.2
27	.24	.81	.25	.10	.09	.90	0	0	.03	.12	1.3	1.3
28	.28	.70	.32	.10	.19	.72	0	0	.04	.08	1.1	1.1
29	.86	.61	.87	.10	.229	.60	0	0	.04	.12	1.2	1.2
30	1.1	-----	1.7	.10	.40	.44	0	0	.02	.17	1.6	1.6
31	.90	-----	1.8	-----	.13	-----	0	-----	.21	-----	1.5	1.5
TOTAL	88.01	23.00	20.49	7.88	1,002.60	2,137.02	96.66	0	415.38	47.87	2.76	19.90
MEAN	2.84	.79	.66	.26	32.3	71.2	3.12	0	13.8	1.54	.092	.64
MAX	9.8	1.5	1.8	1.2	365	1,380	57	0	254	.41	.27	1.6
MIN	.13	.50	.25	.10	.06	0	0	0	0	0	0	.06
AC-FT	175	46	41	16	1,990	4,240	192	0	824	95	5.5	39

CAL YR 1972 TOTAL 3,861.57 MEAN 10.6 MAX 1,380 MIN 0 AC-FT 7,660  
WTR YR 1972 TOTAL 3,878.13 MEAN 10.6 MAX 1,380 MIN 0 AC-FT 7,690

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G. H.	DISCHARGE
6-23	0330	14.09	6,100

07199000 Canadian River near Hebron, N. Mex.

LOCATION.--Lat 36°47'14", long 104°27'42", Colfax County, in Maxwell Grant, near right bank at downstream end of bridge pier on U.S. Highways 64 and 85, 3.1 miles north of Hebron, 5.0 miles upstream from Chicorica Creek, and 8.0 miles south of Raton.

DRAINAGE AREA.--229 sq mi.

PERIOD OF RECORD.--June 1946 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,248 ft (from topographic map). See WSP 1921 for history of changes prior to Aug. 18, 1965.

AVERAGE DISCHARGE.--26 calendar years, 7.84 cfs (5,680 acre-ft per year); 20 calendar years (1953-72), 9.32 cfs (6,750 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,150 cfs July 23 (gage height, 5.60 ft), from rating curve extended above 5 cfs as explained below; no flow at times.

Period of record: 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1281: 1946, 1947-48(P), 1949. WSP 1921: 1960(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.30	.60	.12	.10	.10	.05	.22	.04	29	.02	.41	.07
2	.30	.50	.10	.08	.10	.05	0	14	5.0	.01	.66	.07
3	.20	.40	.10	.08	.12	.05	.10	202	.20	.01	.14	.07
4	.10	.30	.10	.08	.12	.05	.28	172	.10	.01	.10	.07
5	0	.40	.11	.08	.12	.05	.05	1.0	.08	.01	.12	.06
6	.10	.50	.09	.06	.22	.05	.04	.70	.08	.02	.08	.05
7	.30	.40	.10	.06	.16	.05	.04	.50	.08	.01	.08	.05
8	.50	.40	.09	.05	.14	.06	.03	1.7	.06	.01	.08	.06
9	.60	.40	.08	.05	.12	.08	.01	3.9	.08	.01	.08	.06
10	.80	.30	.04	.05	.12	.06	.02	.40	.08	.02	.08	.06
11	1.0	.20	.03	.05	.12	.08	.02	.20	.10	.03	.08	.05
12	1.0	.20	.04	.05	.12	.08	.02	.15	.06	.03	.07	.05
13	.90	.18	.04	.05	.12	.10	.01	.10	.06	.05	.07	.05
14	.80	.17	.04	.05	.12	.10	.01	.08	.06	.05	.07	.05
15	.60	.16	.04	.06	.12	.06	.03	.06	.06	.04	.08	.05
16	.60	.16	.05	.06	.12	.14	.06	.04	.05	.03	.08	.04
17	.70	.16	.06	.06	.12	.05	.04	.03	.05	.02	.08	.04
18	.60	.16	.04	.06	.08	.02	.04	.03	.04	.03	.08	.05
19	.60	.16	.04	.06	8.2	.01	.04	.03	.03	.05	.08	.05
20	.60	.12	.04	.08	.10	.01	.40	.03	.05	.05	.07	.06
21	.50	.16	.04	.08	.08	.02	4.0	2.3	.04	1.0	.05	.06
22	.30	.12	.06	.08	.07	.02	4.8	.50	.05	.29	.05	.06
23	.20	.12	.06	.08	.07	.02	148	.40	.05	.65	.06	.06
24	.40	.10	.10	.08	.06	.01	.75	.20	.03	2.1	.06	.05
25	.70	.10	.08	.06	.06	0	.04	.15	.04	1.8	.07	.05
26	.90	.08	.08	.08	.08	0	.03	.08	.04	.04	.07	.05
27	1.0	.08	.08	.12	.08	0	4.3	.02	.04	.03	.07	.05
28	1.0	.08	.12	.12	.08	6.6	27	7.4	.04	.02	.07	.05
29	.80	.08	.10	.10	.08	1.3	.05	1.8	.05	.02	.07	.05
30	.70	-----	.10	.08	.08	5.4	.05	.80	.04	.02	.07	.05
31	.60	-----	.10	-----	.05	-----	.06	107	-----	.02	-----	.05
TOTAL	17.70	6.79	2.27	2.15	11.33	14.57	185.54	517.64	35.74	6.50	3.23	1.69
MEAN	.57	.23	.073	.072	.37	.49	5.99	16.7	1.19	.21	.11	.055
MAX	1.0	.60	.12	.12	8.2	6.6	148	202	.29	2.1	.66	.07
MIN	0	.08	.03	.05	.05	0	0	.02	.03	.01	.05	.04
AC-FT	35	13	4.5	4.3	22	29	368	1,030	71	13	6.4	3.4

CAL YR 1972 TOTAL 805.15 MEAN 2.20 MAX 202 MIN 0 AC-FT 1,600  
 WTR YR 1972 TOTAL 815.97 MEAN 2.23 MAX 202 MIN 0 AC-FT 1,620

## PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-23	1700	5.60	3,150	8-31	1900	5.01	1,730
8-3	2300	5.20	2,300				

07203000 Vermejo River near Dawson, N. Mex.

LOCATION.--Lat 36°40'50", long 104°47'08", Colfax County, in Maxwell Grant, on left bank 1.3 miles north of Dawson, and 2.3 miles upstream from Rail Canyon.

DRAINAGE AREA.--301 sq mi.

PERIOD OF RECORD.--October 1915 to July 1918, April 1919 to May 1921, January 1927 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,365 ft (from topographic map). See WSP 1311 or 1731 for history of changes prior to Sept. 24, 1953.

AVERAGE DISCHARGE.--49 calendar years (1916-17, 1920, 1927-72), 18.7 cfs (13,550 acre-ft per year); 20 calendar years (1953-72), 15.6 cfs (11,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,960 cfs Sept. 2 (gage height, 7.00 ft), from rating curve extended above 42 cfs as explained below; minimum, 0.61 cfs Nov. 25.

1927-72: 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 poor. Diversions for irrigation of small acreage and mountain meadows above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS): WSP 1117: 1947, drainage area. WSP 1281: 1932(M), 1934(M), 1936-38(M), 1941-42(P), 1944-46(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.5	4.0	3.3	2.8	4.2	1.3	2.4	36	9.0	1.4	4.0	3.5
2	4.0	3.8	2.8	3.3	3.8	1.1	2.4	19	175	1.4	4.5	3.5
3	3.5	3.5	2.9	3.5	4.2	1.1	24	122	38	1.4	4.4	3.5
4	3.0	3.5	2.9	2.9	4.4	1.1	27	43	8.0	1.3	4.4	3.5
5	2.5	3.8	2.9	1.9	4.2	1.0	9.1	13	7.0	1.2	5.0	3.5
6	2.5	3.8	3.1	1.5	5.2	.95	6.1	10	6.1	1.1	5.0	3.5
7	3.0	3.5	2.8	1.5	7.9	.80	5.0	13	6.1	1.2	4.4	2.9
8	3.5	3.5	2.8	1.4	6.4	.80	4.4	5.5	5.2	1.2	4.2	2.8
9	4.0	3.5	2.6	1.3	4.7	.87	4.4	159	6.4	1.3	4.2	2.6
10	4.5	3.0	2.6	2.8	4.7	1.3	3.8	6.1	5.5	1.3	3.8	2.5
11	5.0	3.0	2.9	3.5	3.8	1.3	3.8	5.0	5.2	1.1	3.8	2.3
12	5.2	3.5	3.3	3.3	3.3	2.1	3.5	4.5	5.0	1.1	3.1	2.4
13	5.0	4.0	3.5	3.5	3.3	2.9	2.8	4.0	4.4	1.1	3.0	2.3
14	4.5	5.0	3.5	3.5	3.3	2.6	2.3	3.6	4.2	1.2	2.8	1.9
15	4.0	5.5	3.5	3.8	3.1	2.3	2.3	3.2	4.4	1.1	3.5	1.8
16	5.0	6.0	3.3	4.2	2.9	2.0	2.6	3.0	4.4	1.2	4.0	1.6
17	5.4	6.6	2.9	4.4	2.8	2.4	2.6	2.8	4.4	1.2	4.4	1.5
18	5.8	6.0	2.6	5.0	2.6	2.1	3.3	2.6	3.8	1.2	5.0	1.8
19	5.8	6.6	2.6	5.2	3.5	3.1	4.2	2.4	3.3	1.9	4.2	1.9
20	5.6	5.1	2.6	5.0	4.2	1.5	3.8	2.2	3.3	2.9	3.3	2.4
21	5.5	5.8	2.3	5.5	3.5	1.8	7.4	2.1	3.5	2.9	3.1	2.6
22	5.8	5.2	1.6	5.2	2.9	1.4	29	2.0	3.3	4.0	3.1	2.6
23	6.0	4.4	1.3	5.0	2.4	1.2	7.6	2.0	3.1	4.7	1.8	3.1
24	6.0	3.8	1.1	5.0	2.1	1.0	20	2.0	2.9	5.2	1.2	3.1
25	5.2	3.1	1.1	4.4	1.5	1.0	7.5	2.0	2.8	4.4	1.4	2.8
26	5.2	3.3	1.1	4.0	1.3	1.0	65	2.0	2.6	4.0	3.5	2.8
27	5.8	3.1	1.2	4.7	1.2	1.0	22	2.0	2.1	3.5	4.2	2.4
28	5.5	3.1	1.8	4.7	1.3	1.0	15	5.0	2.1	3.5	3.0	2.6
29	5.3	3.1	1.8	4.7	1.5	1.2	9.1	12	1.8	3.8	3.1	2.8
30	4.5	-----	2.3	4.7	2.4	2.6	12	3.5	1.6	3.3	3.1	2.1
31	4.0	-----	2.6	-----	2.0	-----	8.6	2.0	-----	4.5	-----	1.8
TOTAL	145.1	122.1	77.6	112.6	104.6	45.82	323.0	496.5	334.5	70.6	104.5	80.4
MEAN	4.68	4.21	2.50	3.75	3.37	1.53	10.4	16.0	11.2	2.28	3.62	2.59
MAX	6.0	6.6	3.5	5.5	7.9	3.1	65	159	175	5.2	5.0	3.5
MIN	2.5	3.0	1.1	1.3	1.2	.80	2.3	2.0	1.6	1.1	1.2	1.5
AC-FT	288	242	154	223	207	91	641	985	663	140	215	159

CAL YR 1972 TOTAL 2,021.32 MEAN 5.52 MAX 175 MIN .80 AC-FT 4,010  
 WTR YR 1972 TOTAL 2,358.22 MEAN 6.04 MAX 175 MIN .80 AC-FT 4,680

## PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8- 3	1900	6.06	1,300	9- 2	2100	7.00	1,960
8- 9	0030	6.90	1,890				

## ARKANSAS RIVER BASIN

07204000 Moreno Creek at Eagle Nest, N. Mex.

LOCATION.--Lat 36°33'12", long 105°16'03", Colfax County, in Maxwell Grant, on left upstream wingwall of a multi-barrel culvert under U.S. Highway 64, 200 ft west of intersection of U.S. Highway 64 and State Highway 38, about 800 ft upstream from high-water line of Eagle Nest Lake (revised) and 1,000 ft west of Eagle Nest.

DRAINAGE AREA.--73.8 sq mi.

PERIOD OF RECORD.--April 1928 to October 1955, June 1964 to current year. No winter records except 1932. Monthly discharge only for some periods, published in WSP 1311. Records for December 1930 to March 1931, published in WSP 732, are unreliable and should not be used. Published as "near Therna" 1928-34.

GAGE.--Water-stage recorder. Concrete control since Oct. 3, 1952. Datu, of gage is 8,195.98 ft above mean sea level. See WSP 1921 for history of changes prior to Oct. 26, 1955.

EXTREMES.--Current year: Maximum discharge, 17 cfs Aug. 4 (gage height, 2.20 ft); no flow at times.

Period of record: Maximum discharge, 240 cfs Sept. 1, 1946 (gage height, 3.10 ft, site and datum then in use); maximum gage height, 3.45 ft July 13, 1969; no flow at times.

REMARKS.--Records fair through August, poor thereafter. Diversions for irrigation of about 1,200 acres above station.

REVISIONS (WATER YEARS).--WSP 1281: 1931(M), 1932, 1935(M), 1939-41(M), 1946-47(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			-	1.7	1.4	1.5	0	0		0	.18	
2			-	1.3	1.3	1.4	0	0		0	.18	
3			-	.98	1.3	1.2	.20	0		0	.32	
4			-	.67	1.4	1.1	.54	.93		0	.37	
5			-	.67	1.4	.82	.27	.23		0	.60	
6			4.8	.42	1.6	.74	.10	0		0	.60	
7			4.6	.32	2.8	.54	.01	.11		0	.42	
8			4.3	.23	2.2	.54	0	.14		0	.48	
9			4.4	.15	1.8	.54	.05	0		0	.60	
10			3.7	.07	1.7	.54	.07	0		0	.42	
11			2.5	.15	1.6	.48	.01	0		0	.54	
12			2.3	.82	1.5	.54	0	0		0	.48	
13			1.8	.90	1.6	.54	0	0		0	.48	
14			1.7	.74	1.5	.37	0	0		0	.24	
15			2.0	.74	1.4	.37	0	0		0	.19	
16			1.7	.60	1.5	.37	0	0		0	.11	
17			1.5	.60	1.5	.42	.10	0		0	.07	
18			1.6	.48	1.4	.23	0	0		0	.11	
19			1.7	.74	1.5	.11	0	0		.10	.07	
20			1.5	1.1	1.5	.10	0	0		0	-	
21			1.3	1.2	1.5	.06	0	0		0	-	
22			1.1	1.3	1.2	.05	0	0		0	-	
23			1.1	1.8	1.1	.02	.12	0		.13	-	
24			.90	1.7	.98	.05	0	0		.15	-	
25			.98	1.6	.90	.01	0	0		.48	-	
26			.82	1.6	.90	0	0	.02		.48	-	
27			.90	1.5	.82	0	0	.05		.23	-	
28			1.2	1.5	.74	.04	0	.02		.15	-	
29			.60	1.5	.74	0	0	0		.07	-	
30		-----	.90	1.4	1.3	.01	0	0		.06	-	
31		-----	1.2	-----	1.5	-----	0	.06	-----	.04	-----	
TOTAL	-	-	-	28.48	43.58	12.69	1.47	1.56	0	1.89	-	-
MEAN	-	-	-	.95	1.41	.42	.047	.050	0	.061	-	-
MAX	-	-	-	1.8	2.8	1.5	.54	.93	0	.48	-	-
MIN	-	-	-	.07	.74	0	0	0	0	0	-	-
AC-FT	-	-	-	56	86	25	2.9	3.1	0	3.7	-	-

PEAK DISCHARGE (BASE, 35 CFS).--No peak above base.

07204500 Cieneguilla Creek near Eagle Nest, N. Mex.

LOCATION.--Lat 36°29'07", long 105°15'54", Colfax County, in Maxwell Grant, on right bank 0.1 mile downstream from Schoolhouse Draw, 0.5 mile east of U.S. Highway 64, about 2,000 ft upstream from high-water line of Eagle Nest Lake (revised), and 4.7 miles south of Eagle Nest.

DRAINAGE AREA.--56 sq mi.

PERIOD OF RECORD.--April 1928 to September 1955, June 1964 to current year. No winter records except in water years 1932, 1948, 1951. Monthly discharge only for some periods, published in WSP 1311 and 1731. Records for December 1930 to March 1931, published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

GAGE.--Water-stage recorder. Concrete control since Sept. 25, 1947. Altitude of gage is 8,195 ft (from topographic map). Prior to May 8, 1928, nonrecording gage, and May 8, 1928 to Sept. 1, 1934, water-stage recorder at site 0.2 mile downstream at different datums.

EXTREMES.--Current year: Maximum discharge, 15 cfs Aug. 5 (gage height, 3.07 ft); no flow part of each day June 26-28. Period of record: Maximum discharge, 505 cfs June 16, 1965 (gage height, 5.61 ft), from rating curve extended above 97 cfs; no flow at times.

REMARKS.--Records good except those below 1.0 cfs, which are fair. Diversions for irrigation of about 1,000 acres above station.

REVISIONS (WATER YEARS).--WSP 957: 1941. WSP 1281: Drainage area. WSP 1311: 1932(M), 1935(M), 1937(M). See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			6.0	6.2	.85	1.2	.02	.09	1.3	.43	.70	
2			6.0	5.9	.88	.85	.02	.22	1.1	.43	1.5	
3			6.1	5.6	.92	.74	.02	.46	1.1	.43	2.6	
4			6.9	4.4	.97	.59	.03	.40	1.3	.46	3.2	
5			6.9	3.5	1.0	.49	.32	1.8	1.2	.55	2.5	
6			8.1	4.0	1.3	.32	.52	.62	1.3	.66	2.1	
7			7.9	3.2	2.3	.20	.52	.59	1.2	.81	1.8	
8			6.9	2.5	2.6	.16	.14	.70	1.1	.85	2.0	
9			6.7	3.0	1.9	.18	.14	.88	1.1	.77	2.0	
10			6.9	2.6	1.3	.20	.29	.77	1.0	.66	1.8	
11			6.7	2.2	1.0	.14	.22	.59	.92	.66	1.9	
12			6.5	4.2	.92	.24	.20	.49	.92	.70	1.5	
13			6.1	8.6	.92	.37	.20	.43	.88	.74	2.0	
14			6.1	6.1	1.0	.43	.16	.43	.85	.77	2.0	
15			5.9	4.8	.92	.35	.09	.43	.81	.85	2.1	
16			5.2	4.8	.88	.46	.10	.40	.74	.97	-	
17			5.8	4.1	.77	.70	.12	.37	.59	1.1	-	
18			5.8	3.0	.74	.35	.08	.37	.52	1.3	-	
19			5.6	2.6	.74	.12	.03	.27	.62	1.8	-	
20			5.1	2.2	.74	.05	.03	.27	.66	1.8	-	
21			5.5	2.2	.66	.03	.02	.24	.66	1.6	-	
22			5.3	2.0	.59	.02	.02	.20	.59	1.5	-	
23			5.8	2.0	.43	.02	.02	.14	.55	2.0	-	
24			5.5	1.9	.43	.02	.09	.08	.52	2.0	-	
25			5.1	1.6	.37	.01	.03	.05	.49	2.1	-	
26			5.1	1.3	.37	.01	.08	.35	.46	1.9	-	
27			4.7	1.2	.35	.01	.20	.49	.46	1.8	-	
28			4.4	1.1	.37	.01	.24	1.2	.46	1.8	-	
29			4.7	1.1	1.0	.02	.27	1.2	.40	1.8	-	
30		-----	5.3	1.0	1.6	.02	.20	1.1	.43	1.6	-	
31		-----	6.3	-----	1.4	-----	.12	1.1	-----	1.7	-----	
TOTAL	-	-	184.9	98.9	30.22	8.31	4.54	16.73	24.23	36.54	-	-
MEAN	-	-	5.96	3.30	.97	.28	.15	.54	.81	1.18	-	-
MAX	-	-	8.1	8.6	2.6	1.2	.52	1.8	1.3	2.1	-	-
MIN	-	-	4.4	1.0	.35	.01	.02	.05	.40	.43	-	-
AC-FT	-	-	367	196	60	16	9.0	33	48	72	-	-

PEAK DISCHARGE (BASE, 70 CFS).--No peak above base.

## ARKANSAS RIVER BASIN

07205000 Sixmile Creek near Eagle Nest, N. Mex.

LOCATION.--Lat 36°31'07", long 105°16'29", Colfax County, in Maxwell Grant, on left upstream wingwall of concrete control, 250 ft downstream from concrete box culvert on U.S. Highway 64, and 2.6 miles southwest of Eagle Nest.

DRAINAGE AREA.--10.5 sq mi.

PERIOD OF RECORD.--April 1928 to September 1955 (no winter records in water years 1928-31, 1933-55), July 1958 to current year. Prior to October 1930 monthly discharge only, published in WSP 1311. Records for December 1930 to March 1931, published in WSP 732, are unreliable and should not be used. Published as "near Therma" 1928-34.

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. Prior to May 18, 1928, nonrecording gage at site 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.--14 calendar years (1959-72), 2.40 cfs (1,740 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5.1 cfs Apr. 1 (gage height, 0.95 ft); minimum, 0.01 cfs Aug. 24, result of regulation. 1930-55, 1958-72: Maximum discharge, 128 cfs Aug. 5, 1969 (gage height, 2.86 ft), from rating curve extended above 26 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 fair. Diversions for irrigation of about 300 acres above station.

REVISIONS (WATER YEARS).--WSP 1311: 1932-33(M), 1935(M), 1943(M). WSP 1681: 1937(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.8	1.3	1.5	1.8	1.2	.92	.64	.07	.79	.21	.38	.99
2	1.7	1.3	1.5	1.7	1.3	1.2	.64	.10	.46	.24	1.1	1.3
3	1.5	1.2	1.5	1.6	1.3	1.2	.74	.10	.46	.16	1.2	1.5
4	1.6	1.4	1.7	1.6	1.3	1.1	.91	.40	.50	.09	1.1	1.3
5	1.5	1.4	1.7	1.7	1.4	1.0	.38	.59	.42	.11	1.1	1.4
6	1.3	1.4	1.7	1.8	1.5	.97	.16	.38	.59	.14	1.0	1.3
7	1.2	1.4	1.6	1.8	.91	.91	.10	.34	.50	.18	.96	1.4
8	1.2	1.4	1.2	2.0	1.0	.91	.10	.34	.42	.16	1.1	1.3
9	1.2	1.4	1.2	1.9	1.4	.79	.12	.34	.46	.14	1.1	1.4
10	1.2	1.4	1.2	1.9	1.5	.74	.21	.34	.46	.09	.93	1.4
11	1.2	1.4	1.4	1.7	1.4	.91	.21	.27	.42	.09	1.0	1.4
12	1.2	1.4	1.4	2.4	1.4	1.1	.21	.24	.42	.09	.82	1.4
13	1.2	1.4	1.4	2.1	1.4	1.1	.24	.18	.38	.11	.90	1.4
14	1.4	1.4	1.5	2.0	1.4	.91	.09	.24	.38	.10	.83	1.4
15	1.4	1.5	1.5	1.8	1.3	1.1	.07	.27	.42	.15	.91	1.4
16	1.4	1.4	1.6	1.5	1.3	1.0	.09	.21	.38	.15	.91	1.4
17	1.4	1.5	1.4	1.4	1.2	.91	.10	.18	.30	.16	1.2	1.4
18	1.4	1.6	1.4	1.2	1.3	.79	.12	.16	.27	.16	.93	1.4
19	1.4	1.7	1.6	1.6	1.4	.74	.10	.16	.30	.58	.87	1.4
20	1.4	1.9	1.4	2.0	1.3	.74	.10	.16	.38	.47	.95	1.4
21	1.4	1.7	1.3	1.8	1.2	.74	.10	.18	.30	.28	1.1	1.4
22	1.4	1.9	1.2	1.8	1.2	.74	.08	.24	.30	.23	.84	1.4
23	1.4	2.2	1.3	1.8	1.2	.74	.14	.21	.27	.47	.98	1.4
24	1.3	1.8	1.4	2.0	1.2	.74	.16	.12	.24	.46	1.2	1.4
25	1.3	1.5	1.4	1.6	1.1	.64	.09	.16	.24	.62	1.0	1.4
26	1.4	1.5	1.2	1.7	1.1	.64	.10	.42	.21	.53	1.1	1.4
27	1.4	1.5	1.5	1.6	1.0	.64	.14	.46	.24	.44	1.1	1.3
28	1.4	1.5	1.1	1.4	1.1	.64	.08	.74	.21	.39	.77	1.3
29	1.4	1.5	1.8	1.3	1.3	.69	.07	.46	.21	.33	.89	1.4
30	1.4	-----	1.4	1.2	1.6	.69	.07	.38	.21	.30	.90	1.4
31	1.3	-----	2.1	-----	.85	-----	.07	.54	-----	.36	-----	1.4
TOTAL	42.7	43.9	45.1	51.7	39.06	25.94	6.43	8.98	11.14	7.99	29.17	42.49
MEAN	1.38	1.51	1.45	1.72	1.26	.86	.21	.29	.37	.26	.97	1.37
MAX	1.8	2.2	2.1	2.4	1.6	1.2	.91	.74	.79	.62	1.2	1.5
MIN	1.2	1.2	1.1	1.2	.85	.64	.07	.07	.21	.09	.38	.99
AC-FT	85	87	89	103	77	51	13	18	22	16	58	84

CAL YR 1972 TOTAL 354.60 MEAN .97 MAX 2.4 MIN .07 AC-FT 703  
 WTR YR 1972 TOTAL 362.93 MEAN .99 MAX 2.4 MIN .07 AC-FT 720

PEAK DISCHARGE (BASE, 15 CFS).--No peak above base.



07205500 Eagle Nest Lake near Eagle Nest, N. Mex.  
(Formerly published as Eagle Nest Reservoir near Eagle Nest)

LOCATION.--Lat 36°31'53", long 105°13'44", Colfax County, in Maxwell Grant, at upstream face of Eagle Nest Dam on Cimarron River, 2.5 miles southeast of Eagle Nest, and 6.7 miles west of Ute Park.

DRAINAGE AREA.--167 sq mi.

PERIOD OF RECORD.--December 1927 to December 1944 (monthend contents only, published in WSP 1311), May 1950 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Nonrecording gage read one to seven times a month at random intervals. Datum of gage is 8,056.8 ft above mean sea level. Prior to October 1964 gage heights were raised by addition of 8,000 ft and called elevations.

EXTREMES.--Current year: Maximum contents observed, 26,110 acre-ft Mar. 10, 13 (gage height, 107.80 ft); minimum observed, 17,460 acre-ft Nov. 23, 27, 30 (gage height, 99.55 ft).  
Period of record: 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. 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 River watermaster.

REVISIONS.--WSP 1281: Drainage area.

Capacity table (gage height, in feet, and contents, in acre-feet)

99.0	16,970	104.0	21,770
100.0	17,850	106.0	23,970
102.0	19,740	108.0	26,350

# CONTENTS, IN ACRE-FEET, CALENDAR YEAR 1972

1973 WY

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	25,260		25,990	-	-	22,530	-	19,600	-	-	-	-
2	-	-	-	-	24,210	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	18,540	-	-
4	-	-	-	25,800	-	-	-	-	19,120	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	17,500
6	-	-	25,990	-	-	22,260	20,240	-	-	-	-	-
7	-	-	26,050	-	-	-	-	-	-	-	18,040	-
8	-	-	-	-	-	-	-	19,600	-	-	-	-
9	-	-	-	-	23,470	-	-	-	-	-	-	-
10	-	-	26,110	-	-	-	-	-	-	18,500	-	-
11	-	-	-	25,560	-	-	20,140	-	-	-	-	-
12	-	-	-	-	-	-	20,090	-	19,020	-	-	-
13	-	-	26,110	-	-	21,940	-	-	-	-	-	-
14	25,380	-	-	-	-	-	-	-	-	-	17,810	-
15	-	-	-	-	-	-	-	19,450	-	-	-	-
16	-	25,740	-	-	22,970	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	18,360	-	-
18	-	-	-	25,140	-	-	19,940	-	-	-	-	-
19	-	-	-	25,260	-	21,620	-	-	18,920	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	25,860	-	-	-	-	-	-	-	17,540	-
22	-	-	-	-	-	-	-	19,260	-	-	-	-
23	-	-	-	-	22,800	-	-	-	-	-	17,460	-
24	-	-	-	-	-	-	-	-	-	18,360	-	-
25	-	-	-	24,790	-	-	19,740	-	-	-	-	-
26	-	-	-	-	-	-	-	-	18,820	-	-	-
27	-	25,920	-	-	-	20,890	-	-	-	-	17,460	-
28	-	-	25,740	-	-	-	-	-	-	-	-	-
29	-	25,950	-	-	-	-	-	19,120	-	-	-	-
30	-	-----	-	24,400	22,530	20,700	-	-	18,700	-	17,460	-
31	25,500	-----	25,750	-----	22,530	-----	19,600	19,120	-----	18,360	-----	17,540
(+)	107.30	-	-	-	-	-	-	-	-	100.55	99.55	99.65
(#)	+300	+450	-200	-1,350	-1,870	-1,830	-1,100	-480	-420	-340	-900	+80

CAL YR 1972..... # -7,660

WTR YR 1972..... # -6,800

+ Gage height, in feet, at end of month.

# Change in contents, in acre-feet.

NOTE.--Monthend contents interpolated or estimated on basis of releases from reservoir except Jan. 31, Oct. 31, Nov. 30, Dec. 31.



07207000 Cimarron River near Cimarron, N. Mex.

LOCATION.--Lat 36°31'11", long 104°58'42", Colfax County, in Maxwell Grant, on right bank 1,200 ft downstream from Turkey Creek Canyon, and 3.6 miles west of Cimarron.

DRAINAGE AREA.--294 sq mi.

PERIOD OF RECORD.--May 1950 to current year. Published as Cimarron Creek near Cimarron, October 1952 to September 1965.

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

AVERAGE DISCHARGE.--22 calendar years, 19.8 cfs (14,350 acre-ft per year); 20 calendar years (1953-72), 19.4 cfs (14,060 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 82 cfs Aug. 3 (gage height, 1.95 ft); maximum gage height, 2.27 ft Nov. 23, backwater from ice; minimum discharge, 1.2 cfs Jan. 10, result of freezeup.

Period of record: 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 at times.

REMARKS.--Records good except those for winter periods, which are poor. Flow regulated by Eagle Nest Reservoir (see sta 07205500). Diversions above station for irrigation of about 3,500 acres, part of which is below station. Philmont ditch (formerly known as Cimarroncito ditch) diverts from left bank 1.5 miles above station, flumes under creek 0.9 mile above and bypasses station for off-channel storage and irrigation below; see tabulation below for monthly diversions.

REVISIONS.--WSP 1281: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.2	3.0	3.8	17	50	17	30	13	13	6.8	26	3.4
2	3.4	2.8	3.5	17	53	16	24	14	11	6.9	26	3.5
3	2.5	2.6	4.4	16	58	15	22	15	11	7.0	28	3.6
4	2.2	2.8	4.3	14	58	21	25	6.3	10	7.0	28	3.5
5	2.8	3.0	4.1	11	59	27	16	4.6	9.9	7.0	29	3.4
6	3.0	3.2	3.9	14	63	27	11	4.1	9.6	7.1	30	3.2
7	3.5	3.0	3.8	14	63	27	7.1	7.6	8.2	7.5	30	3.0
8	4.0	3.0	3.8	15	61	28	6.1	4.2	7.6	7.2	26	3.0
9	4.0	3.0	3.9	16	51	32	5.3	5.8	6.6	7.0	24	3.0
10	4.0	3.0	3.9	19	44	29	6.2	4.2	5.7	6.8	24	3.2
11	4.0	3.0	4.0	21	38	28	7.1	5.1	5.5	7.9	24	3.0
12	4.0	3.0	7.3	23	57	29	14	5.9	4.8	9.2	24	2.8
13	3.1	3.0	11	23	30	30	17	6.0	6.8	9.9	23	3.0
14	3.2	3.0	13	22	27	34	17	6.3	9.0	8.2	23	3.0
15	3.0	3.0	13	19	26	32	17	7.3	9.1	5.6	18	3.0
16	3.5	3.0	15	18	25	31	16	7.4	5.4	4.8	17	3.0
17	3.8	3.0	18	18	25	29	16	7.4	3.7	4.5	17	3.2
18	4.0	3.0	14	19	24	29	20	7.4	3.0	4.3	17	3.4
19	4.0	3.0	16	24	24	34	19	7.5	2.7	4.9	17	3.5
20	3.5	3.0	18	30	23	38	20	11	2.6	4.9	17	3.5
21	3.5	2.9	17	32	23	39	20	12	2.5	4.4	16	3.5
22	3.5	2.9	17	31	19	39	20	13	2.6	3.9	16	3.5
23	3.5	3.0	17	31	18	40	20	14	2.5	4.7	16	3.5
24	3.5	2.9	17	33	18	42	16	13	2.5	7.9	13	3.3
25	3.0	2.9	17	30	17	41	14	11	4.3	13	10	3.5
26	3.2	2.9	16	35	18	41	13	11	4.5	13	8.0	3.3
27	3.4	2.9	17	42	18	41	13	11	4.7	9.0	6.0	3.5
28	3.6	2.9	18	44	18	43	12	12	6.0	4.9	5.0	3.5
29	3.4	3.1	19	43	18	43	12	11	6.4	4.2	4.0	3.3
30	3.2	-----	18	46	21	40	11	10	6.7	4.1	3.6	3.2
31	3.0	-----	17	-----	18	-----	11	11	-----	4.3	-----	3.0
TOTAL	105.5	85.8	357.7	740	1,045	962	477.8	279.1	187.9	207.9	565.6	101.3
MEAN	3.40	2.66	11.5	24.7	33.7	32.1	15.4	9.00	6.26	6.71	18.9	3.27
MAX	4.0	3.2	18	46	63	43	30	15	13	13	30	3.6
MIN	2.2	2.6	3.5	11	17	15	5.3	4.1	2.5	3.9	3.6	2.8
AC-FT	209	170	709	1,470	2,070	1,910	908	554	373	412	1,120	201
(†)	0	0	0	259	0	242	55	0	0	0	0	0

CAL YR 1972 TOTAL 5,115.6 MEAN 14.0 MAX 63 MIN 2.2 AC-FT 10,150 † 556  
 WTR YR 1972 TOTAL 5,296.5 MEAN 14.5 MAX 63 MIN 2.2 AC-FT 10,510 † 556

† Diversion, in acre-feet, by Philmont ditch; data furnished by Cimarron River Watermaster.

## ARKANSAS RIVER BASIN

07207500 Ponil Creek near Cimarron, N. Mex.

LOCATION.--Lat 36°34'25", long 104°56'46", Colfax County, in Maxwell Grant, on left bank 1.6 miles downstream from confluence of North and South Ponil Creeks, and 4.7 miles northwest of Cimarron.

DRAINAGE AREA.--171 sq mi.

PERIOD OF RECORD.--November 1915 to June 1919, August 1919 to July 1925, September 1925, September 1927 to July 1929, May 1950 to current year. Prior to May 1950 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,630 ft above mean sea level (from topographic map). Prior to May 8, 1922, at site 0.1 mile downstream at different datum. May 8, 1922 to Aug. 8, 1929, at site 0.4 mile upstream at different datum.

AVERAGE DISCHARGE.--32 calendar years (1916-24, 1928, 1951-72), 11.9 cfs (8,620 acre-ft per year); 20 calendar years (1953-72), 9.01 cfs (6,530 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 110 cfs Sept. 2 (gage height, 2.09 ft); no flow at times.

Period of record: Maximum discharge, 5,630 cfs June 17, 1965 (gage height, 11.13 ft), from rating curve extended above 110 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.

Discharge for flood of Aug. 8, 1929, which destroyed gage, was estimated as 5,200 cfs by State Engineer.

REMARKS.--Records good except those for winter periods, 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.

REVISIONS.--WSP 1281: Drainage area. WSP 1731: 1920.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.1	1.2	2.7	4.2	1.9	2.1	.05	.34	.45	.05	.65	1.0
2	2.0	1.0	2.5	4.2	1.9	1.5	.03	.15	9.2	.03	.26	1.2
3	1.6	.80	2.7	4.0	1.9	1.1	.06	.40	2.5	.03	.34	1.2
4	1.2	1.0	2.5	3.9	1.8	.81	.39	.45	.65	.05	.45	1.1
5	.80	1.2	2.5	3.9	1.8	.73	.34	.22	.39	.08	.51	1.1
6	1.0	1.4	2.7	3.6	2.9	.58	.22	.15	.34	.15	.58	.80
7	1.2	1.6	2.9	3.6	5.6	.51	.18	3.9	.26	.26	.58	1.0
8	1.6	1.4	2.9	3.6	4.0	.39	.26	.45	.40	.22	.58	1.2
9	2.0	1.2	3.1	3.6	3.3	.34	.15	7.0	.51	.18	.73	1.1
10	2.1	1.0	3.3	3.6	3.1	.30	.10	1.2	.26	.12	.65	1.0
11	2.2	1.2	3.6	3.3	2.7	.26	.06	.58	.26	.12	.58	.90
12	2.3	1.4	4.0	4.2	2.5	.51	.04	.39	.30	.16	.50	.80
13	2.4	1.6	4.2	5.6	2.3	.90	.06	.39	.22	.57	.40	.90
14	2.0	1.8	4.2	4.5	2.5	.58	.01	.26	.26	.34	.30	.90
15	1.2	1.9	4.5	4.8	2.1	.45	0	.30	.30	.30	.40	.80
16	1.4	1.9	4.5	4.5	2.1	.34	.04	.26	.22	.26	.40	.90
17	1.6	1.5	4.2	4.2	1.9	.30	.05	.26	.12	.22	.40	1.0
18	1.8	1.4	4.2	4.0	1.9	.18	.06	1.8	.10	.26	.50	1.2
19	1.8	1.5	4.2	3.6	2.5	.08	1.1	.15	.08	.45	.40	1.0
20	1.8	1.5	4.2	3.6	2.5	.05	.10	.15	.10	.45	.30	1.2
21	1.6	1.5	4.2	3.6	2.1	.03	.22	.18	.08	.34	.25	1.1
22	1.7	1.5	4.0	2.9	1.6	.03	.18	.22	.10	.34	.30	1.1
23	1.8	1.6	4.0	2.9	1.6	0	.10	.26	.10	.65	.40	1.3
24	2.0	1.8	4.0	2.9	1.5	0	.65	.12	.06	.45	.50	1.0
25	1.8	1.8	3.8	2.7	1.2	0	.34	.10	.05	.45	.70	1.2
26	1.4	1.8	3.6	2.5	1.1	0	.26	.30	.05	.34	.90	1.0
27	1.2	1.9	3.6	2.5	1.1	0	.58	.26	.06	.26	1.1	1.2
28	1.3	2.1	4.2	2.5	1.0	0	.30	.34	.05	.26	.80	1.2
29	1.4	2.1	3.6	2.3	1.1	0	.15	.34	.08	.26	.70	.90
30	1.2	-----	3.7	2.1	2.7	0	.15	.22	.05	.30	.80	.90
31	1.0	-----	4.0	-----	2.9	-----	.10	.15	-----	.58	-----	.90
TOTAL	50.40	43.60	112.3	107.2	69.1	12.05	6.41	19.66	17.56	8.55	15.96	32.10
MEAN	1.63	1.50	3.62	3.57	2.23	.40	.21	.63	.59	.28	.53	1.04
MAX	2.4	2.1	4.5	5.6	5.6	2.1	1.1	7.0	9.2	.65	1.1	1.3
MIN	.80	.80	2.5	2.1	1.0	0	0	.10	.04	.03	.25	.80
AC-FT	100	86	223	213	137	24	13	39	35	17	32	64

CAL YR 1972 TOTAL 494.99 MEAN 1.35 MAX 9.2 MIN 0 AC-FT 982  
 WTR YR 1972 TOTAL 784.08 MEAN 2.15 MAX 4.2 MIN 0 AC-FT 1,560

PEAK DISCHARGE (BASE, 200 CFS).--No peak above base.

07208500 Rayado Creek at Sauble Ranch, near Cimarron, N. Mex.

LOCATION.--Lat 36°22'20", long 104°58'10", Colfax County, in Maxwell Grant, on right bank at Sauble Ranch (Carson-Maxwell Base Camp of Philmont Scout Ranch), 2.5 miles upstream from State Highway 21, 4.0 miles downstream from Bonito Creek, and 9.8 miles southwest of Cimarron.

DRAINAGE AREA.--65 sq mi.

PERIOD OF RECORD.--January 1909 to February 1910, June to 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 current year. Monthly discharge only for some periods, published in WSP 1311. Records for April and May 1910, published in WSP 287, are unreliable and should not be used. Published as Rayado River "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). See WSP 1921 for history of changes prior to Oct. 1, 1954. Oct. 1, 1954 to June 16, 1965, at site 270 ft downstream at datum 2.79 ft lower.

AVERAGE DISCHARGE.--53 calendar years (1909, 1912, 1914, 1916-20, 1928-72), 13.9 cfs (10,070 acre-ft per year); 20 calendar years (1953-72), 12.6 cfs (9,130 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 63 cfs Sept. 8 (gage height, 2.38 ft); maximum gage height, 2.42 ft Jan. 11 (backwater from ice); minimum discharge, 0.92 cfs Nov. 16, result of freezeup.

1909-12, 1913-72: Maximum discharge, 9,000 cfs June 17, 1965 (gage height, 11.5 ft from floodmarks), from rating curve extended above 70 cfs on basis of field estimate of peak flow; minimum, 0.03 cfs Dec. 3, 1950, but may have been less during periods of ice effect.

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 winter periods, which are fair. No diversion above station.

REVISIONS (WATER YEARS).--WSP 1281: 1914, 1934-35(M), 1937(M), 1941(P), 1942(M), 1944(M), drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.9	3.0	5.4	5.4	4.7	5.6	5.1	2.6	4.5	2.2	2.6	2.8
2	2.7	2.8	5.1	5.6	4.7	4.9	3.5	4.8	4.5	2.2	3.5	2.8
3	2.4	2.0	4.7	6.7	4.5	4.1	3.1	5.1	3.7	2.2	3.9	2.6
4	2.2	2.0	5.6	7.0	4.5	3.9	4.7	5.6	4.1	2.2	3.9	2.8
5	1.4	2.1	6.2	6.4	4.5	3.5	7.0	4.1	3.7	2.2	4.1	3.0
6	1.8	2.3	7.0	6.2	5.9	3.3	4.7	4.3	3.1	2.3	3.9	2.8
7	2.4	2.3	7.8	6.4	7.8	3.1	3.9	6.9	3.5	2.5	3.0	2.7
8	2.8	2.2	8.1	6.2	8.1	3.1	3.9	5.4	7.0	2.3	3.5	3.0
9	3.1	2.1	7.8	5.9	7.3	3.1	3.5	6.4	6.9	2.2	3.7	2.8
10	3.4	2.0	8.1	5.6	5.9	3.3	3.0	5.1	4.5	2.1	2.8	2.7
11	3.5	2.2	9.2	5.9	5.1	3.1	3.0	3.9	7.6	2.1	3.3	2.6
12	3.5	2.5	8.8	6.7	4.7	3.0	2.8	3.1	5.6	2.1	2.8	2.5
13	3.3	2.8	8.5	7.5	4.5	3.7	3.9	3.0	4.7	2.2	2.3	2.5
14	3.2	3.0	8.5	8.1	4.3	3.3	3.0	3.7	4.9	2.2	2.5	2.5
15	3.0	3.0	8.1	6.4	4.1	3.3	2.6	4.5	3.9	2.2	2.8	2.5
16	3.2	3.0	7.0	6.4	4.1	6.7	2.8	5.1	3.1	2.5	2.6	2.6
17	3.4	3.0	7.5	6.7	3.9	5.4	2.5	5.4	2.8	2.5	2.6	2.8
18	3.6	3.0	7.3	6.2	3.7	3.9	2.6	4.3	2.5	2.5	3.7	2.8
19	3.5	3.1	7.5	5.6	6.4	3.1	2.3	3.5	2.3	3.3	2.5	2.5
20	3.5	3.3	7.0	5.6	9.2	2.6	4.3	3.5	2.5	3.9	1.6	2.3
21	3.3	3.7	6.7	5.6	6.4	2.5	5.9	3.3	2.3	3.7	2.4	2.4
22	3.5	3.9	6.7	5.9	4.9	2.3	3.9	3.9	2.3	3.1	2.8	2.5
23	3.5	4.3	7.0	5.6	4.7	2.3	3.5	3.3	2.3	3.5	3.2	2.6
24	3.7	4.3	6.7	5.4	4.3	2.3	4.7	3.0	2.3	3.7	3.7	2.6
25	3.5	4.1	6.4	5.4	3.9	2.2	5.3	2.6	2.3	4.1	3.2	2.5
26	3.6	4.1	6.4	5.1	3.7	2.1	4.1	4.3	2.2	3.9	3.2	2.6
27	3.3	4.1	6.2	5.4	3.7	2.1	4.1	4.3	2.2	3.3	3.1	2.7
28	3.5	4.7	5.6	5.1	3.9	2.1	3.5	5.9	2.2	3.1	2.5	2.8
29	3.3	5.1	4.9	4.9	4.5	3.0	3.1	5.6	2.1	3.0	2.5	2.8
30	3.1	-----	6.2	4.9	7.8	3.3	2.8	4.1	2.2	3.0	2.7	2.7
31	2.9	-----	5.6	-----	6.2	-----	2.6	3.5	-----	2.3	-----	2.6
TOTAL	96.0	90.0	213.6	179.8	161.5	100.2	115.7	152.4	107.8	84.6	90.9	82.4
MEAN	3.10	3.10	6.89	5.99	5.21	3.34	3.73	4.27	3.59	2.73	3.03	2.66
MAX	3.7	5.1	9.2	8.1	9.2	6.7	7.0	6.9	7.6	4.1	4.1	3.0
MIN	1.4	2.0	4.7	4.9	3.7	2.1	2.3	2.6	2.1	2.1	1.6	2.3
AC-FT	190	179	424	357	320	199	229	263	214	168	180	163

CAL YR 1972 TOTAL 1,454.9 MEAN 3.98 MAX 9.2 MIN 1.4 AC-FT 2,890

WTR YR 1972 TOTAL 1,461.7 MEAN 4.54 MAX 10 MIN 1.4 AC-FT 3,300

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

## ARKANSAS RIVER BASIN

07211000 Cimarron River at Springer, N. Mex.

LOCATION.--Lat 36°21'37", long 104°35'53", Colfax County, in Maxwell Grant, on left bank at Springer, 400 ft downstream from bridge on State Highway 199, 0.3 mile upstream from Salado Creek, and 8.2 miles upstream from mouth.

DRAINAGE AREA.--1,032 sq mi.

PERIOD OF RECORD.--August 1907 to December 1909, January 1921 to February 1922, October 1924 to January 1926, September 1926 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Cimarron Creek at Springer, October 1952 to September 1965.

GAGE.--Water-stage recorder. Concrete control since Nov. 5, 1954. Altitude of gage is 5,770 ft (from topographic map). See WSP 1311 or 1731 for history of changes prior to July 17, 1942.

AVERAGE DISCHARGE.--48 calendar years (1921, 1925, 1927-72), 17.7 cfs (12,820 acre-ft per year); 20 calendar years (1953-72), 15.3 cfs (11,080 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,510 cfs Aug. 4 (gage height, 6.20 ft); minimum, 0.22 cfs Oct. 4. 1930-72: 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, 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 winter periods, which are fair. Flow partly regulated by Eagle Nest Reservoir (see sta 07205500). Diversions for irrigation of about 23,000 acres above station and a few hundred acres between station and mouth.

REVISIONS (WATER YEARS).--WSP 827: 1934-36(M). WSP 1281: 1942, 1945-46(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.0	4.0	3.0	4.1	3.2	4.5	1.5	5.3	5.6	1.2	8.1	4.8
2	4.5	4.0	3.1	3.6	3.2	3.9	2.9	14	19	1.1	6.9	4.8
3	4.0	4.0	3.2	3.2	3.4	3.6	3.8	208	12	1.2	6.9	5.0
4	3.0	4.5	3.1	3.1	4.4	3.3	4.0	479	6.3	4.5	7.0	4.8
5	3.0	4.7	3.1	3.2	5.1	2.9	14	48	4.5	9.9	7.3	3.9
6	4.0	4.7	3.1	3.0	4.5	2.6	11	17	4.1	1.4	7.5	4.0
7	4.8	4.8	2.9	3.6	5.7	2.4	6.1	107	4.1	2.4	7.9	4.3
8	6.4	4.8	2.9	3.5	5.6	2.2	3.5	22	3.7	2.2	7.1	4.0
9	7.3	4.8	3.4	3.3	4.2	2.5	2.7	11	41	2.0	6.2	4.1
10	5.6	4.6	3.3	3.0	4.3	2.4	2.6	7.4	16	2.2	5.5	3.6
11	5.6	4.5	3.1	3.0	4.2	2.4	1.9	5.2	20	1.7	5.1	4.6
12	6.6	5.0	3.1	2.8	3.7	2.5	2.1	4.6	137	2.8	5.6	4.2
13	5.4	5.1	3.3	2.5	3.7	3.2	1.9	3.9	21	6.1	6.9	4.5
14	5.0	4.2	3.0	2.3	3.7	3.0	1.5	3.9	8.5	3.3	6.7	4.1
15	5.0	4.2	3.1	2.3	3.2	2.4	1.4	3.0	5.3	4.9	6.8	3.8
16	5.2	4.4	3.4	2.8	3.4	1.9	1.8	3.1	4.1	5.1	7.0	4.3
17	5.4	4.1	3.6	3.6	3.0	1.8	5.8	2.4	3.7	4.1	6.6	4.2
18	5.9	4.5	3.4	3.8	2.6	1.7	8.6	2.2	2.8	3.1	6.5	4.6
19	6.4	4.1	3.1	3.9	4.0	1.4	3.5	1.8	2.8	3.6	6.8	4.5
20	5.2	3.7	3.1	4.4	7.7	1.4	2.5	1.8	2.5	4.1	7.2	4.8
21	5.3	3.7	3.1	5.2	7.7	1.1	3.5	1.3	2.0	4.3	7.6	4.5
22	4.9	3.4	3.0	4.9	5.2	9.0	199	2.7	1.8	3.7	5.9	4.7
23	4.6	3.8	2.9	4.6	4.4	8.1	45	3.2	1.8	4.0	5.8	4.5
24	4.0	3.7	2.8	3.7	3.3	7.5	16	2.2	1.8	3.8	6.7	4.7
25	4.0	3.4	2.8	3.5	3.1	6.7	8.8	1.5	1.2	4.5	6.4	5.1
26	4.0	3.3	2.9	3.2	2.9	5.9	5.6	2.9	1.5	3.9	7.5	4.4
27	4.0	3.4	2.5	3.4	3.4	6.7	4.7	4.8	1.5	3.6	7.9	4.6
28	4.1	3.3	3.2	3.2	3.8	7.3	4.4	5.6	1.1	4.0	5.8	4.8
29	4.1	3.2	3.9	3.1	3.2	3.8	3.4	3.4	1.1	3.9	6.1	4.9
30	4.0	-----	4.1	3.1	3.6	2.8	4.8	3.3	1.2	3.8	4.9	4.0
31	4.0	-----	5.0	-----	4.1	-----	3.6	4.1	-----	4.9	-----	4.4
TOTAL	150.1	120.3	99.5	102.8	127.5	64.82	463.6	983.6	339.0	98.34	200.2	137.5
MEAN	4.84	4.15	3.21	3.43	4.11	2.16	15.0	51.7	11.3	3.17	6.67	4.44
MAX	7.3	5.1	5.0	5.2	7.7	4.5	199	479	137	6.1	8.1	5.1
MIN	3.0	3.2	2.5	2.3	2.6	5.9	1.4	1.3	1.1	4.5	4.9	3.6
AC-FT	298	239	197	204	253	129	920	1,950	672	195	397	273

CAL YR 1972 TOTAL 2,887.26 MEAN 7.89 MAX 479 MIN .45 AC-FT 5,730  
 WTH YR 1972 TOTAL 2,886.32 MEAN 7.89 MAX 479 MIN .59 AC-FT 5,730

## PEAK DISCHARGE (BASE, 280 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-22	0500	5.19	670	8- 7	1545	5.02	551
8- 3	0145	5.23	621	9-12	0030	4.85	439
8- 4	1100	6.20	1,510				

07211500 Canadian River near Taylor Springs, N. Mex.

LOCATION.--Lat 36°17'49", long 104°29'36", in NW¼SE¼ sec.21, T.24 N., R.23 E., Colfax County, on left bank at head of gorge, 2.0 miles south of Taylor Springs, 2.2 miles downstream from Cimarron River, 2.4 miles upstream from Chico Creek, and 7.1 miles southeast of Springer.

DRAINAGE AREA.--2,850 sq mi.

PERIOD OF RECORD.--January 1940 to September 1958, annual maximum, water years 1959-63, June 1964 to current year. Water-year estimate for 1940, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 5,635 ft (from topographic map). Prior to June 10, 1964, water-stage recorder at site 1.7 miles downstream at different datum; operated as crest-stage gage at that site and datum during water years 1959-64.

AVERAGE DISCHARGE.--26 calendar years (1940-57, 1965-72), 93.9 cfs (68,030 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,030 cfs Sept. 11 (gage height, 7.20 ft); minimum, 4.0 cfs Oct. 5.  
Period of record: 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 prior to 1965 occurred Sept. 29, 1904 (discharge published as 91,100 cfs in WSP 842,847).

REMARKS.--Records fair except those for winter periods, which are poor. Diversions for irrigation of about 30,000 acres above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1177: Drainage area. WSP 1281: 1941-42(P), 1945-47(M), 1948-50(P).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	11	9.0	7.5	8.8	4.2	6.9	10	6.4	88	5.3	24	16
2	11	9.0	8.1	8.1	4.5	5.8	20	83	372	5.0	36	15
3	10	9.0	8.8	7.5	4.9	4.5	40	315	121	5.0	27	14
4	9.0	10	8.1	6.9	4.9	3.5	70	2,050	42	4.5	27	13
5	9.0	11	7.5	6.9	6.4	2.6	100	317	24	4.3	27	12
6	10	12	7.5	7.5	8.8	2.4	50	82	17	5.0	25	9.7
7	11	11	6.9	6.4	50	1.9	30	128	14	5.8	22	11
8	12	11	6.4	6.4	42	1.4	17	114	13	6.4	21	12
9	13	12	6.9	6.4	21	1.4	11	71	87	6.4	19	12
10	14	11	7.5	5.8	10	1.4	7.5	64	166	5.8	17	11
11	14	11	6.9	4.9	7.5	5.1	67	28	1,070	5.8	16	11
12	14	12	6.9	4.5	6.4	2.9	12	22	1,370	6.1	16	11
13	11	11	6.4	4.2	5.8	2.6	5.4	21	133	470	15	11
14	9.0	10	6.9	3.2	5.4	3.2	3.8	12	45	53	16	11
15	10	10	5.8	3.5	4.5	3.2	2.9	10	27	32	16	11
16	11	11	6.4	3.8	3.5	2.6	8.3	8.1	22	18	16	12
17	12	10	6.9	4.2	2.6	2.2	4.5	6.9	17	14	16	12
18	12	9.0	7.5	4.5	2.4	50	12	5.8	13	11	20	13
19	13	11	6.9	4.2	1.6	8.1	6.9	5.8	33	12	19	14
20	13	10	5.8	3.8	140	2.4	18	4.9	40	17	19	14
21	13	9.4	5.4	5.4	96	9.0	39	4.5	16	14	18	14
22	13	10	5.8	6.4	28	6.0	188	6.4	11	14	17	14
23	13	9.4	5.8	5.8	15	3.5	235	9.4	9.4	16	16	15
24	12	8.1	4.9	5.8	12	3.5	232	12	7.2	19	18	14
25	10	7.5	4.2	4.5	6.9	3.0	41	8.8	6.7	19	16	14
26	10	5.8	4.2	4.5	5.4	3.0	20	12	5.8	16	15	15
27	11	6.4	3.5	4.5	5.4	3.0	96	20	5.8	15	15	15
28	12	7.5	3.5	4.9	5.4	3.0	211	48	5.6	14	15	14
29	11	7.5	7.5	4.5	6.4	6.0	41	26	5.3	13	16	13
30	10	-----	8.8	4.5	6.4	8.0	17	21	5.3	13	15	13
31	9.0	-----	8.1	-----	7.5	-----	11	17	-----	14	-----	13
TOTAL	353.0	281.6	203.3	162.3	530.8	134.20	1,627.3	3,540.0	3,792.1	861.4	573	399.7
MEAN	11.4	9.71	6.56	5.41	17.1	4.47	52.5	114	126	27.8	19.1	12.9
MAX	14	12	8.8	8.8	140	50	235	2,050	1,370	470	36	16
MIN	9.0	5.8	3.5	3.2	1.6	3.0	2.9	4.5	5.3	4.3	15	9.7
AC-FT	700	559	403	322	1,050	266	3,230	7,020	7,520	1,710	1,140	793
CAL YR 1972	TOTAL 12,458.70 MEAN 34.0 MAX 2,050 MIN 3.0 AC-FT 24,710											
WTR YR 1972	TOTAL 11,955.50 MEAN 32.7 MAX 2,050 MIN 3.0 AC-FT 23,710											

## PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8-4	1200	5.50	3,640	9-11	2100	7.20	7,030

## ARKANSAS RIVER BASIN

07214500 Mora River near Holman, N. Mex.

LOCATION.--Lat 36°06'37", long 105°22'33", Mora County, in Mora Grant, on right bank 330 ft downstream from bridge, 2.4 miles south of Chacon, 4.5 miles downstream from confluence of Luna and Lujan Creeks, 5.0 miles north of Holman, and 8.0 miles southwest of Guadalupe. Prior to Apr. 28, 1972, at site 500 ft upstream.

DRAINAGE AREA.--57 sq mi.

PERIOD OF RECORD.--January 1953 to current year. Published as Rio Agua Negra near Holman prior to October 1965.

GAGE.--Water-stage recorder. Altitude of gage is 7,845 ft (from topographic map). Prior to Apr. 28, 1972 at site 500 ft upstream at datum 7.86 ft higher.

AVERAGE DISCHARGE.--20 calendar years, 12.6 cfs (9,130 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 840 cfs July 26 (gage height, 5.15 ft), from rating curve extended above 200 cfs; minimum, 0.40 cfs Feb. 13, result of freezeup.

Period of record: Maximum discharge, 4,700 cfs July 22, 1954 (gage height, 6.10 ft, site and datum then in use), from rating curve extended above 300 cfs on basis of slope-area measurement of peak flow; minimum, about 0.06 cfs Jan. 18, 1967, result of freezeup.

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 periods, which are poor. Diversions for irrigation of about 1,600 acres above station.

REVISIONS.--WSP 1511. Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.6	3.2	5.2	5.6	2.2	2.6	1.2	2.1	12	2.4	5.2	6.0
2	4.4	3.2	4.5	4.8	2.4	2.3	1.2	2.0	10	2.2	8.0	6.0
3	4.0	3.0	5.2	4.0	2.6	2.0	1.2	2.0	8.8	2.1	6.9	6.0
4	3.0	2.8	5.2	3.6	2.7	2.0	2.9	4.1	8.3	2.2	6.1	5.8
5	3.0	3.0	5.2	3.0	2.8	1.9	1.8	3.6	7.8	2.1	6.0	5.6
6	3.2	3.2	5.2	2.7	4.0	1.9	1.6	3.3	7.4	2.4	5.8	5.4
7	3.4	3.3	5.2	3.3	5.6	1.7	1.5	3.5	6.4	2.5	4.8	5.8
8	3.6	3.0	5.2	3.0	4.5	1.7	1.5	14	6.4	2.5	5.2	5.8
9	3.4	3.3	5.6	1.5	2.9	1.8	1.6	6.2	6.4	2.4	6.0	5.6
10	3.4	3.0	5.2	1.3	2.7	1.8	1.5	3.4	6.0	2.2	5.4	5.4
11	3.6	3.2	5.2	1.3	2.5	1.7	1.4	2.8	11	2.1	5.1	5.2
12	3.8	3.0	5.2	2.4	2.6	1.6	1.5	2.5	8.3	2.0	5.4	5.2
13	3.6	2.7	5.2	2.4	2.4	1.5	1.5	2.3	6.5	2.6	6.0	5.2
14	3.4	2.7	5.6	1.3	2.2	1.5	1.4	2.5	6.3	2.6	5.8	5.0
15	3.6	2.5	5.6	1.1	1.9	1.7	1.4	3.1	6.6	3.1	5.1	4.8
16	3.8	2.5	5.6	1.5	2.2	2.1	1.4	3.4	5.6	3.0	5.2	5.0
17	4.0	2.5	5.2	1.5	2.2	1.7	1.4	2.9	4.7	2.7	5.4	5.2
18	4.0	2.3	5.2	1.9	2.2	1.6	1.4	2.6	4.1	3.2	5.7	5.6
19	4.4	2.2	4.0	1.7	2.3	1.5	1.3	2.6	3.6	4.9	5.2	5.6
20	4.8	2.1	3.6	1.9	2.2	1.5	2.8	5.0	3.6	5.4	5.0	5.4
21	5.0	2.1	5.2	1.9	1.8	1.5	3.0	2.8	3.3	4.6	5.2	5.4
22	5.0	2.7	4.8	2.4	1.7	1.5	1.7	2.4	3.3	4.4	5.4	5.6
23	5.0	3.0	4.8	3.3	1.6	1.5	1.3	2.4	3.2	6.3	5.6	5.6
24	4.8	3.3	4.0	2.4	1.6	1.3	2.7	2.0	3.0	5.6	5.8	5.4
25	4.0	3.3	4.0	2.7	1.7	1.3	3.8	2.2	2.9	5.8	5.4	5.2
26	4.2	4.0	3.6	3.3	1.7	1.2	51	4.9	3.0	5.3	5.8	5.2
27	4.4	4.4	3.3	3.0	1.8	1.2	4.7	7.4	2.9	4.7	5.6	5.2
28	4.4	4.4	4.0	2.8	1.9	1.2	3.1	10	2.7	4.6	5.4	5.0
29	4.0	4.6	3.3	2.3	2.2	1.2	2.5	6.9	2.5	4.2	5.6	4.8
30	3.5	-----	4.0	2.2	3.6	1.2	2.3	6.4	2.4	5.0	5.8	4.6
31	3.0	-----	4.8	-----	2.7	-----	2.1	9.9	-----	5.2	-----	4.4
TOTAL	122.3	88.7	148.3	76.1	77.4	49.2	109.7	151.2	169.0	110.3	168.9	166.0
MEAN	3.95	3.06	4.78	2.54	2.50	1.64	3.54	4.23	5.63	3.56	5.63	5.35
MAX	5.0	4.8	5.6	5.6	5.6	2.6	51	14	12	6.3	6.0	6.0
MIN	3.0	2.1	3.3	1.1	1.6	1.2	1.2	2.0	2.4	2.0	4.8	4.4
AC-FT	243	176	294	151	154	98	218	260	335	219	335	329

CAL YR 1972 TOTAL 1,417.1 MEAN 3.87 MAX 51 MIN 1.1 AC-FT 2,810

WTR YR 1972 TOTAL 1,533.5 MEAN 4.19 MAX 51 MIN 1.1 AC-FT 3,040

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE
7-26	1500	5.15	840



07215500 Mora River at La Cueva, N. Mex.

LOCATION.--Lat 35°56'19", long 105°14'56", Mora County, in Mora Grant, on right bank 600 ft downstream from bridge on State Highway 3, 0.2 mile south of La Cueva, and 0.5 mile downstream from La Cueva damsite.

DRAINAGE AREA.--173 sq mi.

PERIOD OF RECORD.--August 1903 to April 1905 (gage heights and discharge measurements only), May to December 1905, May 1906 to July 1911, April 1931 to current year. Monthly discharge only for some periods, published in WSP 1311. Records for February to April 1905, published in WSP 173, are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 6,998.7 ft above mean sea level. Aug. 25, 1903 to Sept. 29, 1904 (destroyed by flood of Sept. 29, 1904) and Feb. 22, 1905 to July 31, 1911, nonrecording gages at sites about 600 ft upstream at different datums. Apr. 15, 1931 to Apr. 18, 1962, water-stage recorder at site 600 ft upstream at datum about 2 ft higher.

AVERAGE DISCHARGE.--45 calendar years (1907-10, 1932-72), 27.3 cfs (19,780 acre-ft per year); 20 calendar years (1953-72), 25.4 cfs (18,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 402 cfs Aug. 5 (gage height, 5.79 ft); minimum, 0.17 cfs Jan. 28, result of freezeup. 1931-72: Maximum discharge, 1,530 cfs Sept. 23, 1941, from rating curve extended above 400 cfs; maximum gage height, 9.00 ft 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 fair except those for winter periods, which are poor. Diversions above station for irrigation of about 7,000 acres, part of which is below station. See tabulation below for monthly and yearly diversion of La Cueva Canal, which bypasses gage on left bank.

REVISIONS (WATER YEARS).--WSP 857: 1937. WSP 1281: 1931(M), 1932. WSP 1511: Drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	10	1.0	2.7	3.8	3.9	9.8	6.7	13	66	13	12	8.1
2	10	2.0	2.7	3.4	3.2	9.4	6.3	13	54	12	16	8.3
3	8.0	2.0	1.6	3.1	3.2	7.1	5.6	13	54	11	18	8.3
4	6.0	3.0	1.6	3.1	2.5	7.5	25	15	68	12	16	8.2
5	9.0	4.0	1.7	3.0	2.5	6.7	15	41	49	12	18	7.0
6	10	5.0	1.6	3.1	3.6	5.9	13	21	44	12	22	6.0
7	10	5.0	2.5	3.0	4.3	5.1	12	17	41	16	20	5.0
8	10	4.0	2.6	2.6	5.1	4.9	12	21	36	16	19	4.0
9	10	3.7	2.6	2.6	4.5	5.3	12	38	39	16	20	3.7
10	10	3.5	2.2	2.4	4.2	4.7	12	33	33	14	18	3.5
11	1.0	3.0	2.0	2.5	4.1	5.0	9.7	27	27	16	16	3.3
12	.80	3.0	2.6	2.4	3.9	5.5	7.8	24	33	17	16	3.0
13	.80	3.0	4.0	2.5	4.6	5.2	6.3	22	25	21	16	3.0
14	1.0	2.5	3.7	3.1	6.1	8.8	6.2	24	22	17	17	3.0
15	1.0	2.1	3.6	3.4	3.3	6.6	7.0	25	22	17	18	3.0
16	1.0	2.1	3.4	3.2	2.3	7.5	8.6	26	18	7.5	17	3.0
17	1.0	2.1	3.5	3.1	2.1	6.8	8.2	27	14	1.4	16	3.0
18	.90	2.1	3.4	3.0	2.2	7.5	8.6	26	12	1.7	16	3.0
19	.67	2.3	2.7	3.0	2.4	7.6	9.9	23	11	5.2	15	3.0
20	.46	2.5	1.8	3.1	1.2	6.0	6.0	24	14	13	13	3.1
21	.48	2.4	1.4	3.2	3.6	5.2	53	23	12	17	13	3.2
22	.46	2.4	1.4	3.1	6.3	7.3	27	22	13	11	12	3.6
23	.39	2.3	1.6	2.8	4.5	6.3	20	22	12	13	11	4.0
24	.50	2.5	1.5	2.8	2.5	5.8	26	19	11	12	11	3.0
25	1.0	2.5	1.6	3.6	2.6	5.7	44	18	12	10	11	2.8
26	.60	2.6	1.6	5.1	2.2	4.9	33	23	14	9.7	12	2.8
27	.48	2.5	1.6	5.5	1.8	4.8	32	29	14	9.2	12	3.0
28	.77	2.7	1.5	5.2	2.4	4.9	18	86	11	8.2	9.3	3.2
29	1.0	2.7	1.5	3.9	4.3	7.5	14	85	12	8.3	8.1	3.8
30	1.0	-----	1.4	4.1	15	7.2	14	58	12	11	8.0	3.8
31	1.0	-----	1.8	-----	12	-----	15	49	-----	12	-----	3.5
TOTAL	109.31	80.5	69.6	98.7	126.4	189.5	547.9	907	805	372.2	446.4	129.2
MEAN	3.53	2.78	2.25	3.29	4.08	6.32	17.7	29.3	26.8	12.0	14.9	4.17
MAX	10	5.0	4.0	5.5	15	9.8	60	86	68	21	22	8.3
MIN	.39	1.0	1.4	2.4	1.2	4.7	5.6	13	11	1.4	8.0	2.8
AC-FT	217	160	138	196	251	376	1,090	1,800	1,600	738	885	256
(+)	519	451	331	140	150	151	251	99	219	363	463	590
CAL YR 1972	TOTAL 3,881.71 MEAN 10.6 MAX 86 MIN .39 AC-FT 7,700 † 3,650											
ATR YR 1972	TOTAL 4,185.21 MEAN 11.4 MAX 86 MIN .39 AC-FT 8,300 † 3,730											

## PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE	† Diversion, in acre-feet, by La Cueva Canal.
7-20	2115	5.58	370	8-29	1430	5.23	318	
8-5	1645	5.79	402					

## ARKANSAS RIVER BASIN

07216500 Mora River near Golondrinas, N. Mex.

LOCATION.--Lat 35°53'27", long 105°09'47", Mora County, in Mora Grant, on right bank, 0.7 mile upstream from bridge on State Highway 160, 1.9 miles upstream from Coyote Creek, 1.2 miles east of Golondrinas, and 4.7 miles downstream from Rito Cebolla. Prior to Apr. 2, 1972, at site 0.7 mile downstream.

DRAINAGE AREA.--267 sq mi.

PERIOD OF RECORD.--March 1915 to May 1921, October 1921 to March 1922, May, August, September 1922, July 1923 to July 1924, December 1924 to current year. Monthly discharge only 1915-30, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,750 ft (from topographic map). Mar. 10, 1915 to June 4, 1921, water-stage recorder at site 2.8 miles upstream at different datum. July 6, 1921 to Jan. 5, 1929, nonrecording gage or water-stage recorder at site 0.7 mile downstream at datum about 14 ft lower and Jan. 6, 1929 to Apr. 1, 1972, water-stage recorder at site 0.7 mile downstream at datum about 15 ft lower.

AVERAGE DISCHARGE.--54 calendar years (1916-20, 1924-72), 34.4 cfs (24,920 acre-ft per year); 20 calendar years (1953-72), 29.0 cfs (21,010 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 815 cfs Aug. 3 (gage height, 3.60 ft); minimum, 0.66 cfs Apr. 30.

Period of record: 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 March, which are fair, and those for January and February, which are poor. Diversions for irrigation of about 12,000 acres above station. Off-channel lakes make it possible to divert and store water during non-irrigation season.

REVISIONS (WATER YEARS).--WSP 1281: 1951(M). WSP 1311: 1935(M), 1937-38(M), 1940-42(M), 1949(M). WSP 1511: Drainage area. WSP 1731: 1958(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	15	4.5	3.3	2.5	1.0	6.1	2.2	13	65	12	19	15
2	10	4.5	3.3	2.7	1.3	4.4	2.2	12	57	11	19	13
3	7.0	4.5	3.5	2.3	1.2	3.3	2.2	115	47	9.6	25	13
4	5.0	5.0	3.5	1.8	1.4	2.8	35	51	68	10	24	12
5	6.0	6.0	3.3	1.8	1.3	2.6	18	82	47	10	25	8.2
6	8.0	7.0	3.1	1.9	2.1	2.1	12	48	40	10	28	5.3
7	9.0	8.0	3.1	1.9	2.7	2.1	7.2	24	38	12	25	11
8	10	8.5	3.1	1.8	2.5	2.2	5.9	38	36	11	23	10
9	10	9.0	3.1	.92	1.5	2.1	6.6	63	40	10	22	7.0
10	10	8.7	3.1	.89	1.4	1.9	7.1	33	37	9.5	21	6.1
11	10	8.0	3.1	1.1	1.2	1.6	6.2	24	34	9.8	18	6.0
12	9.0	7.5	3.3	1.1	1.1	1.5	5.0	19	32	13	19	5.1
13	8.0	7.0	3.3	1.2	1.1	1.5	3.8	15	26	20	18	9.8
14	7.0	6.5	3.5	.95	1.2	1.5	3.5	21	22	15	20	8.9
15	6.0	6.0	3.7	.96	1.2	2.1	3.4	22	24	15	21	5.8
16	6.0	5.6	3.7	.92	1.3	4.0	3.1	19	21	12	20	8.7
17	5.0	5.4	3.5	.97	1.3	3.7	3.0	20	17	4.2	20	11
18	4.5	5.2	3.3	.97	1.2	2.7	3.1	19	14	3.1	21	9.2
19	4.5	5.0	3.3	.99	1.2	1.4	3.4	17	13	5.6	19	5.9
20	4.3	4.6	3.1	.95	1.3	1.3	21	18	16	9.7	18	6.9
21	4.1	4.1	3.1	.99	1.2	1.3	129	18	12	15	20	7.0
22	4.0	4.1	3.0	.92	1.2	1.3	31	15	13	9.3	21	8.7
23	4.5	4.1	3.1	.91	1.3	1.4	19	13	13	13	17	7.9
24	4.5	3.9	3.0	.94	1.2	1.4	21	12	11	13	16	6.7
25	4.0	3.9	3.0	.90	1.3	1.7	66	10	10	9.7	18	7.0
26	4.5	3.5	3.0	.98	1.3	1.9	25	15	12	9.1	21	5.9
27	5.2	3.3	3.0	1.1	1.3	1.4	41	18	12	8.4	21	7.1
28	5.0	3.1	3.0	1.1	1.4	1.3	19	98	11	6.9	17	7.1
29	5.0	3.1	3.0	1.0	1.5	1.9	15	88	11	8.1	16	6.4
30	4.5	-----	3.0	.98	19	2.0	12	70	11	10	15	4.7
31	4.5	-----	3.0	-----	11	-----	14	46	-----	18	-----	4.5
TOTAL	204.1	159.6	99.4	38.44	70.2	66.5	545.9	1,076	810	333.0	607	251.3
MEAN	6.58	5.50	3.21	1.28	2.26	2.22	17.6	34.7	27.0	10.7	20.2	8.11
MAX	15	9.0	3.7	2.7	19	6.1	129	115	68	20	28	15
MIN	4.0	3.1	3.0	.89	1.0	1.3	2.2	10	10	3.1	15	4.5
AC-FT	405	317	197	76	139	132	1,080	2,130	1,610	661	1,200	498

CAL YR 1972 TOTAL 4,261.44 MEAN 11.6 MAX 129 MIN .89 AC-FT 8,450  
WTR YR 1972 TOTAL 4,551.34 MEAN 12.4 MAX 129 MIN .89 AC-FT 9,030

## PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8- 3	1815	3.60	815	8- 5	2030	2.95	492

ARKANSAS RIVER BASIN

29

07217100 Coyote Creek above Guadalupita, N. Mex.

LOCATION.--Lat 36°09'51", long 105°13'49", Mora County, in Mora Grant, on right bank 1.8 miles north of Guadalupita.

DRAINAGE AREA.--71 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 7,605 ft (from topographic map).

AVERAGE DISCHARGE.--16 calendar years, 9.29 cfs (6,730 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 135 cfs Sept. 11 (gage height, 3.07 ft); minimum, 0.47 cfs Jan. 23, result of freezeup.

Period of record: 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 periods, which are poor. Diversions for irrigation of about 2,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1711: 1959.

DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.5	3.4	5.8	3.1	1.5	1.7	.88	1.7	15	2.6	4.4	3.9
2	4.0	3.2	5.1	3.3	1.6	1.8	.86	2.4	15	2.5	3.5	3.5
3	3.8	3.0	5.3	3.3	1.5	1.8	.84	2.6	14	2.5	3.3	2.8
4	3.8	3.1	5.8	3.3	1.5	1.7	1.5	3.0	13	2.5	6.0	3.2
5	3.5	3.0	5.5	3.3	1.4	1.5	1.3	3.3	10	2.6	5.9	2.8
6	3.5	3.0	5.4	3.3	1.6	1.5	1.2	4.7	8.7	2.7	5.5	2.7
7	3.6	3.4	5.6	3.1	1.9	1.4	1.2	3.6	7.0	2.7	4.7	3.2
8	3.6	3.0	5.5	2.8	1.8	1.4	1.1	3.3	5.9	2.8	4.6	3.0
9	3.4	3.0	5.3	2.6	1.7	1.3	1.0	6.0	5.8	2.6	4.6	2.9
10	3.2	3.0	5.3	2.5	1.6	1.5	1.1	5.3	4.9	2.4	4.5	2.8
11	3.3	3.0	5.2	2.4	1.4	1.5	.96	4.1	26	2.5	4.5	2.6
12	3.4	2.8	4.6	2.5	1.5	1.5	.99	3.4	26	2.5	4.5	2.4
13	3.4	3.0	4.5	2.8	1.5	1.5	1.1	3.1	14	2.7	4.2	2.3
14	3.3	2.8	4.4	2.7	1.3	1.2	.94	8.8	10	2.7	4.0	2.2
15	3.2	3.0	4.5	2.5	1.3	1.1	.87	12	8.5	2.7	4.8	2.1
16	3.4	2.6	4.4	2.8	1.4	1.4	.86	16	7.0	2.8	4.2	2.0
17	3.6	2.8	4.3	2.7	1.4	1.5	.94	14	5.9	2.9	3.9	2.1
18	3.8	3.4	4.0	2.6	1.3	1.4	1.2	4.3	5.2	3.1	4.4	2.1
19	4.0	3.4	3.8	2.5	1.4	1.3	1.5	5.6	4.7	3.8	4.0	2.0
20	4.5	3.6	3.7	2.5	1.7	1.2	2.0	6.1	4.5	4.0	3.3	2.0
21	4.5	4.1	3.6	2.3	1.6	1.1	2.4	4.9	4.2	3.9	4.0	1.9
22	4.7	4.7	3.6	2.2	1.5	1.0	2.5	4.1	4.0	3.5	4.4	1.9
23	4.0	5.5	3.6	1.9	1.4	.95	1.9	3.7	3.8	4.4	4.5	1.9
24	4.1	5.3	3.5	2.0	1.4	.94	2.0	3.4	3.6	4.3	4.4	1.9
25	3.8	5.0	3.4	1.9	1.4	.95	2.0	3.2	3.4	4.2	4.2	1.9
26	4.3	5.4	3.1	1.8	1.4	.90	1.9	4.5	3.4	4.0	4.0	1.9
27	4.1	5.5	3.3	1.7	1.3	.85	1.9	4.6	3.3	3.9	3.8	1.8
28	3.9	5.8	3.3	1.7	1.2	.81	1.9	7.9	3.2	3.8	3.8	1.9
29	3.6	5.8	3.0	1.6	1.3	.92	1.8	11	3.0	3.6	3.9	1.9
30	3.2	-----	3.0	1.5	1.8	1.0	1.7	9.7	2.9	3.8	4.0	1.9
31	3.0	-----	3.0	-----	1.9	-----	1.6	9.6	-----	4.2	-----	2.0
TOTAL	116.0	108.8	134.4	75.2	46.5	38.62	43.94	163.9	245.9	99.2	129.8	73.5
MEAN	3.74	3.75	4.34	2.51	1.50	1.29	1.42	5.93	8.20	3.20	4.33	2.37
MAX	4.7	5.8	5.8	3.3	1.9	1.8	2.5	16	26	4.4	6.0	3.9
MIN	3.0	2.8	3.0	1.5	1.2	.81	.84	1.7	2.9	2.4	3.3	1.8
AC-FT	230	216	267	149	92	77	87	365	488	197	257	146

CAL YR 1972 TOTAL 1,295.76 MEAN 3.54 MAX 26 MIN .81 AC-FT 2,570

WTR YR 1972 TOTAL 1,406.26 MEAN 3.94 MAX 26 MIN .81 AC-FT 2,790

PEAK DISCHARGE (BASE, 50 CFS)

DATE TIME G. H. DISCHARGE

9-11 1845 3.07 135

## ARKANSAS RIVER BASIN

07218000 Coyote Creek near Golondrinas, N. Mex.

LOCATION.--Lat 35°55'00", long 105°09'49", Mora County, in Mora Grant, on left bank 0.5 mile downstream from Coyote Creek damsite, 2.3 miles northeast of Golondrinas, and 2.7 miles upstream from mouth.

DRAINAGE AREA.--215 sq mi.

PERIOD OF RECORD.--April 1928 to September 1930 (monthly discharge only, published in WSP 1311), October 1930 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,785 ft (from topographic map). Prior to Apr. 26, 1938, at site 0.4 mile downstream at different datum (nonrecording gage prior to Apr. 20, 1929). Apr. 26, 1938 to Sept. 25, 1946, at site 139 ft downstream at same datum.

AVERAGE DISCHARGE.--44 calendar years, 11.6 cfs (8,400 acre-ft per year); 20 calendar years (1953-72), 10.8 cfs (7,820 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 840 cfs Sept. 1 (gage height, 5.32 ft), from rating curve extended above 180 cfs as explained below; minimum, 0.09 cfs June 27.

Period of record: 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 good except those for winter periods, which are poor. Diversions (including off-channel storage) for irrigation of about 4,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1281: 1939-40(M), 1941-42, 1945-47. WSP 1511: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	12	6.4	3.0	.57	.41	.57	.57	1.9	21	4.7	10	8.4
2	10	6.2	2.6	.49	.34	.49	.65	2.2	83	4.5	10	8.4
3	7.0	6.0	2.6	.49	.34	.49	.65	1.7	20	4.5	10	8.2
4	5.0	6.0	2.3	.65	.74	.49	5.1	1.2	18	3.4	10	8.4
5	5.0	6.4	2.3	.84	.65	.49	2.8	.95	16	3.0	12	8.4
6	6.0	6.8	2.3	.74	.84	.41	1.8	3.5	13	3.0	11	8.0
7	7.0	6.6	2.2	.84	1.3	.41	1.7	2.2	12	4.0	10	7.2
8	8.0	6.8	1.4	.74	.84	.74	1.4	2.6	10	4.3	9.7	7.0
9	7.6	7.0	.84	.49	.65	1.1	1.1	2.3	10	4.3	9.3	7.4
10	7.2	6.2	1.1	.41	.65	.74	1.1	2.2	9.7	3.6	9.0	7.4
11	7.6	5.8	.74	.34	.65	.65	.95	2.5	8.7	3.6	9.3	7.2
12	7.6	5.4	.65	.41	.65	.74	.84	2.3	30	8.6	8.7	7.0
13	6.8	5.6	.65	.41	.65	.74	.74	1.7	22	12	7.3	7.0
14	6.6	5.4	.65	.34	.65	.74	.27	1.2	16	6.5	8.4	6.8
15	6.4	5.2	.74	.34	.65	.57	.27	1.6	14	5.0	8.7	6.8
16	6.8	5.4	.65	.41	.49	.95	.34	7.1	12	4.5	8.2	7.0
17	6.6	5.6	.49	.49	.34	.84	.27	10	9.7	4.3	7.9	7.4
18	7.0	5.4	.49	.49	.34	.84	.21	8.7	8.7	3.4	9.3	7.6
19	7.4	5.5	.49	.49	.41	.65	.21	5.5	8.2	4.5	8.7	7.4
20	8.0	5.2	.49	.49	.41	.57	2.4	2.8	8.4	7.6	6.8	7.0
21	8.0	5.5	.49	.41	.41	.57	33	1.1	7.9	6.8	6.5	6.5
22	7.3	5.5	.57	.34	.41	.49	11	21	7.3	6.5	7.0	6.0
23	7.1	5.2	.57	.41	.41	.34	2.8	7.1	7.1	10	7.8	5.8
24	6.0	3.8	.57	.41	.41	.34	2.5	4.0	6.5	11	8.7	5.6
25	6.0	3.2	.65	.41	.41	.27	2.6	4.0	6.2	7.3	8.4	5.8
26	7.0	3.0	.57	.41	.41	.21	3.6	7.1	6.0	6.5	8.2	6.0
27	7.9	3.0	.65	.41	.41	.15	2.8	6.8	6.0	6.2	8.0	6.0
28	7.2	3.0	.65	.41	.41	.15	2.3	50	5.7	6.5	7.8	5.8
29	6.4	3.0	.74	.41	.57	.34	2.2	36	5.5	7.6	8.0	5.6
30	6.0	-----	.74	.41	1.4	.49	2.2	15	5.0	7.3	8.2	5.2
31	6.0	-----	.57	-----	.84	-----	1.3	28	-----	9.0	-----	5.0
TOTAL	220.5	154.1	33.45	14.50	18.09	16.57	111.27	244.25	413.6	184.0	262.9	213.3
MEAN	7.11	5.31	1.08	.48	.58	.55	3.59	7.88	13.8	5.94	8.76	6.88
MAX	12	7.0	3.0	.84	1.4	1.1	33	50	83	12	12	8.4
MIN	5.0	3.0	.49	.34	.34	.15	.21	.95	5.0	3.0	6.5	5.0
AC-FT	437	306	66	29	36	33	221	484	820	365	521	423
CAL YR 1972	TOTAL 1,886.53	MEAN 5.15	MAX 83	MIN .15	AC-FT 3,740							
WTR YR 1972	TOTAL 1,972.93	MEAN 5.39	MAX 83	MIN .15	AC-FT 3,910							

## PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-20	2200	3.96	315	8-31	1800	3.60	246
8-22	1730	3.55	234	9- 1	0200	5.32	840
8-28	2000	3.83	298				

## 07220000 Sapello River at Sapello, N. Mex.

LOCATION.--Lat 35°46'11", long 105°15'05", San Miguel County, in Mora Grant, on downstream end of bridge pier nearest left bank, on State Highway 3½ in Sapello, and 0.5 mile downstream from Manuelitas Creek.

DRAINAGE AREA.--132 sq mi.

PERIOD OF RECORD.--May to October 1915, January 1916 to November 1918, February 1919 to May 1921, July to September 1921, July 1956 to current year. 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.

GAGE.--Water-stage recorder. Altitude of gage is 6,910 ft (from topographic map). May 1915 to September 1921, nonrecording gage at site 300 ft upstream at different datum.

AVERAGE DISCHARGE.--21 calendar years (1916-20, 1957-72), 22.5 cfs (16,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 6,000 cfs Aug. 8 (gage height, 10.6 ft), from rating curve extended above 410 cfs on basis of field estimate at gage height 10.6 ft; minimum, 0.63 cfs June 27.

Period of record: Maximum discharge determined, 6,420 cfs Aug. 5, 1966 (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 ft; maximum gage height, 10.6 ft Aug. 8, 1972; no flow at times.

The flood of June 11, 1913 reached a peak discharge of 11,400 cfs at a site 3 miles downstream.

REMARKS.--Records fair. Diversions above station for irrigation of about 4,200 acres. Sapello Canal diverts from right bank 500 ft above station.

REVISIONS (WATER YEARS).--WSP 1511: Drainage area. WSP 1731: 1956(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	23	7.0	4.3	1.7	1.3	1.5	.90	18	186	14	37	23
2	21	7.2	4.0	1.9	1.8	1.7	.89	26	210	13	43	22
3	14	7.6	4.0	1.9	1.4	1.5	1.1	40	153	12	51	21
4	12	8.0	4.2	2.1	1.3	1.5	7.2	107	114	12	57	20
5	10	8.5	4.1	2.2	1.2	1.4	4.3	69	86	12	60	20
6	11	9.0	3.8	2.1	4.6	1.4	3.1	30	71	13	53	18
7	12	9.6	3.3	2.1	3.7	1.5	2.0	23	60	13	44	21
8	13	8.7	2.6	2.2	2.6	1.5	1.6	614	55	12	42	19
9	14	9.5	2.8	2.2	1.8	1.6	1.7	165	57	12	42	19
10	15	8.3	2.7	2.1	1.5	1.5	1.7	46	49	12	37	17
11	15	9.0	2.6	1.8	1.3	1.6	1.4	31	44	11	36	17
12	17	9.0	2.4	1.5	1.3	1.9	1.4	25	43	12	37	16
13	16	10	2.5	1.3	1.4	1.8	1.2	22	38	22	35	18
14	13	13	2.7	1.2	1.4	1.7	1.1	24	59	14	34	17
15	12	12	2.7	1.3	1.3	1.6	1.2	22	55	14	34	15
16	14	11	2.7	1.4	1.3	4.0	15	38	43	13	31	16
17	14	11	2.4	1.6	1.3	1.6	3.5	29	36	13	31	17
18	14	11	2.4	1.6	1.3	1.1	18	23	31	12	32	17
19	14	11	2.4	1.5	1.5	1.0	4.2	44	31	39	29	16
20	15	9.8	2.7	1.5	1.5	.98	250	657	38	87	28	16
21	13	9.5	2.7	1.4	1.2	.87	651	70	29	47	30	14
22	13	9.3	2.6	1.2	1.1	.84	55	41	27	35	27	16
23	13	8.8	2.5	1.2	1.0	.84	32	31	24	74	27	15
24	11	8.4	2.5	1.3	1.0	.89	27	23	23	67	28	14
25	10	7.8	2.3	1.6	1.0	.81	41	20	21	50	25	15
26	11	6.6	1.5	1.4	.99	.80	63	61	19	47	24	14
27	12	5.6	1.7	1.5	1.0	.72	34	66	18	41	25	14
28	7.6	4.7	2.0	1.5	1.1	.81	26	376	17	37	25	16
29	8.6	4.3	1.7	1.7	1.3	.81	21	265	16	35	24	15
30	8.0	-----	1.9	1.2	3.2	.83	19	117	15	33	22	13
31	7.0	-----	1.9	-----	1.9	-----	17	119	-----	36	-----	12
TOTAL	403.2	255.2	84.6	49.2	49.59	40.60	1,307.49	3,242	1,668	864	1,050	523
MEAN	13.0	8.80	2.73	1.64	1.60	1.35	42.2	105	55.6	27.9	35.0	16.9
MAX	23	13	4.3	2.2	4.6	4.0	651	657	213	87	60	23
MIN	7.0	4.3	1.5	1.2	.99	.72	.89	18	15	11	22	12
AC-FT	800	506	168	98	98	81	2,590	6,430	3,310	1,710	2,080	1,040
CAL YR 1972	TOTAL 9,536.88 MEAN 26.1 MAX 657 MIN .72 AC-FT 18,920											
WTR YR 1972	TOTAL 8,391.58 MEAN 22.9 MAX 657 MIN .72 AC-FT 16,640											

## PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-20	1430	5.00	1,130	8-20	0230	8.40	3,660
7-20	2215	7.05	2,490	8-29	1630	4.85	1,060
7-21	0545	8.15	3,440	9- 1	2400	5.35	1,320
8- 8	1830	10.6	about 6,000				

## ARKANSAS RIVER BASIN

07220100 Lake Isabel feeder canal near Sapello, N. Mex.

LOCATION.--Lat 35°44'42", long 105°09'25", San Miguel County, in Mora Grant, on right bank 20 feet upstream from concrete crossing, 1.0 mile northwest of Los Alamos, 2.0 miles downstream from canal heading, and 5.7 miles southeast of Sapello.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,790 ft (from topographic map). Prior to Aug. 10, 1967, at site 650 ft upstream at datum 2.93 ft higher.

EXTREMES.--Period of record: 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 DIVERSION, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972				
Month	Maximum	Minimum	Mean	Diversion in acre-feet
January.....	13	6.0	9.83	605
February.....	9.2	.24	6.93	398
March.....	0	0	0	0
April.....	0	0	0	0
May.....	0	0	0	0
June.....	0	0	0	0
July.....	134	0	10.2	630
August.....	20	0	4.39	270
September.....	.13	0	.005	.3
WTR YR 1972.....	134	0	3.48	2,530
October.....	0	0	0	0
November.....	0	0	0	0
December.....	0	0	0	0
CAL YR 1972.....	134	0	2.62	1,900

07221000 Mora River near Shoemaker, N. Mex.

LOCATION.--Lat 35°48'01", long 104°46'58", Mora County, in Mora Grant, on left bank 5.5 miles east of Shoemaker, and 12.3 miles upstream from Pedroso Creek.

DRAINAGE AREA.--1,104 sq mi, of which 71 sq mi is probably noncontributing.

PERIOD OF RECORD.--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 current year. Prior to October 1930 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 6,145 ft (from topographic map). Prior to Oct. 10, 1934, at site 2,000 ft upstream at different datum.

AVERAGE DISCHARGE.--53 calendar years (1915-17, 1920-24, 1928-72), 58.4 cfs (42,310 acre-ft per year); 20 calendar years (1953-72), 47.6 cfs (34,490 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,360 cfs July 21 (gage height, 7.65 ft); minimum, 0.07 cfs June 27-29.  
Period of record: 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 periods, which are fair. Diversions for irrigation of about 26,000 acres above station. Off-channel lakes make it possible to divert and store water during non-irrigation season.

REVISIONS (WATER YEARS).--WSP 1117: Drainage area. WSP 1281: 1931(M), 1933-34(M), 1937(M), 1938(P), 1939-40(M), 1941-42(P).  
WSP 1731: 1921, 1928, 1951(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	31	14	2.6	2.4	2.1	1.6	.20	48	240	32	52	55
2	28	12	2.6	2.4	1.6	1.2	.24	20	547	30	70	58
3	26	10	2.8	2.4	1.6	1.2	.32	13	294	25	76	51
4	22	8.0	2.6	2.4	1.8	1.2	1.6	82	231	24	95	50
5	20	5.7	2.6	2.4	2.3	1.2	1.1	46	194	20	102	48
6	22	9.6	2.6	2.3	3.3	.98	36	56	151	19	115	38
7	24	12	2.4	1.9	3.8	.98	16	32	128	19	96	40
8	26	11	2.6	2.1	3.1	.82	3.6	17	126	12	90	39
9	28	11	2.4	2.1	2.8	.74	2.4	408	184	11	84	38
10	26	8.8	2.6	2.3	2.4	.67	1.5	133	119	12	81	39
11	27	6.8	2.6	2.3	2.4	.60	1.5	62	106	17	74	39
12	30	6.0	2.6	1.9	2.4	.60	1.9	42	98	15	69	38
13	28	6.8	2.4	1.8	2.4	.54	2.1	29	113	9.2	66	37
14	24	6.0	2.4	1.6	2.4	.67	1.4	23	93	24	65	36
15	22	5.5	2.4	1.9	2.3	.67	1.2	18	118	20	65	34
16	21	4.4	2.4	1.8	2.4	.90	1.2	24	96	15	63	36
17	22	4.6	2.4	1.9	2.3	.90	1.1	27	80	13	63	38
18	23	3.8	2.4	1.9	2.1	.67	1.2	30	68	11	65	47
19	25	3.8	2.3	2.3	2.1	.54	1.5	24	62	13	68	46
20	28	3.8	2.3	2.4	1.8	.42	2.06	338	83	43	68	42
21	27	4.1	2.4	2.4	1.4	.32	1.600	187	70	90	65	35
22	25	4.1	2.3	1.9	1.1	.37	255	90	55	72	62	38
23	24	3.8	2.3	2.3	.98	.28	140	65	52	63	60	39
24	21	3.8	2.1	2.4	1.2	.28	52	47	48	109	58	35
25	17	3.8	2.1	2.4	1.2	.20	41	28	42	91	57	35
26	16	3.6	2.1	2.1	1.4	.16	69	33	40	74	58	35
27	17	3.3	2.1	2.3	1.4	.10	50	76	40	66	53	32
28	17	3.3	2.3	2.1	2.5	.07	55	267	40	59	50	36
29	16	2.8	2.4	2.1	2.3	.10	33	481	36	51	52	40
30	17	-----	2.4	2.1	3.3	.13	24	360	33	48	53	37
31	15	-----	2.4	-----	2.8	-----	14	179	-----	52	-----	35
TOTAL	715	186.2	74.9	64.6	66.98	19.03	2,615.06	3,199	3,587	1,159.2	2,095	1,246
MEAN	23.1	6.42	2.42	2.15	2.16	.63	84.4	103	120	37.4	69.8	40.2
MAX	31	14	2.8	2.4	3.8	1.6	1,600	408	547	109	115	58
MIN	15	2.8	2.1	1.6	.98	.07	.20	13	33	9.2	50	32
AC-FT	1,420	369	149	128	133	38	5,190	6,350	7,110	2,300	4,160	2,470
CAL YR 1972	TOTAL	15,027.97	MEAN	41.1	MAX	1,600	MIN	.07	AC-FT	29,810		
TR YR 1972	TOTAL	13,475.57	MEAN	36.8	MAX	1,600	MIN	.07	AC-FT	26,730		

## PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-21	0100	7.65	4,360	8-20	1630	4.83	1,450
8-9	0900	4.87	1,480	9-2	1300	4.32	1,100

## ARKANSAS RIVER BASIN

07221500 Canadian River near Sanchez, N. Mex.

LOCATION.--Lat 35°39'08", long 104°22'39", in SW¼ sec.34, T.17 N., R.24 E., San Miguel County, on right bank 1,000 ft downstream from bridge on State Highway 65, 0.9 mile upstream from Lagartija Creek, 3.2 miles northeast of Sanchez, 10 miles downstream from Mora River, and 25 miles southwest of Mosquero.

DRAINAGE AREA.--6,015 sq mi, of which 303 sq mi is probably noncontributing.

PERIOD OF RECORD.--May 1912 to December 1914, October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Altitude of gage is 4,495 ft (from topographic map). May 15, 1912 to Dec. 31, 1914, at two sites within 100 ft about 3 miles upstream at different datums. October 1935 to June 1965 at site 1,000 ft upstream at datum 7.32 ft higher prior to October 1963 and 5.32 ft higher thereafter. June 1965 to October 1966 at site 0.6 mile upstream at datum about 20 ft higher. Supplemental water-stage recorder at site 0.6 mile upstream used at various times since 1966.

AVERAGE DISCHARGE.--39 calendar years (1913-14, 1936-72), 211 cfs (152,900 acre-ft per year); 20 calendar years (1953-72), 154 cfs (111,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 12,400 cfs July 4 (gage height, 12.50 ft), from rating curve extended above 5,000 cfs as explained below; minimum about 0.3 cfs June 11.  
Period of record: Maximum discharge, 145,000 cfs June 18, 1965 (gage height, about 38.1 ft, from floodmarks, present site and datum), 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 fair except those below 2 cfs, which are poor. Diversions for irrigation of about 56,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1177: Drainage area. WSP 1281: 1939, 1940(P), 1942, 1946. WSP 1731: 1956-57(M). The revised figures of discharge for September 1942, as published in WSP 1281, supersede those published in WSP 1311.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	61	24	13	5.4	.56	6.1	1.3	85	244	52	73	89
2	54	20	13	5.2	.44	4.1	.98	49	1,880	49	73	93
3	45	22	13	5.1	.44	2.8	194	54	1,220	45	75	89
4	38	24	11	5.0	.44	2.2	3,200	273	516	43	84	89
5	36	26	9.8	4.5	.44	1.4	722	1,820	360	41	93	85
6	40	27	10	3.7	1.0	1.1	291	582	267	36	122	70
7	45	25	10	4.2	1.2	.96	155	260	194	36	137	70
8	43	21	10	5.9	5.8	.82	97	221	161	32	144	76
9	46	19	10	4.8	7.0	.56	78	217	2,350	28	129	73
10	45	17	9.8	4.4	4.5	.44	78	437	872	28	117	51
11	45	23	7.8	4.4	107	.44	50	555	361	30	108	59
12	45	23	9.2	3.6	4.2	1.1	230	228	1,430	50	102	75
13	45	27	8.4	2.9	14	1.4	309	129	1,190	40	93	62
14	39	24	7.8	2.5	17	2.0	166	85	390	429	85	71
15	36	20	7.8	3.0	14	1.0	80	62	220	218	84	51
16	35	21	7.6	2.9	8.9	46	51	50	163	115	82	54
17	38	22	7.0	2.3	7.4	315	38	40	152	78	82	70
18	41	24	7.0	2.1	5.4	129	235	32	116	65	87	70
19	45	23	6.8	1.5	3.5	66	134	30	98	58	91	70
20	45	21	6.5	1.2	3.2	33	343	40	423	55	97	76
21	46	19	6.1	1.2	3.4	15	3,860	170	218	46	108	75
22	47	19	5.9	1.2	2.8	8.9	2,020	203	202	51	104	68
23	48	18	5.4	1.1	1.6	4.8	600	197	118	120	87	68
24	45	16	5.7	1.0	70	4.0	380	87	96	122	91	64
25	47	17	5.4	.82	46	2.4	400	59	83	108	89	60
26	48	14	5.4	.69	32	1.7	224	59	76	152	97	64
27	43	14	4.6	.82	21	1.4	244	59	70	112	91	54
28	40	14	5.2	.82	12	1.2	120	137	64	102	87	58
29	39	14	5.4	.82	8.6	3.3	184	247	58	93	108	62
30	31	-----	5.4	.69	8.4	3.6	200	368	55	76	95	62
31	28	-----	5.6	-----	7.4	-----	120	384	-----	71	-----	55
TOTAL	1,329	598	247.6	83.76	417.62	662.12	14,902.3	7,224	13,647	2,581	2,907	2,133
MEAN	42.9	20.6	7.99	2.79	13.5	22.1	481	233	455	83.3	96.9	68.8
MAX	61	27	13	5.9	107	315	3,860	1,820	2,350	429	144	93
MIN	28	14	4.6	.69	.44	.44	1.3	50	55	28	73	51
AC=FT	2,640	1,190	491	166	828	1,310	29,560	14,330	27,070	5,120	5,770	4,230
CAL YR 1972	TOTAL 46,732.40	MEAN 128	MAX 3,860	MIN .44	AC=FT 92,690							
WTR YR 1972	TOTAL 42,978.40	MEAN 117	MAX 3,860	MIN .44	AC=FT 85,250							

## PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7- 4	0100	12.50	12,400	9- 9	0430	9.87	5,340
7-21	0930	11.40	9,130	9- 9	2200	about	4,880
9- 2	0500	8.80	3,820			9.6	



07222500 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., San Miguel County, on left bank 1.5 miles northeast of Variadero, and 14 miles west of Conchas Dam.

DRAINAGE AREA.--523 sq mi, of which 130 sq mi is probably noncontributing.

PERIOD OF RECORD.--October 1936 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,430 ft (from topographic map). Prior to Mar. 30, 1942, at site 1.5 miles upstream at different datum. Mar. 30, 1942 to May 18, 1950, at present site at datum 0.5 ft higher.

AVERAGE DISCHARGE.--36 calendar years, 17.1 cfs (12,390 acre-ft per year); 20 calendar years (1953-72), 10.9 cfs (7,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 13,800 cfs July 21 (gage height, 13.70 ft, from floodmark), from rating curve extended above 760 cfs as explained below; no flow many days.

Period of record: 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 fair. Diversions for irrigation of about 300 acres above station.

REVISIONS (WATER YEARS).--WSP 1281: 1937-39, 1941-447.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.12	.19	.06	.08	0	.32	12	26	570	1.6	3.0	1.7
2	.12	.25	.07	.04	0	.08	3.7	239	160	1.5	2.9	1.6
3	.08	.25	.08	.02	0	.02	4.1	33	70	1.2	2.7	1.5
4	.06	.25	.08	.02	0	0	330	14	38	1.1	2.4	1.3
5	.10	.28	.07	.01	0	0	52	8.0	22	.99	2.3	1.1
6	.25	.19	.06	.01	.12	0	71	5.4	12	.90	1.9	.80
7	.28	.19	.04	0	.28	0	138	24	7.5	1.1	1.7	.90
8	.22	.16	.04	0	.10	0	54	8.0	5.0	.82	1.6	1.1
9	.14	.14	.04	0	.02	0	23	49	302	.74	1.4	.74
10	.10	.14	.04	0	0	0	9.7	15	180	.60	1.3	.50
11	.12	.19	.04	0	0	.06	4.3	6.2	590	.54	1.3	.50
12	.12	.25	.04	0	0	.92	150	3.9	368	.25	1.3	.60
13	.12	.22	.04	0	0	2.4	340	3.0	98	.73	1.2	.90
14	.14	.16	.03	0	0	.37	26	2.6	49	.28	1.1	.80
15	.19	.14	.04	0	0	.19	7.8	2.1	29	9.4	.99	.74
16	.19	.14	.03	0	0	140	3.9	2.0	19	5.0	.99	.80
17	.25	.14	.03	0	0	525	92	1.7	14	3.2	1.1	.99
18	.19	.14	.03	0	0	48	23	1.4	9.7	2.1	2.1	.99
19	.19	.12	.01	0	0	16	13	1.5	7.5	3.0	1.9	.90
20	.19	.12	.02	0	0	5.8	22	1.3	6.8	5.6	2.1	.82
21	.19	.10	.02	0	0	2.6	2,360	1.1	6.2	7.2	2.7	.74
22	.19	.10	.02	0	0	1.4	629	105	16	6.2	2.4	.74
23	.14	.08	.01	0	0	.54	42	147	7.5	6.0	2.4	.74
24	.08	.07	.01	0	0	.32	20	38	6.0	37	3.0	.60
25	.08	.07	.01	0	0	.12	11	21	4.3	18	3.4	.54
26	.08	.04	.01	0	0	.07	7.0	75	3.5	10	3.4	.54
27	.10	.04	0	0	0	.04	5.2	53	3.2	6.0	3.2	.54
28	.10	.04	.03	0	0	.03	4.3	76	2.6	4.5	2.6	.67
29	.07	.06	.04	0	90	317	3.7	48	2.1	3.5	2.4	.60
30	.08	-----	.07	0	6.0	153	3.2	22	1.9	3.0	1.9	.48
31	.14	-----	.10	-----	1.5	-----	3.2	1,300	-----	3.0	-----	.42
TOTAL	4.42	4.26	1.21	.18	98.02	1,214.28	4,468.1	2,333.2	2,610.8	179.34	62.68	25.89
MEAN	.10	.15	.039	.006	3.16	40.5	144	75.3	87.0	5.79	2.09	.84
MAX	.28	.28	.10	.08	90	525	2,360	1,300	590	37	3.4	1.7
MIN	.06	.04	0	0	0	0	3.2	1.1	1.9	.25	.99	.42
AC-FT	8.8	8.4	2.4	.4	194	2,410	8,860	4,630	5,180	356	124	51

CAL YR 1972 TOTAL 11,002.38 MEAN 30.1 MAX 2,360 MIN 0 AC-FT 21,820

WTR YR 1972 TOTAL 10,833.06 MEAN 29.6 MAX 2,360 MIN 0 AC-FT 21,490

## PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-17	0030	7.00	3,880	7-21	about	13.70	13,800
6-29	2130	6.55	3,390	7-22	0200	6.90	3,720
7-4	0230	4.70	1,690	8-31	about	13.50	13,400
7-12	2300	5.30	2,200		2130		
				9-11	0500	4.60	1,630

a From floodmark.

## ARKANSAS RIVER BASIN

07223000 Bell Ranch Canal below Conchas Dam, N. Mex.

LOCATION.--Lat 35°24'10", long 104°11'07", San Miguel County, in Pablo Montoya Grant, on left bank, 1,270 ft downstream from Conchas Dam and 23.5 miles north of Newkirk.

PERIOD OF RECORD.--October 1942 to current year. Prior to October 1965, published as "near Conchas Dam."

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,150 ft (from headgate elevations).

EXTREMES.--Period of record: 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 Lake (see sta 07223500) for irrigation of about 700 acres on Bell Ranch.

MONTHLY DIVERSION, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972				
Month	Maximum	Minimum	Mean	Diversion in acre-feet
January.....	0	0	0	0
February.....	0	0	0	0
March.....	4.1	0	1.48	91
April.....	7.7	0	5.63	335
May.....	7.7	0	3.90	240
June.....	7.8	5.3	6.27	373
July.....	7.0	0	2.66	164
August.....	12	.03	8.68	534
September.....	3.2	0	.72	43
WTR YR 1972.....	12	0	2.47	1,790
October.....	0	0	0	0
November.....	0	0	0	0
December.....	0	0	0	0
CAL YR 1972.....	12	0	2.45	1,780

07223300 Conchas Canal below Conchas Dam, N. Mex.

LOCATION.--Lat 35°22'35", long 104°10'03", San Miguel County, in Pablo Montoya Grant, on left bank at upstream end of tunnel transition section, 1.0 mile downstream from headgates in Conchas Dam, and 21.5 miles north of Newkirk.

PERIOD OF RECORD.--September 1945 to June 1949, April 1954 to June 1955, September 1961 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,157.1 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.--Period of record: Maximum daily discharge, 751 cfs Aug. 31, 1961; no flow many days each year.

REMARKS.--Records good. No diversion or wasteway between canal headworks and gage. Water is diverted from Conchas Lake for irrigation of about 35,000 acres on Tucumcari Project (1966 conditions). Water quality records for the current year are published in Part 2 of this report.

MONTHLY DIVERSION, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972				
Month	Maximum	Minimum	Mean	Diversion in acre-feet
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	406	0	234	13,900
May.....	304	164	214	13,150
June.....	317	153	200	11,900
July.....	292	2.0	136	8,360
August.....	402	.06	232	14,290
September.....	87	0	21.1	1,260
WTR YR 1972.....	406	0	92.3	66,990
October.....	190	0	76.5	4,710
November.....	.98	0	.091	5.4
December.....	3.6	0	.49	30
CAL YR 1972.....	406	0	93.1	67,600

LOCATION.--Lat 33°24'10", long 104°11'25", San Miguel County, in Pablo Montoya Grant, stilling well within concrete portion of Conchas Dam on Canadian River, and about 24 miles north of Newkirk.

PERIOD OF RECORD.--December 1938 to September 1965, (monthend contents only), October 1965 to current year. Prior to October 1965, published as Conchas Reservoir near Conchas Dam.

EXTREMES.--Current year: Maximum contents, 216,900 acre-ft Dec. 30-31 (elevation, 4,187.10 ft); minimum, 110,700 acre-ft July 3 (elevation, 4,166.54 ft).

Period of record: Maximum contents, 479,600 acre-ft Apr. 24, 1942 (elevation, 4,208.41 ft); minimum after initial filling, 82,840 acre-ft Sept. 12, 13, 1964 (elevation, 4,156.05 ft); minimum elevation, 4,155.80 ft Sept. 24, 1954.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Corps of Engineers in 1970)

4,166	108,600	4,174	143,200	4,182	185,200
4,168	116,600	4,176	152,900	4,184	197,100
4,170	125,100	4,178	163,200	4,186	209,600
4,172	134,000	4,180	173,900	4,188	223,000

CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	155,500	156,600	156,700	155,000	137,200	122,800	111,800	163,400	172,400	210,600	210,300	214,900
2	155,700	156,500	156,600	154,900	136,500	122,400	111,300	163,700	178,000	210,300	210,400	214,900
3	155,800	156,600	156,600	154,900	135,800	122,000	111,300	163,500	180,700	210,100	210,500	215,000
4	155,700	156,600	156,500	154,900	135,100	121,000	118,000	163,200	182,100	209,800	210,600	215,100
5	155,700	156,600	156,500	154,800	134,500	121,200	119,800	165,500	183,000	209,500	210,700	215,100
6	155,700	156,500	156,500	154,700	134,100	120,800	120,200	166,500	183,400	209,200	210,800	215,100
7	155,800	156,500	156,500	154,500	133,500	120,400	120,500	166,900	183,700	208,900	210,900	215,200
8	155,900	156,600	156,400	154,300	133,100	119,900	120,500	166,700	188,600	208,700	211,300	215,300
9	155,900	156,500	156,400	153,900	132,600	119,500	120,300	166,600	193,400	208,400	211,400	215,300
10	155,900	156,500	156,400	153,400	132,100	119,100	120,000	166,600	197,200	208,000	211,600	215,300
11	155,900	156,600	156,400	152,900	131,600	118,700	119,700	167,200	200,800	207,700	211,700	215,400
12	155,900	156,700	156,300	152,300	131,600	118,300	119,500	167,100	203,900	207,500	211,800	215,500
13	156,000	156,700	156,300	151,900	131,200	117,800	120,200	166,900	207,100	207,100	211,900	215,500
14	156,000	156,700	156,300	150,900	130,700	117,300	120,300	166,500	206,400	207,000	212,100	215,600
15	156,000	156,700	156,200	150,100	130,200	117,000	120,100	165,800	209,100	207,500	212,200	215,600
16	156,000	156,800	156,200	149,400	129,700	116,700	119,800	165,200	209,500	207,500	212,200	215,700
17	156,000	156,800	156,100	148,600	129,100	117,600	119,600	164,400	209,800	207,500	212,400	215,700
18	156,100	156,800	156,100	147,800	128,500	117,800	119,400	163,500	210,200	207,500	212,700	215,900
19	156,200	156,800	156,300	147,000	128,200	117,600	119,700	162,800	210,400	207,900	212,900	216,000
20	156,200	156,800	156,300	146,000	127,600	117,200	123,000	162,100	210,900	208,400	213,100	216,100
21	156,400	156,800	156,900	145,200	127,100	116,800	151,700	161,400	211,500	208,700	213,300	216,300
22	156,400	156,800	155,800	144,300	126,700	116,300	150,400	161,200	211,800	208,700	213,400	216,400
23	156,400	156,800	155,800	143,300	126,200	115,900	150,700	162,800	211,700	208,900	213,500	216,400
24	156,500	156,800	155,700	142,400	125,700	115,300	151,600	162,600	211,600	209,100	214,000	216,500
25	156,600	156,800	155,700	141,700	125,300	114,600	162,200	162,200	211,300	209,300	214,200	216,500
26	156,400	156,700	155,600	140,700	125,100	114,000	162,700	163,000	211,200	209,600	214,300	2

CAL YR 1972	MAX 216,900	MIN 111,300	# +61,500	† Elevation, in feet, at end of month.
WTR YR 1972	MAX 211,800	MIN 111,300	# +55,900	# Change in contents, in acre-feet.

## ARKANSAS RIVER BASIN

07224500 Canadian River below Conchas Dam, N. Mex.

LOCATION.--Lat 35°24'32", long 104°10'10", San Miguel County, 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.

PERIOD OF RECORD.--May 1936 to December 1938, January 1942 to September 1972 (discontinued). Water-year estimate for 1942 published in WSP 1311.

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

AVERAGE DISCHARGE.--30 calendar years (1942-71), 68.7 cfs (49,770 acre-ft per year); 20 calendar years (1952-71), 16.0 cfs (11,590 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 75 cfs about Aug. 31 (gage height, 6.23 ft); minimum daily, 1.5 cfs July 31 to Aug. 3, Aug. 5-21.

Period of record: 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. Flood of Sept. 30, 1904 was estimated as 279,000 cfs by Corps of Engineers.

REMARKS.--Records poor. Flow regulated by Conchas Lake (see sta 07223500). Diversions above station for irrigation of about 90,000 acres, 36,000 of which are below station. Bell Ranch Canal (see sta 07223000) 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 sta 07223300) diverts directly from Conchas Dam and bypasses gage for irrigation of about 35,000 acres around Tucumari.

REVISIONS.--WSP 1177: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.3	3.3	3.3	3.5	3.0	3.3	2.8	1.5	20			
2	3.3	3.3	3.3	3.3	3.0	3.2	2.8	1.5	10			
3	3.3	3.3	3.3	3.5	3.0	3.2	2.8	1.5	5.0		†3.3	
4	3.3	3.3	3.3	3.6	3.0	3.2	2.8	1.5	3.0			
5	3.3	3.3	3.3	3.6	3.2	3.2	3.0	1.5	2.0			
6	3.3	3.3	3.3	3.6	3.3	3.1	2.8	1.5	2.0			
7	3.3	3.3	3.3	3.6	3.5	3.1	2.8	1.5	2.0			
8	3.5	3.3	3.3	3.6	3.5	3.1	2.8	1.5	2.0			
9	3.3	3.3	3.3	3.5	3.3	3.1	2.8	1.5	2.0			†3.1
10	3.3	3.2	3.3	3.6	3.3	3.1	2.8	1.5	2.0			
11	3.5	3.2	3.3	3.8	3.3	3.0	2.8	1.5	2.0			
12	3.3	3.2	3.3	3.8	3.2	3.0	2.8	1.5	2.0			
13	3.2	3.1	3.3	3.8	3.2	3.0	2.8	1.5	2.0			
14	3.2	3.1	3.3	3.6	3.2	3.0	2.8	1.5	2.0			
15	3.2	3.0	3.3	3.6	3.3	3.0	2.8	1.5	2.0			
16	3.2	3.0	3.3	3.6	3.3	3.6	2.8	1.5	2.0			
17	3.2	3.0	3.3	3.5	3.3	3.6	2.8	1.5	2.0			
18	3.2	3.0	3.3	3.5	3.2	2.8	3.2	1.5	1.9			
19	3.2	3.2	3.3	3.5	3.2	2.3	3.8	1.5	2.0			
20	3.2	3.2	3.3	3.5	3.2	1.9	4.3	1.5	2.0			
21	3.2	3.2	3.3	3.3	3.2	2.0	5.4	1.5	2.2			
22	3.2	3.2	3.3	3.3	2.8	2.4	4.5	2.0	2.0			
23	3.2	3.2	3.3	3.3	2.8	2.4	3.5	2.0	2.0			
24	3.2	3.2	3.3	3.5	2.8	2.3	3.0	2.0	2.0			
25	3.2	3.2	3.3	3.5	2.8	2.3	8.1	2.0	2.0			
26	3.2	3.3	3.3	3.3	3.0	2.3	23	2.0	2.0			
27	3.2	3.3	3.5	3.3	3.2	2.3	12	30	2.0			
28	3.2	3.3	3.5	3.3	2.8	2.4	7.0	10	2.0			
29	3.2	3.3	3.5	3.3	4.3	2.6	4.0	5.0	2.0			
30	3.2	-----	3.5	3.2	3.5	2.8	2.0	3.0	2.0			
31	3.2	-----	3.5	-----	3.3	-----	1.5	30	-----		-----	
TOTAL	100.8	93.1	103.3	104.4	99.0	84.6	135.3	119.5	90.1			
MEAN	3.25	3.21	3.33	3.50	3.19	2.82	4.36	3.86	3.00			
MAX	3.5	3.3	3.5	3.8	4.3	3.6	23	30	20			
MIN	3.2	3.0	3.3	3.2	2.8	1.9	1.5	1.5	1.9			
AC-FT	200	185	205	208	196	168	268	237	179			

WTR YR 1972 TOTAL 1,284.9 MEAN 3.51 MAX 30 MIN 1.5 AC-FT 2,550

NOTE.--No gage-height record Aug. 8 to Sept. 17.

† Discharge measurement.

07226500 Ute Creek near Logan, N. Mex.

LOCATION.--Lat 35°26'18", long 103°31'31", in NW¼SE¼ sec.15, T.14 N., R.32 E., Harding County, on right bank 1.9 miles downstream from Alamosa Creek, 4.5 miles upstream from State Road 155, 4.7 miles upstream from high-water line of Ute Reservoir, 8.2 miles northwest of Logan, and 10.2 miles upstream from mouth.

DRAINAGE AREA.--2,060 sq mi, of which 617 is probably noncontributing.

PERIOD OF RECORD.--January 1912 to May 1914 (gage heights and discharge measurements only), January 1942 to current year. Records of discharge for August 1904 to June 1906, April 1909 to December 1911, published in WSP 307, are unreliable and should not be used.

GAGE.--Water-stage recorder. Altitude of gage is 3,815 ft (from topographic map). Prior to May 24, 1914, at site 4.2 miles downstream at different datum. Jan. 13, 1942 to Dec. 15, 1955, at site 4.8 miles downstream at datum of 3,758.50 ft above mean sea level. Dec. 16, 1955 to Sept. 30, 1964, at site 4.8 miles downstream at datum of 3,757.50 ft above mean sea level.

AVERAGE DISCHARGE.--31 calendar years, 29.3 cfs (21,230 acre-ft per year); 20 calendar years (1953-72), 25.7 cfs (18,620 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 22,800 cfs July 17 (gage height, 8.76 ft), from rating curve extended above 2,800 cfs; no flow most of time.

1942-72: 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; maximum gage height, 8.76 ft July 17, 1972; 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.

REVISIONS (WATER YEARS).--WSP 1281: 1942-48, 1950, 1951(P). See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					0	0	0	16	386	.99	6.4	11
2					0	0	0	16	103	.84	6.4	12
3					0	0	0	5.8	49	.71	7.0	13
4					0	0	0	3.2	56	.41	9.0	13
5					0	0	0	1.8	41	.22	6.4	10
6					0	0	0	2.3	32	.01	4.4	5.0
7					0	0	0	5.8	20	0	3.2	5.0
8					0	0	68	2.9	104	0	3.2	6.0
9					0	0	2.5	.71	1,550	0	3.6	6.0
10					0	7.3	0	.41	190	0	2.9	5.0
11					76	162	57	.07	114	0	2.6	6.0
12					2.9	10	131	0	169	0	3.2	6.0
13					0	.37	22	0	93	0	2.6	7.0
14					0	.10	16	0	40	33	2.9	7.0
15					0	.43	9.0	33	29	74	3.2	7.0
16					0	28	.9	16	22	37	2.6	7.0
17					0	1.3	3,230	1.3	17	23	2.9	7.0
18					0	0	244	.22	12	16	7.6	7.0
19					0	0	484	15	9.0	17	9.0	7.0
20					0	0	77	10	23	67	9.0	10
21					0	.04	5,120	.41	69	40	13	10
22					0	0	1,240	8.5	37	23	16	13
23					0	0	374	188	27	19	9.7	17
24					0	0	230	64	16	16	16	20
25					0	0	77	17	8.3	19	22	20
26					0	0	56	54	5.3	15	16	14
27					0	0	173	141	4.0	12	14	9.7
28					0	0	204	364	2.9	10	8.3	9.7
29					0	0	103	145	1.8	7.6	12	9.0
30		-----			0	0	47	47	.99	5.8	7.6	6.4
31		-----		-----	0	-----	35	179	-----	5.8	-----	6.0
TOTAL	0	0	0	0	78.9	209.54	12,000.4	1,338.42	3,231.29	443.38	232.7	291.8
MEAN	0	0	0	0	2.55	6.98	387	45.2	108	14.3	7.76	9.41
MAX	0	0	0	0	76	162	5,120	364	1,550	74	22	20
MIN	0	0	0	0	0	0	0	0	.99	0	2.6	5.0
AC-FT	0	0	0	0	156	416	23,800	2,650	6,410	879	462	579
CAL YR 1972	TOTAL	17,826.43	MEAN	48.7	MAX	5,120	MIN	0	AC-FT	35,360		
WTR YR 1972	TOTAL	16,942.86	MEAN	46.3	MAX	5,120	MIN	0	AC-FT	33,610		

## PEAK DISCHARGE (BASE, 3,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-17	1100	8.76	22,800	7-21	1200	8.40	20,400

## 07226800 Ute Reservoir near Logan, N. Mex.

LOCATION.--Lat 35°20'35", long 103°26'37", in NW¼ sec.21, T.13 N., R.33 E., Quay County, on face of Ute Dam on Canadian River, 2.5 miles southwest of Logan, and 3.5 miles downstream from Ute Creek.

DRAINAGE AREA.--11,140 sq mi, of which 1,110 sq mi is probably noncontributing.

PERIOD OF RECORD.--May 1963 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (levels by Interstate Stream Commission).

EXTREMES.--Current year: Maximum contents observed, 112,900 acre-ft July 22, Sept. 9 (elevation, 3,760.80 ft); minimum, 89,420 acre-ft July 9-12 (elevation, 3,754.8 ft).

Period of record: Maximum contents observed, 119,900 acre-ft June 17, 1969 (elevation, 3,762.4 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. Water quality records for the current year are published in Part 2 of this report.

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

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by New Mexico Interstate Stream Commission in 1963)

3,754	86,550
3,756	93,840
3,758	101,500
3,760	109,600
3,762	118,100

## CONTENTS, IN ACRE-FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	96,100	95,720	94,590	93,470	91,980	90,880	90,140	105,500	110,000	99,950	99,170	99,560
2	96,100	95,720	94,590	93,090	91,980	90,880	90,140	105,500	110,800	99,560	99,170	99,560
3	96,100	95,340	94,590	93,090	91,980	90,880	89,780	104,700	110,400	99,560	99,170	99,560
4	96,100	95,340	94,590	93,090	91,980	90,510	89,780	103,900	109,600	99,560	99,170	99,560
5	95,720	95,340	94,590	93,090	91,980	90,510	89,780	103,100	109,200	99,170	99,170	99,560
6	95,720	95,340	94,210	93,090	91,980	90,510	89,780	102,300	108,800	99,170	99,170	99,560
7	95,720	95,340	94,210	93,090	91,980	90,510	89,780	101,500	108,400	99,170	99,170	99,560
8	95,720	95,340	94,210	93,090	91,610	90,510	89,780	101,100	107,900	99,170	99,170	99,560
9	95,720	95,340	94,210	93,090	-	90,510	89,420	100,300	112,900	99,170	99,170	99,560
10	95,720	95,340	94,210	92,720	-	90,510	89,420	99,560	111,700	99,170	99,170	99,560
11	95,720	94,970	94,210	92,720	91,610	90,510	89,420	99,170	110,800	98,790	99,170	99,560
12	95,720	94,970	94,210	92,720	91,610	90,510	89,420	99,170	111,300	98,790	99,170	99,560
13	95,720	94,970	94,210	92,720	91,610	90,510	89,780	99,170	110,200	98,790	99,170	99,560
14	95,720	94,970	93,840	92,720	91,610	90,510	89,780	98,790	109,800	98,790	99,170	99,560
15	95,720	94,970	93,840	92,720	91,610	90,510	90,140	98,790	109,600	98,400	99,170	99,560
16	95,720	94,970	93,840	92,720	91,610	90,510	90,140	98,790	109,000	98,400	99,170	99,560
17	95,720	94,970	93,840	92,720	91,610	90,510	90,140	98,790	109,000	98,400	99,170	99,560
18	95,720	94,970	93,840	92,720	91,240	90,510	95,910	98,790	108,400	98,400	99,170	99,560
19	95,720	94,970	93,840	92,350	91,240	90,140	96,860	98,790	107,700	99,170	99,560	99,560
20	95,720	94,970	93,840	92,350	91,240	90,140	99,560	98,790	107,100	99,170	99,560	99,560
21	95,720	94,590	93,470	92,350	91,240	90,510	103,900	98,400	106,300	99,560	99,560	99,560
22	95,720	94,590	93,470	92,350	91,240	90,880	112,500	98,400	105,500	99,560	99,560	99,560
23	95,720	94,590	93,470	92,350	91,240	90,880	111,700	98,400	104,900	99,560	99,560	99,560
24	95,720	94,590	93,470	92,350	91,240	90,880	110,400	98,400	104,300	99,560	99,560	99,560
25	95,720	94,590	93,470	92,350	90,880	90,510	109,600	98,400	103,900	99,560	99,560	99,560
26	95,720	94,590	93,470	92,350	90,880	90,510	109,600	98,400	103,100	99,170	99,560	99,560
27	95,720	94,590	93,470	91,980	90,880	90,510	109,200	99,950	102,300	99,170	99,560	99,560
28	95,720	94,590	93,470	91,980	90,880	90,510	108,400	106,300	101,500	99,170	99,560	99,560
29	95,720	94,590	93,470	91,980	90,880	90,140	107,500	112,100	101,100	99,170	99,560	99,560
30	95,720	-----	93,470	91,980	90,880	90,140	106,700	110,400	100,300	99,170	99,560	99,560
31	95,720	-----	93,470	-----	90,880	-----	106,300	109,600	-----	99,170	-----	99,560
MAX	96,100	95,720	94,590	93,470	91,980	90,880	112,500	112,100	112,900	99,950	99,560	99,560
MIN	95,720	94,590	93,470	91,980	90,880	90,140	89,420	98,400	100,300	98,400	99,170	99,560
(+)	3,756.5	3,756.2	3,755.9	3,755.5	3,755.2	3,755.0	3,759.2	3,760.0	3,757.7	3,757.4	3,757.5	3,757.5
(#)	-380	-1,130	-1,120	-1,490	-1,100	-740	+16,160	+3,300	-9,300	-1,130	+390	0
CAL YR 1972	MAX 112,900		MIN 89,420		± 3,460							
WTR YR 1972	MAX 112,900		MIN 89,420		± 3,820							

† Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

## 41.

LOCATION.--Lat 35°21'25", long 103°25'03", in NE¼NE¼ sec.15, T.13 N., R.33 E., Quay County, on left bank 1,100 ft upstream from bridge on U.S. Highway 54, 0.7 mile south of Logan, 1.4 miles upstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 2.0 miles downstream from Ute Dam. 4.3 miles upstream from Revelto Creek, and 5.7 miles downstream from Ute Creek.

PERIOD OF RECORD.---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 current year. 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 are unreliable and should not be used. Published as South Canadian River, June to September 1904.

AVERAGE DISCHARGE.--14 calendar years (1912-13, 1927-38), 388 cfs (281,100 acre-ft per year), prior to completion of Conchas Dam; 24 calendar years (1939-62), 254 cfs (184,000 acre-ft per year), prior to completion of Ute Dam; 10 calendar years (1963-72), 43.3 cfs (31,370 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,720 cfs Sept. 9 (gage height, 6.72 ft); minimum, 1.0 cfs Apr. 26.  
1930-72: Maximum discharge, 219,000 cfs Sept. 22, 1941 (gage height, 29.3 ft, from floodmarks), from rating curve extended above 75,000 cfs; no flow at times prior to completion of Ute Dam.  
Maximum discharge, 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.

REVISIONS (WATER YEARS).--WSP 1087: 1935-36. WSP 1117: Drainage area. WSP 1281: 1912, 1932(M), 1934, 1945-47, 1949-50.  
WSP 1311: 1931(M). See also PERIOD OF RECORD.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2,3	2,5	2,3	2,3	2,1	2,0	2,0	336	759	318	4,3	2,3
2	2,3	2,5	2,6	2,3	2,1	2,0	1,8	336	680	273	2,9	2,3
3	2,3	2,5	2,6	2,3	2,1	1,8	1,8	340	391	15	2,6	2,3
4	2,3	2,6	2,3	2,6	2,3	1,8	2,1	340	298	7,2	2,4	2,3
5	2,3	2,6	2,6	2,6	2,1	1,8	2,1	349	302	5,2	2,4	1,8
6	2,3	2,6	2,4	2,6	2,1	1,8	2,1	349	302	4,6	2,4	3,6
7	2,3	2,6	2,4	2,4	2,6	1,7	2,0	363	306	4,3	2,4	2,9
8	2,3	2,6	2,6	2,3	2,1	1,7	2,0	354	318	3,8	2,4	2,3
9	2,3	2,6	2,4	2,3	2,1	1,7	1,8	354	2,130	3,6	2,6	2,4
10	2,3	2,3	2,6	2,4	2,3	2,1	1,8	324	1,670	3,4	2,9	2,4
11	2,3	2,6	2,6	2,4	2,1	2,9	2,1	16	853	3,1	2,6	2,4
12	2,1	2,6	2,4	2,4	2,0	2,9	2,0	5,5	993	2,9	2,9	2,4
13	2,1	2,6	2,4	2,3	2,1	2,3	2,0	4,3	586	2,6	2,6	2,4
14	2,1	2,4	2,4	2,0	2,3	2,1	2,0	3,8	382	2,3	2,6	2,3
15	2,1	2,6	2,4	2,0	2,1	2,0	1,8	3,8	327	2,6	2,9	2,3
16	2,2	2,4	2,3	2,0	2,0	2,0	2,0	3,8	306	2,6	2,9	2,3
17	2,4	2,3	2,3	1,6	2,1	2,1	4,8	3,6	302	2,6	2,9	2,3
18	2,4	2,4	2,1	1,6	2,1	1,8	4,3	3,6	314	2,3	3,1	2,4
19	2,4	2,6	2,1	1,6	2,4	1,7	9,8	4,1	314	3,6	2,6	2,4
20	2,6	2,6	2,1	1,6	2,4	1,7	5,8	3,6	314	5,2	2,9	2,3
21	2,6	2,3	2,3	1,7	2,3	1,7	593	3,4	314	2,9	2,9	2,4
22	2,6	2,6	2,3	1,6	2,1	1,7	2,200	14	314	2,4	2,6	2,4
23	2,4	2,4	2,4	1,7	2,3	1,8	1,760	4,8	310	2,4	2,6	2,3
24	2,6	2,4	2,4	1,8	2,3	1,8	797	2,6	314	2,6	2,9	2,3
25	2,4	2,3	2,3	2,0	2,3	1,7	396	2,4	314	2,6	2,6	2,3
26	2,1	2,6	2,1	1,7	2,3	1,7	336	4,1	318	2,4	2,4	2,3
27	2,2	2,4	1,8	1,8	2,1	1,7	336	2,9	318	2,4	2,3	2,3
28	2,3	2,6	2,0	1,8	2,3	1,7	340	372	318	2,6	2,4	2,3
29	2,3	2,6	2,1	2,1	2,3	1,7	336	1,630	318	2,4	2,4	2,3
30	2,6	-----	2,3	2,3	2,3	2,0	336	706	318	2,4	2,4	2,3
31	2,4	-----	2,3	-----	2,1	-----	336	367	-----	2,6	-----	2,3
TOTAL	72,2	72,7	72,2	62,1	68,2	57,4	7,822,1	6,606,3	15,003	695,6	80,8	73,6
MEAN	2,33	2,51	2,33	2,07	2,20	1,91	252	213	500	22,4	2,69	2,37
MAX	2,6	2,6	2,6	2,6	2,6	2,9	2,200	1,630	2,130	318	4,3	3,6
MIN	2,1	2,3	1,8	1,6	2,0	1,7	1,8	2,4	298	2,3	2,3	1,8
AC=FT	143	144	143	123	135	114	15,520	13,100	29,760	1,380	160	146
CAL YR 1972	TOTAL 30,686,2		MEAN 83,8									

## ARKANSAS RIVER BASIN

07227100 Revuelto Creek near Logan, N. Mex.

LOCATION.--Lat 35°20'28", long 103°23'40", in SW¼ sec.24, T.13 N., R.33 E., Quay County, on right bank 0.3 mile upstream from bridge on State Highway 39, 1.9 miles southeast of Logan, and 2.3 miles upstream from mouth.

DRAINAGE AREA.--786 sq mi.

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,665 ft (from topographic map).

AVERAGE DISCHARGE.--13 calendar years, 56.8 cfs (41,150 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 21,200 cfs July 20 (gage height, 12.72 ft); no flow at times.

Period of record: Maximum discharge, 26,700 cfs July 9, 1960 (gage height, 14.3 ft); no flow at times.

1941-47: Maximum discharge determined, about 13,400 cfs Sept. 18, 1946 (gage height, 9.04 ft, at site 500 ft downstream at different datum), from unpublished records collected 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. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.8	2.6	.45	.27	10	8.2	0	3.6	856	9.2	9.6	6.7
2	4.2	2.6	.35	.27	13	3.6	0	38	186	12	9.6	6.7
3	4.2	3.0	.23	.23	14	1.8	0	30	155	13	8.7	6.3
4	4.2	3.0	.23	.23	13	.83	550	17	86	13	7.4	6.3
5	4.0	3.0	.17	.23	12	.45	320	12	46	13	5.4	6.7
6	4.0	3.2	.08	.20	11	.20	57	11	33	14	5.7	6.5
7	4.0	2.8	.02	.17	10	0	19	8.7	22	15	5.4	6.0
8	4.0	2.8	.14	.17	10	0	9.6	7.4	21	15	5.4	6.0
9	4.2	2.4	.14	.05	9.0	0	7.4	104	2,210	15	7.0	6.0
10	4.4	3.0	.14	0	8.0	.17	4.8	43	252	14	7.0	6.0
11	4.0	3.0	.14	0	7.0	3.3	4.6	14	114	13	6.3	6.0
12	3.2	2.8	.14	0	6.0	3.2	12	8.7	109	13	6.0	6.0
13	2.6	2.6	.11	0	6.0	1.1	23	8.7	63	13	7.4	6.0
14	2.5	2.3	.11	0	5.0	.90	17	6.3	343	16	7.0	6.0
15	2.3	2.3	.02	1.1	5.0	.80	10	286	466	18	5.7	6.0
16	2.3	2.3	.14	2.8	4.0	.70	3.8	40	119	18	5.4	6.0
17	2.8	2.1	.17	2.8	4.0	.60	438	17	51	18	5.7	6.5
18	3.0	2.0	.11	3.4	3.4	.50	486	7.0	38	20	9.6	7.0
19	3.0	1.6	.05	3.4	2.6	.40	2,040	6.0	21	25	17	7.0
20	3.2	1.5	.05	3.2	3.4	.30	7,940	15	176	187	12	7.0
21	2.6	1.2	.20	4.0	3.6	.20	2,520	21	189	117	15	7.0
22	2.6	1.2	.20	5.4	2.6	.10	288	46	52	30	16	7.0
23	2.0	.98	.23	7.0	2.0	0	86	279	30	22	9.6	7.0
24	1.4	.90	.23	7.4	1.7	0	36	30	18	19	12	6.5
25	1.4	.76	.17	8.2	.90	0	18	9.2	16	17	10	6.0
26	1.5	.69	0	9.6	1.8	0	10	389	12	13	16	6.0
27	1.6	.56	0	13	4.6	0	8.2	402	11	12	12	6.0
28	1.8	.56	.08	12	2.4	0	7.0	6,950	11	10	9.2	6.0
29	2.6	.50	.20	11	1.6	0	5.1	2,880	11	8.2	8.7	6.0
30	2.6	-----	.27	10	45	0	4.6	220	10	7.0	7.4	6.0
31	2.4	-----	.31	-----	21	-----	4.2	112	-----	6.7	-----	6.0
TOTAL	93.4	58.25	4.88	106.12	243.60	27.35	14,729.3	12,019.6	5,727	736.1	269.2	196.2
MEAN	3.01	2.01	.16	3.54	7.86	.91	475	388	191	23.7	8.97	6.33
MAX	4.8	3.2	.45	13	45	8.2	7,940	6,950	2,210	187	17	7.0
MIN	1.4	.50	0	0	.90	0	0	3.6	10	6.7	5.4	6.0
AC-FT	185	116	9.7	210	483	54	29,220	23,840	11,360	1,460	534	389

CAL YR 1972 TOTAL 34,211.00 MEAN 93.6 MAX 7,940 MIN 0 AC-FT 67,860  
 WTR YR 1972 TOTAL 34,689.10 MEAN 94.8 MAX 7,940 MIN 0 AC-FT 68,810

## PEAK DISCHARGE (BASE, 3,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-20	1900	12.72	21,200	9- 9	0500	6.78	5,260
8-28	1300	10.27	13,600				



07227200 Tramperos Creek near Stead, N. Mex.

LOCATION.--Lat 36°04'15", long 103°12'10", in NW¼ sec. 10, T.21 N., R.35 E., Union County, at downstream end of bridge pier on State Highway 18, 2.1 miles south of Stead, and 26 miles south of Clayton.

DRAINAGE AREA.--556 sq mi, approximately.

PERIOD OF RECORD.--October 1964 to May 1966 (annual maximum only), June 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,481.19 ft above mean sea level. Prior to Feb. 6, 1969, at site 90 ft upstream at datum 1.61 ft lower.

AVERAGE DISCHARGE.--6 calendar years, 5.01 cfs (3,630 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,190 cfs July 17 (gage height, 12.75 ft), from rating curve extended above 14 cfs on basis of slope-area measurements at gage heights 12.4 and 14.9 ft; no flow most of time.

Period of record: Maximum discharge, 12,300 cfs Oct. 17, 1965 (gage height, 14.9 ft, from floodmark, present datum), by slope-area measurement; no flow most of time.

A flood in 1904 reached a stage of about 27.4 ft (discharge, about 45,500 cfs) with only a single span bridge and a flood in 1937 reached a stage of about 20.4 ft (discharge, about 31,600 cfs), from information by State Highway Department.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

CAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					0		0	42	1.3	1.4	.27	2.0
2					0		0	47	1.6	1.1	.61	1.4
3					0		0	26	1.1	.80	.46	1.6
4					0		0	20	.80	.80	.40	1.7
5					0		0	21	.40	.70	.33	1.3
6					0		0	16	.27	.53	.27	1.4
7					0		0	12	.07	.53	.27	1.4
8					0		0	4.6	.07	.46	.21	1.3
9					0		0	1.7	33	.46	.33	1.2
10					1.1		0	1.3	64	.27	.33	1.2
11					26		0	.90	29	.16	.21	1.0
12					2.7		0	.90	20	.11	.27	1.1
13					.05		0	.70	12	.11	.46	1.0
14					0		0	.53	50	.07	.40	1.0
15					0		0	.40	48	.04	.46	1.0
16					0		2.0	.11	29	.02	.40	.90
17					0		1,200	.27	26	0	.53	.90
18					0		128	.11	28	0	1.0	.90
19					0		66	.07	28	.07	1.1	1.0
20					0		40	.04	38	1.6	.80	1.1
21					0		95	0	38	1.4	.61	.80
22					0		212	0	22	1.0	.70	1.1
23					0		158	0	14	.90	.80	1.0
24					0		89	0	12	.90	.90	.61
25					0		61	0	9.4	.80	1.1	.61
26					0		46	0	6.7	.61	1.6	.40
27					0		41	.32	5.1	.53	1.4	.53
28					.03		37	5.1	5.9	.40	1.4	.70
29					7.6		35	2.4	2.5	.27	1.4	.70
30					0		35	1.4	1.7	.16	1.7	.33
31					0		32	1.3		.11		.53
TOTAL	0	0	0	0	37.48	0	2,277.0	206.15	547.91	16.31	20.72	31.71
MEAN	0	0	0	0	1.21	0	73.5	6.65	18.3	.53	.69	1.02
MAX	0	0	0	0	26	0	1,200	47	84	1.6	1.7	2.0
MIN	0	0	0	0	0	0	0	0	.07	0	.21	.33
AC-FT	0	0	0	0	74	0	4,520	409	1,090	32	41	63
CAL YR 1972	TOTAL 3,137.28			MEAN 8.57	MAX 1,200	MIN 0	AC-FT 6,220					
WTR YR 1972	TOTAL 3,068.54			MEAN 8.38	MAX 1,200	MIN 0	AC-FT 6,090					

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G. H.	DISCHARGE
7-17	0500	12.75	7,190

## WESTERN GULF OF MEXICO BASINS

## RIO GRANDE BASIN

08251500 Rio Grande near Lobatos, Colo.

LOCATION.--Lat 37°04'42", long 105°45'22", in sec.22, T.33 N., R.11 E., Conejos County, 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.)

PERIOD OF RECORD.--June 1889 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as "at Cenicerio" 1899-1901, and as "near Cenicerio" 1902-4.

GAGE.--Water-stage recorder. Datum of gage is 7,427.63 ft above mean sea level. Prior to Nov. 8, 1910, non-recording gages at same site and datum.

AVERAGE DISCHARGE.--73 calendar years, 594 cfs (430,400 acre-ft per year); 20 calendar years (1953-72), 302 cfs (218,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 856 cfs Mar. 16 (gage height, 2.41 ft); minimum daily, 21 cfs July 24.

Period of record: 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 since at least 1828, that of June 8, 1905.

REMARKS.--Records good except those for winter periods, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 210: Drainage area. WSP 1312: 1907 (monthly runoff).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	345	295	556	254	82	105	44	46	136	98	390	325
2	325	280	526	254	92	108	48	46	145	90	430	345
3	285	270	574	220	62	110	50	43	151	85	514	340
4	235	265	532	202	56	112	48	41	148	85	664	345
5	250	260	538	181	56	120	50	44	151	85	720	370
6	275	255	556	160	58	125	46	44	157	80	744	320
7	250	255	574	145	62	125	44	53	157	85	622	310
8	240	260	615	148	67	139	44	60	154	120	574	300
9	250	265	629	167	69	154	43	55	157	188	562	280
10	260	270	643	178	69	130	53	85	145	184	520	285
11	275	280	664	174	62	115	48	108	136	206	508	330
12	280	285	706	164	58	115	38	116	142	188	508	320
13	290	285	752	154	55	120	36	120	139	174	484	290
14	290	285	792	154	58	120	33	115	145	125	490	290
15	290	295	824	178	60	122	29	110	148	95	490	295
16	280	300	840	151	60	125	31	108	145	82	472	290
17	270	310	800	145	62	139	31	110	142	67	450	280
18	275	315	728	164	58	142	27	112	145	67	420	260
19	275	325	615	157	58	122	27	118	148	125	455	265
20	270	340	455	142	65	110	24	120	151	118	508	270
21	275	360	375	130	62	100	23	122	139	90	466	280
22	280	400	325	120	67	92	21	130	133	178	445	300
23	285	440	282	115	71	90	23	139	130	216	320	305
24	280	470	262	105	78	82	21	125	115	184	280	310
25	285	490	250	120	85	73	27	112	108	202	300	310
26	300	500	250	130	90	67	40	118	112	345	350	310
27	310	510	230	128	90	65	40	125	118	430	390	300
28	305	514	216	110	88	58	48	128	120	435	360	300
29	305	520	195	95	82	55	73	133	118	400	310	290
30	310	-----	184	88	92	50	95	139	110	385	295	290
31	295	-----	181	-----	102	-----	60	139	-----	375	-----	290
TOTAL	8,740	9,899	15,669	4,633	2,176	3,190	1,265	3,066	4,145	5,587	14,041	9,395
MEAN	282	341	505	154	70.2	106	40.8	98.9	138	180	468	303
MAX	345	520	840	254	102	154	95	139	157	435	744	370
MIN	235	255	181	88	55	50	21	41	108	67	280	260
AC-FY	17,340	19,630	31,080	9,190	4,320	6,330	2,510	6,080	8,220	11,080	27,850	18,630
WTR YR 1972	TOTAL 86,977		MEAN 238	MAX 840	MIN 21	AC-FY 172,500						
CAL YR 1972	TOTAL 81,806		MEAN 224	MAX 840	MIN 21	AC-FY 162,300						

LOCATION.--Lat 37°00'03", long 105°43'19", Costilla County, in Sangre de Cristo Grant, on left bank 0.6 mile upstream from Colorado-New Mexico State line, 1.7 miles upstream from Costilla Creek, and 5.5 miles west of Jaroso.

PERIOD OF RECORD.--October 1953 to current year.

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

AVERAGE DISCHARGE.--19 calendar years, 307 cfs (222,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 835 cfs Mar. 16 (gage height, 3.65 ft); minimum daily, 22 cfs July 23.

Period of record: 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 periods, which are fair. Natural flow of stream affected by transmountain diversions, storage reservoirs, ground-water withdrawals and diversions for irrigation, and return flow from irrigated areas.

REVISIONS (WATER YEARS).--WSP 1732: 1954(M).

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	350	290	591	228	72	103	44	47	132	99	381	315
2	325	280	567	252	86	106	42	46	143	88	435	335
3	290	270	579	225	64	110	47	47	146	86	494	340
4	240	265	551	198	52	110	47	42	146	82	635	340
5	240	260	555	183	52	125	46	44	146	82	680	350
6	265	255	571	155	54	128	46	46	149	82	725	325
7	250	250	591	138	55	128	42	46	155	82	640	310
8	240	255	619	138	57	132	42	57	149	95	575	300
9	245	266	623	157	59	155	41	57	155	180	571	280
10	255	265	640	169	57	143	44	63	143	180	535	285
11	265	270	662	163	57	115	44	95	130	204	515	310
12	275	280	698	146	55	112	36	106	132	195	519	300
13	285	280	738	138	54	115	33	110	130	186	501	285
14	285	280	770	143	59	118	30	108	135	143	490	290
15	290	290	810	180	61	115	29	106	143	103	480	290
16	280	295	820	157	61	122	28	101	141	90	456	290
17	270	305	775	130	61	128	29	103	135	76	438	280
18	270	310	716	155	59	138	28	108	138	68	442	270
19	270	315	619	155	59	122	27	108	141	103	466	260
20	270	330	459	141	59	108	25	115	152	122	504	265
21	275	350	378	130	61	97	24	118	141	90	445	275
22	280	385	324	112	63	90	23	125	132	143	442	290
23	280	410	274	108	76	84	22	132	132	228	330	300
24	280	450	255	101	76	80	23	122	115	189	261	305
25	285	475	231	97	82	72	23	110	103	186	295	305
26	290	490	216	125	92	68	38	110	108	317	317	305
27	300	505	210	128	92	63	36	118	110	428	394	300
28	300	510	201	115	90	61	42	120	115	445	378	295
29	300	515	183	90	86	54	54	125	118	408	327	290
30	305	-----	175	78	88	50	80	130	110	394	300	285
31	295	-----	172	-----	101	-----	70	135	-----	391	-----	285
TOTAL	8,650	9,695	15,573	4,435	2,100	3,152	1,185	2,900	4,025	5,565	1,3971	9,255
MEAN	279	334	502	148	67.7	105	38.2	93.5	134	180	466	299
MAX	350	515	820	252	101	155	80	135	155	445	725	350
MIN	240	250	172	78	52	50	22	42	103	68	261	260
AC-FT	17,160	19,230	30,890	8,800	4,170	6,250	2,350	5,750	7,980	11,040	27,710	14,300
WTR YR 1972	TOTAL 85,61C											
CAL YR 1972	TOTAL 80,506											

## RIO GRANDE BASIN

08252500 Costilla Creek above Costilla Dam, N. Mex.

LOCATION.--Lat 36°53'52", long 105°15'16", Taos County, in Sangre de Cristo Grant, on left bank 1,900 ft upstream from normal high-water line of Costilla Reservoir, 2.1 miles northeast of Costilla Dam, and 16 miles southeast of Costilla.

DRAINAGE AREA.--25.1 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Prior to October 1951, published as "above reservoir, near Costilla."

GAGE.--Water-stage recorder. Concrete control since Sept. 17, 1965. Altitude of gage is 9,429 ft (from topographic map). See WSP 1923 for history of changes prior to Sept. 17, 1965.

EXTREMES.--Current year: Maximum discharge, 12 cfs May 7 (gage height, 2.14 ft); minimum not determined.

Period of record: Maximum discharge, 3,870 cfs July 22, 1954 (gage height, 6.3 ft, from floodmarks, present site and datum), on basis of slope-area measurement of peak flow; minimum not determined.

The flood in 1954 destroyed the gaging station and is highest known since about 1909, from information by local range rider. A portion of this flow may have originated in Casias Creek basin (see REMARKS).

REMARKS.--Records good. Natural flow may be augmented by transbasin diversions or irrigation returns from about 1,300 acres irrigated from Casias Creek (see sta 08253000).

REVISIONS (WATER YEARS).--WSP 878: 1937. WSP 1923: 1937-50, drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	5.3	7.4	3.1	3.1	3.7	2.0		
2				-	5.8	7.2	3.1	2.6	2.8	2.0		
3				-	5.6	7.4	3.5	3.4	2.5	1.9		
4				-	6.5	7.2	3.8	4.5	3.1	2.0		
5				-	7.2	7.0	3.4	3.4	2.3	-		
6				-	8.4	6.0	2.9	2.5	3.1	-		
7				-	9.5	5.4	2.5	2.6	3.7	-		
8				-	8.9	5.4	2.4	2.5	2.4	-		
9				-	7.9	5.2	2.5	3.7	2.6	-		
10				-	7.2	5.1	3.2	3.2	2.6	-		
11				-	6.5	5.8	2.2	2.5	2.3	-		
12				-	6.0	6.3	2.1	2.3	2.4	-		
13				-	6.3	7.0	2.2	2.2	2.2	-		
14				-	5.8	5.1	1.9	2.3	2.5	-		
15				-	5.8	4.9	2.0	2.6	2.6	-		
16				-	6.3	5.8	2.5	4.0	2.2	-		
17				-	6.5	5.1	2.3	3.1	1.9	-		
18				-	6.5	3.7	2.3	5.0	1.9	-		
19				-	7.2	3.1	2.0	3.9	2.0	-		
20				-	7.2	2.9	2.5	2.6	3.5	-		
21				-	7.6	2.9	3.1	2.5	2.4	-		
22				-	7.6	3.5	2.2	2.4	2.2	-		
23				-	7.2	4.1	2.2	2.3	2.1	-		
24				-	7.2	3.2	2.5	2.0	2.0	-		
25				-	7.0	2.4	2.6	2.9	1.9	-		
26				-	6.7	2.3	3.4	3.7	1.9	-		
27				-	6.5	2.3	3.1	4.6	2.0	-		
28				-	7.0	2.4	2.1	5.5	2.0	-		
29				-	6.7	7.6	2.6	3.4	2.0	-		
30		-----		-	5.8	8.9	2.9	1.9	2.8	2.0	-	
31		-----		-	8.4	-----	1.8	3.2	-----	-	-----	
TOTAL	-	-	-	-	217.6	141.6	79.3	97.3	72.8	-	-	-
MEAN	-	-	-	-	7.02	4.72	2.56	3.14	2.43	-	-	-
MAX	-	-	-	-	9.5	7.4	3.8	5.5	3.7	-	-	-
MIN	-	-	-	-	5.3	2.3	1.8	2.0	1.9	-	-	-
AC-FT	-	-	-	-	432	281	157	193	144	-	-	-

PEAK DISCHARGE (BASE, 40 CFS).--No peak above base.

08253000 Casias Creek near Costilla, N. Mex.

LOCATION.--Lat 36°53'48", long 105°15'35", Taos County, in Sangre de Cristo Grant, on left bank 200 ft downstream from road crossing, 900 ft upstream from normal high-water line of Costilla Reservoir, 1.8 miles northeast of Costilla Dam, and 16 miles southeast of Costilla.

DRAINAGE AREA.--16.6 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732. Figures of daily discharge for Nov. 1-7, 1947 and Nov. 1-16, 1948, published in WSP 1118 and 1148, respectively, are unreliable and should not be used.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 9,404 ft (from topographic map). Prior to July 18, 1940, water-stage recorder and wooden control 100 ft downstream at datum 1.56 ft lower.

EXTREMES.--Current year: Maximum discharge, 15 cfs June 13 (gage height, 0.83 ft); minimum not determined.  
Period of record: Maximum discharge, 181 cfs July 20, 1971 (gage height, 2.07 ft), from rating curve extended above 63 cfs; minimum not determined.

REMARKS.--Records good. Diversion 3.5 miles upstream for irrigation of about 1,300 acres, part of which is in Costilla Creek basin.

REVISIONS (WATER YEARS).--WSP 1282: 1948-51. WSP 1923: Drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	6.1	8.8	5.0	3.4	5.8	3.4		
2				-	5.8	8.8	4.7	3.7	4.5	3.4		
3				-	6.1	10	4.7	4.0	4.2	3.2		
4				-	5.0	9.8	5.4	4.5	4.5	3.4		
5				-	4.5	9.8	5.0	4.0	4.0	-		
6				-	5.4	9.8	4.5	3.2	5.7	-		
7				-	6.9	9.8	4.5	3.4	5.8	-		
8				-	5.8	9.8	4.7	3.4	4.5	-		
9				-	5.0	9.3	4.7	4.0	5.0	-		
10				-	4.5	8.8	6.1	3.4	5.0	-		
11				-	4.5	9.3	4.2	3.2	4.2	-		
12				-	4.2	10	4.2	2.4	4.5	-		
13				-	4.2	11	4.0	2.2	4.2	-		
14				-	4.2	8.8	3.7	2.4	4.5	-		
15				-	4.2	8.8	4.0	2.7	4.5	-		
16				-	4.5	8.8	4.0	3.4	4.0	-		
17				-	4.5	8.4	3.7	3.2	4.0	-		
18				-	4.7	7.7	3.7	4.0	4.0	-		
19				5.0	5.4	6.9	3.4	3.4	4.2	-		
20				4.7	5.4	6.9	4.0	2.7	5.0	-		
21				5.0	5.8	6.5	4.2	2.2	4.2	-		
22				5.0	6.1	6.5	3.2	2.2	4.2	-		
23				5.0	6.1	6.9	3.4	2.4	4.0	-		
24				5.0	6.1	6.1	4.0	2.0	4.0	-		
25				5.4	6.5	5.8	4.5	3.0	3.7	-		
26				5.4	6.9	5.8	4.7	3.2	3.7	-		
27				5.8	6.9	5.4	4.5	3.8	3.7	-		
28				5.8	7.3	4.7	3.4	5.0	3.7	-		
29				5.8	8.8	4.7	3.2	4.7	3.4	-		
30				6.1	10	5.0	3.2	4.2	3.4	-		
31				-----	9.8	-----	2.9	5.0	-----	-	-----	
TOTAL	-	-	-	-	181.2	238.7	129.4	104.3	130.1	-	-	-
MEAN	-	-	-	-	5.85	7.96	4.17	3.36	4.34	-	-	-
MAX	-	-	-	-	10	11	6.1	5.0	5.8	-	-	-
MIN	-	-	-	-	4.2	4.7	2.9	2.0	3.4	-	-	-
AC-FT	-	-	-	-	359	473	257	207	258	-	-	-

PEAK DISCHARGE (BASE, 35 CFS).--No peak above base.

## RIO GRANDE BASIN

08253500 Santistevan Creek near Costilla, N. Mex.

LOCATION.--Lat 36°53'03", long 105°16'50", Taos County, in Sangre de Cristo Grant, on left bank 200 ft upstream from road crossing, 1,300 ft upstream from normal high-water line of Costilla Reservoir, 0.6 mile north of Costilla Dam, and 16 miles southeast of Costilla.

DRAINAGE AREA.--2.15 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1312 and 1732.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 9,487 ft (from topographic map). Prior to June 27, 1940, water-stage recorder and wooden control at datum 0.99 ft lower.

EXTREMES.--Current year: Maximum discharge, 3.0 cfs July 27 (gage height, 0.46 ft); minimum not determined.  
Period of record: Maximum discharge, 18 cfs Aug. 11, 1941, July 12, 1957; maximum gage height 1.73 ft Aug. 11, 1941; minimum not determined.

REMARKS.--Records fair. No diversions above or below station.

REVISIONS.--WSP 1923: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1					.93	2.4	1.7	1.1	1.0	.55		
2					1.0	2.4	1.6	1.1	.79	.55		
3					1.1	2.4	1.6	1.2	.79	.55		
4					1.1	2.4	1.7	1.1	.79	.55		
5					1.2	2.4	1.6	1.1	.73	-		
6					1.3	2.4	1.4	1.0	1.2	-		
7					1.4	2.4	1.4	1.0	1.0	-		
8					1.4	2.4	1.4	1.0	.79	-		
9					1.3	2.4	1.3	.93	.93	-		
10					1.3	2.4	1.7	.86	.93	-		
11					1.3	2.4	1.4	.79	.86	-		
12					1.3	2.5	1.4	.73	.86	-		
13					1.3	2.4	1.3	.73	.79	-		
14					1.3	2.4	1.3	.73	.79	-		
15					1.4	2.4	1.2	.73	.79	-		
16					1.4	2.4	1.2	.79	.73	-		
17					1.4	2.3	1.1	.93	.73	-		
18					1.4	2.1	1.1	1.1	.73	-		
19					1.6	2.0	1.1	1.0	.79	-		
20					1.6	2.0	1.1	.93	.79	-		
21					1.7	1.9	1.1	.93	.73	-		
22					1.9	1.9	1.1	.86	.73	-		
23					1.9	1.9	1.1	.86	.73	-		
24					1.9	1.9	1.3	.79	.73	-		
25					1.9	1.9	1.2	1.1	.67	-		
26					2.1	1.8	1.4	1.1	.67	-		
27					2.1	1.7	1.5	1.1	.67	-		
28					2.2	1.7	1.1	1.1	.61	-		
29					2.3	1.6	1.1	.93	.61	-		
30		-----			2.5	1.8	1.1	.93	.61	-		
31		-----		-----	2.4	-----	1.1	1.0	-----	-	-----	
TOTAL	-	-	-	-	48.93	65.2	40.7	29.55	23.57	-	-	-
MEAN	-	-	-	-	1.58	2.17	1.31	.95	.79	-	-	-
MAX	-	-	-	-	2.5	2.5	1.7	1.2	1.2	-	-	-
MIN	-	-	-	-	.93	1.7	1.1	.73	.61	-	-	-
AC-FT	-	-	-	-	97	129	81	59	47	-	-	-

PEAK DISCHARGE (BASE, 6.0 CFS).--No peak above base.

08253900 Costilla Reservoir near Costilla, N. Mex.

LOCATION.--Lat 36°52'32", long 105°16'45", Taos County, in Sangre de Cristo Grant, on face of Costilla Dam on Costilla Creek, and 16 miles southeast of Costilla.

DRAINAGE AREA.--54.6 sq mi.

PERIOD OF RECORD.--May 1922 to September 1965 (monthend contents only), October 1965 to current year. Records prior to October 1960 published in WSP 1732. Prior to October 1966, published as Costilla Lake near Costilla.

GAGE.--Inclined staff gage painted on base of railroad rail on left side of control tower of Dam. Altitude of gage is ~107 ft (from topographic map).

EXTREMES.--Current year: Maximum contents observed, 4,960 acre-ft May 15 (gage height, 9,478.6 ft); no contents Aug. 22 to Sept. 24. Period of record: Maximum contents observed, 15,130 acre-ft June 13, 1938, June 20-23, 1941 (gage height, 9,511.5 ft); no contents October 1925 to February 1926, September 1956, Aug. 22 to Sept. 24, 1972.

REMARKS.--Reservoir is formed by earthfill dam faced with broken stone. Storage began in 1920. Capacity 15,740 acre-ft between gage heights 9,405.0 ft (sill of outlet) and 9,513.0 ft (crest of ungated spillway cut in natural rock). By order of New Mexico State Engineer storage is limited to 14,540 acre-ft maximum, and 10,880 acre-ft for not to exceed 60 days. Diversions for irrigation of about 1,300 acres above Reservoir.

COOPERATION.--Gage readings collected in cooperation with New Mexico Interstate Stream Commission.

REVISIONS.--WSP 1923: Drainage area.

Capacity table (gage height, in feet, and contents, in acre-feet)  
(Based on original survey, furnished by New Mexico Interstate Stream Commission)

9,405	0	9,430	270	9,460	1,760
9,410	6	9,440	556	9,470	3,260
9,415	34	9,450	959	9,480	5,270
9,420	86				

## CONTENTS, IN ACRE-FEET, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	-	-	-	-	-	3,630	-	532	-	-	-	-
2	-	-	-	-	-	3,520	-	500	-	-	-	-
3	-	-	-	-	-	-	1,500	444	-	-	-	-
4	-	-	-	-	4,660	-	1,440	386	-	188	-	-
5	-	-	-	-	-	3,440	1,410	-	-	-	-	-
6	-	-	-	-	-	3,370	1,350	-	0	-	-	-
7	-	-	-	-	-	3,300	1,320	364	-	-	-	-
8	-	-	-	-	-	3,240	-	294	-	-	-	-
9	-	-	3,440	-	-	3,170	-	247	-	-	-	-
10	-	-	-	-	-	-	1,270	190	-	-	-	-
11	-	-	-	-	-	-	1,200	136	-	-	-	-
12	-	-	-	-	-	3,090	1,150	-	-	-	-	-
13	-	-	-	-	-	2,980	1,100	-	-	-	-	-
14	-	-	-	-	-	2,850	1,040	100	-	-	-	-
15	-	-	-	-	4,960	2,720	-	74	-	-	-	-
16	-	-	-	-	4,870	2,600	-	55	-	-	-	-
17	-	-	-	-	4,830	-	1,010	45	-	-	-	-
18	-	-	-	-	4,740	-	949	18	-	-	-	-
19	-	-	-	4,350	4,680	2,510	887	-	-	-	-	-
20	-	-	-	-	-	2,390	829	-	-	-	-	-
21	-	-	-	-	-	2,270	791	10	0	-	-	-
22	-	-	-	-	4,580	2,160	-	0	-	-	-	-
23	-	-	-	-	4,450	2,070	-	0	-	-	-	-
24	-	-	-	-	4,330	-	758	0	0	-	-	-
25	-	-	-	-	4,230	-	734	-	10	-	-	-
26	-	-	-	-	4,110	1,980	710	-	-	-	-	-
27	-	-	-	-	-	1,870	687	-	-	-	-	-
28	-	-	-	-	-	1,760	661	-	-	-	-	-
29	-	3,250	-	-	4,010	1,640	-	-	-	-	-	-
30	-	-----	-	4,600	3,890	1,520	-	-	100	-	1,200	-
31	2,850	-----	3,900	-----	3,760	-----	600	0	-----	700	-----	1,600
(+)	-	-	-	-	9,472.7	9,457.8	9,441.3	-	-	-	-	-
(#)	+350	+400	+650	+700	-840	-2,240	-920	-600	+100	+600	+500	+400

CAL YR 1972..... # -900

WTR YR 1972..... # -510

+ Gage height, in feet, at end of month.

# Change in contents, in acre-feet.

NOTE.--Contents interpolated at end of month except May 31, June 30, July 31, Aug. 31.

## RIO GRANDE BASIN

08254000 Costilla Creek below Costilla Dam, N. Mex.

LOCATION.--Lat 36°52'26", long 105°16'47", Taos County, in Sangre de Cristo Grant, on left bank 125 ft downstream from Costilla Dam, and 16 miles southeast of Costilla.

DRAINAGE AREA.--54.6 sq mi.

PERIOD OF RECORD.--April 1937 to current year (no winter records 1937-44, 1947-49). Monthly discharge only for some periods, published in WSP 1312. Prior to October 1951, published as "below reservoir, near Costilla."

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 9,290 ft (from topographic map).

AVERAGE DISCHARGE.--25 calendar years (1945-46, 1950-72), 16.5 cfs (11,950 acre-ft per year); 20 calendar years (1953-72), 16.9 cfs (12,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 86 cfs May 28 (gage height, 1.54 ft); minimum not determined.  
Period of record: Maximum discharge, 286 cfs May 9, 10, 1942 (gage height, 2.65 ft); no flow at times.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Flow regulated by Costilla Reservoir (see sta 08253900). Diversions for irrigation of about 1,300 acres above Reservoir.

REVISIONS.--WSP 1923: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.03	.03	.03	.03	.02	84	9.1	26	11	.01	.01	.01
2	.03	.03	.03	.03	.03	43	14	30	8.3	.01	.01	.01
3	.03	.03	.03	.03	.03	22	32	34	8.7	.01	.01	.01
4	.03	.03	.03	.03	.04	31	32	15	9.8	.01	.01	.01
5	.03	.03	.03	.03	.04	54	32	6.7	8.7	.01	.01	.01
6	.03	.03	.03	.03	.05	53	31	17	11	.01	.01	.01
7	.03	.03	.03	.03	.05	50	17	34	13	.01	.01	.01
8	.03	.03	.03	.03	.03	50	9.1	33	9.5	.01	.01	.01
9	.03	.03	.03	.03	.02	32	16	33	10	.01	.01	.01
10	.03	.03	.03	.03	.02	22	36	34	10	.01	.01	.01
11	.03	.03	.03	.03	.02	35	37	17	9.5	.01	.01	.01
12	.03	.03	.03	.03	.02	76	36	11	9.8	.01	.01	.01
13	.03	.03	.03	.03	.02	76	32	15	9.5	.01	.01	.01
14	.03	.03	.03	.03	.02	76	16	19	9.8	.01	.01	.01
15	.03	.03	.03	.03	13	76	7.6	19	10	.01	.01	.01
16	.03	.03	.03	.03	52	39	15	18	8.7	.01	.01	.01
17	.03	.03	.03	.03	52	20	33	19	7.9	.01	.01	.01
18	.03	.03	.03	.03	52	32	30	12	7.6	.01	.01	.01
19	.03	.03	.03	.03	30	69	27	7.9	8.3	.01	.01	.01
20	.03	.03	.03	.03	15	68	26	15	11	.01	.01	.01
21	.03	.03	.03	.03	34	64	13	19	8.3	.01	.01	.01
22	.03	.03	.03	.02	79	60	7.6	7.3	8.3	.01	.01	.01
23	.03	.03	.03	.02	74	30	12	6.7	7.9	.01	.01	.01
24	.03	.03	.03	.02	74	13	21	5.5	4.9	.01	.01	.01
25	.03	.03	.03	.02	74	28	21	9.0	.01	.01	.01	.01
26	.03	.03	.03	.01	42	62	21	9.8	.01	.01	.01	.01
27	.03	.03	.03	.01	18	58	21	9.8	.01	.01	.01	.01
28	.03	.03	.03	.02	32	62	14	14	.01	.01	.01	.01
29	.03	.03	.03	.02	84	62	12	8.3	.01	.01	.01	.01
30	.03	-----	.03	.02	84	27	17	6.7	.01	.01	.01	.01
31	.03	-----	.03	-----	84	-----	26	7.3	-----	.01	-----	.01
TOTAL	.93	.87	.93	.79	893.41	1,471	673.4	519.3	221.56	.31	.30	.31
MEAN	.030	.030	.030	.026	28.8	49.0	21.7	16.7	7.39	.010	.010	.010
MAX	.03	.03	.03	.03	84	84	37	34	13	.01	.01	.01
MIN	.03	.03	.03	.01	.02	13	7.6	5.5	.01	.01	.01	.01
AC-FT	1.8	1.7	1.8	1.6	1,770	2,926	1,340	1,030	439	.6	.6	.6
CAL YR 1972	TOTAL 3,782.81 MEAN 10.3 MAX 84 MIN .01 AC-FT 7,500											
WTR YR 1972	TOTAL 3,785.32 MEAN 10.3 MAX 84 MIN .01 AC-FT 7,510											

NOTE.--No gage-height record Jan. 1 to Apr. 19 and Nov. 16 to Dec. 31.



08254500 Costilla Creek near Amalia, N. Mex.

LOCATION.--Lat 36°52'33", long 105°23'22", Taos County, in Sangre de Cristo Grant, on right bank 40 ft downstream from third bridge upstream from Amalia, 2.4 miles downstream from Larir Creek, 5.8 miles southeast of Amalia, and 10.5 miles southeast of Costilla.

DRAINAGE AREA.--152 sq mi.

PERIOD OF RECORD.--May 1949 to September 1959 and April 1961 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1732.

GAGE.--Water-stage recorder. Concrete control since Sept. 27, 1965. Altitude of gage is 8,521 ft (from topographic map). 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.--Current year: Maximum discharge, 94 cfs May 22 (gage height, 2.24 ft); minimum not determined.

Period of record: Maximum discharge, 689 cfs Apr. 25, 1958 (gage height, 3.70 ft, site and datum then in use); maximum gage height, 3.11 ft July 27, 1966; minimum discharge not determined.

REMARKS.--Records good. Flow regulated by Costilla Reservoir (see sta 08253900) about 10 miles upstream. Diversions for irrigation of about 1,300 acres above Costilla Reservoir.

REVISIONS (WATER YEARS).--WSP 1732: 1956(M). WSP 1923: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	16	87	17	28	18	34		
2				-	17	60	16	30	15	36		
3				-	17	35	35	37	13	36		
4				-	18	36	39	27	15	36		
5				-	19	60	39	13	12	36		
6				-	20	57	37	15	14	-		
7				-	23	57	28	36	19	-		
8				-	20	57	15	36	14	-		
9				-	18	45	16	38	14	-		
10				-	19	32	40	39	15	-		
11				-	18	38	39	27	13	-		
12				-	18	81	38	14	14	-		
13				-	17	83	35	14	12	-		
14				-	17	79	25	20	13	-		
15				-	17	78	12	19	15	-		
16				-	64	54	14	19	12	-		
17				-	65	29	33	20	11	-		
18				-	65	30	32	18	11	-		
19				16	55	67	29	12	11	-		
20				16	33	67	29	12	15	-		
21				16	38	65	23	19	13	-		
22				16	90	62	11	11	12	-		
23				16	86	44	12	9.9	12	-		
24				16	86	22	25	8.6	11	-		
25				18	84	23	26	8.9	5.6	-		
26				17	63	64	26	17	4.3	-		
27				18	33	59	26	14	3.9	-		
28				18	37	65	21	23	3.7	-		
29				18	89	65	15	17	3.7	-		
30				17	90	43	17	15	3.6	-		
31				-----	89	-----	27	15	-----	-	-----	
TOTAL	-	-	-	-	1,341	1,644	797	632.4	348.8	-	-	-
MEAN	-	-	-	-	43.3	54.8	25.7	20.4	11.6	-	-	-
MAX	-	-	-	-	90	87	40	39	19	-	-	-
MIN	-	-	-	-	16	22	11	8.6	3.6	-	-	-
AC-F1	-	-	-	-	2,660	3,260	1,580	1,250	692	-	-	-

08255500 Costilla Creek near Costilla, N. Mex.

LOCATION.--Lat 36°58'01", long 105°30'23", Taos County, in Sangre de Cristo Grant, on right bank 70 ft downstream from bridge on State Highway 196, 0.5 mile upstream from diversion dam, and 1.6 miles southeast of Costilla.

DRAINAGE AREA.--195 sq mi.

PERIOD OF RECORD.--March 1936 to current year (no winter records 1936-43). Monthly discharge for March 1943 and calendar-year estimates for 1942-43, published in WSP 1312.

GAGE.--Water-stage recorder. Concrete control since October 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 0.4 mile upstream at different datum.

AVERAGE DISCHARGE.--31 calendar years (1942-72), 41.4 cfs (29,990 acre-ft per year); 20 calendar years (1953-72), 35.7 cfs (25,860 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 185 cfs Aug. 3 (gage height, 3.42 ft); minimum, 2.0 cfs Mar. 2, result of freezeup. Period of record: Maximum discharge, 1,150 cfs May 11, 1942 (gage height, 5.37 ft, site and datum then in use); minimum, 0.34 cfs Mar. 15, 1969, result of freezeup. A major flood occurred in 1886, from information by local residents.

REMARKS.--Records good except those for February, November, and December, which are fair. Regulation by Costilla Reservoir (see sta 08253900) about 20 miles upstream. Diversions for irrigation of about 2,000 acres above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1312: 1937-39 (M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.0	8.0	15	16	16	89	24	28	20	4.0	6.5	8.5
2	7.0	7.0	12	17	16	76	20	30	17	3.9	6.5	8.5
3	7.0	6.5	15	18	16	39	32	54	15	3.7	8.2	9.5
4	6.2	6.9	16	18	17	36	42	42	14	3.6	7.7	9.0
5	8.6	7.5	17	16	18	60	43	18	13	3.8	8.6	9.0
6	10	9.0	19	17	17	59	39	15	14	4.3	8.3	7.0
7	10	9.0	22	19	20	59	36	33	22	5.7	6.3	8.0
8	10	9.0	21	19	20	59	20	36	16	5.4	8.1	8.5
9	10	9.0	21	20	18	51	19	37	15	4.8	7.6	8.5
10	10	10	23	22	16	34	35	40	16	4.3	6.3	8.5
11	9.7	9.0	25	25	16	32	37	34	15	4.1	7.5	8.0
12	10	7.0	23	28	16	72	37	17	15	4.5	8.0	8.0
13	10	8.0	23	28	15	85	37	15	14	7.1	8.0	7.5
14	9.6	10	22	27	15	79	32	20	17	5.3	7.0	7.5
15	9.2	11	21	22	15	80	18	21	15	5.0	7.0	7.0
16	9.9	10	17	25	45	71	17	20	13	5.4	7.0	7.0
17	10	11	19	24	58	37	30	22	12	5.6	7.5	7.5
18	9.3	11	18	23	64	33	39	24	11	5.4	8.0	8.0
19	9.5	12	19	22	61	60	32	19	10	5.9	7.0	8.0
20	9.4	12	18	20	39	69	32	13	15	7.8	7.0	8.0
21	9.4	14	17	21	36	68	30	20	12	7.0	7.0	8.0
22	9.6	14	18	22	79	65	16	16	13	6.5	6.5	8.5
23	11	14	20	20	79	60	14	12	12	7.7	7.5	8.5
24	9.6	14	19	19	81	31	22	11	12	7.6	8.5	8.6
25	7.6	15	16	19	82	25	28	9.6	8.3	8.3	8.5	8.7
26	9.0	15	18	18	74	58	26	17	5.5	7.9	8.5	8.1
27	11	14	16	19	37	59	27	15	4.9	7.5	9.0	8.6
28	9.1	14	15	19	33	66	24	27	4.3	7.9	7.0	9.0
29	8.6	15	12	18	77	68	17	20	4.2	6.9	7.5	9.0
30	6.9	-----	14	18	89	58	16	18	4.1	8.8	9.0	8.0
31	7.0	-----	14	-----	89	-----	24	15	-----	7.2	-----	7.0
TOTAL	282.2	311.9	565	619	1,274	1,738	865	718.6	379.3	182.9	227.1	253.5
MEAN	9.10	10.8	18.2	20.6	41.1	57.9	27.9	23.2	12.6	5.90	7.57	8.18
MAX	11	15	25	28	89	89	43	54	22	8.8	9.0	9.5
MIN	6.2	6.5	12	16	15	25	14	9.6	4.1	3.6	6.3	7.0
AC-FT	560	619	1,120	1,230	2,530	3,450	1,720	1,430	752	363	450	503

CAL YR 1972 TOTAL 7,416.5 MEAN 25.3 MAX 89 MIN 3.6 AC-FT 14,710  
WTR YR 1972 TOTAL 7,728.2 MEAN 21.1 MAX 89 MIN 4.1 AC-FT 15,330

PEAK DISCHARGE (BASE, 175 CFS)

DATE TIME G. H. DISCHARGE

8- 3 1915 3.42 185

08260500 Costilla Creek below diversion dam, at Costilla, N. Mex.

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

DRAINAGE AREA.--197 sq mi.

PERIOD OF RECORD.--April 1952 to current year (no winter records).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,861 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 138 cfs Aug. 3 (gage height, 2.65 ft); minimum not determined.

Period of record: Maximum discharge, 525 cfs July 22, 1954 (gage height, 4.03 ft); maximum gage height, 5.05 ft July 24, 1957 (backwater from debris); no flow Oct. 14, 1963.

A major flood 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 sta 08255500).

REMARKS.--Records good. Flow partly regulated by Costilla Reservoir (see sta 08253900) about 21 miles upstream, 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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	.13	.76	.44	.69	.80	.03		
2				-	.11	3.7	.39	.69	.73	.03		
3				-	.10	2.9	.63	14	.67	.06		
4				-	.10	1.3	.24	7.3	.61	.07		
5				-	.10	2.6	.24	.72	.56	.12		
6				-	.10	.94	.24	.60	.61	-		
7				-	.68	.90	.27	1.1	.80	-		
8				-	.23	.86	.27	.72	.67	-		
9				-	.30	.76	.25	.85	.61	-		
10				-	.28	.64	.67	1.3	.61	-		
11				-	.27	.59	.80	1.1	.51	-		
12				-	.28	1.6	.99	.92	.38	-		
13				-	.24	.57	1.0	1.1	.30	-		
14				-	.24	.49	2.8	1.0	3.0	-		
15				-	.36	.45	2.0	1.0	.51	-		
16				-	.61	2.2	.41	.96	.51	-		
17				-	.56	4.6	.43	.94	.51	-		
18				-	.52	.29	.61	1.4	.34	-		
19				-	9.8	2.1	.33	.92	.10	-		
20				-	14	6.8	.39	.73	.12	-		
21					.19	2.6	.16	.90	.10	-		
22					.21	3.5	.39	.72	.08	-		
23					.26	.63	.71	.53	.08	-		
24					.66	.73	.66	.50	.06	-		
25					1.1	.76	.68	.90	.06	-		
26					1.8	.93	1.4	.74	.04	-		
27					.88	1.2	1.4	1.3	.03	-		
28					.16	.65	3.1	1.0	.03	-		
29					.14	.97	.71	1.8	.03	-		
30		-----			.14	1.8	2.0	3.2	.02	-		
31		-----		-----	2.6	-----	1.8	.61	-----	-	-----	
TOTAL	-	-	-	-	44.78	46.26	25.25	45.64	13.48	-	-	-
MEAN	-	-	-	-	1.44	1.54	.81	1.47	.45	-	-	-
MAX	-	-	-	-	14	6.8	3.2	14	3.0	-	-	-
MIN	-	-	-	-	.08	.16	.19	.45	.02	-	-	-
AC-FT	-	-	-	-	89	92	50	91	27	-	-	-

## RIO GRANDE BASIN

08261000 Costilla Creek at Garcia, Colo.

LOCATION.--Lat 36°59'21", long 105°31'54", Taos County, in Sangre de Cristo Grant, on left bank 0.4 mile downstream from old State Highway 3, 0.5 mile upstream from New Mexico-Colorado State line, and 0.9 mile south of Garcia.

DRAINAGE AREA.--200 sq mi, approximately.

PERIOD OF RECORD.--June 1944 to current year (no winter records).

GAGE.--Water-stage recorder. Concrete control since Oct. 9, 1956. Altitude of gage is 7,758 ft (from topographic map). Prior to Apr. 20, 1950, at site 0.4 mile downstream at different datum.

EXTREMES.--Current year: Maximum discharge, 76 cfs Aug. 3 (gage height, 3.50 ft); no flow for many days.

Period of record: Maximum discharge, 460 cfs July 24, 1957 (gage height, 4.76 ft); no flow for many days most years.

A major flood occurred in 1886, from information by local residents. Flood of May 11, 1942, probably reached a discharge of 1,000 cfs.

REMARKS.--Records poor. Flow partly regulated by Costilla Reservoir (see sta 08253900) about 23 miles upstream. Diversions above station for irrigation of about 5,500 acres, 2,000 of which are below station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

CAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1				-	0	0	0	0	.01	0		
2				-	0	1.9	0	0	0	0		
3				-	0	.48	0	8.9	0	0		
4				-	0	.02	0	7.5	0	-		
5				-	0	.65	0	0	0	-		
6				-	0	0	0	0	0	-		
7				-	0	0	0	.06	.01	-		
8				-	0	0	0	0	0	-		
9				-	0	0	0	0	0	-		
10				-	.03	0	0	0	0	-		
11				-	0	0	0	0	0	-		
12				-	0	.22	0	0	0	-		
13				-	0	0	0	0	0	-		
14				-	0	0	.61	0	1.7	-		
15				-	0	0	.77	0	0	-		
16				-	0	.38	0	0	0	-		
17				0	0	3.3	0	0	0	-		
18				0	0	0	0	.04	0	-		
19				0	5.9	0	0	.23	0	-		
20				0	11	4.6	0	0	0	-		
21				0	.10	0	0	0	0	-		
22				0	1.5	0	0	0	0	-		
23				0	0	0	0	0	0	-		
24				0	0	0	0	0	0	-		
25				0	0	0	0	0	.03	-		
26				0	0	.18	0	.15	0	-		
27				.01	0	0	0	.19	0	-		
28				0	0	.81	0	.35	0	-		
29				0	0	0	0	.05	0	-		
30		-----		0	0	.81	0	0	0	-		
31		-----		-----	0	-----	0	0	-----	-	-----	
TOTAL	-	-	-	-	18.53	13.35	1.38	17.47	1.75	-	-	-
MEAN	-	-	-	-	.60	.45	.045	.56	.058	-	-	-
MAX	-	-	-	-	11	4.6	.77	8.9	1.7	-	-	-
MIN	-	-	-	-	0	0	0	0	0	-	-	-
AC-FT	-	-	-	-	37	26	2.7	35	3.5	-	-	-

Records of discharge are collected at 8 gaging stations on 3 diversions from Costilla Creek. Each of these stations is equipped with a water-stage recorder 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 season only except for sta 08262000.

08256500 MESA DITCH NEAR GARCIA, COLO.--Lat 36°59'50", long 105°30'49", Costilla County, 429 ft north of milepost No. 136 + 54 on New Mexico-Colorado State line. Period of record, June 1944 to September 1965, May 1969 to current year. Ditch diverts from right bank of Acequia Madre for irrigation in Colorado.

08258000 CERRO CANAL AT COSTILLA, N. MEX.--Lat 36°57'56", long 105°31'07", Taos County, 1,400 ft downstream from diversion dam.  
Period of record, April 1944 to current year. Canal diverts from left bank of Costilla Creek.

08259000 CERRO CANAL NEAR JAROSO, COLO.--Lat 36°59'41", long 105°34'36", Taos County, 800 ft upstream from head of N. Mex. branch Cerro Canal. Period of record, June 1944 to September 1972 (discontinued). Flow measured is delivered to Colorado and to New Mexico branch Cerro Canal.

08259500 NEW MEXICO BRANCH CERRO CANAL NEAR JAROSO, COLO.--Lat 36°59'43", long 105°34'47", Taos County, 225 ft downstream from headgate. Period of record, June 1944 to current year. Canal diverts from left bank of Cerro Canal for irrigation in New Mexico.

08262000 EASTDALE NO. 1 INTAKE CANAL NEAR JAROSO, COLO.--Lat 37°02'25", long 105°36'15", Costilla County, 750 ft downstream from headgate. Period of record, June 1944 to current year. Canal diverts from right bank of Costilla Creek to Eastdale Reservoir No. 1 for irrigation in Colorado.

	Acequia Madre	Mesa ditch	Cordillera ditch	Cerro Canal at Costilla	Cerro Canal below Association ditch	Cerro Canal near Jaroso	New Mexico branch Cerro Canal	Eastdale No. 1 intake canal
January . . . . .	-	"	"	-	-	-	-	0
February . . . . .	-	"	"	-	-	-	-	0
March . . . . .	-	"	"	-	-	-	-	496
April . . . . .	-	"	"	-	-	-	-	741
May . . . . .	549	0	7.4	1,930	674	604	176	0
June . . . . .	713	0	4.9	2,630	869	855	143	0
July . . . . .	481	0	7.7	1,090	523	521	22	0
August . . . . .	345	0	3.5	943	604	546	3.2	2.8
September . . . . .	321	0	15	388	236	215	3.2	22
WTR YR 1972 . . . . .	-	-	"	-	-	-	-	1,320
October . . . . .	-	-	"	-	-	-	-	0
November . . . . .	-	-	"	-	-	-	-	0
December . . . . .	-	-	"	-	-	-	-	0
CAL YR 1972 . . . . .	-	-	"	-	-	-	-	1,260

## RIO GRANDE BASIN

08263500 Rio Grande near Cerro, N. Mex.

LOCATION.--Lat 36°44'24", long 105°40'59", in NW¼NE¼ sec.20, T.29 N., R.12 E., Taos County, on left bank 4 miles southwest of Cerro, 5.5 miles northwest of Questa, and 7.4 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.).

PERIOD OF RECORD.--May 1948 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,110 ft (from topographic map).

AVERAGE DISCHARGE.--24 calendar years, 363 cfs (263,000 acre-ft per year); 20 calendar years (1953-72), 340 cfs (246,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 905 cfs Mar. 16 (gage height, 5.89 ft); minimum, 64 cfs July 24.

Period of record: Maximum discharge, 9,740 cfs June 22, 1949 (gage height, 15.78 ft); minimum, 43 cfs Sept. 22, 1956.

REMARKS.--Records good. Diversions above station for irrigation of about 620,000 acres in Colorado and 7,000 acres in New Mexico.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	384	319	620	215	124	135	95	113	184	151	410	339
2	362	318	648	285	120	139	87	92	180	142	412	373
3	348	302	610	270	132	142	86	90	189	133	489	375
4	282	300	615	243	118	146	105	92	196	130	624	360
5	241	290	589	229	98	147	126	90	190	126	712	390
6	319	285	610	214	99	153	94	90	191	130	762	367
7	289	284	622	186	116	156	88	91	198	129	760	330
8	267	284	655	176	113	160	87	92	197	128	642	351
9	272	290	678	177	113	165	87	104	197	156	628	307
10	284	299	688	196	113	184	87	101	200	224	602	314
11	300	292	705	202	113	165	88	109	187	221	567	333
12	307	316	730	200	109	150	88	139	179	243	567	349
13	314	318	776	179	105	150	84	150	182	226	567	309
14	312	318	818	175	101	151	79	153	182	218	525	316
15	314	319	857	183	101	151	77	152	187	176	529	326
16	318	331	884	209	104	152	74	144	187	148	513	306
17	302	335	881	183	104	157	71	143	186	137	485	309
18	302	346	806	176	105	164	71	148	182	126	503	290
19	304	346	748	190	104	166	71	151	187	119	497	285
20	302	364	595	186	104	153	70	155	190	164	531	294
21	302	371	467	176	105	142	71	161	190	166	550	306
22	307	397	390	169	107	135	69	162	179	138	475	319
23	318	446	348	157	109	127	67	169	173	226	435	333
24	318	491	309	153	118	124	65	176	170	254	315	339
25	367	523	292	149	117	117	67	169	156	224	280	340
26	323	547	265	144	122	112	69	157	146	251	300	335
27	339	573	262	166	129	106	80	160	151	410	350	331
28	344	585	249	168	129	104	80	170	153	403	375	323
29	326	589	238	151	128	101	86	170	157	471	330	326
30	342	-----	222	133	127	97	98	179	157	441	295	314
31	333	-----	214	-----	127	-----	123	186	-----	433	-----	318
TOTAL	9,682	10,778	17,391	5,640	3,514	4,251	2,590	4,258	5,403	6,724	15,030	10,207
MEAN	312	372	561	188	113	142	83.5	137	180	217	501	329
MAX	384	589	884	285	132	184	126	186	200	403	762	390
MIN	241	284	214	133	98	97	65	90	146	119	280	285
AC-FT	19,200	21,380	34,500	11,190	6,970	8,430	5,140	8,450	10,720	13,340	29,810	20,250

CAL YR 1972 TOTAL 95,468 MEAN 261 MAX 884 MIN 65 AC-FT 189,400

WTR YR 1972 TOTAL 98,688 MEAN 270 MAX 884 MIN 65 AC-FT 195,700

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

08264500 Red River below Zwergle damsite, near Red River, N. Mex.

LOCATION.--Lat 36°40'25", long 105°22'45", in NE¼SW¼ sec.7, T.28 N., R.15 E. (projected), Taos County, in Carson National Forest, on right bank 2,000 ft upstream from Goose Creek, 1.9 miles downstream from Bear Canyon, 2.6 miles southeast of Red River, and at mile 24.1.

DRAINAGE AREA.--25.7 sq mi.

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

GAGE.--Water-stage recorder. Concrete control since July 23, 1963. Datum of gage is 8,871.88 ft above mean sea level (levels by Bureau of Reclamation).

AVERAGE DISCHARGE.--9 calendar years, 16.8 cfs (12,170 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 27 cfs May 30 (gage height, 2.30 ft); maximum gage height, 2.93 ft Jan. 28 (backwater from ice); minimum discharge recorded, 2.0 cfs Feb. 27, but may have been less during period of ice effect.  
Period of record: Maximum discharge, 216 cfs June 19, 1965 (gage height, 3.38 ft); maximum gage height, 3.63 ft Apr. 3, 1970 (backwater from ice); minimum discharge recorded, 0.7 cfs Feb. 8, 1965, but may have been less during periods of ice effect.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.6	5.6	5.1	7.4	11	23	12	6.9	8.6	6.0	4.9	5.1
2	5.5	5.4	5.2	7.4	12	21	11	6.9	8.0	5.8	6.0	5.1
3	5.2	5.2	5.3	7.4	12	20	12	7.7	8.0	5.8	6.2	5.1
4	5.0	5.2	5.6	7.7	13	21	15	7.4	8.0	5.8	6.4	4.9
5	5.2	5.6	6.2	8.3	14	20	14	7.4	7.4	6.2	6.9	4.7
6	5.5	5.8	6.2	8.9	15	21	13	7.4	8.0	6.2	6.7	4.5
7	5.7	5.7	6.4	9.5	15	22	12	7.7	8.9	6.7	6.2	4.8
8	5.8	5.6	6.4	9.8	14	22	11	7.7	8.0	6.4	6.4	5.1
9	6.0	5.7	6.4	10	14	21	12	7.7	8.0	6.2	6.0	4.6
10	6.0	5.8	7.4	11	14	20	12	7.7	7.7	6.0	6.2	4.7
11	6.0	5.5	7.7	12	13	22	10	6.9	7.4	5.8	6.4	4.9
12	6.2	5.2	7.7	12	13	22	10	6.7	7.4	5.8	6.6	4.6
13	6.2	5.4	8.0	12	14	23	10	6.7	7.1	6.0	6.6	4.5
14	6.0	5.5	8.3	11	14	20	9.2	6.4	7.1	6.0	6.0	4.3
15	5.6	5.5	8.3	9.2	14	20	9.2	6.4	6.9	6.2	6.2	4.0
16	6.0	5.4	7.7	10	14	20	9.5	6.7	6.9	6.2	6.0	4.0
17	5.8	5.4	8.0	10	15	20	9.2	7.1	6.7	6.9	6.2	4.1
18	5.8	5.5	8.6	10	16	18	8.9	9.5	6.4	7.1	6.8	4.2
19	5.3	5.5	8.6	10	17	17	8.3	7.7	6.7	8.0	6.0	4.3
20	5.6	5.3	8.3	10	19	16	8.0	7.1	7.7	9.2	5.6	4.5
21	5.3	5.3	8.3	9.2	20	16	8.0	7.1	7.1	8.0	6.0	4.5
22	5.6	5.2	8.6	10	21	15	7.7	6.9	6.9	7.1	5.8	4.6
23	5.6	5.1	9.2	10	21	15	7.7	6.7	6.7	6.9	5.4	4.7
24	5.4	5.0	8.3	11	20	15	8.0	6.4	6.4	6.9	6.0	4.7
25	5.0	4.9	8.3	12	20	14	8.0	6.4	6.4	7.1	6.0	4.7
26	5.5	4.9	8.6	11	20	13	8.6	8.6	6.2	6.9	6.0	4.5
27	6.0	4.7	8.0	10	20	12	8.6	8.3	6.2	6.9	6.5	4.7
28	5.8	4.9	7.1	11	20	12	7.9	13	6.2	6.9	5.5	4.7
29	5.8	5.1	7.5	11	23	12	7.4	10	6.0	6.4	5.3	4.6
30	5.5	-----	7.7	12	26	12	7.3	8.9	6.0	6.9	5.3	4.4
31	5.5	-----	8.0	-----	24	-----	6.9	8.6	-----	6.4	-----	4.3
TOTAL	175.0	154.9	231.0	300.8	518	545	302.4	236.6	215.0	204.7	181.3	142.4
MEAN	5.65	5.34	7.45	10.0	16.7	18.2	9.75	7.63	7.17	6.60	6.04	4.59
MAX	6.2	5.8	9.2	12	26	23	15	13	8.9	9.2	6.9	5.1
MIN	5.0	4.7	5.1	7.4	11	12	6.9	6.4	6.0	5.8	4.9	4.0
AC-FT	347	307	458	597	1,030	1,080	600	469	426	406	360	282

CAL YR 1972 TOTAL 3,207.1 MEAN 8.76 MAX 26 MIN 4.0 AC-FT 6,360

WTR YR 1972 TOTAL 3,476.2 MEAN 9.50 MAX 26 MIN 4.7 AC-FT 6,900

PEAK DISCHARGE (BASE, 65 CFS).--No peak above base.

## RIO GRANDE BASIN

08265000 Red River near Questa, N. Mex.

LOCATION.--Lat 36°42'12", long 105°34'04", in NE¼SE¼ sec.32, T.29 N., R.13 E. (projected), Taos County, in Carson National Forest, on left bank 1.3 miles upstream from Cabresto Creek, 1.5 miles east of Questa, and at mile 9.0.

DRAINAGE AREA.--113 sq mi.

PERIOD OF RECORD.--April to October 1910 and January to September 1911 (gage heights and discharge measurements only), October 1912 to March 1924, May 1924 to September 1925, January to March 1926, September 1926 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as Rio Colorado above Questa 1910-11, 1926-30, and as Rio Colorado near Questa 1912-25, 1930-48.

GAGE.--Water-stage recorder. Wood or concrete control since Mar. 20, 1936. Datum of gage is 7,451.92 ft above mean sea level. See WSP 1923 for history of changes prior to Oct. 4, 1938.

AVERAGE DISCHARGE.--58 calendar years (1913-24, 1927-72), 52.8 cfs (38,250 acre-ft per year); 20 calendar years (1953-72), 36.0 cfs (26,080 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 96 cfs July 24 (gage height, 2.91 ft); minimum, 2.1 cfs Nov. 28, Dec. 6, but may have been less during periods of ice effect.

1930-72: Maximum discharge, 886 cfs May 25, 1942, from rating curve extended above 450 cfs; maximum gage height, 4.10 ft June 19, 1965; minimum discharge, 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 except those for winter periods, which are poor. 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.

Tailings pipelines from Molybdenum Corp. of America (Molycorp) refinery 5.5 miles upstream also bypass gage on left bank and 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 sta 08267000). See tabulation below for monthly discharge through tailings pipelines (records furnished by Molycorp).

REVISIONS (WATER YEARS).--WSP 808: 1935. WSP 1392: 1913, 1932, 1941, 1947-48. WSP 1712: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.0	7.0	6.8	14	21	41	16	12	13	5.5	10	5.0
2	5.6	6.5	7.7	15	23	40	16	10	13	5.5	9.9	5.0
3	5.4	6.0	8.3	13	24	39	16	12	13	5.6	10	5.0
4	5.2	6.5	8.7	12	24	39	25	13	13	5.8	9.9	4.5
5	5.5	7.0	8.7	12	26	38	23	13	13	6.0	11	3.6
6	5.7	8.0	8.8	12	30	38	19	11	15	6.5	11	3.5
7	5.9	7.5	9.9	15	30	37	17	11	15	6.6	9.5	4.0
8	6.0	7.5	10	18	29	38	15	12	12	6.6	10	4.2
9	6.0	7.5	11	18	28	36	17	12	12	6.4	11	4.1
10	6.0	7.0	12	20	28	36	19	12	12	6.0	8.1	4.5
11	6.0	7.0	14	22	28	35	16	11	12	6.8	9.6	4.5
12	6.0	6.5	15	26	27	40	15	10	11	6.4	10	4.0
13	6.5	7.5	16	24	27	41	14	9.8	10	6.7	8.9	3.5
14	6.5	8.3	17	26	27	34	13	9.9	10	6.2	6.5	3.4
15	6.0	8.6	16	21	26	33	13	10	9.6	5.7	8.5	3.3
16	6.5	7.8	14	22	28	31	15	9.1	9.0	5.5	7.6	3.3
17	7.0	7.5	15	22	27	30	13	12	8.8	4.9	7.2	3.3
18	7.5	6.9	15	22	29	28	12	15	8.4	5.0	8.8	3.3
19	7.5	6.7	16	20	32	26	12	14	8.5	6.5	8.0	3.4
20	7.6	7.1	15	20	34	25	11	11	12	9.9	7.0	3.7
21	7.0	7.4	16	20	35	25	11	10	9.7	9.3	6.5	4.1
22	7.5	7.9	18	20	36	24	11	11	8.9	9.5	6.0	4.1
23	7.5	7.6	19	19	37	22	12	11	7.1	11	6.5	4.0
24	7.5	7.3	17	21	37	22	18	10	7.3	11	6.5	4.3
25	7.0	7.9	15	22	37	21	19	10	6.9	11	6.5	4.6
26	7.5	7.9	17	24	38	20	21	12	6.4	11	6.5	4.0
27	8.0	7.9	16	23	37	18	18	13	6.0	11	7.0	4.2
28	7.5	8.2	15	21	37	18	13	19	5.8	12	6.7	4.2
29	7.5	7.9	11	22	39	17	13	15	6.1	11	5.0	4.0
30	7.0	-----	13	22	45	17	14	13	5.9	13	5.0	3.7
31	6.5	-----	13	-----	44	-----	13	13	-----	12	-----	3.5
TOTAL	204.9	214.4	414.9	588	970	909	480	366.8	300.4	245.9	244.0	123.8
MEAN	6.61	7.39	13.4	19.6	31.3	30.3	15.5	11.8	10.0	7.93	8.13	3.99
MAX	8.0	8.6	19	26	45	41	25	19	15	13	11	5.0
MIN	5.2	6.0	6.8	12	21	17	11	9.1	5.8	4.9	5.0	3.3
AC-FT	406	425	823	1,170	1,920	1,800	952	728	596	488	484	246
(†)	542	455	493	526	589	524	618	570	659	537	580	520

CAL YR 1972 TOTAL 5,062.1 MEAN 13.8 MAX 45 MIN 3.3 AC-FT 10,040 † 6,610  
WTR YR 1972 TOTAL 5,689.8 MEAN 15.5 MAX 56 MIN 3.8 AC-FT 11,290 † 6,590

PEAK DISCHARGE (BASE, 160 CFS).--No peak above base.

† Diversion, in acre-ft, through Molycorp tailings pipelines.



08266000 Cabresto Creek near Questa, N. Mex.

LOCATION.--Lat 36°43'50", long 105°33'12", in SE¼SE¼ sec.21, T.29 N., R.13 E., Taos County, in Carson National Forest, on right bank 900 feet downstream from Llano ditch heading, 2.6 miles downstream from Lake Fork, 3 miles northeast of Questa, and 3.4 miles upstream from mouth.

DRAINAGE AREA.--36.7 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 7,845 ft above mean sea level (river-profile survey).

AVERAGE DISCHARGE.--29 calendar years, 9.34 cfs (6,770 acre-ft per year); 20 calendar years (1953-72), 8.66 cfs (6,270 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 19 cfs July 3 (gage height, 1.42 ft); maximum gage height, 1.65 ft Mar. 23 (backwater from checkboard); minimum discharge, 0.85 cfs Nov. 26, Dec. 15, result of freezeup.

Period of record: Maximum discharge, 176 cfs June 8, 1957 (gage height, 4.44 ft); minimum, 0.44 cfs Dec. 2, 1950, result of freezeup.

The flood of May 25, 1942, may have exceeded the maximum of record.

REMARKS.--Records good. Llano ditch, the only diversion above station, diverts from right bank 900 ft above gage for irrigation of about 800 acres below. See tabulation below for monthly diversion of Llano ditch (records of daily discharge available in District files). Flow regulated by Cabresto Reservoir (capacity, 732 acre-feet, after reconstruction in 1928) on Lake Fork 1 mile above mouth.

REVISIONS.--WSP 1712: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.4	3.2	4.1	8.5	12	11	9.1	7.4	3.8	2.2	3.4	4.0
2	2.7	3.3	3.6	8.9	12	10	11	7.2	3.8	2.1	2.9	4.0
3	3.2	2.6	4.1	8.8	12	10	11	7.0	3.7	3.0	3.4	4.0
4	2.1	3.2	3.9	8.8	13	10	9.4	7.2	3.6	5.0	3.4	4.1
5	2.4	3.4	4.1	9.1	13	9.9	7.9	6.7	3.6	5.5	4.0	3.8
6	2.8	3.4	4.4	10	13	9.7	6.8	6.4	3.9	5.5	3.9	2.7
7	3.8	3.6	4.8	12	12	9.7	6.4	6.1	4.0	5.6	3.6	3.8
8	4.0	3.6	5.0	12	11	9.6	6.0	5.9	3.7	5.5	3.8	4.1
9	4.0	3.6	5.6	12	11	9.5	6.0	5.7	3.8	5.5	4.2	3.7
10	3.9	3.6	6.6	13	11	9.4	6.8	5.2	3.9	5.3	3.2	4.0
11	4.0	3.6	7.5	13	11	9.2	5.9	5.1	3.8	5.1	3.5	4.2
12	4.0	3.4	8.1	14	11	9.7	5.7	5.0	4.0	4.7	4.3	3.7
13	4.0	3.6	8.9	13	11	10	5.6	4.4	3.8	2.9	3.7	2.7
14	3.8	3.6	9.2	14	12	9.1	5.4	4.0	3.7	2.5	3.3	2.5
15	3.7	3.6	9.0	12	11	8.8	5.4	3.8	2.6	2.4	3.6	1.7
16	3.8	3.4	8.4	13	10	8.8	5.6	3.9	2.3	2.4	3.5	1.6
17	3.8	3.4	9.1	14	11	8.8	5.5	4.3	2.1	2.5	3.6	2.3
18	3.8	3.3	9.1	13	12	8.5	5.3	4.3	2.0	2.6	4.4	3.9
19	3.8	3.3	9.6	13	12	8.3	5.1	4.2	2.0	3.3	4.2	3.9
20	3.8	3.4	9.8	12	12	8.1	5.1	4.0	2.3	3.6	3.6	3.8
21	3.8	3.4	9.6	12	12	8.0	5.1	3.8	2.2	3.4	3.5	3.7
22	3.7	3.4	10	12	12	7.9	5.0	3.7	2.2	3.3	2.2	3.8
23	3.7	3.4	11	12	12	7.9	6.8	3.6	2.2	3.8	1.2	3.8
24	3.7	3.7	10	12	11	7.9	10	3.4	2.1	3.7	1.9	3.7
25	3.4	3.7	9.8	13	11	7.6	11	3.4	2.1	3.7	3.3	3.8
26	3.7	3.7	10	13	11	7.4	10	3.8	2.2	3.7	2.7	3.1
27	3.7	3.7	9.9	13	11	7.2	9.8	3.9	2.2	3.9	4.4	4.0
28	3.6	3.9	8.7	13	11	7.1	9.1	4.3	2.1	3.9	2.9	4.0
29	3.6	4.0	7.2	13	11	7.0	8.5	4.0	2.2	3.8	3.7	4.0
30	3.2	-----	7.8	13	12	7.1	8.0	4.0	2.3	4.3	2.9	3.9
31	2.6	-----	8.3	-----	11	-----	7.7	3.8	-----	4.2	-----	3.0
TOTAL	108.5	101.0	237.2	360.1	358	263.2	226.0	149.5	88.2	118.9	102.2	109.3
MEAN	3.50	3.48	7.65	12.0	11.5	8.77	7.29	4.82	2.94	3.84	3.41	3.53
MAX	4.0	4.0	11	14	13	11	11	7.4	4.0	5.6	4.4	4.2
MIN	2.1	2.6	3.6	8.5	10	7.0	5.0	3.4	2.0	2.1	1.2	1.6
AC-FT	215	200	470	714	710	522	448	297	175	236	203	217
(†)	-	-	-	0	20	2.5	46	0	0	-	-	-

CAL YR 1972 TOTAL 2,222.1 MEAN 6.07 MAX 14 MIN 1.2 AC-FT 4,410  
 WTR YR 1972 TOTAL 2,360.2 MEAN 6.45 MAX 14 MIN 1.3 AC-FT 4,680

† Diversion, in acre-feet, by Llano ditch.

## RIO GRANDE BASIN

08267000 Red River at mouth, near Questa, N. Mex.

LOCATION.--Lat 36°38'53", long 105°41'34", in SW 1/4 sec. 20, T.28 N., R.12 E., Taos County, in Carson National Forest, on left bank 250 ft upstream from Rio Grande, and 6.5 miles southwest of Questa.

DRAINAGE AREA.--190 sq mi.

PERIOD OF RECORD.--October 1950 to current year. 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.--22 calendar years, 76.5 cfs (55,420 acre-ft per year); 20 calendar years (1953-72), 75.1 cfs (54,410 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 151 cfs Aug. 2 (gage height, 3.03 ft); minimum, 36 cfs Jan. 31.

Period of record: Maximum discharge, 730 cfs Aug. 12, 1964 (gage height, 6.05 ft); minimum, 29 cfs Feb. 13, 1965.

REMARKS.--Records good. Diversions for irrigation of about 3,000 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	41	45	43	50	53	77	54	48	54	42	51	39
2	43	47	44	51	52	75	53	55	54	41	49	39
3	40	42	47	50	48	72	53	50	53	41	53	40
4	41	43	47	48	45	69	70	51	53	40	56	47
5	40	49	47	48	45	68	78	50	52	41	58	48
6	41	51	46	49	53	68	68	50	55	43	58	46
7	44	51	47	51	62	68	64	49	58	45	58	48
8	46	49	47	54	59	69	60	48	53	45	58	48
9	46	49	48	55	59	68	60	47	53	45	60	48
10	46	49	48	58	58	68	67	50	54	45	53	48
11	46	49	51	60	58	68	62	45	53	44	54	51
12	46	45	51	64	57	71	58	46	53	44	60	48
13	47	48	53	62	57	87	53	47	52	44	58	46
14	47	50	55	65	58	79	53	48	51	43	54	45
15	46	52	55	61	58	74	51	48	51	43	55	43
16	50	49	52	61	60	74	52	50	49	43	48	44
17	52	49	54	61	60	73	50	52	48	43	47	41
18	51	51	53	61	59	68	48	54	46	39	51	42
19	49	50	54	58	61	65	48	55	45	43	51	45
20	49	51	53	58	63	64	48	53	48	50	48	49
21	50	49	53	58	64	64	47	51	47	51	47	48
22	51	49	55	58	66	64	45	49	47	48	44	46
23	51	47	57	56	67	64	46	48	44	53	42	45
24	51	46	56	58	68	65	49	48	43	54	43	45
25	46	46	53	58	69	63	62	50	43	48	44	48
26	51	45	55	60	69	61	61	49	43	47	43	47
27	52	45	53	58	68	59	65	50	43	48	46	46
28	49	45	53	57	69	53	58	58	43	51	44	48
29	50	45	46	57	72	51	52	55	40	51	44	45
30	47	-----	48	53	78	52	47	55	41	53	39	43
31	41	-----	48	-----	79	-----	46	53	-----	53	-----	40
TOTAL	1,450	1,386	1,572	1,698	1,894	2,021	1,728	1,562	1,469	1,421	1,516	1,406
MEAN	46.8	47.8	50.7	56.6	61.1	67.4	55.7	50.4	49.0	45.8	50.5	45.4
MAX	52	52	57	65	79	87	78	58	58	54	60	51
MIN	40	42	43	48	45	51	45	45	40	39	39	39
AC-FT	2,880	2,750	3,120	3,370	3,760	4,010	3,430	3,100	2,910	2,820	3,010	2,790

CAL YR 1972 TOTAL 19,123 MEAN 52.2 MAX 87 MIN 39 AC-FT 37,930  
 WTR YR 1972 TOTAL 19,821 MEAN 54.2 MAX 104 MIN 39 AC-FT 39,310

PEAK DISCHARGE (BASE, 175 CFS).--No peak above base.

08267500 Rio Hondo near Valdez, N. Mex.

LOCATION.--Lat 36°32'30", long 105°33'21", Taos County, in Carson National Forest, on right bank 500 ft upstream from first diversion, 1.6 miles east of Valdez, 3.8 miles downstream from South Fork, and 9.2 miles upstream from mouth.

DRAINAGE AREA.--36.2 sq mi.

PERIOD OF RECORD.--August 1934 to current year.

GAGE.--Water-stage recorder. Concrete control since Oct. 28, 1938. Altitude of gage is 7,650 ft (from topographic map). Prior to Oct. 28, 1938, at datum 1.92 ft lower.

AVERAGE DISCHARGE.--38 calendar years, 35.2 cfs (25,500 acre-ft per year); 20 calendar years (1953-72), 30.3 cfs (21,950 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 40 cfs May 21, June 13 (gage height, 2.29 ft); maximum gage height, 2.92 ft Dec. 17 (ice jam); minimum discharge, 5.6 cfs Dec. 26, but may have been less during period of ice effect.  
Period of record: Maximum discharge, 541 cfs May 13, 1941; maximum gage height, 4.81 ft Jan. 5, 1970 (ice jam); minimum discharge, about 1 cfs Jan. 27, 1942, result of freezeup.

REMARKS.--Records good except those for winter periods, which are fair. No diversions above station.

REVISIONS (WATER YEARS).--WSP 1342: 1935. WSP 1712: Drainage area. WSP 1732: 1942(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9.5	10	9.3	14	21	36	19	11	12	11	11	11
2	10	10	8.9	14	22	36	18	11	12	11	12	10
3	11	9.5	9.6	13	22	36	18	11	12	10	13	11
4	10	10	9.7	13	24	35	21	11	12	10	13	11
5	8.0	11	10	13	26	34	19	11	12	11	13	10
6	9.0	11	11	14	28	34	18	11	13	11	13	9.5
7	10	10	12	15	27	34	17	11	15	11	12	10
8	13	9.5	13	15	27	33	16	11	13	11	12	11
9	12	9.7	14	16	26	32	16	11	13	11	12	10
10	12	9.3	15	17	27	31	16	11	14	11	11	9.8
11	12	9.4	17	19	27	32	15	10	13	10	12	9.5
12	13	9.0	18	21	27	34	15	10	13	10	12	9.0
13	12	9.0	20	21	27	35	14	9.7	13	11	12	8.5
14	11	9.0	20	20	27	33	14	9.9	13	10	12	8.5
15	10	9.0	19	19	27	30	14	9.8	13	11	12	7.5
16	10	8.9	18	18	27	32	15	10	12	11	12	7.0
17	11	8.8	17	18	28	32	14	11	12	11	12	8.5
18	11	8.8	17	18	30	29	13	11	12	11	12	9.5
19	11	8.6	17	18	32	28	13	11	12	14	12	9.8
20	11	8.9	17	18	35	27	13	11	13	15	11	9.6
21	11	9.1	17	17	38	26	13	10	13	13	11	9.4
22	11	9.2	17	17	38	26	13	11	12	12	10	9.6
23	11	9.2	17	17	38	25	12	10	12	13	11	9.3
24	11	9.1	17	17	37	25	12	9.9	12	12	12	9.4
25	10	9.1	16	19	36	24	12	10	11	12	12	9.2
26	11	8.7	16	20	36	23	13	12	11	12	12	9.0
27	11	8.7	15	20	35	22	14	12	11	12	12	9.5
28	11	9.0	14	21	36	21	12	13	11	13	10	9.7
29	11	9.5	15	21	36	20	12	14	11	12	10	9.3
30	10	-----	16	21	38	20	11	12	11	13	11	9.4
31	9.0	-----	15	-----	37	-----	11	12	-----	13	-----	9.0
TOTAL	333.5	271.0	467.5	524	942	885	453	339.3	369	359	352	293.5
MEAN	10.8	9.34	15.1	17.5	30.4	29.5	14.6	10.9	12.3	11.6	11.7	9.47
MAX	13	11	20	21	38	36	21	14	15	15	13	11
MIN	8.0	8.6	8.9	13	21	20	11	9.7	11	10	10	7.0
AC-FT	662	538	927	1,040	1,870	1,760	899	673	732	712	698	582

CAL YR 1972 TOTAL 5,588.8 MEAN 15.3 MAX 38 MIN 7.0 AC-FT 11,090  
WTR YR 1972 TOTAL 6,245.3 MEAN 17.1 MAX 38 MIN 8.0 AC-FT 12,390

PEAK DISCHARGE (BASE, 80 CFS).--No peak above base.

08268500 Arroyo Hondo at Arroyo Hondo, N. Mex.

LOCATION.--Lat 36°31'56", long 105°41'06", Taos County, in Arroyo Hondo Grant, on left bank 0.9 mile downstream from Arroyo Hondo, and 1.4 miles upstream from mouth.

DRAINAGE AREA.--65.6 sq mi.

PERIOD OF RECORD.--April 1910 to June 1912 (discharge measurements and fragmentary gage-height record), July 1912 to December 1928 (fragmentary), and January 1932 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as Rio Hondo near Arroyo Hondo prior to 1928, and as Rio Hondo at Arroyo Hondo 1928-65.

GAGE.--Water-stage recorder. Altitude of gage is 6,670 ft (from topographic map). See WSP 1923 for history of changes prior to Sept. 11, 1963. Sept. 11, 1963 to Apr. 2, 1969, at site 25 ft downstream on right bank at same datum.

AVERAGE DISCHARGE.--57 calendar years (1913-28, 1932-72), 27.5 cfs (19,920 acre-ft per year); 20 calendar years (1953-72), 19.1 cfs (13,840 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 40 cfs July 4 (gage height, 3.08 ft); maximum gage height, 3.19 ft Nov. 22; minimum discharge, 4.1 cfs July 19, 30, Aug. 1.

1938-72: Maximum discharge, 1,060 cfs July 19, 1948 (gage height, 3.75 ft), from rating curve extended above 200 cfs; minimum, 3.8 cfs Aug. 1, 6, 1963.

Maximum gage height observed, 5.45 ft (site and datum then in use) Aug. 23, 1935 (discharge uncertain, but probably exceeded 1,200 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.

REVISIONS (WATER YEARS).--WSP 1342: 1915, 1932(M), 1934-38(M). WSP 1712: Drainage area. WSP 1732: 1926.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	15	16	19	6.0	5.7	6.6	7.9	5.9	6.6	6.6	6.3	18
2	16	15	18	6.2	6.0	7.0	7.7	5.8	6.6	6.6	6.2	19
3	17	13	19	5.7	6.3	7.4	7.7	6.0	6.7	6.5	8.5	19
4	12	15	19	5.2	6.2	7.6	11	6.1	6.7	6.2	8.7	19
5	9.6	19	18	5.0	6.3	7.6	8.7	6.0	6.4	6.6	9.2	15
6	11	20	17	5.0	6.9	7.1	8.3	6.1	8.1	7.3	10	13
7	15	18	18	5.0	7.3	7.6	8.2	6.0	7.3	7.3	11	18
8	19	17	17	5.3	6.8	7.1	7.6	6.3	6.9	6.9	14	18
9	18	18	17	5.0	6.4	7.0	7.5	6.3	7.2	6.6	16	19
10	16	17	16	5.5	6.1	7.2	7.3	6.6	6.9	6.0	14	19
11	17	17	16	5.7	6.2	7.1	7.4	6.5	6.8	6.2	14	19
12	19	16	17	6.1	6.1	7.8	7.1	6.7	7.0	6.4	16	16
13	18	17	17	6.6	6.3	8.1	6.8	6.3	6.8	6.7	15	11
14	16	17	14	7.6	6.4	8.4	6.5	6.0	6.8	7.3	14	17
15	14	17	13	7.5	6.4	8.0	6.4	6.1	6.8	8.0	15	8.5
16	16	17	13	7.1	6.4	8.5	7.4	6.3	6.7	7.3	14	8.2
17	17	17	12	6.8	6.4	8.6	7.1	6.5	6.8	7.2	14	11
18	18	18	12	6.7	6.6	8.0	6.9	6.8	6.8	7.3	15	15
19	18	18	11	6.3	7.6	8.1	6.8	6.6	7.3	9.3	14	15
20	19	18	7.3	6.3	8.0	7.8	6.6	7.0	7.3	7.5	13	16
21	18	19	7.2	6.3	7.3	7.6	6.8	6.3	6.9	6.4	13	15
22	19	19	7.6	6.2	6.4	7.4	7.1	6.5	7.0	6.9	12	16
23	18	19	7.8	6.1	6.4	7.9	6.8	6.4	7.1	7.4	15	17
24	16	19	6.5	6.2	6.8	7.8	6.6	6.0	7.1	5.8	22	15
25	15	19	5.9	6.1	6.5	7.2	6.8	6.3	7.0	5.8	19	17
26	19	19	5.3	6.1	6.5	7.1	7.2	6.7	7.0	5.8	17	12
27	19	19	5.5	6.3	6.1	7.1	7.3	7.0	6.6	5.9	19	16
28	18	19	5.6	6.3	7.3	7.1	6.6	6.9	6.7	6.3	14	18
29	18	19	6.1	6.4	7.5	7.2	6.2	7.9	6.7	5.8	19	19
30	17	-----	6.5	5.8	7.9	7.9	6.4	6.8	6.6	7.5	15	18
31	12	-----	6.3	-----	6.9	-----	5.9	6.3	-----	6.2	-----	11
TOTAL	509.6	511	380.6	182.4	206.0	226.9	224.6	199.0	207.2	209.6	412.9	487.7
MEAN	16.4	17.6	12.3	6.08	6.65	7.56	7.25	6.42	6.91	6.76	13.8	15.7
MAX	19	20	19	7.6	8.0	8.6	11	7.9	8.1	9.3	22	19
MIN	9.6	13	5.3	5.0	5.7	6.6	5.9	5.8	6.4	5.8	6.2	8.2
AC-FT	1,010	1,010	755	362	409	450	445	395	411	416	819	967

CAL YR 1972 TOTAL 3,757.5 MEAN 10.3 MAX 22 MIN 5.0 AC-FT 7,450

WTR YR 1972 TOTAL 4,300.3 MEAN 11.7 MAX 29 MIN 5.0 AC-FT 8,530

PEAK DISCHARGE (BASE, 75 CFS).--No peak above base.

08268700 Rio Grande near Arroyo Hondo, N. Mex.

LOCATION.--Lat 36°32'04", long 105°42'34", in NW¼ sec.31, T.27 N., R.12 E., Taos County, on right bank 350 ft downstream from Arroyo Hondo, 400 ft downstream from bridge on county road, 2.2 miles west of Arroyo Hondo, and 11.6 miles northwest of Taos.

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

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

GAGE.--Water-stage recorder. Altitude of gage is 6,470 ft (from topographic map).

AVERAGE DISCHARGE.--9 calendar years, 540 cfs (391,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,040 cfs Mar. 17 (gage height, 2.79 ft); minimum, 157 cfs July 25.

Period of record: Maximum discharge, 4,400 cfs June 22, 1965 (gage height, 5.81 ft); minimum, 136 cfs Aug. 2, 1963.

REMARKS.--Records excellent. Diversions above station for irrigation of about 620,000 acres in Colorado and 15,000 acres in New Mexico.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	509	448	743	322	229	261	201	216	290	241	536	432
2	490	450	773	383	220	265	191	196	280	233	510	483
3	483	429	734	395	228	266	188	186	287	222	595	484
4	432	424	778	366	216	266	210	186	295	218	706	468
5	307	434	727	345	198	265	275	185	291	214	824	488
6	410	434	739	331	199	274	215	181	293	218	875	489
7	414	429	753	308	216	278	204	184	300	221	892	458
8	392	424	780	293	214	278	198	182	298	218	772	468
9	394	429	811	292	215	286	195	191	297	226	755	432
10	401	442	825	313	215	305	202	198	301	308	726	425
11	419	434	841	327	215	294	199	192	293	313	687	448
12	436	447	869	326	212	275	197	223	279	338	689	476
13	446	465	909	315	208	289	187	240	278	327	689	430
14	443	465	954	309	205	282	179	246	276	318	648	420
15	436	465	983	302	205	279	176	246	280	281	638	425
16	450	478	1,020	331	209	280	179	242	283	246	616	406
17	441	478	1,010	316	210	286	173	239	280	229	590	401
18	436	501	946	289	210	283	168	252	273	212	605	398
19	439	506	888	302	214	293	170	253	276	211	595	391
20	436	515	760	306	217	278	168	249	288	241	626	408
21	436	520	610	296	214	267	168	257	288	275	648	415
22	442	540	537	288	218	254	165	256	279	243	565	434
23	451	570	486	272	219	248	165	262	267	293	525	445
24	454	610	437	263	233	244	163	272	265	375	411	452
25	441	648	413	257	233	235	176	268	252	332	373	460
26	456	671	392	249	238	224	173	255	237	333	394	444
27	471	701	379	273	246	216	198	252	238	488	442	442
28	476	713	371	280	251	209	187	270	244	586	470	447
29	458	731	352	270	251	204	181	274	245	587	460	446
30	473	-----	336	242	256	200	181	276	246	565	388	437
31	458	-----	327	-----	255	-----	208	282	-----	556	-----	418
TOTAL	13,630	14,801	21,483	9,161	6,869	7,884	5,840	7,211	8,299	9,668	18,250	13,682
MEAN	440	510	693	305	222	263	188	233	277	312	608	441
MAX	509	731	1,020	395	256	305	275	282	301	587	892	489
MIN	307	424	327	242	198	200	163	181	237	211	373	391
AC-FT	27,040	29,360	42,610	18,170	13,620	15,640	11,580	14,300	16,460	19,180	36,200	27,140

CAL YR 1972 TOTAL 136,778 MEAN 374 MAX 1,020 MIN 163 AC-FT 271,300  
WTR YR 1972 TOTAL 143,383 MEAN 392 MAX 1,020 MIN 163 AC-FT 284,400

PEAK DISCHARGE (BASE, 1,400 CFS).--No peak above base.

08269000 Rio Pueblo de Taos near Taos, N. Mex.

LOCATION.--Lat 36°26'22", long 105°30'11", in SW¼SE¼ sec.36, T.26 N., R.13 E., Taos County, in Taos Pueblo Grant, on right bank 2.3 miles east of Taos Pueblo, 4.5 miles northeast of Taos, and 5.8 miles upstream from Rio Lucero.

DRAINAGE AREA.--66.6 sq mi.

PERIOD OF RECORD.--January 1911 to December 1916, January 1940 to December 1951, annual maximum, water years 1952-62, October 1962 (monthly discharge only), November 1962 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Concrete control since Nov. 20, 1962. Altitude of gage is 7,380 ft (from topographic map). See WSP 1923 for history of changes prior to Nov. 20, 1962.

AVERAGE DISCHARGE.--28 calendar years (1911-16, 1940-51, 1963-72), 27.9 cfs (20,210 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 20 cfs Apr. 12 (gage height, 1.01 ft); maximum gage height, 1.64 ft Feb. 3 (ice jam); minimum discharge, 1.4 cfs Jan. 31, result of freezeup.

Period of record: Maximum discharge, 970 cfs May 14, 1941 (gage height, 3.90 ft, from floodmark, site and datum then in use), from rating curve extended above 290 cfs; minimum, about 0.9 cfs Jan. 9, 1964, result of freezeup.

REMARKS.--Records good except those for winter periods, which are fair. No diversions above station.

REVISIONS (WATER YEARS).--WSP 1312: 1911-12, 1914. WSP 1732: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.5	4.8	6.9	11	11	11	5.3	3.0	6.5	3.1	5.3	5.9
2	5.5	4.8	6.7	11	11	11	5.1	3.4	5.7	3.0	5.2	5.6
3	5.5	4.5	7.3	11	11	11	4.8	3.9	4.7	3.0	6.1	5.9
4	5.0	4.8	6.9	11	11	11	5.6	4.2	5.2	3.0	5.9	5.7
5	4.5	5.0	7.5	11	12	10	8.1	4.7	4.5	3.2	6.3	6.0
6	5.0	5.0	8.2	12	13	10	6.7	6.4	5.0	3.8	6.1	5.7
7	5.5	5.3	9.7	14	14	10	5.6	6.2	6.2	4.3	5.2	5.8
8	5.5	5.2	9.5	14	14	9.9	5.0	5.8	4.8	4.6	6.0	5.6
9	5.5	5.0	9.9	15	13	9.5	5.0	4.9	4.7	4.1	6.6	5.8
10	5.7	5.1	11	16	12	9.2	5.4	4.7	4.7	3.8	5.1	5.6
11	5.7	5.0	13	18	11	9.1	4.6	4.0	4.4	3.6	5.9	5.8
12	5.8	4.5	13	19	11	11	4.6	3.6	4.4	3.5	6.4	5.5
13	5.7	4.7	14	18	11	11	4.8	3.3	4.2	3.8	5.4	5.2
14	5.4	4.8	14	17	11	9.4	4.0	3.3	4.0	3.9	4.3	5.0
15	5.2	4.8	14	14	11	9.2	3.7	3.8	3.9	4.1	5.9	4.5
16	5.5	4.7	13	15	10	10	4.8	3.6	3.9	5.0	5.8	4.0
17	5.5	4.7	13	14	10	9.7	4.2	4.2	3.6	4.8	5.3	4.5
18	5.6	4.8	12	13	10	8.7	3.8	4.4	3.5	4.9	6.7	5.0
19	5.5	4.8	13	13	11	8.0	3.6	4.1	3.5	6.8	6.3	5.6
20	5.5	4.9	13	13	11	7.4	3.5	3.8	4.2	8.2	4.0	5.7
21	5.4	5.3	13	12	11	7.1	3.5	3.5	3.8	7.0	4.7	5.2
22	5.4	5.8	13	13	11	7.0	3.4	3.2	3.6	5.6	4.3	5.2
23	5.4	6.0	14	12	11	6.9	3.1	3.1	3.6	6.2	5.9	5.4
24	5.3	6.2	14	12	11	7.5	4.0	3.0	3.4	6.3	6.6	5.2
25	5.0	6.1	13	13	10	6.6	3.5	3.0	3.2	6.0	6.4	5.2
26	5.5	6.0	13	13	10	6.1	3.4	6.4	3.2	6.5	6.7	4.5
27	5.5	5.8	12	13	10	5.8	7.9	5.2	3.2	6.1	7.2	4.7
28	5.2	5.9	10	13	10	5.5	4.9	9.1	3.2	7.0	6.0	5.0
29	5.0	6.5	9.5	12	10	5.2	3.9	6.4	3.1	6.6	6.5	5.4
30	4.8	-----	9.0	12	14	5.5	3.5	5.2	3.1	6.4	6.0	5.5
31	4.8	-----	10	-----	13	-----	3.2	4.5	-----	6.4	-----	5.0
TOTAL	165.9	150.8	344.4	405	350	259.3	142.5	137.9	125.0	154.6	174.1	164.7
MEAN	5.35	5.20	11.1	13.5	11.3	8.64	4.63	4.45	4.17	4.99	5.80	5.31
MAX	5.8	6.5	14	19	14	11	8.1	9.1	6.5	8.2	7.2	6.0
MIN	4.5	4.5	6.7	11	10	5.2	3.1	3.0	3.1	3.0	4.0	4.0
AC-FT	329	299	683	803	694	514	283	274	248	307	345	327

CAL YR 1972 TOTAL 2,574.2 MEAN 7.03 MAX 19 MIN 3.0 AC-FT 5,110

WTR YR 1972 TOTAL 2,833.5 MEAN 7.74 MAX 19 MIN 3.0 AC-FT 5,620

PEAK DISCHARGE (BASE, 60 CFS).--No peak above base.

68271000 Rio Lucero near Arroyo Seco, N. Mex.

LOCATION.--Lat 36°30'30", long 105°31'49", Taos County, in Tract C Taos Pueblo Grant, on right bank 200 ft upstream from diversion dam for Tenorio and Indian ditches, 2.2 miles east of Arroyo Seco, and 7.4 miles northeast of Taos.

DRAINAGE AREA.--16.6 sq mi.

PERIOD OF RECORD.--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, annual maximum, water years 1952-62, October 1962 (monthly discharge only), November 1962 to current year. Monthly discharge only for some periods, published in WSP 1312. Fragmentary records for October 1915 to February 1916, published in WSP 438, are unreliable and should not be used. Published as "near Taos," 1910-16.

GAGE.--Water-stage recorder. Concrete control since Nov. 21, 1962. Datum of gage is 8,051.44 ft above mean sea level. See WSP 1923 for history of changes prior to Nov. 21, 1962.

AVERAGE DISCHARGE.--33 calendar years (1911-15, 1934-51, 1963-72), 22.0 cfs (15,940 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 21 cfs June 11 (gage height, 1.08 ft); maximum gage height, 1.66 ft Jan. 5 (backwater from ice); minimum discharge, 4.0 cfs Nov. 22, but may have been less during period of ice effect.

Period of record: Maximum discharge, 300 cfs May 13, 1941 (gage height, 3.12 ft, datum then in use); minimum, about 1.4 cfs Nov. 2, 1951, result of freezeup.

REMARKS.--Records good. No diversions above station.

REVISIONS (WATER YEARS).--WSP 1512: 1912, 1916, 1949. WSP 1732: Drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.5	5.8	6.4	8.3	12	17	9.5	6.2	7.3	5.9	7.0	6.3
2	7.0	5.9	6.7	7.7	13	16	9.2	6.3	6.8	5.7	8.6	6.4
3	6.0	5.5	6.5	7.5	13	16	8.9	6.5	6.8	5.6	8.0	6.8
4	5.5	5.8	6.6	7.6	13	17	10	6.6	6.8	5.6	8.1	6.5
5	5.0	6.0	7.1	7.8	15	16	15	7.0	6.4	6.3	8.1	5.2
6	5.5	6.0	8.0	8.5	15	16	9.4	6.8	7.3	6.1	8.1	5.0
7	6.0	5.8	9.2	9.4	14	16	8.8	6.8	7.6	6.5	7.4	5.0
8	6.6	5.6	13	10	13	15	8.3	6.5	6.7	7.0	7.5	5.3
9	6.4	5.8	11	11	13	15	8.5	6.8	7.4	6.1	7.7	5.3
10	6.3	5.6	13	12	13	15	8.4	6.5	7.8	5.8	7.0	5.2
11	6.3	5.3	14	13	13	17	7.8	5.9	7.2	5.8	7.0	5.4
12	6.3	5.0	15	13	13	17	7.8	6.5	7.6	5.8	7.0	5.2
13	6.3	4.9	15	13	13	17	7.6	5.7	7.0	6.3	6.6	5.0
14	6.2	4.8	15	12	13	15	7.3	5.5	6.9	5.9	7.2	5.0
15	6.0	4.8	14	11	13	15	7.1	5.5	6.8	5.9	6.9	4.5
16	6.1	4.8	13	11	13	16	8.3	6.2	6.6	6.0	6.5	4.5
17	6.2	5.0	12	11	14	15	7.4	6.3	6.4	6.6	6.5	5.0
18	6.1	5.1	12	11	14	14	7.0	7.4	6.3	7.2	6.7	5.3
19	6.3	5.1	12	11	15	14	6.9	6.4	6.4	10	6.0	5.5
20	6.3	5.3	12	11	15	13	6.9	6.4	7.2	10	6.0	5.6
21	6.2	5.4	11	10	16	13	7.3	6.0	6.4	8.9	6.1	5.3
22	6.2	5.6	11	10	17	12	6.8	5.9	6.3	8.2	6.0	5.3
23	6.3	5.7	12	11	17	12	6.9	5.8	6.1	8.2	6.7	5.3
24	6.3	5.8	11	11	16	12	6.8	5.5	6.3	8.1	7.2	5.2
25	6.1	5.9	10	12	16	11	6.9	5.8	6.4	8.1	6.9	4.9
26	6.2	5.8	10	12	16	10	7.1	7.3	6.4	8.2	7.6	4.5
27	6.1	5.8	9.7	12	15	18	9.9	7.0	6.3	8.1	7.0	4.6
28	6.0	5.9	8.8	12	16	9.7	7.1	8.5	6.3	7.8	7.0	5.2
29	5.8	6.2	9.0	12	16	10	6.9	9.1	6.2	7.9	6.8	5.3
30	5.6	-----	9.5	13	18	9.7	6.6	7.2	6.1	8.6	6.3	5.4
31	5.5	-----	9.0	-----	17	-----	6.3	7.0	-----	8.1	-----	5.2
TOTAL	189.2	160.0	329.1	321.8	450	421.4	243.7	202.9	202.1	220.3	211.5	164.2
MEAN	6.10	5.52	10.6	10.7	14.5	14.0	7.86	6.55	6.74	7.11	7.05	5.30
MAX	7.0	6.2	15	13	18	17	10	9.1	7.8	10	8.6	6.8
MIN	5.0	4.8	6.2	7.5	12	9.7	6.3	5.5	6.1	5.6	6.0	4.5
AC-FT	375	317	653	638	893	836	483	402	401	437	420	326

CAL YR 1972 TOTAL 3,116.1 MEAN 8.51 MAX 18 MIN 4.5 AC-FT 6,180  
WTR YR 1972 TOTAL 3,627.3 MEAN 9.91 MAX 24 MIN 4.8 AC-FT 7,190

PEAK DISCHARGE (BASE, 70 CFS).--No peak above base.

08275000 Río Fernando de Taos near Taos, N. Mex.

LOCATION.--Lat 36°22'32", long 105°32'55", in W. 1/4 sec. 27, T.25 N., R.13 E., Taos County, in Carson National Forest, on right bank 175 ft upstream from Acequia Madre del Norte del Canon, 2.5 miles southeast of Taos, and 5.0 miles upstream from mouth.

DRAINAGE AREA.--71.7 sq mi.

PERIOD OF RECORD.--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 1928, October to November 1962 (monthly discharge only), December 1962 to current year.

GAGE.--Water-stage recorder. Concrete control since Dec. 13, 1962. Altitude of gage is 7,140 ft (from topographic map). See WSP 1923 for history of changes prior to Dec. 13, 1962.

AVERAGE DISCHARGE.--15 calendar years (1913-16, 1928, 1963-72), 6.06 cfs (4,390 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6.7 cfs about Feb. 22 (gage height, 0.71 ft); minimum, 0.02 cfs Sept. 15, 16-17, 18-19. 1962-72: Maximum discharge, 211 cfs Aug. 12, 1967 (gage height, 2.27 ft), from rating curve extended above 47 cfs on basis of slope-area measurements at gage heights 1.64 and 2.27 ft; minimum, 0.02 cfs Jan. 14-18, 1967, Sept. 15, 16-17, 18-19, 1972. 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 fair except those for January and February, which are poor. A few very small diversions above station for irrigation.

REVISIONS (WATER YEARS).--WSP 1512: 1914-15. WSP 1923: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.90	1.5	4.1	2.5	2.5	1.4	.14	.36	.08	.05	.10	.04
2	.90	1.4	4.1	3.2	2.5	1.1	.14	.33	.07	.04	.08	.03
3	.90	1.1	3.8	3.0	2.3	1.1	.12	.10	.07	.04	.08	.03
4	.70	1.2	4.1	3.0	2.2	1.0	.14	.10	.07	.05	.08	.03
5	.60	1.2	4.3	2.8	2.2	.91	.20	.08	.07	.05	.07	.03
6	.70	1.0	4.1	2.8	2.2	.81	.20	.07	.10	.05	.07	.03
7	.80	1.0	4.3	2.8	3.2	.81	.14	.07	.08	.12	.08	.03
8	.90	1.1	3.8	2.8	2.7	.81	.14	.07	.07	.12	.10	.03
9	.90	1.3	3.8	2.8	2.5	.72	.14	.07	.07	.12	.14	.03
10	1.0	1.2	3.6	2.7	2.2	.64	.12	.07	.07	.12	.12	.03
11	1.0	1.0	3.6	2.7	2.0	.57	.12	.07	.07	.12	.12	.03
12	1.2	.90	3.6	2.8	2.2	.64	.10	.05	.05	.14	.12	.03
13	1.3	1.0	3.6	3.6	2.7	.81	.12	.05	.05	.20	.12	.04
14	1.4	1.1	3.4	3.4	2.2	.81	.10	.05	.04	.24	.10	.04
15	1.1	1.3	3.4	3.2	2.0	.72	.08	.07	.03	.28	.10	.04
16	1.4	1.4	3.0	3.2	2.0	.81	.10	.07	.03	.10	.10	.04
17	1.4	1.4	3.2	3.0	2.0	.81	.10	.32	.03	.08	.10	.04
18	1.4	1.5	3.4	3.0	2.0	.64	.10	.17	.02	.08	.10	.04
19	1.4	1.5	3.4	3.0	2.0	.44	.08	.10	.02	.12	.10	.04
20	1.2	2.0	3.0	3.0	2.3	.38	.08	.08	.04	.14	.10	.04
21	1.4	3.0	2.8	3.0	2.0	.32	.08	.08	.07	.12	.10	.03
22	1.2	5.0	2.8	3.0	1.8	.32	.08	.08	.07	.12	.07	.04
23	1.1	4.8	3.0	2.7	1.6	.28	.08	.07	.05	.14	.07	.04
24	.91	4.5	3.0	2.7	1.5	.32	.08	.07	.05	.14	.07	.04
25	.72	4.5	2.8	2.7	1.4	.32	.08	.08	.05	.12	.07	.04
26	1.4	4.4	2.8	2.8	1.2	.24	.08	.14	.07	.12	.05	.03
27	1.1	4.4	2.7	2.8	1.2	.20	.08	.10	.04	.12	.05	.03
28	.91	4.3	2.8	2.7	1.2	.17	.07	.12	.05	.12	.04	.03
29	1.0	4.2	2.0	2.7	1.2	.17	.07	.10	.05	.10	.04	.03
30	1.4	-----	2.3	2.7	1.4	.17	.05	.38	.05	.10	.04	.03
31	.91	-----	2.3	-----	1.5	-----	.03	.08	-----	.10	-----	.03
TOTAL	33.15	64.20	102.9	87.1	61.4	18.44	3.24	3.35	1.68	3.56	2.58	1.06
MEAN	1.07	2.21	3.32	2.90	1.98	.61	.10	.11	.056	.11	.086	.034
MAX	1.4	5.0	4.3	3.6	3.2	1.4	.20	.36	.10	.28	.14	.04
MIN	.60	.90	2.0	2.5	1.2	.17	.03	.05	.02	.04	.04	.03
AC-FT	66	127	204	173	122	37	6.4	6.6	3.3	7.1	5.1	2.1

CAL YR 1972 TOTAL 382.66 MEAN 1.05 MAX 5.0 MIN .02 AC-FT 759  
WTR YR 1972 TOTAL 471.58 MEAN 1.29 MAX 5.0 MIN .02 AC-FT 935

PEAK DISCHARGE (BASE, 25 CFS).--No peak above base.

NOTE.--No gage-height record Feb. 5 to Mar. 1.



08275300 Rio Pueblo de Taos near Ranchito, N. Mex.

LOCATION.--Lat 36°23'38", long 105°37'23", Taos County, in Gijosa Grant, on left bank 1,100 ft downstream from Rio Fernando de Taos, and 1.6 miles southwest of Ranchito.

DRAINAGE AREA.--199 sq mi.

PERIOD OF RECORD.--March 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,747 ft (from topographic map).

AVERAGE DISCHARGE.--15 calendar years, 25.6 cfs (18,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 84 cfs Aug. 17 (gage height, 2.83 ft); maximum gage height, 3.85 ft Jan. 5 (backwater from ice); minimum discharge, 0.21 cfs Aug. 24.  
Period of record: Maximum discharge, 600 cfs May 13, 1958, from rating curve extended above 230 cfs; maximum gage height, 4.35 ft Dec. 29, 1966 (ice jam); minimum discharge, 0.21 cfs Aug. 24, 1972.

REMARKS.--Records fair except those below 1.5 cfs, which are poor. Diversions for irrigation of about 9,000 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	17	14	18	10	1.7	3.5	1.7	1.1	2.2	4.3	10	10
2	16	14	16	10	1.3	3.5	.95	1.1	2.0	4.3	9.5	10
3	12	13	16	10	1.5	3.5	.65	1.3	2.5	3.9	9.5	11
4	11	15	16	9.5	1.5	3.9	1.1	2.2	2.2	4.3	9.5	12
5	10	16	17	10	2.0	3.5	2.2	1.7	2.0	4.7	10	12
6	11	16	16	9.0	2.8	2.5	2.0	1.3	2.2	4.7	10	12
7	12	17	16	8.5	3.2	3.2	1.5	1.5	3.2	5.5	9.0	12
8	14	17	16	7.1	2.5	3.9	2.2	2.2	2.2	5.1	9.5	12
9	15	18	16	5.1	2.8	3.5	2.2	2.2	2.5	4.3	14	12
10	16	18	17	4.3	3.5	2.2	2.0	2.0	3.2	3.9	10	12
11	17	17	18	4.3	3.2	2.2	1.5	1.5	2.5	3.9	9.0	12
12	17	16	18	4.3	2.5	3.5	1.1	1.3	2.5	3.5	9.5	12
13	17	17	20	3.5	2.5	5.5	1.7	1.5	2.0	3.9	10	12
14	16	19	21	3.2	2.8	5.5	1.5	2.0	2.0	4.3	10	11
15	15	20	21	4.7	3.5	4.3	1.5	1.7	2.0	4.3	12	10
16	16	19	20	2.5	3.5	3.9	1.7	1.3	2.0	5.5	12	8.0
17	17	19	19	2.5	2.8	2.5	1.7	9.4	2.0	6.3	12	9.0
18	15	18	19	2.0	2.5	2.5	1.7	6.9	2.0	5.9	13	9.0
19	16	18	18	2.2	2.5	1.7	1.5	.80	2.2	10	13	10
20	17	19	17	2.2	3.5	1.3	1.3	.65	2.8	9.0	12	10
21	17	18	18	3.5	2.5	1.3	1.3	.53	2.5	6.7	12	9.0
22	18	22	18	3.2	2.5	1.5	1.1	.43	2.5	6.3	11	9.0
23	20	20	19	2.5	2.5	2.0	2.0	.34	2.2	9.0	10	9.5
24	18	18	17	2.2	2.5	2.5	2.5	.34	2.2	7.5	10	9.0
25	16	18	15	2.2	2.2	2.5	2.0	.43	2.0	6.7	10	9.0
26	17	18	15	2.0	2.2	1.5	2.2	.95	1.5	6.7	10	8.0
27	19	17	14	2.5	2.2	.80	2.8	.80	1.5	6.7	10	9.0
28	17	17	15	2.8	2.8	.80	2.8	1.5	2.0	8.5	10	10
29	16	17	12	2.2	3.9	.95	2.2	1.3	2.8	7.5	10	11
30	16	-----	12	2.2	5.9	2.2	1.5	1.5	4.3	8.0	10	8.0
31	14	-----	11	-----	5.1	-----	1.1	1.7	-----	9.5	-----	7.5
TOTAL	485	505	521	140.2	86.4	82.15	53.20	53.47	69.7	184.7	316.5	317.0
MEAN	15.6	17.4	16.8	4.67	2.79	2.74	1.72	1.72	2.32	5.96	10.6	10.2
MAX	20	22	21	10	5.9	5.5	2.8	9.4	4.3	10	14	12
MIN	10	13	11	2.0	1.3	.80	.65	.34	1.5	3.5	9.0	7.5
AC-FT	962	1,000	1,030	278	171	163	106	106	138	366	628	629

CAL YR 1972 TOTAL 2,814.32 MEAN 7.69 MAX 22 MIN .34 AC-FT 5,580

WTR YR 1972 TOTAL 3,370.52 MEAN 9.21 MAX 30 MIN .34 AC-FT 6,690

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

## RIO GRANDE BASIN

08275500 Rio Grande del Rancho near Talpa, N. Mex.

LOCATION.--Lat 36°17'52", long 105°34'55", Taos County, in Carson National Forest, Rancho del Rio Grande Grant, on left bank 1.4 miles downstream from Rito de la Olla (locally known as Pot Creek), 3.2 miles south of Talpa, and 4.3 miles upstream from Rio Chiquito.

DRAINAGE AREA.--83 sq mi, approximately.

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1955, published as Rio Grande del Rancho near Ranchos de Taos, and October 1955 to September 1960 as Rio Grande de Ranchos near Talpa.

GAGE.--Water-stage recorder. Altitude of gage is 7,238 ft (from topographic map). Prior to Nov. 11, 1952, nonrecording gage at site 1,035 ft downstream at lower datum. Nov. 11, 1952 to Nov. 5, 1968, water-stage recorder at site 1,000 ft downstream at lower datum.

AVERAGE DISCHARGE.--20 calendar years, 18.7 cfs (13,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 18 cfs May 7 (gage height, 1.28 ft); minimum, 0.56 cfs Jan. 29, result of freezeup. Period of record: Maximum discharge, 435 cfs Sept. 10, 1964 (gage height, 4.01 ft, site and datum then in use), from rating curve extended above 180 cfs; minimum, 0.2 cfs Jan. 5, 1955, result of freezeup.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.5	4.0	4.9	7.3	13	12	3.9	1.7	3.1	1.9	3.6	4.2
2	4.0	3.6	4.1	7.8	13	12	3.8	1.7	3.1	1.9	2.4	4.1
3	4.0	3.2	5.1	7.3	13	11	3.5	1.8	3.2	1.8	3.1	4.0
4	2.5	3.5	5.2	7.2	13	11	5.3	2.2	3.1	1.8	3.5	4.2
5	2.0	3.4	5.2	7.4	14	11	6.2	2.2	2.9	2.0	3.7	3.9
6	2.5	3.4	5.4	7.8	15	10	5.5	2.2	2.9	2.3	3.8	3.1
7	3.0	3.3	5.8	8.7	17	10	4.7	2.1	3.4	2.7	3.6	4.2
8	3.5	3.2	6.3	9.2	16	9.9	4.0	2.8	2.9	2.7	3.6	3.8
9	4.0	3.5	6.4	8.9	15	10	3.7	2.4	3.3	2.6	4.1	3.7
10	4.3	3.1	7.0	9.4	14	9.7	3.8	2.2	3.4	2.4	3.4	3.2
11	4.3	2.9	7.5	10	14	9.3	3.3	1.9	3.0	2.4	3.7	3.6
12	4.0	2.7	7.9	13	14	10	3.4	1.7	3.0	2.5	4.0	2.8
13	3.8	2.8	8.2	14	14	11	3.2	1.5	2.9	2.7	3.8	2.9
14	3.5	2.7	8.5	15	13	8.9	3.0	1.7	2.7	2.7	2.7	3.8
15	3.5	2.3	8.5	13	13	8.6	2.6	2.2	2.9	3.0	3.8	2.5
16	3.8	2.0	7.4	13	13	9.3	3.1	2.0	2.7	3.3	3.5	3.0
17	4.0	2.1	7.9	13	13	8.5	3.3	2.0	2.5	3.1	3.3	3.5
18	4.0	2.2	7.8	12	12	7.5	3.3	2.1	2.3	3.2	4.1	3.8
19	4.0	2.5	8.1	12	13	6.8	3.0	2.1	2.1	3.5	3.5	3.7
20	3.8	2.7	8.2	12	14	6.2	2.7	2.5	2.3	4.1	2.3	3.4
21	3.5	3.0	8.4	12	13	5.8	2.8	2.6	2.3	4.2	2.8	3.2
22	3.8	3.5	8.6	12	13	5.6	2.6	2.1	2.3	3.7	1.5	3.5
23	3.3	3.9	9.1	12	13	5.4	2.2	2.1	2.2	3.9	1.4	3.4
24	3.1	4.0	8.6	12	13	6.1	2.6	1.7	2.2	3.8	2.4	2.9
25	2.7	4.1	8.3	12	12	5.3	3.0	1.8	2.1	3.7	2.5	2.9
26	4.0	4.4	8.8	13	12	4.9	3.1	3.5	2.0	3.5	3.5	2.9
27	3.8	4.4	8.4	13	11	4.5	3.1	3.4	2.1	3.5	4.5	3.3
28	2.9	4.3	7.9	13	11	4.1	2.4	4.1	2.0	3.8	3.0	3.9
29	3.1	4.7	5.9	13	11	3.8	2.1	3.7	1.9	3.9	4.0	4.0
30	3.1	-----	6.6	13	14	4.0	1.9	3.2	2.0	3.9	3.5	3.3
31	2.7	-----	6.3	-----	13	-----	1.7	2.9	-----	3.9	-----	3.0
TOTAL	108.0	95.4	222.3	333.0	412	242.2	102.8	72.1	78.8	94.4	98.6	107.7
MEAN	3.48	3.29	7.17	11.1	13.3	8.07	3.32	2.33	2.63	3.05	3.29	3.47
MAX	4.3	4.7	9.1	15	17	12	6.2	4.1	3.4	4.2	4.5	4.2
MIN	2.0	2.0	4.1	7.2	11	3.8	1.7	1.5	1.9	1.8	1.4	2.5
AC-FT	214	189	441	661	817	480	204	143	156	187	196	214

CAL YR 1972 TOTAL 1,967.3 MEAN 5.38 MAX 17 MIN 1.4 AC-FT 3,900  
WTR YR 1972 TOTAL 2,189.7 MEAN 5.96 MAX 17 MIN 1.5 AC-FT 4,330

PEAK DISCHARGE (BASE, 60 CFS).--No peak above base.

08275600 Rio Chiquito near Talpa, N. Mex.

LOCATION.--Lat 36°19'55", long 105°34'42", Taos County, in Carson National Forest, Rancho del Rio Grande Grant, on right bank 1 mile southeast of Talpa, and 2.1 miles upstream from mouth.

DRAINAGE AREA.--37.0 sq mi.

PERIOD OF RECORD.--March 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 7,223 ft (from topographic map).

AVERAGE DISCHARGE.--15 calendar years, 7.60 cfs (5,510 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 56 cfs Aug. 4 (gage height, 2.25 ft); minimum, 0.16 cfs Jan. 31, result of freezeup.

Period of record: Maximum discharge, 193 cfs July 31, 1968 (gage height, 2.37 ft), from rating curve extended above 70 cfs; minimum, 0.16 cfs Jan. 31, 1972, result of freezeup.

REMARKS.--Records good except those below 1.0 cfs, which are fair. No diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.6	2.1	2.4	3.7	5.1	3.5	1.3	.30	2.1	1.3	1.9	2.1
2	1.8	1.8	2.2	4.0	5.0	3.3	1.3	.58	2.7	1.3	1.4	2.0
3	1.8	1.5	2.6	4.0	4.9	3.2	1.1	.84	2.7	1.3	2.0	1.9
4	1.2	1.8	2.6	4.1	4.8	3.1	1.4	2.2	2.4	1.3	2.0	2.0
5	1.0	1.7	2.7	4.0	4.8	2.9	2.7	1.4	2.0	1.2	2.1	1.9
6	1.3	1.7	2.8	4.1	5.1	2.8	2.3	1.5	2.0	1.4	2.1	1.8
7	1.5	1.7	3.1	4.5	5.6	2.7	2.0	1.3	2.5	1.6	1.8	2.1
8	1.7	1.6	3.1	4.7	5.5	2.7	1.7	2.0	1.9	1.6	2.1	2.0
9	1.9	1.6	3.6	4.7	5.1	2.9	1.9	1.8	2.0	1.5	2.2	2.0
10	2.0	1.6	4.0	4.8	4.9	2.7	1.8	1.5	2.0	1.5	1.9	2.0
11	2.0	1.6	4.3	5.1	4.8	2.5	1.6	1.3	1.8	1.4	2.1	2.0
12	1.9	1.6	4.4	5.9	4.7	2.9	1.3	1.1	1.8	1.4	2.3	1.4
13	1.8	1.6	4.6	6.1	4.6	3.3	1.4	1.0	1.8	1.6	2.0	1.9
14	1.8	1.6	4.7	6.6	4.4	2.9	1.3	1.1	1.7	1.6	1.5	2.9
15	1.8	1.4	4.6	5.8	4.3	2.8	1.0	1.3	2.8	1.7	2.0	1.8
16	2.1	1.2	3.9	6.0	4.2	4.0	1.2	1.3	2.1	1.9	2.1	2.3
17	2.4	1.4	4.3	6.0	4.2	3.4	1.5	1.4	1.8	2.0	1.9	2.8
18	2.3	1.4	4.2	5.8	4.2	3.0	1.5	1.3	1.6	2.0	2.2	3.0
19	2.0	1.4	4.3	5.5	4.2	2.5	1.3	1.3	1.5	2.1	2.2	2.9
20	1.9	1.5	4.0	5.5	4.8	2.2	1.1	1.3	1.6	2.4	1.6	2.7
21	1.8	1.6	4.1	5.4	4.2	2.1	1.2	1.5	1.6	2.4	1.6	2.1
22	1.8	1.8	4.2	5.7	4.0	2.0	1.1	1.2	1.6	2.2	.74	2.0
23	1.7	1.9	4.4	5.4	3.9	1.9	.86	1.1	1.5	2.0	.70	2.1
24	1.7	2.0	3.9	5.3	3.7	2.2	.97	.97	1.5	2.1	1.8	1.9
25	1.7	2.0	3.9	5.3	3.6	1.9	1.2	1.0	1.4	2.0	2.3	1.6
26	1.9	2.1	4.3	5.4	3.5	1.7	1.4	1.9	1.4	1.9	2.6	1.3
27	1.8	2.1	3.9	5.4	3.3	1.6	1.3	1.8	1.4	2.0	3.3	1.5
28	1.7	2.1	3.5	5.4	3.3	1.4	.89	2.3	1.4	2.1	1.8	3.4
29	1.7	2.3	2.7	5.2	3.3	1.3	.70	2.1	1.3	2.1	2.3	3.1
30	1.7	-----	3.2	5.1	3.8	1.4	.60	1.8	1.3	2.1	1.7	2.0
31	1.1	-----	3.1	-----	4.1	-----	.38	1.6	-----	2.1	-----	1.8
TOTAL	54.4	49.7	113.6	154.5	135.9	76.8	41.30	43.09	55.2	55.1	58.24	66.3
MEAN	1.75	1.71	3.66	5.15	4.38	2.56	1.33	1.39	1.84	1.78	1.94	2.14
MAX	2.4	2.3	4.7	6.6	5.6	4.0	2.7	2.3	2.8	2.4	3.3	3.4
MIN	1.0	1.2	2.2	3.7	3.3	1.3	.38	.30	1.3	1.2	.70	1.3
AC-FT	108	99	225	306	276	152	82	85	109	109	116	132

CAL YR 1972 TOTAL 904.13 MEAN 2.47 MAX 6.6 MIN .30 AC-FT 1,790  
WTR YR 1972 TOTAL 956.19 MEAN 2.61 MAX 6.6 MIN .30 AC-FT 1,900

PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G. H.	DISCHARGE
8- 4	1500	2.25	56

08276300 Rio Pueblo de Taos below Los Cordovas, N. Mex.

LOCATION.--Lat 36°22'39", long 105°40'05", Taos County, in Gijosa Grant, on left bank 1.9 miles southwest of Los Cordovas, 2.5 miles downstream from Rio Grande del Rancho, and 5.1 miles upstream from mouth.

DRAINAGE AREA.--380 sq mi.

PERIOD OF RECORD.--March 1957 to current year.

GAGE.--Water-stage recorder. Concrete control since July 16, 1963. Datum of gage is 6,652 ft above mean sea level.

AVERAGE DISCHARGE.--15 calendar years, 44.5 cfs (32,240 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 55 cfs Oct. 15 (gage height, 2.32 ft); maximum gage height, 2.74 ft Dec. 13 (backwater from ice); minimum discharge, 1.9 cfs July 31, Aug. 1, 1972. Period of record: Maximum discharge, 2,380 cfs Aug. 24, 1957 (gage height, 5.80 ft), from rating curve extended above 900 cfs; minimum, 1.9 cfs July 31, Aug. 1, 1972.

REMARKS.--Records good except those for January and December, which are poor. Diversions for irrigation of about 12,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1732: 1957(M). WSP 1923: 1957(P), 1958.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	22	19	26	14	5.8	5.5	3.8	2.2	5.2	5.7	13	14
2	21	17	25	13	4.6	5.5	3.3	2.5	4.7	5.5	12	14
3	17	16	26	13	5.2	5.5	2.9	2.5	5.0	5.6	13	14
4	16	19	26	12	5.2	6.0	3.1	3.8	5.0	5.8	12	15
5	15	20	26	13	4.9	5.5	4.6	4.0	4.4	6.7	13	15
6	16	20	26	11	6.1	4.0	5.2	2.5	5.3	7.2	13	15
7	17	21	26	11	7.2	4.6	4.0	2.7	6.3	8.0	12	15
8	18	22	25	10	6.4	4.6	4.9	3.1	4.8	7.5	12	15
9	19	25	25	8.9	6.4	4.6	4.9	3.1	5.2	7.1	17	16
10	20	24	27	7.7	6.7	4.0	4.6	3.3	5.8	7.0	16	15
11	21	25	28	7.3	6.4	3.1	3.8	3.3	4.5	6.9	14	15
12	21	23	29	8.1	5.5	3.8	2.9	3.0	4.5	7.0	13	15
13	21	24	29	7.3	4.9	6.7	2.7	2.8	4.0	7.4	14	15
14	20	26	30	7.0	4.3	5.8	2.7	3.0	3.8	7.3	14	14
15	18	28	28	8.1	4.6	5.2	2.5	3.0	3.6	9.3	15	13
16	19	28	27	7.0	5.2	5.8	2.7	2.6	3.5	7.0	15	12
17	20	30	26	6.7	5.5	5.2	2.9	5.0	3.3	7.4	15	12
18	15	31	26	6.1	5.5	4.6	2.7	12	3.2	7.5	17	13
19	15	31	24	6.4	5.2	4.0	2.5	5.2	3.3	9.5	17	14
20	18	31	26	6.7	6.1	3.3	2.4	5.0	3.9	11	16	14
21	19	29	26	7.7	5.0	2.9	2.5	4.7	3.7	10	16	14
22	20	32	26	6.7	5.0	3.1	2.3	4.2	3.8	9.5	15	13
23	23	30	29	6.7	5.0	3.6	2.3	4.1	3.7	12	14	13
24	23	27	27	5.8	5.0	4.3	2.9	3.5	3.6	11	14	12
25	19	26	25	6.1	4.5	4.0	2.9	3.5	3.5	9.8	15	12
26	21	26	22	6.4	4.5	3.3	2.7	5.3	3.4	9.7	15	11
27	24	26	19	6.4	4.5	2.7	2.9	4.8	3.4	9.4	15	12
28	22	26	23	6.7	5.0	2.5	3.3	5.6	4.0	11	14	13
29	21	26	18	6.7	6.0	2.5	2.7	5.1	4.2	10	14	12
30	21	-----	16	6.1	8.0	3.6	2.7	5.1	5.3	11	14	11
31	18	-----	15	-----	7.0	-----	2.2	5.3	-----	12	-----	10
TOTAL	600	728	777	249.6	171.0	129.8	98.5	125.8	127.9	261.8	429	418
MEAN	19.4	25.1	25.1	8.32	5.52	4.33	3.18	4.06	4.26	8.45	14.3	13.5
MAX	24	32	30	14	8.0	6.7	5.2	12	6.3	12	17	16
MIN	15	16	15	5.8	4.3	2.5	2.2	2.2	3.2	5.5	12	10
AC-FT	1,190	1,440	1,540	495	339	257	195	250	254	519	851	829

CAL YR 1972 TOTAL 4,116.4 MEAN 11.2 MAX 32 MIN 2.2 AC-FT 8,160

WTR YR 1972 TOTAL 4,951.6 MEAN 13.5 MAX 45 MIN 2.2 AC-FT 9,820

PEAK DISCHARGE (BASE, 230 CFS).--No peak above base.

08276500 Rio Grande below Taos Junction Bridge, near Taos, N. Mex.

LOCATION.--Lat 36°19'12", long 105°45'14", in NW¼NE¼ sec.15, T.24 N., R.11 E., Taos County, on left bank 1.7 miles downstream from bridge on State Highway 96, 2.0 miles downstream from Rio Pueblo de Taos, and 11.8 miles southwest of Taos.

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

PERIOD OF RECORD.--July 1925 to current year. Prior to October 1930 monthly discharge only, published in WSP 1312. Published as "at Taos Junction Bridge, near Taos" prior to 1934.

GAGE.--Water-stage recorder. Datum of gage is 6,050.3 ft above mean sea level. Prior to Apr. 14, 1934, at bridge 1.7 miles upstream at different datum.

AVERAGE DISCHARGE.--47 calendar years, 720 cfs (521,600 acre-ft per year); 20 calendar years (1953-72), 561 cfs (406,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, about 1,100 cfs Mar. 16; minimum, 171 cfs July 25.

Period of record: Maximum discharge, 9,730 cfs June 7, 1948 (gage height, 9.18 ft), and June 22, 1949 (gage height, 9.23 ft); minimum, 155 cfs Sept. 21, 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 above station for irrigation of about 620,000 acres in Colorado and 30,000 acres in New Mexico.

REVISIONS (WATER YEARS).--WSP 788: 1934(M). WSP 828: Drainage area. WSP 1392: 1931-32, 1935, 1937, 1945, 1950.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	560	490	789	367	266	284	215	234	308	271	574	470
2	543	490	819	397	254	286	211	213	300	263	539	528
3	534	469	799	447	258	288	202	206	301	253	606	536
4	494	460	828	421	258	287	210	201	311	246	692	537
5	410	472	776	394	235	287	281	204	310	242	871	529
6	420	469	777	382	229	290	257	197	310	243	921	545
7	460	466	796	365	249	297	223	198	320	252	952	523
8	439	463	819	341	249	298	217	199	316	248	842	511
9	434	475	850	339	247	303	212	201	314	248	806	495
10	440	474	864	352	247	318	219	212	319	306	778	468
11	457	476	880	367	248	316	215	210	316	337	736	495
12	473	471	906	366	242	297	215	226	299	354	726	523
13	483	496	948	363	247	308	206	251	295	360	731	483
14	478	509	990	353	234	304	196	261	295	347	701	467
15	472	511	1,030	344	226	301	191	263	296	326	687	468
16	483	522	1,050	360	232	300	225	259	299	290	671	460
17	481	547	1,050	361	234	304	189	259	303	269	643	454
18	474	552	1,000	332	235	300	182	281	296	254	644	449
19	476	576	900	333	236	309	184	272	295	253	643	438
20	478	562	800	343	243	299	181	269	308	260	668	453
21	477	569	700	333	237	287	181	274	310	310	706	459
22	486	581	600	326	240	275	179	273	304	288	615	477
23	513	601	545	313	242	269	176	277	293	289	595	490
24	511	649	496	300	252	267	177	286	291	406	477	499
25	487	684	463	292	255	253	184	286	280	370	430	505
26	489	710	441	282	260	242	191	280	266	354	428	490
27	509	741	422	297	266	232	212	270	262	459	489	487
28	523	761	421	312	272	225	208	287	268	598	517	493
29	508	773	400	307	277	219	197	292	270	619	522	499
30	514	-----	383	281	282	216	196	293	272	595	442	486
31	499	-----	372	-----	279	-----	212	300	-----	588	-----	460
TOTAL	15,005	16,819	22,914	10,370	7,724	8,461	6,344	7,734	8,927	10,498	19,652	15,177
MEAN	484	552	739	346	249	282	205	249	298	339	655	490
MAX	560	773	1,050	447	282	318	281	300	320	619	952	545
MIN	410	460	372	281	226	216	176	197	262	242	428	438
AC-FT	29,760	31,770	45,450	20,570	15,320	16,780	12,580	15,340	17,710	20,820	38,980	30,100

CAL YR 1972 TOTAL 149,825 MEAN 407 MAX 1,050 MIN 176 AC-FT 295,200  
WTR YR 1972 TOTAL 155,159 MEAN 424 MAX 1,050 MIN 176 AC-FT 307,800

PEAK DISCHARGE (BASE, 1,600 CFS).--No peak above base.

NOTE.--No gage-height record Mar. 16-22.

08279000 Embudo Creek at Dixon, N. Mex.

LOCATION.--Lat 36°12'39", long 105°54'47", in NE¼SE¼ sec.19, T.23 N., R.10 E., Rio Arriba County, on right bank 750 ft upstream from U.S. Highway 64, 0.5 mile upstream from mouth, 0.5 mile east of Embudo Post Office, and 1.7 miles northwest of Dixon. Prior to Sept. 2, 1971, at site 750 ft downstream.

DRAINAGE AREA.--305 sq mi.

PERIOD OF RECORD.--October 1923 to February 1926, October 1926 to September 1955, annual maximum, water years 1956-62, September 1962 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for July 6-25, 1932, published in WSP 733, and maximum discharges for water years 1931-33, 1935, 1937-38, 1941, are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 5,858.60 ft above mean sea level. Prior to Nov. 30, 1938, at site about 1 mile upstream at different datums. Nov. 30, 1938 to Aug. 1, 1941, at site about 0.9 mile upstream at datum about 59.9 ft higher. Aug. 2, 1941 to Sept. 1, 1971, at site 750 ft downstream at datum 9.10 ft lower. April 1956 to Sept. 21, 1962, crest-stage gage.

AVERAGE DISCHARGE.--40 calendar years (1924-25, 1927-54, 1963-72), 76.6 cfs (55,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 151 cfs Aug. 17 (gage height, 2.61 ft); maximum gage height, 2.82 ft Jan. 5 (ice jam); minimum discharge, 4.0 cfs Aug. 16, 17.

Period of record: Maximum discharge determined, 2,280 cfs Aug. 4, 1967 (gage height, 7.6 ft), from rating curve extended above 410 cfs on basis of slope-area measurement of peak flow; minimum, 0.06 cfs June 26, 27, 1950.

REMARKS.--Records good. Diversions above station for irrigation of about 6,500 acres, a small part of which is below gage.

REVISIONS (WATER YEARS).--WSP 1512: 1931-32, 1941, 1947(M). See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	29	24	34	24	8.3	26	9.1	6.1	32	12	43	45
2	32	22	27	22	7.8	23	9.9	5.9	30	12	40	44
3	36	21	32	19	8.0	22	9.2	6.5	30	12	45	43
4	27	22	34	16	7.4	22	9.3	7.3	28	12	45	46
5	22	25	33	13	7.1	22	14	8.8	25	11	46	48
6	28	25	33	12	7.3	19	25	8.4	26	11	45	31
7	32	25	36	12	8.9	20	23	7.7	28	15	40	48
8	33	25	33	11	9.9	23	18	11	24	17	45	48
9	31	26	33	11	10	28	15	11	33	16	56	44
10	30	25	36	12	9.7	25	14	7.0	41	17	43	42
11	31	25	39	12	10	30	12	6.3	37	18	48	45
12	31	23	41	13	9.8	42	10	6.1	36	17	49	39
13	33	27	44	17	8.6	81	8.8	5.5	33	18	47	29
14	30	28	45	18	8.3	51	7.4	5.1	30	18	42	44
15	27	31	45	18	8.8	40	7.1	5.1	30	20	50	27
16	29	28	40	15	8.3	59	12	4.2	26	25	48	28
17	29	28	44	12	7.4	47	11	11	22	25	46	32
18	29	29	41	13	7.4	36	9.1	20	19	23	54	41
19	29	31	40	15	7.3	28	8.5	15	17	36	51	41
20	30	33	38	15	7.4	20	7.8	22	19	41	45	44
21	30	35	36	17	7.6	16	9.2	21	20	42	48	36
22	31	38	33	13	7.4	14	8.3	16	21	38	42	38
23	33	38	34	8.2	8.1	13	7.9	16	20	38	40	42
24	32	34	34	8.1	7.5	18	7.0	13	18	37	58	32
25	24	32	31	6.9	7.4	16	7.0	14	17	35	50	35
26	30	31	31	8.1	7.4	14	7.4	21	16	35	46	26
27	35	31	30	11	7.5	11	18	24	13	36	58	33
28	27	30	30	9.6	7.2	7.8	9.7	35	11	40	40	42
29	27	31	22	8.7	7.3	7.5	7.1	38	11	40	50	44
30	26	-----	23	7.9	13	7.4	6.7	39	11	40	41	39
31	19	-----	21	-----	29	-----	6.6	34	-----	42	-----	24
TOTAL	912	823	1,073	398.5	277.1	788.7	335.1	451.0	724	799	1,395	1,200
MEAN	29.4	28.4	34.6	13.3	8.94	26.3	10.8	14.5	24.1	25.8	46.5	38.7
MAX	36	38	45	24	29	81	25	39	41	42	58	48
MIN	19	21	21	6.9	7.1	7.4	6.6	4.2	11	11	40	24
AC-FT	1,810	1,630	2,130	790	550	1,560	665	895	1,440	1,580	2,770	2,380

CAL YR 1972 TOTAL 9,176.4 MEAN 25.1 MAX 81 MIN 4.2 AC-FT 18,200  
 WTR YR 1972 TOTAL 9,785.4 MEAN 26.7 MAX 91 MIN 4.2 AC-FT 19,410

PEAK DISCHARGE (BASE, 800 CFS).--No peak above base.

08279500 Rio Grande at Embudo, N. Mex.

LOCATION.--Lat 36°12'20", long 105°57'49", in SW¼SW¼ sec.23, T.23 N., R.9 E., Rio Arriba County, on right bank 0.2 mile downstream from bridge at Embudo, and 2.8 miles downstream from Eubudo Creek.

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

PERIOD OF RECORD.--January 1889 to current year. Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for Oct. 4 to Nov. 30, 1896, published in WSP 358, are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 5,789.14 ft above mean sea level. Jan. 1 to Feb. 28, 1889, nonrecording gage 1.2 miles upstream at different datum. March 1889 to December 1903, nonrecording gage 1,300 ft upstream at different datum. September 1912 to June 1914, water-stage recorder on downstream end of bridge pier at site 200 ft upstream at present datum.

AVERAGE DISCHARGE.--84 calendar years, 1,002 cfs (725,900 acre-ft per year); 20 calendar years (1953-72), 625 cfs (452,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,090 cfs Mar. 17 (gage height, 3.81 ft); minimum, 170 cfs July 24, 25. 1889-1903, 1912-72: 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 above station for irrigation of about 620,000 acres in Colorado and 40,000 acres in New Mexico.

REVISIONS (WATER YEARS).--WSP 358: 1900-1902. WSP 828: Drainage area. WSP 878: 1915-16. WSP 1512: 1892-99, 1904, 1916, 1931-32, 1939, 1944-45, 1950. WSP 1712: 1903(M). See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	569	500	809	377	267	304	230	230	336	272	614	486
2	560	499	824	382	254	305	228	219	331	266	572	536
3	558	476	828	450	251	306	216	209	325	257	616	558
4	502	469	830	423	259	310	225	201	334	249	689	564
5	401	481	791	393	237	311	287	207	331	245	852	553
6	427	481	784	377	225	307	317	201	336	246	908	558
7	505	479	804	364	242	317	269	198	344	258	951	557
8	484	474	823	335	248	321	244	207	338	258	895	528
9	459	483	852	328	245	329	232	210	351	253	842	533
10	461	491	873	338	245	337	234	214	363	285	814	493
11	473	494	892	359	245	351	230	213	357	351	780	517
12	493	474	915	367	242	345	226	214	342	353	764	536
13	506	509	952	374	236	398	216	245	327	377	766	500
14	499	523	994	361	231	364	204	257	326	357	740	495
15	492	535	1,030	357	228	348	198	259	323	346	719	478
16	495	531	1,060	361	231	364	366	256	323	320	716	462
17	502	560	1,080	369	230	352	203	256	319	287	679	468
18	490	576	1,030	342	234	340	192	331	311	274	685	481
19	492	602	966	335	236	342	187	278	304	287	690	466
20	497	589	880	350	242	330	187	288	319	285	692	475
21	495	605	724	346	238	309	189	285	323	333	739	474
22	501	616	629	331	238	296	187	281	321	325	650	489
23	524	633	576	316	243	286	181	281	309	303	633	511
24	540	681	532	302	246	288	178	285	300	415	549	512
25	504	712	485	291	257	275	181	293	292	409	496	517
26	500	736	465	288	258	263	192	301	276	382	451	502
27	530	766	441	298	263	249	216	289	263	440	512	503
28	539	785	439	316	269	238	215	314	266	608	525	518
29	530	798	413	309	278	231	195	329	271	647	559	532
30	520	-----	397	288	292	227	195	332	272	629	484	511
31	505	-----	380	-----	306	-----	201	330	-----	622	-----	469
TOTAL	15,553	16,553	23,498	10,427	7,716	9,343	6,821	8,013	9,533	10,939	20,582	15,782
MEAN	502	571	758	348	249	311	220	258	318	353	686	509
MAX	569	798	1,080	450	306	398	366	332	363	647	951	564
MIN	401	469	380	288	225	227	178	198	263	245	451	462
AC-FT	30,850	32,830	46,610	20,680	15,300	18,530	13,530	15,890	18,910	21,700	40,820	31,300

CAL YR 1972 TOTAL 154,760 MEAN 423 MAX 1,080 MIN 178 AC-FT 307,000  
WTR YR 1972 TOTAL 163,729 MEAN 447 MAX 1,080 MIN 178 AC-FT 324,800

PEAK DISCHARGE (BASE, 2,000 CFS).--No peak above base.

08281100 Rio Grande above San Juan Pueblo, N. Mex.

LOCATION.--Lat 36°03'58", long 106°04'34", in H&S Co. Sec. 10, T.21 N., R.8 E., Rio Arriba County, in San Juan Pueblo Grant, on left bank 0.8 mile upstream from bridge on Sta. 400. 1.0 mile northwest of San Juan Pueblo, 1.8 miles upstream from Rio Chama, and 5.1 miles north of Espanola.

DRAINAGE AREA.--10,550 sq mi, approximately (about 40 sq mi in closed basin in San Luis Valley, Colo.).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,630 ft (from topographic map).

AVERAGE DISCHARGE.--9 calendar years, 651 cfs (471,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,130 cfs Mar. 17 (gage height, 2.32 ft); minimum, 148 cfs July 31.

Period of record: 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 Rio Grande at Embudo (sta 08279500).

REMARKS.--Records good. Diversions above station for irrigation of about 620,000 acres in Colorado and 42,000 acres in New Mexico.

San Juan lateral and San Juan Pueblo ditch, both on left bank, and Guique ditch, on right bank, bypass gage for irrigation of several hundred acres below station. See tabulation below for monthly and yearly diversion, as furnished by Bureau of Reclamation.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	579	489	805	351	254	253	181	170	305	256	570	490
2	570	490	822	351	235	252	187	177	313	240	542	533
3	566	491	840	425	221	260	177	174	308	230	567	559
4	536	468	844	407	240	267	188	181	315	225	637	569
5	468	464	810	378	221	264	228	177	312	230	780	563
6	414	464	804	356	197	256	289	174	310	237	867	569
7	500	459	831	325	217	264	258	170	325	246	923	564
8	500	457	861	365	227	267	221	174	321	251	910	542
9	480	452	899	281	217	266	214	188	454	243	843	552
10	460	469	937	269	210	264	205	179	318	252	824	511
11	460	467	968	320	217	287	190	187	335	306	784	525
12	496	446	983	342	216	292	177	185	316	310	762	539
13	509	476	1,025	340	201	317	167	205	310	333	764	526
14	509	486	1,060	313	198	300	160	209	302	321	748	511
15	503	497	1,080	285	205	280	160	209	292	319	718	509
16	500	491	1,100	289	199	291	302	214	293	314	725	509
17	511	517	1,110	303	189	293	216	226	293	285	697	497
18	502	543	1,060	276	196	285	184	295	287	274	693	509
19	501	560	979	254	206	278	174	252	275	288	704	485
20	503	552	895	283	212	270	174	266	285	289	704	489
21	504	560	731	289	207	252	174	252	291	311	742	490
22	508	567	621	279	211	240	179	231	305	322	686	503
23	522	582	557	280	211	228	174	235	293	302	641	523
24	538	631	524	265	216	242	170	244	285	360	597	526
25	507	666	481	263	214	239	167	254	277	388	524	529
26	502	698	449	263	222	220	179	286	253	367	477	527
27	529	731	425	263	220	195	189	278	244	387	523	521
28	524	764	419	288	214	186	191	292	244	531	532	528
29	523	787	401	280	218	186	174	309	246	578	567	551
30	512	-----	384	268	250	184	164	311	241	573	516	528
31	504	-----	368	-----	265	-----	157	305	-----	572	-----	503
TOTAL	15,740	15,724	24,068	9,191	6,726	7,678	5,970	7,009	8,948	10,140	20,567	16,280
MEAN	508	542	776	306	217	256	193	226	298	327	686	525
MAX	579	787	1,110	425	265	317	302	311	454	578	923	569
MIN	414	446	368	254	189	184	157	170	241	225	477	485
AC-FT	31,220	31,190	47,740	18,230	13,340	15,230	11,840	13,900	17,750	20,110	40,790	32,290
(+)	0	0	0	81	64	66	116	193	121	87	40	135
(++)	0	0	0	301	486	449	446	618	216	125	20	66
(#)	0	0	0	173	132	347	202	192	161	268	0	0
CAL YR 1972	TOTAL 148,041	MEAN 404	MAX 1,110	MIN 157	AC-FT 293,600	+ 655	++ 2,710	# 1,490				
WTR YR 1972	TOTAL 156,718	MEAN 428	MAX 1,110	MIN 157	AC-FT 310,900	+ 904	++ 2,730	# 1,470				

PEAK DISCHARGE (BASE, 2,000 CFS).--No peak above base.

+ Diversion, in acre-ft, by San Juan lateral.  
 ++ Diversion, in acre-ft, by San Juan Pueblo ditch.  
 # Diversion, in acre-ft, by Guique ditch.



## 08284100 Rio Chama near La Puente, N. Mex.

LOCATION.--Lat 36°39'45", long 106°37'57", Rio Arriba County, in Tierra Amarilla Grant, on right bank 0.7 mile downstream from Rito de Tierra Amarilla, 3.1 miles southwest of La Puente, 6.7 miles upstream from flow line of El Vado Reservoir, and at mile 91.4.

DRAINAGE AREA.--480 sq mi, approximately.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Concrete control since Nov. 9, 1965. Altitude of gage is 7,083 ft (from river-profile map).

AVERAGE DISCHARGE.--17 calendar years, 298 cfs (215,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,370 cfs Apr. 10 (gage height, 4.06 ft); maximum gage height, 4.10 ft Dec. 27 (backwater from ice); minimum discharge, 5.5 cfs Aug. 24, 25.

Period of record: Maximum discharge, 8,040 cfs June 7, 1957 (gage height, 6.07 ft), from rating curve extended above 3,000 cfs on basis of an inflow-outflow study of El Vado Reservoir; minimum, 4.0 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 winter periods, which are poor. Diversions for irrigation of about 10,300 acres above station (1962 determination).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	60	48	123	213	305	169	14	6.7	12	21	215	100
2	65	50	94	228	291	147	14	6.7	12	22	213	100
3	65	50	111	225	287	132	13	7.1	14	21	234	105
4	65	50	132	271	287	137	11	7.1	14	16	215	110
5	63	50	145	425	312	141	15	8.3	12	102	225	115
6	65	50	159	585	308	126	20	8.8	17	111	211	85
7	68	50	188	643	330	111	18	7.9	27	102	184	90
8	65	50	203	880	281	108	16	7.7	21	338	198	95
9	65	50	229	928	244	109	15	7.4	20	151	208	100
10	65	51	277	965	237	95	16	7.2	22	110	170	100
11	65	50	342	992	216	86	17	6.8	27	84	193	90
12	65	49	367	886	199	105	14	6.9	42	76	188	85
13	65	50	401	695	197	154	14	6.5	44	143	169	70
14	63	52	444	567	185	129	11	7.3	30	144	156	70
15	63	55	408	482	186	95	10	7.6	26	135	179	75
16	63	70	352	461	181	87	12	7.3	22	211	155	80
17	63	80	375	538	178	82	20	7.2	18	204	167	80
18	63	95	364	560	175	72	15	6.9	17	190	174	85
19	63	110	435	456	179	57	13	10	25	389	163	85
20	63	125	423	475	177	46	12	13	95	1,090	157	90
21	63	200	409	389	184	36	13	13	55	567	153	85
22	63	500	452	464	182	33	14	11	38	376	129	80
23	60	380	498	508	155	33	12	9.8	31	290	122	85
24	60	180	421	532	140	35	11	6.2	28	271	139	80
25	55	119	377	552	133	30	12	6.0	26	226	132	75
26	50	107	377	477	130	23	15	8.7	25	204	132	75
27	50	108	319	434	119	18	12	11	24	193	139	78
28	51	118	274	402	116	15	11	14	24	217	120	80
29	51	128	233	390	117	15	8.4	16	22	210	115	80
30	50	-----	242	377	216	15	7.2	15	20	234	110	80
31	48	-----	226	-----	222	-----	7.2	14	-----	224	-----	80
TOTAL	1,883	3,075	9,397	16,000	6,469	2,441	412.8	279.1	810	6,672	5,065	2,688
MEAN	60.7	106	303	533	209	81.4	13.3	9.00	27.0	215	169	86.7
MAX	68	500	498	992	330	169	20	16	95	1,090	234	115
MIN	48	48	94	213	116	15	7.2	6.0	12	16	110	70
AC-FT	3,730	6,100	18,640	31,740	12,830	4,840	819	554	1,610	13,230	10,050	5,330

CAL YR 1972 TOTAL 55,191.9 MEAN 151 MAX 1,090 MIN 6.0 AC-FT 109,500  
WTR YR 1972 TOTAL 48,808.9 MEAN 133 MAX 992 MIN 6.0 AC-FT 96,810

PEAK DISCHARGE (BASE, 2,000 CFS).--No peak above base.

## RIO GRANDE BASIN

08284150 Willow Creek above Azotea Creek, near Park View, N. Mex.

LOCATION.--Lat 36°48'15", long 106°39'30", Rio Arriba County, in Tierra Amarilla Grant, on right bank 200 feet upstream from Azotea Creek, 7.1 miles northwest of Park View, and 8.3 miles southwest of Chama.

PERIOD OF RECORD.--April 1971 to current year.

DRAINAGE AREA.--42 sq mi, approximately.

GAGE.--Water-stage recorder and Parshall flume. Prior to Nov. 18, 1971, nonrecording gage. Datum of gage is 7,404.00 ft above mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Current year: Maximum discharge, 80 cfs Sept. 19 (gage height, 5.01 ft); no flow many days.

Period of record: Maximum discharge, 80 cfs Sept. 19, 1972 (gage height, 5.01 ft); no flow many days most years.

REMARKS.--Record represents natural runoff from the area.

COOPERATION.--Records furnished by Bureau of Reclamation.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.55	0	18	1.0	.01	1.9	.13	.02	.27	0	6.9	
2	.42	0	10	1.0	0	1.7	.11	0	.15	0	7.4	
3	.34	0	18	.85	.07	2.4	.48	0	.13	.10	11	
4	.10	0	29	.66	.16	1.5	.42	0	.24	.04	6.2	
5	.10	0	23	.52	.30	1.2	.46	0	.18	6.4	5.1	
6	.10	0	19	.50	1.1	1.2	2.4	0	.28	2.0	4.0	
7	.10	0	17	.50	1.5	.68	1.5	0	1.2	4.5	3.1	
8	.10	0	13	.38	2.5	2.4	1.6	0	.46	5.6	1.9	
9	.10	0	12	.30	2.0	4.9	1.3	0	.60	1.6	3.1	
10	.10	0	12	.24	1.9	3.2	1.0	0	1.5	.69	4.1	
11	.08	0	12	.20	2.3	3.2	1.3	0	4.1	.07	2.2	
12	.08	0	9.6	.26	2.3	6.8	.38	0	4.9	.05	2.2	
13	.08	0	8.4	.84	2.0	7.9	.24	0	1.2	4.1	1.2	
14	.08	0	6.9	1.0	2.9	5.0	.31	0	.21	2.5	1.9	
15	.08	0	5.4	.80	3.7	2.6	.11	0	.02	3.1	2.0	
16	.08	0	3.4	.69	3.3	3.0	.05	0	0	12	1.6	
17	.08	.36	3.4	.51	3.7	4.6	.03	0	0	9.0	2.2	
18	.08	8.0	2.7	.38	4.0	2.9	.08	.18	.09	4.8	2.1	
19	.08	24	1.9	.30	4.1	1.4	.27	.30	14	37	2.4	
20	.08	35	1.4	.27	2.8	.76	.05	.34	19	47	2.0	
21	.08	41	1.2	.24	3.7	.81	.18	.07	4.0	15	2.0	
22	.08	37	.97	.21	3.7	.71	.30	.09	2.5	6.0	1.9	
23	.08	35	1.2	.18	3.6	.55	.24	.05	1.9	2.5	3.1	
24	.10	27	2.7	.11	4.0	.78	.21	0	.72	1.4	2.5	
25	.10	19	1.3	.09	3.4	1.2	.07	0	.05	.47	2.4	
26	.08	16	.86	.08	2.1	.55	.03	0	.03	.18	1.4	
27	.08	20	.81	.07	2.4	.46	.21	.32	.02	.13	.66	
28	.08	31	1.0	.05	2.6	.42	.15	.46	.02	1.5	.46	
29	.08	23	1.0	.04	3.1	.30	.11	.27	.01	5.2	.24	
30	.08	-----	1.2	.03	6.3	.18	.18	.15	0	7.5	.20	
31	.08	-----	1.2	-----	5.4	-----	.07	.31	-----	9.3	-----	
TOTAL	3.73	316.36	239.54	12.30	80.94	65.20	13.97	2.56	57.78	189.73	87.46	0
MEAN	.12	10.9	7.73	.41	2.61	2.17	.45	.083	1.93	6.12	2.92	0
MAX	.55	41	29	1.0	6.3	7.9	2.4	.46	19	47	11	0
MIN	.08	0	.81	.03	0	.18	.03	0	0	0	.20	0
AC-FT	7.4	628	475	24	161	129	28	5.1	115	376	173	0

CAL YR 1972 TOTAL 1,069.57 MEAN 2.92 MAX 47 MIN 0 AC-FT 2,120

WTR YR 1972 TOTAL 880.14 MEAN 2.40 MAX 41 MIN 0 AC-FT 1,750

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

LOCATION.--Lat 36°51'12", long 106°40'18", Rio Arriba County, in Tierra Amarilla Grant, on left bank at south portal, 0.2 mile upstream from Azotea Creek, and 6.2 miles southwest of Chama.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 7,519.87 ft above mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Current year: Maximum discharge, 1,050 cfs Oct. 19 (gage height, 7.15 ft); no flow many days.

Period of record: Maximum discharge, 1,050 cfs Oct. 19, 1972 (gage height, 7.15 ft); no flow many days each year.

REMARKS.--Records represent regulated diversions from Rio Blanco, Little Navajo River, and Navajo River in San Juan River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.14	0	20	52	174	254	7.8	0	0	0	142	33
2	.14	0	6.4	57	147	260	3.4	0	0	0	133	41
3	.12	0	16	52	162	246	3.5	0	0	0	134	44
4	3.0	0	22	62	190	262	5.6	0	0	0	133	40
5	1.4	0	35	72	221	275	6.6	0	0	268	131	15
6	2.1	0	68	98	169	246	12	0	0	52	104	18
7	4.7	1.8	87	92	139	210	5.9	0	20	395	65	29
8	7.1	1.2	88	142	110	203	2.8	0	2.7	580	70	45
9	5.9	.67	106	173	123	195	1.2	0	.14	187	66	40
10	5.3	1.8	137	200	142	186	.56	0	.02	73	58	42
11	6.2	.40	149	209	119	172	.33	0	.02	89	59	44
12	6.5	0	149	228	112	218	0	0	22	75	58	42
13	8.5	0	156	189	104	333	0	0	6.8	253	51	32
14	5.2	1.9	140	154	98	190	0	0	1.1	134	48	34
15	3.8	1.7	114	135	136	150	0	0	.14	199	48	33
16	6.3	.99	98	138	148	140	89	0	0	299	45	32
17	6.8	0	110	168	148	133	36	0	0	320	45	33
18	7.0	0	112	169	174	118	6.9	0	0	372	44	38
19	6.3	3.5	128	144	203	100	4.2	.17	25	822	43	37
20	6.8	5.1	115	144	222	83	1.9	5.5	160	938	48	36
21	6.6	7.9	109	128	307	66	.44	.91	14	728	63	31
22	6.4	9.7	119	154	240	64	5.0	0	2.8	507	51	34
23	7.4	13	128	182	166	53	4.0	0	.56	422	46	38
24	6.1	20	106	226	156	59	1.5	0	0	334	52	30
25	1.5	16	94	256	168	42	6.8	0	0	260	44	31
26	6.2	9.2	93	206	174	31	26	0	0	218	38	24
27	6.8	11	82	171	164	13	3.8	0	0	205	47	32
28	2.4	16	70	166	185	6.7	1.3	12	0	194	31	39
29	4.1	31	52	204	206	6.1	.56	1.1	0	174	36	35
30	1.2	-----	50	226	244	6.8	.12	2.9	0	165	29	31
31	1.2	-----	50	-----	249	-----	0	.60	-----	158	-----	21
TOTAL	143.20	152.86	2,809.4	4,597	5,300	4,321.6	237.21	23.18	255.28	8,421	1,962	1,054
MEAN	4.62	5.27	90.6	153	171	144	7.65	.75	8.51	272	65.4	34.0
MAX	8.5	31	156	256	307	333	89	12	160	938	142	45
MIN	.12	0	6.4	52	98	6.1	0	0	0	0	29	15
AC-FT	284	303	5,570	9,120	10,510	8,570	471	46	506	16,700	3,890	2,090
CAL YR 1972	TOTAL 29,276.73	MEAN 80.0	MAX 938	MIN 0	AC-FT 58,070							
WTR YR 1972	TOTAL 20,710.53	MEAN 56.6	MAX 333	MIN 0	AC-FT 41,080							

## RIO GRANDE BASIN

08284200 Willow Creek above Heron Reservoir, near Park View, N. Mex.

LOCATION.--Lat 36°44'33", long 106°37'34", Rio Arriba County, in Tierra Amarilla Grant, on right bank 200 ft downstream from bridge, 0.2 mile downstream from Iron Spring Creek, 3.3 miles west of Park View, and at mile 9.7.

DRAINAGE AREA.--112 sq mi.

PERIOD OF RECORD.--October and November 1962 (monthly discharge only), December 1962 to current year.

GAGE.--Water-stage recorder. Concrete control since June 6, 1963. Datum of gage is 7,196.29 ft above mean sea level (levels by Bureau of Reclamation). Prior to Apr. 1, 1971, at site 900 ft downstream at lower datum.

AVERAGE DISCHARGE.--7 calendar years (1963-69), 11.5 cfs (8,330 acre-ft per year), prior to completion of Azotea tunnel.

EXTREMES.--Current year: Maximum discharge, 1,180 cfs Oct. 19 (gage height, 5.16 ft); minimum daily, 0.12 cfs Sept. 18.

Period of record: Maximum discharge, 1,600 cfs Aug. 11, 1967 (gage height, 3.88 ft, site and datum then in use), prior to completion of Azotea tunnel; no flow at times most years prior to 1971.

REMARKS.--Records represent inflow to Heron Reservoir and include San Juan River water imported through Azotea tunnel (see sta 08284160). See table below for inflow from a small tributary that enters Willow Creek from left bank just downstream from site in use subsequent to Mar. 31, 1971; records furnished by Bureau of Reclamation. Natural flow at new gage plus tributary inflow is equivalent to natural flow at former site.

COOPERATION.--Records furnished by Bureau of Reclamation.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.6	1.5	73	57	190	260	7.5	.58	1.8	.76	170	33
2	1.0	.36	23	72	154	251	6.2	.30	.67	.72	158	45
3	.64	.27	42	59	165	243	3.2	.24	.72	.59	168	47
4	.59	.22	61	69	197	267	3.3	.20	.34	3.0	155	49
5	.92	.21	61	75	233	247	10	3.9	.23	274	150	19
6	1.7	.21	83	98	183	227	14	.91	.54	64	130	18
7	2.6	.22	103	86	150	219	11	.36	18	286	78	30
8	6.0	.21	107	131	123	208	7.0	.36	7.0	515	81	45
9	7.0	.23	110	159	131	208	4.3	1.3	2.1	215	83	40
10	6.0	.26	154	187	151	196	3.7	.59	3.2	79	73	42
11	5.5	.34	167	213	127	182	2.9	.40	7.6	98	72	44
12	6.0	.52	161	230	120	194	2.7	.42	26	86	70	42
13	6.5	.56	174	200	113	357	1.5	.68	15	229	64	32
14	9.0	.42	148	163	108	212	1.2	.62	3.7	151	59	34
15	6.6	.66	126	144	136	163	.80	.42	1.2	197	64	33
16	4.2	4.0	109	136	159	147	77	.32	.36	296	56	32
17	6.0	5.7	121	177	149	147	58	.24	.22	312	56	33
18	7.0	110	118	179	177	132	14	.26	.12	332	56	38
19	7.0	150	138	147	206	115	5.8	.24	110	775	53	37
20	7.0	184	127	149	217	98	5.0	.83	205	961	52	36
21	7.0	215	117	130	297	77	2.5	6.2	25	716	75	31
22	7.0	265	127	152	249	79	1.7	1.8	8.6	492	58	34
23	7.0	215	134	180	180	59	5.3	1.2	3.4	392	55	38
24	7.0	124	122	218	166	73	2.9	.58	1.8	316	62	30
25	5.8	79	108	259	175	53	2.5	.36	.88	267	54	31
26	2.4	66	106	212	184	38	36	.36	.76	226	61	24
27	9.0	68	93	172	165	19	12	.34	.88	212	56	32
28	7.0	83	82	160	193	8.6	5.3	9.1	1.2	203	45	39
29	2.3	100	60	194	214	7.0	2.8	7.1	1.2	184	52	35
30	3.1	-----	62	230	253	7.0	1.8	1.8	1.3	185	29	31
31	2.2	-----	61	-----	234	-----	1.0	3.6	-----	176	-----	21
TOTAL	154.65	1,674.89	3,278	4,638	5,499	4,493.6	312.90	45.61	448.82	8,244.07	2,395	1,075
MEAN	4.99	57.8	106	155	177	150	10.1	1.47	15.0	266	79.8	34.7
MAX	9.0	265	174	259	297	357	77	9.1	205	961	170	49
MIN	.59	.21	23	57	108	7.0	.80	.20	.12	.59	29	18
AC-FT	307	3,320	6,500	9,200	10,910	8,910	621	90	890	16,350	4,750	2,130
(+)	0	0	0	0	44	6.1	0	0	0	.5	1.2	0

CAL YR 1972 TOTAL 32,259.54 MEAN 88.1 MAX 961 MIN .12 AC-FT 63,990 † 52  
WTR YR 1972 TOTAL 23,761.87 MEAN 64.9 MAX 357 MIN .12 AC-FT 47,130 † 51

† Inflow, in acre-feet, from tributary on left bank.

08284300 Horse Lake Creek above Heron Reservoir, near Park View, N. Mex.

LOCATION.--Lat 36°42'24", long 106°44'42", Rio Arriba County, in Tierra Amarilla Grant, on right bank 3.7 miles northwest of Heron Dam, 7.8 miles downstream from Horse Lake, and 9.9 miles west of Park View.

DRAINAGE AREA.--45 sq mi, approximately.

PERIOD OF RECORD.--October and November 1962 (monthly discharge only), December 1962 to current year.

GAGE.--Water-stage recorder. Concrete control since June 10, 1963. Datum of gage is 7,188.85 ft above mean sea level (levels by Bureau of Reclamation). Prior to July 1, 1971, at site 1,100 ft upstream at higher datums.

AVERAGE DISCHARGE.--10 calendar years, 0.93 cfs (674 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 160 cfs Sept. 19 (gage height, 3.09 ft), from rating curve extended above 37 cfs; no flow most of time.

Period of record: Maximum discharge, 3,960 cfs July 30, 1968 (gage height, 4.9 ft, site and datum then in use), from rating curve extended above 37 cfs on basis of slope-area measurements at gage heights 3.20 and 4.9 ft; no flow most of time.

REMARKS.--Diversions above station for irrigation of meadows and for off-channel stock tanks.

COOPERATION.--Records furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972												
DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		0	.28				0	0	0	0	2.0	
2		0	.07				0	0	.01	0	2.3	
3		0	.35				0	0	0	0	2.5	
4		0	.52				0	0	0	0	.56	
5		0	.21				0	.09	0	0	.20	
6		0	.11				0	0	.16	.17	.24	
7		0	.05				0	.15	.32	6.6	.10	
8		0	.04				0	0	.03	.79	.11	
9		0	.02				0	0	.02	.05	.63	
10		0	.02				0	0	0	.02	.10	
11		0	.02				0	0	.26	.02	.08	
12		0	.02				0	0	2.1	.02	.07	
13		0	.02				0	0	.05	.11	.05	
14		0	.02				0	0	.02	.85	.04	
15		0	.02				0	0	.01	4.3	.05	
16		0	.02				0	0	0	3.7	.05	
17		0	.02				0	.38	0	1.1	.05	
18		7.3	.02				0	.32	0	.14	.06	
19		12	0				0	.02	7.7	14	.05	
20		13	0				0	0	1.6	8.9	.04	
21		9.9	0				0	0	.05	.31	.05	
22		7.3	.01				0	0	.02	.07	.04	
23		12	.01				0	0	.02	.04	.04	
24		2.5	0				0	0	.02	.03	.04	
25		1.9	0				.06	0	.01	.02	.03	
26		.95	0				0	0	.01	.02	.02	
27		.82	0				0	0	0	.03	.02	
28		1.0	0				0	0	0	.18	.02	
29		.83	0				0	0	0	.07	.02	
30		-----	0				0	0	0	1.5	.03	
31		-----	0	-----		-----	0	0	-----	1.7	-----	
TOTAL	0	69.50	1.85	0	0	0	.06	.96	12.41	44.74	9.59	0
MEAN	0	2.40	.060	0	0	0	.002	.031	.41	1.44	.32	0
MAX	0	13	.52	0	0	0	.06	.38	7.7	14	2.5	0
MIN	0	0	0	0	0	0	0	0	0	0	.02	0
AC-FT	0	138	3.7	0	0	0	.1	1.9	25	89	19	0
CAL YR 1972	TOTAL	139.11	MEAN .38	MAX 14	MIN 0	AC-FT 276						
WTR YR 1972	TOTAL	94.64	MEAN .26	MAX 13	MIN 0	AC-FT 188						

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE
9-19	1930	3.09	160

## RIO GRANDE BASIN

08284510 Heron Reservoir near Park View, N. Mex.

LOCATION.--Lat 36°39'56", long 106°42'13", Rio Arriba County, in Tierra Amarilla Grant, at Heron Dam on Willow Creek, 0.2 mile upstream from Rio Chama, 5.1 miles northeast of El Vado Dam, and 8.7 miles southwest of Park View.

DRAINAGE AREA.--193 sq mi.

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

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Mar. 24, 1971, nonrecording gage.

EXTREMES.--Current year: Maximum contents, 70,050 acre-ft, Dec. 12 (elevation 7,098.8 ft); minimum, 42,520 acre-ft Jan. 3 (elevation 7,079.2 ft).

Period of record: Maximum contents, 70,050 acre-ft Dec. 12, 1972 (elevation, 7,098.8 ft); no storage prior to Oct. 21, 1970.

REMARKS.--Reservoir is formed by earthfill dam; storage began Oct. 21, 1970. Total capacity 401,300 acre-ft at elevation 7,186.1 ft (low point on crest of uncontrolled spillway), including 1,340 acre-ft of dead storage at elevation 7,003.0 ft, invert of gate sill of outlet tunnel. Reservoir is used for storage of transmountain water from San Juan River basin and for recreation. Figures given herein represent total storage.

COOPERATION.--Records furnished by Bureau of Reclamation.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Bureau of Reclamation in 1971)

7,070	32,920	7,090	56,320
7,080	43,430	7,100	72,110

## CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	42,630	42,750	42,970	47,260	56,040	62,430	63,520	53,800	49,400	49,400	66,080	69,380
2	42,630	42,750	42,860	47,390	56,320	62,900	63,520	53,250	49,400	49,400	66,400	69,380
3	42,630	42,750	42,970	47,510	56,610	63,520	63,520	52,840	49,400	49,280	66,730	69,380
4	42,630	42,750	43,090	47,510	56,900	64,000	63,370	52,300	49,400	49,400	66,890	69,550
5	42,630	42,750	43,200	47,760	57,480	64,310	63,370	51,900	49,400	49,920	67,050	69,720
6	42,630	42,750	43,200	47,880	57,770	64,470	63,370	51,500	49,400	50,180	67,220	69,720
7	42,630	42,750	43,320	48,010	58,210	64,790	63,370	51,100	49,400	51,500	67,380	69,550
8	42,630	42,750	43,430	48,260	58,360	64,950	63,210	50,700	49,400	52,160	67,550	69,720
9	42,630	42,750	43,550	48,640	58,650	65,110	62,900	50,700	49,400	52,430	67,710	69,720
10	42,630	42,750	43,780	48,900	58,950	65,110	62,590	50,700	49,400	52,430	67,880	69,880
11	42,630	42,750	44,020	49,400	59,090	65,110	62,120	50,570	49,530	52,570	67,880	69,880
12	42,630	42,750	44,250	49,790	59,240	65,270	61,660	50,440	49,530	52,710	68,040	69,880
13	42,630	42,750	44,600	50,180	59,540	65,750	61,200	50,310	49,400	53,250	68,040	69,720
14	42,630	42,750	44,840	50,440	59,690	66,080	60,590	50,310	49,400	53,520	68,210	69,380
15	42,630	42,750	44,960	50,700	59,990	66,400	59,990	50,180	49,400	54,080	68,210	68,040
16	42,630	42,750	45,080	50,970	60,140	66,730	59,690	50,050	49,400	54,630	68,210	66,400
17	42,630	42,860	44,960	51,230	60,440	66,890	59,690	50,050	49,400	55,190	68,370	64,790
18	42,630	42,970	45,080	51,630	60,740	67,050	59,540	49,920	49,400	55,760	68,540	63,210
19	42,630	43,320	45,320	51,900	61,200	67,050	59,240	49,920	50,180	57,770	68,540	61,510
20	42,630	43,780	45,440	52,160	61,660	66,730	58,800	49,790	49,660	59,690	68,700	59,540
21	42,630	44,250	45,560	52,300	62,120	66,560	58,360	49,790	49,530	61,050	68,700	57,190
22	42,750	44,600	45,790	52,570	62,120	66,240	57,910	49,790	49,530	61,820	68,870	56,320
23	42,750	44,480	46,160	52,980	62,120	65,920	57,480	49,790	49,530	62,590	68,870	56,320
24	42,750	44,130	46,280	53,380	61,970	65,750	57,040	49,660	49,530	63,210	69,040	56,470
25	42,750	43,660	46,520	53,800	61,820	65,270	56,760	49,530	49,530	63,520	69,040	56,470
26	42,750	43,780	46,650	54,220	61,660	64,950	56,320	49,530	49,530	64,000	69,040	56,040
27	42,750	43,900	46,770	54,630	61,510	64,470	55,900	49,530	49,400	64,470	69,210	54,910
28	42,750	43,660	46,890	54,910	61,360	64,160	55,470	49,400	49,400	64,790	69,210	54,080
29	42,750	43,430	47,010	55,190	61,360	63,840	55,050	49,400	49,400	65,110	69,210	53,660
30	42,750	-----	47,140	55,760	61,510	63,680	54,630	49,400	49,400	65,590	69,210	53,800
31	42,750	-----	47,260	-----	61,970	-----	54,210	49,400	-----	65,920	-----	53,800
MAX	42,750	44,600	47,260	55,760	62,120	67,050	63,520	53,800	50,180	65,920	69,210	69,880
MIN	42,630	42,750	42,860	47,260	56,040	62,430	54,210	49,400	49,400	49,280	66,080	53,660
(+)	7,079.4	7,080.0	7,083.2	7,089.6	7,093.8	7,094.9	7,088.5	7,084.9	7,084.9	7,096.3	7,098.3	7,088.2
(#)	+120	+680	+3,830	+8,500	+6,210	+1,710	-9,470	-4,310	0	+16,520	+3,290	-15,410

CAL YR 1972 MAX 69,880 MIN 42,630 # +11,170  
WTR YR 1972 MAX 67,050 MIN 37,620 # +11,780

+ Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

08284520 Willow Creek below Heron Dam, N. Mex.

LOCATION.--Lat 36°39'56", long 106°42'13", Rio Arriba County, in Tierra Amarilla Grant, in outlet conduits of Heron Dam, 0.2 mile upstream from Rio Chama, 5.1 miles northeast of El Vado Dam, and 8.7 miles southwest of Park View.

DRAINAGE AREA.--193 sq mi.

PERIOD OF RECORD.--January 1971 to current year.

GAGE.--Totalizing flowmeters in each of two outlet conduits (one 14-inch diam, one 120-inch diam) in Heron Dam.

EXTREMES.--Current year: Maximum daily discharge, 1,160 cfs Dec. 21; no flow many days.

Period of record: Maximum daily discharge, 1,160 cfs Dec. 21, 1972; no flow many days most years.

REMARKS.--Flow regulated by Heron Dam (see sta 08284510) since Oct. 21, 1970.

COOPERATION.--Records furnished by Bureau of Reclamation.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0	2.0	262	6.0	0	23	18	203	0	0	76	0
2	0	0	105	6.0	0	10	15	213	2.5	0	40	0
3	4.0	0	0	3.0	0	11	15	219	0	0	30	0
4	2.0	0	0	3.0	.50	11	15	218	2.5	0	46	2.0
5	3.0	0	0	3.0	2.5	61	18	218	0	12	31	0
6	2.0	0	61	1.0	0	109	11	211	1.0	13	36	1.0
7	4.0	0	45	2.5	0	111	5.5	211	1.0	8.3	26	16
8	0	0	57	2.5	6.3	126	69	134	5.0	8.4	15	0
9	0	0	37	2.5	10	153	163	0	1.0	13	0	0
10	4.0	0	38	2.0	10	151	160	18	1.0	26	0	0
11	1.5	0	38	1.5	10	157	163	36	9.7	12	0	4.0
12	1.5	0	38	1.5	6.4	156	231	36	25	0	0	38
13	2.0	0	29	3.0	0	106	275	36	31	0	28	151
14	4.0	0	31	5.5	0	23	273	36	12	7.8	24	247
15	0	0	14	2.0	17	33	273	36	0	11	0	640
16	0	0	88	2.0	24	31	197	36	0	28	30	879
17	4.0	0	106	3.7	20	29	5.7	33	0	41	5.0	875
18	2.0	3.0	39	7.8	13	30	63	30	0	57	0	803
19	2.0	0	39	1.5	9.8	107	188	30	2.5	0	0	870
20	2.0	0	61	1.5	9.8	163	206	15	222	86	27	1,050
21	4.0	0	14	1.5	57	175	208	0	145	109	0	1,160
22	0	199	2.5	1.5	210	197	205	0	0	90	0	498
23	0	288	5.0	1.5	220	204	203	15	0	17	0	0
24	4.0	344	5.0	0	238	215	204	30	0	25	7.7	0
25	1.5	291	5.0	0	251	216	205	31	12	59	0	0
26	2.0	39	5.0	0	250	215	205	31	9.2	14	0	296
27	2.0	39	14	0	250	212	204	31	1.0	17	13	593
28	4.0	172	3.0	0	250	186	204	11	0	0	9.3	593
29	0	262	5.0	0	250	170	202	0	.40	26	12	209
30	0	-----	5.6	0	150	89	202	0	.12	17	1.6	0
31	4.0	-----	6.0	-----	24	-----	204	2.5	-----	48	-----	0
TOTAL	59.5	1,639.0	1,158.1	66.0	2,289.30	3,480	4,610.2	2,120.5	483.92	745.5	457.6	8,925.0
MEAN	1.92	56.5	37.4	2.20	73.8	116	149	68.4	16.1	24.0	15.3	288
MAX	4.0	344	262	7.8	251	216	275	219	222	109	76	1,160
MIN	0	0	0	0	0	10	5.5	0	0	0	0	0
AC-FT	118	3,250	2,300	131	4,540	6,900	9,140	4,210	960	1,480	908	17,700
CAL YR 1972	TOTAL	26,034.62	MEAN	71.1	MAX	1,160	MIN	0	AC-FT	51,640		
WTR YR 1972	TOTAL	16,443.32	MEAN	44.9	MAX	344	MIN	0	AC-FT	32,620		

## RIO GRANDE BASIN

08285000 El Vado Reservoir near Tierra Amarilla, N. Mex.

LOCATION.--Lat 36°35'39", long 106°44'00", Rio Arriba County, in Tierra Amarilla Grant, at outlet tower of dam on Rio Chama, at village of El Vado, 12.4 miles southwest of Tierra Amarilla, and at mile 77.7.

DRAINAGE AREA.--873 sq mi, of which about 100 sq mi probably is noncontributing.

PERIOD OF RECORD.--January 1935 to September 1965 (monthend contents only), October 1965 to current year. Prior to October 1967, contents at about 0730 hrs.

GAGE.--Water-stage recorder. Prior to October 1967, nonrecording gage only below gage height 6,879.3 ft. Datum of gage is 8.21 ft above mean sea level.

EXTREMES.--Current year: Maximum contents, 21,710 acre-ft Dec. 29-31 (gage height, 6,812.3 ft); minimum, 1,110 acre-ft Jan. 1 to Feb. 14 (gage height, 6,775.3 ft).

Period of record: Maximum contents, 204,900 acre-ft June 4, 5, 1948 (gage height, 6,904.2 ft), of which 7,400 acre-ft was uncontrolled storage; no storage at times prior to December 1966.

REMARKS.--Reservoir is formed by rockfill dam, steel faced. Storage began in January 1935. Capacity 196,500 acre-ft between gage heights 6,759.0 and 6,902.0 ft (top of spillway gate). Dead storage, 1,060 acre-ft below 6,775.0 ft (sill of outlet works). Figures given herein represent total contents. Reservoir is used to impound water for irrigation by Middle Rio Grande Conservancy District and, since December 1972, for storage of transmountain water from San Juan River basin. Rehabilitation of outlet works, completed in December 1966, increased valve-controlled release from about 1,750 to about 6,000 (corrected) cfs.

COOPERATION.--Records furnished by Bureau of Reclamation.

Capacity table (gage height, in feet, and contents, in acre-feet)  
(Based on survey by Bureau of Reclamation in 1966)

6,775	1,060	6,790	6,510	6,805	15,770
6,780	2,190	6,795	9,240	6,810	19,730
6,785	4,100	6,800	12,290	6,815	24,180

## CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1,110	1,110	1,330	1,370	9,760	10,780	8,610	6,250	4,150	4,100	4,100	4,100
2	1,110	1,110	1,160	1,390	9,820	10,720	8,610	6,150	4,150	4,100	4,100	4,100
3	1,110	1,110	1,130	1,560	10,000	10,780	8,610	6,100	4,150	4,100	4,060	4,100
4	1,110	1,110	1,140	1,610	10,180	10,780	8,610	6,000	4,150	4,100	4,100	4,100
5	1,110	1,110	1,160	1,840	10,300	10,900	8,560	5,900	4,100	4,150	4,100	4,100
6	1,110	1,110	1,220	2,100	10,410	10,900	8,610	5,850	4,100	4,150	4,100	4,100
7	1,110	1,110	1,240	2,160	10,480	10,900	8,560	5,850	4,060	4,100	4,100	4,190
8	1,110	1,110	1,260	2,770	10,480	10,840	8,560	5,850	4,100	4,150	4,100	4,100
9	1,110	1,110	1,260	3,970	10,480	10,780	8,560	5,700	4,100	4,100	4,100	4,100
10	1,110	1,110	1,310	4,460	10,540	10,780	8,610	5,550	4,100	4,100	4,100	4,060
11	1,110	1,110	1,390	4,740	10,480	10,780	8,560	5,450	4,100	4,100	4,100	4,150
12	1,110	1,110	1,430	5,550	10,480	10,780	8,450	5,360	4,150	4,100	4,100	4,240
13	1,110	1,110	1,500	5,750	10,540	10,780	8,220	5,210	4,100	4,150	4,150	4,550
14	1,110	1,110	1,560	5,900	10,540	10,780	8,000	5,120	4,100	4,100	4,100	5,120
15	1,110	1,140	1,540	5,950	10,600	10,780	7,780	5,020	4,100	4,060	4,060	6,360
16	1,110	1,160	1,610	6,100	10,660	10,780	7,670	4,930	4,100	4,060	4,100	8,110
17	1,110	1,170	1,660	6,460	10,660	10,780	7,670	4,830	4,100	4,060	4,100	9,820
18	1,110	1,190	1,610	6,930	10,660	10,720	7,670	4,830	4,100	4,060	4,150	11,400
19	1,110	1,200	1,710	7,140	10,720	10,720	7,670	4,600	4,010	4,240	4,100	13,080
20	1,110	1,220	1,760	7,350	10,720	10,720	7,620	4,510	4,100	4,150	4,100	15,110
21	1,110	1,260	1,680	7,460	10,720	10,720	7,510	4,420	4,100	4,060	4,100	17,450
22	1,110	1,580	1,710	7,620	10,780	10,540	7,350	4,370	4,100	4,060	4,100	18,490
23	1,110	1,450	1,840	7,890	10,780	10,350	7,240	4,280	4,100	4,100	4,100	18,570
24	1,110	1,500	1,730	8,280	10,720	10,120	7,140	4,190	4,100	4,100	4,150	18,570
25	1,110	1,290	1,630	8,720	10,780	9,880	7,030	4,190	4,100	4,100	4,060	18,570
26	1,110	1,220	1,610	9,010	10,780	9,640	6,930	4,190	4,100	4,100	4,100	18,980
27	1,110	1,220	1,540	9,240	10,780	9,350	6,820	4,190	4,100	4,100	4,150	20,070
28	1,110	1,370	1,450	9,410	10,720	9,120	6,720	4,190	4,100	4,100	4,060	21,270
29	1,110	1,370	1,350	9,590	10,780	8,840	6,670	4,190	4,100	4,100	4,100	21,710
30	1,110	-----	1,370	9,700	10,840	8,720	6,510	4,190	4,060	4,100	4,150	21,710
31	1,110	-----	1,370	-----	10,840	-----	6,360	4,150	-----	4,100	-----	21,710
MAX	1,110	1,580	1,840	9,700	10,840	10,900	8,610	6,250	4,150	4,240	4,150	21,710
MIN	1,110	1,110	1,130	1,370	9,760	8,720	6,360	4,150	4,010	4,060	4,060	4,060
(+)	6,775.3	6,776.8	6,776.8	6,795.8	6,797.7	6,794.1	6,789.7	6,785.1	6,785.0	6,785.1	6,785.1	6,812.3
(#)	-20	+260	0	+8,330	+1,140	-2,120	-2,360	-2,210	-90	+40	+50	+17,560
(++)	0	0	0	0	0	0	0	0	0	0	0	17,630

CAL YR 1972 MAX 21,710 MIN 1,110 ± +20,580  
WTR YR 1972 MAX 19,390 MIN 1,060 ± -15,330

+ Gage height, in feet, at end of month.

# Change in contents, in acre-feet.

++ Storage, in acre-feet, of transmountain water from San Juan River basin.

NOTE.--No gage-height record Jan. 1 to Feb. 14.



08285500 Rio Chama below El Vado Dam, N. Mex.

LOCATION.--Lat 36°34'48", long 106°43'24", Rio Arriba County, in Tierra Amarilla Grant, on left bank 1.5 miles downstream from El Vado Dam, 2.8 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.

PERIOD OF RECORD.--October 1913 to November 1915, April to November 1916, March, April 1920, September 1920 to August 1924, October 1935 to current year. 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" 1915-16, and as "at El Vado" 1920-24.

GAGE.--Water-stage recorder. Datum of gage is 6,696.12 ft above mean sea level. 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.--36 calendar years (1936-71), 368 cfs (266,600 acre-ft per year), prior to release of transmountain water.

EXTREMES.--Current year: Maximum discharge, 1,550 cfs Oct. 20 (gage height, 4.09 ft); minimum, 10 cfs Oct. 1.

Period of record: Maximum discharge, 9,000 cfs May 22, 1920 (gage height, 12 ft, site and datum then in use), from rating curve extended above 3,500 cfs; no flow Mar. 25, 26, 31, 1955. Maximum discharge since construction of El Vado Dam in 1935, 6,010 cfs May 17, 1941 (gage height, 6.89 ft).

Flood of Oct. 4 or 5, 1911, was greater than floods in September 1904 and May 1920, from information by local residents.

REMARKS.--Records good except those for winter periods, which are fair. Flow regulated since 1935 by El Vado Reservoir (see sta 08285000). Since April 1972 flow affected by release of transmountain water from Heron Reservoir (see sta 08284510). Diversions for irrigation of about 10,600 acres above station.

REVISIONS (WATER YEARS).--WSP 1312: 1914, 1949. WSP 1392: 1949.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	63	50	400	216	277	219	61	261	20	11	301	125
2	67	52	301	208	227	167	51	257	13	14	253	111
3	72	52	125	212	205	136	33	269	17	18	291	116
4	72	52	136	219	205	122	25	265	18	14	266	103
5	72	52	148	285	219	137	29	265	18	43	258	108
6	72	52	202	450	249	205	27	253	36	157	257	80
7	72	52	240	524	269	219	26	227	61	128	234	84
8	69	52	257	563	297	253	62	174	27	291	216	133
9	69	53	269	568	257	273	167	90	18	209	212	119
10	69	53	293	580	234	285	174	77	19	137	188	122
11	69	51	349	591	234	306	184	95	52	98	188	76
12	69	51	395	597	212	257	282	95	91	79	188	74
13	67	53	410	558	194	242	386	95	67	103	188	67
14	67	55	434	480	198	158	381	95	51	184	216	72
15	67	63	439	429	167	121	381	93	24	189	184	90
16	65	78	405	367	158	133	286	93	19	248	174	95
17	65	90	480	331	205	119	30	88	19	267	188	98
18	65	108	414	331	212	103	56	88	20	248	158	100
19	65	122	410	331	164	147	180	88	101	348	171	103
20	65	139	444	336	184	188	245	76	304	1,250	194	106
21	65	177	439	336	223	206	273	47	245	733	148	88
22	65	330	414	336	381	302	273	39	50	511	145	74
23	63	645	439	340	381	310	273	55	25	299	116	74
24	63	475	444	314	376	327	273	58	34	306	142	78
25	58	486	405	302	362	331	273	45	36	303	161	85
26	52	191	372	302	367	331	273	44	36	220	111	85
27	53	155	349	302	372	327	273	41	20	224	125	88
28	53	223	297	306	372	306	253	28	20	227	161	90
29	53	381	245	306	331	293	249	20	31	242	103	83
30	52	-----	223	306	291	176	273	24	27	281	78	83
31	50	-----	223	-----	300	-----	265	24	-----	309	-----	83
TOTAL	1,988	4,393	10,401	11,326	8,123	6,699	6,017	3,469	1,519	7,691	5,615	2,893
MEAN	64.1	151	336	378	262	223	194	112	50.6	248	187	93.3
MAX	72	645	480	597	381	331	386	269	304	1,250	301	133
MIN	50	50	125	208	158	103	25	20	13	11	78	67
AC-FT	3,940	8,710	20,630	22,470	16,110	13,290	11,930	6,880	3,310	15,260	11,140	5,740

CAL YR 1972 TOTAL 70,134 MEAN 192 MAX 1,250 MIN 11 AC-FT 139,100  
WTR YR 1972 TOTAL 71,108 MEAN 194 MAX 952 MIN 13 AC-FT 141,000

## RIO GRANDE BASIN

08286500 Rio Chama above Abiquiu Reservoir, N. Mex.

LOCATION.--Lat 36°19'06", long 106°35'50", Rio Arriba County, on left bank 40 ft downstream from site of former bridge, 7.7 miles downstream from Rio Gallina, 9 miles northwest of Youngsville, 15.6 miles upstream from Abiquiu Dam, 30.3 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.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,275 ft (from topographic map).

AVERAGE DISCHARGE.--10 calendar years (1962-71), 338 cfs (244,900 acre-ft per year), prior to release of transmountain water.

EXTREMES.--Current year: Maximum discharge, 1,480 cfs Oct. 20 (gage height, 4.83 ft); minimum, 10 cfs Oct. 3.  
 Period of record: Maximum discharge, 4,890 cfs Aug. 11, 1968 (gage height, 8.30 ft), from rating curve extended above 3,000 cfs on basis of slope-area measurement of peak flow; minimum, 7.5 cfs Oct. 17, 18, 1963.  
 Major floods probably occurred on Sept. 29, 1904, Oct. 4 or 5, 1911, and May 22, 1920.

REMARKS.--Records good except those for winter periods and those for August and September, which are poor. Flow regulated by El Vado Reservoir (see sta 08285000). Since April 1972 flow affected by release of transmountain water from Heron Reservoir (see sta 08284510). Diversions for irrigation of about 15,000 acres above station. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	70	55	389	227	304	254	86	263	49	32	342	157
2	75	58	368	216	251	214	60	248	58	16	321	132
3	77	56	173	216	204	152	40	266	135	11	306	110
4	77	56	120	216	202	138	30	302	35	18	306	136
5	77	56	132	243	252	120	41	332	23	20	269	104
6	77	56	142	385	240	186	47	283	21	66	254	127
7	77	56	213	526	248	197	35	232	99	248	296	72
8	75	56	224	566	292	263	32	180	65	156	204	118
9	75	56	260	598	286	295	98	110	45	336	277	134
10	75	56	260	616	227	277	156	90	35	142	216	148
11	75	55	307	630	227	310	176	100	45	150	190	113
12	75	55	364	650	227	325	194	100	219	89	190	79
13	73	58	392	640	194	246	375	100	88	169	190	82
14	73	60	406	518	190	263	382	100	87	152	199	99
15	73	70	446	490	190	104	382	98	65	248	222	93
16	72	90	403	422	142	146	386	98	35	246	140	116
17	71	100	406	353	172	134	148	97	25	390	181	120
18	71	120	458	347	209	114	38	97	25	262	158	136
19	71	135	410	344	188	99	95	97	35	242	148	140
20	71	150	406	344	154	180	269	104	491	1,140	181	134
21	71	200	438	347	192	183	271	88	324	918	156	116
22	70	350	434	347	307	269	268	64	80	620	140	89
23	68	700	438	350	364	310	266	56	35	393	134	91
24	68	500	470	347	372	328	274	73	35	269	96	80
25	65	520	434	307	358	331	317	76	36	323	144	93
26	60	250	392	310	358	334	313	85	37	271	127	91
27	60	170	375	310	372	334	271	119	37	206	91	94
28	60	250	337	310	372	331	266	70	22	260	136	102
29	60	389	283	310	368	289	224	78	20	216	138	104
30	58	-----	238	307	322	298	268	77	30	292	80	94
31	55	-----	235	-----	298	-----	257	57	-----	322	-----	97
TOTAL	2,175	4,783	10,353	11,789	8,032	7,024	6,005	4,140	2,336	8,223	5,832	3,351
MEAN	70.2	165	334	393	259	234	194	134	77.9	265	194	108
MAX	77	700	470	650	372	334	386	332	491	1,140	342	148
MIN	55	55	120	216	142	99	30	56	20	11	80	72
AC-FT	4,310	9,490	20,540	23,380	15,930	13,936	11,910	8,210	4,630	16,310	11,570	6,650
CAL YR 1972	TOTAL	74,943	MEAN	202	MAX	1,140	MIN	11	AC-FT	146,900		
WTR YR 1972	TOTAL	74,628	MEAN	204	MAX	930	MIN	20	AC-FT	148,000		

## 08286900 Abiquiu Reservoir near Abiquiu, N. Mex.

LOCATION.--Lat 36°14'24", long 106°25'44", Rio Arriba County, in Piedra Lumbre Grant, in operations building at Abiquiu Dam on Rio Chama, 6.6 miles northwest of Abiquiu, and at mile 32.1.

DRAINAGE AREA.--2,146 sq mi, of which about 100 sq mi is probably noncontributing.

PERIOD OF RECORD.--February 1963 to September 1965 (monthend contents only), October 1965 to current year. Prior to October 1969, contents at 2400 hours.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 3,720 acre-ft Sept. 22 (elevation, 6,115.47 ft); minimum, 1,680 acre-ft Aug. 13 (elevation, 6,106.98 ft).

Period of record: Maximum contents, 99,580 acre-ft Sept. 13, 1965 (elevation, 6,186.61 ft); no storage at times prior to May 1968.

REMARKS.--Reservoir is formed by earthfill dam, completed Feb. 5, 1963. Capacity, 1,216,000 acre-ft between elevations 6,060 ft (invert of outlet tunnel) and 6,350 ft (crest of spillway), based on capacity table effective Jan. 1, 1971. No dead storage. Reservoir is normally used for flood control. From May 1965 to January 1966 storage normally held in El Vado Reservoir was held in Abiquiu Reservoir while outlet works at El Vado were being rehabilitated. A desilting pool of about 2,000 acre-ft has been maintained since May 1968.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Corps of Engineers in 1970)

6,105	1,410
6,110	2,200
6,115	3,560
6,120	5,510

## CONTENTS, IN ACRE-FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2,110	2,010	2,070	1,970	2,010	2,000	1,920	1,750	1,920	3,170	2,030	2,090
2	2,060	2,040	2,090	1,980	1,990	2,000	1,930	1,770	1,940	3,190	1,990	2,060
3	1,990	1,970	2,280	1,960	2,030	1,980	1,930	1,740	2,160	3,180	2,170	2,070
4	2,020	2,020	1,780	1,990	2,320	1,960	1,910	1,780	2,110	3,160	2,140	2,030
5	2,010	2,050	1,870	2,030	2,010	2,050	1,940	2,090	1,920	3,160	2,090	2,140
6	2,000	2,040	2,050	2,090	2,020	2,020	1,950	2,190	1,900	3,180	2,110	1,970
7	2,020	2,050	2,060	2,060	1,960	2,020	1,890	2,410	1,940	3,330	2,040	2,170
8	2,060	2,080	2,070	2,010	2,050	1,980	1,880	2,350	2,090	3,260	1,960	2,090
9	2,140	1,980	1,980	2,110	2,030	2,010	1,880	2,230	2,030	3,360	2,080	2,240
10	1,950	2,060	2,050	2,030	1,990	2,010	2,020	1,940	2,060	3,500	2,040	2,240
11	2,050	1,980	2,010	2,030	2,020	2,030	1,970	1,780	2,010	3,360	2,010	2,350
12	2,020	2,010	2,050	2,060	2,030	2,030	1,960	1,760	2,460	3,360	2,040	2,120
13	2,080	2,060	2,040	2,100	2,030	2,020	2,000	1,690	2,410	3,350	1,960	2,350
14	2,040	2,060	2,030	1,960	2,010	2,050	2,040	1,680	2,240	3,430	2,080	2,050
15	2,060	1,990	2,030	2,080	2,090	1,950	2,010	1,710	2,250	3,360	2,010	2,080
16	2,070	1,950	2,040	2,000	2,000	1,910	2,010	1,760	2,240	3,610	1,980	2,110
17	1,980	2,070	1,920	2,010	2,000	2,010	2,350	1,740	2,170	3,440	2,060	2,040
18	2,050	2,040	2,160	2,030	2,050	1,970	2,430	1,770	2,160	2,850	2,020	2,000
19	2,040	2,080	2,040	2,030	2,070	1,940	2,200	1,790	2,190	2,410	1,970	2,090
20	2,040	2,000	1,990	2,030	1,970	1,950	1,920	1,820	2,480	2,580	1,980	2,160
21	2,010	2,080	2,030	2,020	1,990	1,960	1,860	1,830	3,180	3,130	2,060	2,080
22	2,060	2,000	2,030	2,020	1,950	1,950	1,860	1,780	3,700	2,890	2,120	2,150
23	2,080	2,670	2,050	2,010	2,250	1,940	1,820	1,740	3,380	2,430	2,070	2,190
24	2,040	2,360	2,090	2,000	2,080	1,980	1,790	1,700	3,160	2,020	1,990	2,110
25	2,010	1,720	2,040	2,000	2,100	1,980	1,840	1,690	3,150	2,040	2,070	2,060
26	2,010	2,110	1,950	1,990	2,160	1,960	1,920	1,770	3,170	2,060	2,330	2,070
27	2,020	1,910	2,000	2,000	2,160	1,960	1,830	1,800	3,190	2,030	2,130	2,060
28	2,050	2,000	1,970	2,020	2,160	1,960	1,770	1,900	3,190	2,060	2,130	2,090
29	2,050	2,050	1,990	2,020	2,170	1,950	1,760	1,870	3,160	2,250	2,170	2,140
30	2,020	-----	1,950	2,020	2,180	1,960	1,780	1,930	3,160	2,030	2,080	2,080
31	2,010	-----	1,950	-----	2,100	-----	1,790	1,930	-----	2,070	-----	1,960
MAX	2,140	2,670	2,280	2,110	2,250	2,050	2,430	2,410	3,700	3,610	2,330	2,300
MIN	1,950	1,720	1,780	1,960	1,950	1,910	1,760	1,680	1,900	2,020	1,960	1,960
(+)	6,109.00	6,109.21	6,108.70	6,109.07	6,109.50	6,108.76	6,107.70	6,108.54	6,113.75	6,109.31	6,109.38	6,108.74
(+)	-30	+40	-100	+70	+80	-140	-170	+140	+1,230	-1,090	+10	-120

CAL YR 1972 MAX 3,700 MIN 1,680 ± -80  
WTR YR 1972 MAX 4,060 MIN 1,680 ± -500

+ Elevation, in feet, at end of month.  
± Change in contents, in acre-feet.



08289000 Rio Ojo Caliente at La Madera, N. Mex.

LOCATION.--Lat 36°20'59", long 106°02'37", in NW¼NE¼ sec.1, T.24 N., R.8 E., Rio Arriba County, on left bank 400 ft upstream from bridge on State Highway 96, 2.4 miles south of La Madera, 2.6 miles downstream from confluence of Rio Vallecitos and Rio Tusas, and 3.1 miles north of Ojo Caliente.

DRAINAGE AREA.--419 sq mi.

PERIOD OF RECORD.--April 1932 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,358.84 ft above mean sea level. Prior to Apr. 23, 1934, at site about 2.6 miles upstream at different datum. Apr. 23, 1934 to Apr. 21, 1936, at datum 12.58 ft lower and Apr. 22, 1936 to Oct. 26, 1956, at datum 13.84 ft lower, both at site 1,400 ft downstream.

AVERAGE DISCHARGE.--40 calendar years, 66.7 cfs (48,320 acre-ft per year); 20 calendar years (1953-72), 51.9 cfs (37,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 180 cfs Apr. 8 (gage height, 4.07 ft); minimum, 1.4 cfs Oct. 1.  
Period of record: Maximum discharge, 3,140 cfs Apr. 21, 1958 (gage height, 6.42 ft), from rating curve extended above 1,300 cfs; maximum gage height, 7.25 ft, from floodmarks, June 19, 1966; minimum discharge, 0.2 cfs Aug. 17, 1956.  
The flood of Apr. 21, 1958, may have been exceeded by a flood in May 1920, from information by local resident.

REMARKS.--Records fair. Diversions above station for irrigation of about 3,500 acres (1962 determination).

REVISIONS (WATER YEARS).--WSP 1712: 1959.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	24	17	41	37	16	12	4.7	3.4	4.7	3.4	29	20
2	25	15	30	39	13	12	4.7	3.6	4.4	2.5	27	20
3	23	16	31	39	12	11	4.9	3.6	4.1	2.9	30	19
4	21	16	46	46	12	11	7.0	4.1	4.5	3.7	29	22
5	20	16	50	72	13	10	6.3	4.9	3.1	4.1	29	21
6	23	17	50	94	14	7.9	4.8	3.8	3.5	5.6	29	15
7	23	18	53	82	16	7.3	4.8	3.6	3.7	8.6	28	23
8	23	19	51	104	18	7.2	3.9	3.7	3.7	14	26	26
9	21	19	52	76	17	6.5	3.2	3.7	5.9	19	29	23
10	21	19	58	71	16	5.3	3.9	3.6	11	14	29	23
11	22	19	81	77	13	5.5	3.6	7.6	11	13	28	23
12	22	18	94	63	12	6.0	3.6	3.7	13	11	29	20
13	23	18	103	50	12	5.9	3.5	3.3	17	11	27	18
14	22	18	115	51	12	5.8	3.4	3.3	14	12	25	23
15	21	20	109	39	10	5.6	3.4	3.6	11	13	27	20
16	21	20	82	39	9.6	6.4	4.2	5.4	9.3	16	24	19
17	21	20	82	40	9.3	6.7	4.2	4.2	7.4	18	25	21
18	21	20	74	37	10	6.6	4.7	4.5	7.4	19	30	23
19	21	23	89	37	11	6.2	4.4	4.3	7.8	29	26	22
20	21	25	88	33	10	5.1	3.9	4.5	10	34	26	22
21	21	30	78	31	11	4.8	4.3	4.5	8.8	30	24	21
22	21	35	86	31	11	4.8	4.3	4.2	8.4	27	19	20
23	22	39	91	30	9.5	5.9	4.0	4.2	6.6	22	16	21
24	21	38	79	28	8.9	6.7	3.8	4.0	6.9	19	25	20
25	19	37	64	27	8.4	6.6	4.1	3.8	7.7	18	20	20
26	20	30	64	25	7.7	6.4	4.0	4.6	7.6	18	19	18
27	22	30	49	23	7.7	5.9	3.9	4.8	6.6	17	25	18
28	20	30	43	22	7.6	5.6	3.8	5.0	6.8	19	16	20
29	19	36	37	19	7.7	4.8	3.4	4.6	6.2	19	21	21
30	18	-----	37	17	11	4.6	3.4	4.6	5.5	22	17	18
31	16	-----	38	-----	12	-----	3.5	4.5	-----	27	-----	17
TOTAL	658	678	2,045	1,379	358.4	206.1	129.6	131.2	227.6	491.8	754	637
MEAN	21.2	23.4	66.0	46.0	11.6	6.87	4.18	4.23	7.59	15.9	25.1	20.5
MAX	25	39	115	104	18	12	7.0	7.6	17	34	30	26
MIN	16	15	30	17	7.6	4.6	3.2	3.3	3.1	2.5	16	15
AC-FT	1,310	1,340	4,060	2,740	711	409	257	260	451	975	1,500	1,260

CAL YR 1972 TOTAL 7,695.7 MEAN 21.0 MAX 115 MIN 2.5 AC-FT 15,260  
 WTR YR 1972 TOTAL 7,749.9 MEAN 21.2 MAX 115 MIN 3.1 AC-FT 15,370

PEAK DISCHARGE (BASE, 600 CFS).--No peak above base.

## RIO GRANDE BASIN

08290000 Rio Chama near Chamita, N. Mex.

LOCATION.--Lat 36°04'26", long 106°06'40", in NE¼ sec. 8, T. 21 N., R. 8 E., Rio Arriba County, San Juan Pueblo Grant, at downstream end of pier nearest left bank of bridge on U.S. Highway 285, 0.5 mile west of Chamita, 2.5 miles northwest of San Juan Pueblo, and at mile 2.8.

DRAINAGE AREA.--3,144 sq mi, of which about 100 sq mi is probably noncontributing.

PERIOD OF RECORD.--October 1912 to current year. Monthly discharge only for some periods, published in WSP 1312. Published as Chama River near Chamita prior to 1928, and Chama River at Chamita 1929-30.

GAGE.--Water-stage recorder. Concrete control since Jan. 1, 1964. Datum of gage is 5,653.61 ft above mean sea level. Prior to Oct. 4, 1933, at railroad bridge 2.3 miles downstream at different datums. Oct. 4, 1933 to Mar. 1, 1942, at site 50 ft downstream at datum 0.22 ft higher. Mar. 2, 1942 to Dec. 31, 1963, at site 200 ft downstream, present datum.

AVERAGE DISCHARGE.--59 calendar years (1913-71), 537 cfs (389,100 acre-ft per year), prior to release of transmountain water.

EXTREMES.--Current year: Maximum discharge, 2,350 cfs Aug. 4 (gage height, 5.68 ft); minimum, 6.2 cfs Oct. 3. Period of record: Maximum discharge, 15,000 cfs May 22, 1920, from rating curve extended above 2,300 cfs; 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. Chamita ditch, on left bank, and Hernandez ditch, on right bank, bypass gage for irrigation of several hundred acres below station; see tabulation below for monthly and yearly diversion. Record for Chamita ditch furnished by Bureau of Reclamation. Flow partly regulated by El Vado Reservoir (see sta 08285000) and Abiquiu Reservoir (see sta 08286900), 74.9 and 29.3 miles upstream, respectively. Since April 1972 flow affected by release of transmountain water from Heron Reservoir (see sta 08284510) 83.0 miles upstream. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1512: 1913-15, 1934, 1936. WSP 1632: 1929(M). WSP 1732: 1931(M). WSP 1923: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	121	94	539	207	263	281	223	195	21	9.3	425	121
2	155	76	529	203	255	183	70	190	23	8.9	406	155
3	146	98	373	187	177	157	27	236	120	8.5	246	179
4	65	69	485	167	170	111	20	397	148	7.8	360	162
5	79	86	170	198	150	56	21	303	113	7.7	358	133
6	119	90	163	276	161	48	26	252	74	7.6	278	162
7	112	93	309	487	263	109	27	168	34	12	306	80
8	108	91	380	585	198	147	16	240	22	192	345	152
9	98	126	404	585	261	184	16	226	211	98	253	120
10	185	88	415	656	235	190	20	235	231	179	372	152
11	123	107	492	619	161	175	78	110	132	121	239	161
12	154	86	528	621	166	229	96	84	160	101	243	201
13	123	83	593	649	150	275	109	72	269	71	267	109
14	133	103	629	631	141	151	245	50	148	104	176	109
15	107	137	629	478	138	229	265	41	96	205	299	107
16	122	139	631	521	120	92	495	80	71	207	293	92
17	153	121	597	416	86	56	236	53	64	336	171	155
18	101	191	510	315	78	84	96	55	30	691	307	156
19	124	334	628	327	158	60	124	63	19	530	248	125
20	125	419	552	326	163	37	206	47	15	465	230	144
21	140	452	518	333	74	71	374	54	15	1,170	252	198
22	119	608	558	314	138	120	265	49	24	839	218	122
23	129	629	508	333	159	202	234	35	269	770	239	124
24	137	1,340	505	318	414	224	283	21	103	447	247	154
25	117	946	522	297	298	241	292	27	26	304	140	137
26	104	590	482	254	272	235	320	69	14	344	124	116
27	135	560	378	237	263	235	305	42	12	254	355	122
28	92	192	386	250	254	230	247	53	12	207	124	128
29	100	251	307	258	280	225	207	55	13	212	203	130
30	113	-----	289	275	346	209	153	42	11	314	253	152
31	98	-----	219	-----	330	-----	196	16	-----	351	-----	136
TOTAL	3,737	8,199	14,228	11,320	6,322	4,846	5,262	3,560	2,500	8,573.8	7,977	4,294
MEAN	121	283	459	377	204	162	170	115	83.3	277	266	139
MAX	185	1,340	631	656	414	281	495	397	269	1,170	425	201
MIN	65	69	163	167	74	37	16	16	11	7.6	124	80
AC-FT	7,410	16,260	28,225	22,450	12,540	9,610	10,440	7,060	4,960	17,010	15,820	8,520
(+)	0	0	187	923	1,160	1,280	598	825	201	435	280	0
(#)	-	-	-	a888	1,360	1,280	b146	765	550	467	-	-
CAL YR 1972	TOTAL 80,818.8	MEAN 221	MAX 1,340	MIN 7.6	AC-FT 160,300	† 5,890						
WTR YR 1972	TOTAL 85,683.0	MEAN 234	MAX 1,420	MIN 11	AC-FT 170,000	† 5,870						

† Diversion, in acre-feet, by Chamita ditch.

# Diversion, in acre-feet, by Hernandez ditch.

a Period Apr. 6-30.  
b Period July 20-31.

## Diversions from Rio Chama

During the irrigation season records of discharge are collected on all 17 ditches and 2 pumps which divert from Rio Chama below El Vado Dam. All measuring devices consist of totalizing type flow meters. All ditches are also equipped with Parshall flumes. In most cases meters on ditches are located below the most downstream waste way and above any irrigated land. Flows tabulated represent water that is delivered to each ditch or portion thereof and may include waste water from another ditch. No attempt is made to credit for water returned to Rio Chama or delivered to another ditch.

- 08286300 MONASTERY PUMP NEAR ALIRE, N. MEX.--Lat. 36°22'45", long 106°40'55", in SE¼SW¼, sec. 24, T.25 N., R.2 E., Rio Arriba County, in Santa Fe National Forest, totalizing flowmeter on discharge pipe of pump on left bank of Rio Chama, at Christ of the Desert Monastery, 8.8 miles southwest of Alire, and 24 miles northwest of Abiquiu. Established Apr. 3, 1972.
- 08287020 ABEYTA TRUJILLO DITCH NEAR ABIQUIU, N. MEX.--Lat 36°14'03", long 106°23'22", Rio Arriba County, in Carson National Forest, totalizing flowmeter and Parshall flume on left bank 0.9 mi downstream from heading located on left bank of Rio Chama, and 4.5 miles northeast of Abiquiu. Established Apr. 11, 1972.
- 08287040 WINFIELD MORTON PUMP NEAR ABIQUIU, N. MEX.--Lat 36°12'40", long 106°20'48", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter on discharge pipe of pump on left bank of Jose Pablo Gonzales ditch 700 ft downstream from ditch heading located on left bank of Rio Chama, and 1.4 mi west of Abiquiu. Established Apr. 3, 1972.
- 08287060 JOSE PABLO GONZALES DITCH NEAR ABIQUIU, N. MEX.--Lat 36°12'25", long 106°20'35", Rio Arriba County, in Town of Abiquiu Grant, totalizing flowmeter and Parshall flume on left bank, 0.5 mi downstream from Winfield Morton pump, 0.6 mi downstream from heading located on left bank of Rio Chama, and 1.2 mi west of Abiquiu. Established Apr. 11, 1972.
- 08287150 GONZALES DITCH AT ABIQUIU, N. MEX.--Lat 36°12'46", long 106°19'16", Rio Arriba County, in Town of Abiquiu Grant, totalizing flowmeter and Parshall flume on right bank, 0.2 mi downstream from heading located on right bank of Rio Chama, and 0.4 mi northwest of Abiquiu. Established Apr. 13, 1972.
- 08287200 LA PUENTE DITCH NEAR ABIQUIU, N. MEX.--Lat 36°12'52", long 106°16'27", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on left bank, 100 ft downstream from culvert on U.S Highway 84, 0.4 mi downstream from heading located on right bank of Rio Chama, and 2.5 mi east of Abiquiu. Established Apr. 11, 1972.
- 08287250 QUINTANA DITCH NEAR ABIQUIU, N. MEX.--Lat 36°12'55", long 106°16'26", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on right bank, 100 ft upstream from culvert on U.S. Highway 84, 0.2 mi downstream from heading located on right bank of Rio Chama, and 2.6 mi east of Abiquiu. Established Apr. 12, 1972.
- 08287270 VALENTINE MARTINEZ DITCH NEAR ABIQUIU, N. MEX.--Lat 36°12'55", long 106°16'12", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on right bank on north side of U.S. Highway 84, 0.2 mi downstream from heading located on left bank of Quintana ditch (see sta 08287250), and 2.8 mi east of Abiquiu. Established Apr. 12, 1972.
- 08287300 MARIANO DITCH NEAR ABIQUIU, N. MEX.--Lat 36°13'05", long 106°16'09", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on left bank 0.5 mi downstream from heading located on left bank of Rio Chama, and 2.9 mi east of Abiquiu. Established Apr. 10, 1972.
- 08287400 FERRAN DITCH NEAR ABIQUIU, N. MEX.--Lat 36°12'57", long 106°14'34", Rio Arriba County, in Carson National Forest, totalizing flowmeter and Parshall flume on left bank just downstream from siphon, 40 ft upstream from forest boundary, 0.2 mi downstream from culvert on State Highway 96, 0.4 mi downstream from tail of Mariano ditch (see sta 08287300), 0.9 mi downstream from heading located on left bank of Rio Chama, and 4.4 mi east of Abiquiu. Established Apr. 13, 1972.
- 08287600 TIERRA AZUL DITCH NEAR MEDANALES, N. MEX.--Lat 36°12'06", long 106°14'11", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on right bank 1.1 mi downstream from heading located on right bank of Rio Chama, and 3.5 mi northwest of Medanales. Established Apr. 13, 1972.
- 08288050 JOSE V. MARTINEZ DITCH NEAR MEDANALES, N. MEX.--Lat 36°11'44", long 106°13'39", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on left bank 0.1 mi downstream from heading located on left bank of Rio Chama, and 2.9 mi northwest of Medanales. Established Apr. 13, 1972.
- 08288100 MANZANARES AND MONTOYA DITCH NEAR MEDANALES, N. MEX.--Lat 36°11'13", long 106°12'35", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on right bank, 0.2 mi downstream from heading located on right bank of Rio Chama, and 1.7 mi northwest of Medanales. Established Apr. 10, 1972.
- 08288150 RIO DE CHAMA DITCH NEAR MEDANALES, N. MEX.--Lat 36°11'13", long 106°12'02", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on left bank, 0.5 mi downstream from tail of Jose V. Martinez ditch (see sta 08288050), 0.7 mi downstream from heading located on left bank of Rio Chama, and 1.3 mi northwest of Medanales. Established Apr. 7, 1972.
- 08288200 MARTINEZ AND DURANES DITCH (UPPER) NEAR MEDANALES, N. MEX.--Lat 36°10'55", long 106°11'59", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on right bank, 300 ft downstream from tail of Manzanares and Montoya ditch (see sta 08288100) 0.7 mi downstream from heading located on right bank of Rio Chama, and 1.1 mi northwest of Medanales. Established Apr. 11, 1972.
- 08288250 MARTINEZ AND DURANES DITCH (LOWER) NEAR MEDANALES, N. MEX.--Lat 36°09'26", long 106°10'24", Rio Arriba County, in Juan Jose Lobato Grant, totalizing flowmeter and Parshall flume on right bank, 0.9 mi downstream from culvert on State Highway 233, 2.5 mi downstream from "upper" gage (see sta 08288200), 3.2 mi downstream from heading located on right bank of Rio Chama, and 1.4 mi south of Medanales. Established Apr. 10, 1972.
- 08288300 CHILI DITCH NEAR HERNANDEZ, N. MEX.--Lat 36°07'00", long 106°09'11", in SW¼SW¼ sec. 24, T.22 N., R.7 E., Rio Arriba County, totalizing flowmeter and Parshall flume on left bank, 0.4 mi downstream from heading located on right bank of Rio Chama, 0.5 mi upstream from siphon under Rio del Oso, and 4.1 mi northwest of Hernandez. Established Apr. 7, 1972.
- 08289500 CHAMITA DITCH NEAR CHAMITA, N. MEX.--Lat 36°04'57", long 106°06'54", in SW¼NE¼ sec. 5, T.21 N., R.8 E., in Rio Arriba County, in San Juan Pueblo Grant, totalizing flowmeter and Parshall flume on left bank, 30 ft upstream from flume over Arroyo de la Penita, 0.7 mi downstream from heading located on left bank of Rio Chama, and 1.0 mi northwest of Chamita. Records available March 1936 to April 1941, February 1963 to December 1972 (records furnished by Bureau of Reclamation August 1966 to December 1972).

## Diversions from Rio Chama -- Continued

08289800 HERNANDEZ DITCH AT HERNANDEZ, N. MEX.--Lat 36°04'52", long 106°07'16", Rio Arriba County, in Bartolome Sanchez Grant, totalizing flowmeter and Parshall flume on right bank, 0.7 mi downstream from heading located on right bank of Rio Chama, 1.1 mi north of Hernandez, and 1.3 mi northwest of Chamita. Records available, March 1963 to December 1972 (records furnished by Bureau of Reclamation July 1965 to December 1971).

08290100 SALAZAR DITCH AT HERNANDEZ, N. MEX.--Lat 36°03'44", long 106°06'31", in SE¼SE¼ sec. 8 T.21 N., R.8 E., Rio Arriba County, in San Juan Pueblo Grant, totalizing flowmeter and Parshall flume on right bank, 0.1 mi downstream from heading located on right bank of Rio Chama, and 0.6 mi east of Hernandez. Established Apr. 6, 1972.

## Diversions from Rio Chama, in acre-feet, calendar year 1972

Diversion	APR	MAY	JUN	JUL	AUG	SEP	OCT
08286300 Monastery pump	a4.3	2.2	0.1	1.5	1.5	0.8	0
08287020 Abeyta Trujillo ditch	a104	197	213	179	67	24	31
08287040 Winfield Morton pump	a5.9	6.2	17	.6	11	0	0
08287060 Jose Pablo Gonzales ditch	a840	820	798	659	729	b360	c460
08287150 Gonzales ditch	a29	183	113	132	78	5.6	30
08287200 La Puente ditch	a168	316	271	c115	b150	b90	b90
08287250 Quintana ditch	a20	44	9.2	40	32	1.5	.8
08287270 Valentina Martinez ditch	a4.3	14	c2.0	c10	c10	0	0
08287300 Mariano ditch	a282	237	204	c120	c100	0	0
08287400 Ferran ditch	No record - Parshall flume submerged						
08287600 Tierra Azul ditch	a364	635	347	253	162	33	73
08288050 Jose V. Martinez ditch	a127	132	124	24	c27	c8.0	280
08288100 Manzanares and Montoya ditch	a29	37	59	c5.0	7.6	.8	.5
08288150 Rio de Chama ditch	a486	846	771	473	396	317	309
08288200 Martinez and Duranes ditch (upper)	a394	1,040	857	350	369	401	470
08288250 Martinez and Duranes ditch (lower)	a384	c820	428	b160	(d)	(d)	(d)
08288300 Chili ditch	a277	535	538	b240	b170	b87	b250
08289500 Chamita ditch	e923	e1,160	e1,280	e598	e825	e201	e435
08289800 Hernandez ditch	a888	1,360	1,280	a146	765	550	467
08290100 Salazar ditch	-	-	a449	725	803	149	195

a Partial month of record.

b Parshall flume submerged; record partially estimated.

c Flowmeter malfunctioned; record partially estimated.

d No record - Parshall flume submerged.

e Furnished by Bureau of Reclamation.



08291000 Santa Cruz River at Cundiyo, N. Mex.

LOCATION.--Lat 35°57'53", long 105°54'14", in SE¼NW¼ sec.17, T.20 N., R.10 E., Santa Fe County, on left bank 135 ft downstream from bridge on State Highway 4, 200 ft downstream from confluence of Rio Medio and Rio Frijoles, 0.6 mile northwest of Cundiyo, and 1.8 miles upstream from Santa Cruz Dam.

DRAINAGE AREA.--86 sq mi, approximately.

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1953, published as Rio Santa Cruz at Cundiyo.

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.--42 calendar years, 28.3 cfs (20,500 acre-ft per year); 20 calendar years (1953-72), 24.4 cfs (17,680 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 223 cfs Aug. 7 (gage height, 2.87 ft); maximum gage height, 3.18 ft Dec. 18, backwater from ice; minimum discharge, 3.2 cfs Jan. 30, result of freezeup.

Period of record: Maximum discharge, 2,420 cfs Sept. 24, 1931 (gage height, 7.8 ft, site and datum then in use), from rating curve extended above 170 cfs; minimum, 0.19 cfs Mar. 13, 1954, result of freezeup.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 1,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1392: 1931(M), 1932-33, 1934-39(M), 1942, 1943(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	13	10	14	17	19	34	9.4	6.1	13	12	17	17
2	12	10	13	17	20	32	11	6.5	12	12	16	17
3	11	10	14	15	20	31	11	7.1	17	11	20	17
4	10	10	15	16	22	31	11	9.8	14	11	20	18
5	9.0	10	17	17	23	29	14	14	13	13	20	15
6	10	10	19	18	26	28	15	10	12	17	18	16
7	10	11	20	18	28	26	13	17	12	18	16	17
8	11	11	20	18	26	26	12	17	8.5	14	19	17
9	12	11	22	19	26	24	11	13	20	13	17	15
10	12	10	24	22	26	23	12	13	26	12	15	14
11	14	9.0	24	25	26	24	10	11	23	11	21	14
12	15	10	25	27	24	28	9.8	9.4	26	12	19	13
13	14	10	25	25	24	26	7.5	8.5	19	20	18	13
14	14	10	24	24	24	24	8.5	8.2	18	14	15	12
15	14	9.4	25	18	23	26	7.8	15	17	14	20	11
16	15	9.0	24	22	22	33	12	6.5	16	14	17	11
17	14	9.4	24	21	22	26	12	7.5	15	13	18	12
18	13	9.4	24	22	22	24	10	7.5	13	17	18	12
19	14	9.8	24	20	24	21	9.8	7.5	12	24	18	13
20	14	9.8	22	19	26	18	9.0	23	17	39	13	14
21	14	10	20	18	29	18	8.2	13	14	33	13	16
22	12	11	20	18	30	17	7.8	10	14	26	12	15
23	13	11	24	18	30	18	7.1	9.8	12	26	13	13
24	11	11	21	18	29	20	8.2	9.8	13	25	14	15
25	11	11	20	18	29	17	9.4	9.8	12	24	16	14
26	12	11	18	18	30	15	7.8	13	12	24	17	13
27	12	12	17	19	29	13	14	14	12	23	17	12
28	12	12	14	20	28	13	9.8	20	11	23	15	15
29	11	14	14	20	29	11	7.5	16	11	20	16	14
30	10	-----	16	20	40	11	6.5	15	11	20	16	14
31	10	-----	16	-----	38	-----	6.1	12	-----	20	-----	12
TOTAL	379.0	301.8	619	587	814	687	308.2	360.0	439.5	575	506	441
MEAN	12.2	10.4	20.0	19.6	26.3	22.9	9.94	11.6	14.7	18.5	16.9	14.2
MAX	15	14	25	27	40	34	15	23	26	39	21	18
MIN	9.0	9.0	13	15	19	11	6.1	6.1	8.5	11	12	11
AC-FT	752	599	1,230	1,160	1,610	1,360	611	714	872	1,140	1,000	875

CAL YR 1972 TOTAL 6,017.5 MEAN 16.4 MAX 40 MIN 6.1 AC-FT 11,940  
WTR YR 1972 TOTAL 6,136.5 MEAN 16.8 MAX 40 MIN 6.1 AC-FT 12,170

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE
8- 7	1830	2.87	223

08294300 Rio Nambé at Nambé Falls, near Nambé, N. Mex.

LOCATION.--Lat 35°50'46", long 105°54'29", in NW¼SW¼ sec.29, T.19 N., R.10 E., Santa Fe County, in Nambé Indian Reservation, on left bank 800 ft downstream from Nambé Falls, 2.4 miles upstream from confluence of Rio Nambé and Rio En Medio, 4.2 miles southeast of Nambé Pueblo and 5.2 miles southeast of Nambé.

DRAINAGE AREA.--25.1 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,550 ft (from topographic map).

AVERAGE DISCHARGE.--9 calendar years, 9.12 cfs (6,610 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 89 cfs July 16 (gage height, 1.32 ft); minimum not determined.

Period of record: Maximum discharge, 1,090 cfs Aug. 8, 1967 (gage height, about 6.0 ft, from floodmarks), from rating curve extended above 44 cfs on basis of field estimate of peak flow; minimum determined, 0.50 cfs Mar. 19, 1971, but may have been less during periods of ice effect.

COOPERATION.--Records furnished by Bureau of Reclamation.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.8	3.7	5.2	6.3	8.0	17	6.8	4.3	6.1	5.4	8.2	8.2
2	4.4	3.7	4.8	6.3	8.0	15	6.5	4.3	6.1	5.4	8.7	8.2
3	4.0	3.7	5.2	5.5	8.5	14	5.8	4.0	6.5	4.8	9.7	8.2
4	3.7	3.7	5.5	5.9	8.5	14	5.8	4.3	6.8	4.8	9.7	8.7
5	3.3	3.7	6.3	6.3	8.9	14	6.1	5.4	6.5	5.4	9.7	7.3
6	3.7	3.7	7.0	6.6	9.8	14	6.1	5.4	6.8	7.2	8.7	7.8
7	3.7	4.0	7.4	6.6	10	13	5.4	6.1	7.6	7.2	7.8	8.2
8	4.0	4.0	7.4	6.6	9.4	13	5.1	7.6	7.2	5.4	9.2	8.2
9	4.4	4.0	8.1	7.0	8.9	12	4.8	6.1	7.6	4.8	8.2	7.3
10	4.4	3.7	8.8	8.1	8.0	11	5.4	6.1	8.0	4.8	7.3	6.8
11	5.2	3.3	8.8	9.2	8.0	11	4.8	5.1	8.0	4.8	10	6.8
12	5.5	3.7	9.2	9.9	8.0	11	4.5	4.8	8.0	4.8	9.2	6.3
13	5.2	3.7	9.2	9.2	8.0	11	4.5	4.8	8.5	6.5	8.7	6.3
14	5.2	3.7	8.8	8.8	8.0	10	4.3	4.3	8.9	6.1	7.3	5.8
15	5.2	3.5	9.2	6.5	8.0	11	4.0	4.8	8.9	6.8	9.7	5.3
16	5.5	3.3	8.8	8.0	8.0	13	11	4.3	8.9	6.8	8.2	5.3
17	5.2	3.5	8.8	8.0	8.5	12	8.5	4.3	8.0	6.3	8.7	5.8
18	4.8	3.5	8.8	8.0	8.9	11	6.1	4.3	7.6	8.2	8.7	5.8
19	5.2	3.6	8.8	7.2	9.8	10	5.8	5.1	7.6	12	8.7	6.3
20	5.2	3.6	8.1	7.2	11	10	5.1	13	11	19	6.3	6.8
21	5.2	3.7	7.4	7.2	12	9.8	5.4	5.4	8.0	16	6.3	7.8
22	4.4	4.0	7.4	7.2	12	9.8	5.4	4.5	7.6	13	5.8	7.3
23	4.8	4.0	8.8	7.2	12	9.4	5.1	4.5	7.2	13	6.3	6.3
24	4.0	4.0	7.7	7.6	12	11	5.1	4.8	6.5	12	6.8	7.3
25	4.0	4.0	7.4	8.0	11	8.9	5.1	4.5	6.1	12	7.8	6.8
26	4.4	4.0	6.6	7.6	11	8.9	4.8	5.4	6.1	12	8.2	6.3
27	4.4	4.4	6.3	7.6	11	8.5	5.4	5.8	6.1	11	8.2	5.8
28	4.4	4.4	5.2	7.6	11	7.6	4.8	8.0	5.8	11	7.3	7.3
29	4.0	5.2	5.2	8.0	11	7.2	4.3	7.2	5.4	9.7	7.8	6.8
30	3.7	-----	5.9	8.5	17	7.2	4.3	6.1	5.4	9.7	7.8	6.8
31	3.7	-----	5.9	-----	17	-----	4.0	5.4	-----	9.7	-----	5.8
TOTAL	139.6	111.0	228.0	223.7	311.2	335.3	170.1	170.0	218.8	265.6	245.0	213.7
MEAN	4.50	3.83	7.35	7.46	10.0	11.2	5.49	5.48	7.29	8.57	8.17	6.89
MAX	5.5	5.2	9.2	9.9	17	17	11	13	11	19	10	8.7
MIN	3.3	3.3	4.8	5.5	8.0	7.2	4.0	4.0	5.4	4.8	5.8	5.3
AC-FT	277	220	452	444	617	665	337	337	434	527	486	424

CAL YR 1972 TOTAL 2,632.0 MEAN 7.19 MAX 19 MIN 3.3 AC-FT 5,220

WTR YR 1972 TOTAL 2,579.2 MEAN 7.05 MAX 17 MIN 3.3 AC-FT 5,120

PEAK DISCHARGE (BASE, 40 CFS)

DATE TIME G. H. DISCHARGE

7-16 0500 1.32 89

08295200 Rio En Medio near Santa Fe, N. Mex.

LOCATION.--Lat 35°47'30", long 105°47'38", Santa Fe County, in Santa Fe National Forest, on right bank 300 ft east of Santa Fe Ski Basin parking area, and 10.8 miles northeast of Santa Fe.

DRAINAGE AREA.--0.63 sq mi.

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 10,600 ft (from topographic map).

AVERAGE DISCHARGE.--9 calendar years, 0.730 cfs (529 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3.42 cfs Aug. 20 (gage height, 0.93 ft); minimum, 0.30 cfs Feb. 6-9.  
Period of record: 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, 0.14 cfs Feb. 18, 1971.

REMARKS.--Records good.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.42	.35	.35	.48	.66	.89	.41	.34	.39	.37	.80	.49
2	.41	.34	.35	.47	.66	.84	.42	.34	.40	.36	.80	.49
3	.41	.31	.36	.48	.66	.80	.41	.33	.42	.36	.77	.48
4	.41	.31	.36	.48	.69	.80	.45	.36	.41	.39	.77	.48
5	.40	.31	.39	.51	.69	.77	.45	.36	.40	.49	.77	.47
6	.40	.30	.41	.52	.69	.77	.47	.37	.44	.49	.73	.45
7	.40	.30	.42	.57	.73	.77	.45	.43	.45	.45	.69	.45
8	.40	.30	.47	.60	.69	.77	.44	.45	.45	.44	.66	.44
9	.40	.30	.49	.66	.66	.73	.47	.40	.57	.41	.69	.44
10	.40	.31	.52	.69	.64	.73	.47	.37	.51	.40	.67	.44
11	.39	.31	.56	.73	.62	.77	.48	.36	.52	.39	.66	.44
12	.39	.31	.57	.73	.60	.80	.45	.33	.51	.41	.66	.44
13	.39	.31	.57	.73	.60	.73	.44	.34	.49	.54	.64	.44
14	.37	.31	.57	.64	.62	.66	.42	.37	.49	.48	.62	.44
15	.37	.31	.56	.60	.60	.69	.42	.36	.48	.49	.62	.42
16	.37	.31	.54	.60	.60	.69	.62	.36	.47	.48	.59	.42
17	.37	.31	.52	.59	.59	.64	.48	.40	.44	.48	.59	.41
18	.35	.31	.56	.57	.59	.60	.45	.36	.44	.54	.59	.41
19	.35	.31	.56	.56	.64	.56	.44	.36	.49	.96	.57	.41
20	.35	.31	.56	.54	.69	.52	.42	.67	.49	1.16	.57	.40
21	.35	.31	.57	.54	.77	.49	.41	.39	.45	1.06	.56	.40
22	.35	.31	.59	.54	.77	.49	.42	.37	.42	1.02	.56	.40
23	.35	.33	.62	.56	.73	.60	.41	.35	.41	1.02	.54	.39
24	.34	.33	.59	.57	.69	.54	.41	.34	.40	.97	.54	.39
25	.34	.33	.59	.66	.67	.48	.42	.34	.40	.97	.52	.39
26	.35	.33	.57	.66	.66	.47	.41	.41	.40	.93	.52	.39
27	.35	.33	.54	.66	.66	.45	.43	.46	.40	.93	.52	.39
28	.35	.34	.51	.66	.66	.44	.37	.46	.39	.89	.51	.39
29	.35	.34	.51	.66	.75	.44	.37	.44	.39	.84	.51	.40
30	.35	-----	.49	.66	.89	.42	.36	.40	.37	.84	.49	.39
31	.35	-----	.48	-----	.89	-----	.34	.39	-----	.84	-----	.39
TOTAL	11.58	9.18	15.75	17.92	21.06	19.35	13.41	12.01	13.29	20.40	18.73	13.18
MEAN	.374	.317	.508	.597	.679	.645	.433	.387	.443	.658	.624	.425
MAX	.42	.35	.62	.73	.89	.89	.62	.67	.57	1.16	.80	.49
MIN	.34	.30	.35	.47	.59	.42	.34	.33	.37	.36	.49	.39
AC-FT	23.0	18.2	31.2	35.5	41.8	38.4	26.6	23.8	26.4	40.5	37.2	26.1

CAL YR 1972 TOTAL 185.86 MEAN .508 MAX 1.16 MIN .30 AC-FT 369  
WTR YR 1972 TOTAL 188.58 MEAN .515 MAX .93 MIN .30 AC-FT 374

PEAK DISCHARGE (BASE, 5.00 CFS).--No peak above base.

08302200 North Fork Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°46'12", long 105°48'31", Santa Fe County, in Santa Fe National Forest, on left bank 60 ft upstream from culvert on State Highway 475, 250 ft upstream from Middle Fork Tesuque Creek, and 9.2 miles northeast of Santa Fe.

DRAINAGE AREA.--1.60 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,670 ft (from topographic map).

AVERAGE DISCHARGE.--10 calendar years, 1.396 cfs (1,010 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4.55 cfs June 12 (gage height, 1.02 ft); minimum, 0.12 cfs Aug. 24, result of regulation.

Period of record: Maximum discharge, 32.9 cfs Aug. 1, 1966 (gage height, 2.25 ft), from rating curve extended above 8.50 cfs on basis of theoretical rating; minimum, 0.08 cfs Nov. 17, 1971, result of freezeup.

REMARKS.--Records fair.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.57	.44	.75	1.11	1.59	1.90	.89	.54	.67	.77	1.84	1.06
2	.56	.43	.75	1.06	1.65	1.84	.89	.52	.69	.77	1.78	1.06
3	.56	.42	.77	1.06	1.65	1.78	.84	.54	.71	.75	1.78	1.06
4	.56	.41	.84	1.06	1.65	1.71	.93	.78	.69	.77	1.71	1.06
5	.54	.41	.93	1.11	1.65	1.65	.89	.69	.67	.80	1.71	1.02
6	.52	.42	1.06	1.11	1.65	1.53	.89	.69	.77	.80	1.71	1.02
7	.52	.42	1.16	1.11	1.65	1.53	.80	.82	.77	.77	1.59	.97
8	.51	.42	1.26	1.16	1.65	1.59	.80	.76	.79	.73	1.56	.97
9	.51	.42	1.36	1.21	1.65	1.53	.75	.62	1.00	.71	1.57	.97
10	.49	.42	1.47	1.31	1.65	1.53	.73	.57	.93	.69	1.59	.97
11	.49	.42	1.59	1.42	1.70	1.53	.69	.54	.93	.67	1.53	.97
12	.49	.42	1.65	1.53	1.70	1.85	.67	.52	.89	.71	1.53	.97
13	.49	.44	1.71	1.59	1.70	1.53	.66	.54	.89	.82	1.47	.97
14	.49	.44	1.71	1.53	1.70	1.47	.62	.56	.89	.71	1.47	.93
15	.49	.44	1.65	1.58	1.70	1.42	.60	.52	.89	.73	1.47	.93
16	.48	.44	1.59	1.53	1.73	1.42	1.07	.58	.89	.71	1.36	.93
17	.48	.42	1.53	1.47	1.75	1.31	.73	.60	.89	.71	1.36	.93
18	.48	.44	1.53	1.36	1.70	1.26	.71	.56	.89	.77	1.36	.93
19	.48	.45	1.53	1.36	1.78	1.21	.69	.74	1.06	1.83	1.36	.93
20	.48	.47	1.42	1.36	1.71	1.16	.69	.84	.97	1.97	1.31	.93
21	.48	.49	1.42	1.36	1.65	1.16	.67	.59	.97	1.84	1.26	.93
22	.48	.52	1.42	1.36	1.65	1.16	.71	.54	.93	1.71	1.26	.89
23	.48	.54	1.53	1.36	1.65	1.28	.67	.54	.93	1.71	1.26	.89
24	.47	.57	1.42	1.42	1.65	1.16	.66	.51	.89	1.71	1.21	.89
25	.47	.59	1.42	1.47	1.65	1.06	.67	.58	.89	1.78	1.16	.89
26	.48	.60	1.42	1.53	1.65	1.06	.64	.64	.89	1.78	1.16	.89
27	.47	.62	1.36	1.53	1.65	.97	.73	.73	.89	1.84	1.11	.89
28	.47	.66	1.26	1.53	1.65	.97	.60	.80	.84	1.84	1.11	.84
29	.45	.73	1.20	1.59	1.88	.93	.59	.75	.80	1.84	1.11	.89
30	.45	-----	1.17	1.59	2.11	.89	.57	.67	.80	1.84	1.06	.93
31	.44	-----	1.14	-----	1.97	-----	.54	.64	-----	1.78	-----	.89
TOTAL	15.33	13.91	41.02	40.77	52.85	41.39	22.59	19.52	25.71	36.86	42.76	29.40
MEAN	.495	.480	1.323	1.359	1.705	1.380	.729	.630	.857	1.289	1.425	.948
MAX	.57	.73	1.71	1.59	2.11	1.90	1.07	.84	1.06	1.97	1.84	1.06
MIN	.44	.41	.75	1.06	1.59	.89	.54	.51	.67	.67	1.06	.84
AC-FT	30.4	27.6	81.4	80.9	105	82.1	44.8	38.7	51.0	73.1	84.8	58.3

CAL YR 1972 TOTAL 382.11 MEAN 1.044 MAX 2.11 MIN .41 AC-FT 758  
WTR YR 1972 TOTAL 349.89 MEAN .956 MAX 2.11 MIN .41 AC-FT 694

PEAK DISCHARGE (BASE, 5.00 CFS).--No peak above base.

08302300 Middle Fork Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°46'03", long 105°48'25", Santa Fe County, in Santa Fe National Forest, on right bank 800 ft upstream from culvert on State Highway 475, 950 ft upstream from mouth, and 9.2 miles northeast of Santa Fe.

DRAINAGE AREA.--0.43 sq mi.

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,770 ft (from topographic map).

AVERAGE DISCHARGE.--11 calendar years, 0.276 cfs (200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2.16 cfs Aug. 19 (gage height, 0.94 ft); minimum, 0.029 cfs Apr. 6, result of regulation.

Period of record: Maximum discharge, 4.55 cfs Aug. 24, 1966 (gage height, 1.27 ft), from rating curve extended above 2.20 cfs on basis of theoretical rating; minimum, 0.020 cfs Nov. 1, 1968, result of freezeup.

REMARKS.--Records good.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.12	.11	.11	.16	.29	.34	.28	.16	.14	.13	.22	.17
2	.12	.10	.11	.15	.30	.35	.27	.15	.14	.13	.21	.16
3	.12	.11	.11	.16	.30	.36	.27	.15	.14	.13	.20	.16
4	.12	.10	.11	.17	.31	.38	.30	.20	.13	.13	.20	.16
5	.12	.10	.12	.19	.32	.40	.30	.17	.13	.15	.20	.16
6	.12	.095	.14	.21	.33	.42	.29	.16	.16	.15	.20	.15
7	.12	.095	.15	.21	.34	.42	.26	.21	.16	.14	.20	.15
8	.12	.10	.15	.21	.32	.44	.25	.20	.15	.13	.19	.15
9	.12	.10	.16	.22	.31	.44	.25	.18	.23	.13	.21	.16
10	.12	.099	.18	.25	.31	.44	.26	.16	.20	.12	.20	.16
11	.11	.099	.19	.27	.31	.42	.25	.15	.18	.12	.20	.16
12	.11	.095	.19	.26	.31	.57	.24	.15	.16	.12	.20	.16
13	.11	.095	.20	.25	.30	.45	.25	.14	.15	.15	.20	.15
14	.11	.095	.19	.22	.30	.42	.23	.14	.15	.12	.19	.15
15	.11	.095	.18	.28	.30	.40	.22	.13	.14	.13	.20	.14
16	.11	.095	.17	.25	.29	.40	.43	.15	.13	.12	.19	.13
17	.11	.095	.16	.25	.29	.37	.23	.15	.13	.12	.19	.13
18	.11	.095	.17	.25	.29	.34	.21	.14	.12	.14	.19	.14
19	.11	.090	.18	.25	.30	.32	.20	.21	.15	.37	.19	.14
20	.11	.090	.18	.23	.31	.31	.20	.22	.15	.33	.18	.14
21	.11	.095	.18	.24	.30	.31	.20	.15	.13	.23	.18	.13
22	.11	.099	.18	.23	.30	.30	.21	.13	.13	.19	.18	.13
23	.11	.095	.19	.25	.29	.37	.20	.13	.13	.18	.18	.13
24	.11	.095	.18	.25	.30	.33	.20	.12	.13	.16	.18	.13
25	.11	.095	.20	.27	.30	.31	.20	.15	.13	.16	.18	.13
26	.11	.095	.19	.27	.32	.30	.19	.15	.13	.16	.18	.13
27	.11	.095	.18	.26	.31	.30	.22	.18	.13	.15	.17	.13
28	.11	.095	.17	.27	.31	.29	.18	.21	.13	.16	.17	.12
29	.11	.10	.16	.27	.36	.28	.18	.18	.13	.15	.17	.13
30	.11	-----	.17	.28	.39	.28	.17	.15	.13	.16	.17	.13
31	.11	-----	.16	-----	.35	-----	.16	.14	-----	.15	-----	.13
TOTAL	3.51	2.817	5.11	7.03	9.66	11.06	7.30	5.01	4.34	4.91	5.72	4.44
MEAN	.113	.0971	.165	.234	.312	.369	.235	.162	.145	.158	.191	.143
MAX	.12	.11	.20	.28	.39	.57	.43	.22	.23	.37	.22	.17
MIN	.11	.090	.11	.15	.29	.28	.16	.12	.12	.12	.17	.12
AC-FT	6.96	5.59	10.1	13.9	19.2	21.9	14.5	9.94	8.61	9.74	11.3	8.81

CAL YR 1972 TOTAL 70.907 MEAN .194 MAX .57 MIN .090 AC-FT 141

WTR YR 1972 TOTAL 71.387 MEAN .195 MAX .57 MIN .090 AC-FT 142

PEAK DISCHARGE (BASE, 1.70 CFS)

DATE	TIME	G. H.	DISCHARGE
8-19	2400	0.94	2.16

## RIO GRANDE BASIN

08302400 South Fork Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°45'37", long 105°48'39", Santa Fe County, in Santa Fe National Forest, on left bank 150 ft upstream from culvert on State Highway 475, 2,700 ft upstream from mouth, and 8.7 miles northeast of Santa Fe.

DRAINAGE AREA.--0.47 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,740 ft (from topographic map).

AVERAGE DISCHARGE.--10 calendar years, 0.226 cfs (164 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1.08 cfs July 16 (gage height, 0.70 ft); minimum daily discharge, 0.086 cfs Jan. 11 to Feb. 13, but may have been less during winter periods.  
Period of record: Maximum discharge 2.78 cfs Aug. 24, 1966 (gage height, 1.04 ft); maximum gage height, 1.16 ft June 2, 1969 (backwater from debris); minimum discharge recorded, 0.063 cfs Mar. 4-7, 1969, June 19, 1971, but may have been less during winter periods.

REMARKS.--Records fair except those for winter periods, which are poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.10	.086	.11	.12	.14	.32	.16	.12	.12	.10	.14	.11
2	.10	.086	.11	.12	.14	.32	.16	.12	.13	.10	.14	.11
3	.10	.086	.11	.12	.14	.32	.16	.12	.13	.10	.14	.11
4	.10	.086	.11	.11	.14	.32	.17	.14	.12	.11	.14	.11
5	.10	.086	.12	.12	.15	.32	.16	.13	.12	.12	.14	.11
6	.10	.086	.12	.13	.15	.31	.16	.12	.13	.12	.14	.11
7	.10	.086	.13	.13	.16	.30	.15	.14	.14	.11	.14	.11
8	.10	.086	.13	.13	.16	.30	.14	.15	.13	.11	.14	.11
9	.10	.086	.14	.15	.16	.29	.14	.13	.18	.11	.15	.12
10	.10	.086	.15	.16	.16	.28	.14	.13	.15	.11	.15	.12
11	.086	.086	.15	.17	.16	.28	.13	.12	.13	.10	.15	.12
12	.086	.086	.16	.17	.16	.34	.13	.12	.12	.11	.15	.12
13	.086	.086	.16	.16	.16	.28	.13	.13	.12	.13	.15	.12
14	.086	.090	.16	.15	.16	.26	.12	.13	.12	.12	.14	.12
15	.086	.090	.16	.15	.16	.25	.12	.12	.12	.12	.15	.12
16	.086	.090	.15	.14	.16	.25	.26	.12	.12	.12	.14	.11
17	.086	.090	.15	.14	.16	.23	.14	.12	.11	.12	.13	.11
18	.086	.090	.15	.14	.16	.22	.13	.12	.11	.13	.13	.12
19	.086	.090	.15	.14	.18	.22	.13	.14	.13	.21	.13	.12
20	.086	.090	.15	.13	.20	.21	.13	.16	.12	.22	.12	.12
21	.086	.095	.14	.13	.22	.20	.12	.12	.11	.18	.12	.11
22	.086	.099	.14	.13	.23	.20	.13	.12	.11	.15	.12	.11
23	.086	.10	.15	.14	.23	.22	.13	.12	.11	.15	.12	.11
24	.086	.10	.14	.15	.24	.20	.13	.12	.11	.15	.12	.11
25	.086	.11	.13	.15	.25	.18	.13	.14	.11	.15	.12	.11
26	.086	.11	.13	.14	.27	.18	.13	.14	.11	.14	.12	.11
27	.086	.11	.13	.14	.29	.18	.15	.15	.11	.15	.12	.11
28	.086	.11	.13	.14	.30	.17	.13	.16	.11	.15	.12	.11
29	.086	.11	.12	.14	.33	.17	.13	.15	.11	.14	.12	.11
30	.086	-----	.11	.14	.36	.16	.13	.13	.11	.14	.12	.11
31	.086	-----	.11	-----	.32	-----	.12	.12	-----	.13	-----	.11
TOTAL	2.806	2.692	4.20	4.18	6.20	7.48	4.39	4.05	3.65	4.10	4.01	3.51
MEAN	.0905	.0928	.135	.139	.200	.249	.142	.131	.122	.132	.134	.113
MAX	.10	.11	.16	.17	.36	.34	.26	.16	.18	.22	.15	.12
MIN	.086	.086	.11	.11	.14	.16	.12	.12	.11	.10	.12	.11
AC-FT	5.57	5.34	8.33	8.29	12.3	14.8	8.71	8.03	7.24	8.13	7.95	6.96

CAL YR 1972 TOTAL 51.268 MEAN .140 MAX .36 MIN .086 AC-FT 102  
WTR YR 1972 TOTAL 51.918 MEAN .142 MAX .36 MIN .086 AC-FT 103

## PEAK DISCHARGE (BASE, 0.75 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-12	1330	0.64	0.87	7-16	0030	0.70	1.08

NOTE.--No gage-height record Jan. 4 to Feb. 4.

08304100 Little Tesuque Creek near Santa Fe, N. Mex.

LOCATION.--Lat 35°44'48", long 105°49'39", in NW 1/4 sec. 36, T.18 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on right bank 1,200 ft upstream from east boundary of Hyde State Park, 0.25 mile (by access road) east of State Highway 475, and 7.4 miles northeast of Santa Fe.

DRAINAGE AREA.--0.64 sq mi.

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 9,020 ft (from topographic map).

AVERAGE DISCHARGE.--10 calendar years, 0.133 cfs (111 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1.28 cfs July 16 (gage height, 0.76 ft); minimum, 0.029 cfs July 14, 15, 31, Aug. 1, 2, 3, 15, 24.

Period of record: Maximum discharge, 2.28 cfs July 30, 1965 (gage height, 0.97 ft), from rating curve extended above 0.93 cfs on basis of theoretical rating; minimum, 0.007 cfs July 5, 6, 10, 11, 1967, July 15, 1971.

REMARKS.--Records good.

REVISIONS.--WRD N. Mex. 1969: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.070	.060	.090	.12	.10	.095	.053	.039	.060	.042	.086	.086
2	.070	.057	.090	.12	.099	.090	.053	.039	.067	.042	.082	.090
3	.070	.047	.090	.12	.099	.086	.050	.036	.067	.042	.086	.090
4	.067	.050	.099	.12	.10	.082	.063	.053	.063	.042	.090	.090
5	.067	.057	.11	.13	.11	.082	.083	.057	.053	.063	.090	.090
6	.067	.057	.13	.15	.13	.082	.074	.044	.060	.074	.086	.086
7	.067	.057	.15	.16	.13	.082	.060	.079	.076	.063	.082	.086
8	.067	.053	.16	.16	.11	.082	.053	.096	.078	.053	.078	.086
9	.067	.053	.19	.16	.10	.078	.053	.060	.17	.050	.086	.082
10	.067	.053	.22	.17	.10	.082	.053	.047	.16	.047	.082	.082
11	.067	.053	.25	.20	.10	.078	.053	.042	.099	.044	.082	.086
12	.067	.053	.26	.20	.096	.21	.047	.042	.082	.044	.086	.082
13	.063	.053	.27	.16	.094	.12	.047	.042	.070	.086	.086	.078
14	.063	.053	.27	.12	.090	.090	.042	.042	.070	.053	.086	.078
15	.063	.053	.25	.13	.086	.090	.039	.039	.063	.060	.086	.078
16	.060	.053	.23	.12	.082	.099	.39	.044	.057	.060	.082	.078
17	.060	.053	.22	.12	.082	.086	.099	.053	.050	.053	.082	.078
18	.060	.053	.21	.12	.082	.078	.070	.053	.047	.074	.095	.078
19	.060	.053	.20	.11	.095	.067	.067	.066	.068	.18	.090	.078
20	.060	.057	.20	.11	.099	.067	.060	.13	.074	.26	.090	.078
21	.060	.060	.18	.11	.090	.070	.057	.057	.053	.16	.086	.074
22	.060	.067	.18	.10	.082	.070	.074	.050	.050	.11	.086	.074
23	.060	.070	.18	.11	.078	.082	.063	.047	.050	.099	.086	.074
24	.060	.074	.18	.11	.074	.078	.060	.042	.047	.090	.090	.074
25	.063	.074	.18	.12	.070	.063	.063	.063	.047	.095	.090	.074
26	.067	.078	.17	.11	.074	.060	.063	.10	.047	.095	.090	.074
27	.067	.078	.16	.11	.074	.057	.060	.10	.044	.090	.090	.074
28	.063	.078	.14	.10	.078	.057	.047	.10	.044	.090	.090	.074
29	.063	.086	.13	.10	.091	.053	.044	.082	.044	.082	.090	.078
30	.063	-----	.13	.10	.15	.053	.042	.063	.044	.086	.090	.078
31	.060	-----	.12	-----	.10	-----	.039	.053	-----	.078		.074
TOTAL	1.988	1.743	5.439	3.87	2.945	2.469	2.121	1.860	2.004	2.507	2.601	2.482
MEAN	.0641	.0601	.175	.129	.0950	.0823	.0684	.0600	.0668	.0809	.0867	.0801
MAX	.070	.086	.27	.20	.15	.21	.39	.13	.17	.26	.095	.090
MIN	.060	.047	.090	.10	.070	.053	.039	.036	.044	.042	.078	.074
AC-FT	3.94	3.46	10.8	7.68	5.84	4.90	4.21	3.69	3.97	4.97	5.16	4.92

CAL YR 1972 TOTAL 32.029 MEAN .0875 MAX .39 MIN .036 AC-FT 63.5  
WTR YR 1972 TOTAL 32.505 MEAN .0888 MAX .39 MIN .036 AC-FT 64.5

PEAK DISCHARGE (BASE, 1.00 CFS)

DATE	TIME	G. H.	DISCHARGE
7-16	0200	0.76	1.28

08304200 Little Tesuque Creek tributary No. 4 near Santa Fe, N. Mex.

LOCATION.--Lat 35°44'07", long 105°49'59", in NE¼ sec.1, T.17 N., R.10 E., Santa Fe County, on right bank in Hyde State Park, 1,000 ft upstream from mouth and State Highway 475, and 6.8 miles northeast of Santa Fe.

DRAINAGE AREA.--0.69 sq mi.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,600 ft (from topographic map). Prior to Aug. 6, 1968, at datum 0.20 ft lower.

AVERAGE DISCHARGE.--8 calendar years, 0.0922 cfs (66.8 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1.54 cfs July 16 (gage height, 0.82 ft); no flow June 30 to July 15.  
Period of record: Maximum discharge, 2.98 cfs July 28, 1968 (gage height, 1.27 ft), from rating curve extended above 0.65 cfs on basis of theoretical rating; no flow many days most years.

REMARKS.--Records fair.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.040	.029	.090	.078	.034	.004	0	.018	.021	.008	.086	.078
2	.040	.027	.086	.078	.032	.008	0	.013	.018	.008	.086	.078
3	.040	.025	.090	.078	.029	.010	0	.011	.016	.009	.095	.074
4	.040	.025	.095	.082	.029	.011	0	.010	.014	.010	.095	.074
5	.040	.025	.11	.090	.029	.011	0	.008	.014	.011	.095	.074
6	.040	.025	.13	.11	.029	.010	0	.007	.023	.012	.095	.070
7	.040	.025	.16	.12	.029	.008	0	.007	.034	.011	.086	.070
8	.040	.025	.18	.10	.039	.007	0	.006	.034	.010	.082	.067
9	.040	.025	.18	.095	.039	.005	0	.004	.040	.008	.090	.067
10	.040	.025	.20	.099	.032	.004	0	.005	.090	.007	.090	.063
11	.040	.025	.23	.11	.027	.004	0	.005	.078	.007	.086	.063
12	.040	.025	.23	.12	.025	.004	0	.006	.063	.009	.086	.060
13	.040	.025	.22	.10	.021	.002	0	.006	.047	.012	.086	.060
14	.040	.025	.22	.090	.020	.003	0	.006	.042	.012	.086	.057
15	.040	.025	.18	.078	.016	.012	0	.005	.036	.015	.086	.053
16	.039	.025	.16	.074	.016	.018	1.11	.004	.032	.016	.082	.050
17	.036	.025	.16	.067	.016	.016	.64	.003	.025	.020	.078	.050
18	.036	.025	.16	.063	.012	.016	.25	.003	.020	.020	.082	.047
19	.036	.025	.16	.060	.012	.015	.15	.004	.016	.027	.086	.047
20	.036	.025	.15	.057	.011	.013	.099	.003	.015	.17	.082	.047
21	.034	.025	.14	.053	.011	.010	.070	.002	.015	.13	.082	.047
22	.034	.029	.12	.050	.010	.008	.12	.002	.015	.086	.082	.047
23	.036	.034	.16	.044	.009	.006	.086	.005	.012	.082	.082	.047
24	.036	.042	.14	.044	.009	.004	.070	.005	.011	.086	.095	.047
25	.036	.050	.12	.044	.008	.003	.060	.006	.010	.095	.095	.050
26	.036	.057	.12	.042	.007	.002	.050	.004	.009	.10	.090	.050
27	.036	.060	.12	.039	.006	.003	.047	.002	.010	.090	.090	.050
28	.036	.067	.10	.039	.005	.003	.044	.007	.010	.095	.090	.050
29	.034	.078	.090	.039	.005	.001	.047	.025	.010	.086	.086	.053
30	.034	-----	.086	.036	.004	0	.032	.027	.009	.082	.082	.057
31	.029	-----	.082	-----	.004	-----	.021	.025	-----	.086	-----	.060
TOTAL	1.164	.948	4.469	2.179	.575	.221	2.896	.244	.789	1.420	2.614	1.807
MEAN	.0375	.0327	.144	.0726	.0185	.0074	.0934	.0079	.0263	.0458	.0871	.0583
MAX	.040	.078	.23	.12	.039	.018	1.11	.018	.090	.17	.095	.078
MIN	.029	.025	.082	.036	.004	0	0	.002	.009	.007	.078	.047
AC-FT	2.31	1.88	8.86	4.32	1.14	.44	5.74	.48	1.56	2.82	5.18	3.58

CAL YR 1972 TOTAL 19.326 MEAN .0528 MAX 1.11 MIN 0 AC-FT 38.3

WTR YR 1972 TOTAL 18.122 MEAN .0495 MAX 1.11 MIN 0 AC-FT 35.9

PEAK DISCHARGE (BASE, 1.00 CFS)

DATE	TIME	G. H.	DISCHARGE
7-16	1530	0.82	1.54



08304300 Little Tesuque Creek tributary No. 3 near Santa Fe, N. Mex.

LOCATION.--Lat 35°43'35", long 105°50'01", in SE¼SW¼ sec.1, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on right bank 1,900 ft upstream from mouth and State Highway 475, and 6.5 miles northeast of Santa Fe.

DRAINAGE AREA.--0.65 sq mi.

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

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 8,460 ft (from topographic map).

AVERAGE DISCHARGE.--9 calendar years, 0.0300 cfs (21.7 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2.11 cfs July 16 (gage height, 0.93 ft); no flow most of time.

Period of record: Maximum discharge, 2.11 cfs July 16, 1972 (gage height, 0.93 ft), from rating curve extended above 0.48 cfs on basis of theoretical rating; no flow most of time.

REMARKS.--Records fair except those for November and December, which are poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.009		0				0			0	.034	.074
2	.007		0				0			0	.044	.053
3	.005		0				0			0	.057	.044
4	.003		0				0			0	.070	.036
5	.001		0				0			0	.078	.032
6	0		.002				0			0	.070	.032
7	0		.004				0			0	.060	.032
8	0		.008				0			0	.050	.032
9	0		.036				0			0	.042	.032
10	0		.044				0			0	.039	.032
11	0		.057				0			0	.034	.029
12	0		.067				0			0	.036	.008
13	0		.078				0			0	.039	0
14	0		.082				0			0	.042	0
15	0		.074				0			0	.042	0
16	0		.074				.90			0	.039	0
17	0		.074				1.10			0	.039	0
18	0		.067				.45			0	.039	0
19	0		.057				.27			0	.034	0
20	0		.050				.20			0	.032	0
21	0		.044				.15			0	.032	0
22	0		.039				.11			0	.032	0
23	0		.034				.082			0	.032	0
24	0		.029				.060			0	.051	0
25	0		.025				.044			0	.063	0
26	0		.023				.032			.011	.070	0
27	0		.018				.020			.027	.082	0
28	0		.011				.011			.036	.082	0
29	0		.007		-----		.004			.039	.082	0
30	0	-----	.002		-----		0			.036	.082	0
31	0	-----	0		-----		0		-----	.036	-----	0
TOTAL	0.025	0	1.006	0	0	0	3.433	0	0	.185	1.528	0.436
MEAN	.0008	0	.0325	0	0	0	.111	0	0	.0060	.0509	.0141
MAX	.009	0	.082	0	0	0	1.10	0	0	.039	.082	.074
MIN	0	0	0	0	0	0	0	0	0	0	.032	0
AC-FT	.050	0	2.00	0	0	0	6.81	0	0	.37	3.03	.86
CAL YR 1972	TOTAL 6.613		MEAN .0181		MAX 1.10	MIN 0	AC-FT 13.1					
WTR YR 1972	TOTAL 5.912		MEAN .0162		MAX 1.10	MIN 0	AC-FT 11.7					

PEAK DISCHARGE (BASE, 0.40 CFS)

DATE TIME G. H. DISCHARGE

7-16 1600 0.93 2.11

NOTE.--No gage-height record Jan. 1 to Feb. 2.

## RIO GRANDE BASIN

08304400 Little Tesuque Creek tributary No. 2 near Santa Fe, N. Mex.

LOCATION.--Lat 35°43'34", long 105°51'24", in SW¼SW¼ sec.2, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on right bank 150 ft upstream from mouth, 200 ft south of State Highway 475, and 5.3 miles northeast of Santa Fe.

DRAINAGE AREA.--0.45 sq mi.

PERIOD OF RECORD.--June 1962 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 7,960 ft (from topographic map).

AVERAGE DISCHARGE.--10 calendar years, 0.0094 cfs (6.81 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 0.30 cfs July 16 (gage height, 0.435 ft); no flow June 7 to July 15.  
Period of record: Maximum discharge, 0.31 cfs Aug. 2, 1966 (gage height, 0.44 ft), from rating curve extended above 0.11 cfs on basis of theoretical rating; no flow many days each year.

REMARKS.--Records fair.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
111	.010	.004	.005	.010	.004	.001	0	.011	.012	.007	.032	.032
2	.010	.004	.005	.009	.004	.001	0	.009	.012	.007	.034	.029
3	.010	.003	.005	.008	.004	.001	0	.008	.011	.007	.036	.029
4	.010	.003	.006	.008	.004	.001	0	.007	.010	.006	.036	.028
5	.009	.002	.007	.008	.004	.001	0	.006	.010	.006	.034	.027
6	.009	.002	.008	.008	.004	.001	0	.006	.010	.007	.034	.025
7	.009	.002	.009	.008	.004	0	0	.005	.010	.007	.032	.024
8	.009	.003	.010	.008	.004	0	0	.005	.010	.007	.032	.023
9	.008	.003	.010	.008	.003	0	0	.005	.012	.007	.032	.022
10	.008	.003	.010	.008	.003	0	0	.005	.021	.006	.032	.021
11	.008	.003	.012	.008	.002	0	0	.005	.021	.006	.032	.020
12	.008	.003	.015	.009	.002	0	0	.005	.020	.005	.032	.019
13	.007	.003	.015	.009	.002	0	0	.005	.018	.006	.032	.018
14	.007	.003	.016	.009	.002	0	0	.004	.015	.006	.032	.018
15	.007	.003	.018	.008	.002	0	0	.004	.015	.007	.032	.016
16	.007	.003	.018	.008	.002	0	.19	.004	.015	.008	.032	.015
17	.007	.003	.018	.007	.002	0	.14	.004	.013	.007	.032	.015
18	.007	.003	.018	.007	.002	0	.10	.004	.012	.007	.032	.015
19	.006	.003	.018	.007	.002	0	.090	.004	.013	.008	.032	.015
20	.006	.003	.016	.006	.002	0	.063	.008	.012	.015	.032	.015
21	.006	.004	.015	.006	.002	0	.047	.005	.011	.021	.032	.013
22	.005	.004	.015	.006	.001	0	.039	.004	.011	.020	.032	.013
23	.005	.004	.013	.007	.001	0	.034	.004	.010	.021	.032	.013
24	.005	.005	.013	.007	.001	0	.027	.004	.009	.027	.032	.013
25	.005	.005	.013	.006	.001	0	.027	.004	.009	.027	.034	.012
26	.005	.005	.013	.006	.001	0	.025	.007	.007	.027	.034	.012
27	.005	.005	.012	.006	.001	0	.023	.008	.007	.029	.036	.012
28	.005	.005	.012	.005	.001	0	.018	.011	.007	.032	.036	.013
29	.005	.005	.011	.005	.001	0	.015	.012	.007	.032	.036	.012
30	.004	-----	.010	.005	.001	0	.013	.011	.007	.032	.034	.012
31	.004	-----	.010	-----	.001	-----	.012	.011	-----	.032	-----	.012
TOTAL	0.216	0.101	0.376	0.220	0.070	0.006	0.863	0.195	0.357	0.442	0.992	0.563
MEAN	.0070	.0035	.0121	.0073	.0023	.0002	.0278	.0063	.0119	.0143	.0331	.0182
MAX	.010	.005	.018	.010	.004	.001	.19	.012	.021	.032	.036	.032
MIN	.004	.002	.005	.005	.001	0	0	.004	.007	.005	.032	.012
AC-FT	.43	.20	.75	.44	.14	.012	1.71	.39	.71	.88	1.97	1.12

CAL YR 1972 TOTAL 4.401 MEAN .0120 MAX .19 MIN 0 AC-FT 8.73  
WTR YR 1972 TOTAL 2.771 MEAN .0076 MAX .19 MIN 0 AC-FT 5.50

PEAK DISCHARGE (BASE, 0.09 CFS)

DATE TIME G. H. DISCHARGE

7-16 1630 0.435 0.30

NOTE.--No gage-height record Jan. 1 to Feb. 2.

08312600 Pojoaque River at San Ildefonso Pueblo, N. Mex.

LOCATION.--Lat 35°53'51", long 106°06'24", Santa Fe County, in San Ildefonso Pueblo Grant, on right bank 0.7 mile northeast of San Ildefonso Pueblo, and 1.0 mile upstream from mouth.

DRAINAGE AREA.--184 sq mi, approximately.

PERIOD OF RECORD.--May to December 1972 (operated as a miscellaneous measurement site and high-flow station only).

GAGE.--Water-stage recorder. Altitude of gage is 5,560 ft.

EXTREMES.--Maximum discharge during period, 6,100 cfs (gage height, 6.80 ft, from floodmarks), from rating curve extended above 110 cfs on basis of slope-area measurements at gage heights 5.12 and 6.80 ft; no flow many days.

REMARKS.--Records poor. Diversions for irrigation of about 4,900 acres (1973 determination) above station. Mean daily discharge computed only when flow exceeds 40 cfs. See table below for results of discharge measurements.

## DISCHARGE MEASUREMENTS, IN CUBIC FEET PER SECOND, OF POJOAQUE RIVER

## PERIOD MAY TO DECEMBER 1972

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
May 31	0.10	July 26	*0.01	Aug. 18	0	Sept. 15	0.004
June 21	.02	Aug. 3	0	19	6,100	26	.006
July 10	*.01	8	*50	21	*.8	Oct. 3	0
16	1,830	10	0	28	.06	Dec. 15	.58

\*Estimated.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR, 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1							-	-				
2							-	-				
3							-	-				
4							-	-				
5							-	-				
6							-	-				
7							-	50				
8							-	60				
9							-	-				
10							-	-				
11							-	-				
12							-	-				
13							-	-				
14							-	-				
15							-	-				
16							80	-				
17							-	-				
18							-	-				
19							-	-				
20							-	80				
21							-	-				
22							-	-				
23							-	-				
24							-	-				
25							-	-				
26							-	-				
27							-	-				
28							-	-				
29							-	-				
30							-	-				
31		-----			-----		-----	-	-----			-----

PEAK DISCHARGE (BASE, 250 CFS).

DATE	TIME	G. H.	DISCHARGE
7-16	0230	a5.12	1,830
8-7	1930	-	about 1,200
8-19	2400	a6.80	6,100

NOTE.--Daily discharge computed only when mean exceeds 40 cfs.

a From floodmarks.

## RIO GRANDE BASIN

08313000 Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.

LOCATION.--Lat 35°52'29", long 106°08'30", in SW¼SW¼ sec.18, T.19 N., R.8 E., Santa Fe County, in San Ildefonso Pueblo Grant, near right bank on downstream end of pier of former railway bridge, 400 ft downstream from bridge on State Highway 4, 1.8 miles southwest of San Ildefonso Pueblo, 2.5 miles downstream from Pojoaque River, and 6.8 miles west of Pojoaque.

DRAINAGE AREA.--14,300 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--February 1895 to December 1905, June 1909 to current year. Monthly discharge only for some periods, published in WSP 1312. In early reports this record was published as "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. See WSP 1312, 1732, or 1923 for history of changes prior to June 1, 1910.

AVERAGE DISCHARGE.--73 calendar years (1896-1905, 1910-72), 1,507 cfs (1,092,000 acre-ft per year); 20 calendar years (1953-72), 1,055 cfs (764,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,440 cfs Aug. 20 (gage height, 5.33 ft); minimum, 193 cfs July 4.  
Period of record: 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 W. H. Yeo's file on floods.

REMARKS.--Records good. Flow partly regulated by Heron, El Vado and Abiquiu Reservoirs (see sta 08284510, 08285000, 08286900) on Rio Chama which contributes about 40 percent of total flow. Since April 1972 flow affected by release of transmountain water from Heron Reservoir. Diversions above station for irrigation of about 620,000 acres in Colorado and 75,000 acres in New Mexico. Water-quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 828: Drainage area. WSP 1512: 1895-99, 1904-6, 1911-12, 1914, 1931(M), 1935. WSP 1712: 1904(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	728	629	1,300	642	527	570	443	382	412	277	1,150	673
2	776	629	1,300	629	506	486	319	394	412	270	1,100	729
3	776	585	1,200	694	420	448	222	390	467	250	954	790
4	769	610	1,310	688	398	416	210	434	554	244	1,110	805
5	555	598	1,050	642	390	378	268	700	561	244	1,270	790
6	512	623	1,000	681	382	338	349	457	439	264	1,270	797
7	674	623	1,110	848	476	374	330	461	429	280	1,310	735
8	655	616	1,230	978	462	434	254	481	394	434	1,350	729
9	623	642	1,330	930	491	481	235	452	677	467	1,150	735
10	681	648	1,330	1,020	491	506	232	429	898	452	1,220	722
11	688	635	1,430	1,000	434	512	247	353	586	537	1,110	749
12	681	629	1,460	1,060	416	581	280	308	564	496	1,060	819
13	742	629	1,590	1,070	398	645	270	290	581	496	1,090	735
14	714	661	1,640	1,060	365	548	390	287	564	476	1,000	683
15	688	707	1,690	812	365	576	462	273	481	582	1,050	633
16	681	721	1,720	862	338	529	1,060	273	443	680	1,080	639
17	735	721	1,730	769	304	438	583	319	434	670	938	639
18	707	819	1,620	674	280	438	326	369	398	1,000	1,030	742
19	681	946	1,660	642	349	403	290	353	357	962	1,010	689
20	707	1,030	1,540	642	407	365	378	734	361	720	986	702
21	714	1,030	1,360	661	338	353	532	342	361	1,670	1,030	763
22	688	1,180	1,270	635	330	407	496	301	382	1,290	970	709
23	694	1,220	1,170	629	361	448	420	331	546	1,220	915	742
24	721	1,910	1,150	610	539	548	476	298	482	954	900	756
25	681	1,490	1,130	573	501	539	425	304	353	819	722	769
26	661	1,190	1,070	549	452	522	506	403	304	833	650	735
27	714	1,250	908	537	486	481	522	369	280	790	855	722
28	674	1,010	915	567	481	457	486	412	277	908	735	756
29	674	1,020	819	567	506	448	443	429	277	954	783	797
30	681	-----	762	549	622	412	369	416	270	1,390	812	790
31	655	-----	688	-----	610	-----	382	394	-----	1,100	-----	715
TOTAL	21,330	25,001	39,482	22,220	13,425	14,101	12,205	12,158	13,483	21,369	30,610	22,766
MEAN	688	862	1,274	741	433	470	394	391	449	689	1,020	734
MAX	776	1,910	1,730	1,070	622	645	1,060	734	898	1,670	1,350	819
MIN	512	585	688	537	280	338	210	273	270	244	650	633
AC-FT	42,310	49,590	78,310	44,070	26,630	27,970	24,210	24,020	26,740	42,390	60,710	45,160
CAL YR 1972	TOTAL 248,100		MEAN 678		MAX 1,910		MIN 210		AC-FT 492,100			
WTR YR 1972	TOTAL 258,899		MEAN 707		MAX 2,000		MIN 210		AC-FT 513,500			

PEAK DISCHARGE (BASE, 5,200 CFS).--No peak above base.

## 08315500 McClure Reservoir near Santa Fe, N. Mex.

LOCATION.--Lat 35°41'18", long 105°50'06", in NE¼SW¼ sec.24, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on outlet tower at McClure Dam on Santa Fe River, 2.1 miles upstream from Nichols Reservoir, and 5.8 miles east of Santa Fe.

DRAINAGE AREA.--17.4 sq mi.

PERIOD OF RECORD.--September 1929, July to October 1930, April 1931 to June 1946, September 1947 to current year. Prior to October 1947, published in WSP 1312. Prior to October 1965, monthend contents only.

GAGE.--Water-stage recorder. Altitude of gage is 7,788 ft (from topographic map). Prior to Oct. 1, 1947, nonrecording gages at same site and various datums all referred to the Public Service Co. of New Mexico assumed datum, 165.9 ft lower.

EXTREMES.--Current year: Maximum contents, 1,480 acre-ft Apr. 4-6; maximum gage height, 78.8 ft Apr. 4; minimum contents, 378 acre-ft Oct. 12-13 (gage height, 49.3 ft).

Period of record: Maximum contents, 3,140 acre-ft June 25, 1960 (gage height, 103.7 ft); no contents Jan. 25 to May 8, 1951.

REMARKS.--Reservoir is formed by earthfill 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 (capacity, 2,615 acre-ft at crest of concrete spillway). Between October 1947 and May 1953 varying amounts of sandbag bulkheads were placed on crest of spillway to increase capacity. Between May 1953 and December 1971 spillway was equipped with radial gates that opened automatically thereby increasing capacity to over 3,000 acre-ft. Radial gates were removed during 1972 (capacity, 2,615 acre-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.

Capacity table (gage height, in feet, and usable contents, in acre-feet)  
(Based on survey by Public Service Co. of New Mexico in 1947)

45	288	60	668
50	394	70	1,050
55	519	80	1,550

## CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	854	1,070	1,160	1,460	1,400	1,260	988	559	454	412	671	1,030
2	862	1,080	1,160	1,470	1,390	1,250	967	559	451	408	691	1,030
3	869	1,080	1,170	1,470	1,390	1,250	950	559	446	406	708	1,030
4	877	1,080	1,170	1,480	1,390	1,240	929	553	441	401	728	1,030
5	885	1,080	1,180	1,480	1,390	1,230	917	547	436	399	746	1,030
6	897	1,090	1,190	1,480	1,390	1,230	901	541	431	399	764	1,030
7	905	1,090	1,190	1,470	1,390	1,220	881	536	424	394	778	1,030
8	913	1,090	1,200	1,470	1,390	1,220	862	533	417	392	797	1,030
9	921	1,090	1,210	1,460	1,390	1,210	846	527	417	389	812	1,030
10	929	1,090	1,220	1,460	1,390	1,200	823	522	424	385	823	1,030
11	938	1,090	1,230	1,460	1,380	1,190	793	516	431	380	838	1,030
12	946	1,100	1,240	1,460	1,370	1,190	757	511	439	378	850	1,030
13	950	1,100	1,250	1,460	1,370	1,190	728	506	441	378	866	1,030
14	959	1,100	1,270	1,460	1,360	1,180	698	497	444	382	877	1,030
15	967	1,100	1,280	1,450	1,350	1,170	665	492	444	387	889	1,030
16	976	1,110	1,290	1,450	1,340	1,160	662	484	444	392	901	1,040
17	980	1,110	1,300	1,450	1,340	1,150	639	479	441	394	913	1,040
18	988	1,110	1,320	1,450	1,320	1,140	615	474	436	401	925	1,050
19	997	1,120	1,320	1,440	1,320	1,140	591	469	434	412	933	1,050
20	1,010	1,120	1,340	1,440	1,320	1,130	567	469	431	431	946	1,050
21	1,010	1,120	1,350	1,430	1,310	1,120	553	466	431	451	959	1,060
22	1,020	1,130	1,360	1,420	1,300	1,120	550	464	431	469	967	1,060
23	1,030	1,130	1,380	1,420	1,300	1,110	547	458	431	487	976	1,060
24	1,030	1,130	1,390	1,420	1,290	1,100	544	454	431	506	988	1,070
25	1,040	1,140	1,400	1,410	1,280	1,090	544	451	429	527	1,000	1,070
26	1,050	1,140	1,410	1,410	1,280	1,090	547	451	427	550	1,010	1,080
27	1,060	1,140	1,420	1,410	1,270	1,080	550	451	424	573	1,020	1,080
28	1,060	1,140	1,420	1,410	1,270	1,060	553	454	422	594	1,020	1,090
29	1,070	1,150	1,440	1,400	1,260	1,030	556	458	419	615	1,030	1,090
30	1,070	-----	1,440	1,400	1,260	1,010	556	458	415	633	1,030	1,090
31	1,070	-----	1,450	-----	1,260	-----	559	458	-----	652	-----	1,100
MAX	1,070	1,150	1,450	1,480	1,400	1,260	988	559	454	652	1,030	1,100
MIN	854	1,070	1,160	1,400	1,260	1,010	544	451	415	378	671	1,030
(+)	70.4	72.2	78.2	77.3	74.4	68.9	56.4	52.7	50.9	59.5	69.4	71.0
(#)	+224	+80	+300	-50	-140	-250	-451	-101	-43	+237	+378	+70
CAL YR 1972	MAX 1,480	MIN 378	# +254									
WTR YR 1972	MAX 1,480	MIN 232	# +159									

† Gage height, in feet, at end of month.

# Change in contents, in acre-feet.

## RIO GRANDE BASIN

08316000 Santa Fe River near Santa Fe, N. Mex.

LOCATION. --Lat 35°41'12", long 105°50'35", in NE¼SE¼ sec.23, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on left bank 0.4 mile downstream from McClure Dam, and 5.3 miles east of Santa Fe.

DRAINAGE AREA.--18.2 sq mi.

PERIOD OF RECORD.--June 1910, January 1913 to current year. 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. Altitude of gage is 7,718 ft (from topographic map). See WSP 1312 for history of changes prior to Oct. 1, 1947.

AVERAGE DISCHARGE.--60 calendar years, 7.94 cfs (5,750 acre-ft per year); 20 calendar years (1953-72), 5.82 cfs (4,220 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 16 cfs July 15 (gage height, 2.11 ft); minimum, 0.34 cfs Feb. 20 to Apr. 5.  
Period of record: 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; minimum, 0.08 cfs July 31, Aug. 1, 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 excellent except those below 1.0 cfs, which are fair. Flow regulated by McClure Reservoir (see sta 08315500), completed in 1926, raised in 1935 and again in 1947.

REVISIONS (WATER YEARS).--WSP 1512: 1933, 1936-37(M), 1942, drainage area. WSP 1732: 1923, 1925,

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.92	.68	.34	.34	6.2	7.0	9.8	1.6	7.6	4.1	1.1	5.2
2	.62	.62	.34	.34	6.2	7.0	9.8	1.6	7.6	3.9	1.1	5.4
3	.50	.68	.34	.34	6.2	7.0	9.8	2.8	7.6	3.9	1.1	5.2
4	.50	.68	.34	.34	6.2	6.7	9.8	4.7	7.6	3.9	1.1	5.2
5	.50	.74	.34	3.6	6.2	6.7	9.8	4.7	7.6	3.9	1.2	4.9
6	.44	.74	.34	6.7	6.2	6.7	9.8	4.7	7.6	3.9	1.2	4.7
7	.44	.74	.34	6.7	6.2	6.4	9.8	4.7	7.6	3.9	1.2	4.7
8	.44	.68	.34	6.7	6.2	6.4	9.8	4.7	7.6	3.9	1.2	4.5
9	.38	.68	.34	6.7	6.2	6.7	9.8	4.7	7.6	3.9	1.2	4.5
10	.38	.68	.34	6.7	6.2	7.3	12	4.7	7.6	3.6	1.2	4.5
11	.38	.62	.34	6.4	7.3	7.0	15	4.7	7.6	3.6	1.2	4.5
12	.38	.56	.34	6.4	8.8	7.0	15	4.7	7.6	3.6	1.2	4.3
13	.38	.56	.34	6.4	8.4	7.0	15	4.7	7.6	2.4	1.3	4.3
14	.38	.56	.34	6.4	8.4	7.0	14	4.7	7.6	.86	1.3	4.1
15	.38	.50	.34	6.4	8.4	6.7	14	4.7	7.6	.86	1.3	2.7
16	.38	.44	.34	6.4	8.1	6.7	14	4.7	7.6	.92	1.3	1.2
17	.38	.44	.34	6.4	8.1	6.7	14	4.7	7.6	.92	1.3	1.2
18	.38	.38	.34	6.4	7.8	6.4	14	4.7	7.6	.92	1.3	1.2
19	.38	.38	.34	6.4	7.8	6.2	14	4.7	7.6	.92	1.3	1.2
20	.38	.34	.34	6.4	7.6	6.2	13	4.7	5.6	.98	1.3	1.2
21	.44	.34	.34	6.4	7.6	6.4	8.0	4.7	4.3	.98	1.3	1.2
22	.44	.34	.34	6.4	7.3	6.4	3.9	4.7	4.3	.98	1.3	1.2
23	.50	.34	.34	6.4	7.3	6.2	3.9	4.7	4.3	.98	1.3	1.2
24	.56	.34	.34	6.4	7.3	5.9	3.9	4.7	4.3	.98	1.3	1.2
25	.68	.34	.34	6.2	7.3	5.6	3.9	4.7	4.3	.98	1.3	1.2
26	.68	.34	.34	6.2	7.3	5.4	3.0	4.7	4.3	.98	2.0	1.2
27	.68	.34	.34	6.2	7.3	4.9	1.7	4.7	4.3	.98	3.4	1.3
28	.62	.34	.34	6.2	7.3	10	1.6	4.7	4.3	.98	3.9	1.3
29	.62	.34	.34	6.2	7.0	14	1.6	4.7	4.3	.98	4.5	1.4
30	.62	-----	.34	6.2	7.0	11	1.6	4.7	4.1	.98	5.0	1.4
31	.74	-----	.34	-----	7.0	-----	1.6	6.4	-----	1.1	-----	1.4
TOTAL	15.50	14.76	10.54	165.26	222.4	210.6	276.9	139.3	192.8	65.78	49.7	88.7
MEAN	.50	.51	.34	5.51	7.17	7.02	8.93	4.49	6.43	2.12	1.66	2.86
MAX	.92	.74	.34	6.7	9.8	14	15	6.4	7.6	4.1	5.0	5.4
MIN	.38	.34	.34	.34	6.2	4.9	1.6	1.6	4.1	.86	1.1	1.2
AC-FT	31	29	21	328	441	418	549	276	382	130	99	176
CAL YR 1972	TOTAL	1,452.24	MEAN	3.97	MAX 15	MIN	.34	AC-FT	2,880			
WTR YR 1972	TOTAL	1,354.22	MEAN	3.70	MAX 15	MIN	.13	AC-FT	2,690			

08316500 Nichols Reservoir near Santa Fe, N. Mex.

LOCATION.--Lat 35°41'24", long 105°52'46", in SE¼NE¼ sec.21, T.17 N., R.10 E., Santa Fe County, in Santa Fe National Forest, on outlet tower at Nichols Dam on Santa Fe River, 0.6 mile east of Twomile Reservoir, 2.5 miles downstream from McClure Dam, and 3.3 miles east of Santa Fe.

DRAINAGE AREA.--22.8 sq mi.

PERIOD OF RECORD.--March 1943 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7,313.2 ft above mean sea level.

EXTREMES.--Current year: Maximum contents, 561 acre-ft Jan. 1-9 (gage height, 162.6 ft); minimum, 194 acre-ft Aug. 24 (gage height, 144.4 ft).

Period of record: 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 earthfill dam. No storage prior to Mar. 16, 1943. Capacity, 685 acre-ft between gage heights 121.2 ft (bottom of lower operational gate) and 167.0 ft (crest of 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.

Capacity table (gage height, in feet, and contents, in acre-feet)  
(Based on survey by Public Service Co. of New Mexico in 1943)

140	139	155	375
145	202	160	491
150	279	165	625

## CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	561	523	465	285	263	243	233	342	211	386	310	321
2	561	520	461	277	260	242	231	327	220	386	308	331
3	561	520	458	273	257	240	228	312	231	389	312	340
4	561	518	456	268	256	239	225	300	240	386	310	348
5	561	518	452	265	254	236	223	290	250	386	308	354
6	561	518	447	270	253	234	222	283	257	386	306	367
7	561	515	440	276	253	234	220	273	266	386	306	365
8	561	515	433	281	251	233	219	263	273	386	304	365
9	561	512	426	285	250	231	216	253	283	384	302	369
10	558	512	419	288	248	233	219	245	292	384	300	382
11	558	510	414	294	248	233	229	239	302	384	300	386
12	558	507	407	298	251	234	239	231	310	382	300	394
13	555	507	400	300	254	236	248	223	319	380	298	396
14	555	504	396	300	257	236	256	214	327	373	298	398
15	552	502	389	296	259	236	262	206	336	367	298	394
16	552	499	382	292	260	234	274	200	344	362	296	391
17	550	496	375	290	262	234	286	198	352	358	296	389
18	550	496	369	286	263	233	304	197	360	354	294	386
19	547	494	363	285	265	231	327	195	367	350	292	382
20	544	491	358	288	265	229	352	197	371	348	292	380
21	544	491	352	298	265	228	367	195	373	344	292	377
22	542	491	346	292	266	228	367	195	373	342	290	375
23	539	491	342	288	266	226	369	195	377	340	290	373
24	536	486	340	285	266	226	371	194	380	336	292	371
25	536	484	333	279	266	225	371	195	380	335	292	367
26	534	479	327	276	263	223	371	195	382	331	294	365
27	531	477	319	273	257	220	367	195	382	329	300	363
28	528	472	312	271	254	222	363	195	384	325	304	362
29	528	470	306	268	251	228	362	195	384	321	310	360
30	526	-----	298	265	250	233	358	195	386	319	313	356
31	526	-----	290	-----	246	-----	352	199	-----	313	-----	354
MAX	561	523	465	300	266	243	371	342	386	389	313	398
MIN	526	470	290	265	246	220	216	194	211	313	290	321
(+)	161.3	159.1	150.6	149.1	147.9	147.0	153.8	144.2	155.5	151.8	151.8	153.9
(#)	-32	-56	-180	-25	-19	-13	+119	-153	+187	-73	0	+41
CAL YR 1972	MAX 561	MIN 194	± -204									
WTR YR 1972	MAX 640	MIN 194	± -175									

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

## RIO GRANDE BASIN

08317850 Galisteo Creek above Galisteo Reservoir, N. Mex.

LOCATION.--Lat 35°26'58", long 106°09'08", in NE 1/4 sec. 13, T. 14 N., R. 7 E., Santa Fe County, in Mesita de Juana Lopez Grant, on right bank at site of former railroad bridge at Waldo, 800 ft downstream from Waldo Gulch, 1.8 miles northwest of Cerrillos, and 4.0 miles upstream from Galisteo Dam.

DRAINAGE AREA.--567 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,595 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 4,310 cfs July 16 (gage height, 6.44 ft), from rating curve extended above 200 cfs; minimum daily, 0.20 cfs June 29 to July 4.

Period of record: Maximum discharge, 7,460 cfs July 26, 1971 (gage height, 8.00 ft), from rating curve extended above 200 cfs; minimum daily, 0.15 cfs May 30 to June 2, 1971.

REMARKS.--Records poor. Diversions for irrigation of about 50 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.4	2.7	1.4	1.4	.50	2.2	.20	.80	139	.76	5.6	4.5
2	3.1	2.7	1.4	1.2	.50	2.1	.20	.50	547	.98	4.4	5.0
3	2.5	2.7	1.2	1.1	.50	2.2	.20	.36	18	.76	4.0	4.5
4	1.5	3.1	1.1	1.1	.50	2.2	.20	.30	4.7	.58	3.7	4.0
5	.90	2.7	.98	1.1	.50	2.2	42	106	2.1	.96	3.4	4.0
6	1.0	2.4	.86	1.1	.76	1.9	153	250	1.6	.76	3.1	3.5
7	1.5	2.4	.86	1.1	1.6	1.9	5.0	39	1.6	.67	3.1	3.0
8	2.0	2.2	.86	1.1	.86	20	1.6	16	2.3	.50	4.0	2.5
9	1.8	2.2	1.1	1.1	.58	3.7	11	17	111	.43	4.0	2.5
10	1.6	2.2	1.1	1.1	.58	2.9	46	9.1	29	.58	3.1	2.5
11	1.8	2.2	1.1	1.1	.58	2.9	1.9	3.3	97	.58	2.9	2.4
12	2.4	2.7	1.1	1.1	.58	2.9	.86	.67	79	25	3.4	2.0
13	2.7	2.9	1.1	.98	.58	2.4	.76	.50	12	15	2.9	2.5
14	2.9	2.4	1.1	.86	.58	2.1	.67	.58	5.2	10	2.7	2.5
15	3.4	2.2	1.1	.86	.58	51	.67	.43	3.1	5.0	2.9	2.5
16	3.7	1.9	1.2	.86	.58	346	467	11	2.4	3.0	2.9	2.5
17	4.0	1.7	1.2	.86	.58	60	125	6.0	2.1	2.7	6.6	2.7
18	4.0	1.7	1.2	.86	.58	5.6	11	3.7	2.1	6.7	8.5	3.1
19	3.4	1.7	1.2	.86	.58	1.6	12	3.4	8.2	11	5.6	3.7
20	3.4	1.7	1.2	.98	.58	.86	11	2.2	114	78	4.0	3.4
21	2.9	1.6	1.2	.86	.58	.98	7.2	1.6	14	102	4.4	3.4
22	2.9	1.7	1.2	.67	.58	.67	8.0	2.4	3.1	7.5	4.0	3.1
23	2.9	1.7	1.2	.67	.58	.98	120	1.7	2.1	79	4.0	3.4
24	2.4	1.6	1.2	.67	.58	.98	143	1.7	1.4	47	4.5	2.9
25	2.9	1.4	1.1	.58	.58	.76	155	6.9	1.1	36	4.0	2.4
26	2.9	1.4	1.1	.67	.58	.50	83	8.4	1.1	37	4.0	2.4
27	2.2	1.4	1.1	.67	.58	.30	42	7.5	1.2	12	4.5	3.0
28	1.7	1.4	1.2	.58	.76	.25	51	9.0	1.1	9.0	4.8	2.2
29	1.6	1.4	1.4	.58	1.4	.20	3.4	21	1.1	9.0	5.0	2.2
30	1.7	-----	1.4	.58	3.7	.20	2.1	19	.98	6.4	4.5	2.2
31	2.4	-----	1.4	-----	2.4	-----	1.2	7.9	-----	5.2	-----	2.2
TOTAL	77.50	60.0	35.86	27.25	25.00	522.48	1,506.16	557.94	1,208.58	514.06	124.5	92.7
MEAN	2.50	2.07	1.16	.91	.81	17.4	48.6	18.0	40.3	16.6	4.15	2.99
MAX	4.0	3.1	1.4	1.4	3.7	346	467	250	547	102	8.5	5.0
MIN	.90	1.4	.86	.58	.50	.20	.20	.30	.98	.43	2.7	2.0
AC-FT	154	119	71	54	50	1,040	2,990	1,110	2,400	1,020	247	184
CAL YR 1972	TOTAL 4,752.03 MEAN 13.0 MAX 547 MIN .20 AC-FT 9,430											
WTR YR 1972	TOTAL 4,552.67 MEAN 12.4 MAX 547 MIN .20 AC-FT 9,030											

## PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-16	2230	6.44	4,310	9- 2	0130	6.06	3,640
7-23	1900	5.79	3,180				



## RIO GRANDE BASIN

08317850 Galisteo Creek above Galisteo Reservoir, N. Mex.

LOCATION.--Lat 35°26'58", long 106°09'08", in NE¼ sec.13, T.14 N., R.7 E., Santa Fe County, in Mesita de Juana Lopez Grant, on right bank at site of former railroad bridge at Waldo, 800 ft downstream from Waldo Gulch, 1.8 miles northwest of Carrillos, and 4.0 miles upstream from Galisteo Dam.

DRAINAGE AREA.--567 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,595 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 4,310 cfs July 16 (gage height, 6.44 ft), from rating curve extended above 200 cfs; minimum daily, 0.20 cfs June 29 to July 4.

Period of record: Maximum discharge, 7,460 cfs July 26, 1971 (gage height, 8.00 ft), from rating curve extended above 200 cfs; minimum daily, 0.15 cfs May 30 to June 2, 1971.

REMARKS.--Records poor. Diversions for irrigation of about 50 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.4	2.7	1.4	1.4	.50	2.2	.20	.80	139	.76	5.6	4.5
2	3.1	2.7	1.4	1.2	.50	2.1	.20	.50	547	.98	4.4	5.0
3	2.5	2.7	1.2	1.1	.50	2.2	.20	.36	18	.76	4.0	4.5
4	1.5	3.1	1.1	1.1	.50	2.2	.20	.30	4.7	.58	3.7	4.0
5	.90	2.7	.98	1.1	.50	2.2	42	106	2.1	.86	3.4	4.0
6	1.0	2.4	.86	1.1	.76	1.9	153	250	1.6	.76	3.1	3.5
7	1.5	2.4	.86	1.1	1.6	1.9	5.0	39	1.6	.67	3.1	3.0
8	2.0	2.2	.86	1.1	.86	20	1.6	16	2.3	.50	4.0	2.5
9	1.8	2.2	1.1	1.1	.58	3.7	11	17	111	.43	4.0	2.5
10	1.6	2.2	1.1	1.1	.58	2.9	46	9.1	29	.58	3.1	2.5
11	1.8	2.2	1.1	1.1	.58	2.9	1.9	3.3	97	.58	2.9	2.4
12	2.4	2.7	1.1	1.1	.58	2.9	.86	.67	79	25	3.4	2.0
13	2.7	2.9	1.1	.98	.58	2.4	.76	.50	12	15	2.9	2.5
14	2.9	2.4	1.1	.86	.58	2.1	.67	.58	5.2	10	2.7	2.5
15	3.4	2.2	1.1	.86	.58	51	.67	.43	3.1	5.0	2.9	2.5
16	3.7	1.9	1.2	.86	.58	346	467	11	2.4	3.0	2.9	2.5
17	4.0	1.7	1.2	.86	.58	60	125	6.0	2.1	2.7	6.6	2.7
18	4.0	1.7	1.2	.86	.58	5.6	11	3.7	2.1	6.7	8.5	3.1
19	3.4	1.7	1.2	.86	.58	1.6	12	3.4	8.2	11	5.6	3.7
20	3.4	1.7	1.2	.98	.58	.86	11	2.2	114	78	4.0	3.4
21	2.9	1.6	1.2	.86	.58	.98	7.2	1.6	14	102	4.4	3.4
22	2.9	1.7	1.2	.67	.58	.67	8.0	2.4	3.1	7.6	4.0	3.1
23	2.9	1.7	1.2	.67	.58	.98	120	1.7	2.1	79	4.0	3.4
24	2.4	1.6	1.2	.67	.58	.98	143	1.7	1.4	47	4.5	2.9
25	2.9	1.4	1.1	.58	.58	.76	155	6.9	1.1	36	4.0	2.4
26	2.9	1.4	1.1	.67	.58	.50	33	8.4	1.1	37	4.0	2.4
27	2.2	1.4	1.1	.67	.58	.30	42	7.5	1.2	12	4.5	3.0
28	1.7	1.4	1.2	.58	.76	.25	51	9.0	1.1	9.0	4.8	2.2
29	1.6	1.4	1.4	.58	1.4	.20	3.4	21	1.1	9.0	5.0	2.2
30	1.7	-----	1.4	.58	3.7	.20	2.1	19	.98	6.4	4.5	2.2
31	2.4	-----	1.4	-----	2.4	-----	1.2	7.9	-----	5.2	-----	2.2
TOTAL	77.50	60.0	35.86	27.25	25.00	522.48	1,506.16	557.94	1,208.58	514.06	124.5	92.7
MEAN	2.50	2.07	1.16	.91	.81	17.4	48.6	18.0	40.3	16.6	4.15	2.99
MAX	4.0	3.1	1.4	1.4	3.7	346	467	250	547	102	8.5	5.0
MIN	.90	1.4	.86	.58	.50	.20	.20	.30	.98	.43	2.7	2.0
AC-FT	154	119	71	54	50	1,040	2,990	1,110	2,400	1,020	247	184
GAL YR 1972 TOTAL 4,752.03 MEAN 13.0 MAX 547 MIN .20 AC-FT 9,430												
WTR YR 1972 TOTAL 4,552.67 MEAN 12.4 MAX 547 MIN .20 AC-FT 9,030												

## PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-16	2230	6.44	4,310	9- 2	0130	6.06	3,640
7-23	1900	5.79	3,180				

08317400 Rio Grande below Cochiti Dam, N. Mex.

LOCATION.--Lat 35°35'47", long 106°20'48", in SE¼SW¼ sec.19, T.16 N., R.6 E., Sandoval County, in Pueblo de Cochiti Grant, on left bank 0.3 mile upstream from Peralta Canyon, 0.5 mile downstream from Santa Fe River, 0.9 mile south of Cochiti Pueblo, and 2.5 miles downstream from Cochiti Dam.

DRAINAGE AREA.--14,900 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,210 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 2,260 cfs June 16 (gage height, 5.14 ft); minimum, 118 cfs July 4.

Period of record: Maximum discharge, 10,300 cfs July 26, 1971 (gage height, 7.90 ft), from rating curve extended above 2,600 cfs; minimum, 94 cfs July 17, 19, 1971.

The flood of May 15, 1941, reached a discharge of 23,400 cfs at site about 2.3 miles upstream. The flood of May 23, 1920, probably exceeded 23,400 cfs, and is likely the highest since 1905.

REMARKS.--Records fair. Diversions above station for irrigation of about 620,000 acres in Colorado and about 81,000 acres in New Mexico. Cochiti eastside main canal, on left bank, and Sili main canal, on right bank, bypass gage for irrigation of about 6,000 acres below station; see tabulation below for monthly and yearly diversion, as furnished by Bureau of Reclamation.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	724	663	1,040	586	487	519	310	267	285	190	1,090	750
2	759	656	1,210	586	418	455	302	276	345	203	1,170	681
3	759	650	1,240	600	360	403	169	308	362	159	1,060	776
4	750	712	1,250	586	288	421	133	374	402	159	1,080	741
5	570	630	1,190	548	294	339	150	574	351	154	1,060	795
6	526	635	1,040	533	287	256	307	352	329	158	1,180	741
7	643	655	998	624	346	263	242	265	287	174	1,340	741
8	715	657	1,080	767	401	348	206	334	267	219	1,230	698
9	665	659	1,150	795	349	390	178	308	383	328	1,160	681
10	657	696	1,170	804	397	424	163	269	914	279	1,150	681
11	732	648	1,270	823	373	445	145	241	587	389	1,060	705
12	715	693	1,350	832	323	487	155	190	471	354	940	789
13	750	648	1,380	823	336	545	164	152	450	369	1,000	788
14	724	676	1,430	870	302	547	182	145	760	347	920	674
15	706	699	1,430	724	285	448	344	134	623	417	1,090	662
16	705	725	1,490	795	262	631	772	143	512	590	1,110	634
17	712	747	1,520	724	242	436	625	171	481	480	1,000	593
18	729	770	1,430	632	197	304	232	174	453	728	1,050	719
19	664	835	1,550	548	213	312	143	242	404	970	970	750
20	689	948	1,460	540	314	265	173	414	398	850	1,020	665
21	716	968	1,320	563	281	232	277	212	363	1,350	940	701
22	695	1,030	1,160	578	218	266	460	185	377	1,510	1,060	730
23	682	1,060	1,070	578	280	317	324	171	434	1,220	910	686
24	705	1,490	1,030	540	365	451	345	166	548	1,060	960	664
25	702	1,730	1,000	498	501	442	326	167	371	901	842	726
26	692	1,180	1,010	471	400	427	417	233	231	891	673	706
27	665	1,120	867	464	445	377	450	306	201	809	767	693
28	728	977	795	478	463	352	432	253	189	775	776	710
29	657	906	741	506	449	339	386	259	195	867	759	770
30	681	-----	665	533	535	308	311	323	193	853	750	762
31	699	-----	632	-----	541	-----	262	267	-----	1,020	-----	681
TOTAL	21,516	24,463	35,968	18,949	10,952	11,749	9,085	7,875	12,166	18,773	30,117	22,093
MEAN	694	844	1,160	632	353	392	293	254	406	606	1,004	713
MAX	759	1,730	1,550	870	541	631	772	574	914	1,510	1,340	795
MIN	526	630	632	464	197	232	133	134	189	154	673	593
AC-FT	42,680	48,520	71,340	37,590	21,720	23,300	18,020	15,620	24,130	37,240	59,740	43,820
(+)	0	0	4,430	6,200	6,300	6,200	6,250	6,460	3,860	4,290	0	0
(#)	0	0	1,170	1,720	1,820	1,830	1,890	1,950	662	1,120	0	0
CAL YR 1972	TOTAL 223,706	MEAN 611	MAX 1,730	MIN 133	AC-FT 443,700	+ 43,980	# 12,180					
WTR YR 1972	TOTAL 236,238	MEAN 645	MAX 2,040	MIN 133	AC-FT 468,600	+ 45,020	# 12,430					

PEAK DISCHARGE (BASE, 4,500 CFS).--No peak above base.

+ Diversion, in acre-feet, by Cochiti eastside main canal, at point about 2 miles upstream below Cochiti Dam.  
# Diversion, in acre-feet, by Sili main canal, at point about 2 miles upstream below Cochiti Dam.

## RIO GRANDE BASIN

08317950 Galisteo Creek below Galisteo Dam, N. Mex.

LOCATION.--Lat 35°27'56", long 106°12'57", in SE¼SE¼ sec.5, T.14 N., R.7 E., Santa Fe County, in Mesita de Juana Lopez Grant, on right bank, 0.6 mile downstream from Galisteo Dam, and 5.5 miles northwest of Cerrillos.

DRAINAGE AREA.--597 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,450 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,420 cfs Sept. 2 (gage height, 5.97 ft); no flow many days.

Period of record: Maximum discharge, 2,000 cfs July 27, 1971 (gage height, 7.00 ft); maximum gage height, 7.33 ft July 20, 1971; no flow many days.

REMARKS.--Records poor. Flow regulated by Galisteo Reservoir 0.6 mile upstream. Diversions for irrigation of about 50 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	5.0	.75	.50	.19	0	0	0	0	156	0	2.5	2.5
2	4.0	.75	.50	.12	0	0	0	0	697	0	2.5	2.7
3	3.0	.75	1.0	.12	0	0	0	0	20	0	2.2	2.5
4	2.0	1.0	1.0	.09	0	0	0	0	5.0	0	2.1	2.4
5	1.0	1.0	.50	.12	0	0	0	34	1.6	1.1	1.9	2.4
6	1.5	1.0	.37	.08	0	0	135	226	1.5	1.8	1.7	2.0
7	1.5	1.0	.32	.05	1.6	0	3.7	31	1.1	1.6	1.6	2.0
8	1.5	1.0	.23	.04	1.4	16	.25	16	1.4	1.2	1.9	1.5
9	1.5	1.0	.35	.05	.13	3.5	0	7.4	215	.69	2.2	1.5
10	1.5	1.0	.40	.04	.02	0	18	.80	26	.60	1.6	1.5
11	1.5	.75	.34	0	0	0	.75	.42	43	.35	1.6	1.3
12	1.5	.75	.26	0	0	0	.04	0	182	23	1.9	1.0
13	1.5	1.0	.30	.15	0	.07	0	0	11	12	1.7	1.5
14	1.5	1.5	.30	0	0	0	0	0	4.8	6.5	1.6	1.5
15	1.5	2.0	.34	0	0	0	0	0	3.0	1.5	2.3	1.5
16	1.5	1.5	.32	.03	0	408	466	9.4	2.0	.80	1.8	1.5
17	1.5	1.0	.38	.02	0	30	409	12	1.2	1.4	2.2	1.5
18	1.5	1.5	.40	0	0	1.5	12	6.3	.62	4.7	6.6	2.0
19	1.6	1.5	.33	0	0	.58	7.5	1.0	37	4.8	3.8	2.0
20	2.1	1.5	.23	0	0	.28	7.1	.43	141	60	2.9	2.0
21	2.2	1.5	.32	0	0	0	3.0	0	9.5	160	2.6	2.0
22	1.6	1.0	.38	0	0	0	6.6	0	3.8	7.5	2.5	2.0
23	1.5	1.0	.56	0	0	0	71	0	2.1	100	2.4	2.0
24	1.1	1.0	.20	0	0	0	121	0	1.6	40	3.0	2.0
25	.96	1.0	.12	0	0	0	140	0	1.2	15	2.1	1.5
26	1.8	1.0	.04	0	0	0	66	11	.89	20	2.2	1.5
27	1.2	1.0	.01	0	0	0	30	6.3	.73	13	2.6	2.0
28	.70	1.0	.09	0	0	0	86	10	.88	9.0	2.7	2.0
29	.83	1.0	.22	0	0	0	15	20	.27	6.0	3.0	1.5
30	.75	-----	.29	0	3.3	0	2.0	25	0	4.0	2.5	1.5
31	.75	-----	.27	-----	1.1	-----	.10	13	-----	3.0	-----	1.5
TOTAL	51.59	31.75	10.87	1.10	7.55	459.93	1,600.04	430.05	1,571.19	499.54	72.2	56.3
MEAN	1.66	1.09	.35	.037	.24	15.3	51.6	13.9	52.4	16.1	2.41	1.82
MAX	5.0	2.0	1.0	.19	3.3	408	466	226	697	160	6.6	2.7
MIN	.70	.75	.01	0	0	0	0	0	0	0	1.6	1.0
AC-FT	102	63	22	2.2	15	912	3,170	853	3,120	991	143	112

CAL YR 1972 TOTAL 4,792.11 MEAN 13.1 MAX 697 MIN 0 AC-FT 9,510  
WTR YR 1972 TOTAL 4,672.14 MEAN 12.8 MAX 697 MIN 0 AC-FT 9,270

08317900 Galisteo Reservoir near Cerrillos, N. Mex.

LOCATION.--Lat 35°27'44", long 106°12'30", in NW¼ sec. 9, T.14 N., R.7 E., Santa Fe County, in Mesita de Juana Lopez Grant, at Galisteo Dam on Galisteo Creek, and 5.0 miles northwest of Cerrillos.

DRAINAGE AREA.--596 sq mi.

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

GAGE.--Water-stage recorder above elevation 5,500.00 ft, nonrecording below. Datum of gage is at mean sea level (levels by Corps of Engineers).

EXTREMES.--Current year: Maximum contents, 530 acre-ft Sept. 2 (elevation, 5,510.45 ft); no storage most of time.

Period of record: Maximum contents, 2,510 acre-ft July 26, 1971 (elevation 5,517.00 ft); no storage most of time.

REMARKS.--Reservoir is formed by an earthfill dam, completed Oct. 11, 1970. Capacity 88,990 acre-ft between elevations 5,496.0 ft (sill of ungated outlet conduit) and 5,608.0 ft (crest of uncontrolled spillway). No dead storage. Reservoir is used for flood control.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on survey by Corps of Engineers in 1972)

5,500	0	5,508	243
5,502	8	5,510	467
5,504	40	5,512	780
5,506	109		

CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1							0	0	209			
2							0	0	0			
3							0	0	0			
4							0	0	0			
5							0	40	0			
6							0	0	0			
7							0	0	0			
8							0	0	0			
9							0	0	0			
10							0	0	0			
11							0	0	25			
12							0	0	0			
13							0	0	0			
14							0	0	0			
15							0	0	0			
16							415	0	0			
17							0	0	0			
18							0	0	0			
19							0	0	0			
20							0	0	0			
21							0	0	0			
22							0	0	0			
23							5.0	0	0			
24							30	0	0			
25							0	0	0			
26							0	0	0			
27							0	0	0			
28							0	0	0			
29							0	0	0			
30		-----					0	0	0			
31		-----		-----		-----	0	0	-----		-----	
MAX	0	0	0	0	0	0	415	40	209	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
(+)	-	-	-	-	-	-	-	-	-	-	-	-
(#)	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1972	MAX 415	MIN 0	# 0									
WTR YR 1972	MAX 415	MIN 0	# 0									

+ Elevation, in feet, at end of month.

# Change in contents, in acre-feet.

## 08319000 Rio Grande at San Felipe, N. Mex.

LOCATION.--Lat 35°26'39", long 106°26'23", in SW¼ sec. 17, T.14 N., R.5 E., Sandoval County, in San Felipe Grant, on right bank 200 ft downstream from Tonque Arroyo, 1,700 ft upstream from steel highway bridge, 0.8 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.).

PERIOD OF RECORD.--October 1925 to current year. 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. 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.--47 calendar years, 1,360 cfs (985,300 acre-ft per year); 20 calendar years (1953-72), 1,049 cfs (760,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,220 cfs Sept. 14 (gage height, 6.82 ft); minimum, 130 cfs July 4.

Period of record: 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; 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. Flow partly regulated by El Vado Reservoir (see sta 08285000 and Abiquiu Reservoir (see sta 08286900), 133 and 87 miles upstream, respectively.

REVISIONS (WATER YEARS).--WSP 1312: 1926-30, WSP 1392: 1937(M), WSP 1512: 1931-32, 1933(M), 1934-36, 1938(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	858	752	1,140	481	481	582	306	283	368	201	1,310	790
2	885	760	1,270	462	437	514	342	292	1,180	220	1,270	732
3	939	696	1,250	425	419	437	225	316	659	207	1,090	820
4	849	728	1,230	462	352	425	155	450	631	180	993	760
5	645	660	1,210	437	347	357	148	547	603	182	1,190	820
6	582	720	1,060	425	332	292	413	712	487	166	1,320	760
7	610	736	1,040	487	368	273	273	392	311	191	1,310	820
8	720	744	1,160	631	444	321	242	288	283	227	1,350	732
9	720	728	1,210	720	363	357	206	240	514	370	1,280	770
10	688	800	1,250	696	407	391	194	235	816	314	1,190	820
11	808	712	1,300	728	379	413	176	204	589	432	1,190	840
12	736	784	1,340	768	321	425	165	192	533	462	1,090	830
13	800	688	1,410	784	306	481	190	181	413	524	1,080	840
14	776	736	1,470	824	287	527	187	179	1,090	486	1,070	723
15	768	760	1,510	728	251	431	321	194	960	524	993	714
16	720	800	1,520	696	255	744	912	217	573	741	1,040	696
17	744	792	1,530	652	230	696	1,150	283	524	612	1,000	696
18	776	808	1,490	589	209	368	363	283	462	760	982	760
19	704	912	1,500	507	202	347	283	337	468	993	1,020	750
20	744	1,050	1,460	514	278	297	255	514	559	883	949	696
21	752	1,070	1,340	520	326	255	368	234	375	1,310	949	741
22	768	1,130	1,240	520	264	259	527	221	380	1,420	993	760
23	736	1,220	1,190	533	264	297	437	194	408	1,170	905	732
24	784	1,420	1,130	507	292	385	468	183	580	1,110	883	687
25	792	1,550	1,100	487	481	431	494	187	438	905	830	770
26	744	1,260	1,090	462	407	431	444	230	322	894	732	730
27	736	1,230	948	456	407	391	425	332	260	894	732	700
28	808	1,130	816	456	456	357	481	391	210	830	883	760
29	752	1,000	768	481	425	342	374	311	198	905	732	780
30	784	-----	652	514	533	347	368	321	194	982	830	760
31	784	-----	589	-----	610	-----	292	259	-----	1,130	-----	680
TOTAL	23,512	26,396	37,213	16,952	11,133	12,173	11,184	9,202	15,388	20,225	31,166	23,469
MEAN	758	910	1,200	565	359	406	361	297	513	652	1,039	757
MAX	939	1,550	1,530	824	610	744	1,150	712	1,180	1,420	1,350	840
MIN	582	680	589	425	202	255	148	179	194	166	732	680
AC-FT	46,640	52,360	73,810	33,620	22,080	24,150	22,180	18,250	30,520	40,120	61,820	46,550
(†)	0	0	2,100	3,460	3,170	3,430	3,200	3,750	2,010	2,290	0	0

CAL YR 1972 TOTAL 238,013 MEAN 650 MAX 1,550 MIN 128 AC-FT 472,100 (†) 23,400  
 WTR YR 1972 TOTAL 254,184 MEAN 694 MAX 2,130 MIN 148 AC-FT 504,200 (†) 24,260

PEAK DISCHARGE (BASE, 5,000 CFS).--Sept. 14 (2100) 6,220 cfs (6.82 ft).

(†) Monthly diversion, in acre-ft, of Cochiti Eastside Canal; record of this flow is furnished by Bureau of Reclamation.

## RIO GRANDE BASIN

08321500 Jemez River below East Fork, near Jemez Springs, N. Mex.

LOCATION.--Lat 35°49'39", long 106°38'52", in NW¼ sec.5, T.18 N., R.3 E., Sandoval County, 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.

PERIOD OF RECORD.--July 1949 to October 1950 (gaged separately above East Fork), May 1951 to September 1957 (irrigation seasons only), March 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,702.7 ft above mean sea level. Prior to May 1951, at sites 3,000 ft upstream, at different datums and on separate channels.

AVERAGE DISCHARGE.--14 calendar years (1958-72), 25.7 cfs (18,620 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 211 cfs Mar. 4 (gage height, 2.44 ft); minimum, 4.4 cfs Nov. 26.

Period of record: 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, 0.91 cfs Jan. 24, 1969, result of freezeup.

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

REVISIONS (WATER YEARS).--WSP 1512: 1951-54(M), 1955, 1956(M). WSP 1712: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	17	13	119	20	12	16	9.1	8.0	16	11	36	15
2	19	11	72	20	12	15	9.3	8.0	17	11	32	14
3	13	9.5	98	19	12	14	9.5	20	22	11	38	13
4	11	11	158	18	11	12	9.2	31	20	11	29	15
5	9.0	13	144	17	12	12	12	27	17	14	25	14
6	12	13	104	18	11	11	14	20	16	14	24	9.0
7	14	13	85	17	14	11	13	14	15	16	20	10
8	15	13	63	17	14	13	13	15	15	15	20	13
9	16	14	50	16	12	16	11	17	34	13	28	13
10	17	14	45	17	12	13	13	17	34	13	25	11
11	17	13	41	16	12	13	14	13	24	12	24	13
12	16	12	36	16	11	20	12	10	31	12	23	14
13	16	14	34	18	11	30	11	10	25	20	17	14
14	16	15	33	18	10	19	10	11	22	19	20	12
15	16	15	30	17	11	15	9.5	12	21	21	21	11
16	14	15	26	17	11	15	10	12	19	23	13	11
17	15	15	26	16	10	14	9.3	14	16	17	24	12
18	14	17	24	16	10	14	9.6	16	15	17	25	13
19	15	17	23	15	9.8	13	9.8	13	16	61	17	13
20	15	20	21	15	9.6	11	10	11	18	75	20	13
21	15	23	20	15	9.1	11	11	11	16	41	19	12
22	16	32	20	14	9.3	11	11	11	14	26	20	12
23	16	42	24	13	9.3	12	12	9.8	13	22	28	12
24	16	51	28	13	9.6	13	12	9.2	12	20	23	9.2
25	17	81	22	14	9.5	12	12	12	12	20	16	11
26	16	102	21	13	10	10	12	37	12	30	12	9.5
27	17	100	19	14	10	9.8	11	38	11	32	19	11
28	15	118	19	14	12	9.6	10	47	11	28	24	12
29	14	137	19	14	15	9.6	9.0	29	11	30	18	12
30	13	-----	21	14	21	9.3	8.5	18	11	30	16	10
31	12	-----	20	-----	20	-----	8.0	16	-----	40	-----	8.0
TOTAL	464.0	963.5	1,465	481	362.2	404.3	334.8	537.0	536	725	676	371.7
MEAN	15.0	33.2	47.3	16.0	11.7	13.5	10.8	17.3	17.9	23.4	22.5	12.0
MAX	19	137	158	20	21	30	14	47	34	75	38	15
MIN	9.0	9.5	19	13	9.1	9.3	8.0	8.0	11	11	12	8.0
AC-FT	920	1,910	2,910	950	718	802	664	1,070	1,060	1,440	1,340	737

CAL YR 1972 TOTAL 7,320.5 MEAN 20.0 MAX 158 MIN 8.0 AC-FT 14,520

WTR YR 1972 TOTAL 7,341.8 MEAN 20.1 MAX 158 MIN 8.0 AC-FT 14,560

PEAK DISCHARGE (BASE, 100 CFS).-- March 4 (0130) 211 cfs (2.44 ft).

08323000 Rio Guadalupe at Box Canyon, near Jemez, N. Mex.

LOCATION.--Lat 35°43'52", long 106°45'44", Sandoval County, in Canon 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.

PERIOD OF RECORD.--May 1951 to September 1957 (irrigation seasons only), May 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,015.5 ft above mean sea level.

AVERAGE DISCHARGE.--14 calendar years (1958-72), 31.1 cfs (22,530 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 120 cfs Oct. 21 (gage height, 4.27 ft); minimum, 3.2 cfs July 9.

Period of record: 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, 2.8 cfs Dec. 9, 1967.

The flood of May 13 or 14, 1941, exceeded all other observed floods at this location. The discharge for that flood was computed to be 3,190 cfs at a downstream station, Rio Guadalupe near Jemez Springs (drainage area, 239 sq mi.).

REMARKS.--Records good except those for winter period, which are poor. Flow regulated to some extent since October 1958 by San Gregorio Reservoir on Clear Creek, 24 miles upstream (capacity, 345 acre-ft), and by trans-mountain diversion into Rio Puerco Basin for irrigation of 200 to 300 acres in vicinity of Cuba.

REVISIONS.--WSP 1712: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	25	15	32	35	22	16	4.6	4.2	16	6.6	33	25
2	27	16	25	35	21	15	4.6	4.2	12	6.6	34	26
3	22	12	29	35	21	14	4.7	4.8	16	6.1	37	25
4	12	13	32	38	22	13	4.7	15	16	6.4	32	26
5	10	17	38	46	24	12	5.4	9.2	13	7.7	48	25
6	15	16	38	53	24	12	5.5	10	11	14	45	12
7	17	14	40	46	29	11	8.9	8.2	10	18	45	30
8	18	15	40	53	28	11	8.0	7.4	10	30	40	25
9	19	17	42	48	24	11	6.5	8.2	47	16	43	25
10	19	17	45	46	23	10	6.1	7.5	30	14	42	20
11	19	16	53	47	22	10	5.9	6.8	26	12	47	15
12	19	16	57	47	21	10	5.6	7.3	53	12	48	10
13	19	15	59	46	21	17	6.0	7.8	33	24	45	9.0
14	18	15	59	42	20	15	5.7	7.7	21	25	35	10
15	19	15	54	34	20	12	5.4	8.0	18	18	40	10
16	17	16	47	40	19	11	5.0	7.2	16	20	40	13
17	17	16	50	41	19	12	4.7	9.6	14	18	31	15
18	17	17	50	34	18	11	4.4	8.8	12	25	40	22
19	17	17	54	33	18	10	4.5	9.4	13	40	35	22
20	17	17	53	32	17	9.1	3.9	9.0	13	102	30	21
21	17	17	52	30	16	8.5	4.9	9.0	14	81	30	16
22	16	17	56	32	15	8.1	5.2	8.4	11	54	25	17
23	16	26	63	29	15	7.9	4.8	7.9	10	42	22	17
24	16	28	58	29	14	7.7	4.9	7.4	9.2	39	30	15
25	16	26	52	29	14	9.2	4.9	8.4	8.7	34	22	15
26	16	27	54	30	14	8.3	4.9	16	8.1	37	23	12
27	16	27	46	29	13	7.4	5.2	16	7.9	39	25	13
28	15	27	35	24	13	6.8	4.8	15	7.7	35	12	15
29	15	30	27	24	13	5.5	4.6	14	7.4	34	30	15
30	14	-----	35	23	15	4.8	4.4	13	7.1	34	22	14
31	12	-----	34	-----	16	-----	4.2	11	-----	36	-----	8.0
TOTAL	532	537	1,409	1,110	591	316.3	162.9	286.0	491.1	886.4	1,031	547.0
MEAN	17.2	18.5	45.5	37.0	19.1	10.5	5.25	9.23	16.4	28.6	34.4	17.6
MAX	27	30	63	53	29	17	8.9	16	53	102	48	30
MIN	10	12	25	23	13	4.8	3.9	4.2	7.1	6.1	12	8.0
AC-FT	1,060	1,070	2,790	2,200	1,170	627	323	567	974	1,760	2,040	1,080

CAL YR 1972 TOTAL 7,899.7 MEAN 21.6 MAX 102 MIN 3.9 AC-FT 15,670

WTR YR 1972 TOTAL 7,805.3 MEAN 21.3 MAX 70 MIN 3.9 AC-FT 15,480

PEAK DISCHARGE (BASE, 100 CFS).--Sept. 9 (0930) 108 cfs (4.20 ft); Oct. 21 (0230) 120 cfs (4.27 ft).

08324000 Jemez River near Jemez, N. Mex.

LOCATION.--Lat 35°39'42", long 106°44'34", Sandoval County, in Canyon de San Diego Grant, on left bank 0.7 mile downstream from Rio Guadalupe and 3.5 miles north of Jemez.

DRAINAGE AREA.--470 sq mi.

PERIOD OF RECORD.--June 1936 to May 1941, August 1949 to October 1950, May 1951 to September 1952 (irrigation seasons only), March 1953 to current year. Monthly discharge only for some periods, published in WSP 1732. Published as Jemez Creek near Jemez, 1936-41.

GAGE.--Water-stage recorder. Concrete control since Dec. 6, 1965. Datum of gage is 5,622.3 ft above mean sea level. 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 0.7 ft higher. July 9, 1938, to May 6, 1941, at site 60 ft upstream at datum 0.70 ft higher.

AVERAGE DISCHARGE.--23 calendar years (1936-40, 1954-72), 65.1 cfs (47,160 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,610 cfs Oct. 18 (gage height, 8.67 ft); minimum, 4.2 cfs Jan. 5, result of freezeup. Period of record: Maximum discharge, 5,900 cfs Apr. 21, 1958, from rating curve extended above 2,200 cfs on basis of contracted-opening measurement; maximum gage height, 8.6 ft May 6, 1941, present datum; minimum discharge, 4.2 cfs Jan. 5, 1972. Maximum flood 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.

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

REVISIONS (WATER YEARS).--WSP 1712: Drainage area. WSP 1923, Vol. 2: 1957-58.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	43	31	158	56	25	34	15	9.9	46	20	76	52
2	46	28	101	56	21	30	16	9.9	36	20	70	49
3	40	22	117	54	22	25	16	31	34	20	82	49
4	22	24	199	53	25	22	16	49	33	21	80	50
5	18	31	212	60	28	22	18	38	43	24	84	49
6	25	30	170	63	30	20	22	31	36	31	79	33
7	34	29	148	59	38	23	20	23	21	39	71	50
8	35	31	132	61	40	22	18	28	129	55	69	51
9	33	32	119	56	31	23	17	30	140	40	80	48
10	34	33	113	54	26	24	16	24	78	32	72	40
11	35	31	117	52	26	23	16	20	63	29	77	33
12	36	29	114	54	26	25	15	17	99	29	77	28
13	38	32	111	55	22	47	15	16	171	55	69	25
14	36	33	105	53	23	35	13	18	98	56	57	45
15	30	36	92	43	24	27	11	16	37	54	69	36
16	34	35	77	51	23	26	11	15	30	46	55	39
17	35	35	80	49	21	26	11	23	26	44	57	42
18	35	37	78	42	21	25	17	21	24	210	74	48
19	35	39	82	40	21	23	13	17	47	230	55	46
20	35	42	79	34	20	24	12	16	32	210	59	47
21	36	54	73	33	21	19	15	19	30	162	57	40
22	34	71	76	35	20	18	13	17	25	113	36	40
23	36	86	88	32	20	19	12	15	23	87	38	40
24	35	94	86	31	19	24	13	12	23	79	64	34
25	27	107	75	31	18	22	13	47	23	72	53	36
26	39	135	74	35	18	19	12	33	20	76	43	32
27	38	128	72	35	16	16	13	37	20	79	56	34
28	34	146	63	31	16	15	15	40	20	72	41	37
29	34	185	46	30	20	14	12	31	20	72	58	36
30	28	-----	58	28	30	14	12	25	20	71	45	32
31	24	-----	56	-----	38	-----	11	22	-----	87	-----	23
TOTAL	1,044	1,646	3,171	1,366	749	706	409	752.8	1,447	2,245	1,903	1,244
MEAN	33.7	56.8	102	45.5	24.2	23.5	14.5	24.3	48.2	72.1	63.4	40.1
MAX	46	185	212	63	40	47	22	49	171	230	84	52
MIN	18	22	46	28	16	14	11	9.9	20	20	36	23
AC-FT	2,070	3,260	6,290	2,710	1,490	1,400	891	1,490	2,870	4,430	3,770	2,470
CAL YR 1972	TOTAL	16,712.8	MEAN	45.7	MAX	230	MIN	9.9	AC-FT	33,150		
WTR YR 1972	TOTAL	16,212.8	MEAN	44.3	MAX	212	MIN	9.9	AC-FT	32,160		

## PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
9- 8	2230	6.64	1,140	10-18	2130	8.67	2,610
9-13	2200	7.29	1,540				



08328500 Jemez Canyon Reservoir near Bernalillo, N. Mex.

LOCATION.—Lat 35°23'40", long 106°32'50", in SW¼SW¼ sec.32, T.14 N., R.4 E., Sandoval County, at corner of outlet works control tower of Jemez Canyon Dam on Jemez River, about 2.3 miles upstream from mouth, and 6 miles north of Bernalillo, N. Mex.

DRAINAGE AREA.—1,034 sq mi.

PERIOD OF RECORD.—October 1953 to September 1965 (monthend contents only), October 1965 to current year.

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

EXTREMES.—Current year: Maximum contents, 1,250 acre-ft Oct. 20 (elevation, 5,155.00 ft); no contents most of year.  
Period of record: Maximum contents, 71,220 acre-ft June 8, 1958 (elevation, 5,213.36 ft); no storage most of time.

REMARKS.—Reservoir is formed by earthfill dam, completed October 19, 1953. Capacity, 181,800 acre-ft (from capacity table adopted July 20, 1969) between elevations 5,125.0 (sill of outlet gates) and 5,252.3 ft (operating deck of spillway). Maximum controlled capacity, 111,700 acre-ft at elevation 5,232.0 ft (floor of spillway which is located about 0.8 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.—Records furnished by Corps of Engineers.

Capacity tables, calendar year 1972 (elevation, in feet, and contents, in acre-feet)

5,137.9	1	5,146	86	5,154	1,020
5,140	4	5,148	192	5,156	1,510
5,142	16	5,150	376	5,158	2,180
5,144	36	5,152	643	5,160	2,960

CONTENTS, IN ACRE-FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								0	53	0		
2								0	222	0		
3								0	214	0		
4								0	157	0		
5								354	0	0		
6								189	0	0		
7								0	0	0		
8								0	0	0		
9								2	825	0		
10								0	1,020	0		
11								0	333	0		
12								0	0	0		
13								0	0	120		
14								0	3.0	0		
15								0	0	0		
16								0	0	0		
17								0	0	0		
18								10	0	0		
19								1.0	457	1,040		
20								0	338	1,250		
21								0	0	538		
22								0	0	0		
23								0	0	0		
24								0	0	0		
25								0	0	0		
26								146	0	0		
27								221	0	0		
28								310	0	0		
29								257	0	0		
30								218	0	0		
31								148		0		
MAX	0	0	0	0	0	0	0	354	1,020	1,250	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
(+)	0	0	0	0	0	0	0	5,147.33	0	0	0	0
(#)	0	0	0	0	0	0	0	+148	-148	0	0	0

CAL YR 1972 . . . . . (+) 0  
WTR YR 1972 . . . . . (+) -178

(+) Elevation, in feet, at end of month.

(#) Change in contents, in acre-feet.

08329000 Jemez River below Jemez Canyon Dam, N. Mex.

LOCATION.--Lat 35°23'24", long 106°32'03", in NE¼ sec.5, T.13 N., R.4 E., Sandoval County, on right bank 0.8 mile downstream from Jemez Canyon Dam, 1.5 miles upstream from mouth, and 6 miles north of Bernalillo.

DRAINAGE AREA.--1,038 sq mi.

PERIOD OF RECORD.--March 1936 to January 1938, March 1943 to current year. Published as "Jemez Creek" prior to 1948, and as "near Bernalillo" prior to 1954.

GAGE.--Water-stage recorder. Datum of gage is 5,095.60 ft above mean sea level (Corps of Engineers bench mark). Prior to Apr. 24, 1951, at site 0.8 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 (Corps of Engineers bench mark) used at times since January 1953.

AVERAGE DISCHARGE.--30 calendar years (1936-37, 1943-72), 49.8 cfs (36,080 acre-ft per year); 20 calendar years (1953-72), 48.8 cfs (35,360 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,190 cfs Sept. 11 (gage height, 10.54 ft); no flow for many days.

Period of record: 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; no flow for many days most years.

A flood in 1900 was probably less than 16,000 cfs, but highest observed outside period of record.

REMARKS.--Records poor. Subsequent to October 1953, flow at this station can be completely regulated by Jemez Canyon Reservoir (see sta 08328500). However, reservoir is designed essentially for desilting and flood control rather than storage. Diversions for irrigation of about 3,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1178: 1949. WSP 1212: 1950. WSP 1512: 1936, 1943, 1945, 1947-48, 1949(M), 1950. WSP 1732: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	20	6.4	68	19		0	0	0	22	.70	74	58
2	20	6.0	65	19		0	0	0	72	.60	76	62
3	22	6.0	60	16		0	0	0	126	.45	86	60
4	18	5.0	75	16		0	0	32	135	.45	70	56
5	16	5.0	97	15		0	0	41	131	1.1	90	50
6	14	5.5	111	16		0	0	36	56	1.5	85	44
7	12	5.0	107	17		0	0	8.5	86	1.6	83	34
8	10	8.0	123	15		0	0	7.1	54	1.1	76	27
9	8.0	10	91	14		0	7.4	10	92	19	76	20
10	8.0	12	91	16		0	0	0	93	17	76	20
11	7.0	15	95	18		0	0	0	290	16	76	17
12	7.0	18	95	21		0	0	3.1	230	17	80	19
13	8.0	20	98	22		0	0	0	28	81	83	22
14	8.0	25	78	28		0	0	1.0	58	36	66	26
15	9.0	29	68	30		0	0	4.5	14	53	64	32
16	9.0	28	61	31		0	0	5.6	10	88	57	37
17	10	28	5	35		8.8	0	4.2	5.4	57	51	47
18	15	29	47	22		7.1	1.9	11	5.4	52	53	62
19	19	28	37	15		0	11	9.7	6.1	297	45	60
20	23	37	34	10		0	0	5.7	36	48	45	48
21	22	34	30	6.4		0	0	0	20	15	44	41
22	19	31	30	4.3		0	0	0	5.0	16	41	29
23	22	35	34	3.0		0	0	0	3.0	35	44	27
24	21	37	34	1.5		0	0	0	3.0	48	50	19
25	18	38	35	1.3		0	0	0	2.4	117	56	14
26	15	52	28	.12		0	0	6.2	1.6	34	61	13
27	22	49	33	0		0	0	6.3	1.4	29	78	12
28	15	50	28	.72		0	0	21	1.2	34	85	13
29	10	59	24	2.0		0	0	23	1.0	32	80	14
30	8.0	-----	23	1.1		0	0	21	.84	34	64	11
31	5.0	-----	21	-----		-----	0	15	-----	45	-----	8.0
TOTAL	440.0	710.9	1,880	417.44	0	15.9	20.3	271.9	1,589.34	1,235.40	2,015	1,002.0
MEAN	14.2	24.5	60.6	13.9	0	.53	.65	8.77	53.0	39.9	67.2	32.3
MAX	23	59	123	35	0	8.8	11	41	290	297	90	62
MIN	5.0	5.0	21	0	0	0	0	0	.84	.45	41	6.9
AC-FT	873	1,410	3,730	828	0	32	40	539	3,150	2,450	4,000	1,990

CAL YR 1972 TOTAL 9,598.18 MEAN 26.2 MAX 297 MIN 0 AC-FT 19,040  
WTR YR 1972 TOTAL 9,412.38 MEAN 25.7 MAX 565 MIN 0 AC-FT 18,670

08329100 Bernalillo floodwater retarding reservoir No. 1 (Piedra Lisa Arroyo), near Bernalillo, N. Mex.

LOCATION.--Lat 35°18'50", long 106°31'44", Sandoval County in Bernalillo Grant, in reservoir 0.3 mile east of intersection of State Highways 44 and 422, and 1.5 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.

PERIOD OF RECORD.--September 1955 to current year.

GAGE.--Water-stage recorder adjacent to outlet tower with fixed ports. Datum of gage is 5,169.98 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.--16 calendar years, 0.010 cfs (7.24 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4.7 cfs July 24 (gage height, 0.40 ft); no flow most of time.

Period of record: 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 represent outflow from Piedra Lisa Reservoir, completed in 1955. Water quality records for the current year are published in Part 2 of this report.

Reservoir is formed by earthfill 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 calendar year 1972

Flow event	Date	Outflow (hours)	Maximum (cfs)	cfs-days	Runoff (acre-ft)
28	July 24	7.5	4.7	0.27	0.5
29	Oct. 19	.75	.60	.006	0
30	Oct. 25	10.75	1.7	.20	.4

## RIO GRANDE BASIN

08329900 North Floodway Channel near Alameda, N. Mex.

LOCATION.--Lat 35°11'58", long 106°35'53", Bernalillo County, in Elena Gallegos Grant, on left bank 0.5 mile upstream from Edith Blvd., 1.1 miles upstream from mouth, and 1.2 miles northeast of Alameda.

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

GAGE.--Water-stage recorder and concrete lined channel. Altitude of gage is 5,015 ft (from Corps of Engineers plan and profile map).

EXTREMES.--Current year: Maximum discharge, 2,750 cfs Oct. 25 (gage height, 4.25 ft), from rating curve extended above 2,900 cfs; no flow most of time.

Period of record: Maximum discharge, 5,000 cfs July 26, 1971 (gage height, 6.30 ft) from rating curve extended above 2,900 cfs; minimum, no flow most of time.

REMARKS.--Records good. Floodway channel intercepts flow of numerous arroyos in northeast Albuquerque and discharges into the Rio Grande at a point 1.6 miles north of Alameda.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0	0	0	.90	0	0	5.0	0		
2			0	0	5.4	0	0	0	0	0		
3			0	0	2.6	7.1	0	0	0	0		
4			0	0	0	6.0	20	0	0	0		
5			0	2.4	0	4.2	6.0	0	0	0		
6			0	9.0	0	0	0	30	0	13		
7			0	2.0	38	52	0	10	0	0		
8			0	0	3.2	5.0	0	0	200	0		
9			0	0	9.2	0	0	0	0	0		
10			0	0	3.4	0	5.0	0	0	0		
11			0	0	0	0	0	0	0	0		
12			0	0	0	.75	0	0	0	7.9		
13			0	0	0	36	0	0	0	91		
14			0	0	0	12	0	0	0	4.5		
15			0	0	0	8.1	0	0	0	71		
16			0	0	0	9.0	0	0	0	8.1		
17			0	0	0	3.6	0	0	0	25		
18			0	0	0	0	0	30	0	5.4		
19			0	0	0	0	0	5.0	5.0	113		
20			0	0	0	0	0	0	0	125		
21			0	0	0	0	100	0	0	29		
22			0	0	0	9.0	10	0	0	15		
23			20	0	0	101	.50	0	0	20		
24			6.3	0	0	12	0	0	0	7.2		
25			2.7	0	0	0	0	0	0	265		
26			0	0	3.6	0	0	0	0	48		
27			0	0	13	0	0	0	0	6.8		
28			0	0	0	0	0	0	0	18		
29			0	0	0	0	0	225	0	3.6		
30		-----	0	0	33	0	0	150	0	0		
31		-----	0	-----	9.0	-----	0	40	-----	0	-----	
TOTAL	0	0	29.0	13.4	120.4	266.65	141.50	490.0	210.0	876.5	0	0
MEAN	0	0	.94	.45	3.88	8.89	4.56	15.8	7.00	28.3	0	0
MAX	0	0	20	9.0	38	101	100	225	200	265	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	58	27	239	529	281	972	417	1,740	0	0

CAL YR 1972 TOTAL 2,147.45 MEAN 5.87 MAX 265 MIN 0 AC-FT 4,260  
WTR YR 1972 TOTAL 1,671.67 MEAN 4.57 MAX 225 MIN 0 AC-FT 3,320

08330000 Rio Grande at Albuquerque, N. Mex.

LOCATION.--Lat 35°05'21", long 106°40'48", Bernalillo County, 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.).

PERIOD OF RECORD.--October 1941 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Datum of gages is 4,946.16 ft above mean sea level. 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 and 150 ft to right of present site used at various times since 1964.

AVERAGE DISCHARGE.--31 calendar years, 1,027 cfs (744,100 acre-ft per year); 20 calendar years (1953-72), 892 cfs (646,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,380 cfs Sept. 15 (gage height, 6.65 ft); no flow at times.

Period of record: Maximum discharge, 25,000 cfs Apr. 24, 1942, from rating curve extended above 13,900 cfs; maximum gage height, 7.82 ft Aug. 10, 1967; no flow at times.

REMARKS.--Records good except those for May and September, which are poor. Possible regulation by operation of reservoirs on Rio Chama and by Flood-and-silt-detention reservoir on Jemez River (see sta 08285000, 08286900, 08328500). Diversions above station for irrigation of about 718,000 acres, several hundred of which are below station. Water quality records for the current year are published in Part 2 of this report.

COOPERATION.--Records for Albuquerque Riverside drain and Arenal, Armijo, and Atrisco canals furnished by Bureau of Reclamation.

REVISIONS (WATER YEARS).--WSP 1312: 1946(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	833	660	1,190	311	169	1,4	0	0	10	0	1,250	810
2	779	533	1,460	214	145	0	0	0	327	0	1,050	723
3	849	496	1,360	200	105	0	0	0	610	0	1,040	745
4	583	503	1,250	150	86	0	0	0	398	0	1,150	790
5	483	595	1,570	268	70	0	0	83	333	0	1,440	746
6	383	649	1,010	270	50	0	0	792	113	0	1,550	689
7	383	662	949	230	40	0	0	187	61	0	1,520	673
8	483	673	805	288	25	0	0	93	40	0	1,440	724
9	583	643	1,030	559	60	0	0	57	141	0	1,290	746
10	651	631	1,220	583	17	0	0	51	305	0	1,150	775
11	757	635	1,240	471	10	0	0	47	278	0	1,300	739
12	820	589	1,590	548	5,0	0	0	45	981	0	991	701
13	840	688	1,420	771	5,0	0	0	72	263	39	967	683
14	840	622	1,410	816	10	0	0	137	584	253	977	760
15	809	627	1,480	913	18	0	0	125	1,490	166	968	725
16	783	642	1,510	658	13	0	0	67	249	376	1,110	673
17	677	670	1,490	581	9,0	15	587	45	144	366	1,060	650
18	629	687	1,470	447	6,6	69	194	39	78	274	1,170	620
19	652	746	1,360	291	4,8	23	16	35	56	1,020	1,180	755
20	708	827	1,410	220	1,8	0	9,2	24	558	1,460	1,140	674
21	716	910	1,220	218	,60	0	5,7	67	485	1,210	1,190	620
22	762	979	1,110	227	1,4	0	3,0	20	183	1,290	1,240	664
23	825	1,110	1,200	267	,50	0	0	19	168	802	1,060	663
24	772	1,040	1,110	299	0	0	0	19	161	900	1,010	741
25	719	1,680	1,070	261	0	0	0	18	166	798	920	747
26	725	1,200	1,050	370	0	0	0	18	60	855	806	696
27	730	1,260	997	346	0	0	0	18	50	640	805	681
28	830	1,310	770	235	0	0	0	24	45	652	1,070	677
29	903	1,220	549	165	0	0	0	32	30	677	771	784
30	825	-----	486	155	0	0	0	50	10	831	852	618
31	768	-----	400	-----	,50	-----	0	26	-----	1,100	-----	553
TOTAL	22,100	23,487	35,986	11,332	853,20	108,4	814,9	2,210	8,397	13,709	33,467	21,845
MEAN	713	810	1,161	378	27,5	3,61	26,3	71,3	280	442	1,116	705
MAX	903	1,680	1,570	913	169	69	587	792	1,490	1,460	1,550	810
MIN	383	496	400	150	0	0	0	0	10	0	771	553
AC=FT	43,840	46,590	71,380	22,480	1,690	215	1,620	4,380	16,660	27,190	66,380	43,330
(+)	1,070	1,120	9,250	10,110	15,830	20,440	16,160	13,890	15,820	12,040	960	968
CAL YR 1972	TOTAL 174,309,50	MEAN 476	MAX 1,680	MIN 0	AC=FT 545,700 (+)	117,700						
WTR YR 1972	TOTAL 193,091,50	MEAN 528	MAX 1,860	MIN 0	AC=FT 383,000 (+)	118,500						

PEAK DISCHARGE (BASE; 4,000 CFS).-- Sept. 15 (0800) 4,380 cfs (6.65 ft).

(+) 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.

## RIO GRANDE BASIN

08331990 Rio Grande conveyance channel near Bernardo, N. Mex.

LOCATION.--Lat 34°24'52", long 106°48'11", Socorro County, 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.

PERIOD OF RECORD.--June 1936 to September 1937, October 1964 to current year. July 1943 to September 1964, included in composite flow of "Rio Grande near Bernardo." October 1960 to September 1964, monthly acre-feet published in WSP 1923 (daily records available in district files). Beginning October 1952 flow in conveyance channel represents controlled diversion from Rio Grande. Prior to October 1952, records called "San Francisco Riverside drain near Bernardo," not equivalent.

GAGE.--Water-stage recorder with concrete control. Datum of gage is 4,720.00 ft above mean sea level. Prior to October 1964, 0.2 mile upstream at various datums.

AVERAGE DISCHARGE.--20 calendar years (1953-72), 488 cfs (353,600 acre-ft per year).

EXTREMES.--Period of record: Maximum daily discharge, 2,220 cfs Apr. 22, 1958; no flow many days most years.

REMARKS.--Records good. Conveyance channel is 1 of 4 channels (see sta 08332010, 08332030, and 08332050) 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 sta 08332010. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	899	740	822	226	33			0	42	7.3	1,130	899
2	764	709	885	222	29			0	90	9.5	1,280	892
3	816	710	948	255	29			0	69	4.3	1,130	773
4	886	627	836	144	19			0	55	0	1,050	836
5	667	520	815	128	3.3			0	250	0	941	871
6	490	493	815	113	2.5			0	83	0	1,210	864
7	472	568	668	85	1.9			0	83	13	1,340	857
8	364	619	631	78	1.6			0	80	32	1,350	864
9	370	673	521	66	1.3			0	116	26	1,440	780
10	618	708	647	98	.99			0	125	17	1,490	829
11	785	711	661	111	.93			0	174	17	1,370	808
12	877	782	647	112	.87			0	328	26	1,440	808
13	1,000	664	745	146	.79			0	406	146	1,310	815
14	1,060	704	878	206	.70			0	962	83	1,250	857
15	1,020	609	871	232	.67			0	500	93	1,210	724
16	865	651	941	231	.54			0	500	81	1,110	731
17	788	724	962	274	1.2			0	808	90	1,220	689
18	773	738	857	156	.45			0	275	122	1,270	710
19	794	653	766	144	.20			0	170	103	1,220	696
20	752	657	913	115	.14			0	204	285	1,230	815
21	760	799	1,130	95	.05			0	210	1,610	1,180	745
22	773	836	794	64	.05			0	372	1,090	1,170	738
23	787	832	661	88	.01			0	305	1,450	1,170	780
24	762	968	573	81	.01			0	204	766	1,070	724
25	775	1,070	412	76	0			0	150	801	1,060	759
26	793	948	301	61	0			16	128	1,220	1,010	787
27	734	843	779	80	0			6.2	147	1,140	836	794
28	678	804	548	63	0			60	90	724	738	773
29	709	1,050	412	46	0			15	46	675	1,030	850
30	725	-----	339	44	0			25	25	640	773	948
31	676	-----	282	-----	0	-----		42	-----	857	-----	808
TOTAL	23,232	21,410	22,060	3,840	128.20	0	0	164.2	6,997	12,128.1	35,028	24,824
MEAN	749	738	712	128	4.14	0	0	5.30	233	391	1,168	801
MAX	1,060	1,070	1,130	274	33	0	0	60	962	1,610	1,490	948
MIN	364	493	0	44	0	0	0	0	25	0	738	689
AC=FT	46,880	42,470	43,760	7,620	254	0	0	326	13,880	24,060	69,480	49,240
CAL YR 1972 TOTAL	149,811.50			MEAN 409	MAX 1,610	MIN 0	AC=FT 297,200					
WTR YR 1972 TOTAL	145,131.20			MEAN 397	MAX 1,440	MIN 0	AC=FT 287,900					

## 08332010 Rio Grande floodway near Bernardo, N. Mex.

LOCATION.--Lat 34°25'01", long 106°48'00", Socorro County, in Balen 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.

DRAINAGE AREA.--19,230 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--June 1936 to January 1939, October 1941 to current year. Monthly discharge only October 1942 to June 1943 published in WSP 1312, and October 1960 to September 1964, published in WSP 1923 (daily records available in district files). 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.

AVERAGE DISCHARGE.--19 calendar years (1936-38, 1941-58), 1,125 cfs (815,100 acre-ft per year). Includes flow of floodway, conveyance channel, and Bernardo interior drain.

14 calendar years (1958-72) 220 cfs (159,400 acre-ft per year). Floodway only.

14 calendar years (1958-72) 819 cfs (593,400 acre-ft per year). Includes flow of floodway, conveyance channel, Bernardo interior drain, and lower San Juan Riverside drain.

EXTREMES.--Current year: Maximum discharge, 1,490 cfs Feb. 25 (gage height, 5.25 ft); no flow most of time.

1936-39, 1941 to current year: Maximum discharge, 21,000 cfs Apr. 25, 1942 (gage height, 6.90 ft); no flow for many days most years.

REMARKS.--Records poor. Floodway is 1 of 4 channels (see sta 08331990, 08332030, and 08332050) 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. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	302	0	22							0	0	
2	148	3.5	65							0	40	
3	107	6.4	296							0	1.7	
4	175	13	178							0	0	
5	150	12	232							0	0	
6	10	11	614							0	0	
7	5.0	6.4	178							0	22	
8	0	7.8	104							0	65	
9	0	9.9	54							0	164	
10	1.5	6.4	196							0	56	
11	30	9.9	260							0	17	
12	36	21	192							0	4.5	
13	54	3.6	303							0	2.5	
14	179	7.1	34							0	0	
15	229	1.1	83							0	0	
16	87	6.4	132							0	0	
17	94	11	187							0	0	
18	97	9.2	152							0	0	
19	136	11	283							0	0	
20	79	9.2	124							0	0	
21	17	95	8.5							0	0	
22	31	188	0							0	0	
23	22	182	0							0	0	
24	6.9	317	0							0	0	
25	.75	719	0							0	0	
26	2.0	716	0							0	0	
27	1.0	472	0							37	0	
28	1.8	543	0							0	0	
29	9.5	192	0							0	0	
30	1.0	-----	0							0	0	
31	0	-----	0	-----	-----	-----	-----	-----	-----	0	-----	
TOTAL	2,012.45	3,590.1	3,697.5	0	0	0	0	0	0	37	372.7	0
MEAN	64.9	124	119	0	0	0	0	0	0	1.19	12.4	0
MAX	302	719	614	0	0	0	0	0	0	37	164	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	3,990	7,120	7,330	0	0	0	0	0	0	73	739	0
(t)	54,820	53,770	63,400	17,200	6,220	4,090	2,150	4,380	22,400	35,050	75,500	53,770
CAL YR 1972	TOTAL 9,709.75	MEAN 26.5	MAX 719	MIN 0	AC-FT 19,260	(t)	MEAN 541	AC-FT 392,700				
WTR YR 1972	TOTAL 15,035.24	MEAN 41.1	MAX 719	MIN 0	AC-FT 29,820	(t)	MEAN 547	AC-FT 397,200				

(t) Combined flow, in acre-ft and mean, in cfs, of Floodway, Conveyance Channel, Bernardo Interior Drain, and Lower San Juan Riverside Drain.

## RIO GRANDE BASIN

08332030 Lower San Juan Riverside drain near Bernardo, N. Mex.

LOCATION.--Lat 34°24'51", long 106°47'34", in SE¼ sec.12, T.2 N., R.1 E., Socorro County, on right bank, 1,400 feet downstream from bridge on U.S. Highway 60, and 2.5 miles east of Bernardo.

PERIOD OF RECORD.--June 1936 to September 1937, August 1954 to current year. Monthly discharge only August 1955 to September 1960, published in WSP 1732, and October 1960 to September 1964, published in WSP 1923 (daily records available in district files). Records collected under name of "La Jolla Eastside drain" are equivalent.

GAGE.--Water-stage recorder. Datum of gage is 4,722.35 ft above mean sea level.

EXTREMES.--Period of record: Maximum daily discharge, 204 cfs May 24, 1970; no flow for several days during 1963.

REMARKS.--This drain is one of four channels (see sta 08331990, 08332010 and 08332050) carrying flow in valley cross section. For combined flow in acre-ft of this drain, conveyance channel, floodway, and Bernardo interior drain see tabulation below daily table for station 08332010.

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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	50	50	47	153	77	57	33	20	121	67	53	46
2	50	49	69	158	82	69	32	21	128	72	53	46
3	49	48	86	141	73	58	29	22	136	67	53	46
4	50	49	132	116	66	59	28	23	98	72	53	46
5	50	47	153	84	74	71	33	24	75	79	53	46
6	49	46	143	84	69	56	27	24	91	100	53	46
7	49	46	151	91	75	77	25	24	140	97	53	46
8	47	46	151	100	61	67	23	25	97	96	54	47
9	47	45	125	89	62	62	23	26	99	101	53	47
10	49	45	137	94	59	58	23	30	95	84	53	47
11	47	44	134	99	59	55	22	29	99	116	53	47
12	47	43	154	106	52	45	22	29	84	115	52	47
13	47	42	154	119	56	41	25	31	88	72	52	47
14	48	43	155	143	59	41	21	39	111	81	51	47
15	49	42	156	126	55	47	19	35	52	69	50	47
16	50	42	158	142	56	49	21	29	47	103	50	46
17	50	41	159	146	46	47	19	29	45	111	49	46
18	50	41	160	115	48	46	19	28	38	74	49	46
19	50	40	163	105	47	38	19	33	39	114	49	46
20	51	40	164	131	48	33	19	31	39	76	49	46
21	51	39	146	122	50	31	20	34	39	54	49	46
22	52	39	161	117	46	31	20	31	39	50	48	45
23	52	40	150	120	46	30	22	38	39	60	48	45
24	53	40	127	105	46	30	21	29	38	100	47	46
25	53	40	148	84	46	31	20	32	38	109	47	46
26	52	40	151	78	43	30	19	47	83	81	47	45
27	51	40	154	85	42	33	21	92	37	67	46	46
28	51	39	159	94	50	31	21	132	50	55	46	46
29	50	40	152	78	47	29	20	128	80	53	46	46
30	50	-----	160	94	50	29	20	129	88	53	46	45
31	50	-----	166	-----	47	-----	19	126	-----	53	-----	45
TOTAL	1,544	1,246	4,417	3,319	1,737	1,381	705	1,370	2,253	2,501	1,505	1,429
MEAN	49.8	43.0	142	111	56.0	46.0	22.7	44.2	75.1	80.7	50.2	46.1
MAX	53	50	166	158	82	77	33	132	140	116	54	47
MIN	47	39	47	78	42	29	19	20	37	50	46	45
AC-FT	3,360	2,470	8,760	6,580	3,450	2,740	1,400	2,720	4,470	4,960	2,990	2,830
CAL YR 1972	TOTAL 23,407		MEAN 64.0	MAX 166	MIN 19	AC-FT 46,430						
WTR YR 1972	TOTAL 24,766		MEAN 67.7	MAX 166	MIN 19	AC-FT 49,120						



## RIO GRANDE BASIN

123

08332050 Bernardo interior drain near Bernardo, N. Mex.

LOCATION.--Lat 34°24'56", long 106°49'15", Socorro County, on downstream side of bridge on U.S. Highway 60, and 1.0 mile east of Bernardo.

PERIOD OF RECORD.--June 1936 to May 1937, October 1943 to current year. Monthly discharge only June 1936 to May 1937, published in WSP 828. October 1943 to September 1960 included in composite records for station 08332000 "Rio Grande near Bernardo." October 1960 to September 1964 monthly acre-feet published in WSP 1923. Daily records available in district files beginning October 1943.

GAGE.--Water-stage recorder. Datum of gage is 4,713.99 ft above mean sea level. June 4, 1936 to May 17, 1937, staff gage 150 ft downstream at datum 2.77 ft higher.

EXTREMES.--Period of record: Maximum daily discharge, 187 cfs Aug. 7, 1970; no flow at times. Prior to 1952, drain was subject to overflow from floodway.

REMARKS.--Records good. This drain is 1 of 4 channels (see sta 08331990, 08332010, and 08332030) 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 sta 08332010.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	27	29	34	69	36	25	19	19	79	66	62	29
2	26	29	36	71	26	27	20	8.8	80	47	61	29
3	25	28	37	52	26	30	17	9.8	87	66	60	28
4	27	28	46	41	35	30	16	14	57	67	60	28
5	28	28	50	45	50	27	14	23	47	63	58	28
6	27	28	54	44	50	26	14	26	52	98	56	27
7	27	28	52	45	50	27	13	22	65	100	54	27
8	26	28	58	53	53	26	13	31	41	103	50	27
9	25	28	60	58	49	25	14	26	45	107	37	27
10	26	29	64	58	51	31	11	13	49	102	36	27
11	26	28	75	55	48	33	9.2	20	52	98	35	26
12	27	28	75	50	60	35	8.9	36	69	95	34	26
13	27	29	63	64	60	30	9.2	25	63	109	33	26
14	27	29	74	43	61	31	11	14	74	116	32	26
15	28	28	72	51	56	27	14	12	67	117	32	26
16	27	29	63	56	45	24	14	11	66	110	31	26
17	27	29	74	60	41	28	11	11	71	107	32	26
18	26	29	71	55	48	25	10	11	60	121	31	26
19	27	29	58	55	43	19	9.3	11	63	126	31	26
20	28	30	51	58	42	16	10	11	70	137	31	27
21	28	30	56	58	40	15	9.3	6.2	72	116	30	27
22	28	30	53	46	33	14	12	7.1	70	101	30	27
23	29	31	60	54	35	13	11	5.9	70	98	30	27
24	29	32	58	53	32	15	12	4.7	64	102	30	27
25	29	33	58	39	30	15	12	4.9	68	105	30	27
26	29	34	60	34	27	14	8.9	25	102	123	30	27
27	29	34	49	39	29	11	7.6	32	105	98	30	27
28	30	34	51	35	30	13	11	46	86	84	29	28
29	29	34	52	32	29	15	12	52	77	75	29	31
30	29	-----	56	39	27	15	13	60	69	65	30	33
31	29	-----	69	-----	27	-----	12	73	-----	63	-----	36
TOTAL	852	863	1,789	1,512	1,269	682	378.4	671.4	2,044	3,005	1,154	855
MEAN	27.5	29.8	57.7	50.4	40.9	22.7	12.2	21.7	68.1	96.9	38.5	27.6
MAX	30	34	75	71	61	35	20	73	105	137	62	36
MIN	25	28	34	32	26	11	7.6	4.7	41	63	29	26
AC-FT	1,690	1,710	3,550	3,000	2,520	1,350	751	1,330	4,050	5,960	2,290	1,700

CAL YR 1972 TOTAL 15,074.8 MEAN 41.2 MAX 137 MIN 4.7 AC-FT 29,900  
 WTR YR 1972 TOTAL 15,343.8 MEAN 41.9 MAX 144 MIN 4.7 AC-FT 30,430

## RIO GRANDE BASIN

08334000 Rio Puerco above Arroyo Chico, near Guadalupe, N. Mex.

LOCATION.--Lat 35°38'08", long 107°09'56", in SW¼ sec.21, T.16 N., R.3 W., Sandoval County, on right bank 1.6 miles upstream from Arroyo Chico and 5.5 miles northeast of village of Guadalupe.

DRAINAGE AREA.--420 sq mi, approximately.

PERIOD OF RECORD.--July 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 5,950 ft above mean sea level. Prior to July 14, 1966 at datum 1.01 ft higher.

AVERAGE DISCHARGE.--21 calendar years, 12.9 cfs (9,350 acre-ft per year); 20 calendar years (1953-72), 13.1 cfs (9,490 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,410 cfs Sept. 12 (gage height, 9.69 ft); no flow for many days.

Period of record: Maximum discharge, 6,940 cfs July 29, 1967 (gage height, 13.53 ft), from rating curve extended above 1,300 cfs on basis of slope-area measurements at gage heights 7.75 and 10.60 ft; no flow for many days most years.

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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.10	4.0	.12	0		0	0	0	4.0	.15	20	13
2	1.2	5.0	.03	0		0	0	0	250	.12	20	14
3	.70	3.0	.02	0		0	0	10	175	.12	20	14
4	.70	1.0	0	0		0	0	43	26	.34	20	14
5	.70	1.5	0	0		0	0	8.1	2.2	.47	20	9.2
6	.80	1.0	0	0		0	16	81	.34	1.1	20	7.0
7	.80	3.0	0	.04		0	28	4.3	14	13	20	5.6
8	.90	1.5	0	.40		0	.07	2.0	87	28	20	5.6
9	.90	.70	0	2.4		0	0	112	370	12	20	1.3
10	1.1	.70	0	3.3		0	0	.54	149	6.9	20	9.6
11	3.0	.70	0	1.8		0	0	0	109	2.4	16	7.8
12	1.0	.70	0	1.2		0	0	13	1190	11	14	3.3
13	.80	.90	.03	1.1		19	0	1.6	25	62	16	3.6
14	.70	.80	2.2	.96		1.4	0	.01	15	24	22	3.3
15	2.0	.70	3.5	.62		.08	0	0	14	24	17	3.0
16	2.0	.70	4.8	.54		.68	0	.24	11	35	12	2.2
17	1.1	1.2	4.8	.47		.02	0	160	4.3	12	11	2.4
18	1.0	1.4	5.2	.38		.98	0	67	1.8	82	19	6.5
19	.50	1.2	4.8	.25		0	.27	109	.72	95	19	9.2
20	.80	1.4	3.3	0		0	0	30	232	50	14	12
21	.40	1.2	2.4	0		0	16	1.0	19	25	13	3.3
22	.50	.72	2.2	0		0	1.0	.10	5.2	25	10	3.0
23	.40	1.4	3.9	0		0	0	.05	2.2	25	6.0	15
24	.50	2.4	6.9	0		0	0	0	1.4	25	11	6.0
25	.50	.82	2.4	0		0	0	55	.72	25	8.7	3.3
26	3.0	1.1	1.2	0		0	0	220	.47	20	15	.72
27	2.0	.62	1.4	0		.96	0	30	.28	20	14	.12
28	4.0	.34	1.2	0		.23	0	20	.23	20	14	.82
29	5.0	.19	1.2	0		0	0	15	.19	20	14	.34
30	4.0	-----	1.1	0		0	0	10	.10	20	13	.50
31	.50	-----	.47	-----		-----	0	5.0	-----	20	-----	.50
TOTAL	41.20	39.89	52.97	13.42	0	22.75	61.34	997.94	2,710.15	703.70	478.7	182.20
MEAN	1.33	1.38	1.71	.45	0	.76	1.98	32.2	90.3	22.7	16.0	5.88
MAX	5.0	5.0	6.9	3.3	0	19	28	220	1,190	95	22	15
MIN	.10	.19	0	0	0	0	0	0	.10	.12	6.0	.12
AC-FT	82	79	105	27	0	45	122	1,980	5,380	1,400	950	361

CAL YR 1972 TOTAL 5,304.26 MEAN 14.5 MAX 1,190 MIN 0 AC-FT 10,520  
 NTR YR 1972 TOTAL 4,822.37 MEAN 13.2 MAX 1,190 MIN 0 AC-FT 9,570

## PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8-17	2130	8.65	2,570	9-12	0600	9.69	3,410
9- 2	0630	6.14	1,270	9-20	0600	6.40	1,410
9- 8	2230	6.35	1,360				

## RIO GRANDE BASIN

125

08340500 Arroyo Chico near Guadalupe, N. Mex.

LOCATION.--Lat 35°35'33", long 107°11'19", in NE¼ sec.30, T.16 N., R.3 W., Sandoval County, on left bank 0.2 mile upstream from mouth, 4.1 miles northwest of Guadalupe, and 5.5 miles southwest of Cabezón.

DRAINAGE AREA.--1,390 sq mi, approximately.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,921 ft above mean sea level. Prior to June 21, 1968 at site 500 ft upstream at datum 2.00 ft higher.

AVERAGE DISCHARGE.--29 calendar years, 23.4 cfs (16,950 acre-ft per year); 20 calendar years (1953-72), 25.5 cfs (18,470 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 15,200 cfs Sept. 12 (gage height, 17.5 ft, from floodmarks), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 15,200 cfs Sept. 12, 1972 (gage height, 17.5 ft, from floodmarks), from rating curve extended above 2,900 cfs on basis of slope-area measurements at gage heights 11.6 and 14.8 ft; no flow for many days each year.

REMARKS.--Records poor. Diversions for irrigation of about 100 acres above station.

REVISIONS (WATER YEARS).--WSP 1282: 1944-50.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.15	.99	.11				0	0	5.0	.75	20	1.0
2	.75	.80	.07				0	0	12	.80	28	1.0
3	.70	.80	.02				0	0	10	.80	32	1.0
4	.80	.49	0				0	0	10	.75	26	1.0
5	.90	.41	0				0	17	9.0	1.7	21	1.0
6	.70	.57	0				19	29	9.0	3.0	15	.90
7	.90	1.1	0				2.6	2.0	8.5	6.4	10	.90
8	.80	1.2	0				1.3	7.6	6.7	18	20	.90
9	.90	1.1	0				.89	99	263	12	24	.90
10	1.0	.65	0				6.4	44	122	5.0	7.0	.90
11	1.1	.89	0				.89	27	868	2.4	6.4	.89
12	1.2	.70	0				.49	15	3,310	8.2	5.6	1.4
13	1.0	.60	0				.27	5.0	500	78	2.8	1.1
14	1.3	.70	0				.21	2.0	150	15	1.7	.99
15	1.4	.65	0				.17	0	65	125	1.7	1.3
16	1.9	.70	0				.10	19	50	57	1.2	.49
17	1.9	.60	0				.05	64	30	13	1.2	1.2
18	2.1	.33	0				0	85	22	20	1.0	.61
19	2.2	.19	0				1.4	10	15	79	.50	.61
20	.80	.17	0				.53	20	10	546	.50	.65
21	1.3	.15	0				.9	5.0	6.4	138	1.0	.80
22	2.2	2.9	0				1.3	1.0	5.0	15	.50	.89
23	2.2	9.2	0				2.0	.25	4.6	4.7	.50	.89
24	1.1	2.6	0				3.0	.70	3.0	2.0	1.0	1.4
25	.53	1.9	0				14	106	2.0	70	2.0	1.2
26	1.5	1.1	0				8.3	462	1.6	162	1.0	1.0
27	1.5	.60	0				6.0	901	1.3	27	1.0	1.2
28	.80	.50	0				2.0	70	1.4	10	1.0	1.3
29	1.2	.20	0				1.5	29	1.2	5.0	1.0	1.1
30	.80	-----	0				1.0	15	.89	10	1.0	1.0
31	.80	-----	0	-----		-----	.50	5.0	-----	20	-----	1.0
TOTAL	36.43	32.79	.20	0	0	0	82.60	2,031.55	5,501.99	1,456.50	235.60	31.02
MEAN	1.18	1.13	.007	0	0	0	2.66	65.5	183	47.0	7.85	1.00
MAX	2.2	9.2	.11	0	0	0	19	901	3,310	546	32	1.4
MIN	.15	.15	0	0	0	0	0	0	.89	.75	.50	.61
AC-FT	72	65	.4	0	0	0	164	4,030	10,010	2,890	467	62

CAL YR 1972 TOTAL 9,408.68 MEAN 26.7 MAX 3,310 MIN 0 AC-FT 19,600

WTR YR 1972 TOTAL 6,317.42 MEAN 22.7 MAX 3,310 MIN 0 AC-FT 16,500

PEAK DISCHARGE (BASE, 2,500 CFS).--Sept. 12 (0230) 15,200 cfs (17.5± ft).

## RIO GRANDE BASIN

08341400 Bluewater Lake near Bluewater, N. Mex.

LOCATION.--Lat 35°17'31", long 108°06'40", in SE¼ sec.9, T.12 N., R.12 W., Valencia County, at left end of Bluewater Dam on Bluewater Creek, and 9.5 miles west of Bluewater.

DRAINAGE AREA.--201 sq mi.

PERIOD OF RECORD.--June 1927 to December 1950 (monthend contents only, published in WSP 1732), April 1958 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is 7,345.57 ft above mean sea level. July 1958 to January 1961, nonrecording gage at nearby site, same datum. Gage heights have been converted to sea-level elevations.

EXTREMES.--Current year: Maximum contents, 4,530 acre-ft Jan. 6 (elevation, 7,368.8 ft); minimum, 2,840 acre-ft Oct. 17-20 (elevation, 7,363.6 ft).

Period of record: Maximum contents determined, 47,100 acre-ft, Apr. 30, 1941. Contents may have been greater on Apr. 28, 1941 when peak discharge of 800 cfs occurred at station 8 miles downstream; no storage at times prior to 1947.

REMARKS.--Records good. 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 at 2400 hours.

Month-end elevations and contents, calendar year 1972

Date	Elevation- (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Dec. 31 . . . . .	7,368.5	4,420	-
Jan. 31 . . . . .	7,368.6	4,450	+30
Feb. 29 . . . . .	7,368.2	4,300	-150
Mar. 31 . . . . .	7,367.7	4,120	-180
Apr. 30 . . . . .	7,367.0	3,880	-240
May 31 . . . . .	7,366.3	3,650	-230
June 30 . . . . .	7,365.6	3,430	-220
July 31 . . . . .	7,365.0	3,240	-190
Aug. 31 . . . . .	7,364.3	3,040	-200
Sept. 30 . . . . .	7,363.8	2,900	-140
Oct. 31 . . . . .	7,363.8	2,900	0
Nov. 30 . . . . .	7,364.2	3,010	+110
Dec. 31 . . . . .	7,364.6	3,120	+110
Calendar year 1972	-	-	-1,300

LOCATION.--Lat 35°17'40", long 108°01'40", in W<sup>1</sup>/<sub>4</sub> sec. 5, T.12 N., R.11 W., Valencia County, on left bank 3.5 miles northwest of Bluewater Village, and 8 miles downstream from Bluewater Dam.

PERIOD OF RECORD.--July 1912 to August 1915, April 1916 to June 1919, water years 1919-22, 1924, 1926 (annual maximum), January 1927 to December 1972 (discontinued). Monthly discharge only for some periods, published in WSP 1312. Figures of daily discharge for July 20-23, 1912, published in WSP 358, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Altitude of gage is 6,720 ft (by barometer). See WSP 1732 or 1923 for history of changes prior to Mar. 18, 1939.

AVERAGE DISCHARGE.--50 calendar years (1912-15, 1916-18, 1927-72), 8.79 cfs (6,370 acre-ft per year); 20 calendar years (1953-72), 3.52 cfs (2,550 acre-ft per year).

Period of record: Maximum discharge, about 4,000 cfs, during period July 12-19, 1919 (gage height, 13.5 ft, from floodmarks, site and datum in use Mar. 4, 1918 to June 28, 1919); no flow at times.

The flood of Sept. 6, 1909, when Bluewater Dam washed out exceeded all other observed floods at this location (stage and discharge not determined). For other major floods during period 1919-26, see WSP 1732, p. 429, and WSP 1682, p. 410.

REVISIONS (WATER YEARS).--WSP 1512: 1912-15, 1931, 1943(M), 1945(M). WSP 1312: 1915, 1917-18, 1929. WSP 1732: 1931(M).

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
1	1.2	1.7	.93	.70	1.2	.81	.50	.50	.42	.32	1.6	.93
2	1.2	1.7	.81	.70	1.2	.81	.56	.50	.34	.32	1.7	.86
3	1.3	1.7	.87	.70	1.4	.81	.56	.48	.25	.32	1.6	.87
4	1.3	1.6	.84	.70	1.2	.75	.56	.56	.25	.62	1.4	.87
5	1.4	1.6	.92	.50	1.1	.69	.46	.41	.29	.81	1.2	.90
6	1.4	1.6	.77	.57	1.0	.81	.46	.56	.32	.87	1.2	.90
7	1.4	1.5	.78	.63	.81	.62	.42	.42	.31	.87	1.1	.95
8	1.4	1.5	.74	.60	.81	.50	.38	.43	.34	.87	1.0	.95
9	1.4	1.5	.72	.64	.81	.46	.42	.62	.75	.81	.99	.95
10	1.4	1.4	.78	.66	.67	.56	.38	.40	.75	.75	1.0	.90
11	1.4	1.4	.74	.68	.88	.56	.38	.43	.69	.75	1.1	.90
12	1.4	1.3	.74	.76	.88	.46	.38	.46	.93	.75	1.0	.90
13	1.5	1.2	.69	.67	.91	.46	.42	.47	.81	.93	1.0	.90
14	1.5	1.2	.72	.71	.89	.50	.46	.48	.69	.87	1.0	.90
15	1.5	1.2	.73	.72	.84	.46	.56	.40	.69	.81	.99	.90
16	1.5	1.1	.75	.76	.89	.56	.50	.42	.69	.81	.98	.95
17	1.5	1.1	.64	.78	.84	.56	.46	.41	.62	.81	.99	.95
18	1.5	1.1	.66	.75	.85	.50	.42	.56	.69	.81	1.0	.95
19	1.5	1.0	.68	.81	.85	.69	.69	.56	.69	2.0	1.1	.95
20	1.6	1.0	.61	.87	.90	.75	1.2	.69	.75	4.8	1.1	.95
21	1.6	1.0	.60	.81	.94	.56	.75	.62	.69	1.7	1.0	.95
22	1.6	1.0	.63	.87	.93	.42	.62	.56	.62	1.5	.93	.95
23	1.6	1.0	.66	.93	.91	.42	.62	.50	.62	1.1	.93	.95
24	1.6	1.1	.55	.93	.92	.46	1.1	.50	.62	1.1	.93	.95
25	1.6	1.2	.56	1.0	.92	.56	.87	.37	.56	1.2	.88	.95
26	1.6	1.1	.60	1.1	.94	.62	.81	.69	.46	1.5	.87	1.0
27	1.7	1.1	.60	1.0	.92	.62	.69	.75	.38	1.1	.97	1.0
28	1.7	1.0	.60	1.1	.86	.50	.56	.75	.28	1.1	1.0	1.0
29	1.7	.90	.65	1.1	.79	.50	.50	.69	.28	1.1	1.0	1.1
30	1.7	-----	.65	1.1	.68	.50	.50	.56	.24	1.1	.97	1.1
31	1.7	-----	.65	-----	.62	-----	.50	.50	-----	1.6	-----	1.1
TOTAL	46.4	36.80	21.87	23.85	28.56	17.48	17.63	16.25	16.07	34.00	32.53	29.38
MEAN	1.50	1.27	.71	.80	.92	.58	.57	.52	.55	1.10	1.08	.95
MAX	1.7	1.7	.93	1.1	1.4	.81	1.2	.75	.93	4.8	1.7	1.1
MIN	1.2	.90	.55	.50	.62	.42	.38	.37	.25	.32	.87	.86
AC-FT	92	73	43	47	57	35	35	32	32	67	65	58
CAL YR 1972	TOTAL 320.82		MEAN .88	MAX 4.8	MIN .25	AC-FT 636						
WTR YR 1972	TOTAL 336.97		MEAN .92	MAX 4.0	MIN .25	AC-FT 668						

08343000 Rio San Jose at Grants, N. Mex.

LOCATION.--Lat 35°09'16", long 107°52'11", in SW¼NW¼ sec.26, T.11 N., R.10 W., Valencia County, on right bank at bridge on State Highway 53 at Grants, and 0.2 mile south of U.S. Highway 66.

DRAINAGE AREA.--1,020 sq mi, approximately.

PERIOD OF RECORD.--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, June 1968 to current year. Monthly discharge only for some periods published in WSP 1312. Prior to October 1967, published as Bluewater Creek at Grants.

GAGE.--Water-stage recorder. Datum of gage is 6,468.34 ft above mean sea level (levels by Corps of Engineers). See WSP 1732 or 1923 for history of changes prior to Jan. 1, 1926.

AVERAGE DISCHARGE.--30 calendar years (1912-13, 1914-20, 1921-22, 1923-25, 1949-66, 1968-72), 3.83 cfs (2,770 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 221 cfs July 21 (gage height, 3.35 ft); no flow most of time.

1949-66, 1968-71: 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 observed 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 32 miles upstream (see sta 08341400). Diversions and ground-water withdrawals for irrigation of about 4,500 acres above station.

REVISIONS (WATER YEARS).--WSP 1512: 1913-14. WSP 1712: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1							0	0	0	0		
2							0	0	0	0		
3							0	0	0	0		
4							0	0	0	0		
5							0	0	0	0		
6							0	0	0	0		
7							0	0	0	0		
8							0	0	0	0		
9							0	0	4.1	0		
10							0	0	57	0		
11							0	0	7.0	0		
12							0	0	59	0		
13							0	0	32	0		
14							0	0	4.4	0		
15							0	0	.85	0		
16							0	0	.32	0		
17							0	0	.07	0		
18							.04	0	0	0		
19							3.3	0	0	1.5		
20							.02	0	0	30		
21							17	0	0	.96		
22							1.1	0	0	.11		
23							.40	0	0	.07		
24							.32	0	0	.01		
25							.22	10	0	.01		
26							.72	.60	0	.25		
27							.29	.20	0	.07		
28							.04	0	0	0		
29							0	0	0	0		
30							0	0	0	0		
31							0	0		0		
TOTAL	0	0	0	0	0	0	23.45	10.80	164.74	32.98	0	0
MEAN	0	0	0	0	0	0	.76	.35	5.49	1.06	0	0
MAX	0	0	0	0	0	0	17	10	59	30	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	47	21	327	65	0	0

CAL YR 1972 TOTAL 231.97 MEAN .63 MAX 59 MIN 0 AC-FT 460

ATR YR 1972 TOTAL 198.99 MEAN .54 MAX 59 MIN 0 AC-FT 395

PEAK DISCHARGE (BASE, 200 CFS).--July 21 (1530) 221 cfs (3.35 ft).

08343100 Grants Canyon at Grants, N. Mex.

LOCATION.--Lat 35°09'39", long 107°50'15", in NE 1/4 sec. 25, T.11 N., R.10 W., Valencia County, 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 Rio San Jose (formerly Bluewater Creek).

DRAINAGE AREA.--13.0 sq mi.

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

GAGE.--Water-stage recorder and culvert control. Altitude of gage is 6,450 ft (from topographic map).

AVERAGE DISCHARGE.--11 calendar years, 0.235 cfs (170 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 880 cfs Aug. 28 (gage height, 3.70 ft); no flow most of time.

Period of record: Maximum discharge, 1,550 cfs Aug. 26, 1963, (gage height, 5.10 ft), from rating curve extended above 220 cfs on basis of slope-area measurements at gage heights 3.17, 5.10 and 5.38 ft; maximum gage height, 5.38 ft Sept. 8, 1967; no flow for most of time.

REMARKS.--Records poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1							0	0	0	0		
2							0	0	0	0		
3							0	0	0	0		
4							0	0	0	0		
5							0	0	0	0		
6							0	0	0	0		
7							0	0	0	0		
8							0	0	0	0		
9							0	0	0	0		
10							0	0	8.0	0		
11							0	0	0	0		
12							0	0	4.2	0		
13							0	0	0	0		
14							0	0	0	43		
15							0	0	0	0		
16							0	0	0	0		
17							0	0	0	0		
18							12	0	0	0		
19							0	0	0	19		
20							0	0	0	5.0		
21							21	0	0	0		
22							0	0	0	0		
23							0	0	0	0		
24							0	0	0	0		
25							4.7	16	0	3.8		
26							0	12	0	0		
27							0	0	0	0		
28							0	51	0	0		
29							0	0	0	0		
30							0	0	0	0		
31							0	0	0	0		
TOTAL	0	0	0	0	0	0	57.7	79	12.2	70.8	0	0
MEAN	0	0	0	0	0	0	1.22	2.55	.41	2.28	0	0
MAX	0	0	0	0	0	0	21	51	8.0	43	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	75	157	24	140	0	0

CAL YR 1972 TOTAL 199.70 MEAN .55 MAX 51 MIN 0 AC-FT 396  
 WTR YR 1972 TOTAL 128.94 MEAN .35 MAX 51 MIN 0 AC-FT 256

## PEAK DISCHARGE (BASE, 175 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-18	2200	2.05	285	8-28	2200	3.70	880
7-21	unknown	2.90	560	10-14	1800	2.92	568
8-25	1630	2.14	312	10-19	1700	1.76	210

## RIO GRANDE BASIN

08343500 Rio San Jose near Grants, N. Mex.

LOCATION.--Lat 35°04'27", long 107°45'01", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.23, T.10 N., R.9 W., Valencia County, on right bank at west boundary of Acoma Pueblo Grant, and 8.5 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.

PERIOD OF RECORD.--June 1936 to current year. Prior to October 1955, published as San Jose River near Grants.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 6,269.47 ft above mean sea level.

AVERAGE DISCHARGE.--36 calendar years, 6.55 cfs (4,750 acre-ft per year); 20 calendar years (1953-72), 6.25 cfs (4,530 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 261 cfs Aug. 26 (gage height, 2.96 ft); minimum, 3.4 cfs Oct. 12.

Period of record: Maximum discharge, 1,400 cfs Sept. 20, 1963 (gage height, 4.87 ft), from rating curve extended above 450 cfs on basis of slope-area measurements at gage heights 3.19 and 4.87 ft; minimum, 2.7 cfs June 8, 9, 1971.

Maximum flood 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 fair except those for November, which are poor. Flow partly regulated by Bluewater Lake, 62 miles upstream (see sta 08341400). Diversions and ground-water withdrawal for irrigation of about 5,100 acres above station.

REVISIONS (WATER YEARS).--WSP 898: 1936-39(M). WSP 1512: 1943. WSP 1712: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.2	6.0	4.5	6.4	6.7	5.3	4.3	7.0	9.5	4.6	4.5	6.3
2	6.2	5.7	4.2	6.4	6.9	5.3	4.3	6.3	8.0	4.4	4.5	6.3
3	6.8	5.3	4.2	5.9	7.0	5.7	4.3	5.7	7.5	4.4	5.0	6.4
4	6.1	5.5	4.1	6.1	6.6	5.3	4.0	5.3	6.5	4.6	5.0	6.5
5	5.6	6.3	4.0	6.1	6.7	4.9	4.0	5.4	6.5	4.4	5.5	6.5
6	5.7	6.5	4.4	6.1	6.5	4.6	4.3	5.4	11	4.7	5.5	6.5
7	5.9	6.5	4.4	6.0	6.5	4.9	4.3	5.7	8.0	4.7	6.0	7.1
8	7.0	6.4	4.4	6.1	6.2	5.3	4.3	5.3	6.5	4.7	6.0	6.2
9	7.1	6.7	4.4	6.0	6.1	5.3	4.3	5.3	7.5	4.1	6.5	6.2
10	7.1	5.9	4.4	5.9	5.7	5.3	4.3	5.3	39	4.1	6.6	5.6
11	7.4	6.5	4.5	5.8	5.6	5.3	4.3	4.9	62	4.1	6.7	5.5
12	8.0	6.3	4.5	5.8	5.3	5.3	4.3	4.6	41	3.7	6.8	4.9
13	8.0	6.2	4.6	5.9	5.6	5.3	4.3	4.3	76	8.2	7.0	4.9
14	7.1	5.6	4.6	6.0	5.4	5.3	4.3	4.3	35	12	6.7	5.5
15	6.5	5.5	4.6	6.0	5.6	4.9	4.3	4.3	12	100	6.2	4.8
16	6.8	4.8	4.5	6.0	5.5	5.3	4.3	4.3	7.5	18	6.8	4.8
17	7.1	4.8	4.5	6.1	5.6	5.3	4.3	4.3	6.1	6.5	6.3	5.1
18	7.1	4.7	4.8	6.3	5.5	4.9	4.6	4.9	5.7	6.3	6.7	6.0
19	7.1	4.9	4.9	6.2	5.7	4.9	4.6	4.9	5.3	48	6.7	6.1
20	6.9	5.0	4.9	6.4	5.5	4.9	6.1	4.9	5.3	123	6.5	6.5
21	6.9	4.9	4.9	6.4	5.6	4.6	4.9	4.9	4.9	42	6.7	5.8
22	6.8	4.9	5.1	6.4	5.5	4.6	35	4.9	4.9	6.8	6.8	6.0
23	6.6	4.9	5.4	6.5	5.7	4.6	11	5.3	4.9	7.5	6.9	6.0
24	6.3	4.8	5.3	6.5	5.6	4.3	8.2	5.3	4.9	7.2	7.0	5.7
25	6.1	4.6	5.3	6.7	5.7	4.3	45	9.0	4.9	18	7.2	5.7
26	6.7	4.5	5.1	6.6	5.5	4.0	34	121	4.9	25	6.8	5.3
27	6.7	4.5	5.2	6.7	5.6	4.0	10	116	5.0	8.7	6.8	5.8
28	6.2	4.5	5.4	6.8	5.5	4.0	7.7	55	4.9	6.0	6.7	8.1
29	6.3	4.6	5.6	6.9	5.5	4.3	7.7	70	4.8	6.0	6.5	6.6
30	6.0	-----	6.1	6.8	5.2	4.3	7.3	53	4.6	5.0	6.1	5.1
31	6.2	-----	6.1	-----	4.9	-----	7.7	11	-----	4.5	-----	4.8
TOTAL	206.5	157.3	148.9	187.8	180.5	146.3	266.3	557.8	414.6	513.2	189.0	182.6
MEAN	6.66	5.42	4.80	6.26	5.82	4.88	8.59	18.0	13.8	16.6	6.30	5.89
MAX	8.0	6.7	6.1	6.9	7.0	5.7	45	121	76	123	7.2	8.1
MIN	5.6	4.5	4.0	5.8	4.9	4.0	4.0	4.3	4.6	3.7	4.5	4.8
AC-FT	410	312	295	373	358	290	528	1,110	822	1,020	375	362

CAL YR 1972 TOTAL 3,150.8 MEAN 8.61 MAX 123 MIN 3.7 AC-FT 6,250

WTR YR 1972 TOTAL 2,853.5 MEAN 7.80 MAX 121 MIN 4.0 AC-FT 5,660

## PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-25	2000	2.55	162	9-11	1530	2.71	222
8-26	0530	2.96	261	10-15	0400	2.84	222
8-29	0730	2.55	172	10-20	0430	2.89	202



08351500 Rio San Jose at Correo, N. Mex.

LOCATION.--Lat 34°58'05", long 107°11'11", in NE¼ sec.31, T.9 N., R.3 W., Valencia County, 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.

PERIOD OF RECORD.--April 1943 to current year. 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. Prior to Oct. 1, 1958, water-stage recorder and concrete control at site 1 mile downstream at datum 17.55 ft lower.

AVERAGE DISCHARGE.--29 calendar years, 12.1 cfs (8,770 acre-ft per year); 20 calendar years (1953-72), 14.1 cfs (10,220 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,650 cfs Aug. 4 (gage height, 6.35 ft), from rating curve extended above 700 cfs on basis of slope-area measurement at a gage height of 4.28 ft; no flow for many days.

Period of record: 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 many days.

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 poor. Flow regulated to some extent since 1927 by Bluewater Lake 120 miles upstream (see sta 08341400).

REVISIONS (WATER YEARS).--WSP 1442: 1944, 1945(M), 1946-48, 1949(M), 1950, 1951(P), 1952. WSP 1732: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.0	0					0	0	84	2.0	20	8.0
2	4.0	0					0	0	117	2.2	20	8.0
3	5.0	0					0	0	40	2.2	20	10
4	1.0	0					0	840	10	2.2	20	11
5	.50	0					0	20	2.0	3.6	18	17
6	1.5	0					0	50	2.0	4.8	18	5.0
7	3.0	0					0	5.0	1.0	4.8	18	7.0
8	4.0	0					0	18.0	0	5.7	18	8.0
9	5.0	0					0	8.0	140	4.8	14	8.0
10	4.0	.05					0	1.2	50	4.0	12	8.0
11	5.0	.66					0	1.0	99	3.2	10	7.0
12	8.0	0					0	.24	390	3.2	10	7.0
13	10	.65					0	0	469	59	10	5.0
14	8.0	.60					0	0	388	65	10	5.0
15	6.0	.22					0	0	133	180	12	4.0
16	3.0	0					0	0	68	249	12	4.0
17	1.0	.03					117	0	30	88	14	5.0
18	1.0	0					.10	0	20	41	12	7.0
19	2.0	0					10	0	20	558	12	9.0
20	1.0	0					.88	4.8	18	1,350	10	10
21	1.0	0					7.3	35	14	500	9.6	8.0
22	2.0	0					.58	64	6.8	303	8.8	10
23	3.0	0					17	40	3.6	50	8.0	12
24	3.0	0					6.3	8.0	3.6	10	8.8	8.0
25	2.0	0					17	2.0	3.2	5.0	6.8	8.0
26	1.0	0					169	157	2.8	150	6.0	6.0
27	.50	0					55	712	2.5	50	7.0	4.0
28	.20	0					115	560	2.2	30	5.0	12
29	.20	0					5.0	130	2.0	25	7.0	9.0
30	.20	-----					1.0	76	2.0	25	6.0	8.0
31	.10	-----	-----			-----	1.0	56	-----	20	-----	4.0
TOTAL	88.20	2.21	0	0	0	0	522.16	2,788.24	2,123.7	3,797.7	361.0	242.0
MEAN	2.85	.076	0	0	0	0	16.8	89.9	70.8	123	12.0	7.81
MAX	10	.66	0	0	0	0	169	840	469	1,350	20	17
MIN	.10	0	0	0	0	0	0	0	0	2.0	5.0	4.0
AC-FT	175	4.4	0	0	0	0	1,040	5,530	4,210	7,530	716	480

CAL YR 1972 TOTAL 9,925.21 MEAN 27.1 MAX 1,350 MIN 0 AC-FT 19,690  
 WTR YR 1972 TOTAL 6,044.78 MEAN 16.5 MAX 840 MIN 0 AC-FT 11,996

## PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-17	0200	3.52	1,230	9-14	0130	3.32	956
8-4	0600	6.35	5,650	10-20	1300	3.70	1,640
8-27	2330	3.38	1,030				

## RIO GRANDE BASIN

08352500 Rio Puerco at Rio Puerco, N. Mex.

LOCATION.--Lat 34°47'38", long 106°59'20", in NW¼ sec.31, T.7 N., R.1 W., Valencia County, in San Clemente Grant, on downstream end of pier nearest left abutment of the Atchison, Topeka and Santa Fe, Railway Co. bridge, and 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.

PERIOD OF RECORD.--June 1909 to December 1912 (records fragmentary, gage heights only), March 1934 to current year. 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.

AVERAGE DISCHARGE.--38 calendar years (1934-72), 59.4 cfs (43,040 acre-ft per year); 20 calendar years (1953-72), 55.0 cfs (39,850 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 22,200 cfs Sept. 13 (gage height, 5.35 ft recorded, 5.80 ft in gage well); no flow for many days.

Period of record: Maximum discharge, 28,000 cfs Aug. 21, 1935 (gage height, 7.24 ft), by computation of peak flow over dam; no flow many days.

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 poor. Diversions for irrigation of about 11,500 acres above station (includes 3,700 acres irrigated partly or entirely from wells).

REVISIONS (WATER YEARS).--WSP 1512: 1937 (calendar year figures only), 1941, 1944. WSP 1712: 1958. WSP 1732: Drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	26	1.0					0	49	25	2.0	40	5.3
2	10	1.5					0	39	105	2.0	40	5.3
3	5.0	1.0					0	32	345	2.0	40	5.9
4	5.0	5.0					0	2,300	72	2.0	40	5.9
5	2.0	1.5					0	209	25	2.0	40	5.9
6	5.0	1.0					0	261	10	2.3	40	2.5
7	2.0	5.0					0	65	25	3.3	44	4.0
8	5.0	1.0					0	41	20	3.3	34	5.6
9	4.0	0.2					0	13	170	3.5	26	5.9
10	4.0	0.5					0	75	1,190	3.7	32	6.3
11	5.0	0					0	15	620	3.1	49	5.9
12	5.0	0.5					0	5.3	2,870	3.0	39	2.3
13	8.0	1.6					0	2.0	8,770	45	22	2.5
14	9.6	1.0					0	43	792	60	21	2.0
15	6.9	1.0					0	1.6	230	150	19	1.9
16	4.8	0					0	18	125	550	19	1.6
17	2.5	0					50	83	50	284	19	2.3
18	2.5	0					2.0	232	25	120	19	2.2
19	2.0	0					1.5	321	19	1,410	16	3.5
20	4.0	0					2.3	125	183	2,630	13	8.4
21	4.5	0					1.6	108	474	2,600	15	10
22	2.5	0					9.2	50	83	700	16	6.3
23	2.0	0					5.0	10	22	80	15	11
24	5.5	0					120	5.0	13	15	14	9.2
25	5.5	0					19	2.0	9.2	3.0	12	7.6
26	4.5	0					110	1,090	5.6	880	8.4	5.0
27	4.0	0					190	2,080	3.5	200	7.3	4.2
28	3.5	0					152	1,650	2.5	100	6.6	7.0
29	2.0	0					100	350	2.0	75	5.9	8.0
30	1.5	-----					79	135	2.0	50	5.6	6.0
31	2.5	-----		-----		-----	61	55	-----	50	-----	2.5
TOTAL	145.90	7.52	0	0	0	0	902.6	9,422.33	16,327.8	10,034.2	717.8	162.0
MEAN	4.71	0.26	0	0	0	0	29.1	304	544	324	23.9	5.23
MAX	26	1.5	0	0	0	0	190	2,300	8,770	2,630	49	11
MIN	2.0	0	0	0	0	0	0	43	2.0	2.0	5.6	1.6
ACFT	289	15	0	0	0	0	1,790	16,690	32,390	19,900	1,420	321

CAL YR 1972 TOTAL 37,720.15 MEAN 103 MAX 8,770 MIN 0 ACFT 74,820  
 WTR YR 1972 TOTAL 30,776.77 MEAN 84.1 MAX 8,770 MIN 0 ACFT 61,050

## PEAK DISCHARGE (BASE 2,500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8-4	1300	3.48	6,690	9-13	1000	5.35	22,200
8-27	1900	3.18	5,040	10-19	1530	3.23	5,410
9-10	unknown	---	about 3,500				

08353000 Rio Puerco near Bernardo, N. Mex.

LOCATION.--Lat 34°24'33", long 106°51'09", in SE¼ sec.8, T.2 N., R.1 E., Socorro County, on bridge on former U.S. Highway 85 and 0.2 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.

PERIOD OF RECORD.--November 1939 to current year. 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 4,722.34 ft above mean sea level. Prior to Jan. 24, 1969, at datum 3.10 ft higher.

AVERAGE DISCHARGE.--33 calendar years (1940-72), 51.2 cfs (37,090 acre-ft per year); 20 calendar years (1953-72), 51.7 cfs (37,460 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 9,220 cfs Sept. 14 (gage height, 14.5 ft); no flow for extended periods.

Period of record: Maximum discharge, 18,800 cfs Sept. 23, 1941, from rating curve extended above 7,800 cfs; maximum gage height, 16.9 ft present datum, Aug. 12, 1955; no flow for extended periods.

The greatest flood 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 poor. Diversions for irrigation of about 11,500 acres above station (includes 3,700 acres irrigated wholly or partly from wells). Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEAR).--WSP 1512: 1941-42, 1944-45, 1946(P), 1947-49. WSP 1632: 1957. WSP 1732: Drainage area. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	15				0	0	0	0	63	0	80	
2	10				0	0	0	0	50	0	70	
3	5.0				0	0	0	0	803	0	50	
4	2.0				0	0	0	200	323	0	160	
5	2.0				0	0	0	1,200	113	0	180	
6	2.0				0	0	0	400	101	0	180	
7	1.0				0	0	0	150	35	0	160	
8	2.0				0	0	0	84	25	0	80	
9	1.50				0	0	0	35	238	0	30	
10	0				0	0	0	23	615	0	15	
11	0				0	0	0	100	2,080	0	25	
12	0				0	0	0	10	2,233	13	35	
13	0				0	0	0	1.0	3,700	385	35	
14	1.0				0	4.8	0	0	4,930	180	20	
15	1.0				0	.75	0	0	560	219	15	
16	0				0	0	0	5.0	329	353	10	
17	0				0	9.0	0	67	230	454	26	
18	1.0				0	2.0	0	25	124	220	30	
19	0				0	0	15	340	83	190	25	
20	0				0	0	13	160	48	1,020	20	
21	0				0	0	.50	56	437	1,610	15	
22	0				0	0	0	101	264	869	15	
23	0				0	0	4.1	47	110	275	15	
24	0				0	0	48	35	20	200	10	
25	0				0	0	110	30	0	331	8.0	
26	0				0	0	1.0	325	0	320	5.0	
27	0				0	0	173	1,180	0	688	3.0	
28	0				0	0	05	2,340	0	331	1.0	
29	0				0	0	61	719	0	200	.50	
30	0				3.5	0	1.0	365	0	120	0	
31	0				1.3		0	122		90		
TOTAL	42.50	0	0	0	4.6	16.55	471.60	8,126.0	17,511	8,592	1,318.50	0
MEAN	1.37	0	0	0	.15	.55	15.2	262	584	277	44.0	0
MAX	15	0	0	0	3.5	9.0	173	2,340	4,930	1,620	160	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	84	0	0	0	9.5	33	935	16,120	34,730	17,040	2,620	0

CAL YR 1972 TOTAL 36,062.95 MEAN 98.6 MAX 4,930 MIN 0 AC-FT 71,570  
 WTR YR 1972 TOTAL 31,011.65 MEAN 84.7 MAX 4,930 MIN 0 AC-FT 61,510

## PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8-28	1200	9.96	3,470	9-14	1100	14.50	9,220
9-3	0700	9.39	2,940	10-20	0430	8.48	2,210
9-11	2200	12.62	6,690				

## RIO GRANDE BASIN

08354000 Rio Salado near San Acacia, N. Mex.

LOCATION.--Lat 34°17'50", long 106°53'59", in NW¼ sec.24, T.1 N., R.1 W., Socorro County, at former bridge site 0.3 mile upstream from bridge on Interstate Highway 25, 3.1 miles upstream from mouth, 2.9 miles north of San Acacia, and 15 miles north of Socorro.

DRAINAGE AREA.--1,380 sq mi, approximately.

PERIOD OF RECORD.--October 1947 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,765 ft (from topographic map). Prior to Sept. 14, 1966 at site 1.7 miles downstream at different datum.

AVERAGE DISCHARGE.--25 calendar years, 17.4 cfs (12,610 acre-ft per year); 20 calendar years (1953-72), 19.6 cfs (14,200 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 22,000 cfs Oct. 13 (gage height, 4.75 ft), from rating curve extended as explained below; no flow most of time.

Period of record: Maximum discharge, 36,200 cfs July 31, 1965 (gage height, 5.54 ft, from floodmarks, present site and datum), from rating curve extended above 900 cfs on basis of slope-area measurement of peak flow; no flow 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1512: 1948-49, 1955. WSP 1632: 1953.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0	0	0	225	0	270	
2						0	0	0	835	0	240	
3						0	0	0	2,140	0	210	
4						0	0	645	300	0	170	
5						0	30	0	2,0	0	180	
6						0	8,0	870	0	0	25	
7						0	0	0	420	0	0	
8						0	0	0	350	0	0	
9						0	0	28	2,290	0	0	
10						0	0	0	2,330	0	0	
11						0	0	0	630	0	0	
12						0	0	0	1,580	30	0	
13						0	0	0	185	2,590	0	
14						0	0	0	1,330	80	0	
15						0	0	0	225	55	0	
16						2,5	0	25	20	8,0	0	
17						75	346	35	0	0	0	
18						38	10	600	0	20	0	
19						4,5	0	400	0	315	0	
20						0	270	235	0	1,500	0	
21						0	215	310	0	240	0	
22						0	510	35	0	200	0	
23						0	405	0	0	25	0	
24						0	950	0	0	5,0	0	
25						0	660	0	0	200	0	
26						0	2,100	3,490	0	745	0	
27						0	40	3,010	0	395	0	
28						0	0	680	0	334	0	
29						0	0	100	0	165	0	
30						0	0	1,430	0	75	0	
31						0	0	1,900	-----	160	-----	
TOTAL	0	0	0	0	0	120,0	5,744,0	13,993	12,862,0	7,142,0	1,095	0
MEAN	0	0	0	0	0	4,00	185	451	429	230	36,5	0
MAX	0	0	0	0	0	75	2,100	3,490	2,330	2,590	270	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC=FT	0	0	0	0	0	238	11,390	27,760	25,510	14,170	2,170	0

CAL YR 1972 TOTAL 40,956,00 MEAN 112 MAX 3,490 MIN 0 AC=FT 81,240  
 WTP YR 1972 TOTAL 32,723,00 MEAN 89,4 MAX 3,490 MIN 0 AC=FT 64,910

## PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-20	1930	3.65	6,100	9- 2	0530	3.98	8,320
7-22	0730	3.40	4,300	9- 3	0930	4.08	11,500
7-26	0300	3.35	7,200	9- 9	1730	4.20	12,100
8- 6	0500	4.00	9,400	9-10	2030	4.30	12,700
8-18	2000	3.68	5,960	9-11	2100	4.60	18,500
8-26	0530	3.90	12,100	10-13	2030	4.75	22,000
8-27	1600	3.15	6,450	10-20	1500	3.62	4,300
8-30	2100	4.18	11,300				

08354500 Socorro main canal north at San Acacia, N. Mex.

LOCATION.--Lat 34°15'17", long 106°53'43", in SE 1/4 sec. 1, T.1 S., R.1 W., Socorro County, on right bank at San Acacia, and 0.5 mile downstream from point of diversion.

PERIOD OF RECORD.--April 1936 to September 1964 (monthly discharge only), October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,660.16 ft above mean sea level. Prior to Mar. 8, 1958, at site 300 ft upstream (in old channel) at datum 0.42 ft lower.

EXTREMES.--Period of record: Maximum daily discharge, 251 cfs July 30, 1965; no flow at times.

REMARKS.--Records fair. This canal is 1 of 3 channels (see sta 08354800, 08354900) 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 sta 08354900. 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.

REVISIONS (WATER YEARS).--WSP 1242, 1951.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			72	195	128	64	37	10	0	108		
2			112	202	128	72	42	7.3	0	98		
3			130	198	104	84	39	7.6	0	72		
4			104	195	97	94	33	102	0	105		
5			106	199	104	103	37	169	0	111		
6			138	193	105	91	53	163	0	102		
7			128	213	111	92	28	175	0	98		
8			169	191	112	86	23	171	0	99		
9			184	177	109	79	21	133	0	86		
10			171	177	111	69	22	98	0	90		
11			151	220	111	65	22	125	0	97		
12			138	229	105	59	22	119	0	93		
13			138	226	105	48	23	73	0	67		
14			211	227	110	36	24	68	0	31		
15			199	234	110	40	43	28	0	30		
16			177	234	96	42	52	19	0	60		
17			184	236	80	52	133	49	0	70		
18			195	235	76	59	81	85	0	75		
19			191	241	74	55	70	5.0	56	78		
20			211	236	73	47	91	0	82	30		
21			199	246	74	44	100	0	89	20		
22			208	222	63	42	112	0	96	10		
23			223	209	60	42	160	51	118	5.0		
24			211	223	64	40	65	57	122	0		
25			218	182	58	39	114	37	128	0		
26			199	155	56	39	142	8.0	138	0		
27			199	147	43	37	102	0	140	0		
28			197	170	47	37	127	0	137	0		
29			204	134	55	37	100	0	136	0		
30		-----	204	134	97	36	70	0	136	25		
31		-----	195	-----	63	-----	30	0	-----	0	-----	
TOTAL	0	0	5,366	6,070	2,729	1,730	2,018	1,759.9	1,378	1,460.0	0	0
MEAN	0	0	173	202	88.0	57.7	65.1	56.8	45.9	53.5	0	0
MAX	0	0	223	246	128	103	160	175	140	111	0	0
MIN	0	0	72	134	43	36	21	0	0	0	0	0
AC=FT	0	0	10,640	12,040	5,410	3,430	4,000	3,490	2,730	3,290	0	0
CAL YR 1972	TOTAL	22,710.90	MEAN	62.1	MAX	246	MIN	0	AC=FT	45,050		
WTR YR 1972	TOTAL	24,879.90	MEAN	68.0	MAX	246	MIN	0	AC=FT	49,350		



08354900 Rio Grande floodway at San Acacia, N. Mex.

LOCATION.--Lat 34°15'23", long 106°53'18", Socorro County, in Sevilleta Grant, 0.2 mile below San Acacia diversion dam, 0.3 mile east of San Acacia, and 2 miles downstream from Rio Salado.

DRAINAGE AREA.--26,770 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--April 1936 to September 1958 (prior to construction of conveyance channel), October 1958 to September 1964 (flow in conveyance channel included), October 1964 to current year. Prior to October 1964 published as "08355000 Rio Grande at San Acacia" and records are not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 4,654.50 ft above mean sea level. Aug. 19, 1965 to Aug. 15, 1967 at same site at datum 1.89 ft higher. 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 3.60 ft higher. Floodway is bypassed by Socorro main canal north and, since Oct. 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.

14 calendar years (1958-72), 230 cfs (166,600 acre-ft per year), flow of floodway only.

14 calendar years (1958-72), 835 cfs (605,000 acre-ft per year), combined flow of floodway, conveyance channel and Socorro main canal north.

EXTREMES.--Current year: Maximum discharge, 8,720 cfs Oct. 13 (gage height, 9.55 ft); maximum gage height, 9.80 ft Sept. 14; no flow at times.

Period of record: 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 poor. Floodway is 1 of 3 channels (see sta 08354500, 08354800) 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1242: 1951. WSP 1732: 1958(M). WRD 1969: 1967.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.6	2.0	2.8	3.3	2.0	1.4	.47	1.0	1.8	6.7	7.9	1.2
2	1.6	2.6	2.7	3.8	1.5	1.4	.68	.93	55	1.9	7.7	1.1
3	1.5	2.8	2.4	3.7	1.5	1.3	.48	1.1	467	1.6	3.2	1.0
4	2.5	3.1	2.2	3.5	1.5	1.2	.46	1.8	5.0	1.7	2.4	.52
5	2.3	3.3	6.3	3.4	1.7	1.1	.47	462	3.7	1.9	2.2	.82
6	1.5	3.8	4.4	3.1	1.7	1.2	.53	537	3.0	2.2	6.7	.59
7	1.5	4.1	5.1	3.1	1.7	1.1	.50	38	3.0	2.2	5.8	.66
8	1.2	5.1	6.1	2.9	1.7	1.0	.53	2.9	.64	2.3	6.8	.63
9	1.1	4.2	5.8	3.0	1.8	.97	.54	2.8	22	5.6	18	.76
10	1.1	3.9	5.1	2.7	1.7	.83	.59	2.6	18	5.1	2.9	.57
11	1.1	3.6	4.2	3.0	1.7	.73	.65	2.7	498	7.0	6.1	.70
12	1.2	3.2	4.3	3.1	1.8	.59	.70	2.3	1,870	6.0	4.1	.70
13	1.3	2.5	8.6	4.6	1.8	.99	.77	2.0	780	1,450	7.9	.74
14	1.2	2.4	4.4	8.2	2.0	1.6	.78	1.7	4,250	1,170	6.9	.71
15	1.3	1.9	3.7	4.1	2.0	2.3	.82	1.3	30	76	8.9	.61
16	1.1	1.6	15	12	2.0	54	.92	1.1	1.4	36	4.5	.52
17	1.1	1.5	4.5	5.5	2.0	136	15	2.5	3.2	17	5.6	.51
18	1.0	1.5	6.0	5.3	1.9	1.9	1.4	272	2.2	9.7	4.4	4.3
19	.89	1.8	19	4.9	1.9	1.2	1.4	3.3	9.7	21	2.7	2.1
20	7.5	1.9	5.2	5.1	1.8	.96	87	4.7	12	2,320	1.8	2.0
21	4.7	2.0	4.8	4.7	1.7	.86	1.2	2.5	20	2,010	1.3	1.9
22	3.9	2.6	4.9	4.1	1.7	.81	360	1.4	2.6	813	1.3	1.7
23	3.7	2.8	4.1	4.2	1.6	.77	43	11	1.0	59	1.3	1.7
24	3.4	3.6	3.9	4.7	1.5	.74	32	4.9	1.0	1.7	1.4	1.8
25	3.2	148	3.9	4.0	1.6	.67	46	3.5	1.0	645	1.2	1.8
26	3.3	330	3.2	3.4	1.6	.62	260	1,210	2.4	1,280	1.2	1.8
27	2.9	2.1	5.1	2.8	1.5	.56	1.6	60	2.8	698	1.3	1.8
28	2.5	8.6	3.6	2.9	1.4	.48	3.1	870	2.1	10	.76	1.7
29	2.4	5.3	3.5	2.3	1.4	.47	1.3	4.6	3.0	5.0	0	1.7
30	2.3	-----	3.3	2.0	1.6	.45	1.0	747	3.3	7.0	.50	1.7
31	2.3	-----	5.1	-----	1.4	-----	.95	1,850	-----	8.6	-----	1.4
TOTAL	68.19	561.8	161.2	123.4	52.7	218.20	864.64	6,024.83	8,091.04	10,680.6	152.80	40.04
MEAN	2.20	19.4	5.20	4.11	1.70	7.27	27.9	194	270	345	5.00	1.29
MAX	7.5	330	19	12	2.0	136	360	1,630	4,250	2,320	29	4.3
MIN	.89	1.5	2.2	2.0	1.4	.45	.46	.93	.64	1.6	0	.51
AC-FT	135	1,110	320	245	105	433	1,720	11,450	16,050	21,180	303	70
(+)	52,280	53,530	59,010	16,860	5,580	4,630	9,420	40,500	56,440	68,030	71,880	50,710

CAL YR 1972 TOTAL 27,039.44 MEAN 73.9 MAX 4,250 MIN 0 AC-FT 53,630 (+) MEAN 673 AC-FT 488,900  
WTR YR 1972 TOTAL 18,376.80 MEAN 50.2 MAX 4,250 MIN .45 AC-FT 36,450 (+) MEAN 645 AC-FT 468,300

(+) Combined flow, in acre-ft and mean, in cfs, of Floodway, Conveyance Channel, and Socorro Main Canal North.

## RIO GRANDE BASIN

08355300 Arroyo de la Matanza at Socorro, N. Mex.

LOCATION.--Lat 34°01'51", long 106°54'04", Socorro County, in Town of Socorro Grant, on left abutment of former highway bridge, and 1.9 miles south of Socorro.

DRAINAGE AREA.--46.0 sq mi.

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

GAGE.--Water-stage recorder. Altitude of gage is 4,760 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1,330 cfs Aug. 30 (gage height, 5.81 ft); no flow most of time.

Period of record: Maximum discharge, 1,580 cfs July 28, 1970 (gage height, 6.20 ft), from rating curve extended above 60 cfs on basis of slope-area measurement of peak flow; no flow most of time.

REMARKS.--Record poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0	0	0	12	0		
2						0	0	0	0	0		
3						0	0	0	5.6	0		
4						0	0	0	0	0		
5						0	0	0	0	0		
6						0	0	.08	0	0		
7						0	0	0	0	0		
8						2.4	0	0	0	0		
9						0	0	0	0	0		
10						0	0	0	0	0		
11						0	0	0	38	0		
12						0	0	0	4.3	3.9		
13						0	0	0	0	58		
14						0	0	0	2.0	5.0		
15						0	0	0	.08	2.0		
16						0	0	15	0	36		
17						0	0	11	0	11		
18						0	0	42	0	5.0		
19						0	0	14	0	100		
20						0	0	.50	0	62		
21						0	.09	0	0	5.0		
22						0	0	0	0	0		
23						0	0	0	0	0		
24						0	12	0	0	0		
25						0	1.0	3.0	0	50		
26						0	0	48	0	10		
27						0	0	13	0	2.0		
28						0	0	0	0	0		
29						0	0	0	0	0		
30		-----				0	0	40	0	0		
31		-----		-----		-----	0	51	-----	0	-----	
TOTAL	0	0	0	0	0	2.4	13.09	217.58	61.98	349.9	0	0
MEAN	0	0	0	0	0	.080	.42	7.02	2.07	11.3	0	0
MAX	0	0	0	0	0	2.4	12	48	38	100	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	4.8	26	442	123	694	0	0
CAL YR 1972	TOTAL 644.95	MEAN 1.76	MAX 100	MIN 0	AC-FT 1,280							
WTR YR 1972	TOTAL 345.39	MEAN .94	MAX 48	MIN 0	AC-FT 685							

## PEAK DISCHARGE (BASE, 175 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8-16	2130	4.25	520	9-11	2045	4.38	572
8-26	0415	4.85	760	10-13	0015	4.05	520
8-30	1730	5.81	1,330	10-19	2230	3.98	532



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LOCATION.--Lat 33°41'07", long 106°59'40", Socorro County, 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, 3.5 miles downstream from railroad bridge near Tiffany siding, and 51 miles downstream from heading at San Acacia.

PERIOD OF RECORD.--October 1958 to September 1959, October 1960 to current year. Prior to October 1964 monthly discharge only published with record for station 08358500 Rio Grande at San Marcial. Records of daily discharge since March 1954 available in files of district office.

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.

AVERAGE DISCHARGE.--18 calendar years, 526 cfs (381,100 acre-ft per year).

EXTREMES.--1954-72: Maximum daily discharge, 2,200 cfs May 14, 1966; no flow at times.

REMARKS.--Records fair. 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 sta 08358400) carrying flow in valley cross section. For combined monthly flow in acre-ft of this channel and floodway see tabulation below daily table for sta 08358400. Water quality records for the current year are published in Part 2 of this report.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1,210	795	1,020	495	71	14	0	0	348	76	1,290	900
2	1,040	790	875	420	57	9,8	0	0	635	54	1,560	995
3	900	820	1,170	460	51	9,8	0	0	1,060	28	1,580	915
4	940	790	1,140	388	49	9,8	0	82	1,450	21	1,420	835
5	1,020	745	1,030	255	43	8,4	0	560	560	20	1,310	930
6	770	730	1,220	205	37	5,6	0	910	465	18	1,370	970
7	525	670	1,020	185	39	2,8	0	450	710	55	1,470	950
8	525	660	770	146	37	1,4	0	168	525	68	1,530	940
9	500	650	695	132	33	1,4	0	122	945	82	1,450	930
10	485	615	685	142	25	1,0	0	85	1,350	94	1,590	815
11	765	665	850	120	24	1,0	0	39	1,090	84	1,390	935
12	795	660	870	124	28	1,0	0	36	1,380	102	1,400	855
13	970	625	955	120	28	1,4	0	100	1,620	667	1,330	885
14	1,140	555	905	118	55	0	0	60	1,890	635	1,270	935
15	1,460	570	1,000	165	58	0	0	9,8	1,410	600	1,270	935
16	1,080	540	1,190	228	66	0	0	0	845	621	1,210	785
17	965	560	1,260	240	88	185	0	0	1,660	635	1,250	805
18	920	610	1,220	368	77	470	8,2	66	660	695	1,300	805
19	945	625	1,070	228	55	100	0	895	344	640	1,330	760
20	950	650	1,040	243	33	68	0	535	296	1,430	1,260	870
21	850	710	1,120	231	30	33	203	306	460	1,720	1,260	935
22	905	910	935	220	24	8,4	336	276	810	1,720	1,260	805
23	900	990	760	163	21	4,2	760	130	570	1,640	1,270	855
24	885	1,110	735	185	21	0	193	60	360	1,430	1,230	885
25	875	1,320	575	168	14	0	360	104	276	1,160	1,130	800
26	890	1,780	520	150	11	0	850	450	215	1,630	1,170	850
27	890	1,650	630	114	9,8	0	195	1,970	203	1,630	980	890
28	770	1,320	575	90	11	0	173	1,920	175	1,440	835	865
29	775	1,420	540	79	11	0	200	1,900	120	1,190	960	850
30	880	-----	505	80	14	0	124	1,700	88	915	1,040	1,010
31	805	-----	475	-----	21	-----	46	1,630	-----	1,020	-----	962
TOTAL	27,330	24,535	27,555	6,262	1,141,8	936,0	3,444,2	10,563,8	21,910	22,120	38,715	27,457
MEAN	882	846	882	209	36,8	31,2	111	470	730	714	1,291	886
MAX	1,460	1,780	1,260	495	88	470	850	1,970	1,890	1,720	1,590	1,010
MIN	485	540	475	79	9,8	0	0	0	88	18	835	760
AC=FT	54,210	48,670	54,260	12,420	2,260	1,860	6,830	28,890	43,460	43,880	76,790	54,460

CAL YR 1972	TOTAL	215,769.8	MEAN	590	MAX	1,970	MIN	0	AC-FT	428,000
TR YR 1972	TOTAL	206,201.8	MEAN	563	MAX	1,970	MIN	0	AC-FT	409,000

## RIO GRANDE BASIN

08358400 Rio Grande floodway at San Marcial, N. Mex.

LOCATION:--Lat 33°40'50", Long 106°59'30", Socorro County, in Pedro Armendaris Grant No. 33 on pier of the Archison, Topeka, and Santa Fe Railway Co. bridge, 1.1 miles downstream from former site of San Marcial, 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.).

PERIOD OF RECORD:--October 1964 to current year. Records collected at this site January 1895 to September 1964 represented total flow of the river and were published as 08358500 Rio Grande at San Marcial. Records of daily discharge for floodway only April 1950 to September 1964 are available in files of district office.

GAGE:--Water-stage recorder. Datum of gage is 4,455.19 ft above mean sea level.

AVERAGE DISCHARGE:--8 calendar years (1964-72), 143 cfs (103,600 acre-ft per year).  
Total flow of river:--77 years (1895-72), 1,252 cfs (907,100 acre-ft per year).

EXTREMES:--Current year: Maximum discharge, 2,800 cfs Sept. 15 (gage height, 12.20 ft); no flow for most of time.  
Period of record: Maximum discharge since January 1895 about 50,000 cfs Oct. 11, 1904.

REMARKS:--Records fair. Floodway is 1 of 2 channels (see also sta 08358300) carrying flow in valley cross section. Prior to 1950 all flow was in floodway channel. Normal plan is for floodway to carry flow when capacity of conveyance channel (about 2,000 cfs) is exceeded. Combined monthly discharge in acre-ft is given at end of each year table. 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). Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0	0	0	0	0	0	0	0	491	0	0	0
2	0	0	0	0	0	0	0	0	16	0	0	0
3	0	0	0	0	0	0	0	0	152	0	0	0
4	0	0	0	0	0	0	0	0	265	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	95	0	0	0	0
7	0	0	0	0	0	0	138	0	0	0	0	0
8	0	0	0	0	0	0	0	7.0	0	0	0	0
9	0	0	0	0	0	0	0	0	15	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	53	0	0	0
12	0	0	0	0	0	0	0	0	791	12	0	0
13	0	0	0	0	0	0	0	0	1,060	300	0	0
14	0	0	0	0	0	0	0	0	1,460	1,040	0	0
15	0	0	0	0	0	0	0	0	1,960	92	0	0
16	0	0	0	0	0	0	0	0	125	0	0	0
17	0	0	0	0	6.6	0	0	0	4.4	5.5	0	0
18	0	0	0	5.6	16	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	5.0	0	1.0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	195	0	0	1,580	0	0
22	0	0	0	0	0	0	59	8.6	0	1,220	0	0
23	0	0	0	0	0	0	53	0	0	260	0	0
24	0	0	0	0	0	0	5.0	0	0	74	0	0
25	0	0	0	0	0	0	2.6	0	0	9.6	0	0
26	0	0	0	0	0	0	15	22	0	1,530	0	0
27	0	0	0	0	0	0	74	522	0	401	0	0
28	0	0	0	0	0	0	2.8	143	0	145	0	0
29	0	0	0	0	0	0	0	425	0	0	0	0
30	0	0	0	0	0	0	62	0	0	0	0	0
31	0	0	0	0	0	0	0	485	0	0	0	0
TOTAL	61.0	0	0	0	0	77.6	406.4	1,455.2	6,591.4	7,179.80	0	0
MEAN	2.10	0	0	0	0	2.59	13.1	63.1	213	232	0	0
MAX	59	0	0	0	0	55	195	522	1,960	1,580	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FEET	121	0	0	0	0	154	806	3,880	12,680	14,240	0	0
54,210	48,790	54,260	12,420	2,260	2,010	7,640	32,770	56,140	58,120	76,790	54,460	0
CAL YR 1972	TOTAL	16,071.40	MEAN 43.9	MAX 1,960	MIN 0	4C-FEET 31,880 (t)	MEAN 589	AC-FEET 427,900	AC-FEET 459,900	AC-FEET 427,900	AC-FEET 459,900	AC-FEET 427,900

(t) Combined flow, in acre-ft and mean, in cfs, of floodway and conveyance channel.

## 08360500 Elephant Butte Reservoir at Elephant Butte, N. Mex.

LOCATION.--Lat 33°09'15", long 107°11'28", in NW¼ sec.30, T.13 S., R.3 W., Sierra County, 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.)

PERIOD OF RECORD.--March 1915 to December 1939 (monthend contents only published in WSP 1312), January 1940 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above mean sea level. Oct. 16, 1939, to May 2, 1940, and prior to September 1930, nonrecording gages.

EXTREMES.--Current year: Maximum daily contents, 301,600 acre-ft Dec. 31 (gage height, 4,319.02 ft); minimum daily, 53,200 acre-ft Aug. 19 (gage height, 4,279.67 ft).  
Period of record: 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, 2,137,000 acre-ft (survey of 1969) 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, 1961 and 1969. No storage allocated to flood control. Figures given herein represent usable contents and are computed from mean daily gage heights. Water is used for power development and irrigation on Rio Grande Project of Bureau of Reclamation. Lake is major recreational area.

COOPERATION.--Records furnished by Bureau of Reclamation.

REVISIONS (WATER YEARS).--WSP 1442: 1954(m). WSP 1632: Drainage area.

Capacity table (gage height, in feet, and usable contents, in thousands of acre-feet)

4,270	27.93	4,290	92.81	4,310	220.1	4,330	422.2
4,275	39.98	4,295	118.2	4,315	263.5	4,335	485.1
4,280	54.16	4,300	147.6	4,320	311.4	4,340	552.0
4,285	71.45	4,305	181.4	4,325	364.1	4,345	624.0

## CONTENTS, IN ACRE-FEET, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	179,400	224,500	238,700	199,500	171,300	167,600	140,600	80,100	74,600	128,400	193,500	258,400
2	181,500	225,900	237,900	198,000	171,300	167,500	137,000	76,900	76,900	128,400	195,400	260,000
3	183,400	227,100	237,100	196,400	171,100	167,500	133,300	73,400	79,500	128,400	197,900	261,700
4	185,200	228,400	236,700	194,600	170,900	167,400	129,600	70,000	83,400	128,400	200,300	263,000
5	186,300	229,900	236,000	192,700	170,600	167,300	125,900	67,600	86,200	128,500	202,600	264,500
6	187,800	231,000	235,100	190,800	170,400	167,300	122,000	66,100	87,000	128,500	205,000	266,100
7	189,100	232,300	234,300	188,800	170,000	167,300	118,200	65,300	87,900	128,500	206,900	267,700
8	190,200	233,600	233,500	186,600	169,700	167,100	114,700	65,100	88,600	128,600	209,700	269,300
9	191,400	234,800	232,200	184,400	169,600	167,100	111,630	64,400	89,300	128,700	212,100	270,800
10	191,900	235,900	231,200	181,900	169,500	167,000	109,100	63,500	90,700	128,700	214,400	272,300
11	192,800	237,300	231,000	180,700	169,300	166,900	107,400	62,500	93,000	128,700	217,000	273,500
12	193,800	238,500	230,100	179,400	169,200	166,800	106,200	61,400	96,300	128,900	219,500	275,000
13	195,300	239,700	228,900	178,100	169,100	166,800	105,200	60,200	101,800	130,600	221,900	276,300
14	196,800	240,900	227,500	176,800	169,000	166,800	104,100	59,100	106,900	133,600	224,300	277,800
15	198,400	242,000	226,700	175,600	168,900	166,600	102,900	58,000	112,200	137,400	226,400	279,300
16	201,100	242,100	225,900	174,800	168,800	166,700	101,600	56,900	116,800	139,400	228,600	280,400
17	202,800	241,900	225,300	173,800	168,800	167,100	99,800	55,800	119,700	140,400	230,800	281,700
18	204,200	241,700	224,800	173,200	168,800	167,500	98,000	54,500	122,300	141,500	233,000	283,000
19	206,000	241,700	224,200	172,400	168,800	167,500	96,400	53,200	123,400	143,600	235,200	284,300
20	207,800	241,880	223,400	171,700	168,800	166,400	95,300	53,600	123,900	148,100	237,100	285,600
21	209,300	241,880	222,800	171,900	168,700	165,300	93,800	55,000	124,400	153,800	239,200	287,100
22	210,900	241,620	221,100	172,000	168,400	163,800	92,200	55,600	125,000	160,700	241,600	288,700
23	212,300	240,900	218,800	172,100	168,300	162,000	92,000	55,700	126,000	166,000	243,900	290,000
24	213,800	239,900	216,400	172,100	168,200	160,600	91,600	55,300	126,500	170,200	246,300	291,500
25	215,400	239,500	213,700	172,100	168,000	158,900	91,000	54,900	126,700	173,000	248,400	293,100
26	216,500	239,300	211,000	172,000	167,900	156,900	90,400	55,100	127,100	175,600	250,400	294,100
27	218,000	239,200	208,000	171,900	167,800	154,100	90,100	57,400	127,600	181,200	253,300	295,600
28	219,600	239,200	205,600	171,800	167,800	151,700	89,200	61,200	128,100	185,300	255,200	296,900
29	220,600	239,100	203,900	171,700	167,700	147,900	87,600	64,700	128,300	188,400	255,400	298,700
30	221,000	-----	202,300	171,600	167,700	145,000	85,300	68,300	128,400	190,500	256,900	300,000
31	223,400	-----	200,900	-----	167,600	-----	82,800	71,300	-----	191,700	-----	301,600
MAX	223,400	242,100	238,700	199,500	171,300	167,600	140,600	80,100	128,400	191,700	256,900	301,600
MIN	179,400	224,500	200,900	171,600	167,600	145,000	82,800	53,200	74,600	128,400	193,500	258,400
(†)	4,310.40	4,312.25	4,307.60	4,303.62	4,303.05	4,299.59	4,287.78	4,284.97	4,296.81	4,306.40	4,314.27	4,319.02
(‡)	+46,400	+15,700	-38,200	-29,300	-4,000	-22,600	-62,200	-11,500	+57,100	+63,300	+65,200	+44,700

CAL YR 1972 . . . . . (†) +124,600  
WTR YR 1972 . . . . . (‡) + 93,000

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

## RIO GRANDE BASIN

08361000 Rio Grande below Elephant Butte Dam, N. Mex.

LOCATION.--Lat 33°08'54", long 107°12'22", Sierra County, in Pedro Armendaris Grant, on left bank 1.0 mile downstream from dam, and 1.5 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.).

PERIOD OF RECORD.--January 1915 to current year. 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, are unreliable.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4,242.09 ft above mean sea level. See WSP 1732 for history of changes prior to Apr. 24, 1942.

AVERAGE DISCHARGE.--58 calendar years, 998 cfs (723,100 acre-ft per year); 20 calendar years (1953-72), 699 cfs (506,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,670 cfs July 4 (gage height, 7.34 ft); minimum, 1.1 cfs at times.  
Period of record: Maximum daily discharge, 8,220 cfs May 22, 1942; no flow at times prior to 1929.

REMARKS.--Records good except those for April to July, which are fair and October and November, which are poor. Flow regulated by Elephant Butte Reservoir (see sta 08360500). Diversion for irrigation of about 800,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1562: 1920. WSP 1632: Drainage area. WSP 1732: 1917, 1920. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.2	10	1,370	1,200	275	14	1,920	1,500	7.4	2.6	2.2	2.2
2	4.2	9.0	1,390	1,200	292	14	1,910	1,730	12	2.2	1.4	2.2
3	4.5	8.5	1,400	1,210	124	13	1,890	1,700	95	1.1	1.1	2.5
4	6.3	8.5	1,390	1,220	212	13	1,950	1,410	20	1.1	4.6	3.0
5	4.7	9.0	1,390	1,220	127	13	1,890	1,140	9.0	1.1	3.4	3.0
6	3.4	9.0	1,380	1,230	126	13	1,940	1,120	13	1.1	4.2	3.0
7	3.4	9.0	1,380	1,220	122	13	1,910	845	12	2.0	3.8	2.6
8	3.4	8.5	1,380	1,240	120	13	1,840	625	10	2.0	1.8	3.4
9	3.4	8.5	1,440	1,260	111	14	1,590	614	11	2.0	2.0	4.2
10	3.4	8.0	861	987	14	15	1,270	606	10	2.0	2.0	3.8
11	3.4	7.5	914	621	11	18	826	595	9.2	3.0	2.5	3.8
12	3.7	7.5	1,330	630	10	15	778	584	15	5.0	2.5	4.2
13	3.8	7.5	1,560	625	9.5	13	769	572	9.0	10	2.0	3.8
14	3.6	7.5	1,330	594	9.5	15	772	561	8.0	5.0	2.0	4.2
15	3.4	383	1,320	579	6.9	14	776	550	7.0	5.0	2.0	3.4
16	3.4	636	1,330	598	5.9	69	982	554	6.0	5.0	2.5	3.4
17	3.4	659	1,330	614	11	98	1,140	562	5.0	5.0	2.5	3.4
18	3.4	669	1,320	633	11	50	1,120	550	4.0	8.0	2.0	3.4
19	3.0	667	1,320	646	12	416	866	480	4.0	10	2.0	3.0
20	3.0	670	1,330	150	12	625	1,030	295	3.8	20	2.0	3.8
21	2.9	670	1,550	138	12	624	886	288	3.8	5.0	2.5	3.8
22	3.4	1,090	1,900	151	12	627	772	283	3.8	5.0	2.0	4.6
23	3.6	1,360	1,900	87	12	806	756	272	3.8	5.0	2.0	4.2
24	3.9	1,390	1,910	275	12	799	750	260	3.8	5.0	3.0	3.8
25	3.5	1,390	1,890	275	13	803	742	254	3.8	3.0	2.5	3.8
26	5.5	1,390	1,890	275	13	1,020	742	484	3.8	3.0	2.5	2.6
27	6.5	1,390	1,850	278	13	1,540	922	407	5.8	3.0	2.5	3.8
28	4.7	1,400	1,490	278	13	1,600	960	30	3.8	3.0	2.5	5.5
29	4.6	1,400	1,190	278	15	1,660	1,240	14	3.8	2.5	2.5	5.5
30	4.2	-----	1,190	275	15	1,640	1,270	11	3.8	2.5	2.2	4.6
31	102	-----	1,200	-----	15	-----	1,320	15	-----	2.5	-----	3.8
TOTAL	219.8	15,282.0	44,385	19,987	1,766.8	12,587	37,509	18,911	308.4	132.7	72.7	112.3
MEAN	7.09	527	1,432	666	57.7	420	1,210	610	19.3	4.28	2.42	3.62
MAX	102	1,400	1,910	1,260	292	1,660	1,950	1,730	95	20	4.6	5.5
MIN	2.9	7.5	861	87	5.9	13	742	11	3.8	1.1	1.1	2.2
AC-FT	436	30,310	88,040	59,640	5,500	24,970	74,400	37,510	612	263	144	223
CAL YR 1972	TOTAL 151,273.7		MEAN 413		MAX 1,950		MIN 1.1		AC-FT 300,100			
WTR YR 1972	TOTAL 151,343.7		MEAN 410		MAX 1,950		MIN 1.1		AC-FT 300,200			

08362000 Caballo Reservoir near Arrey, N. Mex.

LOCATION.--Lat 32°53'47", long 107°17'30", in SE¼SW¼ sec.19, T.16 S., R.4 W., Sierra County, 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 5.2 miles south of Caballo.

DRAINAGE AREA.--30,700 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

PERIOD OF RECORD.--February 1938 to September 1965 (monthend contents only), October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 43.3 ft above mean sea level.

EXTREMES.--Current year: Maximum daily contents, 68,070 acre-ft Dec. 31 (gage height, 4,147.28 ft); minimum daily, 15,020 acre-ft Jan. 12 (gage height, 4,130.65 ft).  
Period of record: 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 earthfill 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 and are computed from mean daily heights. 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.

COOPERATION.--Records furnished by Bureau of Reclamation.

REVISIONS (WATER YEARS).--WSP 978: 1942. WSP 1632: Drainage area.

Capacity table (gage height, in feet, and usable contents, in thousands of acre-feet)

4,122	3.41	4,130	14.70	4,138	34.19	4,146	62.50
4,124	5.47	4,132	18.88	4,140	40.31	4,148	71.28
4,126	8.00	4,134	23.52	4,142	47.03	4,150	80.76
4,128	11.06	4,136	28.61	4,144	54.42	4,152	91.03

# CONTENTS, IN ACRE-FEET, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	15,190	17,140	46,580	36,110	35,540	22,790	20,920	28,770	40,670	52,030	67,210	67,520
2	15,270	17,370	47,250	36,790	34,760	22,860	21,530	28,380	42,210	52,030	67,260	67,520
3	15,350	17,480	47,720	37,400	33,880	22,910	22,000	28,480	45,900	52,030	67,260	67,480
4	15,470	17,500	48,000	38,220	33,110	22,690	22,290	28,720	51,960	52,070	67,260	67,390
5	15,550	17,540	48,220	39,150	32,310	22,980	23,050	29,260	52,340	52,070	67,260	67,350
6	15,570	17,610	48,550	40,000	31,710	23,120	23,650	29,290	52,750	52,110	67,210	67,350
7	15,670	17,700	48,940	40,800	31,200	23,240	24,570	29,510	53,090	52,110	67,210	67,390
8	15,730	17,760	48,760	41,620	30,540	23,360	25,590	29,780	53,660	52,110	67,210	67,390
9	15,810	17,780	48,470	42,380	29,700	23,500	26,660	30,000	53,620	52,070	67,210	67,390
10	15,860	17,800	48,290	42,970	28,450	23,550	27,490	30,030	52,980	52,030	67,170	67,440
11	15,920	17,800	46,960	42,870	27,150	23,620	27,800	29,940	51,510	52,000	67,120	67,480
12	15,020	17,830	45,830	42,280	25,710	23,920	27,930	29,590	50,940	52,030	67,080	67,520
13	16,100	17,850	45,210	41,560	24,820	23,950	28,500	29,070	51,770	52,070	67,030	67,570
14	16,160	17,890	44,970	41,030	24,470	23,330	28,830	28,480	52,190	52,450	67,030	67,610
15	16,180	17,960	44,350	41,100	24,320	22,600	28,880	28,250	52,380	52,640	67,030	67,610
16	16,220	18,630	43,170	41,490	24,200	21,600	28,870	28,170	52,530	52,640	67,030	67,610
17	16,260	19,990	42,120	41,980	23,950	20,830	28,560	28,220	52,600	52,680	67,080	67,610
18	16,300	21,270	40,800	42,410	23,700	20,580	28,580	28,610	52,640	52,720	67,080	67,610
19	16,340	22,530	39,370	42,940	23,360	20,020	28,610	29,590	52,600	52,940	67,080	67,660
20	16,400	23,870	37,840	43,260	23,100	19,900	29,210	30,160	52,560	58,010	67,080	67,700
21	16,500	25,060	36,640	43,030	22,810	20,110	29,240	30,490	52,490	64,480	67,120	67,700
22	16,540	26,420	35,750	42,440	22,620	20,220	29,540	31,040	52,410	66,160	67,120	67,700
23	16,620	28,660	35,250	41,820	22,430	20,260	29,970	30,930	52,340	66,810	67,170	67,700
24	16,730	31,340	34,910	41,030	22,360	20,200	29,890	30,300	52,260	67,080	67,210	67,700
25	16,750	34,020	34,640	40,280	22,380	20,080	30,050	29,540	52,110	67,300	67,300	67,700
26	16,790	36,640	34,400	39,560	22,410	19,880	30,080	30,762	52,110	67,480	67,350	67,750
27	16,810	39,310	34,220	38,750	22,480	20,020	29,920	34,220	52,110	67,440	67,350	67,750
28	16,920	41,820	34,610	37,900	22,530	20,170	29,750	37,620	52,070	67,390	67,480	67,790
29	16,960	44,280	36,090	37,090	22,580	20,400	29,370	38,460	52,030	67,350	67,520	67,840
30	17,010	-----	35,420	36,260	22,640	20,670	29,290	39,120	52,030	67,210	67,520	67,880
31	17,050	-----	35,840	-----	22,720	-----	29,320	39,940	-----	67,210	-----	68,070
MAX	17,050	44,280	48,940	43,260	35,540	23,950	30,080	39,940	53,660	67,480	67,520	68,070
MIN	15,020	17,140	34,220	36,110	22,360	19,880	20,920	28,170	40,670	52,000	67,030	67,350
(†)	4,131.15	4,141.20	4,138.55	4,138.69	4,133.66	4,132.79	4,136.26	4,139.88	4,143.37	4,147.09	4,147.16	4,147.28
(‡)	+1,950	+27,230	-8,440	+420	-13,540	-2,050	+8,650	+10,620	+12,090	+15,180	+310	+550

CAL YR 1972 . . . . . (†) +52,970

WTR YR 1972 . . . . . (‡) +45,910

(†) Gage height, in feet, at end of month.

(‡) Change in contents, in acre-feet.

## RIO GRANDE BASIN

08362500 Rio Grande below Caballo Dam, N. Mex.

LOCATION.--Lat 32°53'05", long 107°17'31", in NE¼SW¼ sec.30, T.16 S., R.4 W., Sierra County, on left bank 2,000 ft upstream from Interstate Highway 25, 4,200 ft downstream from Caballo Dam, 1.2 miles downstream from Apache Canyon, 1.3 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.).

PERIOD OF RECORD.--January 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,140.9 ft above mean sea level. 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.--35 calendar years, 868 cfs (628,900 acre-ft per year); 20 calendar years (1953-72), 681 cfs (493,400 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 2,110 cfs Aug. 2, minimum daily, 0.1 cfs Feb. 15-29.

Period of record: 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, Feb. 15-29, 1972.

REMARKS.--Records good. Flow regulated by Caballo Reservoir (capacity, 344,000 acre-ft, 1958 survey) and Elephant Butte Reservoir (capacity, 2,137,000 acre-ft, 1969 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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1.0	.50	285	650	426	4.4	1,480	2,020	25	1.7	2.1	2.3
2	1.0	.40	761	617	419	4.4	1,490	2,110	27	1.9	2.1	2.3
3	1.0	.40	868	531	413	4.4	1,500	1,580	26	2.0	2.1	2.3
4	1.0	.40	1,020	495	418	4.4	1,770	1,470	25	2.1	2.1	2.2
5	1.0	.30	984	499	387	4.4	1,850	1,150	25	2.2	2.1	2.2
6	1.0	.30	997	517	337	4.4	1,530	1,090	25	2.4	2.1	2.2
7	1.0	.30	1,150	514	320	4.4	1,300	778	24	2.5	2.1	2.2
8	1.0	.20	1,290	518	365	4.4	1,130	592	414	2.6	2.1	2.2
9	1.0	.20	1,300	530	479	4.4	981	544	898	2.8	2.2	2.2
10	1.0	.20	1,290	543	542	4.4	874	599	960	2.9	2.2	2.2
11	1.0	.30	1,420	626	523	4.4	603	684	691	2.8	2.2	2.1
12	1.0	.30	1,490	698	448	4.4	373	775	185	2.8	2.2	2.1
13	1.0	.30	1,440	700	196	82	385	771	32	2.8	2.2	2.1
14	1.0	.30	1,600	516	118	394	490	777	11	2.7	2.2	2.1
15	1.0	.10	1,730	465	130	477	548	723	4.0	2.7	2.2	2.1
16	1.0	.10	1,690	288	130	508	697	629	3.8	2.9	2.2	2.1
17	1.0	.10	1,850	308	130	494	804	552	3.5	2.6	2.2	2.1
18	1.0	.10	1,910	338	130	420	821	391	3.3	2.6	2.2	2.1
19	1.0	.10	1,920	338	130	426	482	125	3.0	2.6	2.2	2.1
20	1.0	.10	1,720	332	130	498	695	389	2.8	2.6	2.2	2.1
21	1.0	.10	1,780	352	130	559	842	389	2.6	2.5	2.3	2.1
22	1.0	.10	2,050	391	130	552	615	465	2.3	2.4	2.3	2.1
23	1.0	.10	2,070	391	74	671	588	653	2.0	2.4	2.3	2.1
24	.70	.10	2,000	401	6.4	749	577	647	1.8	2.4	2.3	2.1
25	.70	.10	1,900	443	4.4	803	578	935	1.6	2.4	2.3	2.1
26	.60	.10	1,930	431	4.4	814	673	125	1.6	2.3	2.3	2.1
27	.60	.10	1,700	432	4.4	1,140	785	32	1.6	2.3	2.3	2.1
28	.60	.10	1,140	429	4.4	1,350	1,100	28	1.6	2.3	2.3	2.1
29	.60	.10	770	427	4.4	1,350	1,450	26	1.6	2.3	2.3	2.1
30	.50	-----	686	424	4.4	1,410	1,460	26	1.6	2.2	2.3	2.1
31	.50	-----	645	-----	4.4	-----	1,560	25	-----	2.2	-----	2.1
TOTAL	27.80	5.90	43,386	14,084	6,542.2	12,749.8	30,031	21,100	3,406.7	75.9	66.2	66.4
MEAN	.90	.20	1,400	469	211	425	969	681	114	2.45	2.21	2.14
MAX	1.0	.50	2,070	700	542	1,410	1,850	2,110	960	2.9	2.3	2.3
MIN	.50	.10	285	288	4.4	4.4	373	25	1.6	1.7	2.1	2.1
AC-FT	55	12	86,060	27,940	12,980	25,290	59,570	41,850	6,760	151	131	132
(+)	0	0	129	57	77	148	101	68	102	0	0	0
CAL YR 1972	TOTAL 131,541.90	MEAN 359	MAX 2,110	MIN .10	AC-FT 260,900							
WTR YR 1972	TOTAL 131,440.70	MEAN 359	MAX 2,110	MIN .10	AC-FT 260,700							

(+) Diversion, in acre-feet, by Bonita Ditch. Bonita Ditch diverts directly from Caballo Dam and this diversion is not included in the river records.

08363700 Tortugas Arroyo near Las Cruces, N. Mex.

LOCATION.--Lat 32°17'15", long 106°43'43", Dona Ana County, 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.

DRAINAGE AREA.--20.7 sq mi.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and Parshall flume at downstream end of reservoir outlet pipe. Datum of gage is 4,071.62 ft above mean sea level (Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--10 calendar years, 0.239 cfs (173 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 107 cfs Sept. 1 (gage height, 2.56 ft); no flow most of time.

Period of record: Maximum discharge 107 cfs Sept. 1, 1972 (gage height, 2.56 ft); no flow most of time.

REMARKS.--Records good. Records represent outflow from Tortugas Reservoir, completed in 1962. Water quality records for the current year are published in Part 2 of this report.

Reservoir is designed to retard floodflows and detain silt. Dam is earthfill, 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 calendar year 1972

Flow event	Date	Outflow (hours)	Maximum (cfs)	Cfs-days	Runoff (acre-ft)
48	June 11-13	46	48	44.4	88
49	Aug. 18	2	.50	.02	.03
50	Aug. 27-28	21.5	33	12.1	24
51	Sept. 1-4	71.5	107	153	303
52	Oct. 18-21	57.5	31	10.9	22
53	Oct. 26	23	37	14.6	29

08364000 Rio Grande at El Paso, Tex.

LOCATION.--Lat 31°48'10", long 106°32'25", El Paso County, 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.).

PERIOD OF RECORD.--January 1889 to current year. October 1960 to September 1965 in bulletins of International Boundary and Water Commission. Monthly discharges only for some periods published in WSP 1312 or 1732.

GAGE.--Water-stage recorder. Datum of gage is 3,722.30 ft above mean sea level (U.S.C. & G.S. datum). See WSP 1312 or 1732 for history of changes prior to Aug. 4, 1938.

AVERAGE DISCHARGE.--35 calendar years (1938-72), 519 cfs (376,000 acre-ft per year); 20 calendar years (1953-72), 338 cfs (244,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,450 cfs Sept. 4; maximum gage height, 5.42 ft Mar. 28; minimum discharge, 1.7 cfs Nov. 26.

Period of record: Maximum discharge, 24,000 cfs June 12, 1905; no flow at times. Maximum discharge since construction of Elephant Butte Dam in 1915, 13,500 cfs Sept. 3, 1925.

REMARKS.--Daily discharges were computed by adding discharges of American Canal at El Paso and Rio Grande below American Dam at El Paso. 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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	44.3	38.8	23.0	41.2	15.5	50.6	50.7	40.5	15.7	10.3	26.6	14.6
2	44.1	38.7	19.4	40.4	17.5	46.6	49.6	50.0	16.2	99.5	27.1	14.6
3	42.2	35.7	18.2	44.4	20.2	46.4	53.0	60.0	24.0	92.9	26.3	14.9
4	43.0	35.7	47.8	41.8	20.0	43.6	54.7	62.5	51.9	79.2	25.4	15.1
5	37.5	37.7	48.2	34.4	23.2	40.8	58.6	66.5	20.8	69.0	24.4	15.0
6	34.5	38.7	48.2	31.3	21.8	43.0	86.2	62.5	18.3	64.4	23.7	15.0
7	36.0	41.2	33.9	29.0	21.7	45.2	58.5	49.0	17.4	62.7	23.5	14.6
8	39.9	33.1	42.4	31.0	19.7	50.2	49.0	40.0	17.1	59.1	23.2	14.4
9	43.4	34.2	43.6	30.2	15.9	52.4	49.0	21.0	17.0	59.1	26.1	14.6
10	45.0	33.1	59.8	30.2	12.6	51.8	58.5	17.5	15.6	59.0	23.9	14.5
11	44.4	30.1	58.3	33.0	11.7	54.0	46.5	13.0	17.6	57.8	23.0	15.1
12	43.2	29.8	58.9	30.6	17.9	53.5	38.0	14.0	23.3	84.2	17.2	15.3
13	42.8	30.6	62.6	29.8	19.3	53.5	29.5	15.5	29.9	78.8	15.0	15.3
14	40.8	29.3	75.2	42.5	28.1	53.5	18.0	23.0	45.6	56.9	10.9	15.3
15	39.5	29.7	73.1	40.9	34.8	53.5	10.0	24.0	20.3	58.1	13.2	15.2
16	39.0	27.3	60.6	43.1	22.8	93.9	10.0	20.0	18.6	58.1	12.8	15.2
17	40.1	26.8	66.0	31.6	10.6	11.4	10.0	18.0	14.8	56.9	9.8	15.5
18	40.9	26.9	65.6	24.8	72.2	11.1	15.0	18.0	13.5	60.2	9.7	15.9
19	41.5	26.6	66.6	22.5	98.2	11.7	40.0	18.0	12.2	63.2	9.2	21.0
20	41.1	26.7	70.1	19.8	13.2	11.4	60.5	27.0	12.1	32.2	8.3	22.3
21	40.1	27.4	74.2	16.6	10.9	11.3	34.0	20.0	11.4	46.4	7.9	14.8
22	41.1	27.1	65.0	14.7	96.7	11.1	38.0	19.0	11.3	17.1	4.8	9.4
23	41.3	26.2	65.2	12.6	91.4	11.5	72.5	18.0	11.2	71.6	4.7	9.4
24	42.6	25.8	72.4	11.4	86.1	15.2	54.5	21.0	10.5	43.0	5.8	9.4
25	39.1	24.8	70.4	16.8	89.4	16.0	42.0	20.0	10.1	35.0	5.7	9.4
26	39.5	24.7	73.7	18.1	75.8	24.5	34.0	33.0	98.6	30.4	1.7	10.6
27	39.4	24.4	77.3	13.9	64.5	33.8	26.0	83.5	99.1	28.1	9.9	7.5
28	38.5	23.4	85.2	14.8	65.0	33.5	15.0	68.5	10.0	26.1	14.1	6.0
29	37.2	22.9	75.5	14.6	66.4	36.3	20.0	55.0	10.1	24.8	14.1	6.0
30	38.0		55.2	16.4	60.5	39.2	20.5	41.0	10.1	24.3	14.1	6.0
31	37.9	-----	46.3		45.9		42.0	27.0	-----	25.7		6.0
TOTAL	1,257.7	877.4	1,706.3	8,224	4,485.9	3,612.5	12,438	10,660	5,263.7	2,588.1	462.1	407.9
MEAN	40.6	30.3	55.0	274	145	120	401	344	175	83.5	15.4	13.2
MAX	45.0	41.2	85.2	444	348	392	862	835	519	464	27.1	22.3
MIN	34.5	22.9	18.2	114	45.9	40.8	100	130	98.6	24.3	1.7	6.0
AC-FT	2,495	1,740	33,845	16,312	8,898	7,165	24,670	21,144	10,440	5,133	917	809

WTR YR 1972 TOTAL 69,147.4 MEAN 189 MAX 862 MIN 18.2 AC-FT 137,151  
 CAL YR 1972 TOTAL 67,340.7 MEAN 184 MAX 862 MIN 1.7 AC-FT 133,560



08377900 Rio Mora near Terrero, N. Mex.  
(Hydrologic bench-mark station)

LOCATION.--Lat 35°46'38", long 105°39'27", in E1/4 sec. 22, T.18 N., R.12 E., San Miguel County, in Santa Fe National Forest, on left bank 450 ft upstream from bridge on State Highway 63, 600 ft upstream from mouth, and 2.6 miles north of Terrero.

DRAINAGE AREA.--53.2 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,890 ft (from topographic map).

AVERAGE DISCHARGE.--9 calendar years, 25.6 cfs (18,550 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 73 cfs Aug. 4 (gage height, 1.96 ft); minimum recorded, 4.1 cfs Feb. 18, but may have been less during period of ice effect.

Period of record: Maximum discharge, 451 cfs July 29, 1965 (gage height, 3.56 ft), from rating curve extended above 190 cfs; minimum determined, 0.90 cfs Jan. 12-14, 1964, but may have been less during periods of ice effect.

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 winter periods, which are poor. 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. Water quality records for the current year are published in Part 2 of this report.

# DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.0	4.7	11	14	20	25	8.0	28	54	17	24	15
2	7.8	4.7	10	13	20	24	7.4	32	54	17	24	15
3	7.7	4.5	11	13	20	22	7.0	32	54	16	24	15
4	6.5	5.0	12	13	20	21	7.1	39	50	16	23	16
5	4.5	5.0	14	13	21	20	9.0	55	46	17	23	15
6	5.0	5.0	15	16	24	19	9.3	55	45	18	22	14
7	5.0	5.0	16	18	26	19	7.4	50	42	18	20	15
8	5.5	5.0	16	19	25	18	6.8	48	40	16	21	15
9	5.5	4.5	16	20	28	18	8.3	48	43	14	21	15
10	5.5	4.5	17	21	26	17	10	46	40	14	19	15
11	6.0	4.5	19	25	25	17	7.9	41	38	13	21	14
12	6.0	5.0	20	29	24	17	8.2	38	36	13	19	12
13	6.0	5.5	20	27	24	16	8.0	35	33	19	18	12
14	6.0	5.5	21	26	24	15	6.8	33	32	15	18	12
15	6.0	5.5	20	23	23	18	6.3	35	35	14	17	10
16	5.5	5.6	18	23	22	28	9.9	32	34	14	17	10
17	5.5	5.2	18	23	21	20	10	32	30	13	19	10
18	5.5	5.0	17	22	21	17	8.8	30	28	13	18	11
19	6.0	5.0	18	21	22	15	15	30	28	26	15	11
20	6.0	5.5	18	21	22	13	10	43	34	57	13	11
21	6.0	5.0	17	19	22	13	18	34	28	53	11	11
22	6.0	6.0	18	20	22	12	18	32	27	42	10	11
23	6.0	6.5	18	19	21	12	17	30	25	39	11	11
24	5.5	7.0	17	20	21	13	22	28	24	36	12	11
25	5.0	7.5	17	20	20	11	36	27	23	36	13	11
26	5.0	8.0	18	21	19	9.8	44	33	22	34	15	10
27	5.0	8.5	17	21	18	9.2	53	32	21	32	15	10
28	5.0	9.0	14	20	17	8.6	43	47	20	30	15	11
29	5.3	10	13	20	18	8.5	37	49	19	28	15	11
30	5.0	-----	15	20	29	8.6	33	47	18	27	15	11
31	4.7	-----	15	-----	27	-----	29	46	-----	26	-----	10
TOTAL	178.0	168.7	506	600	692	484.7	521.2	1,187	1,023	743	528	381
MEAN	5.74	5.82	16.3	20.0	22.3	16.2	16.8	38.3	34.1	24.0	17.6	12.3
MAX	8.0	10	21	29	29	28	53	55	54	57	24	16
MIN	4.5	4.5	10	13	17	8.5	6.3	27	18	13	10	10
AC-FT	353	335	1,000	1,190	1,370	961	1,030	2,350	2,030	1,470	1,050	756

CAL YR 1972 TOTAL 7,012.6 MEAN 19.2 MAX 57 MIN 4.5 AC-FT 13,910

WTR YR 1972 TOTAL 6,713.6 MEAN 18.3 MAX 55 MIN 4.5 AC-FT 13,320

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

## RIO GRANDE BASIN

08378500 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., San Miguel County, in Santa Fe National Forest, on left bank at downstream side of bridge on private road, 300 ft upstream from Indian Creek, 2.4 miles downstream from Holy Ghost Creek, and 9.0 miles north of Pecos.

DRAINAGE AREA.--189 sq mi.

PERIOD OF RECORD.--August 1919 to current year. 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.

AVERAGE DISCHARGE.--53 calendar years, 96.4 cfs (69,840 acre-ft per year); 20 calendar years (1953-72), 82.5 cfs (59,770 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 271 cfs Oct. 20 (gage height, 2.97 ft); minimum discharge, 14 cfs Mar. 2, result of freezeup.

Period of record: 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; minimum, 2.0 cfs Mar. 19, 1971, result of freezeup.

Flood of Sept. 29, 1904, was greatest since 1886, from information by local residents.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 75 acres (1959 determination) above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 898: Drainage area. WSP 1312: 1932(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

CAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	33	25	34	52	68	102	37	55	114	47	90	58
2	30	25	29	48	70	93	35	67	108	46	97	60
3	28	23	35	48	68	85	35	69	112	44	85	55
4	25	24	38	47	72	83	37	86	97	44	85	60
5	20	25	42	50	74	81	48	117	89	48	83	53
6	21	25	50	58	81	78	50	104	89	56	81	55
7	22	24	55	63	91	78	41	93	83	63	72	58
8	23	23	55	67	87	80	34	97	78	60	78	60
9	23	23	56	70	93	81	40	104	112	50	76	60
10	23	23	65	76	85	72	56	102	106	47	67	60
11	24	23	74	87	81	78	35	85	95	45	78	58
12	25	24	78	102	78	80	33	76	85	45	74	46
13	26	25	80	95	76	70	31	68	74	70	70	47
14	26	26	83	91	76	63	27	69	74	55	70	48
15	26	27	78	76	76	79	24	87	91	55	68	40
16	24	26	68	83	74	125	41	74	89	55	67	40
17	25	25	70	80	74	87	47	76	74	50	70	42
18	25	25	68	78	74	76	35	67	68	55	72	44
19	26	24	72	70	76	65	50	68	67	90	62	45
20	27	24	72	67	83	60	37	128	85	200	58	44
21	28	24	70	62	85	58	60	87	70	150	55	45
22	29	23	74	63	83	55	58	74	67	120	50	47
23	30	24	76	60	83	52	52	68	62	115	55	48
24	28	24	68	62	80	60	65	62	60	110	60	48
25	25	26	67	67	76	47	94	60	56	110	65	48
26	26	29	70	68	76	42	110	85	55	105	67	46
27	26	27	63	68	74	40	123	76	53	105	67	46
28	27	29	55	67	72	37	91	121	52	105	60	50
29	27	34	50	68	72	37	78	114	50	95	60	48
30	26	-----	60	70	128	38	67	102	50	100	55	45
31	25	-----	56	-----	112	-----	58	95	-----	100	-----	40
TOTAL	799	729	1,911	2,063	2,498	2,082	1,629	2,636	2,365	2,440	2,097	1,544
MEAN	25.8	25.1	61.6	68.8	80.6	69.4	52.5	85.0	78.8	78.7	69.9	49.8
MAX	33	34	83	102	128	125	123	128	114	200	97	60
MIN	20	23	29	47	68	37	24	55	50	44	50	40
AC-FT	1,580	1,450	3,790	4,090	4,950	4,130	3,230	5,230	4,690	4,840	4,160	3,060

CAL YR 1972 TOTAL 22,793 MEAN 62.3 MAX 200 MIN 20 AC-FT 45,210  
WTR YR 1972 TOTAL 21,644 MEAN 59.1 MAX 134 MIN 20 AC-FT 42,930

PEAK DISCHARGE (BASE, 310 CFS).--No peak above base.

NOTE.--No gage-height record Oct. 8 to Nov. 1.

08379500 Pecos River near Anton Chico, N. Mex.

LOCATION.--Lat 35°10'44", long 105°06'30", Guadalupe County, in Anton Chico Grant, on right bank 2.1 miles upstream from Canon Blanco, 2.3 miles southeast of Anton Chico, and 9.7 miles downstream from Tacolote Creek.

DRAINAGE AREA.--1,050 sq mi, approximately (contributing area).

PERIOD OF RECORD.--April 1910 to May 1916, October 1916 to September 1924, August to December 1925, January 1927 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 5,130 ft (from river-profile map). See WSP 1312 for history of changes prior to June 21, 1951.

AVERAGE DISCHARGE.--59 calendar years (1911-15, 1917-24, 1927-72), 132 cfs (95,630 acre-ft per year); 20 calendar years (1953-72), 101 cfs (73,170 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,000 cfs July 21 (gage height, 12.13 ft); no flow Feb. 26, Mar. 4-6.

Period of record: Maximum discharge, 40,300 cfs June 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 poor. 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1342: 1951(M), 1952-53. WSP 1512: 1912-14, 1931, 1933(M), 1935-36(M), 1938(P), 1939-40, 1941-42(P), 1945(M), 1946(P), 1949(P). WSP 1712: 1942(P).

Discharge measurements, in cubic feet per second, of  
Acequia del Bodo Juan Paiz, Calendar Year 1972

DATE	DISCHARGE	DATE	DISCHARGE
Jan. 5	0	July 19	0
Apr. 25	11	Nov. 15	10
May 11	36	28	1.3
July 12	0		

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	45	13	.27	16	4.8	54	11	140	272	18	151	78
2	60	16	1.2	15	3.9	44	3.5	248	690	9.5	143	83
3	45	13	.45	13	3.5	41	2.3	245	230	7.4	147	69
4	20	17	.02	11	8.3	35	3.1	103	190	6.2	146	57
5	23	21	.01	15	12	26	24	89	170	11	137	52
6	35	26	.76	18	13	14	414	220	150	17	133	35
7	55	23	1.7	18	15	17	70	130	130	23	128	40
8	65	23	4.9	16	23	22	54	117	286	30	117	45
9	48	25	17	12	36	25	178	253	314	28	114	70
10	45	26	18	8.1	29	26	290	124	274	18	113	55
11	41	25	19	5.2	29	29	40	66	1,300	13	101	50
12	45	26	22	5.9	23	30	351	39	980	25	101	38
13	40	25	30	16	23	28	141	19	211	36	102	39
14	28	27	35	33	20	54	62	13	165	36	92	45
15	32	28	37	36	14	21	33	11	157	40	89	43
16	38	32	42	30	14	25	600	130	206	30	89	50
17	43	36	39	16	11	55	376	115	155	21	85	41
18	46	19	31	14	14	52	92	57	129	22	89	37
19	44	1.0	31	18	16	37	650	60	111	26	101	45
20	43	.50	31	13	12	19	103	27	202	181	84	55
21	45	.20	27	12	14	15	1,330	119	176	422	75	56
22	41	.20	23	12	7.2	15	1,300	77	116	309	67	50
23	40	.10	27	9.7	8.2	14	102	53	73	515	66	48
24	46	.55	30	3.1	10	10	81	43	55	329	63	44
25	34	.62	23	3.6	12	4.8	128	36	43	239	70	48
26	39	.61	14	1.1	11	2.4	162	160	38	228	75	46
27	25	.14	7.4	4.3	12	1.7	153	192	33	212	80	57
28	34	.43	9.0	4.4	13	1.5	397	660	32	198	90	55
29	30	.27	7.1	6.1	6.7	1.8	185	460	27	178	80	73
30	23	-----	12	7.0	9.4	18	188	206	22	160	83	76
31	17	-----	15	-----	33	-----	108	367	-----	160	-----	47
TOTAL	1,203	417.92	555.81	392.5	455.0	738.2	7,631.9	4,579	6,937	3,548.1	3,011	1,621
MEAN	38.7	14.4	17.9	13.1	14.7	24.6	246	148	231	114	100	52.3
MAX	65	32	42	36	33	55	1,330	660	1,300	515	151	83
MIN	17	.1	.01	1.1	3.5	1.5	2.3	11	22	6.2	63	35
AC-FT	2,380	829	1,100	779	902	1,460	15,140	9,080	13,760	7,040	5,970	3,220

CAL YR 1972 TOTAL 31,087.43 MEAN 84.9 MAX 1,330 MIN .01 AC-FT 61,660  
WTR YR 1972 TOTAL 27,834.33 MEAN 76.1 MAX 1,330 MIN .01 AC-FT 55,210

## PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-16	2230	11.40	9,640	9-11	2100	9.58	6,360
7-21	2400	12.13	11,000				

08380500 Gallinas Creek near Montezuma, N. Mex.

LOCATION.--Lat 35°39'07", long 105°19'06", San Miguel County, in Las Vegas Grant, on left bank 2.4 miles west of Montezuma, and 6.9 miles northwest of Las Vegas.

DRAINAGE AREA.--84 sq mi, approximately.

PERIOD OF RECORD.--March to September 1915, June 1916 to current year. 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 6,875 ft (from topographic map). Prior to Sept. 21, 1934, at different datum.

AVERAGE DISCHARGE.--56 calendar years, 19.4 cfs (14,060 acre-ft per year); 20 calendar years (1953-72), 16.4 cfs (11,880 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,080 cfs July 20 (gage height, 5.34 ft); minimum 1.1 cfs Jan. 28, result of freezeup.

Period of record: Maximum discharge, 7,120 cfs Aug. 2, 1966 (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, 0.20 cfs Oct. 6-9, 1922, Sept. 21, Oct. 9-14, 1956, 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 periods, which are poor. Diversions for irrigation of about 80 acres (1959 determination) above station.

REVISIONS (WATER YEARS).--WSP 898: Drainage area. WSP 1562: 1951(P), 1952(M), 1955(P), 1957. WSP 1632: 1931-32, 1933(M), 1934, 1935(M), 1938, 1939-40(M), 1941-42, 1945, 1949-50(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	14	6.0	5.8	5.4	4.5	6.8	2.9	29	99	16	36	18
2	12	5.5	5.6	5.2	3.6	6.2	2.7	59	119	15	37	18
3	10	5.5	5.9	4.9	3.8	5.3	2.5	38	123	14	42	18
4	8.0	6.0	5.8	4.6	4.0	5.1	2.8	34	94	14	45	17
5	6.0	6.0	5.9	4.8	4.3	5.0	2.9	36	74	14	45	17
6	6.5	6.0	5.9	4.7	4.9	5.0	2.9	27	62	15	41	16
7	7.0	5.5	6.2	5.1	6.8	5.0	3.8	21	50	16	36	15
8	7.5	5.5	6.7	5.3	7.0	5.2	2.9	68	46	14	34	16
9	7.0	5.5	6.6	4.9	5.8	5.2	2.7	84	50	13	33	16
10	7.0	4.8	6.4	4.7	5.3	4.8	4.0	48	41	12	30	15
11	7.5	5.0	6.5	4.5	5.0	4.4	4.3	32	37	12	29	14
12	8.5	5.0	7.3	4.9	5.0	4.5	6.4	25	39	12	29	13
13	8.9	5.5	6.7	6.0	4.7	3.8	5.5	21	32	16	26	14
14	8.3	5.3	6.8	5.7	4.7	3.4	4.3	58	78	13	26	15
15	8.0	4.7	7.1	5.8	4.7	3.8	3.6	31	101	14	25	12
16	8.0	4.6	7.1	5.5	4.8	9.5	29	41	65	14	23	13
17	8.0	4.5	6.6	5.8	4.4	9.1	16	34	48	12	23	13
18	7.8	4.8	6.6	5.1	4.3	6.3	12	22	38	12	24	14
19	7.4	5.0	6.7	5.5	4.3	4.5	9.8	22	36	42	20	13
20	7.2	4.7	6.2	5.4	4.6	4.0	84	196	51	109	19	13
21	7.1	4.9	5.7	5.4	4.3	3.4	182	90	35	91	21	12
22	7.0	5.1	5.7	5.3	4.2	2.9	86	59	30	67	19	13
23	7.1	5.1	6.0	5.1	3.9	2.8	46	42	27	70	20	13
24	6.7	4.9	6.0	5.2	4.0	2.6	45	31	25	67	21	12
25	6.5	5.0	6.2	5.1	3.9	2.4	81	25	22	62	19	12
26	7.2	5.0	6.0	4.9	3.6	2.3	65	44	21	62	20	11
27	6.7	5.3	5.3	5.1	3.6	2.0	62	57	20	56	22	12
28	6.2	5.2	5.1	4.9	3.7	2.0	43	389	18	49	20	13
29	6.2	5.5	5.2	4.7	4.0	2.9	32	224	17	43	19	15
30	6.0	-----	5.6	4.5	6.3	3.7	25	130	16	39	18	11
31	6.0	-----	5.5	-----	8.3	-----	20	111	-----	40	-----	10
TOTAL	237.3	151.4	190.7	154.0	146.3	133.9	892.0	2,128	1,514	1,045	822	434
MEAN	7.65	5.22	6.15	5.13	4.72	4.46	28.8	68.6	50.5	33.7	27.4	14.0
MAX	14	6.0	7.3	6.0	8.3	9.5	182	389	123	109	45	18
MIN	6.0	4.5	5.1	4.5	3.6	2.0	2.5	21	16	12	18	10
AC-FT	471	300	378	305	290	266	1,770	4,220	3,000	2,070	1,630	861
CAL YR 1972	TOTAL 7,848.6		MEAN 21.4		MAX 389		MIN 2.0		AC-FT 15,570			
WTR YR 1972	TOTAL 6,523.5		MEAN 17.8		MAX 389		MIN 2.0		AC-FT 12,940			

## PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-16	1900	3.15	370	8-20	0315	3.45	529
7-20	2230	5.34	2,080	8-28	1730	4.65	1,400
8- 8	2000	3.63	652	9-14	1800	3.00	313
8-14	1800	3.33	470				

RIO GRANDE BASIN

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08382500 Gallinas River near Colonias, N. Mex.

LOCATION.--Lat 35°10'55", long 104°53'59", Guadalupe County, in Anton Chico and Preston Beck Grants, on right bank 2.4 miles upstream from mouth, 2.3 miles south of San Miguel-Guadalupe County line, 5.8 miles northwest of Colonias, and 9.0 miles east of Dilia.

DRAINAGE AREA.--610 sq mi, approximately.

PERIOD OF RECORD.--January 1951 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,944 ft (from topographic map).

AVERAGE DISCHARGE.--22 calendar years, 16.5 cfs (11,950 acre-ft per year); 20 calendar years (1953-72), 17.1 cfs (12,390 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,090 cfs Sept. 12 (gage height, 15.62 ft), from rating curve extended above 1,900 cfs, as explained below; no flow most of time.

Period of record: 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 most of time.

Flood of about June 1, 1937, reached a stage of about 27.2 ft; 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 fair. Diversions for irrigation of about 7,000 acres (1959 determination) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4.7					0	20	5.5	507	0	9.4	25
2	3.9					0	10	41	1,020	0	11	24
3	2.2					0	9.6	21	146	0	56	23
4	.80					0	590	168	58	0	61	23
5	.80					0	31	44	34	0	51	22
6	1.3					0	136	15	30	0	40	17
7	1.8					0	214	9.1	20	0	42	15
8	2.0					0	39	12	134	0	30	20
9	1.5					0	42	143	646	0	26	21
10	1.0					0	14	94	412	0	21	15
11	.90					0	15	47	685	0	23	5.0
12	1.0					0	59	18	1,330	0	22	8.0
13	1.6					0	286	10	112	0	23	9.0
14	1.0					0	27	6.4	50	0	23	10
15	.85					0	11	5.0	34	0	22	7.0
16	.50					134	191	38	24	0	22	5.0
17	.65					140	634	33	18	0	24	7.0
18	1.3					5.0	491	12	13	0	27	10
19	1.7					.32	272	17	9.5	0	27	10
20	1.2					0	78	8.0	11	0	28	9.5
21	1.1					0	456	4.2	14	1.4	29	10
22	.94					0	305	2.1	9.1	10	28	8.7
23	.82					0	213	.89	8.6	9.0	25	8.4
24	.49					0	52	.21	5.5	111	27	7.2
25	.63					0	27	0	3.2	50	27	6.8
26	.42					0	22	13	1.7	34	32	6.8
27	.35					0	14	8.0	.64	27	28	6.5
28	.28					0	11	81	.17	15	30	5.5
29	.35					0	8.5	144	0	9.8	32	6.2
30	.28					14	6.1	53	0	7.0	26	5.5
31	.28						5.0	24		7.0		4.0
TOTAL	36.24	0	0	0	0	293.32	4,288.6	1,077.40	5,335.81	281.2	872.4	361.1
MEAN	1.17	0	0	0	0	9.78	138	34.8	178	9.07	29.1	11.6
MAX	4.7	0	0	0	0	140	634	168	1,330	111	61	25
MIN	.28	0	0	0	0	0	5.0	0	0	0	9.4	4.0
AC-FT	72	0	0	0	0	582	8,510	2,140	10,580	558	1,730	716

CAL YR 1972 TOTAL 12,546.07 MEAN 34.3 MAX 1,330 MIN 0 AC-FT 24,890  
WTR YR 1972 TOTAL 11,415.54 MEAN 31.2 MAX 1,330 MIN 0 AC-FT 22,640

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
6-16	2200	9.04	2,550	9- 2	0630	9.46	2,840
7- 4	0700	8.46	2,140	9- 9	0000	9.62	2,950
7-17	0030	8.71	2,320	9-10	2300	10.06	3,260
7-18	2200	8.38	2,090	9-12	0030	15.62	8,090
9- 1	0100	8.08	1,900				

08382700 Pecos River near Colonias, N. Mex.

LOCATION.--Lat 35°03'26", long 104°45'20", in SW¼SE¼SW¼ sec.30, T.10 N., R.21 E., Guadalupe County, at edge of left bank, on south boundary of Preston Beck Grant, 1.2 miles upstream from River Ranch, 6.5 miles southeast of Colonias, and 8.8 miles northwest of Santa Rosa.

DRAINAGE AREA.--2,340 sq mi, approximately.

PERIOD OF RECORD.--July 1970 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Altitude of gage is 4,758 (from topographic map).

EXTREMES.--Current year: Maximum discharge not determined; minimum, 6.5 cfs May 12, 14, June 15.

Period of record: Maximum discharge not determined; minimum, 5.6 cfs July 3, 16, 17, 1971.

REMARKS.--Records poor. Diversions and ground-water withdrawals above station for irrigation of about 12,000 acres (1959 determination). Most of base flow originates as springs in a three or four-mile reach upstream from gage.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FFB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	18	9.7	10	11	8.0	7.2	-	47	-	14	125	46
2	12	9.2	10	11	8.0	6.8	23	220	-	14	117	35
3	12	9.2	10	10	8.0	6.8	26	194	-	14	122	35
4	11	9.2	11	10	8.0	6.8	-	164	-	14	166	31
5	12	9.2	11	10	7.6	6.8	-	86	-	13	137	20
6	12	9.2	10	9.2	8.0	6.8	-	67	117	13	114	13
7	12	9.2	10	8.8	8.8	6.8	-	69	58	13	109	15
8	12	9.7	10	8.8	8.4	7.2	-	30	30	13	96	17
9	12	9.7	10	8.0	7.2	7.2	-	117	-	13	71	25
10	12	10	10	8.0	7.2	6.8	-	243	-	12	64	28
11	12	11	10	7.6	7.2	6.8	-	120	-	12	66	20
12	12	11	11	7.6	7.6	7.2	-	40	-	13	60	17
13	12	11	11	7.6	7.2	7.6	-	15	-	13	62	19
14	12	10	10	8.0	7.2	6.8	-	13	-	12	60	20
15	12	11	11	8.4	7.2	6.8	-	11	-	125	58	18
16	12	11	11	8.4	7.2	10	-	-	-	13	60	15
17	12	10	11	8.0	7.2	221	-	-	-	12	61	14
18	12	10	10	8.4	7.2	28	-	-	-	12	62	13
19	12	10	10	8.4	7.6	17	-	-	-	12	67	13
20	12	10	11	8.8	8.0	8.5	-	-	-	13	80	14
21	11	10	11	8.8	7.6	7.5	-	-	79	192	69	16
22	11	10	11	8.4	7.6	7.0	-	-	46	324	53	15
23	11	9.7	11	8.8	7.6	7.0	-	-	27	269	38	14
24	11	9.7	11	8.4	7.6	6.5	-	-	17	539	46	13
25	11	10	11	8.4	7.6	6.5	-	-	14	307	35	12
26	12	10	11	8.4	7.6	6.5	101	-	13	229	46	13
27	11	10	11	8.4	7.2	6.5	98	-	13	210	53	13
28	11	9.7	11	8.4	7.6	7.6	189	-	14	174	48	13
29	11	9.7	12	8.0	8.4	8.4	144	-	14	144	66	13
30	10	-----	12	7.6	8.8	27	55	-	14	117	53	12
31	10	-----	11	-----	8.0	-----	55	-	-----	114	-----	11
TOTAL	365	286.1	330	259.6	238.4	479.4	-	-	-	2,989	2,265	573
MEAN	11.8	9.87	10.6	8.65	7.69	16.0	-	-	-	96.4	75.5	18.5
MAX	18	11	12	11	8.8	221	-	-	-	539	166	46
MIN	10	9.2	10	7.6	7.2	6.5	-	-	-	12	35	11
AC-FT	724	567	655	515	473	951	-	-	-	3,930	4,490	1,140

08382800 Pecos River above Los Esteros damsite, near Santa Rosa, N. Mex.

LOCATION.--Lat 35°02'26", long 104°40'52", Guadalupe County, in Jose Perea Grant, on left bank, 1.3 miles downstream from Catfish Falls, 1.6 miles southwest from mouth of Esteros Creek, and 7.2 miles north of Santa Rosa.

DRAINAGE AREA.--2,430 sq mi, approximately.

PERIOD OF RECORD.--October 1965 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Altitude of gage is 4,630 ft (from topographic map).

EXTREMES.--Current year: Maximum not determined; minimum, 3.5 cfs June 27.

Period of record: Maximum not determined; minimum daily discharge, 1.0 cfs Jan. 5, 6, 1971.

REMARKS.--Records poor. Diversions for irrigation of about 12,000 acres (1959 determination) above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	22	8.0	10	8.1	6.9	4.7	125	96	-	14	124	38
2	14	7.5	11	7.7	6.9	4.7	57	300	-	14	112	35
3	9.0	7.5	10	7.7	6.9	4.4	12	221	-	14	118	30
4	5.0	8.0	9.7	8.1	6.9	4.4	-	182	-	13	163	27
5	10	10	10	7.7	6.9	4.7	-	160	-	12	148	17
6	12	11	9.7	6.5	6.9	4.7	-	65	150	12	124	11
7	14	10	9.7	6.2	7.7	4.7	-	125	76	12	112	12
8	11	10	10	6.2	7.3	5.3	91	165	42	12	106	14
9	10	10	10	6.2	5.9	5.6	116	80	-	12	84	14
10	9.7	11	10	5.6	5.6	5.0	171	300	-	12	69	25
11	10	10	10	5.3	5.6	4.4	120	143	-	12	69	17
12	10	12	10	5.9	5.3	4.7	-	65	-	11	63	15
13	9.0	12	10	6.2	5.3	5.6	-	20	-	12	59	17
14	7.0	12	10	6.2	5.3	4.4	126	10	-	13	63	18
15	5.0	12	10	6.2	5.3	4.4	66	9.0	-	131	62	19
16	6.0	12	10	6.5	5.3	15	52	7.0	-	21	59	13
17	9.0	12	9.3	6.2	5.6	193	1,300	65	-	13	56	13
18	9.7	12	8.9	6.2	5.6	58	359	80	-	12	66	12
19	9.3	12	8.9	6.5	5.0	23	956	40	-	14	68	12
20	9.3	12	8.5	6.5	5.6	9.0	316	25	-	33	77	12
21	8.9	12	8.9	6.5	5.0	6.0	201	20	86	108	63	14
22	8.5	12	8.5	6.2	4.7	5.5	-	9.0	105	304	50	16
23	8.1	12	8.1	6.2	5.3	5.5	-	35	52	253	34	14
24	8.1	12	7.7	6.9	5.0	4.0	-	25	24	535	40	11
25	8.5	11	7.7	7.3	4.7	5.0	77	12	14	306	39	10
26	8.5	11	7.3	6.9	4.7	4.0	89	-	14	240	38	10
27	8.5	11	7.7	7.3	4.4	3.8	110	278	14	220	50	12
28	8.5	10	8.5	7.3	4.4	4.1	150	-	14	182	33	12
29	8.5	10	8.5	6.9	5.6	4.7	222	-	14	154	58	12
30	8.0	-----	8.5	6.2	28	102	348	14	14	124	47	11
31	7.0	-----	8.5	-----	5.6	-----	84	179	-----	118	-----	9.0
TOTAL	292.1	312.0	285.6	199.4	177.4	440.3	-	-	-	2,943	2,254	502.0
MEAN	9.42	10.8	9.21	6.65	5.72	14.7	-	-	-	94.9	75.1	16.2
MAX	22	12	11	8.1	7.7	193	-	-	-	535	163	38
MIN	5.0	7.5	7.3	5.3	4.4	3.8	-	-	-	11	33	9.0
AC-FT	579	619	566	396	352	873	-	-	-	5,840	4,470	996

## 08383000 Pecos River at Santa Rosa, N. Mex.

LOCATION.--Lat 34°56'36", long 104°41'55", in NW¼SE¼ sec.3, T.8 N., R.21 E., Guadalupe County, on left bank 0.6 mile upstream from bridge on U.S. Highway 66 in Santa Rosa, and 1.9 miles upstream from El Rito Creek.

DRAINAGE AREA.--2,650 sq mi, approximately (contributing area).

PERIOD OF RECORD.--May 1903 to December 1905 (gage heights only), January to December 1906, February 1910 to July 1911, September 1912 to December 1924, March to May 1927, July 1927, January 1928 to current year. 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 are unreliable and should not be used.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4,537.56 ft above mean sea level. For history of changes prior to July 1, 1958, see WSP 1732. July 1, 1958, to Sept. 30, 1963, water-stage recorder at site 800 ft downstream at datum 4.16 ft lower. Supplemental water-stage recorder at site 800 ft downstream Oct. 1, 1963, to Sept. 13, 1967, at datum 4.16 ft lower than primary gage.

AVERAGE DISCHARGE.--58 calendar years (1906, 1913-24, 1928-72), 139 cfs (100,700 acre-ft per year); 20 calendar years (1953-72), 99.7 cfs (72,230 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,200 cfs Sept. 12 (gage height, 9.95 ft); minimum, 1.2 cfs Feb. 4.

1930-72: 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; minimum, 0.28 cfs Jan. 7, 1971.

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 except those for the period July 29 to Nov. 8, which are poor. Diversions for irrigation of about 12,000 acres (1959 determination) above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1512: 1913-15. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	29	13	13	14	9.0	7.3	122	75	620	19	135	46
2	22	11	14	13	10	6.6	104	310	1,750	19	130	54
3	15	9.0	14	13	11	5.3	36	250	694	17	130	46
4	8.5	11	13	13	10	4.7	630	200	360	16	155	46
5	10	16	13	13	11	4.7	243	177	226	16	155	33
6	16	14	14	13	11	5.3	1,090	80	190	16	140	15
7	19	13	13	13	12	5.9	719	110	94	17	125	17
8	20	14	14	13	14	6.6	151	85	78	16	119	29
9	16	14	14	12	11	8.1	213	134	920	17	101	25
10	13	14	14	11	8.1	8.1	157	265	835	14	75	33
11	14	14	14	10	9.0	7.3	187	151	1,600	16	72	25
12	14	14	12	10	8.1	9.0	81	75	3,750	19	69	20
13	13	14	13	9.0	8.1	11	756	31	614	19	58	19
14	10	14	14	9.0	9.0	11	187	13	270	20	58	15
15	7.0	13	14	9.0	10	9.0	97	11	164	164	58	17
16	10	13	14	9.0	10	19	60	9.0	108	64	54	18
17	19	13	14	10	10	211	1,100	20	130	33	54	23
18	16	13	13	10	9.0	82	410	85	101	29	66	25
19	14	13	13	11	10	27	1,050	49	75	25	64	22
20	14	12	13	11	11	16	410	31	50	41	72	20
21	14	13	13	11	11	9.0	224	27	46	84	69	20
22	14	13	13	10	7.3	8.1	2,860	11	123	375	51	27
23	14	14	13	10	7.3	8.1	532	42	69	293	37	27
24	13	13	12	12	9.0	8.1	211	35	41	620	37	22
25	13	13	12	12	8.1	6.6	94	14	29	382	39	22
26	14	12	12	11	8.1	7.3	63	348	22	242	31	19
27	14	14	13	10	7.3	8.1	148	259	22	248	51	20
28	13	14	13	10	7.3	8.1	82	565	20	200	44	22
29	13	13	13	11	11	10	226	760	19	175	58	20
30	12	-----	14	11	12	20	75	318	19	145	69	17
31	12	-----	16	-----	10	-----	82	187	-----	130	-----	16
TOTAL	445.5	381.0	414	334.0	299.7	558.3	12,400	4,727.0	13,039	3,491	2,376	780
MEAN	14.4	13.1	13.4	11.1	9.67	18.6	400	152	435	113	79.2	25.2
MAX	29	16	16	14	14	211	2,860	760	3,750	620	155	54
MIN	7.0	9.0	12	9.0	7.3	4.7	36	9.0	19	14	31	15
AC-FT	884	756	821	662	594	1,110	24,600	9,380	25,860	6,920	4,710	1,550

CAL YR 1972 TOTAL 39,245.5 MEAN 107 MAX 3,750 MIN 4.7 AC-FT 77,840  
WTR YR 1972 TOTAL 34,866.5 MEAN 95.3 MAX 3,750 MIN 4.7 AC-FT 69,160

## PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-17	unknown	5.10	4,610	9-11	0530	6.00	6,080
7-22	0830	8.30	10,420	9-12	1000	9.95	11,180
9-2	1400	4.78	4,120				



## RIO GRANDE BASIN

155

08383500 Pecos River near Puerto de Luna, N. Mex.

LOCATION.--Lat 34°43'48", long 104°31'28", in NE¼SE¼NW¼ sec.20, T.6 N., R.23 E., Guadalupe County, on left bank 9 miles southeast of Puerto de Luna, and 15.8 miles upstream from Alamogordo Dam.

DRAINAGE AREA.--3,970 sq mi, approximately (contributing area).

PERIOD OF RECORD.--April 1938 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,311.34 ft above mean sea level. Prior to Apr. 15, 1954, at datum 1 ft higher.

AVERAGE DISCHARGE.--34 calendar years, 214 cfs (155,000 acre-ft per year); 20 calendar years (1953-72), 186 cfs (134,800 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 8,840 cfs Sept. 12 (gage height 6.72 ft); minimum, 50 cfs June 27.

Period of record: 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 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). Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1512: 1939.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	124	86	86	79	57	75	320	126	610	91	212	149
2	118	85	87	77	62	71	236	232	2,090	89	221	132
3	103	85	87	78	58	68	135	276	1,290	88	211	135
4	98	85	86	77	64	63	402	250	446	91	217	129
5	95	87	87	79	64	60	633	210	304	90	265	126
6	90	89	89	77	143	61	1,480	179	325	90	246	110
7	90	88	87	78	76	59	1,680	115	219	93	223	120
8	101	86	87	77	81	62	478	175	168	93	222	116
9	160	89	88	77	76	64	184	428	625	90	213	116
10	93	90	90	79	72	63	223	246	684	89	189	111
11	89	90	91	75	73	62	306	297	2,410	88	179	115
12	92	87	88	68	66	61	267	196	3,590	97	184	115
13	90	89	88	65	66	74	666	135	960	93	173	120
14	88	88	89	63	68	72	356	100	468	90	167	113
15	85	87	86	61	65	69	183	90	326	109	171	116
16	85	87	87	63	63	242	120	80	236	245	163	116
17	89	85	88	64	66	358	955	72	184	119	161	111
18	91	35	89	63	65	264	576	85	211	98	177	111
19	86	86	87	61	67	126	1,790	140	159	103	175	111
20	86	84	86	61	76	90	644	103	154	178	171	108
21	87	87	85	63	69	75	310	93	119	149	179	108
22	85	87	85	62	67	69	2,370	83	146	320	166	108
23	85	86	83	62	64	65	688	141	160	346	152	108
24	85	88	79	62	63	66	425	144	131	556	151	108
25	83	87	76	63	64	59	234	101	113	472	144	106
26	83	87	76	61	65	53	154	491	101	367	137	104
27	84	88	76	60	66	53	168	956	101	316	134	104
28	84	86	78	60	67	57	153	3,150	95	288	146	108
29	86	87	78	61	76	96	216	1,190	91	250	134	108
30	85	-----	79	58	80	304	214	594	88	229	152	106
31	83	-----	80	-----	80	-----	143	391	-----	217	-----	108
TOTAL	2,823	2,523	2,628	2,034	2,187	2,961	16,709	10,869	16,204	5,634	5,435	3,556
MEAN	91.1	87.0	84.8	67.8	70.5	98.7	539	351	540	182	181	115
MAX	124	90	91	79	143	358	2,370	3,150	3,590	556	265	149
MIN	83	84	76	58	57	53	120	72	88	88	134	104
AC-FT	5,600	5,000	5,210	4,030	4,340	5,870	33,140	21,560	32,140	11,180	10,780	7,650
CAL YR 1972	TOTAL 73,563											
WTR YR 1972	TOTAL 68,193											
	MEAN 201											
	MEAN 186											
	MAX 3,590											
	MAX 3,590											
	MIN 53											
	MIN 53											
	AC-FT 145,900											
	AC-FT 135,300											

## PEAK DISCHARGE (BASE, 5,500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-22	1315	6.00	6,940	9-12	1530	6.72	8,840
8-28	1215	5.68	6,180				

08384000 Alamogordo Reservoir near Fort Sumner, N. Mex.

LOCATION.--Lat 34°36'30", long 104°23'04", in SE¼SW¼ sec.34, T.5 N., R.24 E., DeBaca County, near center of dam on Pecos River, 5.0 miles northeast of Guadalupe, and 12.2 miles northwest of Fort Sumner.

DRAINAGE AREA.--4,390 sq mi, approximately (contributing area).

PERIOD OF RECORD.--December 1938 to September 1965 (monthend contents only), October 1965 to current year. Monthend elevations September 1937 to November 1938 published in reports of Pecos River Commission.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (Bureau of Reclamation datum). Apr. 1, 1946, to Sept. 30, 1957, water-stage recorder above elevation 4,234.25 ft, nonrecording gage below.

EXTREMES.--Current year: Maximum contents, 80,170 acre-ft Dec. 31; minimum, 3,680 acre-ft June 15 (elevation, 4,225.05 ft).

Period of record: Maximum contents, 138,300 acre-ft May 23-30, June 1-10, July 21, Sept. 22, 23, 30, Oct. 12, Nov. 4, 5, 30, Dec. 23, 24, 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 earthfill dam, completed and storage began in August 1937. Capacity, 110,700 acre-ft at elevation 4,275.0 ft (top of spillway gates). No dead storage. No storage allocated for flood control. Reservoir is used to store water for irrigation. Figures given herein represent contents computed from elevations at 0800 hours.

COOPERATION.--Elevation record furnished by Bureau of Reclamation and Carlsbad Irrigation District. Capacity table furnished by Bureau of Reclamation.

REVISIONS (WATER YEARS).--WSP 1732: 1939-54. WSP 1923: 1939-53(M)(m).

# CONTENTS, IN ACRE-FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	44,600	49,780	54,230	37,330	3,880	4,020	6,120	6,380	30,660	59,480	66,110	74,910
2	44,720	49,910	-	35,090	3,880	4,050	6,830	4,850	32,370	59,180	66,430	75,260
3	44,960	50,040	-	33,330	3,880	4,050	7,140	4,410	37,750	59,130	66,740	75,260
4	45,210	50,170	-	31,130	3,910	4,020	8,360	4,910	39,020	59,180	67,060	75,600
5	45,330	50,300	-	29,290	3,940	3,970	10,220	5,450	39,900	59,180	67,680	76,300
6	45,570	50,430	-	27,350	3,940	3,940	11,530	5,800	40,330	58,900	68,000	75,950
7	45,690	50,560	54,930	25,160	4,230	3,910	16,660	6,010	40,990	58,900	68,310	75,950
8	45,940	50,690	54,930	23,020	4,260	3,850	18,720	6,080	41,450	58,610	68,640	76,300
9	46,070	50,820	54,930	20,930	4,290	3,820	19,520	6,450	41,900	58,610	68,960	-
10	46,190	51,090	54,930	18,850	4,320	3,760	19,810	7,610	43,270	58,610	69,290	-
11	46,320	51,230	54,930	16,290	4,350	3,760	20,090	8,020	45,690	58,610	69,610	-
12	46,570	51,360	54,930	14,040	4,380	3,740	21,230	8,610	48,730	58,320	69,940	76,990
13	46,700	51,630	54,930	11,680	4,380	3,710	21,820	8,780	55,490	58,320	70,260	-
14	46,950	51,770	54,930	10,320	4,380	3,710	22,180	8,870	56,900	58,320	70,580	76,990
15	47,080	51,900	54,930	8,520	4,380	3,680	20,650	8,830	57,750	58,320	70,910	77,340
16	47,200	52,040	54,930	6,560	4,350	4,020	18,850	8,780	58,320	58,610	71,230	-
17	47,450	52,310	54,930	5,660	4,320	4,760	16,780	8,690	58,610	58,610	71,230	-
18	47,580	52,450	54,930	4,050	4,290	5,510	17,030	8,610	58,900	58,610	71,560	78,030
19	47,700	52,580	54,790	4,050	4,230	5,870	19,260	8,610	59,180	58,610	71,890	-
20	47,830	52,720	54,790	4,050	4,200	5,980	21,080	8,780	59,180	58,610	72,230	78,730
21	48,080	52,850	54,790	4,050	4,200	5,980	22,710	8,780	59,480	59,180	72,560	-
22	48,210	52,990	54,790	4,050	4,200	5,980	21,230	8,870	59,480	59,480	72,900	79,090
23	48,340	53,260	54,790	4,050	4,200	5,940	24,600	8,960	59,480	60,060	73,240	-
24	48,470	53,390	53,530	4,080	4,110	5,900	23,640	9,050	59,480	60,950	73,570	79,590
25	48,600	53,530	51,360	4,050	4,080	5,830	21,820	9,130	59,480	62,430	73,910	-
26	48,730	53,670	49,250	4,050	4,350	5,760	19,950	9,310	59,480	63,040	73,910	-
27	48,860	53,810	47,200	4,000	4,300	5,690	17,730	12,480	59,480	63,340	74,240	79,450
28	48,990	53,950	45,210	4,000	3,940	5,550	15,570	18,990	59,480	64,260	74,240	-
29	49,120	54,090	43,270	4,000	3,970	5,510	13,110	26,920	59,480	64,870	74,580	79,810
30	49,380	-----	41,330	3,970	4,200	5,800	10,990	29,380	59,480	65,170	74,910	79,810
31	49,520	-----	39,350	-----	4,020	-----	8,690	29,930	-----	65,860	-----	80,170
(+)	+5,040	+4,570	-14,740	-35,380	+50	+1,780	+2,890	+21,240	+29,550	+6,320	+9,110	+5,260
MAX	49,520	54,090	-	37,330	4,380	5,980	24,600	29,930	59,480	65,800	74,910	-
MIN	44,600	49,780	-	3,970	3,880	3,680	6,120	4,410	30,660	58,320	66,110	-
CAL YR 1972	MAX	80,170	MIN	3,680	(+)	+35,690						
WTR YR 1972	MAX	59,480	MIN	3,680	(+)	+28,630						

+ Change in contents in acre-feet

## RIO GRANDE BASIN

157

08384000 Alamogordo Reservoir near Fort Sumner, N. Mex.--Continued

## ELEVATION, IN FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	4,255.55	4,257.60	4,259.25	4,252.30	4,225.40	4,225.65	4,228.85	4,229.20	4,248.90	4,261.10	4,263.30	4,266.00
2	4,255.60	4,257.65	-	4,251.20	4,225.40	4,225.70	4,229.80	4,227.00	4,249.80	4,261.00	4,263.40	4,266.10
3	4,255.70	4,257.70	-	4,250.30	4,225.40	4,225.70	4,230.20	4,226.30	4,252.50	4,261.00	4,263.50	4,266.10
4	4,255.80	4,257.75	-	4,249.15	4,225.45	4,225.65	4,231.70	4,227.10	4,253.10	4,261.00	4,263.60	4,266.20
5	4,255.85	4,257.80	-	4,248.15	4,225.50	4,225.55	4,233.80	4,227.90	4,253.50	4,261.00	4,263.80	4,266.40
6	4,255.95	4,257.85	-	4,247.05	4,225.50	4,225.50	4,235.15	4,228.40	4,253.70	4,260.90	4,263.90	4,266.30
7	4,256.00	4,257.90	4,259.50	4,245.75	4,226.00	4,225.45	4,239.80	4,228.70	4,254.00	4,260.90	4,264.00	4,266.30
8	4,256.10	4,257.95	4,259.50	4,244.40	4,226.05	4,225.35	4,241.40	4,228.80	4,254.20	4,260.80	4,264.10	4,266.40
9	4,256.15	4,258.00	4,259.50	4,243.00	4,226.10	4,225.30	4,242.00	4,229.30	4,254.40	4,260.80	4,264.20	-
10	4,256.20	4,258.10	4,259.50	4,241.50	4,226.15	4,225.20	4,242.20	4,229.80	4,255.00	4,260.80	4,264.30	-
11	4,256.25	4,258.15	4,259.50	4,239.50	4,226.20	4,225.20	4,242.40	4,231.30	4,256.00	4,260.80	4,264.40	-
12	4,256.35	4,258.20	4,259.50	4,237.55	4,226.25	4,225.15	4,243.20	4,232.00	4,257.20	4,260.70	4,264.50	4,266.60
13	4,256.40	4,258.30	4,259.50	4,235.30	4,226.25	4,225.10	4,243.60	4,232.20	4,259.70	4,260.70	4,264.60	-
14	4,256.50	4,258.35	4,259.50	4,233.90	4,226.25	4,225.10	4,243.85	4,232.30	4,260.20	4,260.70	4,264.70	4,266.60
15	4,256.55	4,258.40	4,259.50	4,231.90	4,226.25	4,225.05	4,242.80	4,232.25	4,260.50	4,260.70	4,264.80	4,266.70
16	4,256.60	4,258.45	4,259.50	4,229.45	4,226.20	4,225.65	4,241.50	4,232.20	4,260.70	4,260.80	4,264.90	-
17	4,256.70	4,258.55	4,259.50	4,228.20	4,226.15	4,226.85	4,239.90	4,232.10	4,260.80	4,260.80	4,264.90	-
18	4,256.75	4,258.60	4,259.50	4,225.70	4,226.10	4,228.00	4,240.10	4,232.00	4,260.90	4,260.80	4,265.00	4,266.90
19	4,256.80	4,258.65	4,259.45	4,225.70	4,226.00	4,228.50	4,241.80	4,232.00	4,261.00	4,260.80	4,265.10	-
20	4,256.85	4,258.70	4,259.45	4,225.70	4,225.95	4,228.65	4,243.10	4,232.20	4,261.00	4,260.80	4,265.20	4,267.10
21	4,256.95	4,258.75	4,259.45	4,225.70	4,225.95	4,228.65	4,244.20	4,232.20	4,261.10	4,261.00	4,265.30	-
22	4,257.00	4,258.80	4,259.45	4,225.70	4,225.95	4,228.65	4,243.20	4,232.30	4,261.10	4,261.10	4,265.40	4,267.20
23	4,257.05	4,258.90	4,259.45	4,225.70	4,225.95	4,228.60	4,245.40	4,232.40	4,261.10	4,261.30	4,265.50	-
24	4,257.10	4,258.95	4,259.00	4,225.75	4,225.80	4,228.55	4,244.80	4,232.50	4,261.10	4,261.60	4,265.60	4,267.20
25	4,257.15	4,259.00	4,258.20	4,225.70	4,225.75	4,228.45	4,243.60	4,232.60	4,261.10	4,262.10	4,265.70	-
26	4,257.20	4,259.05	4,257.40	4,225.70	4,225.70	4,228.35	4,242.30	4,232.80	4,261.10	4,262.30	4,265.70	-
27	4,257.25	4,259.10	4,256.60	4,225.60	4,225.60	4,228.25	4,240.65	4,236.10	4,261.10	4,262.40	4,265.80	4,267.30
28	4,257.30	4,259.15	4,255.80	4,225.60	4,225.50	4,228.05	4,238.90	4,241.60	4,261.10	4,262.70	4,265.80	-
29	4,257.35	4,259.20	4,255.00	4,225.60	4,225.55	4,228.00	4,236.70	4,246.80	4,261.10	4,262.90	4,265.90	4,267.40
30	4,257.45	-----	4,254.15	4,225.50	4,225.65	4,228.40	4,234.60	4,248.20	4,261.10	4,263.00	4,266.00	4,267.40
31	4,257.50	-----	4,253.25	-----	4,225.65	-----	4,232.10	4,248.50	-----	4,263.20	-----	4,267.50
MEAN	4,256.58	4,258.40	-	4,234.74	4,225.86	4,226.74	4,239.47	4,232.90	4,257.94	4,261.31	4,264.76	-
MAX	4,257.50	4,259.20	-	4,252.30	4,226.25	4,228.65	4,245.40	4,248.50	4,261.10	4,263.20	4,266.00	-
MIN	4,255.55	4,257.60	-	4,225.50	4,225.40	4,225.05	4,228.85	4,226.30	4,248.90	4,260.70	4,263.30	-
CAL YR 1972	MAX	4,267.50		MIN	4,225.05							
WTR YR 1972	MAX	4,261.10		MIN	4,225.05							

LOCATION.--Lat 34°36'15", long 104°23'14", in lot 1, sec.2, T.4 N., R.24 E., DeBaca County, on left bank 1,200 ft downstream from Alamogordo Dam, 2.9 miles upstream from Salado Creek, 4.6 miles northeast of Guadalupe, and 12.2 miles northwest of Fort Sumner.

PERIOD OF RECORD.--October 1912 to April 1926, August 1926 to current year. Monthly discharge only for some periods, published in WSP 1312. Prior to October 1944, published as "near Guadalupe."

GAGE.--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 1.5 miles upstream at different datum. Sept. 14, 1936, to Mar. 8, 1941, and June 11, to Sept. 21, 1941, at site 0.2 mile downstream at different datums.

AVERAGE DISCHARGE.--23 calendar years (1913-25, 1927-36), 236 cfs (171,000 acre-ft per year), prior to completion of Alamogordo Dam; 36 calendar years (1937-72), 210 cfs (152,100 acre-ft per year); 20 calendar years (1953-72), 171 cfs (123,900 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 1,110 cfs Apr. 7-11 (gage height, 3.29 ft); no flow July 5-9.  
Period of record: Maximum discharge, 42,800 cfs Sept. 1, 1942, by computation of flow over spillway and through outlet gages of Alamogordo Dam by Bureau of Reclamation; maximum gage height, 13.58 ft Sept. 22, 1941, no flow at times.  
Flood of June 2, 1937 probably exceeded 55,000 cfs at site 1.5 miles upstream.

REMARKS.--Records good. Diversion for irrigation of about 12,500 acres (1959 determination) above station. Flow regulated by Alamogordo Reservoir (see sta 08384000). Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1512: 1932. WSP 1632: 1942. WSP 1712: 1944.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.45	1.3	1.8	1,100	61	65	77	804	65	91	2.3	4.1
2	.45	1.3	1.8	1,100	57	65	78	627	44	101	2.1	4.1
3	.45	1.4	1.8	1,100	58	67	78	100	1.1	96	2.5	3.8
4	.84	1.3	1.8	1,100	58	67	38	103	1.1	97	2.6	4.1
5	.45	1.3	2.0	1,100	59	67	.6	103	1.1	91	2.9	4.1
6	.28	1.3	6.5	1,100	62	68	.5	101	1.1	95	3.1	3.8
7	.28	1.3	48	1,110	63	67	4.1	103	1.1	92	3.2	3.8
8	.28	1.3	71	1,110	62	67	0	102	1.1	90	3.2	3.8
9	.45	1.3	68	1,110	62	67	1.9	104	1.2	92	3.0	3.8
10	.45	1.4	67	1,110	62	65	3.8	102	1.3	92	2.7	3.8
11	.28	1.4	67	1,110	61	64	23	103	1.9	78	2.7	3.8
12	.28	1.3	69	1,000	61	68	8.2	104	2.8	92	2.9	3.2
13	.28	1.4	69	801	60	70	182	103	4.1	87	3.1	3.0
14	.13	1.4	70	800	60	69	1,020	105	3.8	89	3.2	3.0
15	.13	1.3	71	799	64	71	996	105	3.7	93	3.1	3.5
16	.13	1.4	72	692	66	72	996	103	3.9	89	3.1	3.8
17	.28	1.3	72	492	67	69	1,020	103	3.9	87	3.2	3.8
18	.64	1.3	72	72	67	68	1,030	102	32	87	3.3	3.2
19	.84	1.5	72	73	66	69	1,050	103	74	86	3.2	3.2
20	.84	1.6	75	69	65	69	931	103	76	63	3.2	3.2
21	1.0	1.5	75	69	65	70	511	95	76	2.0	3.4	3.0
22	.84	1.6	76	68	68	71	696	92	77	2.1	4.1	3.2
23	.64	1.5	423	69	70	70	774	93	77	2.3	4.2	3.2
24	.84	1.6	1,090	69	71	70	859	95	77	2.4	4.4	3.2
25	.84	1.6	1,100	70	69	70	978	94	77	2.6	4.4	3.5
26	1.0	1.6	1,090	71	68	73	1,050	53	80	2.8	4.1	3.5
27	1.3	1.6	1,100	71	70	75	1,050	2.5	81	2.9	3.7	3.5
28	1.0	1.6	1,100	71	70	76	1,070	1.5	76	2.7	3.7	3.8
29	1.3	1.7	1,090	70	65	76	1,070	.85	77	2.8	3.8	3.8
30	1.3	-----	1,090	70	63	77	1,070	.87	79	3.1	3.8	3.8
31	1.5	-----	1,090	-----	64	-----	1,070	.86	-----	2.8	-----	3.8
TOTAL	19.77	41.4	10,302.7	17,646	1,984	2,082	17,736.1	3,811.58	1,101.2	1,816.5	98.2	111.2
MEAN	.64	1.43	332	588	64.0	69.4	572	123	36.7	58.6	3.27	3.59
MAX	1.5	1.7	1,100	1,110	71	77	1,070	804	81	101	4.4	4.1
MIN	.13	1.3	1.8	68	57	64	0	.85	1.1	2.0	2.1	3.0
AC-FT	39	82	20,440	35,000	3,940	4,130	35,180	7,560	2,180	3,600	195	221
CAL YR 1972	TOTAL	56,750.65		MEAN 155	MAX 1,110	MIN 0	AC-FT 112,600					
WTR YR 1972	TOTAL	57,167.60		MEAN 156	MAX 1,110	MIN 0						

08385000 Fort Sumner main canal near Fort Sumner, N. Mex.

LOCATION.--Lat 34°30'30", long 104°16'40", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.1, T.3 N., R.25 E., DeBaca County, on right bank of concrete canal, 200 ft downstream from diversion dam on Pecos River, and 3.0 miles northwest of Fort Sumner.

PERIOD OF RECORD.--March 1939 to February 1943 (published in WSP 1732), April 1954 to current year (monthly discharge only prior to October 1965).

GAGE.--Water-stage recorder. Datum of gage is 4,034.7 ft above mean sea level (Bureau of Reclamation Bench Mark). Prior to March 1954 at site 2.4 miles downstream at different datum. April 1954 to March 1965 at site 1.1 miles downstream at datum 1.7 ft lower.

AVERAGE DISCHARGE.--21 calendar years (1940-42, 1955-72), 48.0 cfs (34,780 acre-ft per year); 18 calendar years (1955-72), 50.2 cfs (36,370 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 104 cfs Aug. 2, 20, 21; no flow many days.

Period of record: Maximum daily discharge, 174 cfs July 22, 1941; no flow many days each year.

REMARKS.--Records good. Canal diverts water from Pecos River for irrigation of about 6,600 acres (1961 determination) by the Fort Sumner Irrigation District.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0	84	69	65	78	99	0	83		
2			0	83	60	64	72	104	0	98		
3			0	81	60	65	85	101	0	98		
4			0	88	60	66	53	102	0	97		
5			0	92	60	66	0	101	0	96		
6			0	91	67	66	4.4	100	0	94		
7			0	90	68	67	0	101	0	97		
8			28	90	63	67	0	102	0	94		
9			67	89	62	68	0	102	0	96		
10			66	89	63	67	0	100	0	96		
11			69	88	63	69	0	101	0	86		
12			70	85	63	72	0	102	0	92		
13			69	90	64	71	0	102	0	95		
14			69	90	65	70	0	102	0	90		
15			70	89	64	73	0	101	0	102		
16			71	89	69	90	0	100	0	100		
17			72	88	70	88	0	99	0	94		
18			71	99	70	77	0	97	0	89		
19			71	88	69	72	0	101	42	95		
20			71	79	67	73	0	104	80	75		
21			75	76	66	74	0	104	79	0		
22			74	73	66	77	0	98	79	0		
23			78	73	70	73	0	101	79	0		
24			96	74	71	72	55	96	79	0		
25			85	73	70	71	84	94	79	0		
26			83	72	67	72	76	63	83	0		
27			88	74	67	76	76	.65	84	0		
28			92	74	69	78	77	26	82	0		
29			90	72	72	83	76	0	79	0		
30			88	69	65	84	82	0	82	0		
31		-----	86	-----	65	-----	99	0	-----	0	-----	
TOTAL	0	0	1,799	2,492	2,044	2,176	917.4	2,603.65	927	1,867	0	0
MEAN	0	0	58.0	83.1	65.9	72.5	29.6	84.0	30.9	60.2	0	0
MAX	0	0	96	99	72	90	99	104	84	102	0	0
MIN	0	0	0	69	60	64	0	0	0	0	0	0
AC-FT	0	0	3,570	4,940	4,050	4,320	1,820	5,160	1,840	3,700	0	0

CAL YR 1972 TOTAL 14,826.05 MEAN 40.5 MAX 104 MIN 0 AC-FT 29,410  
 WTR YR 1972 TOTAL 15,440.75 MEAN 42.2 MAX 104 MIN 0 AC-FT 30,630

## RIO GRANDE BASIN

08386000 Pecos River near Acme, N. Mex.

LOCATION.--Lat 33°32'10", long 104°22'34", in SW 1/4 sec. 14, T.9 S., R.25 E., Chaves County, on right bank 3.0 miles downstream from U. S. Highway 70, 3.7 miles downstream from Salt Creek, 4.7 miles southwest of Acme, and 14 miles northeast of Roswell.

DRAINAGE AREA.--11,380 sq mi, approximately (contributing area).

PERIOD OF RECORD.--September 1921 to June 1923, July 1937 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Altitude of gage is 3,507 ft (from topographic map). Prior to Nov. 1, 1938, at site on highway bridge three miles upstream at various datums. Since Oct. 25, 1963, supplemental water-stage recorder at site opposite base gage at same datum.

AVERAGE DISCHARGE.--35 calendar years (1938-72), 197 cfs (142,700 acre-ft per year); 20 calendar years (1953-72), 158 cfs (114,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,900 cfs Aug. 29 (gage height, 7.87 ft); no flow several days, May to July.

Period of record: Maximum discharge, 45,000 cfs Sept. 23, 1941 (gage height, 13.71 ft), from rating curve extended above 26,000 cfs; 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.

REMARKS.--Records fair except those below 10 cfs, which are poor. Flow regulated by Alamogordo Reservoir (see sta 08384000).

Diversions for irrigation of about 20,000 acres (1959 determination) above station. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	13	6.0	2.8	800	26	26	0	852	378	33	37	27
2	13	5.0	2.6	800	25	8.5	0	775	1,650	32	37	27
3	10	4.0	2.4	855	23	1.9	9.6	580	515	32	36	26
4	3.0	3.0	2.4	877	21	.25	1,460	600	402	32	34	26
5	4.0	4.0	2.4	921	19	0	1,270	231	249	32	31	22
6	5.5	6.0	2.4	790	17	0	295	163	153	29	31	14
7	6.0	6.0	2.4	790	16	0	670	160	171	28	28	15
8	11	6.5	2.4	790	173	0	549	112	274	28	27	21
9	14	13	2.4	833	99	0	167	115	1,450	26	26	17
10	12	9.7	2.2	833	61	0	123	73	1,230	27	25	19
11	17	10	2.2	811	40	0	68	47	323	28	25	14
12	14	6.0	2.2	790	28	51	50	37	222	28	26	15
13	11	6.5	2.2	811	23	74	43	29	196	28	27	17
14	9.3	5.5	8.1	690	16	105	52	26	182	28	26	18
15	7.0	6.4	8.1	582	11	48	48	26	213	132	26	13
16	6.5	6.1	6.1	600	8.0	40	424	40	246	39	26	13
17	6.5	5.5	4.6	582	5.5	27	690	22	167	28	26	14
18	8.0	4.9	3.5	591	4.0	86	863	17	93	26	29	14
19	8.9	4.9	2.6	437	6.6	81	1,000	17	83	33	28	22
20	9.3	4.9	1.9	186	24	54	2,310	13	102	62	29	40
21	13	4.3	1.7	126	33	26	1,860	78	56	115	30	38
22	8.5	4.0	1.7	95	14	13	1,210	61	51	112	30	31
23	7.8	4.3	1.7	73	4.6	4.0	841	393	60	129	29	25
24	6.4	4.0	1.7	61	1.4	.59	863	129	61	81	34	21
25	5.5	3.8	2.2	52	.41	.09	819	140	60	65	36	19
26	5.5	3.1	550	47	.14	0	874	202	61	63	36	17
27	6.4	2.8	690	42	.01	0	841	1,920	51	51	36	17
28	6.7	2.8	716	36	0	0	852	1,440	45	47	32	17
29	6.7	2.8	790	34	1.5	0	874	2,440	40	41	30	19
30	6.7	-----	750	30	.38	0	852	454	37	37	28	17
31	7.0	-----	844	-----	23	-----	852	249	-----	36	-----	17
TOTAL	266.2	152.8	4,408.9	14,965	724.54	646.33	20,829.6	11,441	8,821	1,508	901	632
MEAN	8.59	5.27	142	499	23.4	21.5	672	369	294	48.6	30.0	20.4
MAX	17	10	844	921	173	105	2,310	2,440	1,650	132	37	40
MIN	3.0	2.8	1.7	30	0	0	0	13	37	26	25	13
AC-FT	528	303	8,750	29,680	1,440	1,280	41,320	22,690	17,500	2,990	1,790	1,250
CAL YR 1972	TOTAL	65,296.37	MEAN	178	MAX	2,440	MIN	0	AC-FT	129,500		
WTR YR 1972	TOTAL	64,373.87	MEAN	176	MAX	2,440	MIN	0	AC-FT	127,700		

## PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-20	0600	7.63	4,160	8-29	0430	7.87	4,900
7-4	1900	7.40	3,680	9-2	1500	6.85	3,240
7-7	0200	6.86	2,680	9-9	0600	6.87	3,240
8-27	0930	6.96	3,100	9-10	0200	6.70	2,900

## 08387000 Rio Ruidoso at Hollywood, N. Mex.

LOCATION.--Lat 33°19'43", long 105°36'34", in SE¼NE¼ sec.30, T.11 S., R.14 E., Lincoln County, on right upstream bridge abutment on road leading to Ruidoso Downs race track, 0.2 mile north of U. S. Highway 70, 1.1 miles east of the Hollywood Post Office, 1.2 miles downstream from the Ruidoso sewage disposal plant, 1.8 miles downstream from Gavilan Canyon, and 2.8 miles downstream from Carrizo Creek.

DRAINAGE AREA.--120 sq mi, approximately.

PERIOD OF RECORD.--March 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,365.42 ft above mean sea level. Prior to Oct. 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.

AVERAGE DISCHARGE.--19 calendar years, 12.0 cfs (8,690 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 506 cfs Sept. 1 (gage height, 4.13 ft); minimum, 3.6 cfs May 27, 28, 31, June 1. Period of record: 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, 0.30 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. Figures of discharge do not include F. Herrera ditch-S., which diverts from right bank 1.5 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 1.2 miles upstream.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	25	15	19	17	8.6	3.7	4.8	16	105	10	45	16
2	23	14	19	15	8.5	3.8	4.9	15	55	9.9	43	16
3	20	13	19	15	7.5	4.1	5.4	14	49	9.6	41	16
4	12	13	20	14	8.3	4.3	11	13	64	9.3	41	15
5	9.0	16	18	14	8.6	4.1	14	14	63	8.8	41	15
6	10	16	19	14	8.6	4.1	8.5	13	50	12	40	15
7	13	15	21	14	8.6	5.4	7.8	12	58	11	38	15
8	17	12	22	15	8.9	6.4	7.4	10	92	10	36	15
9	16	12	21	15	8.5	5.5	10	9.8	106	9.9	34	14
10	16	13	22	15	8.3	4.8	13	9.2	68	9.4	32	14
11	17	12	21	15	8.2	6.5	11	8.6	55	9.2	30	18
12	19	12	22	14	7.6	12	17	8.2	58	11	29	15
13	20	12	23	13	7.2	11	16	7.7	57	9.4	28	14
14	18	11	24	12	7.0	8.2	12	9.1	51	9.2	26	15
15	17	11	25	13	6.9	11	11	10	47	8.9	25	12
16	16	11	25	13	6.3	22	12	8.3	38	8.6	24	11
17	16	11	24	11	6.3	16	15	12	33	8.5	24	12
18	16	11	23	10	6.3	15	16	14	29	8.6	23	14
19	16	11	22	11	5.9	12	17	12	26	14	22	14
20	16	11	22	10	5.9	11	17	14	24	122	21	14
21	16	12	21	10	5.6	10	18	14	21	153	20	13
22	16	13	21	9.9	5.3	9.4	33	11	20	100	19	14
23	16	15	21	9.2	5.2	9.1	44	12	18	68	19	14
24	16	16	21	8.2	4.8	8.2	43	11	16	56	20	14
25	16	16	21	8.7	5.2	7.0	35	11	15	52	18	14
26	16	16	21	9.0	4.6	6.3	29	15	14	55	18	14
27	18	17	21	9.2	3.8	5.9	24	20	12	51	18	14
28	16	17	20	9.0	3.9	5.7	22	28	12	50	17	21
29	16	18	20	8.8	5.2	5.2	21	31	12	49	17	42
30	16	-----	19	8.7	4.9	5.0	20	31	11	47	17	26
31	15	-----	18	-----	4.2	-----	17	37	-----	49	-----	30
TOTAL	509.0	392	655	360.7	204.7	242.7	536.8	450.9	1,279	1,039.3	826	506
MEAN	16.4	13.5	21.1	12.0	6.60	8.09	17.3	14.5	42.6	33.5	27.5	16.3
MAX	25	18	25	17	8.9	22	44	37	106	153	45	42
MIN	9.0	11	18	8.2	3.8	3.7	4.8	7.7	11	8.5	17	11
AC-FT	1,010	778	1,300	715	406	481	1,060	894	2,540	2,060	1,640	1,000
(†)	3.13	1.96	1.29	39.14	16.41	26.94	12.14	5.59	5.06	4.69	0.33	1.42

CAL YR 1972 TOTAL 7,002.1 MEAN 19.1 MAX 153 MIN 3.7 AC-FT 13,890  
WTR YR 1972 TOTAL 6,228.5 MEAN 17.0 MAX 151 MIN 3.7 AC-FT 12,350

## PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
9- 1	1445	4.13	506	9-12	1445	2.27	143
9- 9	1530	2.43	171	10-20	1600	2.64	228

† Diversion, in acre-feet, by F. Herrera ditch-S.

08387600 Eagle Creek below South Fork, near Alto, N. Mex.

LOCATION.--Lat 33°23'33", long 105°43'16", in SE¼SW¼ sec.31, T.10 S., R.13 E., Lincoln County, at right bank, 100 ft downstream from culvert under State Road No. 532, 0.1 mile downstream from South Fork, and 2.4 miles west of Alto.

DRAINAGE AREA.--8.14 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,600 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 107 cfs Oct. 20 (gage height, 3.49 ft) from rating curve extended above 21 cfs; minimum, 0.25 cfs at times during May and June.

Period of record: Maximum discharge, 107 cfs Oct. 20, 1972 (gage height, 3.49 ft) from rating curve extended above 21 cfs; minimum, 0.06 cfs July 18, 1971.

REMARKS.--Records fair except those during the winter months which are poor. No diversions for irrigation above station. Some water is stored in small unregulated recreational ponds on the Mescalero Apache Indian Reservation upstream.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2.4	1.1	1.3	1.2	.52	.28	.75	4.6	13	2.1	6.6	2.3
2	2.1	1.5	1.4	1.1	.49	.28	.70	4.1	12	2.0	6.4	2.2
3	1.8	1.0	1.4	.98	.53	.28	1.4	3.5	12	1.9	6.3	2.2
4	1.0	1.1	1.4	.92	.52	.28	4.5	3.2	11	1.9	6.0	2.1
5	.90	1.1	1.4	.86	.50	.25	5.0	4.0	11	1.8	6.2	2.1
6	1.7	1.1	1.4	.86	.51	.25	3.5	3.4	9.7	2.6	6.1	1.9
7	1.9	.95	1.6	.94	.51	.28	3.0	2.9	11	2.1	5.7	1.9
8	1.9	.85	1.7	1.1	.51	.34	2.8	2.7	14	1.9	5.5	2.0
9	1.8	.80	1.7	1.2	.49	.34	3.5	2.5	16	1.7	5.1	1.9
10	1.7	.88	1.8	.97	.48	.34	4.5	2.4	13	1.6	4.8	1.7
11	1.9	.75	1.7	.97	.42	6.5	4.0	2.4	11	1.6	4.4	2.2
12	2.1	.72	1.8	1.1	.41	6.0	6.5	2.5	11	1.8	4.6	2.4
13	2.0	.65	1.8	1.2	.40	4.9	5.3	2.5	17	1.7	4.2	2.4
14	1.9	.75	1.9	1.2	.40	2.7	4.4	2.3	17	1.5	3.8	2.5
15	1.5	.80	1.9	1.2	.40	2.1	3.5	2.0	13	1.5	3.7	2.0
16	1.7	.82	1.8	1.1	.40	4.0	3.0	2.0	9.9	1.4	3.4	1.8
17	1.8	.82	1.8	1.1	.37	3.9	2.8	2.1	8.2	1.3	3.5	1.9
18	1.8	.82	1.7	.85	.36	3.2	2.6	2.2	6.8	1.3	3.5	2.2
19	1.8	.83	1.6	.77	.34	2.5	3.6	2.6	5.9	2.6	3.3	2.1
20	1.7	.84	1.6	.76	.34	2.2	3.1	4.4	5.1	51	3.2	2.1
21	1.7	.84	1.5	.71	.33	1.9	3.4	4.6	4.5	68	3.1	2.1
22	1.7	.86	1.5	.69	.29	1.6	6.9	4.0	4.0	29	2.8	2.1
23	1.6	.88	1.5	.68	.28	1.6	12	4.2	3.7	16	2.8	2.1
24	1.5	.92	1.5	.64	.28	1.5	12	3.5	3.4	11	3.0	1.9
25	1.4	.98	1.5	.60	.27	1.3	8.3	3.1	3.1	11	2.8	2.1
26	1.5	1.1	1.6	.58	.26	1.1	6.3	3.2	2.9	13	2.7	1.8
27	1.7	1.2	1.6	.59	.26	.95	5.3	15	2.7	9.0	2.6	2.0
28	1.5	1.2	1.5	.58	.27	.90	4.4	31	2.6	8.3	2.5	5.4
29	1.5	1.5	1.4	.55	.28	.85	5.3	24	2.4	7.6	2.5	7.5
30	1.4	-----	1.4	.53	.29	.80	6.0	16	2.3	7.1	2.3	6.0
31	1.3	-----	1.3	-----	.28	-----	5.2	12	-----	7.1	-----	5.0
TOTAL	52.20	27.66	49.0	26.53	11.99	53.42	143.55	178.9	259.2	272.4	123.4	79.9
MEAN	1.68	.95	1.58	.88	.39	1.78	4.63	5.77	8.64	8.79	4.11	2.58
MAX	2.4	1.5	1.9	1.2	.53	6.5	12	31	17	68	6.6	7.5
MIN	.90	.65	1.3	.53	.26	.25	.70	2.0	2.3	1.3	2.3	1.7
AC-FT	104	55	97	53	24	106	285	355	514	540	245	158

CAL YR 1972 TOTAL 1,278.15 MEAN 3.49 MAX 68 MIN .25 AC-FT 2,540  
WTR YR 1972 TOTAL 953.62 MEAN 2.61 MAX 31 MIN .25 AC-FT 1,890

## PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
6-11	1445	3.25	64	9-1	1545	2.99	28
7-22	1400	2.90	25	10-20	2045	3.49	107
8-27	1745	3.16	49				



08387800 Eagle Creek near Alto, N. Mex.

LOCATION.--Lat 33°23'29", long 105°36'39", in SW¼SE¼SE¼ sec.31, T.10 S., R.14 E., Lincoln County, on left bank 500 ft northeast of windmill, 200 ft north of Lincoln National Forest boundary, and 4.0 miles east of Alto.

DRAINAGE AREA.--15.7 sq mi.

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

GAGE.--Water stage recorder and concrete control. Altitude of gage is 6,838 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 46 cfs Oct. 21 (gage height, 1.80 ft); no flow most of time.

Period of record: Maximum discharge, 46 cfs Oct. 21, 1972 (gage height, 1.80 ft); no flow most of time.

REMARKS.--Records excellent. Discharge at this station is affected by Alto Reservoir and municipal water supply diversions for Ruidoso and Capitan.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	0	0				0	0	2.8	13	1.2	6.1	1.8
2	0	0				0	0	2.4	15	1.0	6.1	2.1
3	0	0				0	0	1.8	13	.97	6.3	2.1
4	0	.61				0	0	1.6	12	.85	6.3	2.0
5	0	.01				0	0	2.1	11	1.1	6.3	1.9
6	0	0				0	0	2.4	11	1.7	6.3	1.7
7	0	0				0	0	1.7	11	1.6	6.1	1.3
8	0	0				0	0	1.1	14	1.2	5.7	1.2
9	0	0				0	0	.91	16	1.0	5.7	1.0
10	.02	0				0	0	.69	14	.91	5.0	.75
11	.15	0				0	0	.52	12	.85	4.6	.90
12	.01	0				0	.47	.58	11	.97	4.6	1.0
13	0	0				.06	1.8	1.3	15	.97	3.8	.80
14	.07	0				0	.45	1.4	17	.85	2.6	.70
15	.20	0				0	.13	.21	14	.73	2.1	.10
16	.33	0				.02	.07	0	11	.64	1.8	.25
17	.30	0				0	.05	.48	9.4	.56	1.8	.40
18	.17	0				0	.12	4.1	7.5	.60	1.8	.50
19	.01	0				0	1.2	4.2	6.3	1.3	1.8	.80
20	0	0				0	1.3	2.4	5.7	1.9	2.5	1.0
21	0	0				0	1.3	5.3	4.6	3.9	2.7	1.1
22	0	0				0	2.4	3.2	4.0	2.3	2.5	1.2
23	0	0				0	7.0	3.8	3.5	14	2.5	1.2
24	0	0				0	9.7	2.8	3.0	9.7	2.7	.90
25	0	0				0	6.8	.97	2.4	8.6	2.6	.80
26	0	0				0	4.8	.73	2.1	12	2.4	.70
27	0	0				0	3.8	5.5	1.7	8.8	2.4	.80
28	0	0				0	3.0	23	1.6	7.8	2.3	1.6
29	0	0				0	2.7	21	1.4	7.3	2.3	3.5
30	0	-----				0	4.6	15	1.2	6.6	2.0	3.0
31	0	-----		-----		-----	3.3	12	-----	7.3	-----	2.0
TOTAL	1.26	.02	0	0	0	.08	54.99	125.99	264.4	182.10	111.7	39.10
MEAN	.041	.0007	0	0	0	.003	1.77	4.06	8.81	5.87	3.72	1.26
MAX	.33	.01	0	0	0	.06	9.7	23	17	39	6.3	3.5
MIN	0	0	0	0	0	0	0	0	1.2	.56	1.8	.10
AC-FT	2.5	.04	0	0	0	.2	109	250	524	361	222	78
CAL YR 1972	TOTAL 779.64	MEAN 2.13	MAX 39	MIN 0	AC-FT 1,550							
WTR YR 1972	TOTAL 449.87	MEAN 1.23	MAX 23	MIN 0	AC-FT 892							

## PEAK DISCHARGE (BASE, 25 CFS)

DATE	TIME	G.NT.	DISCHARGE	DATE	TIME	G.NT.	DISCHARGE
8-18	1600	1.52	28	9- 2	1600	1.46	25
8-19	2000	1.68	38	10-21	0530	1.80	46

## RIO GRANDE BASIN

08390500 Rio Hondo at Diamond A Ranch, near Roswell, N. Mex.

LOCATION.--Lat 33°20'57", long 104°51'05", in NE¼NE¼ sec.20, T.11 S., R.21 E., Chaves County, on right bank 15 ft downstream from county road bridge at Diamond A Ranch, 1.3 miles south of U. S. Highway 70-380, 13 miles upstream from Two Rivers Reservoir, 21 miles upstream from mouth of Rocky Arroyo, and 18 miles west of Roswell.

DRAINAGE AREA.--947 sq mi (contributing area).

PERIOD OF RECORD.--May 1908 to August 1909, May 1939 to current year. Monthly discharge only for 1908-9, 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 4,190 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.--33 calendar years (1940-72), 23.2 cfs (16,810 acre-ft per year); 20 calendar years (1953-72), 13.7 cfs (9,930 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 16,300 cfs Sept. 10 (gage height, 26.16 ft) from rating curve extended as explained below; no flow most of time.

Period of record: 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 above and below station of about 6,500 acres (1959 determination).

REVISIONS (WATER YEARS).--WSP 1392: Drainage area. WSP 1512: 1939-40(P), 1941, 1942-43(P), 1946(P).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0	0	0	35	2.4	91	26
2						0	7.9	0	114	1.5	80	26
3						0	0	0	91	0	72	26
4						0	0	0	164	0	68	26
5						0	0	0	81	0	67	25
6						0	0	0	130	0	63	21
7						0	0	0	336	0	62	20
8						0	0	0	619	0	58	18
9						0	0	.24	369	0	54	17
10						0	0	2.0	1,180	0	50	16
11						0	0	0	657	0	47	19
12						0	0	0	299	0	46	20
13						0	0	0	191	0	43	18
14						0	0	0	154	0	40	17
15						0	0	0	427	7.5	37	17
16						6.1	0	0	101	6.7	34	14
17						22	0	0	73	3.4	32	15
18						6.7	0	0	58	.30	34	15
19						2.0	9.3	0	45	44	35	15
20						0	14	0	42	28	34	14
21						0	6.4	0	21	228	34	14
22						0	1.2	0	26	268	34	14
23						0	0	0	22	180	33	14
24						0	0	0	19	129	33	14
25						0	0	0	14	100	33	14
26						0	0	41	11	107	32	17
27						0	.32	11	9.1	107	32	16
28						0	0	390	6.7	101	28	15
29						0	0	149	4.6	92	27	15
30						0	18	42	3.4	87	25	28
31		-----		-----		-----	.10	118	-----	85	-----	32
TOTAL	0	0	0	0	0	36.8	57.22	753.24	5,302.8	1,577.80	1,358	578
MEAN	0	0	0	0	0	1.23	1.85	24.3	177	50.9	45.3	18.6
MAX	0	0	0	0	0	22	18	390	1,180	268	91	32
MIN	0	0	0	0	0	0	0	0	3.4	0	25	14
AC-FT	0	0	0	0	0	73	114	1,490	10,520	3,130	2,690	1,150

CAL YR 1972 TOTAL 9,663.86 MEAN 26.4 MAX 1,180 MIN 0 AC-FT 19,170  
WTR YR 1972 TOTAL 6,337.09 MEAN 17.3 MAX 1,160 MIN 0 AC-FT 12,570

## PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
8-28	1930	15.06	1,300	9-10	2330	26.16	16,300
9-7	2300	21.84	2,840	9-15	0500	21.80	2,830

08390600 Two Rivers Reservoir near Roswell, N. Mex.

LOCATION.--08390610 Rio Hondo Reservoir: Lat 33°17'55", long 104°43'20", in SW¼SE¼NE¼ sec.4, T.12 S., R.22 E., Chaves County, near center of Diamond A Dam on Rio Hondo, 13 miles southwest of Roswell, 08390620 Rocky Arroyo Reservoir: Lat 33°16'20", long 104°43'20", in NW¼SE¼NE¼ sec.16, T.12 S., R.22 E., Chaves County, at left end of Rocky Dam on Rocky Arroyo, and 14 miles southwest of Roswell.

DRAINAGE AREA.--1,027 sq mi (Rio Hondo, 963 sq mi; Rocky Arroyo, 64 sq mi).

PERIOD OF RECORD.--July 1963 to current year. Prior to October 1965 (monthend contents only).

GAGE.--Water-stage recorders. Datum of gages is mean sea level.

EXTREMES.--Current year: Maximum contents at 2400 hours of Rio Hondo Reservoir, 416 acre-ft Sept. 9 (elevation, 3,982.35 ft); no contents most of time. Maximum contents at 2400 hours of Rocky Arroyo Reservoir, 33 acre-ft Sept. 9 (elevation, 3,948.30 ft); no contents most of time.

Period of record: 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 earthfill 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 166,200 acre-ft at elevation 4,032.0 ft (crest of ungated spillway). Capacity of Rio Hondo Reservoir, 181 acre-ft between elevations 3,957.0 (sill of outlet gate) and 3,980.0 ft. Capacity of Rocky Arroyo Reservoir, 13,410 acre-ft between elevations 3,945.0 (sill of outlet gate) and 3,980.0 ft. No dead storage in Rio Hondo Reservoir, or Rocky Arroyo Reservoir. Primary objective of project is flood control. Outlet conduits in Rocky Dam have fixed openings. Figures given herein represent total contents at 2400 hours from new capacity table put into use Jan. 1, 1972, (in table, reservoirs separated as indicated).

COOPERATION.--Records furnished by Corps of Engineers.

## RIO HONDO RESERVOIR

## CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								0	0	0		
2								0	0	0		
3								0	2	0		
4								0	0	0		
5								0	0	0		
6								0	9	0		
7								0	0	0		
8								0	396	0		
9								0	416	0		
10								0	181	0		
11								0	381	0		
12								0	241	0		
13								0	56	0		
14								0	16	0		
15								0	251	0		
16								0	43	0		
17								0	4	0		
18								0	3	0		
19								0	3	0		
20								0	2	0		
21								0	0	0		
22								0	2	19		
23								0	0	23		
24								0	0	23		
25								0	0	1		
26								0	0	1		
27								0	0	1		
28								261	0	1		
29								48	0	1		
30								0	0	1		
31								0	0	1		
(†)	0	0	0	0	0	0	0	0	0	+1	-1	0
MAX	0	0	0	0	0	0	0	261	416	23	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1972	MAX 416	MIN 0		(†) 0								
WTR YR 1972	MAX 416	MIN 0		(†) 0								

† Change in contents, in acre-feet.

## RIO GRANDE BASIN

08390600 Two Rivers Reservoir near Roswell, N. Mex.--Continued

## RIO HONDO RESERVOIR

ELEVATION, IN FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								.00	.00	.00		
2								.00	.00	.00		
3								.00	3,969.20	.00		
4								.00	.00	.00		
5								.00	.00	.00		
6								.00	3,972.10	.00		
7								.00	.00	.00		
8								.00	3,982.15	.00		
9								.00	3,982.35	.00		
10								.00	3,980.00	.00		
11								.00	3,982.00	.00		
12								.00	3,980.60	.00		
13								.00	3,976.42	.00		
14								.00	3,973.30	.00		
15								.00	3,980.70	.00		
16								.00	3,975.63	.00		
17								.00	3,970.82	.00		
18								.00	3,970.35	.00		
19								.00	3,970.42	.00		
20								.00	3,969.75	.00		
21								.00	.00	.00		
22								.00	3,969.41	3,973.70		
23								.00	.00	3,974.10		
24								.00	.00	3,974.10		
25								.00	.00	3,966.10		
26								.00	.00	3,966.10		
27								.00	.00	3,966.10		
28								3,980.80	.00	3,966.10		
29								3,976.00	.00	3,966.10		
30		-----						.00	.00	3,966.10		
31		-----		-----		-----		.00	-----	3,965.60	-----	
MEAN	.00	.00	.00	.00	.00	.00	.00	256.67	2,120.17	1,280.13	.00	.00
MAX	0	0	0	0	0	0	0	3,980.80	3,982.35	3,974.10	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1972	MEAN 303.95		MAX 3,982.35		MIN 0							
WTR YR 1972	MEAN 195.52		MAX 3,982.35		MIN 0							

08390600 Two Rivers Reservoir near Roswell, N. Mex.--Continued

## ROCKY ARROYO RESERVOIR

## CONTENTS, IN ACRE-FEET, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								0	0			
2								0	24			
3								0	0			
4								0	0			
5								0	0			
6								0	0			
7								0	0			
8								0	28			
9								0	33			
10								0	17			
11								0	26			
12								0	30			
13								0	0			
14								0	0			
15								0	26			
16								0	0			
17								0	0			
18								0	0			
19								0	0			
20								0	0			
21								0	0			
22								0	0			
23								0	0			
24								0	0			
25								0	0			
26								17	0			
27								25	0			
28								4	0			
29								0	0			
30								0	0			
31								0	0			
(+)	0	0	0	0	0	0	0	0	0	0	0	0
MAX	0	0	0	0	0	0	0	25	33	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
CAL YR 1972	MAX 33	MIN 0	(+) 0									
WTR YR 1972	MAX 33	MIN 0	(+) 0									

(+ ) Change in contents, in acre-feet.



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LOCATION.--Lat 33°18'05", long 104°43'12", in NE 1/4 sec. 4, T.12 S., R.22 E., Chaves County, on left bank, 500 ft downstream from outlet conduit of Diamond A Dam (Two Rivers Reservoir) and 13 miles southwest of Roswell.

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

GAGE--Water-stage recorder and concrete control. Datum of gage is 3,949.68 ft above mean sea level (Corps of Engineers bench mark).

EXTREMES.—Current year: Maximum discharge, 402 cfs Oct. 24 (gage height, 3.80 ft); no flow most of time.

Period of record: Maximum discharge, 659 cfs July 29, 1965 (gage height, 4.91 ft); no flow most of time.

REMARKS.--Records fair. 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.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0	0	0	18	0	79	12
2						0	0	0	87	0	74	14
3						0	0	0	83	0	66	16
4						0	0	0	164	0	62	13
5						0	0	0	69	0	57	11
6						0	0	0	73	0	55	10
7						0	0	0	150	0	53	11
8						0	0	1.6	258	0	49	9.0
9						0	0	1.8	251	0	41	5.8
10						0	0	0	303	0	38	11
11						0	0	0	313	0	32	9.9
12						0	0	0	306	0	28	9.0
13						0	0	0	260	0	30	12
14						0	0	0	158	0	27	13
15						0	0	0	202	0	24	14
16						19	0	0	202	0	21	13
17						7.4	0	0	65	0	16	13
18						2.7	0	0	39	0	14	13
19						0	0	0	29	13	23	10
20						0	1.1	0	27	31	21	12
21						0	0	0	9.5	40	17	11
22						0	0	0	14	70	16	11
23						0	0	0	13	178	15	11
24						0	0	0	11	287	16	12
25						0	0	0	6.6	73	17	13
26						0	0	25	3.4	82	19	15
27						0	0	20	1.0	94	22	16
28						0	0	95	0.06	85	22	16
29						0	0	272	0	80	20	19
30						0	2.2	59	0	75	15	26
31							0.01	101		69		28
TOTAL	0	0	0	0	0	29.1	3.31	575.4	3,109.56	1,177	989	409.7
MEAN	0	0	0	0	0	.97	.11	18.6	104	38.0	33.0	13.2
MAX	0	0	0	0	0	19	2.2	272	313	287	79	28
MIN	0	0	0	0	0	0	0	0	0	0	14	5.8
AC-FT	0	0	0	0	0	58	6.6	1,140	6,170	2,330	1,960	813
CAL YR 1972	TOTAL 6,293.07		MEAN 17.2	MAX 313	MIN 0	AC-FT 12,480						
WTR YR 1972	TOTAL 3,832.70		MEAN 10.5	MAX 313	MIN 0	AC-FT 7,600						

## RIO GRANDE BASIN

08393200 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., Chaves County, on left bank, 2.1 miles upstream from mouth of Buchanan Draw, 5.2 miles upstream from Rocky Dam (Two Rivers Reservoir), and 17 miles southwest of Roswell.

DRAINAGE AREA.--31 sq mi, approximately.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,059.17 ft above mean sea level (Corps of Engineers datum). Prior to Dec. 7, 1968, at site on opposite bank at datum 3.72 ft lower.

AVERAGE DISCHARGE.--9 calendar years, 1.01 cfs (732 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 270 cfs Sept. 9 (gage height, 3.25 ft); no flow most of time.

Period of record: Maximum discharge, 12,000 cfs July 5, 1968 (gage height 11.53 ft, from floodmarks, present datum), from rating curve extended above 350 cfs on basis of slope-area measurements at gage heights 5.92, 7.14, and 11.53 ft, present datum; 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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								0	0			
2								0	9.6			
3								0	.01			
4								0	0			
5								0	0			
6								0	0			
7								0	.44			
8								0	0			
9								0	42			
10								0	.03			
11								0	0			
12								0	0			
13								0	0			
14								0	0			
15								0	0			
16								0	0			
17								0	0			
18								0	0			
19								0	0			
20								0	0			
21								0	0			
22								0	0			
23								0	0			
24								0	0			
25								0	0			
26								5.9	0			
27								2.6	0			
28								13	0			
29								1.4	0			
30								0	0			
31								0				
TOTAL	0	0	0	0	0	0	0	22.9	52.08	0	0	0
MEAN	0	0	0	0	0	0	0	.74	1.74	0	0	0
MAX	0	0	0	0	0	0	0	13	42	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	45	103	0	0	0

CAL YR 1972 TOTAL 74.98 MEAN .20 MAX 42 MIN 0 AC-FT 149  
WTR YR 1972 TOTAL 74.98 MEAN .20 MAX 42 MIN 0 AC-FT 149

PEAK DISCHARGE (BASE, 90 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
8-26	0800	2.79	118	9- 9	0730	3.25	270
9- 2	1230	2.77	113				



08393300 Rocky Arroyo below Rocky Dam, near Roswell, N. Mex.

LOCATION.--Lat 33°16'11", long 104°43'13", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.16, T.12 S., R.22 E., Chaves County, on left bank, 300 ft downstream from outlet structure in Rocky Dam (Two Rivers Reservoir) and 13.5 miles southwest of Roswell.

DRAINAGE AREA.--64 sq mi, approximately.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,935.66 ft above mean sea level (Corps of Engineers bench mark). Prior to Jan. 12, 1972, at site 1.4 miles downstream at datum 28.76 ft lower.

AVERAGE DISCHARGE.--9 calendar years, 2.23 cfs (1,620 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 91 cfs Sept. 11; no flow most of time.

Period of record: Maximum discharge, 548 cfs Aug. 21, 1966 (gage height, 4.57 ft, site and datum then in use), from rating curve extended above 260 cfs; no flow most of time.

REMARKS.--Records good. No diversions above station. This record represents the outflow from Two Rivers Reservoir through Rocky Dam. Outlet conduits in Rocky Dam have fixed openings.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0	0	0	0			
2						0	0	0	25			
3						0	0	0	8.8			
4						0	0	0	.11			
5						0	0	0	0			
6						0	0	.01	0			
7						0	0	0	.01			
8					.03	0	0	.33	49			
9					0	0	0	.18	16			
10					0	0	0	0	4.9			
11						0	0	0	91			
12						0	0	0	57			
13						0	0	0	4.6			
14						0	0	0	.15			
15						0	0	0	9.8			
16						.08	0	0	5.0			
17						.03	0	0	.22			
18						0	0	0	0			
19						0	0	0	0			
20						0	1.4	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	23	0			
27						0	0	6.5	0			
28						0	0	33	0			
29						0	0	1.8	0			
30						0	0	.01	0			
31						0	0	0	0			
TOTAL	0	0	0	0	0	.14	1.4	64.83	271.59	0	0	0
MEAN	0	0	0	0	0	.005	.045	2.89	9.05	0	0	0
MAX	0	0	0	0	0	.08	1.4	33	91	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	.3	2.8	129	539	0	0	0
CAL YR 1972	TOTAL 337.96		MEAN .92	MAX 91	MIN 0	AC-FT 670						
WTR YR 1972	TOTAL 337.96		MEAN .92	MAX 91	MIN 0	AC-FT 670						

## RIO GRANDE BASIN

08393600 North Spring River at Roswell, N. Mex.

LOCATION.--Lat 33°23'47", long 104°32'53", in NW¼SW¼SE¼ sec.31, T.10 S., R.24 E., Chaves County, in Roswell Municipal Golf Course, on left bank 2,400 ft upstream from Montana Avenue, and 2 blocks north of West Second Street.

DRAINAGE AREA.--19.5 sq mi.

PERIOD OF RECORD.--May 1958 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,575 ft (from topographic map).

AVERAGE DISCHARGE.--14 calendar years, 0.055 cfs (40 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 319 cfs July 20 (gage height, 5.17 ft); no flow most of time.

Period of record: 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 most of time.

REMARKS.--Records good. No diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0	0		0			
2						0	0		0			
3						0	0		0			
4						0	0		0			
5						0	0		0			
6						0	0		.03			
7						0	0		0			
8						0	0		0			
9						0	0		.36			
10						0	0		0			
11						0	0		0			
12						0	0		0			
13						0	0		0			
14						0	0		0			
15						0	0		0			
16						21	0		0			
17						.38	0		0			
18						0	0		0			
19						0	0		0			
20						0	32		0			
21						0	11		0			
22						0	0		0			
23						0	0		0			
24						0	0		0			
25						0	0		0			
26						0	0		0			
27						0	0		0			
28						0	0		0			
29						9.6	0		0			
30						21	0		0			
31							0					
TOTAL	0	0	0	0	0	51.98	43	0	.39	0	0	0
MEAN	0	0	0	0	0	1.73	1.39	0	.013	0	0	0
MAX	0	0	0	0	0	21	32	0	.36	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	103	85	0	.8	0	0	0
CAL YR 1972	TOTAL 95.37	MEAN .26	MAX 32	MIN 0	AC-FT 189							
WTR YR 1972	TOTAL 95.37	MEAN .26	MAX 32	MIN 0	AC-FT 189							

08394100 Pecos River near Hagerman, N. Mex.

LOCATION.--Lat 33°10'08", long 104°18'24", in SE¼SW¼SE¼ sec.23, T.13 S., R.26 E., Chaves County, on left bank 3.4 miles upstream from Rio Felix, and 4.9 miles north of Hagerman.

DRAINAGE AREA.--13,630 sq mi, approximately (contributing area).

PERIOD OF RECORD.--February 1968 to current year (operated as a low-flow station only).

GAGE.--Water-stage recorder. Altitude of gage is 3,390 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge not determined; minimum, 1.0 cfs June 9, July 3.

Period of record: Maximum discharge not determined; no flow many days June and July 1971.

REMARKS.--Records fair. Flow partly regulated by Alamogordo Reservoir (see sta 08384000). Diversions and ground-water withdrawals for irrigation of about 80,000 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	42	28	21	806	39	8.2	7.2	782	301	56	75	49
2	42	25	21	803	39	21	4.6	776	-	51	73	48
3	42	26	22	865	37	19	1.9	704	-	49	69	47
4	43	24	21	858	31	12	5.1	533	482	47	65	47
5	37	20	20	891	32	6.2	-	446	354	48	64	46
6	38	23	20	820	31	4.6	502	232	236	47	61	40
7	39	22	19	800	28	3.2	429	267	337	44	58	40
8	38	22	18	820	32	2.5	643	136	289	42	55	37
9	37	23	18	826	144	2.5	261	140	-	44	52	36
10	41	26	18	820	94	4.9	163	123	-	41	49	44
11	42	28	17	813	75	6.2	116	90	670	39	48	44
12	41	28	17	832	61	6.6	85	75	411	39	48	46
13	44	28	17	813	41	17	75	64	325	40	47	52
14	42	26	17	794	35	65	62	52	333	38	48	57
15	42	25	14	596	28	89	57	47	313	71	48	55
16	37	25	16	596	23	238	73	45	313	99	47	54
17	37	25	18	574	19	249	553	46	317	61	47	51
18	37	25	16	564	16	75	680	42	210	45	47	49
19	37	23	18	543	13	92	806	36	185	47	47	48
20	37	23	15	324	11	89	-	31	160	48	48	51
21	35	23	14	203	17	65	-	25	138	69	49	60
22	38	22	14	146	26	41	-	53	103	150	50	78
23	38	23	13	110	26	28	951	180	89	174	51	73
24	37	23	12	89	16	18	826	292	90	219	52	65
25	34	24	9.6	75	12	13	846	171	92	197	56	60
26	29	24	62	67	9.2	11	813	264	87	169	57	57
27	31	25	544	58	8.2	7.5	898	-	82	140	56	56
28	35	23	692	55	8.9	5.6	858	-	75	114	56	57
29	28	22	727	50	9.2	4.8	872	-	66	82	52	57
30	28	-----	751	45	8.2	6.7	800	-	60	75	50	58
31	26	-----	782	-----	8.5	-----	800	371	-----	69	-----	57
TOTAL	1,149	714	3,983.6	15,653	978.2	1,211.5	-	-	-	2,454	1,625	1,619
MEAN	37.1	24.3	129	522	31.6	40.4	-	-	-	79.2	54.2	52.2
MAX	44	28	782	891	144	249	-	-	-	219	75	78
MIN	26	20	9.6	45	8.2	2.5	-	-	-	38	47	36
AC-FT	2,280	1,400	7,900	31,050	1,940	2,400	-	-	-	4,870	3,220	3,210

## RIO GRANDE BASIN

08394500 Rio Felix at old highway bridge, near Hagerman, N. Mex.

LOCATION.--Lat 33°07'30", long 104°20'40", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.4, T.14 S., R.26 E., Chaves County, near left bank on downstream side of abandoned bridge pier, 0.6 mile upstream from alternate U. S. Highway 285, 1.3 miles northwest of Hagerman, and 2.7 miles upstream from mouth.

DRAINAGE AREA.--932 sq mi (contributing area).

PERIOD OF RECORD.--April 1939 to current year. March 1932 to April 1939 at site 1 mile downstream; records for periods of low flow not equivalent, owing to inflow between sites.

GAGE.--Water-stage recorder. Datum of gage is 3,403.40 ft above mean sea level.

AVERAGE DISCHARGE.--33 calendar years, 15.6 cfs (11,300 acre-ft per year); 20 calendar years (1953-72), 13.3 cfs (9,640 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,700 cfs Sept. 9 (gage height, 19.70 ft); no flow most of time.

Period of record: 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 5.5 miles upstream from gage (adjusted for channel storage); no flow for many periods.

Flood in 1954 is the highest since 1894 (information from local residents). Flood of Oct. 1, 1904, is probably second highest. Another major flood occurred in April 1915.

REMARKS.--Records poor. Diversions for irrigation of about 350 acres (1959 determination) above station.

REVISIONS (WATER YEARS).--WSP 928: 1940(M). WSP 1562: 1939-40, 1941(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1		0					5.5	0	13	0	18	6.7
2		0					0	0	196	0	16	6.9
3		0.9					0	0	198	0	13	6.9
4		4.3					0	0	518	0	12	6.1
5		7.8					4.4	0	87	0	11	5.3
6		6.7					5.8	0	51	0	11	7.1
7		4.3					2.4	0	46	0	11	6.5
8							1.6	0	59	0	10	9.4
9							0	0	3,480	0	9.9	9.1
10							0	0	543	0	7.8	4.0
11							0	0	605	0	7.5	0
12							0	0	155	0	7.8	0
13							0	0	85	0	8.0	0
14							0	0	1,140	0.90	8.0	0
15							0	0	1,380	4.8	8.2	0
16							0	0	326	4.3	8.0	0
17		0.04					0	0	66	0.26	7.5	0
18		0					0	0	45	0	7.8	0
19		0					0	0	32	8.7	7.8	0
20		0					0	0	27	11	7.3	0
21		0					672	0	19	30	7.3	0
22		0					22	0	17	23	7.1	0
23		0					0	0	11	33	7.3	0
24		0					0	0	5.6	36	8.0	0
25		0					0	0	7.0	23	8.6	0
26							0	946	8.2	7.7	8.2	0
27		0					0	108	0	1.2	7.5	0
28		0					0	347	0	0.20	7.3	0
29		0					0	398	0	20	6.5	0
30		-----					0	111	0	24	6.7	0
31		-----		-----		-----	0	16	-----	24	-----	0
TOTAL	0	25.23	0	0	0	0	704.88	1,926	8,819.8	252.06	272.1	68.0
MEAN	0	.87	0	0	0	0	22.7	62.1	294	8.13	9.07	2.19
MAX	0	8.7	0	0	0	0	672	946	3,480	36	18	9.4
MIN	0	0	0	0	0	0	0	0	0	0	6.5	0
AC-FT	0	50	0	0	0	0	1,400	3,820	17,490	500	540	135
CAL YR 1972	TOTAL	12,368.57	MEAN	33.0	MAX	3,480	MIN	0	AC-FT	23,940		
WTR YR 1972	TOTAL	11,815.81	MEAN	32.3	MAX	3,480	MIN	0	AC-FT	23,440		

## PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-21	0530	15.67	4,020	9- 4	1100	11.75	1,230
8-26	1630	17.32	6,260	9- 9	1330	19.70	11,700
8-28	1330	11.51	1,110	9-11	1600	13.78	2,290
8-29	1130	11.30	1,050	9-14	0330	16.24	4,690
9- 2	1800	10.80	907	9-15	1700	15.86	4,230

08395500 Pecos River near Lake Arthur, N. Mex.

LOCATION.--Lat 32°59'18", long 104°19'20", in SW 1/4 sec. 27, T.15 S., R.26 E., Chaves County, on left bank 400 ft upstream from county bridge, 2.5 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).

PERIOD OF RECORD.--August 1938 to current year.

GAGE.--Water-stage recorder and rock control. Datum of gage is 3,327.07 ft above mean sea level.

AVERAGE DISCHARGE.--34 calendar years, 253 cfs (183,300 acre-ft per year); 20 calendar years (1953-72), 184 cfs (133,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,720 cfs Sept. 10 (gage height, 11.42 ft); minimum, 1.2 cfs June 27, 28.

Period of record: 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; 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 sta 08384000). Diversions and ground-water withdrawals for irrigation of about 124,000 acres (1959 determination) above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	48	32	20	731	26	4.7	4.3	700	286	55	96	67
2	47	33	20	726	18	6.6	1.8	694	674	56	95	66
3	48	33	20	770	24	5.1	1.6	683	1,820	52	91	64
4	47	31	19	798	29	7.6	25	496	936	48	87	62
5	44	31	19	782	30	5.5	1,280	542	571	45	85	60
6	45	27	19	743	36	3.7	686	254	342	43	83	58
7	47	29	18	692	34	4.0	420	237	367	41	79	58
8	44	28	13	711	33	3.6	696	152	352	43	75	60
9	43	24	15	714	65	5.0	393	92	2,170	42	72	58
10	42	25	13	738	98	5.4	191	103	4,440	46	67	56
11	43	28	8.5	714	58	3.4	120	73	1,440	42	66	57
12	45	30	12	723	34	8.2	99	52	1,030	37	65	59
13	44	32	11	747	27	6.8	81	38	528	35	65	62
14	47	32	5.7	752	17	7.0	65	35	1,560	39	64	70
15	46	31	11	618	12	17	62	32	846	40	66	70
16	43	34	7.6	585	11	26	56	33	1,440	89	66	62
17	41	30	11	569	14	293	358	26	510	79	65	59
18	41	34	13	533	14	101	643	23	393	55	66	56
19	40	32	11	518	11	32	741	21	257	43	65	55
20	41	31	15	430	9.4	42	1,360	19	207	65	67	54
21	41	32	11	188	7.9	34	2,300	18	206	78	68	56
22	39	29	5.5	137	6.4	22	1,350	15	161	130	66	64
23	41	25	8.4	113	8.8	9.8	997	48	128	182	67	81
24	43	24	8.0	92	12	5.1	811	275	113	230	73	76
25	39	23	11	60	5.3	6.0	787	137	103	228	71	70
26	38	22	12	51	4.4	4.8	733	338	106	198	74	64
27	33	24	298	43	4.3	2.4	829	1,270	91	158	75	63
28	35	26	540	40	3.8	2.6	794	1,580	78	131	72	63
29	38	23	614	34	2.9	2.4	767	2,230	68	109	72	63
30	33	-----	658	38	2.6	5.1	763	1,980	58	138	69	61
31	33	-----	678	-----	3.4	-----	730	542	-----	190	-----	60
TOTAL	1,299	835	3,125.7	14,390	662.2	681.8	18,094.7	12,736	21,281	2,647	2,192	1,934
MEAN	41.9	28.8	101	480	21.4	22.7	584	411	709	85.4	73.1	62.4
MAX	48	34	678	798	98	293	2,300	2,230	4,440	230	96	81
MIN	33	22	5.5	34	2.6	2.4	1.6	15	58	35	64	54
AC-FT	2,580	1,660	6,200	28,540	1,310	1,350	35,890	25,260	42,210	5,250	4,350	3,840

CAL YR 1972 TOTAL 79,878.4 MEAN 218 MAX 4,440 MIN 1.6 AC-FT 158,400  
WTR YR 1972 TOTAL 77,532.4 MEAN 212 MAX 4,440 MIN 1.6 AC-FT 153,800

## PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-21	1230	7.10	3,200	9-10	0430	11.42	7,720
8-27	0015	6.47	2,770	9-14	1000	7.49	3,720
8-30	0030	7.30	3,630	9-16	0130	7.07	3,310

## RIO GRANDE BASIN

08396500 Pecos River near Artesia, N. Mex.

LOCATION.--Lat 32°50'25", long 104°19'23", in NW¼NW¼ sec.18, T.17 S., R.27 E., Eddy County, 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 Pecos, and 17 miles north of McMillan Dam.

DRAINAGE AREA.--15,300 sq mi, approximately (contributing area).

PERIOD OF RECORD.--September 1905 to June 1909, August 1909 to current year. Monthly discharge only for some periods, published in WSP 1312 and 1712. Records for Aug. 22-31, 1934 and October 1936 to April 1937, published in WSP 763 and 828, respectively are not reliable and should not 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, nonrecording gage and Aug. 27, 1914, to Feb. 20, 1936, water-stage recorder at site 6.5 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 calendar years (1906-8, 1910-36), 363 cfs (263,000 acre-ft per year), prior to completion of Alamogordo Reservoir; 36 calendar years (1937-72), 271 cfs (196,300 acre-ft per year); 20 calendar years (1953-72), 179 cfs (129,700 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,800 cfs Sept. 10 (gage height, 12.25 ft); minimum, 0.78 cfs Feb. 7.

Period of record: 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); no flow at times in 1934, 1946-47, 1953-54, 1957, 1964-65.

Greatest flood since at least 1893 occurred Oct. 2, 1904 (discharge not determined; the peak inflow to Lake McMillan, which includes Rio Pecos and Fourmile Draw, was estimated as 82,000 cfs). The second highest flood occurred July 25, 1905 (discharge below Rio Pecos, 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, which are poor. Flow partly regulated by Alamogordo Reservoir (see sta 08384000) 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 (see sta 08400500) which is part of the storage system for the irrigation of about 25,000 acres of the Carlsbad project. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1312 and 1512: 1913, 1915, 1917-18(M), 1920, 1923, 1931-36. WSP 1712: 1906(M), 1908-11(M), 1919, 1921-23(M), 1929, 1931-32(M), 1935-36(M), 1937, 1939(M), 1941(M). See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	47	36	24	672	39	4.2	3.1	689	340	64	103	72
2	47	33	21	681	28	4.6	3.5	528	59	59	102	70
3	47	32	21	690	19	5.8	2.5	658	1,810	62	92	69
4	44	32	21	742	28	4.8	4.2	545	803	57	96	68
5	36	33	19	739	32	6.3	5.9	510	650	56	90	64
6	42	31	19	759	36	6.0	6.52	314	368	52	87	64
7	46	28	19	684	39	4.8	2.97	184	366	48	85	64
8	49	32	17	7.4	34	4.4	512	196	423	50	84	63
9	46	29	14	716	38	5.5	520	105	730	51	80	64
10	44	26	16	736	90	4.8	1.93	80	3,400	50	76	59
11	43	25	14	716	75	4.6	112	85	1,500	52	76	60
12	46	27	11	710	33	5.8	91	60	1,150	48	70	60
13	46	29	12	713	21	7.6	74	50	587	44	64	64
14	46	29	12	710	15	7.3	54	36	1,190	42	67	67
15	49	29	8.5	698	9.1	4.8	41	50	607	44	70	69
16	48	29	11	545	11	14	37	56	1,370	50	70	64
17	47	29	9.9	546	12	20.6	141	39	501	97	70	74
18	45	26	11	5.3	14	138	552	32	425	68	72	74
19	44	29	12	5.5	14	50	648	36	317	54	69	67
20	43	29	12	464	12	10	932	24	242	57	69	64
21	42	27	14	216	17	20	2,120	23	213	78	69	60
22	42	29	11	132	7.8	7.0	1,710	18	185	102	69	67
23	40	20	8.1	102	8.6	7.5	1,000	30	154	165	72	80
24	41	25	8.5	91	8.1	4.0	778	198	132	200	78	88
25	41	23	8.1	49	9.9	3.0	749	192	125	224	77	84
26	41	23	8.5	42	5.9	4.7	733	130	114	239	76	76
27	39	24	8.1	37	4.9	3.0	765	1,050	104	170	78	73
28	36	25	4.94	35	4.0	2.0	772	1,800	94	146	77	72
29	36	25	57.0	32	4.2	1.8	731	1,750	88	124	77	72
30	39	-----	615	36	4.2	2.5	741	2,250	69	1.6	76	70
31	25	-----	632	-----	4.2	-----	715	678	-----	139	-----	68
TOTAL	1,337	826	2,714.6	13,966	6,23.8	554.7	16,557.2	12,529	18,525	2,738	7,347	2,135
MEAN	43.1	28.5	87.6	466	22.1	18.5	532	404	618	88.3	78.2	68.9
MAX	49	36	63.2	75.7	97	20.6	2,120	2,250	3,400	224	103	88
MIN	35	23	9.1	32	4.0	1.8	2.5	18	69	42	64	59
AC-FT	2,650	1,640	5,380	27,710	1,460	1,100	32,740	24,350	36,740	5,430	4,660	4,230

CAL YR 1972 TOTAL 74,865.3 MEAN 205 MAX 3,400 MIN 1.8 AC-FT 148,500  
 WTR YR 1972 TOTAL 72,221.3 MEAN 197 MAX 3,400 MIN 1.3 AC-FT 143,300

## PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-21	1800	11.11	2,780	9-10	1400	12.25	3,800
8-30	0700	11.82	3,100	9-14	1600	10.90	2,290
9-3	1230	10.38	2,300	9-16	0800	10.85	2,260

08398500 Rio Penasco at Dayton, N. Mex.

LOCATION.--Lat 32°44'36", long 104°24'49", in NE¼SE¼SE¼ sec.18, T.18 S., R.26 E., Eddy County, on right bank 1.2 miles upstream from U.S. Highway 285, 1.9 miles northwest of old Dayton railway station, 6 miles upstream from mouth, and 7 miles south of Artesia.

DRAINAGE AREA.--1,060 sq mi, approximately.

PERIOD OF RECORD.--April 1951 to current year. Prior to October 1953, published as "near Dayton."

GAGE.--Water-stage recorder and rock control. Datum of gage is 3,387.17 ft above mean sea level. Prior to May 9, 1968, at site 2.4 miles downstream, at datum 46.28 ft lower.

AVERAGE DISCHARGE.--21 calendar years, 5.67 cfs (4,110 acre-ft per year); 20 calendar years (1953-72), 5.94 cfs (4,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,180 cfs Sept. 9 (gage height, about 5.40 ft, from floodmarks); no flow most of time.

Period of record: Maximum discharge, 29,800 cfs Aug. 23, 1966 (gage height, 16.4 ft, from floodmarks, present site and datum), from rating curve extended above 6,000 cfs on basis of slope-area measurements at gage heights 6.82 and 7.90 ft, at previous site and datum; no flow most of time.

Flood of about Sept. 22, 1941, reached a stage of about 9 ft, previous site and datum (from old logs), and peak discharge for station "near Dunkin" (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).

REMARKS.--Records fair. Diversions and ground-water withdrawals for irrigation of about 3,000 acres (1959 determination) above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1242: 1951(M). WSP 1512: 1956. WSP 1923: 1955.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								0	0	.06	.02	
2								0	227	.06	.02	
3								0	11	.06	.02	
4								0	.06	.04	.02	
5								0	.03	.04	.02	
6								0	.02	.04	.02	
7								0	.02	.04	.02	
8								0	2.4	.04	0	
9								0	956	.04	0	
10								0	61	.04	0	
11								0	.74	.04	0	
12								0	66	.04	0	
13								0	13	.04	0	
14								0	85	.04	0	
15								0	178	.34	0	
16								0	18	.58	0	
17								0	.58	.15	0	
18								0	.24	.12	0	
19								0	.24	.08	0	
20								0	.24	.08	0	
21								0	.15	.09	0	
22								0	.12	.09	0	
23								9.7	.12	.08	0	
24								.06	.10	.06	0	
25								0	.09	.06	0	
26								0	.09	.06	0	
27								0	.09	.04	0	
28								0	.08	.04	0	
29								0	.06	.03	0	
30								0	.06	.02	0	
31								0		.02		
TOTAL	0	0	0	0	0	0	0	9.76	1,620.53	36.22	.14	0
MEAN	0	0	0	0	0	0	0	.31	54.0	1.17	.005	0
MAX	0	0	0	0	0	0	0	9.7	956	34	.02	0
MIN	0	0	0	0	0	0	0	0	0	.02	0	0
AC-FT	0	0	0	0	0	0	0	19	3,210	72	.3	0

CAL YR 1972 TOTAL 1,666.65 MEAN 4.55 MAX 956 MIN 0 AC-FT 3,310  
WTR YR 1972 TOTAL 1,631.29 MEAN 4.45 MAX 956 MIN 0 AC-FT 3,230

## PEAK DISCHARGE (BASE, 750 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
9- 2	1315	3.67	1,800	9-15	1130	3.00	1,140
9- 9	1200	5.40	4,180				

08399500 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., Eddy County, 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.

PERIOD OF RECORD.--May 1950 to current year. Prior to October 1954, published as Kaiser Lake-McMillan Chammel 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 Mar. 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.--22 calendar years, 156 cfs (113,000 acre-ft per year); 20 calendar years (1953-72), 159 cfs (115,200 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 1,910 cfs Aug. 28; no flow for several days in June and July.

Period of record: Maximum daily discharge, 2,920 cfs July 12, 1960; no flow at times in most years.

REMARKS.--Records fair. Flow partly regulated by Alamogordo Reservoir (see sta 08384000). 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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	43	32	22	636	36	.25	0	796	430	66	100	72
2	42	30	20	642	28	.07	0	668	796	63	98	70
3	43	29	20	644	17	0	0	642	1,560	63	98	68
4	41	29	20	698	14	0	0	536	1,140	59	94	66
5	35	29	20	704	27	.06	302	434	933	55	90	64
6	39	29	18	733	31	.29	1,230	333	450	52	86	57
7	43	26	18	663	33	.64	288	177	319	50	85	60
8	46	26	17	666	33	.08	412	242	433	48	82	58
9	43	26	15	679	31	0	506	123	467	48	78	57
10	40	25	13	698	69	.06	217	80	1,790	47	73	56
11	39	23	14	687	92	.03	140	92	1,730	50	73	54
12	41	23	11	674	48	0	88	63	1,500	47	70	57
13	42	25	8.3	682	20	.80	76	47	722	42	63	57
14	41	26	12	687	19	1.8	52	30	1,140	40	62	57
15	44	26	8.7	642	8.7	.77	39	32	872	40	67	62
16	44	26	5.0	477	4.7	.44	32	40	1,470	42	68	58
17	42	26	9.1	466	11	127	34	33	628	84	70	64
18	41	23	6.2	444	10	165	488	22	450	70	70	70
19	40	26	8.7	471	12	74	636	24	328	52	70	58
20	39	25	9.6	488	11	18	804	19	273	47	68	57
21	39	25	10	420	8.3	14	1,860	13	217	70	68	55
22	39	26	11	170	5.4	14	1,780	13	202	81	68	56
23	39	25	7.0	125	3.1	6.0	1,140	9.6	160	135	70	64
24	39	22	4.7	90	2.9	1.0	750	92	132	177	76	78
25	39	20	6.6	63	4.2	.20	709	246	121	226	76	76
26	38	20	4.7	40	5.0	0	698	130	108	217	74	70
27	37	20	9.6	35	1.8	0	717	1,220	104	173	77	65
28	32	22	408	31	.90	0	760	1,910	97	144	77	64
29	33	23	536	30	.64	0	728	1,650	86	122	76	65
30	35	-----	593	32	.70	0	741	1,860	74	102	76	66
31	33	-----	604	-----	.51	-----	728	1,010	-----	104	-----	63
TOTAL	1,231	733	2,472.2	13,517	588.85	424.49	15,955	12,498.6	18,732	2,616	2,303	1,944
MEAN	39.7	25.3	79.7	451	19.0	14.1	515	403	624	84.4	76.8	62.7
MAX	46	32	604	733	92	165	1,860	1,910	1,790	226	100	78
MIN	32	20	4.7	30	.51	0	0	9.6	74	40	62	54
AC-FT	2,440	1,450	4,900	26,810	1,170	842	31,650	24,790	37,150	5,190	4,570	3,860
CAL YR 1972	TOTAL 73,013.14		MEAN 199	MAX 1,910	MIN 0	AC-FT 144,800						
WTR YR 1972	TOTAL 73,241.14		MEAN 192	MAX 1,910	MIN 0	AC-FT 139,300						



08400000 Fourmile Draw near Lakewood, N. Mex.

LOCATION.--Lat 32°40'20", long 104°22'07", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.10, T.19 S., R.26 E., Eddy County, in left side of channel 360 ft downstream from ford on Lakewood - Dayton road, 1.9 miles downstream from U. S. Highway 285, 2.8 miles north of Lakewood, 3.7 miles upstream from mouth, and 11.5 miles south of Artesia.

DRAINAGE AREA.--265 sq mi, approximately.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,299.14 ft above mean sea level. Oct. 1, 1951, to June 19, 1962, at site 1.8 miles upstream at datum 30.61 ft higher. June 19, 1962, to Oct. 12, 1966, at site 410 ft upstream at datum 6.08 ft higher.

AVERAGE DISCHARGE.--21 calendar years, 3.20 cfs (2,320 acre-ft per year); 20 calendar years (1953-72), 3.33 cfs (2,410 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 48 cfs Aug. 27 (gage height, 1.51 ft); no flow most of time.

Period of record: Maximum discharge, 29,300 cfs Aug. 23, 1966 (gage height, 19.9 ft, from floodmarks, present datum), from rating curve extended above 600 cfs on basis of slope-area measurement of peak flow; no flow most of time.

The flood of Aug. 23, 1966 (information from local resident) is believed to be the greatest since at least 1920.

REMARKS.--Records fair. No surface diversions above station.

REVISIONS (WATER YEARS).--WRD 1968: 1967.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1								0	0			
2								0	3.4			
3								0	0			
4								0	0			
5								0	0			
6								0	0			
7								0	0			
8								0	0			
9								0	0			
10								0	0			
11								0	0			
12								0	0			
13								0	0			
14								0	0			
15								0	0			
16								0	0			
17								0	0			
18								0	0			
19								0	0			
20								0	0			
21								0	0			
22								0	0			
23								0	0			
24								0	0			
25								0	0			
26								0	0			
27								5.9	0			
28								5.8	0			
29								0	0			
30								0	0			
31		-----		-----		-----		0	-----		-----	
TOTAL	0	0	0	0	0	0	0	6.48	3.4	0	0	0
MEAN	0	0	0	0	0	0	0	2.1	1.1	0	0	0
MAX	0	0	0	0	0	0	0	5.9	3.4	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	13	6.7	0	0	0

CAL YR 1972 TOTAL 9.88 MEAN .227 MAX 5.9 MIN 0 AC-FT 20  
 WTR YR 1972 TOTAL 9.88 MEAN .227 MAX 5.9 MIN 0 AC-FT 20

PEAK DISCHARGE (BASE, 200 CFS).--No peak above base.

08400500 Lake McMillan near Lakewood, N. Mex.

LOCATION.--Lat 32°35'42", long 104°20'49", in NE¼NE¼ sec.11, T.20 S., R.26 E., Eddy County, near outlet gates of McMillan Dam on Pecos River, 3.4 miles southeast of Lakewood.

DRAINAGE AREA.--16,990 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January 1939 to September 1965 (monthend contents only), October 1965 to current year. Monthend gage heights January 1918 to December 1938 in files of Pecos River Commission.

GAGE.--Nonrecording gage. Datum of gage is 3,241.6 ft above mean sea level (Bureau of Reclamation datum).

EXTREMES.--Current year: Maximum contents, 33,620 acre-ft Sept. 15, 18, 19, 21, 22 (gage height, 26.10 ft); minimum, 4,440 acre-ft July 5 (gage height, 18.05 ft).

Period of record: 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, an earthfill structure, completed and storage began in 1893. The structure was damaged by floods of October 1893 and Oct. 2, 1904. Capacity, 27,300 acre-ft 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 and are computed from daily readings at 0800 hours. 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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	10,180	11,020	10,740	10,040	19,480	8,200	4,970	21,840	30,380	32,790	28,300	28,300
2	10,320	11,020	10,740	10,600	19,280	8,080	4,970	21,840	31,980	32,250	28,300	28,300
3	10,320	11,020	10,740	11,160	19,380	7,960	4,860	22,060	31,440	31,710	28,300	28,300
4	10,320	11,020	10,740	12,210	18,480	7,960	4,860	22,290	30,380	31,440	28,300	28,300
5	10,320	11,020	10,600	13,140	18,080	7,840	4,440	22,750	31,980	31,170	28,300	28,300
6	10,320	11,020	10,600	13,940	17,880	7,720	5,080	23,440	32,520	30,900	28,300	28,300
7	10,460	11,020	10,600	14,960	17,500	7,720	6,660	23,900	32,520	30,380	28,300	28,300
8	10,460	11,020	10,600	15,300	17,500	7,480	7,120	23,440	32,520	29,860	28,300	28,300
9	10,460	11,020	10,460	15,660	17,500	7,240	7,960	22,980	32,520	29,600	28,300	28,300
10	10,460	11,020	10,460	16,380	17,310	6,770	8,720	22,750	28,300	29,340	28,300	28,300
11	10,600	11,020	10,460	17,310	17,310	6,540	8,980	22,520	31,170	28,560	28,300	28,300
12	10,600	11,020	10,460	17,690	17,120	6,310	8,720	22,060	30,380	27,800	28,300	28,300
13	10,600	11,020	10,460	18,480	16,740	6,660	8,200	21,840	32,520	27,300	28,300	28,050
14	10,600	11,020	10,320	19,280	16,380	6,660	7,840	21,620	33,060	27,050	28,300	28,050
15	10,600	11,020	10,320	20,110	16,200	6,540	7,120	21,400	33,620	26,800	28,050	28,050
16	10,740	11,020	10,180	20,960	16,020	6,420	6,660	20,960	33,060	26,550	28,050	28,050
17	10,740	11,020	10,180	21,400	15,660	6,420	6,420	20,320	33,340	26,300	28,050	28,050
18	10,740	11,020	10,040	21,620	15,480	6,770	5,740	19,690	33,620	26,300	28,050	28,050
19	10,740	11,020	9,900	21,840	14,960	7,000	6,080	19,280	33,620	26,060	28,050	28,050
20	10,740	11,020	9,900	22,290	14,620	7,240	7,240	18,880	33,340	26,060	28,050	28,050
21	10,880	11,020	9,900	22,750	14,110	7,120	8,850	18,680	33,620	26,060	28,300	28,050
22	10,880	11,020	9,760	22,520	13,780	7,000	11,460	18,280	33,620	26,550	28,300	28,050
23	10,880	11,020	9,760	22,520	13,460	6,880	13,780	17,690	33,340	26,550	28,300	28,050
24	10,880	11,020	9,760	22,290	12,980	6,770	15,130	17,500	33,340	26,550	28,300	28,050
25	10,880	11,020	9,630	22,060	12,510	6,660	16,020	17,690	33,340	26,800	28,300	28,050
26	10,880	10,880	9,630	21,620	11,760	6,420	16,930	17,690	33,340	27,300	28,300	28,050
27	10,880	10,880	9,370	21,180	10,880	6,080	17,880	17,880	33,340	27,550	28,300	28,050
28	10,880	10,880	8,980	20,740	10,340	5,740	18,880	20,740	33,060	27,550	28,300	28,050
29	10,880	10,880	9,370	20,110	9,630	5,410	19,900	24,140	33,060	27,800	28,300	28,050
30	10,880	-----	9,500	19,690	8,980	5,080	20,530	27,050	33,060	28,050	28,300	28,050
31	10,880	-----	9,760	-----	8,200	-----	21,180	29,340	-----	28,300	-----	28,050
(+)	+700	0	-1,120	+9,930	-11,490	-3,120	+16,100	+8,160	+3,720	-4,760	0	-250
MAX	10,880	11,020	10,740	22,750	19,480	8,200	21,180	29,340	33,620	32,790	28,300	28,300
MIN	10,180	10,880	8,980	10,040	8,200	5,080	4,440	17,500	28,300	26,060	28,050	28,050
CAL YR 1972	MAX 33,620	MIN 4,440	CHANGE IN CONTENTS		+17,870							
WTR YR 1972	MAX 33,620	MIN 4,440	CHANGE IN CONTENTS		+24,730							

+ Change in contents, in acre-feet.

08400500 Lake McMillan near Lakewood, N. Mex.--Continued

## GAGE HEIGHT, IN FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	20.45	20.75	20.65	20.40	23.20	19.70	18.30	23.75	25.50	25.95	25.10	25.10
2	20.50	20.75	20.65	20.60	23.15	19.65	18.30	23.75	25.80	25.85	25.10	25.10
3	20.50	20.75	20.65	20.80	23.10	19.60	18.25	23.80	25.70	25.75	25.10	25.10
4	20.50	20.75	20.65	21.15	22.95	19.60	18.25	23.85	25.50	25.70	25.10	25.10
5	20.50	20.75	20.60	21.45	22.85	19.55	18.05	23.95	25.80	25.65	25.10	25.10
6	20.50	20.75	20.60	21.70	22.80	19.50	18.35	24.10	25.90	25.60	25.10	25.10
7	20.55	20.75	20.60	22.00	22.70	19.50	19.05	24.20	25.90	25.50	25.10	25.10
8	20.55	20.75	20.60	22.10	22.70	19.40	19.25	24.10	25.90	25.40	25.10	25.10
9	20.55	20.75	20.55	22.20	22.70	19.30	19.60	24.00	25.90	25.35	25.10	25.10
10	20.55	20.75	20.55	22.40	22.65	19.10	19.90	23.95	25.10	25.30	25.10	25.10
11	20.60	20.75	20.55	22.65	22.65	19.00	20.00	23.90	25.65	25.15	25.10	25.10
12	20.60	20.75	20.55	22.75	22.60	18.90	19.90	23.80	25.50	25.50	25.10	25.10
13	20.60	20.75	20.55	22.95	22.50	19.05	19.70	23.75	25.90	24.90	25.10	25.05
14	20.60	20.75	20.50	23.15	22.40	19.05	19.55	23.70	26.00	24.85	25.10	25.05
15	20.60	20.75	20.50	23.35	22.35	19.00	19.25	23.65	26.10	24.80	25.05	25.05
16	20.65	20.75	20.45	23.55	22.30	18.95	19.05	23.55	26.00	24.75	25.05	25.05
17	20.65	20.75	20.45	23.65	22.20	18.95	18.95	23.40	26.05	24.70	25.05	25.05
18	20.65	20.75	20.40	23.70	22.15	19.10	18.65	23.25	26.10	24.70	25.05	25.05
19	20.65	20.75	20.35	23.75	22.10	19.20	18.80	23.15	26.10	24.65	25.05	25.05
20	20.65	20.75	20.35	23.85	21.90	19.30	19.30	23.05	26.05	24.65	25.05	25.05
21	20.70	20.75	20.35	23.95	21.75	19.25	19.95	23.00	26.10	24.65	25.10	25.05
22	20.70	20.75	20.30	23.90	21.65	19.20	20.90	22.90	26.10	24.75	25.10	25.05
23	20.70	20.75	20.30	23.90	21.55	19.15	21.65	22.75	26.05	24.75	25.10	25.05
24	20.70	20.75	20.30	23.85	21.40	19.10	22.05	22.70	26.05	24.75	25.10	25.05
25	20.70	20.75	20.25	23.80	21.25	19.05	22.30	22.75	26.05	24.80	25.10	25.05
26	20.70	20.70	23.25	23.70	21.00	18.95	22.55	22.75	26.05	24.90	25.10	25.05
27	20.70	20.70	20.15	23.60	20.70	18.80	22.80	22.80	26.05	24.95	25.10	25.05
28	20.70	20.70	20.00	23.50	20.40	18.65	23.05	23.50	26.00	24.95	25.10	25.05
29	20.70	20.70	19.15	23.35	20.25	18.50	23.30	24.25	26.00	25.00	25.10	25.05
30	20.70	-----	20.20	23.25	20.00	18.35	23.45	24.85	26.00	25.05	25.10	25.05
31	20.70	-----	20.30	-----	19.70	-----	23.60	25.30	-----	25.10	-----	25.05
MEAN	20.62	20.74	20.43	22.83	21.98	19.15	20.20	23.62	25.90	25.09	25.09	25.07
MAX	20.70	20.75	20.65	23.95	23.20	19.70	23.60	25.30	26.10	25.95	25.10	25.10
MIN	20.45	20.70	20.00	20.40	19.70	18.35	18.05	22.70	25.10	24.65	25.05	25.05
CAL YR 1972	MEAN 22.56		MAX 26.10	MIN 18.05								
WTR YR 1972	MEAN 21.20		MAX 26.10	MIN 18.05								

08401000 Pecos River below McMillan Dam, N. Mex.

LOCATION.--Lat 32°35'40", long 104°20'59", in NW 1/4 sec. 11, T.20 S., R.26 E., Eddy County, on left bank 700 ft downstream from gates in McMillan Dam, and 3.4 miles southeast of Lakewood.

DRAINAGE AREA.--16,990 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January 1906 to March 1908, January 1909 to December 1911, August 1939 to December 1940, December 1946 to current year (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. See WSP 1732 for history of changes prior to Mar. 12, 1957. Supplemental water-stage recorders on McMillan Dam spillways, No. 1 and 2, were discontinued Sept. 30, 1970.

AVERAGE DISCHARGE.--29 calendar years (1907, 1909, 1940, 1947-72), 98.0 cfs (71,000 acre-ft per year); 20 calendar years (1953-72), 104 cfs (75,350 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,020 cfs Sept. 9 (gage height 9.11 ft); no flow for many days.

1939-40, 1947-72: Maximum discharge, 16,500 cfs Aug. 23, 1966, includes flow of spillways; no flow for many days.

Flood of Oct. 2, 1904, may have reached 60,000 cfs. 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 sta 08384000, 08400500). Diversions and ground-water withdrawals for irrigation of about 171,000 acres (1959 determination) above station.

REVISIONS (WATER YEARS).--WSP 1512: 1909.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0	350	59	.23	.23	405	205	143	0	
2			0	310	59	.20	.17	435	537	217	0	
3			0	241	139	.20	.15	313	2,150	157	0	
4			0	159	141	.17	73	236	749	114	0	
5			0	159	106	.17	109	63	272	114	0	
6			0	183	72	.17	76	.23	115	168	0	
7			0	273	68	12	61	120	261	143	0	
8			0	364	0	109	23	188	264	114	0	
9			0	347	0	183	.17	188	2,200	144	0	
10			0	253	0	119	.15	143	690	239	0	
11			0	350	72	60	136	121	1,040	273	0	
12			0	276	139	22	323	101	943	276	0	
13			0	155	95	.30	739	80	89	161	0	
14			0	164	73	.23	250	80	403	113	0	
15			0	106	73	.17	307	158	1,380	80	0	
16			0	127	27	.15	123	205	1,150	80	0	
17			0	223	41	.11	305	241	572	80	0	
18			0	185	98	.01	368	210	55	80	0	
19			0	165	141	0	114	117	271	88	0	
20			0	165	157	0	.17	80	.8	30	0	
21			0	165	128	0	80	105	.2	.30	0	
22			0	98	113	0	161	150	0	.23	0	
23			0	59	113	0	163	175	0	.23	0	
24			0	59	163	0	132	61	0	.23	0	
25			0	109	241	64	118	61	0	.23	0	
26			0	172	364	103	118	135	0	.20	0	
27			60	172	389	103	120	65	0	.20	0	
28			291	174	253	143	121	38	0	.20	0	
29			364	145	244	102	163	.23	0	.17	0	
30		-----	401	82	361	56	225	.23	0	.15	1.5	
31		-----	404	-----	85	-----	253	141	-----	.07	-----	
TOTAL	0	0	1,520	5,790	4,014	1,078.11	4,162.04	4,415.69	13,344.0	2,816.21	1.5	0
MEAN	0	0	49.0	193	129	35.9	134	142	445	90.8	.050	0
MAX	0	0	404	364	389	183	368	435	2,200	276	1.5	0
MIN	0	0	0	59	0	0	.15	.23	0	.07	0	0
AC-FT	0	0	3,010	11,480	7,960	2,140	8,260	8,760	26,470	5,590	3.0	0
CAL YR 1972	TOTAL	37,141.55	MEAN	101	MAX	2,200	MIN	0	AC-FT	73,670		
WTR YR 1972	TOTAL	35,587.15	MEAN	97.2	MAX	2,200	MIN	0	AC-FT	70,590		

08401200 South Seven Rivers near Lakewood, N. Mex.

LOCATION.--Lat 32°35'19", long 104°25'17", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.7, T.20 S., R.26 E., Eddy County, on downstream side of center pier of bridge on U.S. Highway 285, 0.4 mile south of Seven Rivers, 3.0 miles upstream from mouth, and 4.0 miles southwest of Lakewood.

DRAINAGE AREA.--220 sq mi, approximately.

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

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.

AVERAGE DISCHARGE.--9 calendar years, 5.65 cfs (4,090 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 558 cfs June 17 (gage height, 6.33 ft); no flow most of time.

Period of record: Maximum discharge, 25,500 cfs 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 (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.

REMARKS.--Records poor. No known diversions above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0		0				
2						0		0				
3						0		0				
4						0		0				
5						0		0				
6						0		0				
7						0		0				
8						0		0				
9						0		0				
10						0		0				
11						0		0				
12						4.4		0				
13						.05		0				
14						0		0				
15						0		0				
16						0		0				
17						43		0				
18						0		0				
19						0		0				
20						0		0				
21						0		0				
22						0		0				
23						0		.31				
24						0		0				
25						0		0				
26						0		0				
27						0		0				
28						0		0				
29						0		0				
30						0		0				
31						0		0				
TOTAL	0	0	0	0	0	47.45	0	.31	0	0	0	0
MEAN	0	0	0	0	0	1.58	0	.010	0	0	0	0
MAX	0	0	0	0	0	43	0	.31	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	94	0	.6	0	0	0	0

CAL YR 1972 TOTAL 47.76 MEAN .13 MAX 43 MIN 0 AC-FT 95  
WTR YR 1972 TOTAL 47.76 MEAN .13 MAX 43 MIN 0 AC-FT 95

PEAK DISCHARGE (BASE, 450 CFS).--June 17 (0200) 558 cfs (6.33 ft).

## RIO GRANDE BASIN

08401500 Pecos River below Major Johnson Springs near Carlsbad, N. Mex.

LOCATION.--Lat 32°31'54", long 104°22'40", in SW 1/4 sec. 27, T.20 S., R.26 E., Eddy County, on left bank, at mouth of Willow Draw, 2.4 miles downstream from South Seven Rivers, 4.2 miles southeast of Seven Rivers, 6.0 miles south of Lakewood, and 11.5 miles northwest of Carlsbad.

DRAINAGE AREA.--17,650 sq mi, approximately (contributing area).

PERIOD OF RECORD.--October 1971 to current year (operated as a low-flow station only). Records for January 1947 to September 1950 at site 0.5 mile upstream not equivalent owing to spring inflow between sites.

GAGE.--Water stage recorder. Altitude of gage is 3,202 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge not determined; minimum, 11 cfs Mar. 26.  
Period of record: Maximum discharge not determined; minimum, 11 cfs Mar. 26, 1972.

REMARKS.--Records good. Diversions and ground-water withdrawal for irrigation of about 173,000 acres (1959 determination) above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	26	26	26	347	97	43	31	380	243	200	56	64
2	26	26	26	342	97	41	26	422	300	283	56	65
3	26	26	26	268	145	39	24	377	2,050	234	61	64
4	26	26	26	140	175	38	65	297	993	180	63	62
5	26	26	25	180	140	37	122	129	288	178	62	62
6	26	26	24	193	145	36	99	42	177	223	64	61
7	26	26	25	268	90	34	80	123	327	216	65	60
8	26	27	25	362	45	98	59	224	330	176	64	59
9	25	27	25	359	37	218	24	241	-	187	60	59
10	25	27	24	258	37	162	22	191	-	297	62	58
11	25	27	25	359	90	85	88	164	-	324	61	59
12	24	27	24	308	165	140	310	146	-	330	61	57
13	25	27	23	198	135	53	246	117	253	238	58	57
14	25	27	27	198	145	31	234	117	346	180	61	56
15	25	27	27	142	142	30	322	179	-	135	58	56
16	26	27	22	153	68	30	149	241	-	133	57	55
17	26	27	21	250	61	64	269	283	770	133	58	54
18	26	27	20	227	122	30	365	258	129	131	60	54
19	26	27	17	246	174	28	164	177	439	136	60	54
20	26	26	18	246	195	28	30	117	128	104	60	56
21	26	27	18	249	166	28	72	137	142	65	59	57
22	26	26	17	150	146	27	174	183	117	59	59	56
23	26	26	17	98	146	26	180	210	111	56	59	57
24	26	26	16	98	187	27	157	99	108	56	63	57
25	26	26	15	137	260	55	133	99	101	55	64	56
26	26	26	14	211	368	120	135	166	98	55	64	58
27	26	26	14	211	405	120	138	102	94	54	62	57
28	26	26	255	211	297	155	140	76	88	53	66	58
29	26	26	327	187	265	136	174	40	86	53	64	57
30	26	-----	380	132	383	86	241	40	88	53	65	57
31	26	-----	383	-----	160	-----	255	94	-----	54	-----	60
TOTAL	798	767	1,924	6,606	4,968	2,045	4,528	5,471	-	4,631	1,832	1,802
MEAN	25.7	26.4	62.1	220	160	68.2	146	176	-	149	61.1	58.1
MAX	26	27	383	362	405	218	365	422	-	330	66	65
MIN	24	26	14	98	37	26	22	40	-	53	56	54
AC-FT	1,580	1,520	3,820	13,110	9,850	4,060	8,980	10,850	-	9,190	3,630	3,570

08401900 Rocky Arroyo at highway bridge, near Carlsbad, N. Mex.

LOCATION.--Lat 32°30'23", long 104°22'28", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.3, T.21 S., R.25 E., Eddy County, 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.

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

GAGE.--Water-stage recorder. Altitude of gage is 3,248 ft (from topographic map).

AVERAGE DISCHARGE.--9 calendar years, 9.30 cfs (6,740 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,580 cfs June 12 (gage height, 7.16 ft); no flow most of time.

Period of record: Maximum discharge, 31,600 cfs Aug. 23, 1966 (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 of time.

Since about 1941 the highest peak probably occurred Oct. 7, 1954, discharge 63,600 cfs (gage height, 19.2 ft, from high-water 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 Stabilization and Conservation Service) above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0		0				
2						0		0				
3						0		0				
4						0		0				
5						0		0				
6						0		0				
7						0		0				
8						0		0				
9						0		0				
10						0		0				
11						0		0				
12						61		0				
13						30		0				
14						0		0				
15						0		0				
16						0		0				
17						5.4		0				
18						0		0				
19						0		0				
20						0		0				
21						0		0				
22						0		0				
23						0		0				
24						0		0				
25						0		0				
26						0		0				
27						0		1.0				
28						0		0				
29						0		0				
30						0		0				
31						0		0				
TOTAL	0	0	0	0	0	96.4	0	1.0	0	0	0	0
MEAN	0	0	0	0	0	3.21	0	.032	0	0	0	0
MAX	0	0	0	0	0	61	0	1.0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	191	0	2.0	0	0	0	0

CAL YR 1972 TOTAL 97.40 MEAN .27 MAX 61 MIN 0 AC-FT 193

WTR YR 1972 TOTAL 97.40 MEAN .27 MAX 61 MIN 0 AC-FT 193

PEAK DISCHARGE (BASE, 1,000 CFS).--June 12 (2230) 1,580 cfs (7.16 ft).

## RIO GRANDE BASIN

08402000 Pecos River at damsite 3, near Carlsbad, N. Mex.

LOCATION.--Lat 32°30'40", long 104°19'58", in lot 14, sec.6, T.21 S., R.26 E., Eddy County, 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).

PERIOD OF RECORD.--August 1939 to December 1940, August 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,171.31 ft above mean sea level (Bureau of Reclamation datum). Prior to Aug. 10, 1944, at site 1,000 ft downstream, at datum 1.00 ft higher. Aug. 10, 1944, to Dec. 31, 1966, at present site at datum 1.00 ft higher.

AVERAGE DISCHARGE.--29 calendar years (1940, 1945-72), 164 cfs (118,800 acre-ft per year); 20 calendar years (1953-72), 158 cfs (114,500 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,870 cfs Sept. 10 (gage height, 7.43 ft); minimum, 10 cfs Mar. 26.

Period of record: Maximum discharge, 69,000 cfs Aug. 23, 1966 (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, 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." Peak of May 22, 1941, was estimated at 60,000 cfs. Floods of 1893 and 1904 originated above McMillan Dam and contributed to the two failures of Avalon Dam.

REMARKS.--Records good. Flow regulated by Alamogordo Reservoir and Lake McMillan (see sta 08384000, 08400500). Diversions and ground-water withdrawals for irrigation of about 173,000 acres (1959 determination) above station. Discharge represents inflow to Lake Avalon.

REVISIONS (WATER YEARS).--WSP 1512: 1946-47(M), 1948(P), 1949, 1950(P). WSP 1712: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	25	26	25	350	89	38	46	350	253	144	54	64
2	24	26	25	298	89	34	28	415	457	282	54	64
3	25	26	25	282	130	32	26	376	1,800	254	55	61
4	25	26	25	177	188	31	33	305	1,140	180	55	58
5	24	26	24	180	152	30	115	154	243	177	56	54
6	25	26	24	182	108	29	106	49	190	205	58	56
7	25	26	23	250	104	27	74	80	301	228	58	60
8	24	26	23	350	62	66	69	205	322	174	58	60
9	24	26	23	354	35	199	29	231	1,350	172	58	54
10	24	26	23	250	35	169	24	188	1,490	282	58	54
11	24	26	23	343	44	89	37	156	458	312	58	54
12	23	26	22	298	159	194	302	146	1,510	332	56	54
13	23	26	21	202	152	341	247	113	239	260	55	54
14	24	25	21	177	100	28	213	113	244	185	56	54
15	24	25	21	146	100	26	340	152	1,440	144	55	54
16	24	26	20	125	87	26	172	222	1,120	137	55	54
17	24	26	20	225	46	60	239	266	797	135	55	54
18	24	26	19	225	108	27	372	253	119	132	56	54
19	24	26	19	210	162	26	210	189	407	135	56	54
20	25	26	18	195	191	25	51	117	150	123	56	54
21	25	26	18	195	174	24	36	126	144	66	56	54
22	25	26	18	150	144	24	156	165	126	62	56	54
23	24	26	18	95	142	23	169	233	117	56	56	52
24	24	25	17	95	166	23	159	96	113	56	58	55
25	25	25	16	110	244	28	130	94	106	56	62	55
26	25	26	14	190	336	115	132	154	102	55	64	55
27	26	26	15	200	402	119	132	163	100	55	62	55
28	26	26	197	200	305	142	135	106	94	55	67	55
29	26	26	308	190	244	149	146	42	89	55	66	52
30	26	-----	376	125	364	87	225	39	89	55	64	52
31	26	-----	379	-----	200	-----	231	61	-----	54	-----	56
TOTAL	762	750	1,820	6,369	4,862	2,231	4,354	5,359	15,110	4,618	1,733	1,720
MEAN	24.6	25.9	58.7	212	157	74.4	140	173	504	149	57.8	55.5
MAX	26	26	379	354	402	341	372	415	1,800	332	67	64
MIN	23	25	14	95	35	23	24	39	89	54	54	52
AC-FT	1,510	1,490	3,610	12,630	9,640	4,430	8,640	10,630	29,970	9,160	3,440	3,410

CAL YR 1972 TOTAL 49,688 MEAN 136 MAX 1,800 MIN 14 AC-FT 98,560  
WTR YR 1972 TOTAL 44,975 MEAN 123 MAX 1,800 MIN 14 AC-FT 89,210

## PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
6-12	2400	6.36	2,790	9-12	0700	7.18	3,590
9-3	0730	5.44	2,020	9-16	1900	6.73	3,130
9-10	0030	7.43	3,870				



08403500 Carlsbad main canal at head, near Carlsbad, N. Mex.

LOCATION.--Lat 32°29'25", long 104°15'08", in NW 1/4 sec. 12, T.21 S., R.26 E., Eddy County, on right bank 220 ft downstream from headgates in Avalon Dam, and 5.0 miles north of Carlsbad.

PERIOD OF RECORD.--July 1939 to current year (monthly discharge only July 1939 to September 1965). January 1941 to March 1951 published in WSP 1732.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,156.50 ft above mean sea level (Bureau of Reclamation datum). Prior to March 1951 at site 20 ft upstream at datum 0.9 ft higher.

AVERAGE DISCHARGE.--33 calendar years, 109 cfs (78,970 acre-ft per year); 20 calendar years (1953-72), 98.2 cfs (71,150 acre-ft per year).

EXTREMES.--Current year: Maximum daily discharge, 362 cfs Mar. 30; no flow many days.

Period of record: Maximum daily discharge, 526 cfs Sept. 15, 16, 1946; no flow for many days each year.

REMARKS.--Records good. Carlsbad main canal diverts water from Lake Avalon for irrigation of about 25,000 acres of Carlsbad Irrigation District. About 1,600 acres (most of it above gaging station on Pecos River at Carlsbad), is irrigated on the left bank. The remaining acreage (most of which is downstream from sta 08405200) is on right bank.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1			0	292	115	0	31	296	134	278		
2			0	262	134	0	36	326	58	282		
3			0	302	154	0	49	318	38	256		
4			0	278	126	0	51	264	81	236		
5			0	290	146	24	52	178	44	245		
6			0	284	124	68	56	121	42	249		
7			0	286	89	76	36	104	46	203		
8			0	280	48	74	30	108	47	193		
9			0	256	67	86	48	132	44	232		
10			0	262	57	98	72	146	36	256		
11			0	266	58	75	113	161	46	258		
12			0	237	72	67	168	129	79	241		
13			0	230	60	61	236	116	79	209		
14			0	205	48	58	249	151	79	196		
15			0	193	53	76	230	164	79	146		
16			0	185	62	78	191	161	78	171		
17			0	187	102	57	194	200	78	162		
18			0	164	132	20	251	187	79	162		
19			0	180	156	28	142	164	82	162		
20			0	162	162	51	69	161	105	104		
21			0	147	134	65	60	180	154	35		
22			0	129	127	69	56	211	156	31		
23			0	108	166	61	56	144	180	54		
24			0	108	213	49	87	107	175	76		
25			0	116	241	62	121	118	202	96		
26			66	151	282	82	131	104	230	72		
27			215	157	341	99	139	57	253	60		
28			324	137	270	93	135	56	294	71		
29			340	123	296	62	159	82	322	68		
30		-----	362	99	306	42	184	152	302	118		
31		-----	332	-----	178	-----	254	134	-----	44	-----	
TOTAL	0	0	1,648	6,076	4,519	1,681	3,686	4,932	3,622	4,966	0	0
MEAN	0	0	53.2	203	146	56.0	119	159	121	160	0	0
MAX	0	0	362	302	341	99	254	326	322	282	0	0
MIN	0	0	0	99	48	0	30	56	36	31	0	0
AC-FT	0	0	3,273	12,050	8,960	3,330	7,310	9,780	7,180	9,850	0	0

CAL YR 1972 TOTAL 31,130.00 MEAN 85.1 MAX 362 MIN 0 AC-FT 61,750  
 WTR YR 1972 TOTAL 28,239.00 MEAN 77.2 MAX 362 MIN 0 AC-FT 56,010

08403800 Lake Avalon near Carlsbad, N. Mex.

LOCATION.--Lat 32°29'27", long 104°15'05", in NW¼SW¼ sec.12, T.21 S., R.26 E., Eddy County, on headwall at outlet gate of dam on Pecos River, and 5.0 miles north of Carlsbad.

DRAINAGE AREA.--18,070 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January 1939 to September 1965 (monthend contents only). October 1965 to current year. Monthend gage heights January 1919 to December 1938 in files of Pecos River Commission.

GAGE.--Nonrecording gage. Datum of gage is 3,157.0 ft above mean sea level (levels by Bureau of Reclamation).

EXTREMES.--Current year: Maximum contents, 5,570 acre-ft Sept. 15 (gage height, 21.00 ft); minimum, 106 acre-ft May 25.

Period of record: 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, an earthfill structure. 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 and are computed from daily readings at 0800 hours. Water is used by Carlsbad Irrigation District.

COOPERATION.--Capacity table based on data furnished by Carlsbad Irrigation District.

REVISIONS (WATER YEARS).--WSP 898: 1939.

# CONTENTS, IN ACRE-FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2,050	2,400	2,620	1,410	900	661	791	661	587	1,740	587	3,250
2	2,050	2,400	2,620	1,480	818	712	764	764	2,190	1,510	712	3,330
3	2,080	2,440	2,620	1,485	636	764	661	845	3,570	1,510	818	3,570
4	2,080	2,440	2,620	1,320	661	791	587	900	4,970	1,410	928	3,610
5	2,120	2,440	2,620	1,040	712	818	540	928	4,920	1,250	1,010	3,570
6	2,160	2,480	2,590	818	586	764	561	791	5,070	1,100	1,160	3,610
7	2,160	2,480	2,590	564	636	536	712	636	5,270	1,100	1,280	3,650
8	2,190	2,510	2,590	344	712	494	791	636	5,320	1,070	1,380	3,650
9	2,220	2,510	2,590	612	636	517	791	764	5,320	982	1,480	3,650
10	2,220	2,510	2,590	791	564	712	686	928	5,270	872	1,540	3,730
11	2,260	2,510	2,590	738	428	818	428	928	5,270	955	1,640	3,770
12	2,260	2,550	2,590	872	494	764	251	900	5,420	1,100	1,740	3,850
13	2,260	2,550	2,590	955	686	2,020	587	900	5,170	1,250	1,800	3,850
14	2,300	2,590	2,550	791	845	1,940	517	818	5,170	1,280	1,910	3,850
15	2,300	2,590	2,550	764	900	1,770	251	686	5,570	1,220	1,980	3,940
16	2,300	2,590	2,550	612	955	1,610	587	686	4,880	1,190	2,050	4,020
17	2,300	2,590	2,550	472	928	1,440	268	791	4,970	1,100	2,120	4,020
18	2,300	2,590	2,550	587	845	1,440	494	900	5,170	1,010	2,190	4,070
19	2,330	2,620	2,510	661	686	1,410	738	928	5,170	900	2,190	4,120
20	2,330	2,620	2,510	686	661	1,350	791	955	5,170	900	2,360	4,120
21	2,330	2,620	2,510	712	738	1,220	661	818	5,020	1,010	2,440	4,160
22	2,330	2,620	2,510	791	764	1,070	636	661	4,840	1,070	2,510	4,200
23	2,360	2,620	2,510	791	712	928	845	636	4,700	1,070	2,590	4,200
24	2,360	2,620	2,510	712	587	791	982	791	4,480	1,040	2,700	4,250
25	2,360	2,620	2,510	587	106	661	1,010	738	4,250	955	2,810	4,300
26	2,360	2,620	2,510	612	344	587	1,010	636	3,940	900	2,890	4,340
27	2,400	2,620	2,160	661	472	564	928	764	3,650	872	2,930	4,380
28	2,400	2,620	1,640	712	686	540	845	1,100	3,250	818	3,050	4,430
29	2,400	2,620	1,410	818	587	540	791	1,100	2,740	791	3,130	4,480
30	2,400	-----	1,320	900	220	738	791	872	2,190	686	3,170	4,520
31	2,400	-----	1,320	-----	587	-----	764	636	-----	564	-----	4,520
(+)	+380	+220	-1,300	-420	-313	+151	+26	-128	+1,550	-1,630	+2,610	+1,350
MAX	2,400	2,620	2,620	1,480	955	2,020	1,010	1,100	5,570	1,740	3,170	4,520
MIN	2,050	2,400	1,320	344	106	494	251	636	587	564	587	3,250
CAL YR 1972	MAX 5,570	MIN 106	CHANGE IN CONTENTS		+2,500							
WTR YR 1972	MAX 5,570	MIN 106	CHANGE IN CONTENTS		+420							

+ Change in contents, in acre-feet.

08403800 Lake Avalon near Carlsbad, N. Mex.--Continued

## GAGE HEIGHT, IN FEET, AT 0800, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	16.80	17.30	17.60	15.85	15.00	14.55	14.80	14.55	14.40	16.35	14.40	18.40
2	16.80	17.35	17.60	15.95	14.85	14.65	14.75	14.75	17.00	16.00	14.65	18.50
3	16.85	17.35	17.60	15.95	14.50	14.75	14.55	14.90	18.00	16.00	14.85	18.80
4	16.85	17.35	17.60	15.70	14.55	14.80	14.40	15.00	20.40	15.85	15.05	18.85
5	16.90	17.35	17.60	15.25	14.65	14.85	14.30	15.05	20.35	15.60	15.20	18.80
6	16.95	17.40	17.55	14.85	14.60	14.75	14.55	14.80	20.50	15.35	15.45	18.85
7	16.95	17.40	17.55	14.35	14.50	14.50	14.65	14.50	20.70	15.35	15.65	18.90
8	17.00	17.45	17.55	13.85	14.65	14.20	14.80	14.50	20.75	15.30	15.80	18.90
9	17.05	17.45	17.55	14.45	14.50	14.25	14.80	14.75	20.75	15.15	15.95	18.90
10	17.05	17.45	17.55	14.80	14.35	14.65	14.60	15.05	20.70	14.95	16.05	19.00
11	17.10	17.45	17.55	14.70	14.05	14.85	14.05	15.35	20.70	15.10	16.20	19.05
12	17.10	17.50	17.55	14.95	14.75	13.60	13.60	15.00	20.85	15.35	16.35	19.15
13	17.10	17.50	17.55	15.10	14.60	16.75	14.40	15.00	20.60	15.60	16.45	19.15
14	17.15	17.55	17.50	14.80	14.90	16.65	14.25	14.85	20.60	15.65	16.60	19.15
15	17.15	17.55	17.50	14.75	15.00	16.40	13.60	14.60	21.00	15.55	16.70	19.25
16	17.15	17.55	17.50	14.45	15.10	16.15	14.40	14.60	20.30	15.50	16.80	19.35
17	17.15	17.55	17.50	14.15	15.05	15.90	13.65	14.80	20.40	15.35	16.90	19.35
18	17.15	17.55	17.50	14.40	14.90	15.90	14.20	15.00	20.60	15.20	17.00	19.40
19	17.20	17.60	17.45	14.55	14.60	15.85	14.70	15.05	20.60	15.00	17.30	19.45
20	17.20	17.60	17.45	14.60	14.55	15.75	14.80	15.10	20.60	15.40	17.25	19.45
21	17.20	17.60	17.45	14.65	14.70	15.55	14.55	14.85	20.45	15.20	17.35	19.50
22	17.20	17.60	17.45	14.80	14.75	15.30	14.50	14.55	20.25	15.30	17.45	19.55
23	17.25	17.60	17.45	14.80	14.65	15.05	14.90	14.50	20.10	15.30	17.55	19.55
24	17.25	17.60	17.45	14.65	14.40	14.80	15.15	14.80	19.85	15.25	17.70	19.60
25	17.25	17.60	17.45	14.40	13.90	14.55	15.20	14.70	19.60	15.10	17.85	19.65
26	17.25	17.60	17.45	14.45	13.85	14.40	15.20	14.50	19.25	15.00	17.95	19.70
27	17.30	17.60	16.95	14.55	14.15	14.35	15.05	14.75	18.90	14.95	18.00	19.75
28	17.30	17.60	16.20	14.65	14.60	14.30	14.90	15.35	18.40	14.85	18.15	19.80
29	17.30	17.60	15.85	14.85	14.40	14.30	14.80	15.35	17.75	14.80	18.25	19.85
30	17.30	-----	15.70	15.00	13.50	14.70	14.80	14.95	17.00	14.60	18.30	19.90
31	17.30	-----	15.70	-----	14.40	-----	14.75	14.50	-----	14.35	-----	19.90
MEAN	17.11	17.51	17.29	14.81	14.50	15.07	14.57	14.83	19.74	15.29	16.63	19.27
MAX	17.30	17.60	17.60	15.95	15.10	16.75	15.20	15.35	21.00	16.35	18.30	19.90
MIN	16.80	17.30	15.70	13.85	13.00	14.20	13.60	14.50	14.40	14.35	14.40	18.40
CAL YR 1972	MEAN 16.38		MAX 21.00	MIN 13.00								
WTR YR 1972	MEAN 16.01		MAX 21.00	MIN 13.00								

## RIO GRANDE BASIN

08404000 Pecos River below Avalon Dam, N. Mex.

LOCATION.--Lat 32°28'55", long 104°15'47", in SW¼SW¼NE¼ sec.14, T.21 S., R.26 E., Eddy County, on right bank 4,800 ft below Avalon Dam and 4.5 miles northwest of Carlsbad.

DRAINAGE AREA.--18,080 sq mi, approximately (contributing area).

PERIOD OF RECORD.--January 1906 to March 1907, (published as "at Avalon"), June 1951 to current year.

GAGE.--Water stage recorder. Altitude of gage is 3,130 ft (from topographic map). January 1906 to March 1907 nonrecording gage at site 0.5 mile upstream at different datum.

AVERAGE DISCHARGE.--21 calendar years (1952-72), 33.9 cfs (24,560 acre-ft per year); 20 calendar years (1953-72), 35.6 cfs (25,790 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,960 cfs Sept. 10 (gage height, 9.45 ft); no flow most of time.

Period of record: Maximum discharge, 55,500 cfs Aug. 23, 1966 (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.

Flood of Oct. 2, 1904, caused in part, by failure of Avalon Dam, probably exceeded 90,000 cfs and is probably greatest flood since 1842. Flood of August 1893 is probably the second highest, and was described as "greatest in 50 years"; it damaged McMillan Dam and washed out the original Avalon Dam.

REMARKS.--Records good. Flow regulated by Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see sta 08384000, 08400500, 08403800). Diversions and ground-water withdrawals above station for irrigation of about 198,000 acres (1959 determination). Station bypassed by Carlsbad main canal (see sta 08403500).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0			0			
2						0			0			
3						0			225			
4						0			2,070			
5						0			7.5			
6						0			137			
7						0			119			
8						0			206			
9						0			959			
10						0			1,690			
11						0			434			
12						5.2			1,510			
13						1.1			57			
14						0			30			
15						0			1,260			
16						0			844			
17						0			758			
18						0			57			
19						0			176			
20						0			70			
21						0			14			
22						0			1.0			
23						0			0			
24						0			0			
25						0			0			
26						0			0			
27						0			0			
28						0			0			
29						0			0			
30						0			0			
31						0			0			
TOTAL	0	0	0	0	0	6.3	0	0	10,624.5	0	0	0
MEAN	0	0	0	0	0	0.21	0	0	354	0	0	0
MAX	0	0	0	0	0	5.2	0	0	2,070	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	13	0	0	21,070	0	0	0

CAL YR 1972 TOTAL 11,631.80 MEAN 29.0 MAX 2,070 MIN 0 AC-FT 21,090  
 WTR YR 1972 TOTAL 11,631.80 MEAN 29.0 MAX 2,070 MIN 0 AC-FT 21,090

LOCATION.--Lat 32°24'37", long 104°12'58", in NE 1/4 sec. 8, T. 22 S., R. 27 E., Eddy County, on left bank, 700 ft downstream from mouth of Dark Canyon, 0.3 mile downstream from lower Tansil Dam and Bataan recreational area, and 0.8 mile downstream from bridge on U.S. Highway 62-180 in Carlsbad.

PERIOD OF RECORD.--January 1970 to current year. Records for Aug. 28, and Sept. 3-15, 1972, are affected by inflow from Dark Canyon.

EXTREMES.--Current year: Maximum discharge, 4,020 cfs Sept. 10 (gage height, 5.60 ft); no flow at times.

Period of record: Maximum discharge, 4,020 cfs Sept. 10, 1972 (gage height, 5.60 ft); no flow at times.

The flood of Aug. 23, 1966, reached a stage of about 22 ft (discharge not determined). (For dates of other historical floods see sta 08404000.)

REMARKS.--Records good. Flow regulated by Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see sta 08384000, 08400500, 08403800), and at low stages by power plant 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 ground-water withdrawals irrigates about 23,000 acres below. Diversions and ground-water withdrawals above station for irrigation of about 198,000 acres (1959 determination). Water quality records for the current year are published in Part 2 of this report.

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	14	14	8.5	.16	0	.33	.94	.48	11	25	25	24
2	14	12	6.9	.33	0	.05	2.4	.38	440	25	18	21
3	16	11	10	.24	0	0	.69	.13	126	26	19	18
4	13	13	7.7	.09	0	0	.53	9.1	1,480	26	19	18
5	9.4	13	7.7	.09	0	0	.38	12	40	26	21	20
6	12	12	7.7	.09	0	0	11	.53	100	24	24	13
7	13	12	7.7	.09	0	0	1.7	.16	105	21	24	16
8	13	12	6.9	.09	.09	0	.69	.09	185	22	24	17
9	14	20	10	.09	.06	0	.33	.06	640	21	18	21
10	13	6.4	3.8	.39	.09	0	.33	.09	2,350	22	17	18
11	10	9.4	6.9	.09	.09	0	.29	.16	250	21	18	18
12	17	12	6.9	.38	.09	68	.80	.20	1,750	21	21	17
13	6.9	12	5.5	.43	.16	140	.94	.29	75	21	19	21
14	12	11	6.2	.33	.20	11	.24	1.7	64	21	22	19
15	12	10	5.5	.11	.16	5.5	.33	2.1	1,100	21	22	18
16	12	13	4.8	0	.16	6.9	.38	.53	810	19	19	18
17	13	13	6.2	0	.16	22	.33	.48	977	21	21	17
18	16	12	5.5	0	.16	10	.53	.43	109	21	24	18
19	14	11	36	0	.13	12	1.1	.48	149	21	22	21
20	13	11	72	0	4.2	6.7	1.7	.48	136	31	22	22
21	16	11	25	0	4.8	8.5	1.4	.43	49	31	22	19
22	11	9.4	8.5	0	4.5	10	.94	.48	29	24	22	19
23	13	10	49	0	2.4	12	3.8	.69	13	22	24	18
24	13	9.4	36	0	13	10	4.3	.60	24	22	28	17
25	9.4	8.5	28	0	.43	8.5	.69	.43	32	24	22	18
26	11	8.5	12	0	.16	5.5	.48	.38	18	31	25	18
27	13	9.4	13	0	.13	4.8	.38	4.6	25	26	22	19
28	14	10	6.2	0	.69	2.1	.53	162	31	26	24	22
29	16	9.4	4.3	0	.94	5.7	.69	17	33	28	25	26
30	14	-----	3.3	0	.94	.94	.48	11	26	30	25	14
31	14	-----	.20	-----	.53	-----	.48	6.9	-----	30	-----	19
TOTAL	401.7	325.4	417.90	2.60	34.27	350.52	39.80	234.38	10,877	750	658	584
MEAN	13.0	11.2	13.5	.087	1.11	11.7	1.28	7.56	363	24.2	21.9	18.8
MAX	17	20	72	.43	13	140	11	162	2,050	31	28	26
MIN	6.9	6.4	.20	0	0	0	.24	.06	11	19	17	13
AC-FT	797	645	829	5.2	68	695	79	465	21,570	1,490	1,310	1,160
CAL YR 1972	TOTAL 14,675.57		MEAN 40.1		MAX 2,050	MIN 0	AC-FT 29,110					
WTR YR 1972	TOTAL 13,769.27		MEAN 37.6		MAX 2,050	MIN 0	AC-FT 27,310					

08405500 Black River above Malaga, N. Mex.

LOCATION--Lat 32°13'44", long 104°09'02", in SW¼NW¼SW¼ sec.12, T.24 S., R.27 E., Eddy County, on right bank 0.6 mile upstream from Black River diversion dam, 4.6 miles west of Malaga, and 7.8 miles upstream from mouth.

DRAINAGE AREA.--343 sq mi.

PERIOD OF RECORD.--March to December 1940, December 1946 to current year.

GAGE.--Water-stage recorder and concrete control. 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.--26 calendar years (1947-72), 14.3 cfs (10,360 acre-ft per year); 20 calendar years (1953-72), 15.8 cfs (11,450 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 6,770 cfs Sept. 2 (gage height, 8.87 ft); minimum, 1.7 cfs Mar. 28.

Period of record: Maximum discharge, 74,600 cfs Aug. 23, 1966 (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, 0.73 cfs June 25, 1969.

The flood of Aug. 23, 1966, exceeded the previous known maximum stage which occurred in 1908 by about one foot (information from 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).

REMARKS.--Records good. Diversions and ground-water withdrawals for irrigation of about 1,000 acres (1959 determination) above station.

REVISIONS (WATER YEARS).--WSP 1632: 1948, 1949-50(P).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	8.7	9.5	8.0	2.2	5.6	5.9	6.9	4.5	6.6	6.9	5.4	10
2	9.7	9.5	9.5	4.8	5.9	5.6	5.6	4.5	750	7.6	4.8	10
3	9.1	9.5	9.9	5.9	5.9	5.4	5.1	4.5	50	7.6	4.8	10
4	9.5	9.1	10	6.2	6.2	5.1	4.8	4.5	25	7.6	4.8	10
5	9.1	8.0	10	6.6	8.3	5.1	4.5	4.5	17	7.6	4.8	8.0
6	8.7	7.6	10	6.9	7.6	4.8	9.1	5.0	12	7.6	4.5	8.7
7	8.7	7.2	7.6	6.6	13	4.8	5.4	5.0	15	7.6	3.8	9.5
8	8.7	7.2	5.1	6.6	14	4.8	5.1	5.5	37	8.0	3.5	9.9
9	8.7	8.0	4.3	6.6	26	5.1	4.8	5.5	19	7.6	3.1	10
10	8.7	8.3	4.3	6.6	8.7	5.1	4.8	6.9	12	7.6	3.1	10
11	8.7	6.9	4.3	6.6	7.6	5.1	4.5	6.0	111	7.6	3.3	10
12	8.7	6.2	3.8	6.9	8.0	5.1	4.5	6.0	21	6.6	3.8	10
13	8.3	6.2	3.5	6.6	7.6	5.1	4.5	6.0	12	5.6	3.8	10
14	8.3	5.9	3.3	6.6	7.2	5.1	4.3	6.0	9.9	5.4	3.5	10
15	8.3	5.9	3.3	6.2	6.9	5.1	4.0	6.5	9.5	5.1	3.8	10
16	8.3	5.9	2.8	6.2	6.9	5.1	3.8	6.5	9.5	5.1	5.6	10
17	8.7	5.9	2.6	6.2	6.6	5.4	4.5	6.5	9.1	4.8	8.7	10
18	9.5	5.9	2.6	6.2	6.6	5.4	161	6.5	8.5	4.8	9.9	10
19	11	5.9	2.6	6.2	6.6	5.1	687	6.5	7.6	4.8	9.9	10
20	9.5	5.9	2.6	6.2	7.2	4.8	38	6.5	7.6	11	9.9	11
21	9.1	5.9	2.4	6.2	29	4.8	13	6.5	7.6	13	9.9	11
22	9.1	5.9	2.4	6.2	17	4.8	8.7	7.0	6.9	7.2	9.9	10
23	9.1	6.2	2.6	6.2	9.3	4.5	6.6	100	6.9	6.2	9.9	10
24	9.5	5.9	2.4	6.2	6.9	4.5	6.2	18	7.2	5.9	11	10
25	9.1	5.9	2.2	6.2	6.2	4.3	5.9	7.5	6.6	5.6	11	10
26	9.1	6.2	2.2	6.2	5.9	4.3	5.6	7.0	6.2	5.6	10	10
27	9.1	6.2	2.0	6.2	5.9	4.3	5.6	7.0	6.2	5.6	9.9	10
28	9.1	6.6	1.8	6.2	5.9	4.3	5.4	7.2	6.2	5.6	10	11
29	9.1	6.9	1.8	6.2	5.9	4.5	5.4	18	5.6	5.6	10	11
30	9.5	-----	1.8	5.9	5.9	4.5	5.1	9.5	5.6	5.6	10	9.9
31	9.5	-----	1.8	-----	5.9	-----	4.8	7.2	-----	5.6	-----	9.9
TOTAL	279.2	200.2	133.2	184.6	275.2	147.8	1,044.5	307.4	1,221.8	208.0	206.4	309.9
MEAN	9.01	6.90	4.30	6.15	8.88	4.93	33.7	9.92	40.7	6.71	6.83	10.0
MAX	11	9.5	10	6.9	29	5.9	687	100	750	13	11	11
MIN	8.3	5.9	1.8	2.2	5.6	4.3	3.8	4.5	5.6	4.8	3.1	8.0
AC-FT	554	397	264	366	546	293	2,370	610	2,420	413	409	615
CAL YR 1972	TOTAL	4,518.2	MEAN	12.3	MAX	750	MIN	1.8	AC-FT	8,960		
WTR YR 1972	TOTAL	4,288.8	MEAN	11.7	MAX	750	MIN	1.8	AC-FT	8,510		

## PEAK DISCHARGE (BASE, 450 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-19	0030	7.30	4,490	9-2	0930	8.87	6,770
8-23	1100	3.03	545				

08406500 Pecos River near Malaga, N. Mex.

LOCATION.--Lat 32°12'26", long 104°01'22", in SW¼NW¼NE¼ sec.19, T.24 S., R.29 E., Eddy County, on right bank 3.1 miles southeast of Malaga, and 4.3 miles downstream from Black River.

DRAINAGE AREA.--19,190 sq mi, approximately (contributing area).

PERIOD OF RECORD.--May 1920 to current year. Monthly discharge only for some periods, published in WSP 1312.

GAGE.--Water-stage recorder. Datum of gage is 2,895.64 ft above mean sea level. May 1, 1920, to Mar. 24, 1949, at datum 3 ft higher.

AVERAGE DISCHARGE.--16 calendar years (1921-36), 271 cfs (196,300 acre-ft per year), prior to completion of Alamogordo Reservoir; 36 calendar years (1937-72) 201 cfs (145,600 acre-ft per year); 20 calendar years (1953-72), 89.2 cfs (64,630 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 4,150 cfs Sept. 10 (gage height, 12.15 ft); minimum, 7.0 cfs July 12, 13.  
Period of record: Maximum discharge, 120,000 cfs Aug. 23, 1966 (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, 5.0 cfs Mar. 9, 1965.  
The flood of Aug. 23, 1966, exceeded all known floods at this location. A major flood occurred in 1904, discharge not determined. Flood of Aug. 7, 1916, reached a discharge of 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 500 cfs, which are poor. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see sta 08384000, 08400500, 08403800), 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1632: 1925, 1932-37.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	32	23	21	16	12	12	12	12	23	25	55	46
2	30	21	21	17	12	11	11	11	717	24	42	46
3	29	20	21	18	11	11	9.4	11	426	30	34	46
4	28	20	20	15	11	11	9.2	13	855	39	30	45
5	28	20	20	20	11	9.7	8.8	13	683	39	29	44
6	29	20	24	17	12	9.7	9.1	13	115	36	29	43
7	29	19	26	15	12	12	9.3	37	56	28	28	45
8	28	19	24	14	22	11	8.6	16	110	26	26	43
9	28	19	20	14	16	10	8.2	13	206	24	24	42
10	28	19	18	14	31	9.9	7.9	12	2,040	25	23	46
11	28	18	16	13	17	10	7.5	11	582	27	23	47
12	27	19	15	13	13	16	7.4	11	1,680	27	23	46
13	27	19	14	12	12	13	7.7	11	639	27	25	47
14	27	19	14	12	12	11	8.9	13	140	33	37	48
15	27	18	14	11	12	11	8.8	63	441	27	41	47
16	26	18	13	11	11	12	8.8	34	1,100	33	42	47
17	25	18	14	11	11	26	8.0	14	902	31	46	48
18	26	18	13	11	11	12	7.9	12	529	31	52	46
19	27	18	13	13	11	12	7.7	14	162	33	53	46
20	27	17	13	12	11	11	138	16	154	40	56	47
21	27	17	13	11	11	10	28	14	146	75	56	48
22	26	17	15	11	19	10	16	15	71	67	54	47
23	26	17	24	12	14	10	14	36	51	49	49	47
24	26	17	23	12	11	9.7	12	66	38	49	49	46
25	25	19	19	12	10	9.1	11	20	31	46	52	45
26	26	21	26	12	9.9	8.9	10	16	27	39	54	45
27	27	21	26	12	10	8.5	10	14	30	43	49	45
28	27	21	22	15	10	8.9	12	15	31	38	47	46
29	27	21	18	14	12	8.8	13	14	26	35	46	47
30	26	-----	17	13	13	8.7	12	14	23	34	45	49
31	24	-----	15	-----	13	-----	14	17	-----	36	-----	50
TOTAL	843	553	572	403	403.9	334.2	1,195.5	591	12,034	1,116	1,219	1,430
MEAN	27.2	19.1	18.5	13.4	13.0	11.1	38.6	19.1	401	36.0	40.6	46.1
MAX	32	23	26	20	31	26	747	66	2,040	75	56	50
MIN	24	17	13	11	9.9	8.7	7.4	11	23	24	23	42
AC-FT	1,670	1,100	1,130	799	891	663	2,370	1,179	23,870	2,210	2,420	2,840
CAL YR 1972	TOTAL 20,694.6											
WTR YR 1972	TOTAL 18,966.6											
	MEAN 56.5											
	MEAN 51.8											
	MAX 2,040											
	MIN 7.4											
	AC-FT 41,250											
	AC-FT 37,620											

## PEAK DISCHARGE (BASE, 1,800 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
7-19	0530	9.55	2,270	9-10	1500	12.15	4,150
9-2	1430	10.30	2,800	9-12	1930	11.02	3,400
9-4	2030	9.21	2,050	9-15	2230	9.23	2,030





## 08407500 Pecos River at Red Bluff, N. Mex.

LOCATION.--Lat 32°04'30", long 104°02'21", in SW 1/4 sec. 1, T.26 S., R.28 E., Eddy County, on right bank at Red Bluff, 0.2 mile downstream from Red Bluff Draw, 1.6 miles northwest of the El Paso Natural Gas (Pecos River) compressor station, 5.2 miles north of the New Mexico-Texas state line, and 5.6 miles upstream from Delaware River.

DRAINAGE AREA.--19,540 sq mi, approximately (contributing area).

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,850.05 ft above mean sea level.

AVERAGE DISCHARGE.--35 calendar years, 191 cfs (138,400 acre-ft per year); 20 calendar years (1953-72), 94.2 cfs (68,250 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 2,530 cfs Sept. 11 (gage height, 8.02 ft); minimum, 1.6 cfs July 17.

Period of record: Maximum discharge, 111,000 cfs Aug. 23, 1966 (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, 1966.

The flood of Aug. 23, 1966, exceeded all known floods at this location. Flood in October 1904 reached a stage of 28.0 ft, from information by Panhandle and Santa Fe Railway Co. (For dates of other historical floods see sta 08405000, 08406500.)

REMARKS.--Records good. Flow regulated by storage in Alamogordo Reservoir, Lake McMillan, and Lake Avalon (see sta 08384000, 08400500, 08403800), and by several 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). Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	37	28	20	19	9.7	5.0	11	3.0	13	32	48	50
2	34	27	17	17	12	4.4	7.7	2.6	246	32	62	51
3	33	24	15	19	13	4.4	9.1	2.6	812	32	52	51
4	34	23	22	18	11	4.1	10	35	287	37	44	50
5	33	22	23	19	9.1	3.3	9.1	92	1,120	47	39	51
6	33	23	23	20	6.1	3.3	8.6	6.0	276	47	36	48
7	33	22	26	21	6.4	3.0	8.2	4.0	116	46	36	48
8	34	21	30	19	13	2.8	7.7	27	74	38	35	50
9	32	20	29	17	21	2.6	7.7	24	110	35	32	48
10	32	20	27	17	21	2.4	7.3	10	616	33	28	47
11	32	20	24	16	25	2.6	6.9	9.0	1,700	33	29	50
12	31	20	22	15	22	2.8	6.4	9.0	631	36	28	52
13	32	20	20	15	13	3.3	6.4	9.0	1,700	37	25	51
14	30	22	19	14	7.7	6.1	5.0	12	278	37	30	52
15	30	23	19	13	6.9	6.4	3.6	160	158	43	42	53
16	31	20	18	12	9.7	4.1	2.8	259	957	38	48	51
17	31	20	19	11	7.7	18	2.0	46	964	43	49	52
18	29	20	19	12	5.0	21	1.8	17	894	44	54	52
19	29	20	14	12	4.1	7.7	350	13	302	41	59	51
20	30	20	12	12	5.4	14	350	10	152	47	60	51
21	31	20	12	14	4.7	11	97	9.0	190	56	62	52
22	32	20	11	10	4.1	9.1	32	8.0	127	88	61	52
23	30	17	15	11	6.9	7.7	17	105	82	79	60	53
24	29	14	24	11	11	8.2	11	47	66	64	58	50
25	29	11	24	12	5.7	8.2	9.7	60	53	62	54	51
26	29	16	20	12	3.6	7.7	12	20	44	61	58	50
27	30	22	27	10	4.4	7.3	9.1	15	40	53	59	52
28	30	24	32	8.2	4.1	6.9	5.3	13	39	55	53	52
29	30	24	24	8.2	3.6	6.9	4.1	12	40	51	51	54
30	30	-----	22	10	3.6	6.4	3.6	13	35	49	50	56
31	30	-----	20	-----	4.7	-----	3.3	12	-----	47	-----	58
TOTAL	970	603	649	424.4	285.2	200.7	1,025.4	1,064.2	12,122	1,443	1,402	1,589
MEAN	31.3	20.8	20.9	14.1	9.20	6.69	33.1	34.3	404	46.5	46.7	51.3
MAX	37	28	32	21	25	21	350	259	1,700	88	62	58
MIN	29	11	11	8.2	3.6	2.4	1.8	2.6	13	32	25	47
AC-FT	1,920	1,200	1,290	842	566	398	2,030	2,110	24,040	2,860	2,780	3,150

CAL YR 1972 TOTAL 21,777.9 MEAN 59.5 MAX 1,700 MIN 1.8 AC-FT 43,200  
WTR YR 1972 TOTAL 19,627.9 MEAN 53.6 MAX 1,700 MIN 1.8 AC-FT 38,930

PEAK DISCHARGE (BASE, 1,800 CFS).--Sept. 11 (0600) 2,530 cfs (8.02 ft); Sept. 13 (0900) 2,430 cfs (7.93 ft).

08408500 Delaware River near Red Bluff, N. Mex.

LOCATION.--Lat 32°01'23", long 104°03'15", in NE¼SW¼SE¼ sec.23, T.26 S., R.28 E., Eddy County, near center of channel on downstream side of pier of bridge on U. S. Highway 285, 2.1 miles northwest of the New Mexico-Texas state line, 3.6 miles southwest of Red Bluff, 3.7 miles upstream from mouth, and 14 miles south of Malaga.

DRAINAGE AREA.--689 sq mi.

PERIOD OF RECORD.--April 1912 to September 1913, May 1914 to June 1915, October 1937 to current year. Published as "near Malaga" 1912-13, and as "near Angeles, Tex." 1914-15.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,900.66 ft above mean sea level. Prior to May 1914, at site 3 miles upstream at different datum. May 1914 to June 1915 at site 2.5 miles downstream at different datum.

AVERAGE DISCHARGE.--35 calendar years (1938-72), 14.3 cfs (10,360 acre-ft per year); 20 calendar years (1953-72), 15.9 cfs (11,520 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,270 cfs Sept. 7 (gage height, 5.96 ft); no flow at times.

Period of record: 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 most years.

Maximum stage known since at least 1911 is that of Oct. 2, 1955. Flood of June 27, 1938, reached a stage of 18.00 ft, from floodmark.

REMARKS.--Records poor. One small upstream diversion.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.0	3.5	3.5	2.9	1.3	1.1	.61	0	5.5	2.4	2.5	2.6
2	3.0	3.3	3.5	2.9	1.3	.93	0	0	254	2.4	2.5	2.5
3	3.0	3.3	3.3	2.9	1.3	.69	0	0	422	2.4	2.5	2.5
4	3.0	3.0	3.5	2.9	1.2	.51	.53	8.6	28	2.4	2.5	2.4
5	3.0	3.3	3.5	2.9	1.2	.43	.69	.47	18	2.4	2.5	2.2
6	3.0	3.0	3.3	2.8	1.3	.37	.15	2.8	14	2.5	2.4	2.1
7	3.0	3.0	3.3	2.7	1.4	.36	0	13	632	2.5	2.4	2.1
8	3.3	3.3	3.3	2.6	1.7	.41	0	8.9	55	2.5	2.2	2.5
9	3.3	3.3	3.3	2.5	1.5	.53	0	4.1	46	2.3	2.2	2.7
10	3.3	3.3	3.3	2.4	1.9	.49	0	3.7	18	2.1	2.2	2.7
11	3.3	3.3	2.9	2.3	1.8	.37	0	3.7	15	2.0	2.2	2.7
12	3.2	3.3	3.0	2.1	1.5	.35	0	1.2	49	2.0	2.4	2.7
13	3.1	3.5	3.0	2.1	2.5	1.3	0	.70	27	2.2	2.3	2.7
14	3.0	3.3	3.0	2.0	3.4	.72	0	.60	13	2.1	2.3	2.7
15	3.0	3.3	2.9	2.0	1.4	.49	0	46	10	2.2	2.4	2.7
16	3.0	3.3	2.9	2.0	1.3	.31	0	23	8.7	2.4	2.4	2.7
17	3.4	3.3	2.9	2.0	1.2	1.1	0	2.0	8.9	2.4	2.5	2.7
18	3.5	3.3	2.9	1.9	1.1	.27	0	1.5	7.4	2.2	2.8	2.7
19	3.4	3.3	2.9	1.8	1.1	.28	25	31	5.6	2.0	2.8	2.8
20	3.3	3.0	2.9	1.7	1.73	.22	5.0	16	4.8	3.7	2.6	2.7
21	3.4	3.0	2.9	1.6	7.1	.18	10	6.1	3.8	4.4	2.7	2.7
22	3.3	3.0	3.0	1.6	1.4	.14	7.4	3.7	3.3	3.5	2.7	2.7
23	3.3	3.0	3.0	1.5	.99	.08	1.8	46	3.2	3.0	2.8	2.6
24	3.2	3.0	3.0	1.5	.76	.06	.65	21	3.5	2.9	3.1	2.3
25	3.0	3.0	3.0	1.4	.64	.04	.15	8.4	3.1	2.9	3.0	2.3
26	3.0	3.0	2.9	1.3	.63	.02	.02	4.1	3.0	3.2	2.6	2.4
27	3.3	3.0	2.9	1.2	.58	0	0	5.2	2.9	3.0	2.5	2.4
28	3.3	3.3	2.7	1.1	.67	0	0	4.8	3.0	2.7	2.4	2.5
29	3.3	3.3	2.7	1.3	1.7	0	0	18	2.7	2.5	2.5	2.5
30	3.3	-----	2.9	1.3	1.4	0	0	12	2.4	2.4	2.6	2.4
31	3.3	-----	2.9	-----	1.1	-----	0	5.9	-----	2.6	-----	2.3
TOTAL	98.8	92.8	95.0	61.2	219.37	11.75	52.00	302.47	1,672.8	80.2	75.5	78.5
MEAN	3.19	3.20	3.06	2.04	7.08	.39	1.68	9.76	55.8	2.59	2.52	2.53
MAX	3.5	3.5	3.5	2.9	1.73	1.3	25	46	632	4.4	3.1	2.8
MIN	3.0	3.0	2.7	1.1	.58	0	0	0	2.4	2.0	2.2	2.1
AC-FT	196	184	188	121	435	23	103	600	3,320	159	150	156

CAL YR 1972 TOTAL 2,840.39 MEAN 7.76 MAX 632 MIN 0 AC-FT 5,630  
WTR YR 1972 TOTAL 3,025.39 MEAN 8.27 MAX 632 MIN 0 AC-FT 6,000

## PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
5-20	1745	5.60	2,740	9- 7	1045	5.96	3,270
9- 2	2315	5.04	2,060				

## RIO GRANDE BASIN

197

08410000 Red Bluff Reservoir near Orla, Tex.

LOCATION.--Lat 31°54'06", long 103°54'42", Reeves County, at right end of Red Bluff Dam on Pecos River, 3 miles upstream from Salt (Screwbean) Draw, and 4.5 miles north of Orla.

DRAINAGE AREA.--20,720 sq mi, approximately (contributing area).

PERIOD OF RECORD.--February 1937 to current year. Monthly contents only for some periods, published in WSP 1312.

GAGE.--Nonrecording gage read at irregular intervals. Datum of gage is 0.30 ft below mean sea level.

EXTREMES (at 0800).--Current year: Maximum contents observed, 49,100 acre-ft Dec. 29-31 (gage height, 2,803.7 ft); minimum observed, 23,000 acre-ft Aug. 14, 15 (gage height, 2,791.8 ft).

Period of record: Maximum contents observed, 352,000 acre-ft Sept. 27, 28, 1941 (gage height, 2,846.2 ft, observed on nonrecording 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 earthfill 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 divert water for power and irrigation. Contents computed from intermittent gage readings. 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 (top of conservation storage).....	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.

Capacity table (gage height, in feet, and total contents, in acre-feet)

2,790.0	20,400	2,798.0	34,400
2,792.0	23,300	2,800.0	39,000
2,794.0	26,600	2,802.0	44,000
2,796.0	30,300	2,804.0	50,000

CONTENTS, IN ACRE-FeET, AT END OF CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	43,750	45,200	45,500	45,200	35,200	33,350	31,300	23,620	24,260	45,200	46,100	47,300
2	43,750	45,200	45,500	45,200	34,400	33,140	31,100	23,460	23,940	45,200	46,100	47,300
3	43,750	45,200	45,500	45,200	34,400	33,140	31,100	23,300	25,410	45,200	46,100	47,600
4	44,600	45,200	45,500	45,200	34,400	32,430	30,400	23,300	27,140	45,200	46,100	47,600
5	44,600	45,200	45,500	45,200	34,190	32,430	30,700	23,300	28,040	45,200	46,100	47,600
6	44,600	45,200	45,500	45,200	34,190	32,720	30,700	23,150	29,540	45,200	46,100	47,600
7	44,600	45,200	45,500	45,200	34,190	32,720	30,500	23,460	29,730	44,900	46,100	47,600
8	44,600	45,200	45,500	45,200	33,900	32,510	30,300	23,300	30,500	45,200	46,100	47,600
9	44,600	45,500	45,500	45,200	33,900	32,510	29,400	23,300	30,110	45,200	46,400	47,600
10	44,600	45,500	45,500	45,200	33,900	32,300	29,730	23,300	29,420	45,200	46,400	47,600
11	44,600	45,500	45,500	45,200	33,900	32,430	29,340	23,150	31,300	45,200	46,400	47,900
12	44,600	45,500	45,500	45,200	33,900	32,720	29,350	23,150	34,400	45,200	46,400	47,900
13	44,600	45,500	45,500	45,200	33,900	32,720	29,160	23,150	35,940	45,200	46,400	47,900
14	44,600	45,500	45,500	44,900	33,770	32,510	28,740	23,000	38,750	45,200	46,400	47,900
15	44,600	45,500	45,500	43,500	33,770	32,510	28,400	23,000	39,750	45,200	46,400	48,200
16	44,600	45,500	45,500	42,750	33,770	32,300	28,220	24,740	44,000	45,200	46,400	48,200
17	44,600	45,500	45,500	42,250	33,770	32,300	28,040	25,070	41,500	45,200	46,400	48,200
18	44,600	45,500	45,500	42,000	33,500	32,300	27,850	24,900	42,750	45,200	46,400	48,200
19	44,600	45,500	45,500	41,500	33,500	32,300	27,500	24,900	44,300	45,200	46,400	48,200
20	44,600	45,500	45,500	41,000	33,200	32,300	27,040	24,740	44,600	45,200	46,400	48,200
21	44,600	45,500	45,500	40,500	34,400	32,300	26,400	24,740	44,900	45,200	46,400	48,200
22	44,600	45,500	45,500	40,000	34,190	32,300	26,220	24,400	44,900	45,200	46,400	48,200
23	44,600	45,500	45,500	39,500	34,190	32,100	26,040	25,240	45,200	45,200	46,400	48,500
24	44,600	45,500	45,500	39,000	33,900	32,100	25,900	25,410	45,200	45,200	46,700	48,500
25	44,600	45,500	45,500	38,500	33,900	32,100	25,600	25,410	45,200	45,200	46,700	48,500
26	44,600	45,500	45,500	38,040	33,770	31,900	25,500	25,500	45,200	45,200	46,700	48,800
27	44,600	45,500	45,500	37,320	33,770	31,700	25,500	25,500	45,200	45,500	47,000	48,800
28	44,600	45,500	45,500	36,600	33,770	31,500	25,100	25,500	45,200	45,800	47,000	48,800
29	44,600	45,500	45,500	35,720	33,500	31,500	24,900	25,240	44,900	45,800	47,000	49,100
30	45,200	-----	45,500	35,720	33,500	31,300	23,460	25,900	44,900	45,800	47,300	49,100
31	45,200	-----	45,200	-----	33,300	-----	23,780	24,740	-----	45,800	-----	49,100
(+)	2,802.4	2,802.5	2,802.4	2,798.6	2,797.5	2,796.5	2,792.3	2,792.9	2,802.3	2,802.6	2,803.1	2,803.7
(-)	+1,450	+300	-300	-9,480	-2,370	-2,050	-7,520	+960	+20,160	+900	+1,500	+1,800
MAX	45,200	45,800	45,800	45,200	35,280	33,350	31,300	25,580	45,200	45,800	47,300	49,100
MIN	43,750	45,200	45,200	35,720	33,350	31,300	23,780	23,000	23,940	44,900	46,100	47,300
CAL YR 1972.....	+ 5,350			MAX 49,100			MIN 23,000					
WTR YR 1972.....	+ 3,150			MAX 45,800			MIN 23,000					

+ Gage height, in feet, at end of month.

+ Change in contents, in acre-feet.

LOCATION.--Lat 31°52'21", long 103°49'52", Reeves County, on right bank at bridge on Farm Road 652, 5.5 miles downstream from Salt (Screwbean) Draw, 5.9 miles northeast of Orla, and 8.5 miles downstream from Red Bluff Reservoir.

PERIOD OF RECORD.--May 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,730.86 ft above mean sea level. Prior to Nov. 16, 1969 at site 6.9 miles downstream at datum 12.81 ft lower.

AVERAGE DISCHARGE.--35 calendar years, 188 cfs (136,200 acre-ft per year); 20 calendar years (1953-72), 87.8 cfs (63,610 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,130 cfs Aug. 23 (gage height, 8.68 ft); minimum daily discharge, 9.8 cfs Dec. 25, 26.  
Period of record: Maximum discharge, 23,700 cfs Sept. 29, 1941 (gage height, 20.74 ft, site and datum then in use); no flow at times in 1946 and 1965.

REMARKS.—Records good. Flow largely regulated by Red Bluff Reservoir (see sta 08410000) and reservoirs above Carlsbad, N. Mex. Occasional runoff from draws between dam and station. Many diversions above Red Bluff Reservoir for irrigation. Water quality records for the current year are published in Part 2 of report for Texas.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	17	16	12	11	236	42	44	47	124	28	22	18
2	17	17	12	12	168	43	45	47	198	29	21	19
3	16	17	12	12	44	43	45	48	192	29	24	20
4	16	28	11	12	40	43	44	47	189	32	22	17
5	17	23	11	12	37	43	44	46	187	32	23	18
6	17	14	12	12	38	43	69	45	185	31	24	17
7	17	14	12	11	38	43	93	47	221	30	23	17
8	17	14	12	11	47	43	95	46	189	30	22	17
9	17	14	12	11	41	44	95	47	189	30	24	18
10	17	14	12	11	40	44	95	47	191	31	23	17
11	17	14	12	11	40	85	94	47	196	29	24	17
12	16	14	12	11	40	89	103	48	190	27	24	17
13	14	14	12	34	40	59	169	47	225	25	25	16
14	13	14	13	416	40	49	163	76	190	23	22	15
15	13	13	13	388	40	45	104	73	214	22	23	15
16	13	13	12	184	40	45	104	227	192	21	22	15
17	13	13	12	182	40	45	102	77	196	22	22	14
18	14	13	11	181	40	45	104	56	166	23	23	14
19	16	13	11	181	48	44	104	52	19	20	23	14
20	17	13	12	180	58	44	107	50	14	18	24	13
21	15	13	12	178	47	43	152	51	17	19	20	11
22	15	12	12	179	40	42	271	55	21	23	19	11
23	14	13	13	178	40	42	253	602	24	23	18	10
24	13	14	12	177	41	42	245	329	28	20	19	10
25	12	13	13	179	40	43	239	91	26	17	20	9.8
26	12	12	13	197	40	43	237	60	24	18	21	9.8
27	12	12	12	249	40	42	230	53	26	19	20	9.9
28	13	12	12	252	41	42	86	86	27	22	19	10
29	14	13	11	251	41	43	47	355	27	18	18	12
30	14	-----	11	251	42	45	47	180	27	21	18	12
31	14	-----	11	-----	41	-----	46	122	-----	23	-----	11
TOTAL	462	419	370	3,974	1,608	1,408	3,676	3,204	3,714	755	652	444.5
MEAN	14.9	14.4	11.9	132	51.9	46.9	119	103	124	24.4	21.7	14.3
MAX	17	28	13	416	236	89	271	602	225	32	25	20
MIN	12	12	11	11	37	42	44	45	14	17	18	9.8
AC-FT	916	831	734	7,880	3,190	2,790	7,290	6,360	7,370	1,500	1,290	882
CAL YR 1972	TOTAL 20,686.5	MEAN 56.5	MAX 602	MIN 9.8	AC-FT 41,030							
WTR YR 1972	TOTAL 22,709.0	MEAN 62.0	MAX 758	MIN 11	AC-FT 45,040							

08476300 Mimbres River at McKnight damsite, near Mimbres, N. Mex.

LOCATION.--Lat 32°56'14", long 108°00'55", in SW¼SE¼ sec.6, T.16 S., R.11 W., Grant County, 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.--97.3 sq mi.

PERIOD OF RECORD.--November 1963 to October 1972 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 6,236.73 ft above mean sea level.

AVERAGE DISCHARGE.--8 calendar years (1964-71), 4.37 cfs (3,170 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,810 cfs Oct. 20 (gage height, 3.98 ft), on basis of slope-area measurement of peak flow; no flow most of year.

Period of record: Maximum discharge, 2,060 cfs July 31, 1971 (gage height, 4.60 ft), from rating curve extended above 220 cfs on basis of slope-area measurements at gage heights 3.34 ft and 4.60 ft; no flow most of the time many years.

REMARKS.--Records good except those for October, which are fair. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	9.1	5.0	1.2				0	0	23	4.3		
2	11	4.7	.90				0	0	17	4.3		
3	14	4.3	.80				0	3.8	132	4.0		
4	12	4.0	.80				0	.15	38	4.7		
5	7.2	4.0	.70				0	0	21	5.0		
6	8.6	4.3	.44				0	0	13	5.0		
7	7.7	4.3	.32				0	0	8.2	4.7		
8	7.7	4.0	.26				0	0	6.5	4.3		
9	7.2	4.0	.17				0	0	41	4.0		
10	6.1	4.0	.10				0	0	28	3.6		
11	6.1	3.6	.06				0	0	24	4.0		
12	6.1	3.6	.03				0	0	129	6.1		
13	5.4	3.4	.01				0	0	102	5.8		
14	5.0	3.4	0				0	0	136	4.3		
15	4.7	3.4	0				0	0	57	4.0		
16	5.0	3.4	0				0	1.7	34	3.6		
17	4.7	3.1	0				0	0	22	3.4		
18	4.3	2.9	0				0	0	15	4.3		
19	4.3	2.9	0				0	0	11	86		
20	4.3	2.7	0				0	0	8.2	900		
21	4.7	2.5	0				0	0	6.5	350		
22	4.7	2.5	0				0	0	5.4	150		
23	4.7	2.3	0				0	0	5.0	80		
24	4.7	2.1	0				0	0	4.7	54		
25	4.7	1.9	0				0	0	4.7	44		
26	4.3	1.7	0				0	1.3	4.7	40		
27	4.3	1.7	0				.07	36	4.7	35		
28	4.3	1.5	0				1.2	11	4.7	32		
29	4.7	1.5	0				0	4.3	4.3	30		
30	4.7	-----	0				0	6.1	4.3	28		
31	5.0	-----	0	-----		-----	0	2.7	-----	27	-----	
TOTAL	191.3	92.7	5.79	0	0	0	1.27	67.05	914.9	1,935.4		
MEAN	6.17	3.20	.19	0	0	0	.041	2.16	30.5	62.4		
MAX	14	5.0	1.2	0	0	0	1.2	36	136	900		
MIN	4.3	1.5	0	0	0	0	0	0	4.3	3.4		
AC-FT	379	184	11	0	0	0	2.5	133	1,810	3,840		

WTR YR 1972 TOTAL 2,041.88 MEAN 5.58 MAX 281 MIN 0 AC-FT 4,050

## PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
9-3	0600	3.48	486	10-20	0500	3.98	1,810
9-14	1530	3.83	739				

## MIMBRES RIVER BASIN

08477000 Mimbres River near Mimbres, N. Mex.

LOCATION.--Lat 32°52'28", long 107°59'05", in SE 1/4 sec.33, T.16 S., R.11 W., Grant County, on left bank 0.7 mile downstream from Bear Canyon, and 1.5 miles northwest of Mimbres.

DRAINAGE AREA.--152 sq mi.

PERIOD OF RECORD.--June 1921 to September 1930 (fragmentary), October 1930 to current year. 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. 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.--42 calendar years, 10.6 cfs (7,680 acre-ft per year); 20 calendar years (1953-72), 10.5 cfs (7,610 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 3,370 cfs Oct. 20 (gage height, 7.49 ft), from rating curve extended as explained below; minimum, 2.2 cfs Aug. 24.

Period of record: Maximum discharge determined, 3,370 cfs Oct. 20, 1972 (gage height, 7.49 ft), from rating curve extended above 600 cfs on basis of slope-area measurements at gage heights 6.20 and 7.49 ft; minimum, 0.7 cfs Aug. 10, 1951.

REMARKS.--Records good except those for October and November, which are poor. Some regulation by Bear Canyon Reservoir 1.3 miles upstream (capacity, 700 acre-ft). Diversions for irrigation of about 300 acres above station.

REVISIONS (WATER YEARS).--WSP 1282: Drainage area. WSP 1512: 1931, 1933(M), 1935(M), 1937(M), 1938, 1939-40(M), 1941, 1942-43(M), 1944, 1945(M), 1946, 1947(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	21	16	8.0	8.0	3.5	5.8	2.2	3.2	35	11	45	16
2	24	15	6.7	8.0	3.6	5.9	2.3	2.8	17	11	40	16
3	27	14	6.3	8.0	3.8	6.3	2.4	3.6	289	8.9	38	15
4	25	14	5.9	8.0	4.0	6.1	2.4	4.2	95	7.3	36	15
5	19	14	6.0	8.4	4.9	4.6	2.4	2.8	42	8.1	34	16
6	22	14	5.5	8.1	5.4	4.1	2.4	2.8	26	7.7	32	15
7	21	13	4.5	5.8	6.3	3.8	2.7	2.8	18	13	30	15
8	20	13	3.6	4.7	5.5	3.5	2.7	3.0	17	15	28	14
9	19	13	3.6	5.8	4.6	5.1	3.0	3.2	90	14	27	13
10	18	13	3.7	5.7	4.5	6.2	4.0	3.3	45	13	26	13
11	18	9.7	4.2	5.3	4.2	6.3	3.4	3.1	29	13	25	14
12	18	7.7	6.0	4.6	4.4	6.4	3.3	3.0	160	15	25	13
13	17	7.7	7.1	4.6	4.4	4.6	3.6	3.4	129	17	24	12
14	16	7.4	6.4	5.1	4.4	3.3	4.0	3.7	168	13	24	11
15	16	7.6	6.1	6.1	4.4	3.2	3.2	3.7	85	13	24	11
16	17	10	6.1	6.0	5.0	2.9	3.7	4.8	46	13	23	11
17	17	11	5.3	6.2	5.7	2.5	3.6	4.4	32	13	24	11
18	17	11	6.0	7.8	5.4	2.5	4.7	3.9	24	13	23	11
19	16	11	7.9	7.6	6.3	2.4	6.4	3.8	19	208	22	10
20	16	11	7.3	7.5	6.5	2.4	5.8	3.8	16	1,070	21	10
21	15	11	7.4	6.7	6.2	2.6	5.5	35	14	700	20	10
22	16	10	7.2	6.5	6.2	2.8	5.5	6.3	13	500	20	10
23	16	9.5	5.7	7.3	9.6	2.6	5.2	5.7	13	200	20	10
24	19	9.4	4.9	6.9	8.8	2.3	5.2	3.7	13	95	21	10
25	18	9.7	5.0	6.3	9.1	2.1	7.4	2.3	12	86	20	10
26	18	9.1	6.1	5.1	11	2.0	5.7	3.6	12	76	19	10
27	17	9.3	6.9	4.2	7.9	2.7	5.4	75	13	70	18	11
28	17	10	6.6	4.2	7.9	2.5	5.2	21	12	63	17	13
29	16	16	6.2	4.1	7.9	2.2	5.0	17	13	56	17	13
30	16	-----	5.0	3.5	8.1	2.3	4.6	12	13	49	17	12
31	16	-----	7.5	-----	6.2	-----	3.7	13	-----	46	-----	12
TOTAL	568	321.1	186.7	186.1	187.9	111.5	126.6	263.9	1,510	3,440.0	758	383
MEAN	18.3	11.1	6.02	6.20	6.06	3.72	4.06	8.51	50.5	111	25.3	12.4
MAX	27	16	8.6	8.4	11	6.4	7.4	75	289	1,070	43	16
MIN	15	7.4	3.6	3.5	3.5	2.0	2.2	2.3	12	7.3	17	10
AC-FT	1,130	637	370	369	373	221	251	523	3,000	6,820	1,500	760

CAL YR 1972 TOTAL 8,042.8 MEAN 22.3 MAX 1,070 MIN 2.0 AC-FT 15,950

WTR YR 1972 TOTAL 5,136.1 MEAN 14.0 MAX 328 MIN 2.0 AC-FT 10,190

## PEAK DISCHARGE (BASE, 290 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8-21	0300	5.14	550	9-14	1715	4.87	465
9-2	0445	5.86	850	10-20	0630	7.49	3,370

08481500 Rio Tularosa near Bent, N. Mex.

LOCATION.--Lat 33°08'41", long 105°53'50", in SE 1/4 sec. 32, T.13 S., R.11 E., Lincoln County, 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.

PERIOD OF RECORD.--December 1947 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,450 ft (from topographic map).

AVERAGE DISCHARGE.--25 calendar years, 9.48 cfs (6,870 acre-ft per year); 20 calendar years (1953-72), 8.96 cfs (6,490 acre-ft per year).

EXTREMES.--Current year: Maximum discharge about 2,090 cfs Aug. 27 (gage height 3.92 ft); minimum, 1.4 cfs Mar. 22.

Period of record: 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1312: 1949(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	6.1	12	11	11	4.8	11	5.8	4.8	13	7.5	12	9.5
2	7.5	12	11	10	6.9	11	5.8	6.2	14	7.2	12	9.5
3	7.3	11	11	9.5	13	11	3.6	7.5	14	6.9	12	9.5
4	5.0	10	10	7.1	9.9	11	2.9	6.7	15	6.0	11	9.5
5	4.0	11	9.9	12	9.8	8.0	5.8	7.5	19	7.7	11	9.2
6	7.0	11	9.2	13	8.5	7.4	6.2	6.9	18	6.4	11	9.2
7	7.7	11	9.1	11	9.3	12	6.2	5.6	18	8.0	11	9.2
8	8.3	9.9	9.6	12	11	9.9	6.2	6.4	9.2	8.0	11	9.2
9	8.2	10	9.0	12	7.3	12	4.3	7.7	9.9	7.7	11	8.9
10	8.3	10	8.6	13	7.5	11	3.1	8.0	11	7.7	11	9.2
11	8.0	9.2	9.3	12	6.7	7.7	5.2	7.5	18	7.7	10	11
12	8.0	11	8.6	11	10	7.4	8.0	6.9	7.7	8.3	10	10
13	8.6	10	9.3	13	10	8.7	8.0	9.2	12	8.3	10	9.9
14	9.3	10	9.7	11	12	10	7.5	5.6	12	8.3	9.9	10
15	9.1	9.4	8.3	12	7.6	7.5	8.0	9.2	11	8.0	9.2	9.5
16	9.1	8.2	9.1	9.1	5.0	7.5	7.5	10	11	8.3	9.2	9.5
17	9.1	8.2	7.2	7.0	5.0	6.9	4.6	20	10	8.3	10	10
18	9.1	8.0	5.7	7.3	4.8	6.7	10	12	9.5	8.0	11	11
19	9.5	10	4.9	13	11	6.0	8.0	9.2	8.9	8.3	10	10
20	9.5	9.7	5.9	12	28	6.2	7.7	9.2	8.6	30	9.9	11
21	9.3	9.5	5.4	11	17	6.0	7.3	9.2	8.6	8.0	9.9	11
22	10	11	4.9	8.2	20	5.2	8.5	8.3	8.6	8.3	9.9	11
23	10	11	6.3	9.4	20	4.3	6.9	7.7	8.6	8.3	10	11
24	10	11	6.6	9.7	20	4.2	6.9	8.3	8.0	7.7	11	11
25	9.7	11	9.6	12	20	3.9	7.2	8.3	7.7	7.7	10	11
26	10	10	9.2	9.3	19	3.8	7.5	8.9	7.7	8.9	10	11
27	10	10	8.8	8.0	9.3	3.6	6.9	70	7.5	8.9	9.9	11
28	10	10	8.2	8.0	6.6	4.6	6.7	14	7.5	9.5	9.9	12
29	11	10	6.9	7.4	7.2	5.6	6.7	12	7.5	10	9.9	13
30	12	-----	10	4.6	7.1	5.8	6.4	11	7.5	11	9.9	11
31	12	-----	9.3	-----	12	-----	5.0	11	-----	12	-----	12
TOTAL	272.7	295.1	261.6	305.6	346.3	225.9	200.4	334.8	329.0	276.9	312.6	319.8
MEAN	8.80	10.2	8.44	10.2	11.2	7.53	6.46	10.8	11.0	8.93	10.4	10.3
MAX	12	12	11	13	28	12	10	70	19	30	12	13
MIN	4.0	8.0	4.9	4.6	4.8	3.6	2.9	4.8	7.5	6.0	9.2	8.9
AC-FT	541	585	519	606	687	448	397	664	653	549	620	634
CAL YR 1972	TOTAL 3,480.7											
WTR YR 1972	TOTAL 3,442.0											
	MEAN 9.51 MAX 70 MIN 2.9 AC-FT 6,900											
	MEAN 9.40 MAX 70 MIN 2.9 AC-FT 6,830											

## PEAK DISCHARGE (BASE, 125 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
8-17	1530	3.08	412	10-20	0700	2.97	295
8-27	1530	3.92	2,090				

## TULAROSA VALLEY

08486250 Tularosa Valley Tributary near White Sands, N. Mex.

LOCATION.--Lat 32°24'11", long 106°28'46", in SW¼SW¼ sec.7, T.22 S., R.5 E., Dona Ana County, on right upstream wingwall of culvert 1.2 miles north of entrance gate to White Sands Missile Range on paved road 2.6 miles south of U. S. Highway 70.

DRAINAGE AREA.--17.2 sq mi.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,230 ft (from topographic map).

AVERAGE DISCHARGE.--7 calendar years, .104 cfs (75 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 560 cfs Aug. 27 (gage height, 4.50 ft); no flow for most of time.

Period of record: Maximum discharge, 1,460 cfs Aug. 31, 1969 (gage height, 5.85 ft) from rating curve extended on basis of slope-area measurements at gage heights 4.34, 5.64 and 5.85 ft; no flow for most of time.

REMARKS.--Records poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1							0	0	.44	0		
2							0	0	0	0		
3							0	0	.53	0		
4							0	0	0	0		
5							0	0	0	2.3		
6							0	9.4	0	0		
7							0	9.4	0	0		
8							0	1.4	0	0		
9							0	3.6	0	0		
10							0	0	0	0		
11							0	0	0	0		
12							0	0	0	0		
13							0	1.9	0	0		
14							0	0	0	0		
15							0	0	.27	0		
16							0	0	0	0		
17							0	0	0	0		
18							0	0	0	2.0		
19							1.0	0	0	2.0		
20							0	0	0	4.0		
21							6.2	0	0	0		
22							1.0	0	0	0		
23							0	0	0	0		
24							0	0	0	0		
25							0	0	0	0		
26							0	11	0	2.0		
27							0	21	0	0		
28							0	0	0	0		
29							0	4.6	0	0		
30							0	0	0	0		
31							0	0	-----	0	-----	
TOTAL	0	0	0	0	0	0	8.2	74.9	1.24	12.3	0	0
MEAN	0	0	0	0	0	0	.26	2.42	.041	.40	0	0
MAX	0	0	0	0	0	0	6.2	21	.53	4.0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC=FT	0	0	0	0	0	0	16	149	2.5	24	0	0

CAL YR 1972 TOTAL 96.64 MEAN .26 MAX 21 MIN 0 AC=FT 192  
 WTR YR 1972 TOTAL 84.61 MEAN .23 MAX 21 MIN 0 AC=FT 168

## PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-21	1915	3.16	132	8-27	unknown	4.50	560
8-6	1945	3.15	130	8-29	1400	3.52	215
8-8	2130	3.60	235				



## TULAROSA VALLEY

203

08486260 Tularosa Valley tributary at White Sands, N. Mex.

LOCATION.--Lat 32°22'05", long 106°28'44", in SE 1/4 sec. 25, T.22 S., R.4 E., Dona Ana County, on left upstream wingwall of culvert 2,000 ft south of Raritan Avenue in White Sands.

DRAINAGE AREA.--21.0 sq mi.

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,230 ft (from topographic map).

AVERAGE DISCHARGE.--7 calendar years, 0.115 cfs (83 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 816 cfs Aug. 27 (gage height, 5.94 ft); no flow for most of time.

Period of record: Maximum discharge, 909 cfs Aug. 31, 1969 (gage height, 5.45 ft, from rating curve extended above 50 cfs on basis of slope-area measurements at gage heights 5.24 ft (5.7, outside), 4.04 ft (4.7, outside), 5.45 ft and 5.78 ft; no flow for most of time.

REMARKS.--Records poor.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1						0	0	0	18	0		0
2						0	0	0	0	0		0
3						0	0	0	0	0		0
4						0	0	0	0	0		0
5						0	0	0	0	0		0
6						0	0	0	0	0		0
7						0	0	0	0	0		0
8						0	0	4.6	0	0		0
9						0	0	0	0	0		0
10						0	0	0	0	0		0
11						0	0	0	0	0		0
12						.02	0	0	0	0		0
13						0	0	0	0	0		0
14						0	0	0	0	0		0
15						0	0	0	0	0		0
16						0	0	0	0	0		0
17						0	0	0	0	0		0
18						0	0	0	0	0		0
19						0	9.9	0	0	.27		0
20						0	0	0	0	6.6		0
21						0	0	0	0	0		0
22						0	0	0	0	0		0
23						0	0	0	0	0		0
24						0	0	0	0	0		0
25						0	0	0	0	4.4		0
26						0	0	0	0	0		0
27						0	0	42	0	0		0
28						0	0	0	0	0		0
29						0	0	0	0	0		0
30						0	0	0	0	0		3.1
31						0	0	0	0	0		0
TOTAL	0	0	0	0	0	.02	9.9	46.6	18	11.27	0	3.1
MEAN	0	0	0	0	0	.0007	.32	1.50	.60	.36	0	.10
MAX	0	0	0	0	0	.02	9.9	.02	18	6.6	0	3.1
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC=FT	0	0	0	0	0	.04	20	92	36	22	0	6.1

CAL YR 1972 TOTAL 88.89 MEAN .24 MAX 42 MIN 0 AC=FT 176  
 \*TR YR 1972 TOTAL 74.53 MEAN .20 MAX 42 MIN 0 AC=FT 148

PEAK DISCHARGE (BASE, 350 CFS).--Aug. 27 (0945) 816 cfs (5.94 ft); Sept. 1 (2030) 792 cfs (5.78 ft).

## COLORADO RIVER BASIN

## SAN JUAN RIVER BASIN

09346400 San Juan River near Carracas, Colo.

LOCATION.--Lat 37°00'49", long 107°18'42", in SE&SW¼ sec.17, T.32 N., R.4 W., Archuleta County, on right bank just upstream from flow line of Navajo Reservoir, 3 miles northwest of Carracas, 7.2 miles upstream from Piedra River, and at mile 178.8.

DRAINAGE AREA.--1,230 sq mi. approximately.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,090 ft (from river-profile map).

AVERAGE DISCHARGE.--11 calendar years, 583 cfs (422,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 7,690 cfs Oct. 20 (gage height, 7.12 ft); minimum, 43 cfs Aug. 5, 6.  
Period of record: Maximum discharge, 9,730 cfs Sept. 6, 1970 (gage height, 8.34 ft), from rating curve extended above 5,700 cfs on basis of slope-area measurement of peak flow; minimum, about 5 cfs Dec. 10, 1961, result of freezeup.  
Other major floods occurred Sept. 5 or 6, 1909; Oct. 5, 1911; June 29, 1927.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 11,000 acres above station. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	115	96	316	302	717	1,080	179	70	81	83	648	208
2	110	92	263	303	756	989	183	66	72	85	551	216
3	120	80	276	287	790	920	174	64	72	84	573	204
4	115	80	315	291	847	933	166	56	70	83	513	197
5	110	85	332	302	929	934	190	48	70	702	476	197
6	120	90	340	334	847	897	193	66	68	491	457	150
7	120	90	368	357	782	855	199	61	104	379	447	170
8	124	87	386	391	717	836	169	54	149	1,030	429	180
9	115	88	422	452	694	794	153	68	114	603	463	190
10	105	89	449	515	719	745	146	67	111	509	427	170
11	110	79	485	570	708	689	142	62	110	368	397	160
12	110	80	500	620	680	671	132	60	144	322	407	150
13	115	84	513	618	677	765	117	56	141	547	375	130
14	105	90	509	541	698	677	101	68	121	451	353	120
15	100	100	477	495	757	594	104	68	107	427	364	110
16	105	130	432	487	835	549	93	64	98	868	338	120
17	105	200	431	500	854	553	116	54	84	885	337	140
18	110	320	429	529	895	506	130	68	79	918	349	150
19	110	410	447	501	956	462	122	76	74	2,800	334	130
20	112	550	449	489	1,010	413	125	94	314	4,990	329	130
21	114	560	435	466	1,210	367	108	100	190	2,010	308	120
22	115	614	434	497	1,150	346	108	86	144	1,250	261	120
23	124	619	457	536	965	330	101	66	130	951	245	130
24	125	460	451	624	911	350	96	52	120	750	259	130
25	105	365	408	710	927	309	100	49	114	659	255	130
26	120	285	393	692	961	287	144	55	101	628	246	130
27	130	270	376	643	951	248	144	90	96	584	240	140
28	102	282	366	632	965	229	110	92	94	674	233	150
29	114	310	322	674	1,020	209	94	87	88	574	217	170
30	105	-----	306	737	1,080	202	82	83	85	552	206	150
31	97	-----	310	-----	1,060	-----	74	90	-----	656	-----	140
TOTAL	3,487	6,685	12,397	15,095	27,068	17,739	4,095	2,140	3,345	25,913	11,037	4,732
MEAN	112	231	400	503	873	591	132	69.0	112	836	368	153
MAX	130	619	513	737	1,210	1,080	199	100	314	4,990	648	216
MIN	97	79	263	287	677	202	74	48	68	83	206	110
AC-FT	6,920	13,260	24,590	29,940	53,690	35,190	8,120	4,240	6,630	51,400	21,890	9,390

CAL YR 1972 TOTAL 133,733 MEAN 365 MAX 4,990 MIN 48 AC-FT 265,300  
WTR YR 1972 TCTAL 114,241 MEAN 312 MAX 1,220 MIN 48 AC-FT 226,600

PEAK DISCHARGE (BASE, 2,500 CFS).-- Oct. 20 (0100) 7,690 cfs (7.12 ft).

## SAN JUAN RIVER BASIN

205

09349800 Piedra River near Arboles, Colo.

LOCATION.--Lat 37°05'18", long 107°23'50", in NE¼SW¼ sec.21, T.33 N., R.5 W., Archuleta County, on left bank 3 miles downstream from Ignacio Creek, 5.2 miles northeast of Arboles Post Office, and 8 miles upstream from mouth.

DRAINAGE AREA.--629 sq mi.

PERIOD OF RECORD.--August 1962 to current year. Gage operated 1895-1899, 1910-1927 at a site 7.5 miles downstream at altitude 6,000 ft. Low flow records probably not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 6,147.52 ft above mean sea level (from Colorado State Highway Department bench mark).

AVERAGE DISCHARGE.--10 calendar years, 318 cfs (230,400 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 5,580 cfs Oct. 19 (gage height, 5.55 ft); minimum, 24 cfs Aug. 17.

Period of record: Maximum discharge, 8,370 cfs Sept. 6, 1970 (gage height, 6.38 ft recorded, 7.55 ft from floodmarks) from rating curve extended above 3,100 cfs on basis of slope-area measurement of peak flow; minimum, 11 cfs Dec. 9, 1963, Oct. 1, 1966. Other major floods occurred Sept. 5 or 6, 1909; Oct. 5, 1911.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 2,800 acres above station. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	100	75	185	271	589	792	121	36	37	40	664	350
2	90	70	159	260	621	760	121	34	42	38	64	350
3	95	65	167	244	649	716	117	36	43	38	67	300
4	80	60	212	246	708	728	111	36	42	38	655	310
5	82	62	286	260	739	713	107	36	39	250	647	330
6	86	64	324	300	661	689	117	38	60	185	629	250
7	88	64	368	331	580	672	112	38	88	215	585	260
8	88	62	378	390	508	762	100	35	130	520	573	270
9	86	64	407	455	482	796	89	36	96	345	573	210
10	80	66	454	507	487	652	82	36	76	256	542	200
11	78	66	502	564	46	568	80	38	74	199	543	200
12	80	62	509	613	419	537	77	38	84	167	571	210
13	84	66	538	579	420	551	72	35	76	220	542	190
14	80	72	542	498	451	467	66	35	70	210	564	170
15	76	80	486	441	532	425	60	35	59	202	562	140
16	76	85	431	420	623	380	54	34	63	470	530	150
17	78	90	430	429	660	378	52	29	56	550	554	160
18	80	103	433	461	678	332	59	31	51	538	547	180
19	84	112	465	432	745	306	48	36	51	2,370	539	160
20	86	126	453	424	745	282	44	40	58	4,140	537	170
21	88	141	430	393	850	256	43	41	65	1,570	524	140
22	88	168	437	402	764	237	41	38	60	1,320	490	130
23	90	168	463	443	628	232	38	34	55	814	462	140
24	92	171	457	529	580	222	38	31	52	722	477	150
25	105	158	412	636	621	200	40	31	50	664	464	150
26	100	142	399	619	640	179	64	36	48	628	440	150
27	88	134	372	541	638	161	53	42	47	602	460	140
28	97	141	345	502	634	147	46	46	45	667	407	150
29	90	162	287	543	672	141	42	46	41	612	423	180
30	85	-----	283	607	734	131	40	48	41	581	389	160
31	80	-----	275	-----	764	-----	40	42	-----	631	-----	130
TOTAL	2,680	2,899	11,889	13,340	19,284	13,412	2,165	1,147	1,799	19,482	16,208	6,130
MEAN	86.5	100	384	445	622	447	69.8	37.0	60.0	628	540	198
MAX	105	171	542	636	850	796	121	48	130	4,140	670	350
MIN	76	60	159	244	419	131	38	29	37	38	389	130
AC-FT	5,320	5,750	23,580	26,460	38,250	26,600	4,290	2,280	3,570	38,640	32,150	12,160

CAL YR 1972 TOTAL 110,435 MEAN 302 MAX 4,140 MIN 29 AC-FT 219,000  
WTR YR 1972 TOTAL 83,729 MEAN 229 MAX 850 MIN 29 AC-FT 166,100

PEAK DISCHARGE (BASE, 1,500 CFS).--Oct. 19 (2230) 5,580 cfs (5.55 ft).



09355000 Spring Creek at La Boca, Colo.

LOCATION.--Lat 37°00'46", long 107°35'42", in 8½ sec.15, T.32 N., R.7 W., La Plata County, on right bank in an excavated channel, 0.2 mile upstream from mouth, and 0.2 mile east of La Boca.

DRAINAGE AREA.--58 sq mi, approximately.

PERIOD OF RECORD.--October 1950 to current year. Monthly discharge only for some periods, published in WSP 1733.

GAGE.--Water-stage recorder. Altitude of gage is 6,160 ft (from topographic map).

AVERAGE DISCHARGE.--22 calendar years, 29.2 cfs (21,160 acre-ft per year); 20 calendar years (1953-72), 29.6 cfs (21,450 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,640 cfs Oct. 19 (gage height, 4.19 ft); minimum 1.0 cfs Jan. 7, 8.

Period of record: Maximum discharge, 1,980 cfs Sept. 6, 1970 (gage height, 4.62 ft), from rating curve extended above 160 cfs on basis of field estimate of peak flow; maximum gage height, 5.98 ft Mar. 9, 1960 (backwater from ice); minimum discharge, 0.6 cfs Nov. 27, 1959.

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, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.1	4.2	3.9	2.9	36	61	56	63	54	25	22	2.9
2	3.0	4.6	3.2	2.7	32	58	53	72	53	26	22	3.0
3	2.9	4.8	3.4	2.9	35	63	63	63	57	17	26	3.1
4	2.8	5.2	3.5	8.5	47	66	67	38	48	26	19	3.4
5	2.8	4.7	3.4	9.5	46	63	69	35	42	77	21	2.8
6	2.0	4.1	3.2	9.9	59	57	70	33	43	39	16	2.5
7	1.5	3.7	3.2	9.8	65	65	72	33	70	136	15	3.7
8	1.1	3.5	3.2	7.1	63	122	75	30	48	63	15	5.2
9	1.7	4.1	3.1	7.8	53	93	81	31	47	28	14	6.4
10	2.0	4.9	3.1	21	55	80	82	34	46	23	14	4.7
11	2.7	4.9	3.1	23	49	79	72	36	45	16	14	5.2
12	2.8	4.6	3.1	28	49	92	71	28	51	14	15	4.0
13	2.8	4.8	3.0	30	53	109	72	36	40	111	17	4.5
14	2.6	5.2	3.9	32	55	91	72	30	36	22	16	4.8
15	2.2	5.4	3.7	23	46	81	68	30	34	55	21	4.2
16	2.8	5.0	3.0	20	43	79	72	28	37	160	18	4.4
17	3.1	5.4	3.0	25	43	82	87	32	36	74	18	4.6
18	3.5	5.2	3.0	45	48	75	75	45	38	131	25	4.7
19	3.5	5.2	2.9	14	49	68	71	66	43	702	17	5.0
20	3.8	5.3	2.8	19	49	63	77	57	47	442	17	4.8
21	4.0	5.2	2.8	25	46	58	77	56	42	42	13	4.8
22	4.0	6.6	2.8	22	51	64	82	46	40	32	11	4.8
23	4.1	8.1	3.4	21	56	61	77	42	44	51	8.6	4.7
24	4.5	5.2	3.1	26	57	64	88	39	45	30	6.8	4.7
25	4.1	4.6	2.7	30	53	56	97	43	42	40	5.5	4.8
26	4.0	4.2	2.8	16	52	55	78	115	41	35	4.5	4.6
27	3.8	4.2	2.5	5.5	51	53	71	105	40	63	3.5	5.0
28	3.4	3.9	2.4	18	55	56	73	72	41	138	2.8	5.0
29	3.3	4.0	2.6	34	63	58	73	66	41	80	2.8	4.5
30	3.7	-----	2.7	32	59	58	77	64	38	40	2.8	4.5
31	4.0	-----	2.9	-----	64	-----	71	59	-----	22	-----	4.7
TOTAL	95.6	140.6	93.8	570.6	1,566	2,127	2,277	1,512	1,322	2,724	417.3	136.0
MEAN	3.08	4.86	3.03	19.0	50.5	70.9	73.5	48.8	44.1	87.9	13.9	4.39
MAX	4.5	8.1	3.9	45	65	122	97	115	70	732	25	6.4
MIN	1.1	3.5	2.4	2.7	32	53	55	28	34	14	2.8	2.5
AC-FT	190	279	186	1,130	3,116	4,220	4,520	3,000	2,620	5,400	828	270

CAL YR 1972 TOTAL 12,982.1 MEAN 35.5 MAX 732 MIN 1.1 AC-FT 25,750

WTR YR 1972 TOTAL 11,118.6 MEAN 30.4 MAX 147 MIN 1.1 AC-FT 22,050

## PEAK DISCHARGE (BASE, 180 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
6-8	1530	1.91	253	10-18	1900	2.31	414
8-26	1615	2.53	494	10-19	1915	4.19	1,640
10-13	0930	1.88	259	10-28	0045	2.10	342
10-16	0145	2.23	382				

## 09355100 Navajo Reservoir near Archuleta, N. Mex.

LOCATION.--Lat 36°48'28", long 107°36'31", in SW¼SE¼ sec.18, T.30 N., R.7 W., San Juan County, in gage shaft of outlet works structure near right abutment of Navajo Dam on San Juan River, 5.5 miles east of Archuleta, 33 miles east of Farmington, and at mile 145.0.

DRAINAGE AREA.--3,230 sq mi, approximately.

PERIOD OF RECORD.--June 1962 to current year. Prior to October 1968 dead storage included.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum daily contents, 1,013,500 acre-ft Nov. 25, 27 (elevation, 6,030.76 ft); minimum daily 822,800 acre-ft Apr. 9 (elevation, 6,010.27 ft).

Period of record: Maximum daily contents, 1,266,000 acre-ft Sept. 21, 22, 23, 24, 1970 (elevation, 6,053.77 ft); minimum daily after June 1964 (initial filling period), 234,300 acre-ft Mar. 10, 11, 1965 (elevation, 5,906.36 ft).

REMARKS.--Reservoir is formed by earth-rock-fill dam, completed in June 1963; storage began June 27, 1962. Capacity, 1,708,600 acre-ft between elevation 5,720 ft (upstream toe of dam) and 6,085 ft (crest of spillway). Usable capacity 1,696,000 acre-ft above elevation 5,774.9 ft (minimum operating level). Dead storage below elevation 5,774.9 ft is 12,600 acre-ft. Figures given herein are usable contents. Reservoir is used for irrigation storage, river regulation, desilting, flood control, and recreation.

COOPERATION.--Records furnished by Bureau of Reclamation.

Capacity table (elevation, in feet and contents, in thousands of acre-feet)

6,010	820.5	6,035	1,056.7
6,015	864.5	6,040	1,109.4
6,020	910.1	6,045	1,164.3
6,025	957.2	6,050	1,221.6
6,030	1,006.0	6,055	1,281.3

CONTENTS, IN THOUSANDS OF ACRE-Feet, AT 2400, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	989.00	926.57	873.50	835.81	848.30	914.80	949.10	937.20	914.90	897.40	994.90	1,013.10
2	986.90	924.40	871.70	834.50	850.10	917.50	948.80	936.60	914.00	896.70	996.50	1,013.00
3	984.67	922.20	869.90	832.10	852.20	919.80	948.60	935.70	913.20	895.90	998.50	1,012.80
4	982.50	920.00	868.10	830.10	854.40	922.20	948.30	934.80	912.30	895.80	1,000.20	1,012.40
5	980.10	917.80	866.50	828.40	857.10	924.60	948.10	934.20	911.40	897.20	1,001.60	1,011.70
6	977.90	915.70	865.10	826.60	859.80	926.90	947.90	933.60	911.00	898.60	1,002.40	1,011.50
7	975.90	913.50	863.70	825.20	861.80	929.20	947.80	932.70	910.60	898.30	1,003.20	1,009.30
8	974.00	911.50	862.70	824.20	863.40	932.00	947.70	931.80	910.30	898.30	1,004.20	1,008.40
9	972.10	909.30	861.60	822.80	865.10	934.40	947.40	931.60	909.70	894.90	1,005.50	1,007.70
10	970.00	907.30	860.70	823.20	866.60	936.40	947.20	931.10	909.10	895.80	1,006.50	1,006.60
11	968.10	905.30	859.90	824.30	868.10	938.20	946.80	930.40	908.50	896.10	1,007.00	1,005.60
12	966.40	903.10	859.20	826.00	869.30	940.10	946.40	929.70	908.00	897.30	1,007.50	1,004.50
13	964.50	900.90	858.70	827.50	870.40	942.00	946.00	928.80	907.60	898.60	1,008.20	1,003.40
14	962.80	898.70	858.00	828.70	872.10	943.50	945.60	927.90	906.90	899.20	1,008.70	1,002.10
15	961.80	896.60	857.20	829.70	873.70	944.60	945.00	927.20	906.40	899.70	1,009.30	1,000.90
16	959.10	894.60	856.20	830.40	875.60	946.10	944.40	926.00	905.50	898.30	1,009.80	999.10
17	957.30	892.80	855.10	831.20	877.60	946.90	944.30	925.40	904.70	897.30	1,010.40	997.70
18	955.30	891.80	854.10	832.10	879.80	947.70	943.60	925.30	903.80	896.10	1,011.00	996.90
19	953.40	889.30	852.90	832.90	882.60	948.20	943.00	924.10	903.10	895.50	1,011.60	995.80
20	951.50	887.80	852.10	833.70	885.10	948.60	942.40	923.60	903.00	896.70	1,012.20	994.80
21	949.60	886.70	851.20	834.40	888.00	949.00	942.20	922.70	902.50	897.30	1,012.80	993.60
22	947.30	885.90	850.10	834.90	890.80	949.50	941.70	921.80	902.10	898.30	1,013.10	992.50
23	945.30	885.10	849.00	835.70	893.10	949.30	941.20	920.90	901.60	896.90	1,013.30	991.40
24	943.40	883.90	848.00	836.90	895.10	949.80	940.80	919.80	901.20	898.30	1,013.40	990.20
25	941.50	882.20	846.80	839.10	897.20	949.90	940.40	919.00	900.80	898.80	1,013.50	989.00
26	939.40	880.60	845.40	841.10	899.40	950.00	940.20	918.50	900.20	898.40	1,013.40	987.70
27	937.20	878.80	844.10	842.70	901.50	949.80	939.80	918.00	899.60	898.40	1,013.50	986.60
28	935.10	877.10	842.50	844.10	903.70	949.80	939.40	918.20	899.10	898.10	1,013.40	985.70
29	933.10	875.10	841.00	845.20	906.60	949.70	938.90	917.30	898.50	898.70	1,013.30	984.80
30	931.00	873.00	839.40	846.80	909.40	949.40	938.30	916.60	898.10	899.20	1,013.30	983.80
31	928.90	870.00	837.70	848.00	911.90	949.00	937.70	915.90	897.90	899.90	1,013.50	982.80
MAX	989.00	926.57	873.50	846.40	911.90	950.00	949.10	937.20	914.90	897.90	1,013.50	1,013.10
MIN	928.90	875.10	837.70	822.80	848.30	914.80	937.70	915.90	898.10	895.80	944.90	922.80
(+)	6,022.03	6,016.19	6,011.98	6,013.02	6,020.21	6,024.19	6,022.96	6,020.64	6,018.70	6,028.68	6,030.74	6,027.65
(+)	-62.4	-53.8	-37.4	+9.1	+65.1	+37.5	-11.7	-21.8	-17.8	+94.8	+20.4	-30.5

CAL YR 1972    + -8.5    WTR YR 1972    + -95.1

(+) Elevations, in feet, at end of month.

(+) Change in contents, in thousands of acre-feet.

LOCATION.--Lat 36°48'05", long 107°41'51", in  $\frac{1}{4}$  sec. 20, T. 30 N., R. 8 W., San Juan County, on left bank 0.5 mile upstream from Gobernador Canyon, 0.8 mile northeast of Archuleta, 7.2 miles downstream from Navajo Dam, and at mile 136.8.

PERIOD OF RECORD.---December 1954 to current year.

GAGE.—Water-stage recorder. Altitude of gage is 5,655 ft (from river-profile survey). Prior to Dec. 29, 1959, at site 5.0 miles upstream at altitude 55 ft higher. Dec. 29, 1959 to Dec. 15, 1964, at site 0.4 mile upstream at altitude 5 ft higher.

AVERAGE DISCHARGE.--17 calendar years, 1,111 cfs (804,900 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 1,660 cfs Jan. 6 (gage height, 4.36 ft); minimum, 350 cfs Apr. 7.  
Period of record: 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 by Navajo Dam (see sta 09355100) except for minor inflow from 30 sq mi intervening drainage area. Diversions above station for irrigation of about 47,000 acres. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--The annual runoff for the 1958 water year as published in table 2, WSP 1733, is 455,000 acre-ft. The correct value is 1,455,000 acre-ft.

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1,640	1,440	1,440	1,530	504	504	492	498	764	474	516	474
2	1,640	1,460	1,440	1,540	510	498	492	480	764	474	510	462
3	1,640	1,490	1,480	1,540	504	504	492	510	764	468	516	462
4	1,640	1,490	1,490	1,520	504	510	492	504	764	516	504	718
5	1,640	1,480	1,490	1,520	498	498	492	504	764	516	510	1,090
6	1,640	1,480	1,420	1,520	498	486	492	504	724	516	510	1,050
7	1,570	1,440	1,490	1,520	504	492	492	504	684	522	510	1,060
8	1,520	1,480	1,490	1,520	504	498	498	504	676	516	510	1,060
9	1,520	1,480	1,490	1,520	498	498	498	504	668	510	516	1,060
10	1,520	1,480	1,500	912	498	498	498	504	668	504	516	1,060
11	1,470	1,480	1,520	468	498	498	473	504	668	504	510	1,070
12	1,490	1,480	1,520	510	486	504	492	504	668	504	510	1,080
13	1,480	1,470	1,490	516	474	504	498	504	654	522	510	1,080
14	1,480	1,470	1,520	510	474	504	504	504	654	516	510	1,080
15	1,470	1,480	1,520	486	486	498	504	540	654	516	510	1,090
16	1,470	1,480	1,490	480	486	498	504	582	654	522	510	1,090
17	1,470	1,480	1,510	465	613	498	504	636	648	586	516	1,090
18	1,470	1,470	1,520	498	498	498	498	724	648	534	510	1,100
19	1,470	1,470	1,530	498	498	498	504	754	648	592	510	1,100
20	1,470	1,470	1,530	498	504	504	510	764	648	546	498	1,070
21	1,470	1,470	1,530	498	510	510	510	764	618	522	474	1,090
22	1,470	1,460	1,530	498	510	700	504	764	504	522	474	1,080
23	1,460	1,460	1,530	498	504	585	504	764	486	522	474	1,090
24	1,460	1,460	1,530	498	310	498	510	764	486	328	474	1,100
25	1,450	1,460	1,520	498	498	492	504	764	480	528	474	1,110
26	1,440	1,450	1,530	498	498	492	498	764	480	528	474	1,110
27	1,440	1,450	1,540	498	498	492	498	764	474	522	474	1,110
28	1,450	1,450	1,530	498	498	492	498	754	474	504	474	1,110
29	1,450	1,450	1,520	498	498	492	498	764	474	504	480	1,110
30	1,440	-----	1,530	498	498	492	498	764	474	504	480	1,110
31	1,440	-----	1,530	-----	492	-----	498	754	-----	510	-----	1,110
TOTAL	46,680	42,580	46,700	24,551	15,553	15,235	15,449	19,446	18,734	16,052	14,964	31,486
MEAN	1,506	1,468	1,506	818	502	508	498	627	624	518	499	1,016
MAX	1,640	1,490	1,540	1,540	613	700	510	764	764	592	516	1,110
MIN	1,440	1,440	1,420									

## SAN JUAN RIVER BASIN

09363500 Animas River near Cedar Hill, N. Mex.

LOCATION.--Lat 37°02'17", long 107°52'25", in sec.7, T.32 N., R.9 W., La Plata County, Colorado, on right bank 0.8 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.

PERIOD OF RECORD.--October 1933 to current year. Monthly discharge only for October and November 1933, published in WSP 1313.

GAGE.--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.

AVERAGE DISCHARGE.--39 calendar years, 883 cfs (639,700 acre-ft per year); 20 calendar years (1953-72), 809 cfs (586,100 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 10,600 cfs Oct. 20 (gage height, 10.56 ft); minimum, 169 cfs Jan. 15.  
Period of record: Maximum discharge, 13,100 cfs June 19, 1949 (gage height, 11.45 ft); minimum, 63 cfs Jan. 21, 1935.  
A flood in October 1911 exceeded all other known floods at this location.

REMARKS.--Records good except those for winter periods, which are poor. Diversions for irrigation of about 20,000 acres above station. During water years 1944-49, Twin Rocks Canal diverted above station for irrigation below. Slight regulation by Lemon Dam about 30 miles upstream on Florida River since November 1963 (capacity, 40,100 acre-ft). Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1563: 1940 and 1946 (monthly figures only).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	282	264	330	512	1,140	2,610	743	294	294	298	1,040	455
2	286	260	327	464	1,180	2,660	675	284	326	288	960	450
3	278	250	326	434	1,330	2,430	613	265	293	292	968	430
4	270	260	340	464	1,550	2,260	576	267	290	318	920	430
5	260	260	304	470	1,650	2,180	563	276	279	544	832	500
6	270	260	299	494	1,460	2,300	568	288	289	724	816	440
7	258	260	375	554	1,200	2,330	549	247	342	1,050	784	420
8	286	260	418	602	1,110	2,430	503	235	419	1,040	768	450
9	270	254	434	718	936	2,430	485	217	404	858	760	410
10	258	254	512	872	952	2,080	470	216	365	697	711	410
11	290	258	602	920	968	1,920	484	216	383	604	676	390
12	299	262	655	912	904	1,830	447	215	446	555	704	430
13	308	262	660	896	864	1,740	407	238	490	568	662	370
14	274	258	746	776	934	1,500	387	259	467	552	641	365
15	262	294	753	683	1,000	1,410	373	212	425	591	627	350
16	260	290	669	608	1,350	1,330	367	216	394	959	596	360
17	260	286	634	596	1,590	1,340	354	209	364	1,450	608	360
18	260	258	648	690	1,570	1,340	340	259	336	1,580	596	400
19	270	266	648	697	1,740	1,290	320	324	408	5,030	590	410
20	290	270	676	648	1,620	1,150	320	376	840	7,390	596	420
21	282	274	690	648	1,810	1,060	320	379	683	3,170	596	446
22	294	278	690	634	1,740	1,070	311	370	554	1,980	566	418
23	282	286	760	690	1,460	1,200	313	340	476	1,550	566	418
24	270	290	768	896	1,400	1,150	290	320	424	1,280	540	412
25	274	322	697	1,230	1,770	1,090	355	300	390	1,550	520	467
26	280	317	627	1,250	2,070	999	567	280	377	1,290	500	402
27	304	286	614	1,060	2,070	928	497	300	360	1,210	520	405
28	274	286	620	936	2,140	854	420	320	349	1,340	500	405
29	270	312	566	1,020	2,320	815	384	315	328	1,170	460	415
30	260	-----	512	1,180	2,520	800	359	310	316	1,120	455	405
31	250	-----	536	-----	2,550	-----	308	312	-----	1,090	-----	390
TOTAL	8,521	7,933	17,440	22,554	46,718	48,526	13,668	8,579	12,111	42,138	20,072	12,773
MEAN	275	274	563	752	1,537	1,618	441	277	404	1,359	669	412
MAX	308	322	768	1,250	2,550	2,660	743	379	840	7,390	1,040	500
MIN	250	250	299	434	864	800	290	208	279	288	455	350
AC-FT	16,900	15,740	34,590	44,740	92,670	96,250	27,110	17,320	24,020	83,580	39,810	25,340

CAL YR 1972 TOTAL 261,033 MEAN 713 MAX 7,390 MIN 208 AC-FT 517,800  
WTR YR 1972 TOTAL 222,544 MEAN 608 MAX 2,663 MIN 208 AC-FT 441,430

PEAK DISCHARGE (BASE, 4,000 CFS).--Oct. 20 (0600) 10,600 cfs (10.56 ft).



## 09364500 Animas River at Farmington, N. Mex.

LOCATION.--Lat 36°43'12", long 108°12'08", in SE¼ sec.16, T.29 N., R.13 W., San Juan County, 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.

PERIOD OF RECORD.--June 1904 to October 1905 (published as "near Farmington"). September 1912 to current year. 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, non-recording gage at old bridge 0.3 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.--60 calendar years, 908 cfs (657,800 acre-ft per year). 20 calendar years (1953-72), 726 cfs (526,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 10,500 cfs Oct. 20 (gage height, 8.00 ft); minimum, 1.0 cfs Aug. 11.  
Period of record: Maximum discharge, about 25,000 cfs June 29, 1927 (gage height, 8.5 ft, site and datum then in use), from rating curve extended about 10,000 cfs; minimum, 1.0 cfs Aug. 11, 1972.  
Maximum flood 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 fair. Diversions for irrigation of about 30,000 acres above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1243: 1931. WSP 1313: 1913.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	324	288	344	386	1,170	2,730	424	69	120	170	1,110	504
2	306	300	358	372	1,260	2,680	386	75	113	180	1,060	512
3	324	294	351	337	1,460	2,460	324	42	93	138	1,010	480
4	330	282	365	311	1,560	2,320	265	39	85	185	960	480
5	320	324	372	306	1,610	2,030	255	59	79	492	930	568
6	320	324	344	318	1,520	2,150	300	37	75	1,200	873	504
7	324	318	365	372	1,260	2,220	300	48	170	1,520	891	480
8	358	306	424	379	970	2,330	270	30	205	1,100	864	512
9	365	306	464	440	756	2,530	260	21	205	970	828	520
10	330	306	480	576	738	2,140	250	5.0	330	783	810	464
11	306	306	520	632	738	1,960	230	8.0	358	672	765	424
12	330	294	568	608	656	1,860	220	5.0	265	624	810	480
13	350	300	576	632	576	1,820	200	6.0	230	827	792	416
14	335	300	600	552	584	1,540	208	6.0	225	656	720	408
15	312	288	632	456	556	1,380	175	8.0	312	608	720	393
16	318	312	648	393	990	1,310	130	12	386	1,170	696	330
17	312	318	640	344	1,390	1,280	79	72	379	1,910	672	416
18	324	337	624	337	1,440	1,280	48	113	337	2,350	688	464
19	351	344	608	480	1,630	1,210	39	117	330	3,750	672	472
20	358	365	593	432	1,680	1,190	35	190	352	8,880	672	480
21	365	344	584	416	1,740	1,190	35	200	624	3,760	696	496
22	365	351	576	393	1,710	1,230	44	125	504	2,180	648	544
23	358	408	592	365	1,460	1,610	46	101	424	1,750	632	496
24	351	400	608	584	1,270	1,430	59	69	351	1,460	624	496
25	337	372	592	1,000	1,540	1,280	121	56	330	1,660	592	464
26	337	365	536	1,040	1,980	1,100	161	93	288	1,570	560	457
27	358	351	488	950	2,140	882	265	138	255	1,410	584	464
28	337	324	464	783	2,180	626	210	161	230	1,540	568	496
29	324	324	464	783	2,330	520	156	156	225	1,290	520	544
30	318	-----	408	1,060	2,490	528	134	166	230	1,170	528	504
31	288	-----	393	-----	2,730	-----	100	152	-----	1,120	-----	440
TOTAL	10,335	9,451	15,581	16,037	44,274	48,916	5,729	2,379.0	8,120	47,095	22,495	14,708
MEAN	333	326	503	535	1,428	1,631	185	76.7	271	1,519	750	474
MAX	365	408	648	1,060	2,730	2,730	424	200	624	8,880	1,110	568
MIN	288	282	344	306	576	520	35	5.0	75	138	320	330
AC-FT	20,500	18,750	30,900	31,810	87,820	97,020	11,360	4,720	16,110	93,410	44,620	29,170

CAL YR 1972 TOTAL 245,120.0 MEAN 670 MAX 8,880 MIN 5.0 AC-FT 486,200  
WTR YR 1972 TOTAL 197,284.0 MEAN 539 MAX 2,730 MIN 5.0 AC-FT 391,300

PEAK DISCHARGE (BASE, 4,000 CFS).--Oct. 20 (1530) 10,500 cfs (8.00 ft).

## SAN JUAN RIVER BASIN

09365000 San Juan River at Farmington, N. Mex.

LOCATION.--Lat 36°43'22", long 108°13'30", in SE¼ sec.17, T.29 N., R.13 W., San Juan County, on left bank 360 ft downstream from highway bridge, 4,000 ft downstream from Animas River, 1 mile west of Farmington, and at mile 97.4.

DRAINAGE AREA.--7,240 sq mi, approximately.

PERIOD OF RECORD.--June to December 1904, January 1905 to September 1906 (gage heights and discharge measurements only)  
September 1912 to current year. Monthly discharge only for some periods, published in WSP 1313. Discharge records for January to December 1905, published in WSP 175 are unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 5,230.37 ft above mean sea level. See WSP 1313 or 1733 for history of changes prior to Nov. 19, 1933.

AVERAGE DISCHARGE.--60 calendar years (1913-72), 2,410 cfs (1,746,000 acre-ft per year), unadjusted; 20 calendar years (1953-72), 1,744 cfs (1,264,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,600 cfs Oct. 20 (gage height, 7.18 ft); minimum, 333 cfs Aug. 14.

Period of record: 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 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 50 miles upstream. (See station 09355100). Diversions above station for irrigation of about 86,000 acres, 4,000 of which is irrigated by Farmers Mutual ditch 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1119: Drainage area. WSP 1243: 1938. WSP 1313: 1905, 1914. See also PERIOD OF RECORD.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1,970	1,920	1,920	1,840	1,200	2,870	754	380	740	473	1,810	1,250
2	2,010	1,870	1,890	1,830	1,190	2,910	711	352	710	465	1,700	1,230
3	2,070	1,920	1,850	1,780	1,300	2,780	650	324	810	421	1,630	1,200
4	2,000	1,920	1,940	1,730	1,580	2,570	611	342	750	467	1,590	1,230
5	1,910	1,960	1,910	1,720	1,820	2,390	593	871	670	846	1,550	1,950
6	1,920	1,910	1,900	1,730	1,830	2,450	586	500	760	1,160	1,500	1,970
7	1,870	1,900	1,840	1,750	1,530	2,530	588	430	1,000	2,670	1,490	1,730
8	1,930	1,910	1,980	1,780	1,250	2,620	576	430	740	2,220	1,440	1,670
9	1,980	1,960	2,020	1,820	1,030	2,850	575	410	820	1,750	1,450	1,610
10	1,930	1,910	2,050	1,840	998	2,380	581	410	860	1,670	1,430	1,500
11	1,940	1,960	2,100	1,090	1,070	2,180	536	380	840	1,350	1,370	1,490
12	1,790	1,890	2,160	1,020	988	2,040	468	362	1,630	1,170	1,450	1,540
13	1,920	1,900	2,140	1,070	929	2,070	446	342	1,080	1,780	1,470	1,640
14	1,980	1,920	2,190	1,010	923	1,780	427	352	923	1,420	1,370	1,580
15	1,930	1,880	2,230	896	997	1,660	398	371	860	1,240	1,400	1,620
16	1,990	1,950	2,190	821	1,280	1,550	363	390	820	2,350	1,390	1,580
17	1,930	1,930	2,090	749	1,690	1,540	380	440	800	3,220	1,370	1,560
18	1,970	1,890	2,120	673	1,850	1,540	388	748	760	3,510	1,370	1,620
19	2,000	1,900	2,150	811	1,740	1,510	385	1,530	620	4,240	1,360	1,780
20	1,980	1,930	2,220	771	1,840	1,410	384	1,180	911	10,100	1,350	1,770
21	2,020	1,890	2,210	759	1,810	1,210	407	850	1,340	5,460	1,340	1,710
22	1,920	1,940	2,190	768	1,960	1,170	417	760	967	3,870	1,310	1,690
23	1,970	2,010	2,220	726	1,740	1,740	411	690	780	3,000	1,290	1,760
24	1,890	1,990	2,240	795	1,520	1,730	429	660	700	2,470	1,310	1,710
25	1,870	1,960	2,210	1,060	1,730	1,400	471	660	660	2,720	1,290	1,720
26	1,910	1,980	2,160	1,360	2,120	1,250	546	831	590	2,410	1,290	1,670
27	1,940	1,920	2,070	1,300	2,210	1,070	722	1,770	570	2,040	1,280	1,720
28	1,990	1,880	1,990	1,060	2,280	944	607	1,130	520	2,220	1,290	1,750
29	1,990	1,890	2,000	1,030	2,450	853	530	830	510	1,970	1,230	1,640
30	1,990	-----	1,930	1,160	2,620	807	478	800	500	1,850	1,230	1,570
31	1,920	-----	1,920	-----	2,760	-----	450	800	-----	1,770	-----	1,590
TOTAL	60,430	55,790	64,030	36,749	50,235	55,804	15,868	20,325	24,241	72,302	42,350	50,050
MEAN	1,949	1,924	2,065	1,225	1,620	1,860	512	656	808	2,332	1,412	1,615
MAX	2,070	2,010	2,240	1,840	2,760	2,910	754	1,770	1,630	10,100	1,810	1,970
MIN	1,790	1,870	1,840	673	923	807	363	324	500	421	1,230	1,200
AC-FT	119,900	110,700	127,000	72,890	99,640	110,700	31,470	40,310	48,080	143,400	84,000	99,270

CAL YR 1972 TOTAL 548,174 MEAN 1,498 MAX 10,100 MIN 324 AC-FT 1,087,000  
WTR YR 1972 TOTAL 476,367 MEAN 1,302 MAX 2,910 MIN 324 AC-FT 944,900

PEAK DISCHARGE (BASE, 5,000 CFS).--Oct. 20 (Unknown) 11,600 cfs (7.18 ft).

## SAN JUAN RIVER BASIN

213

## 09366500 LA PLATA RIVER AT COLORADO-NEW MEXICO STATE LINE

LOCATION.--Lat 36°59'51", long 108°11'17", in NW¼SE¼ sec.10, T.32 N., R.13 W., La Plata County, Colorado, 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.

PERIOD OF RECORD.--January 1920 to current year. 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. See WSP 1713 or 1733 for history of changes prior to Mar. 17, 1934.

AVERAGE DISCHARGE.--52 years, 32.5 cfs (23,550 acre-ft per year), 20 calendar years (1956-71), 27.4 cfs 19,850 acre-ft per year.

EXTREMES.--Current year: Maximum discharge, 101 cfs June 5 (gage height, 1.79 ft); maximum gage height, 3.17 ft Dec. 21 (backwater from ice); no flow Aug. 14.

Period of record: 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 good except those for winter period, which are fair. Diversions above station for irrigation of about 15,000 acres, mostly above station. Water-quality records for the current year are published in Part 2 of this report.

COOPERATION.--Records collected and computed by Colorado Division of Water Resources and reviewed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 1313: 1934(M), 1936(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1971 TO SEPTEMBER 1972

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	9.6	9.2	12	7.0	16	7.7	40	38	4.0	.01	.90
2	5.6	7.7	9.2	12	8.0	13	7.4	41	39	3.4	.04	1.0
3	4.8	7.7	9.2	12	9.0	13	6.8	36	36	3.2	.05	1.0
4	4.8	7.7	9.0	9.0	11	13	6.8	41	52	2.8	.02	1.0
5	4.6	7.7	8.5	10	13	13	5.6	41	59	2.2	.05	.80
6	4.6	7.4	8.5	10	13	12	5.6	37	51	2.0	.05	.80
7	4.6	7.1	9.0	10	14	12	5.9	33	33	1.8	.03	1.2
8	4.6	7.4	9.0	10	12	18	5.9	28	37	1.7	.07	.80
9	4.6	7.4	8.5	10	11	20	6.8	22	42	1.6	.14	.80
10	4.4	7.4	8.5	10	10	18	11	20	28	1.6	.08	.80
11	4.4	7.4	9.0	10	9.6	22	16	23	26	1.4	.05	5.1
12	4.2	7.4	8.5	10	10	26	20	25	29	1.0	.02	3.9
13	4.2	7.7	9.0	11	10	22	20	25	31	.80	.03	.40
14	4.4	7.4	9.0	10	11	29	17	24	23	.30	0	.53
15	4.2	9.6	9.0	9.0	12	30	20	28	22	.22	.03	.53
16	4.6	14	8.5	10	11	28	20	33	19	.30	.18	.40
17	10	11	8.5	10	16	23	18	39	18	.20	.18	.26
18	7.7	9.6	10	9.0	15	25	18	37	15	.10	4.4	.65
19	6.8	8.8	12	9.0	26	25	18	38	12	.30	1.7	1.2
20	6.5	8.8	11	10	38	30	17	40	9.2	.18	.46	1.7
21	6.2	8.8	14	11	39	33	17	44	8.8	.23	.22	1.2
22	6.2	9.2	15	11	39	26	15	42	12	.01	.28	1.1
23	6.2	8.8	16	12	33	23	14	39	20	.04	.24	1.1
24	7.1	8.8	17	11	23	28	16	33	15	.18	.40	1.0
25	9.6	8.8	17	10	18	23	28	34	11	.40	.46	1.1
26	13	8.8	18	10	16	18	36	39	8.0	.40	.80	1.0
27	15	8.8	18	11	15	17	33	39	6.2	.18	.80	1.0
28	12	8.8	18	10	15	18	23	36	5.6	.15	1.0	.80
29	11	9.2	18	11	16	15	21	37	5.0	.07	.53	.33
30	10	8.8	15	8.0	-----	12	24	37	4.8	.04	.61	.16
31	10	-----	12	7.5	-----	9.2	-----	38	-----	.04	.61	-----
TOTAL	213.0	257.6	361.1	315.5	480.6	630.2	480.5	1,069	715.6	30.84	13.54	32.56
MEAN	6.87	8.59	11.6	10.2	16.6	20.3	16.0	34.5	23.9	.99	.44	1.09
MAX	15	14	18	12	39	33	36	44	59	4.0	4.4	5.1
MIN	4.2	7.1	8.5	7.5	7.0	9.2	5.6	20	4.8	.31	0	.16
AC-FT	422	511	716	626	953	1,250	953	2,120	1,420	61	27	65
CAL YR 1971	TOTAL 7,206.20			MEAN 19.7	MAX 117	MIN 1.4	AC-FT 14,290					
WTR YR 1972	TOTAL 4,600.04			MEAN 12.6	MAX 59	MIN 0	AC-FT 9,120					



09368000 San Juan River at Shiprock, N. Mex.

LOCATION.--Lat 36°47'32", long 108°43'54", in NW 1/4 sec. 27, T.30 N., R.18 W., San Juan County, on left bank 3 miles west of Shiprock, 6 miles downstream from Chaco River, and at mile 61.0.

DRAINAGE AREA.--12,900 sq mi, approximately.

PERIOD OF RECORD.--January to October 1911, February 1927 to current year. 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, non-recording 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 at nearby sites, same datum, used at times.

AVERAGE DISCHARGE.--46 calendar years (1926-72), 2,208 cfs (1,600,000 acre-ft per year), unadjusted; 20 calendar years (1953-72), 1,747 cfs (1,266,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 15,800 cfs Oct. 20 (gage height, 8.04 ft); minimum, 65 cfs Aug. 16. 1927-71: Maximum discharge, about 80,000 cfs Aug. 11, 1929 (gage height, 5.7 ft, site and datum then in use); minimum daily, 8 cfs Aug. 25, 26, 1939. Maximum flood 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 sta 09355100). 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. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1243: 1931, 1934-38, 1951. WSP 1313: 1911, 1933.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1,990	1,750	1,780	1,720	1,050	2,610	413	151	674	422	1,840	1,220
2	1,960	1,750	1,810	1,730	1,010	2,630	383	127	651	380	1,800	1,180
3	1,990	1,720	1,820	1,780	990	2,670	351	109	741	354	1,760	1,160
4	1,930	1,700	1,920	1,560	1,170	2,270	321	91	732	368	1,700	1,120
5	1,910	1,770	1,990	1,550	1,550	2,190	351	83	596	481	1,650	1,610
6	1,930	1,810	1,970	1,560	1,740	2,190	304	657	649	767	1,620	1,880
7	2,000	1,780	1,880	1,670	1,450	2,290	275	304	919	3,870	1,640	1,790
8	1,910	1,750	2,020	1,660	1,130	2,550	321	203	758	4,200	1,560	1,730
9	1,910	1,800	2,080	1,660	860	2,410	269	133	726	2,170	1,540	1,730
10	1,910	1,820	2,030	1,840	748	2,570	272	78	762	1,570	1,480	1,580
11	1,800	1,800	2,100	1,240	796	2,290	275	78	947	1,340	1,480	1,500
12	1,760	1,790	2,170	772	796	2,100	226	83	1,460	1,410	1,480	1,500
13	1,840	1,770	2,170	732	686	2,020	205	99	1,310	1,740	1,450	1,660
14	1,880	1,750	2,190	788	602	1,800	187	83	1,080	1,620	1,390	1,660
15	1,850	1,760	2,170	724	679	1,540	177	78	928	1,400	1,400	1,660
16	1,870	1,810	2,140	623	788	1,540	159	70	808	2,000	1,430	1,670
17	1,900	1,880	2,060	588	1,220	1,550	140	83	735	2,570	1,400	1,730
18	1,840	1,900	2,120	465	1,700	1,510	127	101	854	3,280	1,470	1,690
19	1,870	1,840	2,160	542	1,520	1,510	114	906	748	3,500	1,460	1,720
20	1,880	1,870	2,070	588	1,680	1,160	104	1,000	836	11,100	1,440	1,720
21	1,920	1,910	2,020	554	1,480	887	104	748	1,120	7,650	1,440	1,720
22	1,910	1,900	2,170	512	1,760	764	101	623	1,040	4,680	1,410	1,580
23	1,900	1,980	2,200	518	1,510	1,060	122	470	748	3,200	1,360	1,540
24	1,840	1,970	2,280	518	1,160	1,540	122	383	548	2,490	1,380	1,580
25	1,790	1,870	2,300	672	1,130	1,200	117	370	542	2,980	1,340	1,580
26	1,780	1,850	2,180	1,170	1,610	1,030	143	592	480	4,520	1,320	1,530
27	1,920	1,900	2,090	1,120	1,920	780	229	1,560	441	2,630	1,300	1,520
28	1,960	1,820	1,970	960	2,040	616	317	1,410	436	2,330	1,280	1,560
29	1,950	1,770	1,960	780	2,210	518	262	918	427	1,990	1,210	1,680
30	1,910	-----	1,900	860	2,430	432	218	847	536	1,760	1,200	1,590
31	1,810	-----	1,860	-----	2,530	-----	187	777	-----	1,730	-----	1,480
TOTAL	58,620	52,790	63,580	31,456	41,945	50,227	6,876	13,215	23,232	80,502	44,230	48,870
MEAN	1,891	1,820	2,051	1,049	1,353	1,674	222	426	774	2,597	1,474	1,576
MAX	2,000	1,980	2,300	1,840	2,530	2,670	413	1,560	1,460	11,100	1,840	1,880
MIN	1,760	1,700	1,780	465	602	432	101	70	427	354	1,200	1,120
AC-FT	116,300	104,700	126,100	62,390	83,200	99,630	13,640	26,210	46,060	159,700	87,730	96,930

CAL YR 1972 TOTAL 515,543 MEAN 1,409 MAX 11,100 MIN 70 AC-FT 1,023,000  
 WTR YR 1972 TOTAL 443,325 MEAN 1,211 MAX 3,620 MIN 70 AC-FT 879,300

## PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
10-7	2115	6.20	9,100	10-26	0230	5.87	7,800
10-20	2200	8.04	15,800				

09379500 San Juan River near Bluff, Utah

LOCATION.--Lat 37°08'49", long 109°51'51", in SW¼NE¼NW¼ sec. 7, T.42 S., R.19 E., San Juan County, on left bank 1,600 ft downstream from Gypsum Creek, 1,800 ft upstream from highway bridge, 20 miles southwest of Bluff, at mile 113.5.

DRAINAGE AREA.--23,000 sq mi, approximately.

PERIOD OF RECORD.--October 1914 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,048 ft (from levels of Topographic Division, USGS). Prior to Mar. 16, 1927, chain gages at sites about 1,700 ft downstream at different datums.

AVERAGE DISCHARGE.--58 calendar years, 2,581 cfs (1,870,000 acre-ft per year), unadjusted; 20 calendar years (1953-72), 1,879 cfs (1,361,000 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 38,500 cfs Oct. 20 (gage height, 22.08 ft); minimum daily, 90 cfs Aug. 15, 16.

1914-17, 1927: Maximum discharge, 70,000 cfs Sept. 10, 1927 (gage height, 32.0 ft) from rating curve extended above 31,000 cfs and slope-area measurement at gage-height 26.62 ft; no flow July 3-13, 1934, Aug. 24-27, 29, 1939.

Flood of Oct. 6, 1911, which is greatest known at Shiprock, N. Mex., probably exceeded that of Sept. 10, 1927 at this station but stage was not accurately determined.

REMARKS.--Records good. Diversions for irrigation of approximately 200,000 acres above station. No diversion between station and mouth of river. Flow regulated by Navajo Reservoir since June 28, 1962 (see station 09355100). Water-quality records for the current year are published in part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1213: 1940. WSP 1313: 1917, 1929. WSP 1343: 1945.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2,060	1,800	1,850	1,770	894	2,780	570	265	850	483	1,420	1,200
2	2,060	1,750	1,870	1,710	982	2,790	520	190	890	468	2,620	1,250
3	2,030	1,790	1,870	1,670	1,110	3,000	468	170	760	428	2,110	1,290
4	2,070	1,720	1,820	1,670	1,080	3,020	428	155	753	753	2,680	1,290
5	2,080	1,720	1,870	1,530	1,180	3,010	386	140	750	1,970	1,870	1,710
6	1,940	1,890	1,910	1,530	1,440	2,890	336	130	718	1,350	1,780	1,770
7	2,010	1,910	1,860	1,500	1,620	2,740	352	120	1,200	5,940	1,690	1,810
8	1,970	1,890	1,770	1,510	1,520	2,750	334	140	1,530	9,180	1,640	1,830
9	1,920	1,880	1,920	1,490	1,270	2,740	285	190	1,210	4,890	1,560	1,940
10	2,070	1,940	1,940	1,490	1,090	3,190	288	277	869	2,040	1,570	1,660
11	2,020	1,970	1,900	1,540	960	2,710	304	244	863	1,590	1,550	1,700
12	1,880	1,950	2,010	1,470	882	2,270	268	180	880	1,460	1,630	1,600
13	1,870	1,930	2,670	925	929	2,080	267	110	1,290	2,230	1,580	1,720
14	1,920	1,930	2,360	870	883	1,860	226	95	1,800	1,800	1,650	1,540
15	1,950	1,920	2,670	887	808	1,760	210	90	1,180	2,130	1,560	1,550
16	1,880	1,950	2,170	868	757	1,550	190	90	982	5,740	1,540	1,510
17	1,880	1,940	2,130	789	801	1,500	170	94	895	8,020	1,530	1,480
18	1,890	1,970	2,010	604	880	1,510	198	98	840	11,000	1,540	1,430
19	1,860	2,000	2,010	626	1,380	1,490	433	115	852	26,700	1,580	1,690
20	1,880	1,920	1,940	525	1,430	1,450	404	140	868	26,400	1,690	1,700
21	1,870	1,950	1,440	594	1,500	1,360	257	738	937	16,700	1,780	1,690
22	1,940	1,970	1,990	655	1,460	1,320	200	889	1,620	8,820	1,610	1,690
23	1,930	1,940	1,770	596	1,610	1,740	160	750	1,410	5,150	1,500	1,710
24	1,920	2,030	1,960	625	1,560	1,270	130	607	1,020	3,710	1,430	1,750
25	1,940	1,990	2,030	592	1,400	1,530	120	433	846	3,110	1,380	1,770
26	1,840	1,910	1,980	578	1,280	1,460	120	724	753	4,720	1,350	1,760
27	1,840	1,880	1,950	669	1,600	1,190	140	1,350	774	4,140	1,290	1,670
28	1,930	1,930	1,870	1,140	1,910	1,050	170	2,630	638	2,950	1,320	1,830
29	1,920	1,870	1,850	1,130	2,020	856	200	2,140	566	2,770	1,300	2,630
30	1,940	-----	1,790	945	2,190	895	241	1,230	520	2,310	1,270	3,060
31	1,860	-----	1,820	-----	2,460	-----	238	980	-----	2,010	-----	2,500
TOTAL	60,120	55,220	60,240	32,572	40,886	59,551	8,613	15,428	28,401	170,952	48,320	53,730
MEAN	1,939	1,904	1,943	1,386	1,319	1,985	278	498	947	5,514	1,611	1,733
MAX	2,080	2,030	2,170	1,770	2,460	3,190	570	2,630	1,800	26,700	2,110	3,060
MIN	1,840	1,720	1,770	525	757	695	120	90	520	428	1,270	1,200
AC-FT	119,200	109,500	119,500	64,610	81,100	118,100	17,086	30,600	56,530	339,000	95,840	106,600
Cal YR 1972	TOTAL	634,013	MEAN	1,732	MAX	26,700	MIN	90	AC-FT	1,258,030		
WTR YR 1972	TOTAL	496,628	MEAN	1,557	MAX	4,960	MIN	90	AC-FT	985,100		

## LITTLE COLORADO RIVER BASIN

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09386900 Rio Nutria near Ramah, N. Mex.

LOCATION.--Lat 35°16'57", long 108°33'10", in NW¼SW¼ sec.8, T.12 N., R.16 W., McKinley County, on Zuni Indian Reservation, at mouth of Nutria Canyon, 0.9 mile upstream from Nutria Diversion Dam, 1.3 miles northeast of Upper Nutria, and 10.4 miles northwest of Ramah.

DRAINAGE AREA.--71.4 sq mi.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,000 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 98 cfs Oct. 19 (gage height, 2.92 ft); minimum discharge, .01 cfs at times.

Period of record: Maximum discharge, 365 cfs Aug. 17, 1970 (gage height 4.25 ft) from rating curve extended above 10 cfs on basis of slope-area measurement of peak flow; no flow Oct. 1-20, 1969.

REMARKS.--Records good.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.48	.10	.12	.10	.12	.10	.05	.08	.08	.07	7.6	.31
2	.37	.10	.08	.10	.12	.10	.05	.05	.08	.04	4.6	.29
3	.32	.10	.08	.12	.12	.28	.05	.05	.08	.05	3.8	.30
4	.20	.10	.10	.12	.12	.10	.05	.08	.05	.07	2.3	.38
5	.20	.10	.12	.12	.12	.10	.05	.08	.05	.10	1.5	.45
6	.20	.10	.12	.12	.12	.08	.05	.08	.05	1.0	1.0	.26
7	.20	.10	.15	.12	.10	.08	.05	.08	.05	1.1	.66	.42
8	.20	.10	.12	.12	.10	.08	.05	.08	.05	.10	.66	.48
9	.20	.08	.10	.15	.10	.08	.08	.05	.13	.05	2.8	.48
10	.20	.08	.10	.15	.12	.08	.03	.05	.07	.08	2.6	.48
11	.15	.08	.12	.15	.12	.08	.05	.05	.04	.05	2.0	.53
12	.15	.08	.12	.15	.10	.05	.08	.08	.04	.08	1.6	.37
13	.15	.09	.10	.20	.08	.05	.08	.08	.04	.10	7.4	.28
14	.15	.08	.10	.15	.08	.05	.05	.05	.05	.02	5.3	.60
15	.12	.08	.10	.12	.08	.05	.08	.05	.07	.10	4.6	.32
16	.12	.05	.10	.15	.08	.05	.08	.05	.04	.08	3.8	.20
17	.12	.05	.10	.15	.10	.02	.08	.08	.04	.05	4.8	.15
18	.12	.05	.08	.15	.10	.02	.10	.08	.04	.08	5.8	.20
19	.12	.08	.10	.12	.08	.05	.10	.08	.05	19	3.2	.25
20	.12	.08	.10	.15	.08	.08	.10	.08	.03	24	2.5	.42
21	.12	.10	.10	.15	.08	.08	.10	.05	.04	2.4	1.5	.72
22	.12	.28	.10	.15	.08	.08	.10	.02	.04	2.3	1.3	.66
23	.12	.20	.10	.15	.08	.05	.10	.02	.04	.66	1.3	.48
24	.12	.10	.10	.15	.08	.05	.10	.02	.05	.37	1.8	.28
25	.10	.05	.10	.15	.08	.05	.10	.05	.03	9.4	1.2	.15
26	.12	.10	.12	.15	.08	.05	.08	.08	.04	4.4	.79	.12
27	.12	.20	.12	.15	.08	.05	.08	.08	.05	1.4	.81	.10
28	.10	.12	.12	.15	.10	.05	.08	.05	.05	3.2	.66	7.6
29	.10	.12	.12	.15	.08	.05	.08	.05	.06	1.1	.62	4.2
30	.10	-----	.12	.12	.08	.05	.05	.05	.07	.66	.40	4.0
31	.10	-----	.12	-----	.08	-----	.05	.05	-----	3.2	-----	4.2
TOTAL	5.11	2.95	3.33	4.18	2.94	2.14	2.28	1.88	1.60	75.31	78.90	29.68
MEAN	.16	.10	.11	.14	.095	.071	.074	.061	.053	2.43	2.63	.96
MAX	.48	.28	.15	.20	.12	.28	.10	.08	.13	24	7.6	7.6
MIN	.10	.05	.08	.10	.08	.02	.05	.02	.03	.02	.40	.10
AC-FT	10	5.9	6.6	8.3	5.8	4.2	4.5	3.7	3.2	149	156	59
CAL YR 1972	TOTAL 210.30	MEAN .57	MAX 24	MIN .02	AC-FT 417							
WTR YR 1972	TOTAL 113.01	MEAN .01	MAX 20	MIN .31	AC-FT 224							

## LITTLE COLORADO RIVER BASIN

09386950 Zuni River above Zuni Reservoir, N. Mex.

LOCATION.--Lat 35°06'03", long 108°45'00", in NE¼ sec. 17, T.10 N., R.18 W., McKinley County, on Zuni Indian Reservation, on right bank, 50 ft upstream from concrete ford on State Highway 36, 0.8 mile upstream from flow line of Zuni Reservoir, 2.3 miles northeast of Black Rock, and 5.9 miles northeast of Zuni Pueblo.

DRAINAGE AREA.--810 sq mi, approximately.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,450 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 445 cfs Oct. 19 (gage height, 4.48 ft); from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge; 1,400 cfs Aug. 3, 1970 (gage height, 5.52 ft) from rating curve extended above 10 cfs on basis of slope-area measurements at gage heights 4.05, 3.94 and 5.16 ft; no flow for many days.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	.70	.30	.83	.05	0	0	0	0	0	0	0	0
2	.60	.30	.60	.05	0	0	0	0	1.2	0	0	0
3	.40	.20	.55	.05	0	0	0	0	.10	0	0	.30
4	.30	.30	.50	.05	0	.07	0	0	0	0	0	.50
5	.10	.30	.50	.05	0	1.6	0	0	0	3.2	0	.70
6	.10	.30	.70	.01	0	.02	0	0	0	24	0	.60
7	.10	.30	.76	.01	0	.01	0	0	0	20	0	.70
8	.30	.30	.76	0	0	.01	0	0	0	5.1	0	1.2
9	.30	.30	.76	0	0	0	0	0	6.7	.41	0	.38
10	.40	.30	.55	0	0	0	0	0	86	.02	0	.76
11	.40	.30	.05	0	0	0	0	0	37	0	0	.91
12	.40	.30	.01	0	0	0	0	0	11	0	.50	.65
13	.50	.30	0	0	0	0	0	0	3.9	11	.40	.91
14	.50	.30	0	0	0	0	0	0	2.0	1.7	.30	.70
15	.50	.20	0	0	0	0	0	0	25	.55	.20	.99
16	.50	.20	0	0	0	0	0	0	19	.45	.10	.65
17	.50	.20	0	0	0	0	0	0	4.2	.06	0	.55
18	.50	.20	0	0	0	0	0	15	1.0	.01	0	.50
19	.50	.20	0	0	0	0	0	42	.50	110	0	.50
20	.40	.20	0	0	0	0	0	12	0	55	0	.50
21	.40	.20	0	0	0	0	0	1.0	0	6.0	0	.40
22	.40	.15	39	0	0	0	0	0	0	3.2	0	.40
23	.40	.45	8.6	0	7.7	0	0	0	0	1.2	0	.40
24	.40	.50	.50	0	.01	0	0	0	0	.35	0	.30
25	.40	.41	.19	0	0	0	11	0	0	.23	0	.30
26	.40	.65	.08	0	0	0	.50	0	0	.29	0	.30
27	.40	.65	.02	0	0	0	.05	0	0	.38	0	.30
28	.30	.65	.01	0	0	0	0	0	0	.35	0	1.0
29	.30	.60	.02	0	0	0	0	0	0	.25	0	.80
30	.20	-----	.06	0	0	0	0	0	0	.21	0	.70
31	.20	-----	.08	-----	0	-----	0	0	-----	.19	-----	.70
TOTAL	11.80	9.56	55.13	.27	7.71	1.71	11.55	70.0	197.60	244.15	1.50	17.60
MEAN	.38	.33	1.78	.009	.25	.057	.37	2.26	6.59	7.88	.050	.57
MAX	.70	.65	39	.05	7.7	1.6	11	42	86	110	.50	1.2
MIN	.10	.15	0	0	0	0	0	0	0	0	0	0
AC-FT	23	19	109	.5	15	3.4	23	139	392	484	3.0	35

CAL YR 1972 TOTAL 628.58 MEAN 1.72 MAX 110 MIN 0 AC-FT 1,250  
WTR YR 1972 TOTAL 510.32 MEAN 1.39 MAX 86 MIN 0 AC-FT 1,010

## PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-25	0030	3.80	145	9-15	1700	4.08	283
8-19	2000	3.83	157	10-19	2000	4.48	445
9- 9	2330	4.00	235				



## GILA RIVER BASIN

219

09430500 Gila River near Gila, N. Mex.

LOCATION.--Lat 33°03'40", long 108°32'12", in NE 1/4 sec. 30, T.14 S., R.16 W., Grant County, on left bank at Hooker damsite, 1.6 miles upstream from Mogollon Creek, and 7 miles northeast of Gila.

DRAINAGE AREA.--1,864 sq mi.

PERIOD OF RECORD.--April to December 1914, December 1927 to current year. 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.--45 calendar years (1927-72), 130 cfs (94,180 acre-ft per year); 20 calendar years (1953-72), 129 cfs (93,460 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 12,500 cfs Oct. 20 (gage height, 10.50 ft), from rating curve extended above 1800 cfs on basis of slope-area measurement at gage height 9.46 ft; minimum, 25 cfs July 4-6.

Period of record: 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; minimum, 14 cfs July 15, 1971.

Other major floods occurred in November 1905, December 1906, and January 1916.

REMARKS.--Records good except those for August thru October, which are fair. Diversions for irrigation of about 500 acres above station.

REVISIONS (WATER YEARS).--WSP 1283: Drainage area. WSP 1313: 1944 (N), 1949 (M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	528	113	92	77	54	48	30	64	370	74	674	166
2	486	110	92	74	54	43	29	61	468	70	662	160
3	450	112	94	73	54	41	29	55	2,350	68	656	157
4	425	94	96	70	52	42	27	54	2,960	70	590	154
5	355	104	97	68	53	50	26	54	1,450	80	560	154
6	284	111	99	67	52	55	26	51	845	93	506	151
7	284	111	102	66	52	67	27	50	610	122	450	145
8	268	106	104	64	57	69	29	60	470	189	415	142
9	248	106	108	61	51	65	30	58	450	204	380	142
10	220	104	113	61	50	56	29	40	999	177	342	142
11	196	104	119	61	50	49	38	53	1,150	147	318	139
12	181	99	121	60	49	49	37	48	2,350	153	302	136
13	178	96	121	60	48	51	36	40	1,890	304	294	130
14	169	94	119	61	49	53	33	40	1,340	324	278	125
15	158	96	115	62	54	53	30	45	992	248	262	125
16	148	97	111	62	51	46	34	60	754	220	254	122
17	145	92	106	62	48	45	123	110	505	195	250	118
18	145	91	104	62	46	47	67	72	364	177	254	114
19	138	90	102	64	45	44	76	116	280	1,350	250	120
20	131	90	97	62	44	39	62	38	228	9,530	238	122
21	129	90	94	64	42	36	51	80	189	4,280	230	117
22	133	90	92	62	40	35	46	68	168	2,510	218	114
23	129	88	94	61	38	36	48	74	147	1,860	210	112
24	127	86	92	61	38	36	59	74	129	1,470	214	112
25	125	85	91	60	37	35	76	68	119	1,170	210	109
26	119	85	90	58	36	34	86	300	112	1,440	190	107
27	117	86	86	58	36	31	82	890	105	1,380	184	104
28	117	86	84	57	37	31	73	974	91	1,090	184	127
29	115	88	82	56	38	31	64	588	87	880	175	890
30	113	-----	82	55	44	31	103	410	80	733	169	771
31	115	-----	78	-----	51	-----	73	340	-----	698	-----	548
TOTAL	6,476	2,794	3,075	1,889	1,445	1,348	1,579	5,085	22,052	30,806	9,919	5,875
MEAN	209	96.3	99.2	63.0	46.6	44.9	50.9	164	735	994	331	190
MAX	528	113	121	77	54	69	123	974	2,960	9,030	674	890
MIN	113	85	78	55	36	31	26	40	80	68	169	104
AC-FT	12,850	5,340	6,100	3,750	2,870	2,670	3,130	10,090	43,740	61,100	19,670	11,650

CAL YR 1972 TOTAL 92,343 MEAN 252 MAX 9,030 MIN 26 AC-FT 183,200  
 WTR YR 1972 TOTAL 72,264 MEAN 197 MAX 4,700 MIN 26 AC-FT 143,400

## PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
8-28	0630	4.69	1,190	10-20	1200	10.50	12,500
9-3	2230	7.13	5,360	12-29	1100	4.43	1,290
9-12	1630	5.17	2,590				

## GILA RIVER BASIN

09430600 Mogollon Creek near Cliff, N. Mex.

(Hydrologic bench-mark station)

LOCATION.--Lat 33°10'00", long 108°38'57", in SE¼ sec.13, T.13 S., R.18 W., Grant County, 12 miles upstream from mouth, 14.2 miles north of Cliff.

DRAINAGE AREA.--69 sq mi.

PERIOD OF RECORD.--March 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,440 ft (from topographic map).

AVERAGE DISCHARGE.--5 calendar years, 16.0 cfs (11,590 acre-ft per year).

EXTREMES.--Maximum discharge during year, 4,620 cfs Oct. 20 (gage height, 9.28 ft); no flow at times.

Period of record: Maximum discharge, 10,800 cfs Aug. 12, 1967 (gage height, 13.7 ft, from floodmarks), from rating curve extended above 220 cfs on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records good except those for October which are fair. Water quality records for the current year are published in Part 2 of this report.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	63	9.1	16	4.7	1.0	1.4	0	2.2	16	6.1	95	21
2	65	8.6	9.7	4.4	1.0	1.2	0	1.7	17	5.8	111	20
3	62	13	8.9	4.1	1.0	1.3	0	1.6	71	5.3	123	19
4	52	14	9.0	3.9	1.0	1.2	0	1.7	53	7.0	115	18
5	42	8.3	10	5.3	1.0	1.3	0	1.7	29	6.8	105	17
6	36	7.7	12	3.6	1.3	1.0	0	1.7	24	73	94	16
7	31	7.4	14	3.2	1.0	1.3	0	1.7	29	171	78	15
8	29	7.0	14	3.3	1.0	3.1	0	1.7	25	73	63	15
9	26	6.9	14	3.2	1.1	9.6	0	2.7	19	41	52	15
10	24	6.8	13	3.2	1.1	3.4	0	3.3	21	28	41	14
11	22	6.5	13	3.1	1.0	1.9	0	2.8	153	21	35	14
12	21	5.8	13	3.0	1.0	1.9	0	2.0	349	37	33	12
13	21	5.7	12	2.9	.91	2.7	0	2.0	143	232	29	12
14	20	5.7	11	2.7	.91	3.1	0	6.4	135	133	27	12
15	19	5.7	10	2.8	1.0	2.2	0	3.9	184	82	26	12
16	17	5.6	9.7	2.8	.91	1.6	0	5.3	85	56	24	11
17	17	5.5	8.9	2.5	.82	1.7	0	10	50	42	28	13
18	16	5.4	8.3	2.3	.70	1.5	0	101	32	36	30	11
19	16	5.3	7.8	2.1	.52	1.4	0	51	24	1,040	30	11
20	15	5.2	7.5	1.8	.12	1.4	2.7	49	20	2,540	30	11
21	14	5.4	7.2	1.8	0	1.2	3.1	20	17	830	29	11
22	14	5.8	6.8	1.7	0	1.0	1.7	12	14	432	26	11
23	13	6.2	7.6	1.6	0	.76	1.6	8.3	12	209	25	11
24	13	6.9	6.7	1.5	0	.23	1.5	6.2	11	139	26	11
25	13	7.6	6.4	1.4	0	0	22	5.0	10	114	25	11
26	13	8.0	6.1	1.3	0	0	9.0	8.4	9.2	198	25	10
27	12	8.2	5.9	1.3	0	0	12	42	8.5	210	25	10
28	11	8.5	5.5	1.2	0	0	14	66	7.8	171	24	457
29	11	9.4	5.3	1.2	0	0	6.1	41	7.3	138	24	830
30	11	-----	5.1	1.1	.16	0	4.1	28	6.8	111	23	290
31	9.7	-----	4.9	-----	1.7	-----	2.9	19	-----	104	-----	145
TOTAL	748.7	211.2	283.3	77.5	19.95	47.19	80.7	489.3	1,582.6	7,353.2	1,422	2,086
MEAN	24.2	7.28	9.14	2.58	.64	1.57	2.60	15.8	52.8	237	47.4	67.3
MAX	65	14	14	4.7	1.7	9.0	22	101	349	2,540	123	830
MIN	9.7	5.2	4.9	1.1	0	0	0	1.6	6.5	5.3	23	10
AC-FT	1,490	419	562	150	40	94	160	971	3,140	14,590	2,820	4,140

CAL YR 1972 TOTAL 14,401.64 MEAN 39.3 MAX 2,540 MIN 0 AC-FT 28,570  
 WTR YR 1972 TOTAL 7,747.64 MEAN 21.2 MAX 1,080 MIN 0 AC-FT 15,370

## PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
8-18	1400	3.78	326	10-13	0230	3.63	272
9-12	0445	4.32	532	10-20	unknown	9.28	4,620
10-7	0015	3.58	260	12-28	2230	5.98	1,470

09431500 Gila River near Redrock, N. Mex.

LOCATION.--Lat 32°43'37", long 108°40'30", in W<sub>2</sub> sec.23, T.18 S., R.18 W., Grant County, on left bank 0.2 mile downstream from Copper Canyon, 0.2 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.

PERIOD OF RECORD.--September 1904 to February 1905 (gage heights only). May 1905 to December 1906, January to December 1907 and July to October 1908 (gage heights only). November 1908 to December 1910, January 1911 to January 1912 and May to June 1912 (gage heights only). August 1912 to September 1955, October 1962 to current year. Monthly or annual discharge only for some periods, published in WSP 1313. Published as "near Cliff" 1904-07, and as "near Redrock" 1908-55.

GAGE.--Water-stage recorder. Altitude of gage is 4,090 ft (planetable survey). Prior to Dec. 31, 1907, nonrecording gage at site 13.5 miles upstream at different datum. May 14, 1908, to July 16, 1909, nonrecording gage at site 0.2 mile downstream at different datum.

AVERAGE DISCHARGE.--55 calendar years (1905-06, 1908-10, 1912-54, 1962-72), 194 cfs (140,600 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 26,200 cfs Oct. 20 (gage height, 21.16 ft), from rating curve extended above 13,000 cfs; minimum, about 15 cfs July 5.

Period of record: 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 October, which are poor. Diversions for irrigation of about 5,000 acres above station.

REVISIONS (WATER YEARS).--WSP 1213: 1906, 1911-15, 1931, 1936-37, 1939, 1941, 1944, 1945(P), 1946(M), 1947. WSP 1283: Drainage area. WSP 1926: 1955.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	460	143	92	74	53	27	17	72	338	153	830	280
2	428	143	94	74	46	29	18	61	517	133	782	277
3	408	134	94	72	47	24	20	55	2,170	118	800	262
4	388	131	99	71	43	23	16	67	2,220	129	812	271
5	356	129	105	66	46	25	16	53	810	128	764	253
6	300	133	99	64	42	24	16	53	520	198	698	247
7	282	131	97	58	46	31	17	51	426	313	674	241
8	282	127	94	47	43	39	18	77	410	250	530	235
9	276	125	95	47	46	70	17	62	293	241	472	238
10	262	123	97	53	40	44	20	29	408	215	436	244
11	257	123	99	49	35	42	17	26	1,530	176	412	202
12	238	119	95	46	32	40	17	26	2,170	160	388	175
13	230	119	88	45	37	39	45	34	1,440	453	364	175
14	223	117	84	49	40	37	23	37	1,010	447	344	168
15	221	119	84	56	41	38	20	30	1,360	361	322	161
16	207	117	76	66	44	35	54	63	705	300	295	157
17	199	115	77	54	41	33	231	158	537	243	301	148
18	193	105	78	55	36	28	138	73	422	225	307	136
19	189	105	78	55	34	24	189	135	363	2,640	304	132
20	185	111	77	50	34	22	87	94	311	19,500	295	134
21	178	109	76	50	37	21	60	92	261	11,000	298	128
22	181	111	76	51	32	19	54	72	235	4,100	298	128
23	181	103	78	50	33	20	54	86	212	2,600	295	138
24	168	99	78	61	35	21	98	81	196	1,720	310	128
25	163	97	77	54	31	24	128	68	186	1,440	304	119
26	162	97	74	55	28	24	104	106	177	2,060	310	110
27	152	89	74	50	26	21	80	622	165	1,770	307	114
28	147	97	74	48	29	19	82	864	163	1,170	292	121
29	146	92	71	49	31	19	75	672	144	900	295	1,050
30	145	-----	71	50	40	18	72	457	154	812	292	1,400
31	139	-----	74	-----	32	-----	101	341	-----	842	-----	1,040
TOTAL	7,346	3,363	2,625	1,669	1,180	880	1,904	4,717	19,853	54,797	13,131	8,612
MEAN	237	116	84.7	55.6	38.1	29.3	61.4	152	662	1,768	438	278
MAX	460	143	105	74	53	70	231	864	2,220	19,500	830	1,400
MIN	139	89	71	45	26	18	16	26	144	118	292	110
AC-FT	14,570	6,670	5,210	3,310	2,340	1,750	3,780	9,360	39,380	108,700	26,050	17,080
CAL YR 1972	TOTAL 120,077		MEAN 328	MAX 19,500	MIN 16	AC-FT 238,200						
WTR YR 1972	TOTAL 73,433		MEAN 201	MAX 5,670	MIN 16	AC-FT 145,700						

## PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
9-3	0930	15.62	6,450	10-20	1615	21.16	26,200
9-11	0745	14.58	5,040				

## GILA RIVER BASIN

09432000 Gila River below Blue Creek, near Virden, N. Mex.

LOCATION.--Lat 32°38'53", long 108°50'43", in SE¼SW¼ sec.18, T.19 S., R.19 W., Grant County, on left bank at head of canyon, 1.4 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.

PERIOD OF RECORD.--May to November 1914, March to September 1915, July 1927 to current year. July 1927 to May 1931 monthly discharge only, published in WSP 1313, computed as sum of flow at Virden Bridge, 9 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. 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, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--45 calendar years (1928-72), 172 cfs (124,600 acre-ft per year); 20 calendar years (1953-72), 173 cfs (125,300 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 27,200 cfs Oct. 20 (gage height, 21.90 ft); minimum, 4.6 cfs July 7 (gage height, 4.08 ft).

Period of record: Maximum discharge, 41,700 cfs Sept. 29, 1941 (gage height, 25.78 ft); minimum, 1 cfs July 14, 1934.

REMARKS.--Records good prior to October and fair thereafter. Station is above all Duncan Valley diversions. Diversions for irrigation of about 6,200 acres above station.

REVISIONS (WATER YEARS).--WSP 1283: Drainage area. WSP 1313: 1929, 1931-32(M).

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	680	150	107	81	45	32	10	68	332	113	1,140	281
2	605	150	109	84	45	31	10	45	460	95	1,080	276
3	521	147	110	83	45	30	10	33	1,750	88	1,040	261
4	485	141	109	81	43	28	10	40	2,790	98	1,020	268
5	445	141	116	81	42	29	6.3	36	1,380	98	944	259
6	392	142	113	78	43	30	5.8	34	815	334	858	254
7	364	141	108	76	43	33	5.3	66	614	292	738	254
8	342	139	108	69	43	30	5.6	201	606	245	662	252
9	326	136	107	65	42	45	5.6	136	425	232	590	245
10	284	135	107	66	42	36	5.8	34	440	222	523	254
11	282	135	107	65	38	34	6.5	31	1,680	190	490	240
12	264	131	107	61	35	32	6.3	28	2,700	440	460	236
13	252	131	101	57	34	30	19	31	2,110	372	436	236
14	238	130	98	56	34	28	24	32	1,660	376	412	236
15	236	129	97	56	33	28	16	30	2,040	358	388	229
16	226	130	93	61	35	26	14	30	1,100	322	360	227
17	219	129	92	59	37	25	210	202	830	276	342	222
18	212	124	92	55	35	27	116	67	629	265	342	211
19	208	122	92	57	32	16	207	135	482	1,780	340	204
20	198	121	91	54	30	15	76	94	400	11,200	330	204
21	194	125	90	52	32	14	60	91	340	14,500	328	200
22	194	122	89	52	31	14	45	70	284	4,010	324	200
23	191	119	86	51	30	13	38	72	268	2,310	322	214
24	184	115	85	52	30	12	85	72	238	1,930	320	211
25	174	113	83	50	30	11	78	62	216	1,680	316	200
26	173	113	83	49	28	11	104	72	191	2,020	310	190
27	166	106	83	48	28	12	69	435	170	2,130	306	192
28	158	112	82	46	27	10	69	930	168	1,750	296	200
29	150	109	82	45	24	10	67	719	147	1,470	292	726
30	151	-----	80	45	33	10	56	470	147	1,280	285	1,400
31	150	-----	80	-----	37	-----	103	356	-----	1,190	-----	936
TOTAL	8,664	3,738	2,987	1,835	1,116	699	1,543.2	4,722	25,412	51,666	15,596	9,518
MEAN	279	129	96.4	61.2	36.0	23.3	49.8	152	847	1,667	520	307
MAX	680	150	116	84	45	45	210	930	2,790	14,500	1,140	1,400
MIN	150	106	80	45	27	10	5.3	28	147	88	285	190
AC-FT	17,190	7,410	5,920	3,640	2,210	1,390	3,060	9,370	50,400	102,500	30,930	18,880

CAL YR 1972 TOTAL 127,496.2 MEAN 348 MAX 14,500 MIN 5.3 AC-FT 252,900  
WTR YR 1972 TOTAL 79,227.2 MEAN 216 MAX 4,460 MIN 5.3 AC-FT 157,100

## PEAK DISCHARGE (BASE, 1,900 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
9-3	1430	11.10	3,520	9-15	0500	11.47	4,270
9-4	1200	11.11	3,790	10-6	1730	9.87	2,580
9-11	1200	11.18	3,890	10-12	1800	9.80	2,600
9-12	1030	11.23	3,960	10-20	2330	21.90	27,200
9-14	1900	10.96	3,560				

## GILA RIVER BASIN

223

09442653 Trout Creek near Luna, N. Mex.

LOCATION.--Lat 33°53'24", long 109°00'38", in NE 1/4 sec. 10, T.5 S., R.21 W., Catron County, on left bank 0.9 mile downstream from Romero Creek, and 5.9 miles northwest of Luna.

DRAINAGE AREA.--27.1 sq mi.

PERIOD OF RECORD.--December 1968 to December 1972 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 8,050 ft (from topographic map).

EXTREMES.--Current year: Maximum discharge, 1060 cfs Oct. 19 (gage height 6.14 ft), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 1060 cfs Oct. 19, 1972 (gage height 6.14 ft) from rating curve extended above 15 cfs on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records fair except those for winter months, which are poor. Flow is slightly regulated by unnamed reservoir 3 miles upstream on Romero Creek.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	16	4.5	3.4	.44	.05	.32	0	0	1.7	.19	14	3.2
2	20	1.7	2.6	.49	.03	.36	0	0	9.0	.19	13	3.2
3	8.6	1.4	2.8	.49	.04	.36	0	0	5.9	.09	10	2.8
4	18	1.4	3.2	.44	.04	.44	0	0	3.2	.20	8.6	2.4
5	9.0	1.2	3.0	.49	.05	.64	0	0	2.3	1.0	7.2	3.7
6	9.4	1.2	3.0	.40	.06	.99	0	0	1.8	2.0	6.2	1.8
7	7.7	1.2	2.8	.40	.07	.85	0	0	1.5	5.0	5.4	1.7
8	5.6	1.4	2.6	.40	.07	1.5	0	.05	1.6	3.0	5.6	1.5
9	4.8	2.3	2.8	.36	.08	.99	0	.01	1.4	2.5	6.5	1.6
10	4.2	1.6	2.6	.26	.07	.64	0	0	1.2	2.3	6.2	1.8
11	3.7	2.3	2.4	.20	.08	.40	0	0	1.6	2.0	5.9	2.2
12	3.7	2.2	2.3	.18	.09	.40	0	0	1.1	1.5	6.8	2.0
13	3.7	1.8	2.2	.16	.10	.40	0	.10	.77	2.5	7.7	1.7
14	4.8	2.2	2.0	.14	.16	.49	0	.10	.77	2.3	9.0	1.5
15	5.1	2.2	1.8	.12	.20	.70	0	.08	.70	2.5	9.0	1.1
16	4.2	2.4	1.7	.12	.23	.40	0	.05	.59	5.0	6.5	.99
17	4.2	4.2	1.6	.12	.26	.29	0	.05	.49	6.0	7.2	.99
18	4.5	3.9	1.5	.12	.23	.18	0	1.0	.59	7.0	7.2	1.2
19	3.4	5.4	1.2	.12	.23	.12	0	.80	.44	100	6.8	1.7
20	3.4	9.0	1.2	.10	.26	.10	0	1.0	.36	50	6.5	2.6
21	3.9	8.1	1.2	.09	.23	.10	0	.75	.32	40	6.5	2.4
22	4.5	9.0	1.1	.08	.26	.12	0	.50	.29	35	7.2	2.0
23	7.2	15	1.1	.08	.29	.23	0	.20	.26	35	6.8	2.8
24	12	11	.99	.07	.26	.14	0	.10	.26	31	6.5	1.2
25	12	5.4	.85	.07	.26	.07	.26	.10	.26	33	5.6	1.1
26	9.4	5.1	.85	.06	.20	.04	.16	3.0	.23	27	5.9	.85
27	7.2	4.5	.70	.06	.23	.02	.12	5.0	.18	22	5.6	.64
28	11	4.2	.64	.05	.20	0	.07	6.0	.16	18	4.5	1.4
29	8.1	3.9	.54	.05	.32	0	0	8.0	.14	14	3.7	1.2
30	7.2	-----	.44	.05	.40	0	0	15	.10	15	3.0	1.1
31	3.9	-----	.44	-----	.36	-----	0	5.1	-----	16	-----	.92
TOTAL	230.4	119.7	55.55	6.21	5.41	11.29	.61	44.99	39.21	480.27	210.6	55.29
MEAN	7.43	4.13	1.79	.21	.17	.38	.020	1.52	1.31	15.5	7.02	1.78
MAX	20	15	3.4	.49	.40	1.5	.26	15	9.0	100	14	3.7
MIN	3.4	1.2	.44	.05	.03	0	0	0	.10	.09	3.0	.64
AC-FT	457	237	110	12	11	22	1.2	93	78	953	418	110

CAL YR 1972 TOTAL 1,261.53 MEAN 3.45 MAX 100 MIN 0 AC-FT 2,500

PEAK DISCHARGE (BASE, 30 CFS).--Oct. 19 (Unknown) 1,060 cfs (6.14 ft).

## GILA RIVER BASIN

09442680 San Francisco River near Reserve, N. Mex.

LOCATION.--Lat 33°44'12", long 108°46'14", in NE¼NW¼SE¼ sec. 35, T.6 S., R.19 W., Catron County, on left bank 1,300 ft downstream from Rainbow Bridge Canyon, and 1.7 miles northwest of Reserve. Prior to Dec. 15, 1972 at site 1,800 ft upstream.

DRAINAGE AREA.--350 sq mi, approximately.

PERIOD OF RECORD.--March 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,820 ft (from topographic map). Prior to Dec. 15, 1972 at site 1,800 ft. upstream at datum 21.3 ft higher.

AVERAGE DISCHARGE.--13 calendar years, 22.9 cfs (16,590 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 11,900 cfs Oct. 20 (gage height, 7.47 ft in gage well, 8.05 ft, from outside floodmarks), from rating curve extended above 9,000 cfs on basis of velocity-area study; minimum, 1.4 cfs Aug. 5.  
Period of record: Maximum discharge, 11,900 cfs Oct. 20, 1972 (gage height, 7.47 ft in gage well, 8.05 ft, from outside floodmarks), from rating curve extended above 9,000 cfs on basis of velocity-area study; minimum, 1.0 cfs Mar. 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 February, March, October, November and December, which are poor. Possible minor regulation by Luna Lake, 27 miles upstream. Diversions for irrigation of about 500 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	67	6.8	5.6	4.6	4.0	5.0	2.6	3.2	22	4.8	68	22
2	49	6.8	4.7	5.0	4.4	4.6	2.6	2.7	17	4.6	68	21
3	30	6.0	4.2	4.2	4.4	4.2	2.6	2.2	31	4.8	70	21
4	22	6.5	4.6	5.0	4.3	4.2	2.6	1.8	22	8.6	66	21
5	15	8.0	4.6	4.6	3.7	4.6	2.6	2.4	15	19	64	22
6	16	7.0	5.0	4.6	3.5	5.6	2.8	13	11	58	60	21
7	19	6.0	5.0	4.2	3.8	6.6	3.1	7.2	9.3	61	56	20
8	23	6.0	4.6	4.6	3.6	8.5	3.2	7.8	7.7	34	52	18
9	23	6.0	5.0	3.9	3.4	6.6	8.2	6.6	7.2	24	45	18
10	20	6.0	6.0	4.1	3.3	5.6	3.7	5.6	16	16	38	18
11	18	6.0	5.6	4.3	3.3	4.6	6.2	5.0	24	11	40	16
12	17	6.0	5.6	4.3	3.3	5.0	4.8	4.2	12	16	42	16
13	16	5.8	5.0	4.3	3.1	5.0	4.0	5.7	14	15	43	16
14	15	5.8	5.6	4.6	3.5	5.0	3.7	6.7	9.9	16	43	15
15	14	5.8	5.0	4.5	4.4	5.0	3.5	5.5	7.2	14	42	16
16	14	5.5	5.0	4.5	3.5	4.2	12	24	6.0	13	40	18
17	14	5.0	5.6	4.5	3.3	4.2	12	9.9	5.0	14	35	20
18	13	5.0	5.0	4.6	3.3	3.8	6.8	27	7.2	18	32	26
19	12	4.5	5.6	4.6	3.3	3.2	6.1	7.2	5.0	1,150	30	22
20	13	5.0	5.6	4.6	3.2	2.9	5.8	17	6.0	5,000	27	28
21	12	5.5	5.6	4.7	3.0	3.2	5.9	99	5.6	700	26	22
22	12	5.8	5.6	4.7	3.1	3.5	5.0	14	5.0	400	22	22
23	12	6.0	5.6	4.8	3.2	3.8	6.0	6.8	4.6	300	25	24
24	12	6.5	4.2	4.7	3.2	3.5	12	6.1	4.6	200	25	20
25	12	7.9	4.6	4.7	2.9	3.2	26	5.6	4.6	150	24	26
26	11	6.5	4.6	4.4	2.9	2.9	14	27	4.6	100	24	18
27	11	6.8	5.0	4.1	3.2	2.9	7.8	19	4.6	90	23	17
28	8.6	6.5	5.0	4.1	3.2	2.8	6.9	9.7	4.6	80	23	66
29	7.5	6.1	5.6	4.1	3.2	2.8	5.5	7.4	4.6	75	23	116
30	7.5	-----	5.0	4.0	5.0	2.6	4.2	10	4.2	72	22	62
31	7.5	-----	5.0	-----	6.6	-----	4.2	18	-----	70	-----	48
TOTAL	543.1	177.1	158.7	133.9	112.1	129.6	196.4	387.3	301.5	8,737.8	1,198	836
MEAN	17.5	6.11	5.12	4.46	3.62	4.32	6.34	12.5	10.1	282	39.9	27.0
MAX	67	8.0	6.0	5.0	6.6	8.5	26	99	31	5,000	70	116
MIN	7.5	4.5	4.2	3.9	2.9	2.6	2.6	1.8	4.2	4.6	22	15
AC-FT	1,080	361	315	266	222	257	390	768	598	17,330	2,380	1,660

CAL YR 1972 TOTAL 12,911.5 MEAN 35.3 MAX 5,000 MIN 1.8 AC-FT 25,610

WTR YR 1972 TOTAL 6,319.7 MEAN 17.3 MAX 900 MIN 1.8 AC-FT 12,540

PEAK DISCHARGE (BASE, 450 CFS).--Aug. 21 (1600) 906 cfs (3.05 ft); Oct. 20 (Unknown) 11,900 cfs (8.05 ft).

## GILA RIVER BASIN

225

09442692 Tularosa River above Aragon, N. Mex.

LOCATION.--Lat 33°53'29", long 108°30'54", in NW¼ sec.9, T.5 S., R.16 W., Catron County, 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.

PERIOD OF RECORD.--July 1966 to current year. 1955 to 1965 at site 0.6 mile upstream (drainage area, 89 sq mi), annual maximum only.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,750 ft (from topographic map).

AVERAGE DISCHARGE.--6 calendar years, 3.24 cfs (2,350 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 85 cfs Dec. 29 (gage height, 2.03 ft); minimum, 2.4 cfs Mar. 13.

Period of record: Maximum discharge, 392 cfs Sept. 1, 1971 (gage height, 3.13 ft), from rating curve extended above 10 cfs on basis of slope-area measurement of peak flow; minimum, 1.1 cfs July 22, 1969.

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

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

CAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	3.8	2.7	2.7	2.8	2.7	2.8	2.9	2.6	2.8	2.6	3.3	4.2
2	3.3	2.7	2.7	2.9	2.7	2.9	2.9	2.6	2.8	2.6	3.3	4.1
3	3.3	2.7	2.7	2.9	2.7	2.9	2.9	2.6	2.9	2.6	3.4	4.1
4	3.3	2.7	2.7	3.0	2.7	3.0	2.8	2.5	2.8	2.6	3.4	4.1
5	3.2	2.7	2.7	2.9	2.7	3.0	2.8	2.6	2.8	2.7	3.4	4.0
6	3.0	2.7	2.7	3.0	2.7	3.0	2.9	3.0	2.7	2.7	3.0	3.7
7	3.0	2.7	2.7	3.1	2.7	3.0	2.9	2.7	2.6	2.6	3.4	3.7
8	3.0	2.7	2.6	3.1	2.7	3.0	2.9	2.7	2.6	2.6	3.6	3.8
9	3.0	2.7	2.6	3.2	2.7	3.0	2.9	2.7	2.7	2.6	3.7	3.8
10	3.0	2.7	2.6	3.2	2.7	3.0	2.9	2.6	2.7	2.6	3.6	3.8
11	3.0	2.7	2.5	3.3	2.7	3.0	2.8	2.6	2.7	2.6	3.7	3.7
12	3.0	2.6	2.5	3.3	2.7	3.1	2.8	2.6	2.7	3.2	3.8	3.7
13	3.0	2.6	2.5	3.4	2.7	3.1	2.8	2.8	2.6	2.5	3.8	3.7
14	3.0	2.6	2.6	3.4	2.8	3.1	2.7	2.8	2.6	2.5	4.0	3.7
15	3.0	2.6	2.6	3.3	2.7	3.0	2.7	2.7	2.6	2.4	4.1	3.4
16	3.0	2.6	2.6	3.3	2.7	3.0	2.8	2.7	2.6	2.4	4.0	3.4
17	3.0	2.6	2.6	3.2	2.7	3.0	2.8	2.7	2.6	2.5	4.2	3.6
18	3.0	2.6	2.6	3.2	2.7	3.0	2.8	2.8	2.6	2.6	4.2	3.6
19	3.0	2.6	2.5	3.1	2.7	3.0	2.8	2.8	2.6	2.9	4.1	3.6
20	3.0	2.6	2.6	3.1	2.7	3.0	2.8	2.8	2.6	3.2	4.3	3.4
21	2.8	2.6	2.5	3.0	2.7	3.0	2.7	2.8	2.6	3.0	4.3	3.4
22	2.8	2.6	2.6	3.0	2.7	3.0	2.7	2.8	2.6	3.0	4.3	3.4
23	2.8	2.6	2.6	3.0	2.7	3.0	2.7	2.8	2.6	3.0	4.2	3.3
24	2.8	2.6	2.6	2.9	2.7	2.9	2.8	2.8	2.6	3.0	4.2	3.3
25	2.8	2.7	2.6	2.9	2.7	2.9	2.7	2.8	2.6	3.1	4.2	3.3
26	2.8	2.6	2.6	2.9	2.7	2.9	2.7	3.0	2.6	3.1	4.2	3.2
27	2.8	2.6	2.6	2.9	2.7	2.9	2.7	2.9	2.6	3.1	4.1	3.3
28	2.8	2.7	2.6	2.8	2.7	2.9	2.7	2.8	2.6	3.1	4.1	4.0
29	2.8	2.7	2.7	2.8	2.7	2.9	2.6	2.8	2.6	3.2	4.2	16
30	2.8	-----	2.7	2.8	2.8	2.9	2.6	2.8	2.6	3.3	4.1	3.6
31	2.7	-----	2.8	-----	2.8	-----	2.6	2.8	-----	3.4	-----	3.0
TOTAL	92.6	76.8	81.2	91.7	84.0	89.2	86.1	95.0	79.6	87.3	116.2	124.9
MEAN	2.99	2.65	2.62	3.06	2.71	2.97	2.78	2.74	2.65	2.82	3.87	4.03
MAX	3.8	2.7	2.8	3.4	2.8	3.1	2.9	3.0	2.9	3.4	4.3	16
MIN	2.7	2.6	2.5	2.8	2.7	2.8	2.6	2.5	2.6	2.4	3.0	3.0
AC-FT	184	152	161	182	167	177	171	169	158	173	230	248

CAL YR 1972 TOTAL 1,094.6 MEAN 2.99 MAX 16 MIN 2.4 AC-FT 2,170  
 WTR YR 1972 TOTAL 1,239.0 MEAN 3.39 MAX 84 MIN 2.5 AC-FT 2,460

PEAK DISCHARGE (BASE, 20 CFS).--Dec. 29 (0030) 85 cfs (2.03 ft).

## GILA RIVER BASIN

09443000 San Francisco River near Alma, N. Mex.

LOCATION.--Lat 33°22'05", long 108°54'35", in SW¼SE¼ sec.4, T.11 S., R.20 W., Catron County, on right bank 1.2 miles downstream from Alma, 4 miles northwest of Glenwood, and 6 miles upstream from Whitewater Creek.

DRAINAGE AREA.--1,546 sq mi.

PERIOD OF RECORD.--September 1904 to January 1914, fragmentary (see WSP 1313), January 1964 to current year. Prior to October 1911, published as "at Alma".

GAGE.--Water-stage recorder. Datum of gage is 4,844 ft above mean sea level. Prior to Aug. 11, 1912, nonrecording gages at various sites, within 500 ft of each other, 0.8 mile upstream, at different datums. Aug. 11, 1912, to Feb. 2, 1914, nonrecording gage at approximately present site and datum. Prior to Nov. 1, 1972, at datum 3.00 ft higher.

AVERAGE DISCHARGE.--8 calendar years, (1964-72), 67.8 cfs (49,120 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 30,600 cfs Oct. 20 (gage height, 18.16 ft, present datum, from floodmarks in well), from rating curve extended above 3,500 cfs on basis of slope-area measurement of peak flow; no flow many days.

Period of record: Maximum discharge 30,600 cfs Oct. 20, 1972 (gage height, 18.16 ft, present datum, from floodmarks in well), from rating curve extended above 3,500 cfs on basis of slope-area measurement of peak flow; no flow many days.

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 fair except those for October, which are poor. Diversions for irrigation of about 1,500 acres above station.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	207	21	14	1.7	1.1	0	0	17	45	0	215	46
2	136	20	13	2.0	1.3	0	0	.74	88	0	219	48
3	104	15	12	1.7	.89	0	0	0	285	0	235	46
4	77	16	11	1.4	.80	0	0	0	122	0	227	46
5	52	17	9.7	1.4	.80	.02	0	31	42	280	223	46
6	46	19	9.0	1.4	.57	0	0	11	25	99	195	46
7	48	18	9.2	1.4	.52	.22	0	.26	22	376	163	42
8	48	17	8.2	1.4	.50	.65	0	20	13	45	146	42
9	48	17	7.8	1.4	.50	0	44	.80	11	48	134	44
10	42	18	8.2	1.4	.32	0	.07	0	35	25	110	44
11	39	17	8.7	1.7	.21	0	0	0	94	17	91	44
12	38	17	8.9	1.4	.50	0	0	0	57	17	91	43
13	39	16	8.8	1.4	.51	26	0	0	94	31	95	36
14	36	16	8.4	1.1	.50	9.2	0	75	94	21	87	28
15	35	16	5.6	1.1	.50	4.5	0	3.1	157	19	85	34
16	33	17	2.7	.80	.35	1.6	300	13	85	16	87	27
17	33	16	1.7	.80	.40	1.3	110	.36	50	13	87	28
18	34	15	.74	1.1	.50	1.2	40	169	35	55	93	29
19	31	14	.03	1.1	.43	.90	20	69	29	4,210	91	35
20	31	14	0	.80	.43	.66	10	67	25	15,500	91	32
21	30	13	.03	1.4	.46	.62	3.6	5.3	20	3,500	85	29
22	31	13	0	1.4	.50	.17	45	98	16	1,500	76	27
23	31	14	1.3	1.1	.50	.10	6.6	16	10	900	70	24
24	30	15	2.0	1.1	.37	0	21	6.6	7.0	600	68	25
25	29	15	2.1	1.1	.27	0	147	1.2	6.2	450	65	23
26	27	15	2.5	1.1	.20	0	37	28	4.2	370	58	23
27	27	14	2.2	1.1	0	0	13	122	3.8	300	56	22
28	26	15	2.3	1.1	0	0	4.4	51	2.6	250	54	72
29	23	15	2.3	1.1	0	0	2.1	33	1.4	200	52	718
30	23	-----	2.3	1.1	0	0	.53	41	.50	180	49	224
31	22	-----	2.3	-----	0	-----	0	96	-----	170	-----	116
TOTAL	1,456	465	167.07	33.11	13.63	46.34	804.30	975.36	1,479.70	29,192	3,398	2,089
MEAN	47.0	16.7	5.30	1.27	.44	1.54	25.9	31.5	49.3	942	113	67.4
MAX	207	21	14	2.0	1.1	26	300	169	285	15,500	235	718
MIN	22	13	0	.80	0	0	0	0	.50	0	49	22
AC-FT	2,992	922	331	76	27	92	1,600	1,930	2,930	57,900	6,740	4,140

CAL YR 1972 TOTAL 41,124.43 MEAN 110 MAX 15,500 MIN 0 AC-FT 79,590  
WTR YR 1972 TOTAL 20,976.63 MEAN 57.3 MAX 4,000 MIN 0 AC-FT 41,610

## PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-16	1745	6.03	4,590	9-13	2130	2.88	1,010
7-25	2145	2.95	1,120	10-5	0100	3.15	1,190
8-14	1930	3.04	1,150	10-20	0530	15.16	30,600
9-3	0645	3.28	1,290	12-29	0100	4.19	1,300



09444000 San Francisco River near Glenwood, N. Mex.

LOCATION.--Lat 33°14'48", long 108°52'47", in NE¼NW¼ sec.23, T.12 S., R.20 W., Catron County, on left bank 0.2 mile upstream from hot springs, 5 miles south of Glenwood, 6 miles downstream from Whitewater Creek, and at mile 64.6.

DRAINAGE AREA.--1,653 sq mi.

PERIOD OF RECORD.--October 1927 to current year. 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; prior to Feb. 15, 1934, at site 4.5 miles upstream at datum 98.82 ft higher.

AVERAGE DISCHARGE.--45 years, 67.7 cfs (49,050 acre-ft per year); 20 calendar years (1953-72), 68.9 cfs (49,920 acre-ft per year).

EXTREMES.--Current year: Maximum discharge, 34,100 cfs Oct. 20 (gage height, 16.61 ft); minimum, 8.8 cfs June 21.

Period of record: Maximum discharge, 34,100 cfs Oct. 20, 1972 (gage height, 16.61 ft), from rating curve extended above 22,000 cfs; 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 except those for October, which are fair. Diversions for irrigation of about 2,000 acres above station. Water quality records for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1213: 1931, 1934, 1936-37, 1940-42, 1943-44(X), 1945-47. WSP 1283: Drainage area.

## DISCHARGE, IN CUBIC FEET PER SECOND, CALENDAR YEAR 1972

DAY	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	234	57	31	18	27	19	11	22	71	22	190	73
2	212	54	31	18	27	20	14	22	60	21	190	70
3	168	49	28	22	21	20	16	22	355	20	191	69
4	142	46	25	19	18	19	15	23	129	24	189	68
5	116	49	25	22	18	23	16	24	79	202	189	69
6	104	51	25	21	19	22	14	40	65	73	167	66
7	109	57	26	22	20	20	14	26	62	282	140	65
8	164	47	26	22	20	24	11	23	55	132	138	62
9	173	46	23	22	21	22	32	40	49	76	130	63
10	94	47	22	22	22	17	30	14	57	57	123	62
11	87	44	23	22	19	16	21	22	91	49	119	62
12	85	44	22	21	14	18	22	22	71	46	118	59
13	80	41	24	22	16	25	20	22	64	60	117	59
14	78	41	23	21	16	30	19	26	110	48	111	55
15	73	41	22	22	18	24	18	52	135	46	109	55
16	70	44	19	22	18	20	397	24	90	40	107	53
17	71	42	18	23	18	17	125	27	68	38	105	52
18	72	38	18	22	18	13	49	100	58	68	107	51
19	69	36	19	24	18	12	32	60	49	5,450	105	51
20	68	34	20	24	20	12	34	94	46	17,500	103	51
21	67	34	22	22	16	12	24	30	43	3,143	97	50
22	67	36	22	24	16	12	61	86	38	1,630	96	53
23	66	36	22	24	15	13	24	46	33	1,010	80	58
24	64	39	20	22	16	15	28	36	28	707	92	60
25	62	38	20	20	17	10	33	31	26	549	88	64
26	62	38	20	18	17	12	104	154	24	480	85	67
27	61	33	20	20	17	16	37	140	23	381	84	71
28	60	33	20	20	17	16	20	35	23	315	79	88
29	58	32	20	18	18	10	26	67	23	261	78	479
30	58	-----	20	18	20	9.4	25	45	22	237	75	177
31	57	-----	20	-----	22	-----	24	98	-----	217	-----	112
TOTAL	2,921	1,229	695	634	566	517.4	1,324	1,523	2,742	33,181	3,611	2,494
MEAN	91.5	42.1	22.4	21.1	18.3	17.2	42.7	49.1	68.1	1,170	120	80.5
MAX	234	57	31	24	22	30	397	154	350	17,500	199	479
MIN	57	32	18	18	14	9.4	10	14	22	20	75	50
AC-FT	5,600	2,400	1,380	1,260	1,120	1,030	2,630	3,020	4,150	65,810	7,160	4,950

CAL YR 1972 TOTAL 50,628.4 MEAN 138 MAX 17,500 MIN 9.4 AC-FT 100,400  
 WTR YR 1972 TOTAL 30,902.1 MEAN 84.4 MAX 4,800 MIN 7.2 AC-FT 61,290

## PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G.H.	DISCHARGE	DATE	TIME	G.H.	DISCHARGE
7-16	1930	8.30	4,790	9-3	0930	5.41	1,440
7-26	0030	4.70	810	10-20	0630	16.61	34,100
8-26	1530	5.02	1,160				

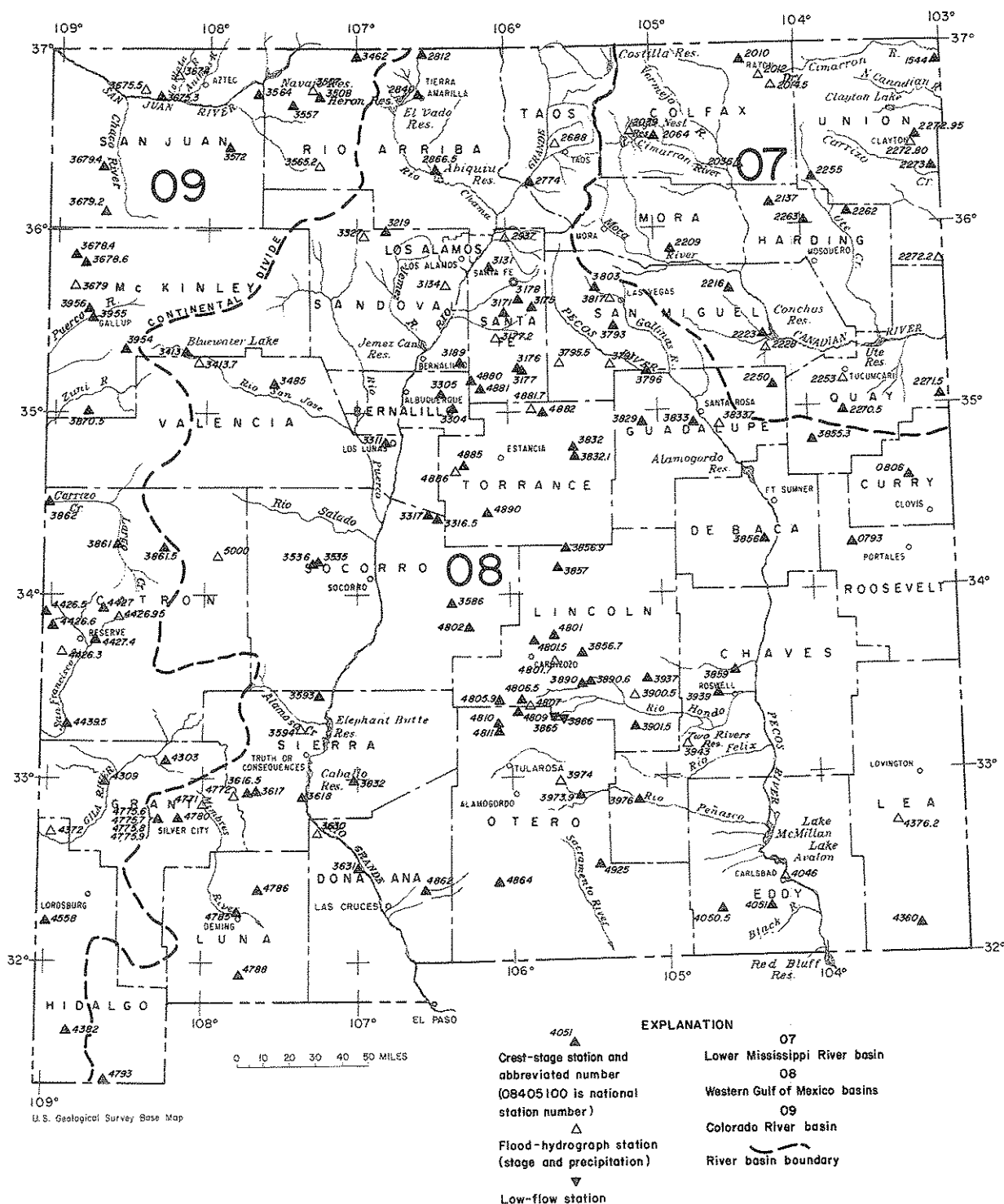


Figure 2.—Map of New Mexico showing location of partial-record stations.

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.

Measurements of streamflow in the area covered by this report made 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 picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Rio Grande basin						
08386500	Rio Ruidoso near Ruidoso, N. Mex.	Lat 33°20'11", long 105°43'31", in NW¼SW¼SW¼ sec.19, T.11 S., R.13 E., Lincoln County at Mescalero Apache Indian Reservation boundary, 3.0 miles west of Ruidoso.	17.2	1953-72	3-22-72 6-21-72 10-10-72 12-13-72	12 5.5 4.9 7.4
08386600	Carrizo Creek at Ruidoso, N. Mex.	Lat 33°19'27", long 105°39'13", in SW¼NW¼SW¼ sec.26, T.11 S., R.13 E., Lincoln County, at mouth, at Ruidoso.	24.2	1953-72	3-22-72 6-21-72 10-10-72 12-13-72	6.4 2.8 1.8 3.3

## Crest-stage partial-record stations

The following table contains maximum discharge for the current calendar year for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. An S under the station number indicates that a complete hydrograph of flow events and precipitation data are recorded. 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 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 year given in the period of record column represents the first year of a period extending through the current year unless otherwise noted. For some stations, publication of discharge is delayed pending definition of stage-discharge relationship. Published maximums for years prior to 1971 are for water years.

## 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							
07154400	Carrizozo Creek near Kenton, Okla.	Lat 36°52'55", long 103°01'05", Union County, under bridge on New Mexico State Highway 18, 4 miles southwest of Kenton.	111	1953-	7- 3-72	5.81	2,050
07201000	Raton Creek at Raton, N. Mex.	Lat 36°54', long 104°26', Colfax County, 60 ft above bridge on State Highway 72 at Raton.	14.4	1953-	8- 4-72	4.05	460
07201200 S	Chicorica Creek tributary near Raton, N. Mex.	Lat 36°54'40", long 104°19'56", Colfax County, upstream from culvert on U.S. Highway 64-87, 7.7 miles southeast of Raton.	4.82	1971-	7- 3-72	6.54	217
07201450 S	Una del Gato Creek tributary near Raton, N. Mex.	Lat 36°47'00", long 104°15'42", Colfax County, about 1,500 feet upstream from bridge on U.S. Highway 64-87, 12.8 miles southeast of Raton.	a18	1971-	6-16-72	7.23	691
07203600 S	Rio del Plano tributary near Taylor Springs, N. Mex.	Lat 36°26'59", long 104°22'34", Colfax County, 1.7 miles south of Sauble Ranch, 11.0 miles northeast of Taylor Springs.	6.71	1971-	10-12-72	8.16	(+)
07203900 S	Graney Creek near Eagle Nest, N. Mex.	Lat 36°34'37", long 105°18'38", Colfax County, 3.0 miles northwest of Eagle Nest.	1.83	1971-	8- 7-72	2.28	(+)
07206400	Clear Creek near Ute Park, N. Mex.	Lat 36°31'35", long 105°10'30", Colfax County, Maxwell Grant, 0.25 mile upstream from mouth, and 4 miles southwest of Ute Park.	7.44	1962-67# 1968-	7- -72	1.18	7
07213700	Canadian River tributary near Mills, N. Mex.	Lat 36°10'00", long 104°15'47", Harding County, on downstream end of left bridge abutment on State Highway 39, 6 miles north of Mills.	a4.2	1954-	1972	-	0
07220900	Dog Creek near Shoemaker, N. Mex.	Lat 35°49'32", long 104°53'28", Mora County, 0.5 mile above Valmore-Shoemaker road, and 1.8 miles northwest of Shoemaker.	18.4	1954-	7-21-72	8.73	1,130
07221600	Lagartija Creek tributary near Sanchez, N. Mex.	Lat 35°38', long 104°25', San Miguel County, at bridge on State Highway 65, 0.9 mile northeast of Sanchez.	a1	1961-	5-10-72	3.97	630
07222300	Trementina Creek at Trementina, N. Mex.	Lat 35°28', long 104°25', San Miguel County, at bridge on State Highway 65, at Trementina.	a65	1959-	9-10-72	9.43	6,800
07222800 S	Garita Creek tributary near Variadero, N. Mex.	Lat 35°20'10", long 104°21'50", San Miguel County, 1.2 miles upstream from mouth, 6.3 miles southeast of Variadero.	a12	1971-	8-31-72	12.09	b3,000
07225000	Pajarito Creek at Newkirk, N. Mex.	Lat 35°04'20", long 104°14'50", Guadalupe County, downstream side of bridge on U.S. Highway 66, 1 mile east of Newkirk.	55.0	1954-	7-20-72	4.93	1,340

## 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)
Arkansas River basin--Continued							
07225300 S	Bluewater Creek near Tucumcari, N. Mex.	Lat 35°08'31", long 103°47'32", Quay County, in Tucumcari Metropolitan Park, 1,600 feet north of the park's southern boundary, and 4.8 miles southwest of Tucumcari.	15.2	1971-	7- -72	9.32	(+)
07225500	Ute Creek near Gladstone, N. Mex.	Lat 36°18', long 103°56', Union County, on bridge on State Highway 58, 3 miles east of Gladstone.	256	1953-	7-17-72	1.76	4,100
07226200	Bueyeros Creek at Bueyeros, N. Mex.	Lat 35°58'10", long 103°41'05", in E½ sec. 7, T.20 N., R.31 E., Harding County, on right upstream wingwall of culvert on State Road 102 at Bueyeros.	a34	1957-	7-17-72	c12.77	5,800
07226300	Carrizo Creek near Roy, N. Mex.	Lat 36°02'58", long 103°57'48", Harding County, 800 ft below State Highway 120, and 15 miles northeast of Roy.	a68	1954-	7-21-72	3.86	375
07227050	Plaza Larga Creek tributary near Ragland, N. Mex.	Lat 34°50', long 103°45', Quay County, at culvert on State Highway 18, 1.2 miles northwest of Ragland.	a.5	1952-	7-10-72	7.76	310
07227150	Arroyo del Puerto near Endee, N. Mex.	Lat 35°03', long 103°05', Quay County, at bridge on State Highway 93, 5.4 miles south of Endee.	a25	1961-	7-21-72	3.49	(+)
07227220 S	Cramer Creek near Nara Visa, N. Mex.	Lat 35°45'50", long 103°07'30", Union County, upstream from culvert on State Highway 18, 11.3 miles north of Nara Visa.	15.1	1971-	5-11-72	8.07	(+)
07227280 S	Sand Draw tributary near Clayton, N. Mex.	Lat 36°23'33", long 103°22'51", Union County, 0.85 mile north of U.S. Highway 56 and 11.5 miles southwest of Clayton.	1.81	1968-	7-10-72	10.51	(+)
07227295	Sand Draw (formerly Sandy Arroyo) tributary near Clayton, N. Mex.	Lat 36°23'20", long 103°19'05", Union County, above culvert on State Highway 58, 8 miles southwest of Clayton.	1.25	1952-	6-13-72	2.01	77
07227300	Sand Draw (formerly Sandy Arroyo) near Clayton, N. Mex.	Lat 36°20'30", long 103°11'30", Union County, on downstream side of bridge on State Highway 18, 7.5 miles south of Clayton.	a42	1953-	9- 8-72	2.41	(+)
Brazos River basin							
08079300	Blackwater Draw tributary near Floyd, N. Mex.	Lat 34°13', long 103°45', Roosevelt County, 0.5 mile below section road and 10 miles west of Floyd.	a10	1963-	9- 2-72	5.05	(+)
08080600	Running Water Draw near Clovis, N. Mex.	Lat 34°31'55", long 103°12'10", Curry County, 0.25 mile upstream from Highway 18 and 8 miles north of Clovis.	109	1953-56 1957-64† 1965-	7-24-72	(d)	b8,000
Rio Grande basin							
08268800 S	Rio Grande tributary near Arroyo Hondo, N. Mex.	Lat 36°28'29", long 105°43'05", Taos County, upstream from culvert on State Road 111, 0.8 mile east of Rio Grande Gorge Bridge and 4.6 miles southwest of Arroyo Hondo.	1.16	1968-	1972	-	0
08277400	Rio Grande tributary at Rinconada, N. Mex.	Lat 36°12'55", long 105°53'25", Rio Arriba County, at culvert on U.S. Highway 64, 0.6 mile west of Rinconada.	.02	1952-	1972	-	0
08281200	Wolf Creek near Chama, N. Mex.	Lat 36°57'20", long 106°32'10", Rio Arriba County, at bridge on State Highway 17, and 4.5 miles northeast of Chama.	27.7	1959-e	10-20-72	2.11	210

## 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							
08284000	Rito de Tierra Amarilla at Tierra Amarilla, N. Mex.	Lat 36°41'55", long 106°33'25", Rio Arriba County, 400 ft below culvert on U.S. Highway 84, at Tierra Amarilla.	49.7	1957-	1972	(f)	<150
08286650	Canjilon Creek above Abiquiu Reservoir, N. Mex.	Lat 36°18'55", long 106°29'05", Rio Arriba County, 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	1965-	7-17-72	4.68	510
08293700 S	Arroyo Seco tributary near Pojoaque, N. Mex.	Lat 35°56'33", long 106°01'12", Santa Fe County, upstream from culvert on U.S. Highway 64-84-285, 3.5 miles north of Pojoaque.	.72	1971-	6-11-72	5.88	57
08313100	Canada Ancha tributary near Santa Fe, N. Mex.	Lat 35°44'05", long 106°07'00", Santa Fe County, in Caja del Rio Grant, 9 miles northwest of Santa Fe.	1.23	1940-48+ 1952-	10-20-72	3.39	7
08313400 S	Bland Canyon near Cochiti Pueblo (formerly Cochiti), N. Mex.	Lat 35°42'11", long 106°24'56", Sandoval County, 200 ft south of Forest Service Road, 0.3 mile inside Santa Fe National Forest, 7.5 miles north of Cochiti.	7.57	1962-	7-10-72	(d)	b65
08317100	Arroyo Yupa tributary near Cerrillos, N. Mex.	Lat 35°31'58", long 106°08'45", Santa Fe County, 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-	1972	(f)	<15
08317500	Galisteo Creek at Canonicito, N. Mex.	Lat 35°33'02", long 105°49'20", Santa Fe County, above railroad bridge, 0.2 mile above Apache Canyon at Canonicito.	11.3	1955-56 1959-	7-25-72	3.73	1,200
08317600	San Cristobal Arroyo near Galisteo, N. Mex.	Lat 35°22'55", long 105°51'05", Santa Fe County, at bridge on U.S. Highway 285, 5.5 miles east of Galisteo.	116	1955-	8-28-72	6.86	1,930
08317700	Tarhole Canyon near Galisteo, N. Mex.	Lat 35°21'55", long 105°50'40", Santa Fe County, at culvert on U.S. Highway 285, 6 miles southeast of Galisteo.	2.15	1952-	7-15-72	18.32	870
08317720 S	Canada de la Cueva near Galisteo, N. Mex.	Lat 35°26'13", long 106°00'45", Santa Fe County, 6.4 miles east of Cerrillos and 4.8 miles northwest of Galisteo.	1.79	1970-	9- 1-72	3.53	222
08317800	Canada de las Minas tributary near Santa Fe, N. Mex.	Lat 35°36'27", long 105°54'42", Santa Fe County, 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-	1972	(f)	<10
08318900	San Pedro Creek near Golden, N. Mex.	Lat 36°13'45", long 106°18'00", Sandoval County, 1 mile below bridge on State Highway 10 and 5.5 miles southwest of Golden.	45.2	1953-	5-30-72	2.46	1,770
08321900	Rio de las Vacas near Senorita, N. Mex.	Lat 35°59'35", long 106°47'45", Sandoval County, at bridge on side road, 0.1 mile south of State Highway 126 and 6.5 miles east of Senorita.	26.8	1957-	9-11-72	2.96	114
08327800	Arroyo Ojito at Zia Pueblo, N. Mex.	Lat 35°29'47", long 106°43'48", Sandoval County, 100 ft upstream from culvert on State Highway 44, in Zia Pueblo Grant, 0.7 mile south of Zia Pueblo.	17.7	1961-71e	-	-	-
08330400	Juan Toro Canyon near Miera, N. Mex.	Lat 35°00'57", long 106°20'14", Bernalillo County, 150 ft east of State Highway 10, 1 mile southeast of Cedro, and 4.5 miles northwest of Miera.	1.57	1959-	8-27-72	.85	(+)
08330500	Tijeras Arroyo at Albuquerque, N. Mex.	Lat 35°03'40", long 106°28'40", Bernalillo County, 300 ft south of U.S. Highway 66 and 0.4 mile southeast of city limits of Albuquerque.	75.3	1943-48+ 1958-	1972	(f)	<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)
Rio Grande basin--Continued							
08331100	Belen Highline Canal tributary near Los Lunas, N. Mex.	Lat 34°49'20", long 106°49'10", Valencia County, above culvert on State Highway 6, 5.0 miles west of Los Lunas.	.16	1952-53 1955-	10-13-72	6.00	(+)
08331650	Canada Montoso near Scholle, N. Mex.	Lat 34°24', long 106°29', Socorro County, 130 ft upstream from dip on abandoned highway, 500 ft upstream from bridge on U.S. Highway 60, 3.6 miles southwest of Scholle.	a35	1961-	8-27-72	2.08	140
08331700	Abo Arroyo tributary near Scholle, N. Mex.	Lat 34°24'10", long 106°30'35", Socorro County, at culvert on U.S. Highway 60, 2.5 miles southeast of junction of U.S. Highway 60, and State Highway 6, southwest of Scholle.	a.2	1954-	8-27-72	15.17	110
08332700 S	San Pablo Creek near Cuba, N. Mex.	Lat 35°56'55", long 106°56'44", Sandoval County, upstream from bridge on old section of State Highway 44 and 5.6 miles south of Cuba.	12.8	1970-	8- 3-72	4.16	(+)
08341300	Bluewater Creek above Bluewater Dam, near Bluewater, N. Mex.	Lat 35°15'35", long 108°07'05", Valencia County, 2.3 miles south of Bluewater Dam, and 8 miles west of Bluewater.	a75	1953-	10-24-72	1.27	51
08341370 S	Pine Canyon near Thoreau, N. Mex.	Lat 35°18'34", long 108°10'14", McKinley County, about 1 mile southwest of the north end of Bluewater Lake and about 7 miles southeast of Thoreau.	6.09	1969-	1972	(f)	(+)
08348500	Encinal Creek near Casa Blanca, N. Mex.	Lat 35°08'35", long 107°27'55", Valencia County, 1.8 miles north of village of Encinal and 6.8 miles north of Casa Blanca.	6.19	1937-39 $\frac{1}{2}$ 1959-	1972	(f)	<90
08353500	La Jencia Creek near Magdalena, N. Mex.	Lat 34°09'45", long 107°12'35", Socorro County, 3.5 miles northwest of Magdalena.	195	1957-	9- 2-72	10.18	4,700
08353600	La Jencia Creek tributary near Magdalena, N. Mex.	Lat 34°08', long 107°13', Socorro County, at Santa Fe Railroad bridge, 2.7 miles northeast of Magdalena.	5.67	1957-	9- 2-72	.91	(+)
08358600	Chupadera Wash tributary at Bingham, N. Mex.	Lat 33°54', long 106°20', Socorro County, 75 ft upstream from culvert on U.S. Highway 380, 0.1 mile west of Bingham.	1.29	1961-	9- 2-72	2.20	190
08359300	San Jose Arroyo near Monticello, N. Mex.	Lat 33°28'05", long 107°14'30", Sierra County, at head of box canyon just below major tributary, 800 ft below culvert on U.S. Highway 85, 13 miles northeast of Monticello.	26.9	1959-	1972	(f)	(+)
08359400 S	Lumber Canyon tributary near Monticello, N. Mex.	Lat 33°24', long 107°16', Sierra County, 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.	.90	1952-	9- 3-72	c6.31	778
08361650	Percha Creek near Kingston, N. Mex.	Lat 32°55'05", long 107°38'55", Sierra County, at bridge on State Highway 180, 3.3 miles east of Kingston.	21.5	1953-	9- 3-72	c15.8	3,740
08361700	Percha Creek near Hillsboro, N. Mex.	Lat 32°54'55", long 107°36'05", Sierra County, 150 ft south of State Highway 180, and 2 miles west of Hillsboro.	35.4	1957-	9- 3-72	c11.7	12,200
08361800	Percha Creek at Caballo Dam near Arrey, N. Mex.	Lat 32°54', long 107°19', Sierra County, at bridge on U.S. Highway 85, 0.5 mile above mouth and Caballo Reservoir, and 3.5 miles north of Arrey.	119	1953-	9- 3-72	c10.2	15,400

## DISCHARGE AT PARITAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Rio Grande basin--Continued							
08363000 S	Rio Grande tributary near Salem, N. Mex.	Lat 32°43'01", long 107°12'03", Dona Ana County, upstream from culvert on Interstate Highway 25, 1.0 miles northeast of Salem.	.18	1971-	7-18-72	8.31	(+)
08363050	Arroyo Angostura near Rincon, N. Mex.	Lat 32°39'15", long 107°06'00", Dona Ana County, 140 ft below dip on U.S. Highway 85, and 2.2 miles southwest of Rincon.	8.40	1959-71e	-	-	-
08363100	Rio Grande tributary near Radium Springs, N. Mex.	Lat 32°30'05", long 106°57'05", Dona Ana County, above culvert on U.S. Highway 85, 120 ft above mouth, and 1.4 miles west of Radium Springs.	.40	1955-	10-25-71 9- 3-72	5.96 5.73	179 161
08363200	Aleman Draw at Aleman, N. Mex.	Lat 33°00'00", long 107°00'20", Sierra County, on Santa Fe Railroad bridge, 140 ft above dip on Engle-Rincon road, and 0.25 mile west of Aleman.	25.4	1959-	9- 1-72	8.61	4,700
08379100 S	Pecos River tributary near Sena, N. Mex.	Lat 35°18'37", long 105°23'37", San Miguel County, upstream from culvert on State Highway 3, 0.8 mile north of Sena.	1.24	1971-	9-11-72	7.53	(+)
08379300	Tecolote Creek at Tecolote, N. Mex.	Lat 35°27'20", long 105°16'55", San Miguel County, on bridge on U.S. Highway 85 at Tecolote.	122	1954-	7-17-72	5.82	680
08379550 S	Canon Blanco near Leyba, N. Mex.	Lat 35°13'14", long 105°40'12", San Miguel County, 0.2 mile south of White Lakes-Leyba road and 5.0 miles west of Leyba.	11.2	1971-	7-27-72	6.24	790
08379600	Pecos River tributary near Dilia, N. Mex.	Lat 35°12'50", long 105°04'50", Guadalupe County, above culvert on U.S. Highway 84, and 1.7 miles northwest of Dilia.	.16	1952-	8-26-72	2.25	57
08380300	Sandoval Canyon at Gallinas, N. Mex.	Lat 35°41'19", long 105°21'17", San Miguel County, about 500 ft upstream from culvert on State Highway 65, at north edge of Gallinas.	7.6	1957 1961-	8-28-72	4.64	1,650
08381700 S	Canon Piedra Lumbre near Las Vegas, N. Mex.	Lat 35°34'14", long 105°17'50", San Miguel County, upstream from bridge on State Road 283, 4.3 miles west-southwest of Las Vegas.	8.06	1971-	7-18-72	3.13	59
08382900	Pecos River tributary near Pintada, N. Mex.	Lat 34°58'06", long 105°05'38", Guadalupe County, in Anton Chico Grant, 1,500 ft south of U.S. Highway 66, 6.8 miles north of Pintada.	.16	1961-	8-26-72	1.00	30
08383200	Pintada Arroyo tributary near Clines Corners, N. Mex.	Lat 34°50'40", long 105°35'05", Torrance County, above culvert on U.S. Highway 285, 12.2 miles south of Clines Corners.	29.2	1952-	8-26-72	2.32	133
08383210	Pintada Arroyo tributary near Encino, N. Mex.	Lat 34°48'40", long 105°34'00", Torrance County, above culvert on U.S. Highway 285, 0.1 mile south of ranch road, and 12.5 miles northwest of Encino.	a1	1959-	8-26-72	2.02	(+)
08383300	Pintada Arroyo near Santa Rosa, N. Mex.	Lat 34°53'20", long 104°43'50", Guadalupe County, 300 ft above bridge on U.S. Highway 54, and 4.5 miles southwest of Santa Rosa.	896	1959-	8-26-72	8.79	(+)
08383370 S	Pecos River tributary near Puerto de Luna, N. Mex.	Lat 34°52'35", long 104°38'16", Guadalupe County, 25 ft upstream from culvert on State Highway 91, 3.1 miles north of Puerto de Luna.	.37	1961-	7-18-72	7.01	96
08385530	Alamosa Creek tributary near Jordan, N. Mex.	Lat 34°48', long 103°58', Quay County, 500 ft upstream from dip on State Highway 156, 6.9 miles west of Jordan.	a10	1962-	7-11-72	6.86	2,850



## 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							
08385600	Yeso Creek near Fort Sumner, N. Mex.	Lat 34°16', long 104°17', De Baca County, at abandoned bridge 1 mile below State Highway 20, and 14.5 miles south of Fort Sumner.	242	1937-1952-	8-27-72	1.78	790
08385670	Aragon Creek tributary near Encinosa, N. Mex.	Lat 33°41', long 105°34', Lincoln County, 0.3 mile upstream from wooden bridge on dirt road, 1.2 miles north of State Highway 48, 4.3 miles west of Encinosa.	6.07	1961-	10- -72	3.72	430
08385690	Bonita Canyon tributary near Corona, N. Mex.	Lat 34°14', long 105°37', Lincoln County, above culvert on U.S. Highway 54, and 1.8 miles southwest of Corona.	a.6	1959-	9- 2-72	2.05	43
08385700	Cloud Canyon near Gallinas, N. Mex.	Lat 34°08', long 105°40', Lincoln County, above culvert on U.S. Highway 54, and 2.0 miles southwest of Gallinas.	a10	1957-	9- 2-72	3.11	60
08385900	Salt Creek tributary near Roswell, N. Mex.	Lat 33°33', long 104°31', Chavez County, at culvert on U.S. Highway 285, 4.7 miles north of junction of U.S. Highway 70 and 285, and 10 miles north of Roswell.	.04	1952-	7-20-72	2.21	(+)
08389000	Rio Bonito near Fort Stanton, N. Mex.	Lat 33°31'05", long 105°29'10", Lincoln County, at bridge on U.S. Highway 380, 2.5 miles northeast of Fort Stanton.	a85	1955-	6-11-72	4.49	520
08389060	Rio Bonito tributary near Fort Stanton, N. Mex.	Lat 33°31'15", long 105°28'05", Lincoln County, at culvert on U.S. Highway 380, 150 ft above mouth, and 3.5 miles northeast of Fort Stanton.	.72	1955-	1972	(f)	b<10
08390050 S	Rio Hondo tributary at Tinnie, N. Mex.	Lat 33°22'15", long 105°13'01", Lincoln County, upstream from culvert on U.S. Highway 70-380, 0.5 mile east of junction of U.S. Highways 70-380 and State Highway 368, and at Tinnie.	.23	1971-	9- 7-72	c10.04	(+)
08390100	Rio Hondo at Picacho, N. Mex.	Lat 33°21'25", long 105°09'25", Lincoln County, at bridge just off U.S. Highway 70, 1.3 miles northwest of Picacho.	715	1956-62+ 1963-71e	-	-	-
08390150	Gallo Canyon near Picacho, N. Mex.	Lat 33°18', long 105°10', Lincoln County, 500 ft east of road, 5 miles south of Picacho.	1.32	1962-	8-27-72	4.00	(+)
08393700	Pancho Canyon near Arabela, N. Mex.	Lat 33°17', long 105°12', Lincoln County, 200 ft downstream from dip on State Highway 368, 5.6 miles south of Arabela.	16.7	1962-	1972	(f)	(+)
08393900	Eight Mile Draw near Roswell, N. Mex.	Lat 33°25', long 104°39', Chavez County, 6.5 miles west of Roswell.	397	1941-1952-	7-20-72	15.02	1,330
08394300 S	Twin Butte Canyon tributary near Roswell, N. Mex.	Lat 33°10'34", long 104°51'30", Chavez County, about 0.1 mile upstream from mouth and about 22 miles southwest of Roswell.	5.01	1968-	9-11-72	4.93	(+)
08397390	Curtis Canyon near Mayhill, N. Mex.	Lat 32°52', long 105°31', Otero County, 0.25 mile above SCS dam, 0.4 mile west of State Highway 130, and 2.5 miles southwest of Mayhill.	10.3	1959-	1972	(f)	(+)
08397400 S	Hyatt Canyon near Cloudcroft, N. Mex.	Lat 33°56', long 105°30', Otero County, 0.5 mile south of State Highway 83, and 7 miles east of Cloudcroft.	3.08	1953-	8-20-72	2.01	(+)

## DISCHARGE AT PARTAIL-RECORD STATIONS AND MISCELLANEOUS SITES

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							
08397600	Rio Penasco near Dunken, N. Mex.	Lat 33°52'55", long 105°10'40", Chavez County, on bridge on State Highway 24, 5 miles north of Dunken.	583	1952-56 1956-62+ 1963-	10-23-72	11.38	(+)
08404600 S	Pecos River tributary at Carlsbad, N. Mex.	Lat 32°26'50", long 104°15'48", Eddy County, upstream from culvert on U.S. Highway 285, at entrance to Botanical-Zoological Gardens, 2.9 miles northwest of county court house in Carlsbad.	.47	1971-	8-23-71 6-13-72	3.74 9.64	32 479
08405050	Last Chance Canyon tributary near Carlsbad Caverns, N. Mex.	Lat 32°17'30", long 104°36'20", Eddy County, above culvert on State Highway 137, 0.1 mile north of road to Sitting Bull Falls, and 12.5 miles northwest of Carlsbad Caverns.	.2	1959-	9- 2-72	3.12	145
08405100	Mosley Canyon near White City, N. Mex.	Lat 32°15', long 104°20', Eddy County, 600 ft below dip on Dark Canyon road, and 5.5 miles north of White City.	14.6	1959-	9- 2-72	6.30	2,650
08436000	San Simon Swale tributary near Jal, N. Mex.	Lat 32°09', long 103°22', Lea County, 0.4 mile south of State Highway 128, and 10.7 miles west of Jal.	a20	1963-	1972	(F)	(+)
08437620 S	Monument Draw tributary near Monument, N. Mex.	Lat 32°39'44", long 103°27'16", Lea County, upstream from culvert on U.S. Highway 62-180, about 12 miles northwest of Monument and 19.5 miles west of Hobbs.	6.23	1968-	6-10-72	7.87	1,280
Mimbres River basin							
08477100 S	Willow Springs Canyon at Mimbres, N. Mex.	Lat 32°51'20", long 107°58'35", Grant County, about 600 ft downstream from State Road 61, 0.2 mile north of post office in Mimbres.	3.84	1970-	8-16-72	3.07	(+)
08477200 S	Iron Creek near Kingston, N. Mex.	Lat 32°54'50", long 107°46'35", Grant County, 50 ft east of State Highway 180, 1.6 road miles west of Emory Pass, and 4.5 miles west of Kingston.	.74	1955-	10-20-72	4.15	b14
08477560	Little Walnut Creek near Silver City, N. Mex.	Lat 32°48'20", long 108°17'35", Grant County, 85 ft above dip on Bear Mountain Road, and 2 miles north of Silver City.	5.10	1959-	9- 3-72	2.11	540
08477570	Silva Creek tributary at Silver City, N. Mex.	Lat 32°47'42", long 108°16'47", Grant County, 350 ft above dip on Little Walnut Road, and 0.7 mile north of boundary of Silver City.	2.12	1958-	9- 3-72	6.53	1,730
08477580	Silva Creek at Silver City, N. Mex.	Lat 32°46'41", long 108°16'41", Grant County, 190 ft above Twelfth Street bridge at Silver City.	10.0	1958-	10-20-72	c4.49	1,800
08477590	Pinos Altos Creek at Silver City, N. Mex.	Lat 32°46'52", long 108°16'04", Grant County, 2 blocks below U.S. Highway 260 at Silver City.	4.63	1958-	9- 3-72	4.09	(+)
08478000	Cameron Creek at Central, N. Mex.	Lat 32°47', long 108°10', Grant County, 0.5 mile above culvert on U.S. Highway 260, at north edge of Central.	18.8	1954-	9- 3-72	4.45	1,080
08478500	Mimbres River at Deming, N. Mex.	Lat 32°17'00", long 107°45'35", Luna County, at bridge on U.S. Highway 260, at north end of Deming.	1,370	1954-	10-20-72	c6.68	2,690
08478600	Mimbres basin tributary near Florida, N. Mex.	Lat 32°21'25", long 107°37'35", Luna County, above culvert on State Highway 26, and 5 miles southwest of Florida.	.55	1959-	7-25-72	3.01	235
08478800	Seventysix Draw tributary near Waterloo, N. Mex.	Lat 31°56'34", long 107°44'38", Luna County, upstream from culvert on State Road 11, 3.9 miles southeast of Waterloo, and 7.9 miles north of Columbus.	.2	1967-	8-27-72	5.28	130

## 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)
Playas Valley							
08479300	Deer Creek tributary near Antelope Wells, N. Mex.	Lat 31°23'00", long 108°42'15", Hidalgo County, 0.1 mile below dip on State Highway 79, 2.5 miles east of San Luis Pass, and 12 miles west of Antelope Wells.	4.3	1959-	9- 3-72	2.88	635
Tularosa Valley							
08480100	White Oaks Canyon at White Oaks, N. Mex.	Lat 33°46', long 105°44', Lincoln County, 40 ft upstream from culvert on State Highway 349, 1 mile northeast of White Oaks.	1.14	1961-	8-17-72	1.66	(+)
08480150	White Oaks Canyon near Carrizozo, N. Mex.	Lat 33°44', long 105°50', Lincoln County, 100 ft upstream from culvert on U.S. Highway 54, 6 miles north of Carrizozo.	31	1959 1961-	8-17-72	2.66	1,000
08480170 S	Nogal Creek tributary near Nogal, N. Mex.	Lat 33°34'54", long 105°41'10", Lincoln County, upstream from culvert on U.S. Highway 380, about 2.0 road miles west of Indian Divide, 7 miles northwest of Capitan and 2 miles north of Nogal.	1.94	1968-	9- 1-72	4.85	318
08480200	Taylor Canyon tributary near Bingham, N. Mex.	Lat 33°48', long 106°12', Socorro County, 200 ft north of U.S. Highway 380, 12 miles southeast of Bingham.	2.66	1961-	9- 2-72	1.36	(+)
08480590	Tularosa Valley tributary near Oscura, N. Mex.	Lat 33°24'41", long 106°04'09", Lincoln County, 50 ft below culvert on U.S. Highway 54, and 5.2 miles south of Oscura.	3.22	1958-	1972	(f)	(+)
08480650	Minnie Hall Draw near Three Rivers, N. Mex.	Lat 33°25', long 106°05', Lincoln County, 8 miles northeast of Three Rivers.	9.70	1956-	1972	(f)	<500
08480700 S	Indian Creek near Three Rivers, N. Mex.	Lat 33°22'10", long 105°53'25", Otero County, 150 ft above diversion dam, and 12 miles east of Three Rivers.	6.8	1956-58± 1959-	9- 9-72	4.08	229
08480900	Indian Creek at mouth near Three Rivers, N. Mex.	Lat 33°22'45", long 105°57'25", Otero County, 75 ft above diversion dam, 0.35 mile above mouth, and 5.5 miles east of Three Rivers.	10.9	1956-58± 1959-	1972	(f)	<100
08481000	Three Rivers at Three Rivers N. Mex.	Lat 33°18'10", long 106°04'20", Otero County, 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-	8-28-72	3.63	2,350
08481100	Tularosa Valley tributary near Three Rivers, N. Mex.	Lat 33°18', long 106°05', Otero County, at culvert on U.S. Highway 54, 1.6 miles south of Three Rivers.	13.8	1952-	1972	-	0
08486200	Black Prince Canyon tributary near Organ, N. Mex.	Lat 32°27', long 106°32', Dona Ana County, above culvert on U.S. Highway 70, 2.3 miles east of San Augustin Pass, and 4.0 miles east of Organ.	.73	1959-	1972	-	0
08486400	Tularosa Valley tributary near Orogrande, N. Mex.	Lat 32°24'55", long 106°04'20", Otero County, at bridge on U.S. Highway 54, and 2.7 miles northeast of Orogrande.	2.53	1959-	9- 2-72	1.34	(+)

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Date	Annual maximum	
						Gage height (feet)	Discharge (cfs)
Estancia Valley							
08488000	Estancia Valley tributary at Cedar Grove, N. Mex.	Lat 35°32', long 106°11', Santa Fe County, 50 ft upstream from culvert on State Highway 344, 0.1 mile south of Cedar Grove.	1.21	1955-1961-	8-26-72	7.86	(+)
08488100	Juan Tomas Canyon near Edgewood, N. Mex.	Lat 35°10', long 106°14', Santa Fe County, 140 ft upstream from culvert on U.S. Highway 66, 2.5 miles northwest of Edgewood.	a20	1962-	1972	c2.78	(+)
08488170 S	Chavez Draw tributary near Clines Corners, N. Mex.	Lat 35°01'06", long 105°49'06", Torrance County, one mile north of Interstate 40, 13 miles east of Moriarty and 9 miles west of Clines Corners.	2.73	1968-	7- 9-72	7.29	275
08488200	Osita Draw near Clines Corners, N. Mex.	Lat 35°00', long 105°46', Torrance County, 100 ft upstream from culvert on U.S. Highway 66, 7.5 miles west of Clines Corners.	a10	1961-	6-16-72	2.38	230
08488500	Canon de Torreon at Torreon, N. Mex.	Lat 34°43'20", long 106°17'50", Torrance County, at culvert on State Highway 10, in Torreon.	18.2	1954-	1972	(f)	25
08488600 S	Arroyo del Cuervo near Torreon, N. Mex.	Lat 34°41'35", long 106°18'27", Torrance County, in Town of Torreon Grant, about 0.3 mile above culvert on State Road 10 and 2 miles south of Torreon.	11.8	1969-	7-19-72	4.50	1,140
08489000	Canada del Leon near Mountainair, N. Mex.	Lat 34°25', long 106°29', 0.25 mile above culvert on State Highway 10, and 8.4 miles southeast of Mountainair.	3.9	1953-	1972	(f)	(+)
Salt basin							
08492500	Fleming Draw near Pinon, N. Mex.	Lat 32°31', long 105°21', Otero County, 0.2 mile above dip in ranch road, and 7.5 miles south of Pinon.	16.6	1959-	1972	8.26	4,800
San Augustin Plains basin							
08500000 S	Swingle Canyon near Datil, N. Mex.	Lat 34°11'17", long 107°53'55", Catron County, about 0.3 mile upstream from U.S. Highway 60, and 4.3 miles northwest of Datil.	6.35	1970-	7-16-72	2.53	(+)
San Juan River basin							
09346200	Rio Amargo at Dulce, N. Mex.	Lat 36°56'00", long 107°00'00", Rio Arriba County, under bridge on State Highway 17, at Dulce.	168	1956-	10-19-72	6.98	1,300
09350700 S	Ruben Canyon near Gobernador, N. Mex.	Lat 36°44'26", long 107°14'33", Rio Arriba County, in Carson National Forest, upstream from culvert on State Highway 17, and 6.5 miles east of Gobernador.	5.06	1970-	10-19-72	3.59	(+)
09350800	Vaqueros Canyon near Gobernador, N. Mex.	Lat 36°44', long 107°17', Rio Arriba County, 100 ft east of State Highway 17 and 4.2 miles east of Gobernador.	60.5	1956-	1972	(f)	<50

## 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							
09355700	Gobernador Canyon near Gobernador, N. Mex.	Lat 36°41'05", long 107°25'10", San Juan County, 0.2 mile south of State Highway 17, and 4 miles southwest of Gobernador.	19.8	1956-	10- -72	(d)	g1,250
09356400	Manzanares Canyon near Turley, N. Mex.	Lat 36°44'15", long 107°42'15", San Juan County, 600 ft above culvert on State Highway 17, and 4.2 miles east of Turley.	a3.1	1956-	8-18-72	c3.20	690
09356520 S	Burro Canyon near Lindrith, N. Mex.	Lat 36°16'21", long 107°14'46", Rio Arriba County, upstream from culvert on State Highway 537, 11.5 miles west of Lindrith.	9.11	1970-	10-12-72	6.67	232
09357200	Gallegos Canyon tributary near Nageezi, N. Mex.	Lat 36°28', long 107°55', San Juan County, at culvert on State Highway 44, 1.1 miles northwest of Huerfano Trading Post, and 12.5 miles northwest of Nageezi.	.20	1952-	8-18-72	1.62	83
09367400 S	La Plata River tributary near Farmington, N. Mex.	Lat 36°47'10", long 108°13'31", San Juan County, about 700 ft upstream from culvert on State Highway 17 and 4.1 miles northwest of Farmington.	1.03	1970-	10- 72	4.03	(+)
09367530	Locke Arroyo near Kirtland, N. Mex.	Lat 36°44', long 108°18', San Juan County, 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.	2.96	1951-	10-19-72	5.52	410
09367550 S	Stevens Arroyo near Kirtland, N. Mex.	Lat 36°46'00", long 108°22'10", San Juan County, upstream from gravel road to Young's Lake, 0.6 mile north of El Paso Natural Gas, San Juan Plant and 2.3 miles north of Kirtland.	4.59	1970-	10- 7-72	3.83	(+)
09367840	Yazzie Wash near Mexican Springs, N. Mex.	Lat 35°50'40", long 108°53'00" McKinley County, 5.0 miles northwest of Mexican Springs, and 23 miles north of Gallup.	a2.1	1953-54 1956-	8-26-72	2.66	102
09367860	Chusca Wash near Mexican Springs, N. Mex.	Lat 35°48'40", long 108°50'50", McKinley County, 1.8 miles northwest of Mexican Springs, and 20 miles north of Gallup.	a8.7	1953-	8-26-72	1.93	360
09367900 S	Black Springs Wash near Mexican Springs, N. Mex.	Lat 35°45'40", long 108°49'00", McKinley County, 2.5 miles south of Mexican Springs and 17 miles north of Gallup.	7.05	1954-	8-26-72	.94	559
09367920	Coyote Wash tributary near Naschitti, N. Mex.	Lat 36°05'55", long 108°41'48", San Juan County, on bridge on U.S. Highway 666, 2.4 miles north of Naschitti, and 39 miles north of Gallup.	12.0	1967-	8- -72	5.07	(+)

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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							
09367940	Theodore Wash near Newcomb, N. Mex.	Lat 36°21'39", long 108°43'09", San Juan County, on bridge on U.S. Highway 666, 5.2 miles north of Newcomb.	37.4	1967-	8-27-72	c13.4	(+)
Little Colorado River basin							
09386100	Largo Creek near Quemado, N. Mex.	Lat 34°19'25", long 108°31'40", Catron County, on downstream side of bridge on ranch road 2.5 miles southwest of Quemado.	151	1954-	1972	(f)	<150
09386150	Mangas Creek tributary near Pietown, N. Mex.	Lat 34°18', long 108°10', Catron County, above culvert on U.S. Highway 60, 1.3 miles west of Pietown Post Office.	b.08	1952-	1972	(f)	(+)
09386200	Carrizo Creek near Salt Lake N. Mex.	Lat 34°31', long 109°01', Catron County, on left downstream wingwall of bridge, 1.3 miles east of New Mexico-Arizona State line and 15 miles west of Salt Lake.	k560	1957-	1972	(f)	(+)
09387050	Galestena Canyon tributary near Black Rock, N. Mex.	Lat 34°58'45", long 108°40'00", McKinley County, 100 ft below bridge on State Highway 32 and 10.5 miles southeast of Black Rock.	a19	1957-	10-19-72	1.54	45
09395400	Milk Ranch Canyon near Fort Wingate, N. Mex.	Lat 35°25'55", long 108°33'30", McKinley County, 0.5 mile below culvert on secondary road between Fort Wingate and McGaffey and 3 miles south of Fort Wingate.	14.0	1949 1953-	1967 7- 6-68 1-26-69 1970 9-29-71 1972	(f) .88 .33 (f) .64 (f)	<40 200 72 <40 135 <40
09395500	Puerco River at Gallup, N. Mex.	Lat 35°32', long 108°44', McKinley County, on right bank north of the Santa Fe RR freight depot, 1,500 ft above Second Street Bridge at Gallup.	558	1940-46± 1956-	7-17-72	c15.3	b12,000
09395600	Wagon Trail wash near Gamarco, N. Mex.	Lat 35°39', long 108°47', McKinley County, 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 Gamarco.	.38	1951-	8-26-72	2.44	162
Gila River basin							
09429800	Diamond Creek near Beaverhead, N. Mex.	Lat 33°15'50", long 108°07'10", Catron County, 3.5 miles west of State Highway 61, 4 miles above Gila River and 13 miles south of Beaverhead.	106	1957-71e	-	-	-
09430300	Copperas Canyon near Pinos Altos, N. Mex.	Lat 33°05', long 108°13', Grant County, on east side of Copperas Canyon road and 15 miles north of Pinos Altos.	3.95	1963-	9- 3-72	3.27	(+)
09430900	Duck Creek at Cliff, N. Mex.	Lat 32°58', long 108°36', Grant County, at Cliff below bridge on State Highway 211, and 0.6 mile above mouth.	228	1957-	10-19-72	10.09	6,100
09437200 S	Mexican Canyon at Virden, N. Mex.	Lat 32°41'03", long 108°59'00", Hidalgo County, upstream from dip in State Road 82, and about 0.8 mile east of Virden.	3.40	1968-	9- 3-72	10.56	(+)

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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## 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							
09438200	Animas Creek near Cloverdale, N. Mex.	Lat 31°34'15", long 108°52'30", Hidalgo County, near head of small box canyon 0.1 mile west of State Highway 338, and 11 miles north of Cloverdale.	157	1959-	7-24-72	5.76	1,300
09442630 S	Mail Hollow near Luna, N. Mex.	Lat 33°47'38", long 108°56'59", Catron County, upstream from culvert on U.S. Highway 180, 2.3 miles south of Luna.	4.20	1970-	10-20-72	3.90	(+)
09442650	Romero Creek near New Mexico-Arizona State line near Luna, N. Mex.	Lat 33°57', long 108°59', Catron County, at culvert on Luna-Underwood Lake road, about 1 mile east of New Mexico-Arizona State line, and 8 miles northwest of Luna.	10.8	1958-	10-20-72	9.80	440
09442660	Trout Creek at Luna, N. Mex.	Lat 33°51', long 108°58', Catron County, 500 ft downstream from bridge on Luna-Red Hill road and 2.6 miles north of Luna.	31.9	1954-	10-19-72	4.36	2,100
09442695 S	Negro Canyon at Aragon, N. Mex.	Lat 33°53', long 108°33', Catron County, above culvert on State Highway 12, at west edge of Aragon.	9.62	1958-	1972	(f)	(+)
09442700	Apache Creek near Apache Creek, N. Mex.	Lat 33°55'50", long 108°39'45", Catron County, 7 miles north of Apache Creek.	94.6	1957-	10-20-72	5.04	1,320
09442740	Tularosa River near Reserve, N. Mex.	Lat 33°44'00", long 108°42'10", Catron County, 150 ft west of Eagle Peak Lookout road and 3.3 miles northeast of Reserve.	426	1956-	10-20-72	6.00	780
09443950	Red Colt Canyon at Pleasanton, N. Mex.	Lat 33°15'30", long 108°52'15", Catron County, above culvert on U.S. Highway 260, and 1 mile south of Pleasanton.	3.00	1959-	9- 3-72	9.13	(+)
09455800	Steins Creek at Steins, N. Mex.	Lat 32°14', long 109°00', Hidalgo County, at culvert on State Highway 14, 0.9 mile west of Steins.	1.26	1959-	8-26-72	4.71	(+)

&lt; Less than.

S Flood-hydrograph site.

+ Discharge not yet determined.

# Operated as continuous-record gaging station.

a Approximately.

b Estimated.

c From floodmark.

d Gage height not determined.

e Discontinued at end of water year.

f Peak did not reach bottom of gage.

g May have been exceeded.

k Contributing area.

## DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

## Measurements at miscellaneous sites

Measurements of streamflow at points other than gaging 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 (†).

## Discharge measurements made at miscellaneous sites during calendar year 1972

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Arkansas River basin						
Chicorica Creek	Canadian River	Lat 36°46'13", long 104°23'45", in S½ sec.4, T.29 N., R.24 E., Colfax County, at highway bridge near east boundary of Maxwell Grant, 300 ft downstream from Una de Gato Creek, 4.4 miles northeast of Hebron, and 9 miles south of Raton, N. Mex.	381	1945-52† 1966-71	1-12-72 1-27-72 2-17-72 3- 9-72 3-23-72 4-19-72 5-10-72 6- 6-72 6-22-72 7-20-72 8-10-72 9- 6-72 9-28-72 12-20-72	a2.5 a4.0 a3.0 a3.0 a1.0 a .60 a .60 a .20 a1.0 1.09 a2.8 a1.8 a1.1 a2.5
Del Muerto Creek	Bueyeros Creek	Lat 36°00'20", long 103°03'40", in SW¼ sec.32, T.21 N., R.32 E., Harding County, 0.2 mile upstream from State Road 102, and 7.3 miles northeast of Bueyeros, N. Mex.	29	-	7-16-72	+34,600
Canadian River	Arkansas River	Lat 35°23'35", long 103°02'30", in SW¼ sec.32, T.14 N., R.37 E., Quay County, at N.Mex.-Texas state line 14.7 miles north of Glenrio, N. Mex.	-	1969-71	1-17-72 2-14-72 3-13-72 3-13-72 4-10-72 5- 8-72 7-17-72 8-21-72 10-10-72 11-13-72 12-11-72	15 9.9 7.8 7.0 4.3 10 18 28 31 20 17
Rio Grande basin						
Red River	Rio Grande	Lat 36°40'53", long 105°39'24", in NW¼NW¼ sec.10, T.28 N., R.12 E., Taos County, 0.3 mile downstream from State Fish Hatchery, near Questa, N. Mex.	-	1963 1965-66 1969-71	1-14-72 2- 2-72 2-29-72 3-13-72 4- 5-72 4-25-72 5-17-72 6- 6-72 6-27-72 7-17-72 8- 8-72 8-29-72 9-20-72 10-16-72 11- 6-72 12- 1-72 12-20-72	33 *31 *31 45 35 49 47 60 40 45 36 45 39 33 48 27 39
Alamosa Creek	Rio Grande	Lat 33°34'09", long 107°35'33", in SE¼ sec.31, T.8 S., R.7 W., Socorro County, just downstream from Wildhorse Creek, and 15 miles northwest of Monticello, N. Mex.	403	1931-42† 1958-71†	2-13-72 5-18-72 8- 9-72 11-17-72	*6.0 *5.8 7.6 17
North Percha Creek	Percha Creek	Lat 32°55'32", long 107°34'42", in SW¼SE¼ sec.8, T.16 S., R.7 W., Sierra County, 0.75 mile above mouth, and 0.75 mile northwest of Hillsboro, N. Mex.	41.4	-	9- 3-72	+20,900

a Estimated.

† Operated as a continuous record gaging station.

+ Peak discharge.

\* Base flow.



## Measurements at miscellaneous sites

## Discharge measurements made at miscellaneous sites during calendar year 1972

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Rio Grande basin--Continued						
Pecos River	Rio Grande	Lat 32°31'32", long 104°18'13", SE½SW¼ sec.32, T.20 S., R.27 E., Eddy County, above mouth of Dagger Draw at head of Lake Avalon, 8.5 miles northwest of Carlsbad, N. Mex.	-	1954, 57, 1960, 71	3-16-72 8- 8-72 10- 2-72 11-10-72	19 204 277 59
Pecos River	Rio Grande	Lat 32°13'05", long 104°00'08", SE½SW¼NE¼, sec.17, T.24 S., R.29 E., Eddy County, at Fishing Rock Crossing, 4.1 miles southeast of Malaga, N. Mex.	-	1953-54 1962-71	2- 1-72 2- 4-72 2-24-72 4-26-72 5-26-72 7-28-72 8-25-72 9-27-72 10-13-72 10-30-72 12- 4-72 12-22-72	25 20 7.2 4.2 11 9.8 24 31 28 40 45 47
Pecos River	Rio Grande	Lat 32°12'58", long 103°58'57", SE½NE¼ sec.16, T.24 S., R.29 E., Eddy County, above Dogtown Drain, 5 miles southeast of Malaga, N. Mex.	-	1954, 63 1964, 66 1968, 70	2- 4-72	21
Pecos River	Rio Grande	Lat 32°12'30", long 104°00'08", NE½NE¼ sec.20, T.24 S., R.29 E., Eddy County, near well USGS 11 and 4.5 miles southeast of Malaga, N. Mex.	-	1962-67, 1969-70	2- 4-72	20
Pecos River	Rio Grande	Lat 32°10'42", long 103°59'50", sec.33, T.24 S., R.29 E., Eddy County, at First Ford 2.6 miles below Pierce Canyon Crossing, and 5.6 miles southeast of Malaga, N. Mex.	-	1959, 1961-64 1966-71	1-31-72 2-24-72 4-26-62 5-26-72 7-28-72 8-25-72 9-27-72 10-13-72 10-30-72 12- 4-72 12-22-72	32 *11 *10 *7.6 *4.4 44 36 34 42 45 48
Mimbres River basin						
Mimbres River	Closed basin	Lat 32°22'55", long 107°56'50", in N½ sec.23, T.21 S., R.11 W., Luna County, at U.S. Highway 180, 1½ miles northeast of Spalding, N. Mex.	472	1963-68†	10-20-72	+3,020
Gila River basin						
Mangos Creek	Gila River	Lat 32°50'48", long 108°30'57", in NW¼NE¼ sec.8, T.17 S., R.16 W., Grant County, 0.4 mile northwest of Mangas Springs.	-	-	1-22-72 4- 3-72 10- 6-72	*1.5 *1.2 *1.4

a Estimated.

† Operated as a continuous record gaging station.

+ Peak discharge.

\* Base flow.



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