Surface Water Supply of the United States 1955

Part 8. Western Gulf of Mexico Basins

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 1392

Prepared in cooperation with the States of Colorado, Louisiana, New Mexico, and Texas, and with other agencies

Surface Water Supply of the United States 1955

Part 8. Western Gulf of Mexico Basins

Prepared under the direction of J. V. B. WELLS, *Chief, Surface Water Branch*

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GEOLOGICAL SURVEY

Thomas B. Nolan, *Director*

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PREFACE

This report was prepared by the Geological Survey in cooperation with the States of Colorado, Louisiana, New Mexico, and Texas, and with other agencies, by personnel of the Water Resources Division, C. G. Paulsen, chief, under the general direction of J. V. B. Wells, chief, Surface Water Branch, and B. J. Peterson, chief, Annual Reports Section.

The data were collected and computed under supervision of district engineers, Surface Water Branch, as follows:

F. M. Bell----------Denver, Colo.
Trigg Twichell----------Austin, Tex.
F. N. Hansen----------Baton Rouge, La.
Berkeley Johnson----------Santa Fe, N. Mex.

CALENDAR FOR WATER YEAR 1955

OCTOBER 1954

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

NOVEMBER 1954

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

DECEMBER 1954

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

JANUARY 1955

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

FEBRUARY 1955

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

MARCH 1955

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

APRIL 1955

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

MAY 1955

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

JUNE 1955

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

JULY 1955

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

AUGUST 1955

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

SEPTEMBER 1955

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

ILLUSTRATIONS

SURFACE WATER SUPPLY OF WESTERN GULF OF MEXICO BASINS, 1955

SCOPE OF WORK

This volume is one of a series of 18 reports presenting measurements of stage, discharge, and content of streams, lakes, and reservoirs in the United States during the water year ending September 30, 1955. Since 1888, when the United States Geological Survey first studied streamflow in relation to problems of irrigation, similar measurements have been made at more than 13,250 gaging stations in the 48 States and at many others in the Territories of Alaska and Hawaii. On September 30, 1955, the Geological Survey and cooperating organizations were maintaining 6,860 gaging stations, including those in Alaska and Hawaii. Discharge measurements only were made at many other points in the 1955 water year, most of which are published at the end of this report. The name of each stream measured at points other than gaging stations is not listed in the index to this report. Only the major river basins in which measurements were made are listed under the item "Discharge measurements" in the index.

COOPERATION

Many State, municipal, and private organizations have cooperated with the Geological Survey in this work by either furnishing or helping to collect data. Organizations that supplied data are acknowledged in station descriptions, and organizations that assisted in the collection of data through cooperative agreements with the Survey are:

Colorado: Office of the State engineer, J. E. Whitten, and Colorado Water Conservation Board, I. C. Crawford, director.

Louisiana: State Department of Public Works, R. T. Sessums, director, succeeded by C. T. Watts.

New Mexico: Office of the State engineer, J. R. Erickson, succeeded by S. E. Reynolds; Interstate Stream Commission, J. R. Erickson, secretary; Pecos River Commission, J. H. Bliss, commissioner; and State Highway Department, C. O. Erwin, State highway engineer, succeeded by L. D. Wilson.

Texas: State Board of Water Engineers, consisting of H. A. Beckwith, chairman, A. P. Rollins, and O. F. Dent; Red Bluff Water Power Control District; Pecos River Commission, J. C. Wilson, commissioner; Sabine River Compact Administration, composed of S. K. Jackson, Federal Representative and chairman, C. T. Watts and R. S. Copeland for Louisiana, and H. L. Woodworth and Ross Hopkins for Texas.

Assistance in the form of funds or services was given by the Corps of Engineers, Department of the Army, in collecting records published herein for 87 gaging stations, of which 1 was in Colorado, 3 in Louisiana, 9 in New Mexico, and 74 in Texas.

Assistance was also furnished by the Office of Indian Affairs of the United States Department of the Interior in the operation of gaging stations on the Indian Pueblo lands in New Mexico, by the Fish and Wildlife Service and the Bureau of Reclamation of the United States Department of the Interior, the Agricultural Research Service of the United States Department of Agriculture, and the Weather Bureau of the United States Department of Commerce.

The following organizations aided in collecting records:

New Mexico: Middle Rio Grande Conservancy District and Public Service Company of New Mexico.

Texas: Texas Highway Department; Dallas County, the cities of Abilene, Breckenridge, Corpus Christi, Dallas, Houston, Longview, San Angelo and Tyler; Tarrant County Water Control and Improvement District No. 1; Lower Colorado River Authority; Brazos River Authority; Guadalupe-Blanco River Authority; Sabine River Authority; San Antonio River Authority; San Jacinto River Authority; Lower Neches Valley Authority; Brown County Water Improvement District No. 1; Harris County Flood Control District; Pecos County Water Improvement District No. 1; Reeves County Water Improvement District No. 1; Bexar, Medina, Atascosa Counties Water Control and Improvement District No. 1; Colorado River Municipal Water District; Median River Property Owners Association; Hubbard Creek Water Committee; Lower Nueces River Valley Authority; City Board of San Antonio; Dow Chemical Co.; and Texas Electric Service Co.

DIVISION OF WORK

The stream gaging was done by the Water Resources Division of the Geological Survey, under the direction of personnel shown in the preface. The data for stations in the several States were collected and prepared for publication in the district offices listed below:

State	District office	Address
Colorado a/	Denver	Federal Center.
Louisiana b/	Baton Rouge	315 Main Street.
New Mexico c/	Santa Fe	224 United States Courthouse.
Texas d/	Austin	302 West Fifteenth Street.

a/ Except for Costilla Creek at Garcia and near Jaroso, and some diversions from Costilla Creek. The work was done in collaboration with M. C. Hinderlider, State engineer, and L. T. Burgess, State chief hydrographer.
b/ Except for Sabine River at Logansport.
c/ Except for Delaware River near Red Bluff and Pecos River near Red Bluff but including Costilla Creek at Garcia and near Jaroso, Colo. and some diversions from Costillo Creek.
d/ Including Sabine River at Logansport, La., Delaware River near Red Bluff, N. Mex., and Pecos River at Red Bluff, N. Mex.

Information of a more detailed nature than that published for most of the gaging stations given in this report is on file in the district offices listed above. Provisional records of discharge prior to publication and other unpublished data concerning the gaging-station records may usually be obtained from the district office.

DEFINITION OF TERMS AND ABBREVIATIONS

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

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

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

Runoff in inches is the depth to which an area would be covered if all the water draining from it in a given period were uniformly distributed on its surface. The term is used for comparing runoff with rainfall, which is also usually expressed in inches.

Acre-foot is the quantity of water required to cover an acre to the depth of 1 foot and is equivalent to 43,560 cubic feet. The term is commonly used in relation to storage for irrigation.

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

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

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

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

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

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

DOWNSTREAM ORDER OF LISTING GAGING STATIONS

Beginning with the series of reports for the water year ending September 30, 1951, the order of listing gaging-station records was changed. In this report, in a downstream direction along the main stem all stations on a tributary entering above a main-stem station are listed before that station. If a tributary enters between two main-stem stations, it is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. To indicate the rank of any tributary on which a gaging station is situated and the stream to which it is immediately tributary, each indention in the listing of gaging stations in the table of contents of this report represents one rank. This downstream order and system of indention show which gaging stations are on tributaries between any two stations on a main stem and the rank of the tributary on which each gaging station is situated.

The order of listing used before the publication of the 1951 report listed first all stations on the main stem from headwaters toward mouth, then all stations on the uppermost tributary to the main stem from the tributary's source to mouth, and then all stations from source to mouth of the uppermost tributary to the tributary.

EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage and measurements of discharge. In addition, observations of factors affecting the stage-discharge relation, weather records, and other information are used to supplement base data in determining the daily flow. The records of stage are obtained either from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous record of fluctuations. Measurements of discharge are made with a current meter by the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in Water-supply Paper 888 and are also outlined in standard textbooks on the measurement of stream discharge. Typical structures in use at gaging stations are shown in figure 1.

A. Colorada River near San Saba, Tex.

B. Rio Guadalupe at Box Canyon near Jemez, N. Mex.

C. East Fork San Jacinto River near Cleveland, Tex.

FIGURE 1.—GAGING-STATION STRUCTURES.

Rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If the extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect determinations of peak discharge (such as slope-area or contracted-opening determinations, computation of flow over dams or weirs, and by other methods), velocity-area studies and logarithmic plotting. The application of the daily mean gage height to those rating tables gives the daily mean discharge, from which the monthly and the yearly mean discharge are computed. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is essentially the shifting-control method.

At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. Information requisite 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. If so, the rate of change in stage is used as a factor in the determination of discharge.

At most gaging stations in the northern part of the United States and at some in the mountainous regions of other parts the stage-discharge relation is affected by ice during the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and engineers, and comparable records of discharge for other stations in the same or nearby basins. If the stage-discharge relation is affected by ice, this information is given in a note to the table. No mention is made of occasional days of ice effect if the degree of accuracy of daily records is not changed.

The data herein presented generally comprise a description of the station, a skeleton rating table, and a table showing the daily discharge and monthly and yearly discharge and runoff of the stream. Records are published for the water year which begins on October 1 and ends on September 30. A calendar of the water year 1955 is shown on page IV for the purpose of finding the day of the week for any date.

The description of the station gives the location, drainage area, records available, type and history of gages, average discharge, extremes of discharge, general remarks, and notations of revisions of the previously published record. 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 unless otherwise noted. Under "Records available" are given the periods for which there are published records generally equivalent to those at the present site. Under "Gage" are given the type of gage currently in use and 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 records available. Under "Average discharge" is given the average discharge for the number of years indicated. It is not given for stations having fewer than five complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. Under "Extremes" are given the maximum discharge and gage height; the minimum discharge if there is little or no regulation; the minimum daily discharge if there is extensive regulation (also the minimum discharge if useful); and the minimum gage height (unless it is of no importance). In the first paragraph, the data given are for the complete current water year unless otherwise specified. In the second paragraph, the data given are for the periods of record within the calendar year dates in the heading (not necessarily those for the complete years indicated by the heading dates). Reliable information concerning major floods that have occurred outside the period of record are given in the third or last paragraph under "Extremes." Unless otherwise qualified, the maximum discharge corresponds to the crest stage obtained by use of a water-stage recorder, a crest-stage indicator, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge, it is given separately. Information pertaining to the accuracy of the records and conditions which affect the natural flow at the gaging station is 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 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 are concerned in the revision, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

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

For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the daily table gives the discharge corresponding to the daily mean gage height. For stations subject to such fluctuation the daily mean gage height may not indicate the true daily mean discharge, which must be obtained by averaging the discharge for parts of the day or by using the discharge integrator, an instrument for obtaining the daily mean discharge from a continuous gage-height graph and containing, as an essential element, a curve representing the stage-discharge relation at the station. For stations equipped with nonrecording gages, the table of daily discharge gives the discharge corresponding to once-daily readings of the gage, or to the mean of twice-daily readings, or to the mean gage height determined from gage-height graphs based on gage readings. For periods of rapidly changing stage, the daily mean discharge is determined from gage-height graphs based on gage readings, the frequency of which is stated in the station description.

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

In the monthly summary below the daily table, the line headed "Total" gives the sum of the daily figures; it is the total cfs-days for the month. The line headed "Mean" gives the average flow in cubic feet per second during the month. Runoff for the month may be expressed in cubic feet per second per square mile (line headed "Cfsm"), or in inches (line headed "In."), or in acre-feet (line headed "Ac-ft"). Figures for cubic feet per second per square mile and runoff in inches are omitted if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches.

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

Peak discharges and the times of their occurrence and corresponding gage heights of most stations are listed below the table of daily and monthly discharge. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man.

Footnotes to the table of daily discharge indicate periods when discharge was computed or estimated by unusual or special methods during periods of no gage-height record and ice effect, or by other effects that reduce the degree of accuracy of the records. Days on which discharge measurements were made are indicated by asterisk and footnote unless they were made at frequent regular intervals, in which instance the general frequency of discharge measurements is given under "Remarks" in the station description.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is usually given in the first report in which data for the reservoir are published, but it is omitted from succeeding reports.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measure-

ments, and (2) the accuracy of observations of stage, measurements of discharge, and interpretation of records.

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

Runoff at some stations, as indicated by the monthly mean, may vary widely from natural runoff, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, figures of cubic feet per second per square mile and runoff in inches are not published unless storage or diversion records are included to indicate the extent of the regulation or diversion, or unless satisfactory adjustments can be made for changes in contents of reservoirs or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur when relatively large negative adjustments are made or when evaporation is large in comparison with the observed discharge.

Many gaging stations on streams in the irrigated areas of the United States are situated above most of the diversions from those streams, and therefore the discharge recorded does not actually show the water supply available at the stations for further development, because water must first be supplied to existing irrigation systems.

PUBLICATIONS

To facilitate publication of the annual series of reports, the area of the United States is divided into 14 parts whose boundaries coincide with certain natural drainage lines. Formerly, the results of streamflow measurements were published in 14 volumes, one for each of the 14 parts. Beginning with the reports for 1951, the records are published in 18 volumes, there being 2 volumes each for Parts 1, 2, 3, and 6. The boundaries of the various parts are indicated by the following list and the map in figure 2.

Part 1. North Atlantic slope basins, in two volumes:
- A, North Atlantic slope basins, Maine to Connecticut.
- B, North Atlantic slope basins, New York to York River.

2. South Atlantic slope and eastern Gulf of Mexico basins, in two volumes:
- A, South Atlantic slope basins, James River to Savannah River.
- B, South Atlantic slope and eastern Gulf of Mexico basins, Ogeechee River to Pearl River.

3. Ohio River basin, in two volumes:
- A, Ohio River basin except Cumberland and Tennessee River basins.
- B, Cumberland and Tennessee River basins.

4. St Lawrence River basin.
5. Hudson Bay and upper Mississippi River basins.
6. Missouri River basin, in two volumes:
- A, Missouri River basin above Sioux City, Iowa.
- B, Missouri River basin below Sioux City, Iowa.

7. Lower Mississippi River basin.
8. Wester Gulf of Mexico basins.
9. Colorado River basin.
10. The Great Basin.
11. Pacific slope basins in California.
12. Pacific slope basins in Washington and upper Columbia River basin.
13. Snake River basin.
14. Pacific slope basins in Oregon and lower Columbia River basin.

Water-supply papers and other publications of the Geological Survey containing data on the water resources of the United States may be purchased or consulted as follows:

1. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington 25, D. C., who will, on application, furnish lists giving prices.

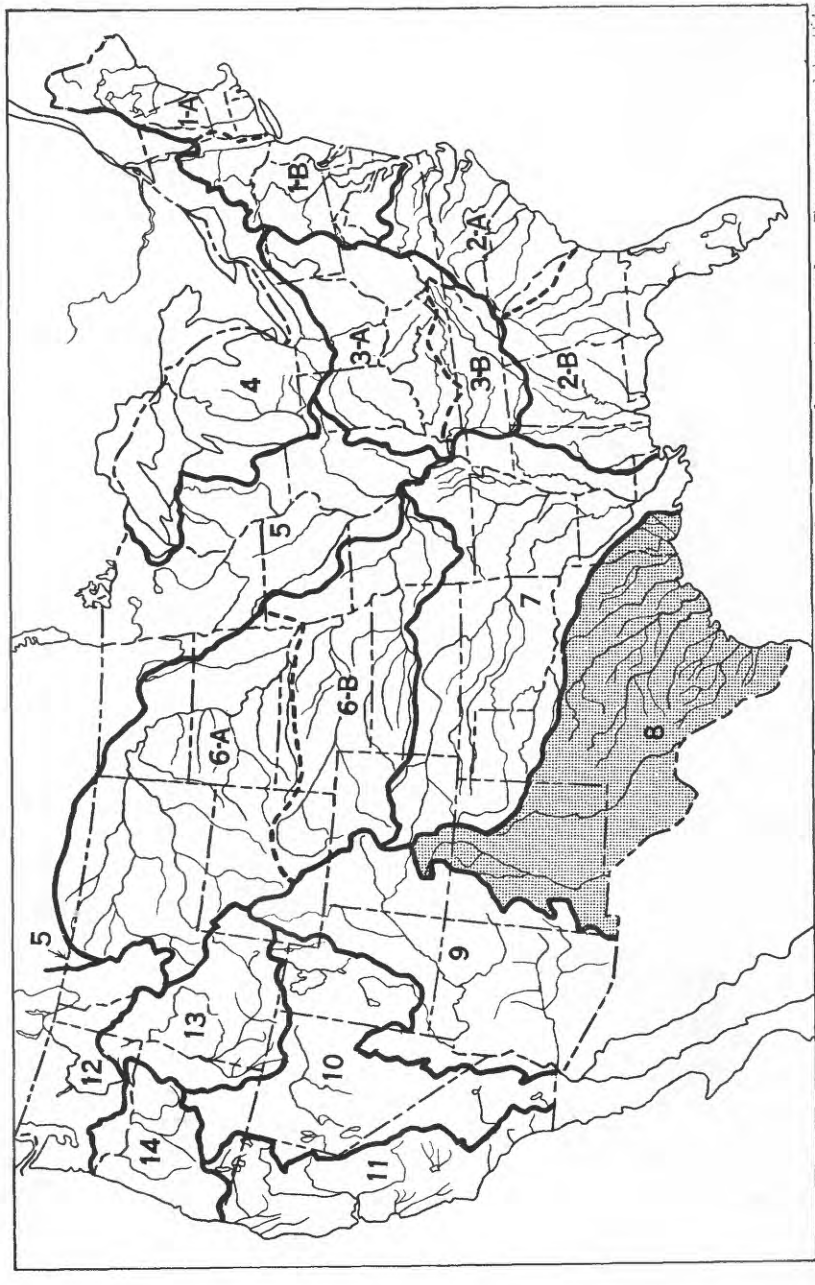

Figure 2.--Map of the United States showing areas covered by the 18 annual volumes on surface-water supply. Thearea covered by this report is shaded.

A list of Geological Survey publications may also be obtained by applying to the Director, Geological Survey, Washington, D. C.

2. Sets of the reports may be consulted in the libraries of the principal cities in the United States.

3. Sets are available for consultation in the offices of the Water Resources Division of the Geological Survey. Addresses of the offices in the area covered by this report are given on page 2.

Early records of the flow of streams in the United States are published in the reports listed below. In many of these reports records for years earlier than those indicated have been included for some streams.

Streamflow data for the years 1884-1901, in reports of the Geological Survey

(A = Annual Report; B = Bulletin)

Report	Character of data	Year
10th A, pt. 2	Descriptive information only.	
11th A, pt. 2	Monthly discharge and descriptive information.....	1884 to September 1890.
12th A, pt. 2	....do.....	1884 to June 30, 1891.
13th A, pt. 3	....do.....	1884-92.
14th A, pt. 2	Monthly discharge.....	1888-93.
B 131.....	Descriptions, measurements, gage heights, and ratings.....	1893-94.
16th A, pt. 2	Descriptive information only.	
B 140.....	Descriptions, measurements, gage heights, ratings, and monthly discharge.	1895.
WSP 11.....	Gage heights.....	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1895-96.
WSP 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
WSP 16.....	Descriptions, measurements, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries above Kansas River.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge.	1897.
WSP 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
WSP 28.....	Measurements, ratings, and gage heights of streams west of the Mississippi River, except Missouri River and tributaries.	1898.
20th A, pt. 4.	Monthly discharge.....	1898.
WSP 35 to 39.	Descriptions, measurements, gage heights, and ratings.....	1899.
21st A, pt. 4	Monthly discharge.....	1899.
WSP 47 to 52.	Descriptions, measurements, gage heights, and ratings.....	1900.
22d A, pt. 4.	Monthly discharge.....	1900.
WSP 65, 66...	Descriptions, measurements, gage heights, and ratings.....	1901.
WSP 75.....	Monthly discharge.....	1901.

Reports on surface-water supply containing records from 1899 to date for drainage basins in this report are listed below. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained.

Numbers of water-supply papers containing results of strsam measurements in Western Gulf of Mexico basins, 1899-1955

Year	WSP	Year	WSP	Year	WSP	Year	WSP	Year	WSP
1899	37	1911	308	1923	568	1934	763	1945	1038
1900	50	1912	328	1924	588	1935	788	1946	1058
1901	66,75	1913	358	1925	608	1936	808	1947	1088
1902	84	1914	388	1926	628	1937	828	1948	1118
1903	99	1915	408	1927	648	1938	858	1949	1148
1904	132	1916	438	1928	668	1939	878	1950	1178
1905	174	1917	458	1929	688	1940	898	1951	1212
1906	210	1918	477	1930	703	1941	928	1952	1242
1907-8	248	1919-20	508	1931	718	1942	958	1953	1282
1909	268	1921	528	1932	733	1943	978	1954	1342
1910	288	1922	548	1933	748	1944	1008	1955	1392

The records at most of the stations discussed in these reports extend over many years. Discharge measurements at many points other than regular gaging stations have been made each year and are published at the end of each report. The streams and points of measurement are listed in the same order as the streams and gaging stations in the body of the report. An index of the records obtained before 1904 has been published in Water-Supply Paper 119.

Each of the reports on the surface-water supply for the year 1939 (Water-Supply Paper

878 for Western Gulf of Mexico basins) contains, for the area included in that report, a summary of yearly discharge at gaging stations at which 10 or more complete years of record had been collected. These summaries were reprinted separately.

Reports also have been published that are compilations of records for various areas, usually a single State or drainage basin. These reports contain records previously published (some of which may have been revised), as well as some records not contained in the annual series of water-supply papers. The following table lists reports of this type for Western Gulf of Mexico basins.

Reports containing compilations of records of discharge by States and drainage basins

WSP	Period	Report
74.....	1884-1900	Water resources of Colorado.
358.....	1888-1913	Water resources of Rio Grande basin (Colo., N. Mex., Tex.).
850.....	1898-1937	Summary of records of surface waters of Texas.

Records of discharge have been published also in State reports. Some of these are not contained in the publications of the Geological Survey or are revisions of records previously published in its water-supply papers. The following table contains a list of these reports for the area covered by this report.

State reports containing compilations of records of discharge

State	Period	Report	Issued by
Colorado.....	1881-1935	Water resources of Colorado, Appendix 2, Data on stream-gaging stations of Colorado. a/	State Planning Commission, Water Conservation Board, State engineer.
Do.....	1881-1938	Water resources of Colorado, Appendix 3, vols. 1 and 2, Stream-flow data of Colorado.	Do.
Louisiana.....	1903-38	Geol. Bull. 16, Surface water supply of Louisian.	Department of Conservation.
New Mexico....	1888-1925	Surface water supply of New Mexico.....	Office of the State Engineer.

a/ Contains records of yearly discharge only.
Note.--In addition to the records contained in the reports listed above, the States of Colorado and New Mexico have issued annual or biennial reports in which are contained records of discharge.

The reports listed in the foregoing tables contain the customary records of discharge collected during the systematic operation of gaging stations. Detailed information on the stage and discharge of many streams during major floods has been included in special reports on these floods published by the Geological Survey or other agencies. The more recent of these special reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier notable floods. The following list gives the numbers and titles of these reports:

Report	Issued by
WSP 147: Destructive floods in the United States in 1904.	U. S. Geological Survey.
WSP 162: Destructive floods in the United States in 1905.	Do.
WSP 488: The flood in central Texas in September 1921.	Do.
WSP 771: Floods in the United States, frequency and magnitude.	Do.
WSP 796-G: Major Texas floods of 1935.	Do.
WSP 816: Major Texas floods of 1936.	Do.
WSP 842: Floods in Canadian and Pecos River basins of New Mexico, May and June 1937.	Do.
WSP 847: Maximum discharges at stream-measurement stations through September 1938.	Do.
WSP 914: Texas floods of 1938 and 1939.	Do.
WSP 997: Floods in Colorado..	Do.
WSP 1046: Texas floods of 1940.	Do.
WSP 1137-I: Summary of floods in the United States during 1950.	Do.
WSP 1260-A: Floods of September 1952 in Colorado and Guadalupe River basins, central Texas.	Do.
Cir. 32: Flood of September 1946 at San Antonio, Tex.	Do.
Floods in Louisiana, magnitude and frequency.	Louisiana Department of Highways.
Flood of September and October 1932, International Portion of the Rio Grande.	International Boundary & Water Commission, United States and Mexico.
Floods of 1948 along the International Portion of the Rio Grande.	Do.

RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The table below contains a list of gaging stations for the area covered by this report, at which records of discharge were collected during the water year October 1954 to September 1955 by agencies other than the Geological Survey. The records of these stations are not contained in publications of the Geological Survey except as noted in footnotes to the table.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by	Remarks
Alamito Creek...	Near Presidio, Tex.....	1932-55	International Boundary & Water Commission.	Published in bulletins of International Boundary & Water Commission.
Arrey Canal.....	Near Arrey, N. Mex.....	1918, 1920-55	Bureau of Reclamation.	Unpublished.
Arroyo Las Vacas	Near Villa Acuna, Coahuila, Mexico.	1938-55	International Boundary & Water Commission.	Published in bulletins of International Boundary & Water Commission.
Devils River....	Near Del Rio, Tex.....	1931-55†	....do.....	Do.
Do.....	Near mouth.....	1955	....do.....	Do.
Do.....	Upper.....	1955	....do.....	Do.
East Side Canal.	At Mesilla Dam, near Mesilla Park, N. Mex.	1916-18, 1920-55	Bureau of Reclamation.	Unpublished.
Goodenough Springs.	Near Comstock, Tex.....	1931-55†	International Boundary & Water Commission.	Published in bulletins of International Boundary & Water Commission.
Hagerman Canal..	Near Roswell, N. Mex...	1942-55	Hagerman Irrigation Co.	Unpublished.
Larendo sewage outfall.	At Larendo, Tex.....	1950-55	Texas State Health Department.	Published in bulletins of International Boundary & Water Commission.
Leasburg Canal..	At head, at Selden, N. Mex.	1917-18, 1920-55	Bureau of Reclamation.	Unpublished.
Maverick Canal..	At powerplant near Eagle Pass, Tex.	1950-55	Central Power & Light Co.	Published in bulletins of International Boundary & Water Commission.
Outfall from wells and sewage in the vicinity of El Paso.	Near El Paso, Tex.....	1936-55	International Boundary & Water Commission.	Do.
Pecos River.....	Near Comstock, Tex.....	1931-55†	....do.....	Do.
Do.....	Near Shumla, Tex.....	1955	....do.....	Do.
Do.....	Near mouth.....	1955	....do.....	Do.
Pinto Creek.....	Near Del Rio, Tex.....	1931-55†	....do.....	Do.
Rio Alamo.....	At Mier, Tamaulipas, Mexico.	1924-55	....do.....	Do.
Rio Conchas.....	At Cuchillo Parado, Chihuahua, Mexico.	1945-55	....do.....	Do.
Do.....	Near Ojinaga, Chihuahua, Mexico.	1900-14, 1924-55	....do.....	Do.
Rio Escondido...	At Villa de Fuente, Coahuila, Mexico.	1923-55	....do.....	Records for 1923-24 and 1928 published in H. Doc. 359, 71st Cong., 2d sess., as Rio San Antonio above Fuente; records for 1932-55 published in bulletins of International Boundary & Water Commission.
Rio Grande.....	Below American Dam, near El Paso, Tex.	1938-55	....do.....	Published in bulletins of International Boundary & Water Commission.
Do.....	At Aqua Verde Ranch, Tex.	1953-55	....do.....	Do.
Do.....	Below Anzalduas Dam, near Reynosa, Tamaulipas, Mexico.	1952-55	....do.....	Do.
Do.....	At lower Brownsville station, Tex.	1934-55	....do.....	Do.
Do.....	At Chapeno, Tex.....	1953-55	....do.....	Do.
Do.....	At County-line station near El Paso, Tex.	1938-55	....do.....	Do.
Do.....	Near Del Rio, Tex.....	1931-55†	....do.....	Do.
Do.....	Below Diablo Dam site..	1955	....do.....	Do.
Do.....	At Eagle Pass, Tex.....	1931-55†	....do.....	Do.
Do.....	At El Paso, Tex.....	1931-55†	....do.....	Do.
Do.....	At Fort Quitman, Tex...	1931-55†	....do.....	Do.
Do.....	At Island station, near El Paso, Tex..	1938-55	....do.....	Do.
Do.....	Near Jimenez, Coahuila, Mexico.	1953-55	....do.....	Do.
Do.....	At Johnson Ranch, Tex..	1936-55	....do.....	Do.
Do.....	At Juarez, Chihuahua, Mexico.	1938-55	....do.....	Do.
Do.....	At Langtry, Tex.....	1931-55†	....do.....	Do.
Do.....	At Laredo, Tex.....	1924-55†	....do.....	Do.

† Records for earlier years published in Geological Survey water-supply papers. See also pages 87 and 88, Water Bulletin No. 16 - International Boundary & Water Commission.

Records of discharge collected by agencies other than the Geological Survey--Continued

Stream	Location	Period	Collected by	Remarks
Rio Grande.....	At Leasburg Dam, at Selden, N. Mex.	1919-55	Bureau of Reclamation.	Unpublished.
Do.....	At upper Presidio station, Tex.	1926-55†	International Boundary & Water Commission.	Published in bulletins of International Boundary & Water Commission.
Do.....	At lower Presidio station, Tex.	1926-55†	....do.....	Do.
Do.....	At Progresso Bridge, Tex. (formerly below Progresso Pump)	1953-55	....do.....	Do.
Do.....	Near Rio Grande City, Tex.	1924-55††	....do.....	Do.
Do.....	At Roma, Tex.....	1931-55	....do.....	Do.
Do.....	Near Villa Guerrero, Coahuila, Mexico.	1953-55	....do.....	Do.
Do.....	Below San Benito, Tex.	1953-55	....do.....	Do.
Rio Salado.....	At Las Tortillas, Tamaulipas, Mexico.	1953-55	....do.....	Do.
Rio San Diego...	Jimenez, Coahuila, Mexico.	1924-55	....do.....	Records for 1924-28 published in H. Doc. 359, 71st Cong., 2d. sess.; records for 1932-55 published in bulletins of International Boundary & Water Commission.
Rio San Juan....	Above Rio Grande City, Tex.	1946-55	....do.....	Published in bulletins of International Boundary & Water Commission.
Do.....	Below Rio Grande City, Tex.	1946-55	....do.....	Do.
Rio San Rodrigo.	Near El Moral, Coahuila, Mexico.	1922-55	....do.....	Records for 1923-24 and 1927-28 published in H. Doc. 359, 71st Cong., 2d sess.; records for 1932-55 published in bulletins of International Boundary & Water Commission.
San Felipe Creek	Near Del Rio, Tex.....	1931-55	....do.....	Published in bulletins of International Boundary & Water Commission.
Terlingua Creek.	Near Terlingua, Tex...	1932-55	....do.....	Do.
West Side Canal.	At Mesilla Dam, near Mesilla Park, N. Mex.	1916-18, 1920-55	Bureau of Reclamation.	Unpublished.

† Records for earlier years published in Geological Survey water-supply papers. See also pages 87 and 88, Water Bulletin No. 16 - International Boundary & Water Commission.

†† See also pages 87 and 88, Water Bulletin No. 16 - International Boundary & Water Commission.

Note.--In addition to the gaging stations listed above, the International Boundary & Water Commission collects and publishes records of discharge in floodways in the lower Rio Grande Valley and records of diversions from the Rio Grande for irrigation and municipal use.

The Agricultural Research Service of the United States Department of Agriculture has been collecting records of runoff near Waco, Tex., from 3 areas of less than 200 acres each beginning in 1938, from 2 areas of about 4 acres and 10 areas of 20 to 1,100 acres, from 1938-43 and 1946-55, and near Albuquerque, N. Mex., beginning in 1938, from 3 areas of less than 180 acres.

HYDROLOGIC CONDITIONS

The water year 1955 was characterized by deficient runoff over most of area covered by this report except for Louisiana where runoff was well above median. Drought conditions that existed over much of the area were interrupted by moderate to severe flooding in scattered areas during the water year. Outstanding floods occurred in the Pecos River basin in New Mexico during October; runoff at the key gaging station Bayou Nespique near Basile, La. was record-high for the month of February; high floods occurred in Louisiana during April and May from heavy rains that measured up to 12½ inches on May 19-20; heavy flash floods occurred in New Mexico throughout July, August, and September, with Albuquerque receiving damaging floods July 27 and September 24; floods in several areas of Texas during September produced record-high flows on Nueces River at Laguna, Double Mountain, and Salt Forks Brazos River near Aspermont and at other gaging stations-some were the highest known in at least 55 years. For three key gaging stations, a comparison of the monthly and yearly mean discharges during the 1955 water year with the median for the 25-year period (1921-45) is shown in figure 3 on the following page.

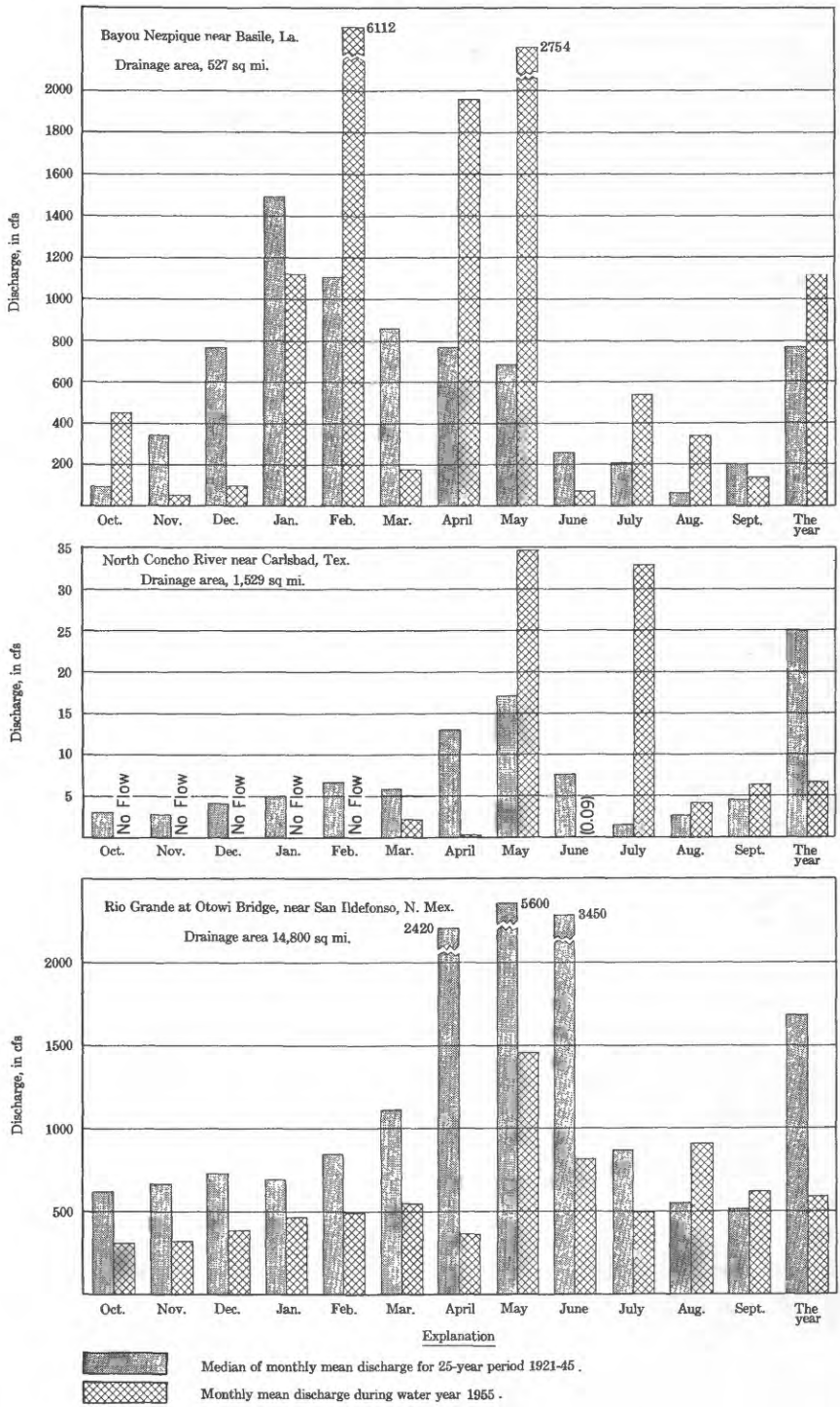

Figure 3. Comparison of discharge at three key gaging stations during 1955 water year with median discharge for 25-year period.

MERMENTAU RIVER BASIN

Bayou des Cannes near Eunice, La.

Location.--Lat 30°29'00", long 92°29'25", in SW¼SE¼ sec. 32, T. 6 S., R. 1 W., Louisiana meridian, on left bank at downstream side of bridge on U. S. Highway 190, 3 miles downstream from New Orleans, Texas and Mexico Railway bridge and 4 miles west of Eunice.

Drainage area.--131 sq mi.

Records available.--October 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 14.84 ft above mean sea level, datum of 1929 (Louisiana Geodetic Survey benchmark; levels by Corps of Engineers). Prior to Jan. 17, 1940, wire-weight gage at same site and datum. Auxiliary water-stage recorder 1.8 miles downstream. Oct. 1, 1943, to Nov. 1, 1950, auxiliary staff gage at same site and datum.

Average discharge.--17 years, 262 cfs (189,700 acre-ft per year).

Extremes.--Maximum discharge during year, 10,200 cfs Feb. 7 (gage height, 21.21 ft); no flow at times.
1938-55: Maximum discharge, 11,900 cfs May 20, 1953 (gage height, 22.36 ft); no flow at times in 1939, 1948, 1955.

Remarks.--Records good except those below 10 cfs and those for periods of no auxiliary gage-height record, which are poor. Station is above all known diversions for irrigation.

Revisions (water years).--WSP 1242: 1950(P).

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.7	17	2.3	1,280	13	20	0.1	3.2	15	161	*414	170
2	5.8	11	2.3	1,060	11	14	.1	2.4	11	295	269	130
3	6.0	8.7	1.8	*556	8.6	11	.1	1.4	6.2	204	348	83
4	7.4	132	1.6	270	16	8.6	0	.8	3.7	219	585	47
5	6.7	319	1.6	116	1,790	7.0	0	.8	1.7	*182	786	66
6	4.8	241	*1.6	58	7,920	6.3	0	.7	0	111	918	99
7	3.4	118	1.6	38	9,940	5.1	0	.3	0	60	829	79
8	2.3	*56	1.8	26	7,800	4.2	.1	.7	10	35	572	50
9	1.8	33	2.2	32	4,490	2.9	188	2.3	11	19	234	35
10	2.2	21	2.0	462	1,970	2.4	1,220	1.8	29	12	155	30
11	*75	15	1.7	731	1,170	2.2	3,630	1.8	117	24	138	25
12	178	11	2.0	858	804	1.7	3,770	2.6	146	143	143	20
13	543	8.9	5.8	755	461	1.6	2,570	5.8	119	159	144	18
14	1,970	7.4	14	422	189	9.8	1,780	16	92	573	104	20
15	*4,920	12	47	236	80	7.2	1,340	30	50	940	62	26
16	4,050	17	33	782	34	2.9	995	26	32	1,120	52	19
17	2,210	30	20	1,070	31	1.4	634	111	20	1,160	45	15
18	1,340	34	13	1,420	22	2.6	225	135	14	1,130	42	12
19	907	27	11	1,280	17	1.3	48	118	12	1,240	41	9.5
20	542	21	15	995	58	.3	16	971	13	1,080	32	10
21	207	16	13	722	831	.1	12	2,450	15	818	29	8.9
22	72	12	9.6	384	1,850	.2	11	3,680	32	594	27	14
23	35	8.9	7.4	202	2,430	.1	6.2	2,110	64	527	18	38
24	22	6.8	5.6	117	1,520	.5	6.2	1,280	48	505	16	156
25	16	5.1	4.3	58	988	1.6	*6.0	875	29	365	16	172
26	12	4.2	3.4	32	519	1.7	5.6	503	21	257	39	83
27	13	3.7	2.8	21	153	.8	5.1	180	21	225	45	39
28	87	2.9	103	16	*41	*.7	3.8	70	177	302	55	24
29	90	2.8	703	16	-	.9	2.6	42	175	483	72	22
30	50	2.8	940	20	------	.4	2.6	30	89	516	85	19
31	28	-----	1,240	*18	------	.1	-----	*21	------	516	*168	------
Total	17,415.1	1,205.2	3,213.4	14,053	45,136.6	119.6	16,457.5	12,672.6	1,373.6	13,975	6,483	1,539.4
Mean	562	40.2	104	453	1,612	3.86	549	409	45.8	451	209	51.3
Cfsm	4.29	0.307	0.794	3.46	12.3	0.029	4.19	3.12	0.350	3.44	1.60	0.392
In.	4.94	0.34	0.91	3.99	12.81	0.03	4.67	3.60	0.39	3.97	1.84	0.44
Ac-ft	34,540	2,390	6,370	27,870	89,530	237	32,640	25,140	2,720	27,720	12,860	3,050

Calendar year 1954: Max 4,920 Min 0.7 Mean 133 Cfsm 1.02 In. 13.79 Ac-ft 96,400
Water year 1954-55: Max 9,940 Min 0 Mean 366 Cfsm 2.79 In. 37.93 Ac-ft 265,100

* Discharge measurement made on this day.

Note.--No gage-height record at auxiliary gage Dec. 28 to Jan. 2, July 11-31; discharge computed on basis of record at base gage.

Long Point Gully near Crowley, La.

Location.--Lat 30°18'42", long 92°23'49", on line between secs. 31 and 32, T. 8 S., R. 1 E., Louisiana meridian, near center of span on downstream side of bridge on State Highway 13 (renumbered), 2¾ miles upstream from mouth and 7 miles north of Crowley.

Drainage area.--25.7 sq mi.

Records available.--April 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 10.88 ft above mean sea level, datum of 1929. Prior to Aug. 16, 1949, wire-weight gage at same site and datum.

Average discharge.--6 years, 44.6 cfs (32,290 acre-ft per year).

Extremes.--Maximum discharge during year, 2,370 cfs Feb. 6 (gage height, 14.45 ft); no flow at times.
1949-55: Maximum discharge, 2,410 cfs May 16, 1953 (gage height, 14.48 ft); no flow at times.

Remarks.--Records poor. Some diversion during irrigation season by several tractor-operated pumps.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 19 to Dec. 25, Jan. 26 to Feb. 4, Mar. 28, 29, Apr. 4-6, 18-20, 25-27, May 4, May 30 to June 2, June 4, 7, 8, July 5-8, July 25 to Aug. 3, Aug. 5 to Sept. 12)

2.7	0	7.0	108
2.8	.4	8.0	143
3.0	1.4	9.0	208
3.2	2.5	10.0	342
3.5	5.1	10.5	430
3.8	10	11.0	600
4.2	20	12.0	1,100
4.6	30	13.0	1,620
5.0	42	14.3	2,310
6.0	74		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	1.3	0.3	23	0	1.7	7.5	3.2	0.6	15	*11	31
2	2.2	1.0	.3	14	0	1.4	19	2.8	.9	16	80	23
3	2.1	.8	.3	*6.7	0	1.1	5.1	2.4	1.7	11	100	11
4	1.5	62	.3	4.3	1.6	1.5	2.1	2.1	0	7.4	117	4.1
5	.9	129	.2	3.3	1,540	2.6	.7	3.8	1.1	*5.1	68	18
6	.4	61	*.2	2.3	2,280	2.0	1.5	3.6	2.1	4.4	35	24
7	11	16	.3	1.5	1,590	1.0	4.2	5.7	.1	4.7	20	19
8	15	6.4	.3	1.0	496	.6	4.2	5.7	0	5.2	6.0	11
9	4.9	3.5	.3	3.6	159	.4	92	5.5	49	7.4	22	11
10	2.6	2.9	.3	103	36	.4	990	5.1	111	12	81	6.4
11	*1.4	2.4	.3	89	12	.3	640	3.1	129	49	43	7.0
12	1.0	*1.6	.3	21	8.3	.4	198	1.6	46	49	32	3.2
13	157	2.0	.3	12	3.8	1.1	252	3.4	11	384	29	3.7
14	434	1.4	.2	4.3	2.3	.6	147	5.4	6.2	1,070	14	9.7
15	289	1.2	.2	36	1.6	.3	25	5.7	4.0	676	5.2	7.2
16	143	1.5	.2	694	1.1	.2	6.4	4.7	15	305	5.5	2.6
17	38	1.4	19.0	350	2.3	.2	2.8	12	11	203	18	2.0
18	11	1.1	16	171	3.8	.2	1.2	11	6.2	145	9.5	
19	4.8	1.3	3.4	166	2.3	.1	1.5	6.5	4.6	181	8.9	
20	2.7	1.2	1.6	61	28	2.7	2.0	1,200	3.4	154	6.4	a1.2
21	1.8	1.0	.8	27	821	4.1	3.1	1,030	1.0	112	1.9	
22	1.2	.8	.5	60	448	3.8	5.9	282	.5	156	1.4	
23	1.0	.8	.2	22	149	5.0	6.9	100	1.2	353	2.3	
24	.8	.6	0	7.8	35	5.4	4.8	18	2.1	180	3.8	a8
25	.6	.6	0	4.3	9.9	4.7	*2.1	5.2	2.1	80	3.8	
26	.4	.6	0	2.3	4.9	4.2	1.2	18	4.6	38	4.1	
27	2.9	.6	0	1.8	3.2	2.4	2.0	7.8	3.4	22	5.9	a20
28	4.1	.4	28	1.2	*2.3	*.7	2.6	3.1	42	26	26	
29	3.4	.3	220	.6	-	1.0	3.3	1.2	12	16	27	
30	2.1	.3	162	.3	------	3.3	3.3	.8	11	17	28	
31	1.4	------	49	*0	------	3.4	------	*.4	------	20	*43	------
Total	1,144.0	305.0	504.8	1,894.3	7,641.4	56.8	2,437.4	2,759.8	482.8	4,304.2	858.7	335.9
Mean	36.9	10.2	16.3	61.1	273	1.83	81.2	89.0	16.1	139	27.7	11.2
Ac-ft	2,270	605	1,000	3,760	15,160	113	4,830	5,470	958	8,540	1,700	666

Calendar year 1954: Max 507 Min 0 Mean 20.4 Ac-ft 14,750
Water year 1954-55: Max 2,280 Min 0 Mean 62.3 Ac-ft 45,070

Peak discharge (base, 700 cfs).--Jan. 16 (12 m.) 868 cfs (11.57 ft); Feb. 6 (6:30 a.m.) 2,370 cfs (14.45 ft); Feb. 20 (4 p.m.) 1,080 cfs (11.96 ft); Apr. 10 (5 p.m.) 1,180 cfs (12.17 ft); May 20 (4:30 p.m.) 1,520 cfs (12.95 ft); July 14 (3:30 p.m.) 1,200 cfs (12.18 ft).
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of records for stations on nearby streams.

Bayou Nezpique near Basile, La.

Location.--Lat 30°28'50", long 92°37'55", in NE¼NW¼ sec. 1, T. 7 S., R. 3 W., near left bank on downstream side of bridge on U. S. Highway 190, a quarter of a mile downstream from New Orleans, Texas and Mexico Railway bridge and 2 miles west of Basile.

Drainage aeea.--527 sq mi.

Records available.--October 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 3.39 ft above mean sea level, datum of 1929, supplementary adjustment of 1941. Prior to July 17, 1947, wire-weight gage at same site and datum. Since Apr. 10, 1945, auxiliary staff gage 7½ miles downstream.

Average discharge.--17 years, 823 cfs (595,800 acre-ft per year).

Extremes.--Maximum discharge during year, 28,700 cfs Feb. 7; maximum gage height, 31.74 ft Feb. 8; minimum discharge, 0.8 cfs May 12 (gage height, 1.21 ft).
1938-55: Maximum discharge, 35,800 cfs May 20, 1953; maximum gage height, 34.39 ft May 20, 1953; minimum discharge, 0.1 cfs June 7-13, 1943, June 22-29, 1948; minimum gage height, 1.00 ft June 28, 1948.

Remarks.--Records good except those below 10 cfs, which are fair.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	84	7.0	809	137	2,070	5.3	8.1	433	105	*501	245
2	76	60	6.1	686	110	1,560	6.1	7.0	125	159	560	216
3	40	41	5.0	513	79	724	8.6	8.3	38	195	749	209
4	25	103	4.4	*364	78	250	12	8.1	26	195	761	202
5	17	127	3.7	270	4,510	108	12	7.4	21	168	808	230
6	12	156	*3.1	179	17,400	94	9.5	5.7	15	202	744	330
7	8.9	147	2.8	116	25,300	72	7.9	3.8	11	159	631	245
8	6.7	*119	2.6	72	*25,600	57	7.7	3.0	9.1	108	489	178
9	5.5	86	2.4	87	21,800	49	266	2.3	9.3	*74	377	153
10	4.1	74	2.1	681	16,800	43	1,610	2.0	25	53	606	130
11	*9.5	69	2.0	1,300	12,100	39	3,020	1.5	66	77	851	105
12	60	49	3.1	1,630	8,390	35	4,960	4.9	165	168	699	150
13	833	37	60	1,690	5,730	32	6,640	66	153	216	531	130
14	1,410	28	141	1,600	4,130	28	7,390	60	138	511	380	102
15	1,810	32	274	1,400	3,280	26	7,150	41	113	1,040	262	91
16	2,090	37	191	1,590	2,540	23	6,200	34	84	1,130	156	108
17	2,100	64	100	2,070	1,720	21	4,950	27	57	1,080	127	130
18	1,940	67	64	2,540	854	19	4,080	55	45	982	119	97
19	1,500	49	49	2,730	325	17	3,510	327	38	1,100	92	62
20	826	36	38	2,710	208	15	2,980	2,290	29	1,200	69	41
21	298	31	30	2,550	1,140	14	2,480	8,260	25	1,180	55	28
22	119	30	23	2,350	2,080	19	1,760	14,000	21	1,090	49	22
23	86	26	19	2,110	2,730	17	846	15,700	34	905	47	73
24	55	22	17	1,730	3,110	15	273	13,300	41	725	46	253
25	41	19	14	1,190	3,050	12	*108	9,690	25	548	46	163
26	31	17	12	594	2,870	10	49	6,700	14	421	57	100
27	37	15	10	264	2,650	8.3	33	4,720	8.4	320	72	69
28	57	13	50	160	*2,420	*6.8	21	3,730	83	371	74	53
29	94	11	219	130	-	5.9	11	2,970	148	756	113	*42
30	94	8.6	718	193	------	5.1	10	2,150	89	757	181	30
31	84	-----	895	*220	-----	4.6	-----	*1,200	------	575	*202	------
Total	13,833.7	1,657.6	2,968,3	34,528	171,141	5,399.7	58,416.1	85,382.1	2,088.8	16,570	10,454	3,987
Mean	446	55.3	95.8	1,114	6,112	174	1,947	2,754	69.6	535	337	133
Cfsm	0.846	0.105	0.182	2.11	11.6	0.330	3.69	5.23	0.132	1.02	0.639	0.252
In.	0.98	0.12	0.21	2.44	12.08	0.38	4.12	6.03	0.15	1.17	0.74	0.28
Ac-ft	27,440	3,290	5,890	68,490	339,500	10,710	115,900	169,400	4,140	32,870	20,740	7,910

Calendar year 1954: Max 6,690 Min 2.0 Mean 336 Cfsm 0.638 In. 8.65 Ac-ft 243,200
Water year 1954-55: Max 25,600 Min 1.5 Mean 1,113 Cfsm 2.11 In. 28.70 Ac-ft 806,300

* Discharge measurement made on this day.

Bayou Lacassine at Intracoastal Waterway, La.

Location.--Lat 29°57'49", long 92°50'35", at short cutoff on left bank in Lacassine Migratory Water Fowl Refuge, 1,000 ft upstream from Intracoastal Waterway and 13 miles southwest of town of Lake Arthur.

Records available.--October 1954 to September 1955 (gage heights only).

Gage.--Water-stage recorder. Altitude of gage is at mean sea level (by river profile).

Extremes.--Maximum gage height during year, 3.78 ft Feb. 13; minimum, 0.53 ft Dec. 18.

Remarks.--Gage heights affected by operation of locks in Intracoastal Waterway System.

Gage height, in feet, at 8 a.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	1.13	1.16	1.29	1.78	2.81	1.45	1.86	2.18	1.39	2.05	1.90
2	-	1.03	1.06	1.29	1.74	2.71	1.49	1.82	2.08	1.44	1.99	-
3	-	1.09	1.08	1.33	1.75	2.68	1.48	1.82	2.03	1.48	2.31	-
4	-	1.11	1.10	1.37	1.83	2.60	1.57	1.76	1.94	1.57	2.38	-
5	-	1.13	1.07	1.42	2.23	2.53	1.57	1.68	1.95	1.59	2.36	-
6	-	1.23	.71	1.24	2.54	2.41	1.59	1.65	1.98	1.58	2.37	-
7	-	1.20	.92	1.31	2.76	2.26	1.42	1.65	1.84	1.56	2.35	-
8	-	1.23	1.05	1.35	3.02	2.19	1.52	1.65	1.75	1.56	2.28	-
9	-	1.25	.94	1.38	3.30	2.17	1.73	1.66	1.73	1.56	2.23	-
10	-	1.26	.95	1.36	3.52	2.11	2.05	1.64	1.74	1.59	2.25	-
11	-	1.24	1.08	1.39	3.42	2.04	2.40	1.58	2.02	1.58	2.20	-
12	-	1.17	1.20	1.49	3.61	1.95	2.62	1.47	1.95	1.55	2.13	-
13	-	1.26	.76	1.41	3.71	1.90	2.73	1.58	1.90	1.79	2.08	-
14	-	1.27	.98	1.59	3.67	1.85	2.72	1.54	1.85	2.07	2.05	-
15	-	1.27	.88	1.56	3.55	1.86	2.76	1.52	1.76	2.22	1.97	-
16	-	1.19	.97	1.89	3.44	1.82	2.76	1.56	1.85	2.34	1.85	-
17	-	1.26	.95	2.02	3.36	1.75	2.72	1.54	1.85	2.48	1.73	-
18	-	1.33	.91	2.09	3.36	1.81	2.68	1.55	1.77	2.56	1.68	-
19	-	1.09	.82	1.98	3.28	1.72	2.66	1.64	1.69	2.59	1.61	-
20	-	1.02	.93	2.08	2.97	1.78	2.62	1.94	1.66	2.56	1.58	-
21	-	1.16	.96	2.15	3.09	1.82	2.55	2.10	1.60	2.52	1.55	-
22	-	1.10	.97	2.05	3.02	1.43	2.45	2.19	1.60	2.49	1.49	-
23	-	1.07	.92	2.00	3.07	1.60	2.44	2.33	1.53	2.54	1.44	-
24	-	1.11	.94	1.95	3.06	1.62	2.40	2.44	1.52	2.49	1.39	-
25	-	1.06	.97	1.90	3.07	1.60	2.29	2.52	1.48	2.45	1.45	-
26	-	1.12	1.02	1.89	3.03	1.12	2.17	2.72	1.45	2.39	1.50	-
27	-	1.15	1.07	1.83	2.94	1.28	2.14	2.71	1.40	2.33	1.43	-
28	-	1.20	1.08	1.77	2.88	1.41	2.11	2.69	1.36	2.38	1.70	-
29	-	.98	.98	1.70	-	1.45	1.98	2.54	1.35	2.31	1.85	-
30	1.02	1.17	1.07	1.75	------	1.45	1.86	2.42	1.40	2.15	1.90	1.75
31	.97	------	1.22	1.79	------	1.51	------	2.33	------	2.13	1.90	------

Note.--Record began Oct. 30; no gage-height record Sept. 2-29.

Calcasieu River near Glenmora, La.

Location.--Lat 30°59'45", long 92°40'25", in SE¼SE¼ sec. 4, T. 1 S., R. 3 W., Louisiana meridian, on right bank on downstream side of bridge on State Highway 113, 1.0 mile upstream from Prairie Branch and 4.6 miles northwest of Glenmora.

Drainage area.--499 sq mi.

Records available.--August 1943 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 110.77 ft above mean sea level (Louisiana Geodetic Survey benchmark). Prior to Nov. 19, 1949, wire-weight gage at same site and datum.

Average discharge.--12 years, 826 cfs (598,000 acre-ft per year).

Extremes.--Maximum discharge during year, 20,600 cfs Aug. 5 (gage height, 16.93 ft); minimum, 15 cfs Oct. 7-9; minimum gage height, 4.06 ft Oct. 8.
1943-55: Maximum discharge, 59,900 cfs May 19, 1953 (gage height, 21.55 ft); minimum, 15 cfs Sept. 27, 28, Oct. 7-9, 1954; minimum gage height, that of Oct. 8, 1954.

Remarks.--Records good.

Revisions (water years).--WSP 1118: 1944-47.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 11-16)

Oct. 1 to Oct. 13		Oct. 14 to Sept. 30			
4.0	14	4.2	21	11.0	880
4.2	18	4.5	28	12.0	1,450
4.4	24	5.0	48	13.0	2,670
4.6	30	6.0	101	13.5	3,710
4.8	38	8.0	250	14.0	5,310
		9.0	375	15.0	10,300
		10.0	565	16.0	15,700

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	24	23	31	138	1,960	78	*89	75	32	735	194
2	16	25	23	35	124	1,280	84	81	68	48	860	288
3	16	24	22	36	110	752	*86	75	*60	59	1,770	398
4	16	26	23	36	116	480	107	70	55	120	2,090	339
5	16	25	23	42	1,450	353	113	65	52	107	12,100	294
6	16	24	22	41	2,940	288	104	60	48	89	15,700	288
7	15	23	22	38	4,420	*245	101	57	46	65	7,120	226
8	15	23	22	37	*5,940	218	107	54	43	55	4,420	152
9	15	25	22	41	6,630	194	113	52	42	49	3,590	104
10	16	25	22	*131	5,940	176	294	49	49	43	2,850	89
11	16	24	22	250	3,970	162	735	48	54	38	2,360	75
12	18	23	27	300	3,040	152	988	47	96	37	1,960	70
13	38	23	53	294	2,360	144	2,850	45	141	40	1,630	62
14	78	23	*37	210	1,780	138	7,400	48	113	125	1,260	60
15	68	*24	34	155	1,140	127	8,150	60	84	282	770	56
16	62	25	47	202	645	120	7,380	78	68	326	368	54
17	46	26	49	306	420	113	4,760	307	57	480	226	52
18	35	27	43	412	420	107	3,250	286	51	602	172	49
19	30	35	37	578	565	101	2,510	204	46	805	141	48
20	27	33	33	615	788	98	1,900	990	*44	1,060	120	46
21	*26	28	30	705	1,140	95	1,180	1,260	42	1,340	107	45
22	25	27	29	840	1,370	92	598	1,080	40	1,300	95	49
23	24	26	28	860	1,500	110	320	860	38	1,140	89	58
24	23	25	27	805	1,680	172	231	805	36	1,140	81	78
25	23	24	27	705	2,160	172	190	752	35	1,140	75	120
26	23	24	26	540	2,850	141	162	526	34	1,080	70	166
27	23	24	26	390	2,940	116	141	266	33	985	75	240
28	24	24	28	282	2,510	104	124	169	32	880	104	255
29	24	23	28	210	-	95	107	127	32	*720	*113	194
30	24	23	27	176	------	86	98	101	32	645	116	130
31	24	-----	29	155	-----	78	-----	86	------	675	155	------
Total	839	755	911	9,458	59,086	8,469	44,261	8,797	1,646	15,507	61,322	4,279
Mean	27.1	25.2	29.4	305	2,110	273	1,475	284	54.9	500	1,978	143
Cfsm	0.054	0.050	0.059	0.611	4.23	0.547	2.96	0.569	0.110	1.00	3.96	0.287
In.	0.06	0.06	0.07	0.70	4.40	0.63	3.30	0.66	0.12	1.16	4.57	0.32
Ac-ft	1,660	1,500	1,810	18,760	117,200	16,800	87,790	17,450	3,260	30,760	121,600	8,490

Calendar year 1954: Max 8,520 Min 15 Mean 271 Cfsm 0.543 In. 7.39 Ac-ft 196,540
Water year 1954-55: Max 15,700 Min 15 Mean 590 Cfsm 1.18 In. 16.05 Ac-ft 427,080

Peak discharge (base, 4,000 cfs).--Feb. 9 (7 p.m.) 6,880 cfs (14.34 ft); Apr. 14 (8 p.m.) 9,200 cfs (14.78 ft); Aug. 5 (11:30 p.m.) 20,600 cfs (16.93 ft).
* Discharge measurement made on this day.

Calcasieu River near Oberlin, La.

Location.--Lat 30°38'25", long 92°48'50", in NW¼NE¼ sec. 7, T. 5 S., R. 4 W., near right bank on downstream side of bridge on State Highway 26 (renumbered), 3 miles northwest of Oberlin and 15 miles upstream from Whiskey Chitto Creek.

Drainage area.--753 sq mi.

Records available.--August 1922 to January 1925, September 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 39.43 ft above mean sea level, datum of 1929 (Louisiana Geodetic Survey benchmark). August 1922 to January 1925, water-stage recorder at same site at datum about 2½ ft higher. September 1938 to Aug. 17, 1939, wire-weight gage at same site and datum.

Average discharge.--19 years (1922-24, 1938-55), 1,286 cfs (931,000 acre-ft per year).

Extremes.--Maximum discharge during year, 17,200 cfs Aug. 8 (gage height, 18.76 ft); minimum, 36 cfs Oct. 8-10 (gage height, 3.33 ft).
1922-25, 1938-55: Maximum discharge, 72,800 cfs May 19, 1953 (gage height, 26.53 ft); minimum, 32 cfs Oct. 20-25, 1952 (gage height, 2.87 ft).
Flood of June 1886 reached a stage of between 22 and 23 ft, present datum.

Remarks.--Records good. Paper mill at Elizabeth pumps about 5 cfs from wells which is later discharged into Mill Creek 20 miles above station. This discharge is continuous and fairly constant.

Revisions (water years).--WSP 1178: 1923(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 12 to July 18, Sept. 7-30)

3.3	33	12.0	2,820
3.5	53	14.0	4,220
4.0	107	15.0	5,160
5.0	230	16.0	6,910
6.0	411	17.0	9,690
8.0	1,040	18.0	13,600
10.0	1,760	18.5	15,800

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	53	48	58	342	*2,350	159	223	244	98	877	*203
2	50	51	47	57	*296	2,760	153	203	210	98	778	210
3	49	49	47	59	258	2,700	148	184	177	96	1,440	223
4	46	57	47	*59	263	2,240	142	171	*159	96	*2,660	264
5	42	61	46	59	3,770	1,720	140	153	145	95	2,700	649
6	39	72	45	61	12,900	1,240	142	146	131	*96	3 340	496
7	38	61	*45	61	14,000	844	152	136	124	110	7,870	411
8	37	*55	45	63	10,800	634	151	127	116	126	15,400	363
9	36	52	45	81	7,380	496	828	121	111	128	10,000	332
10	39	50	45	242	6,090	424	2,950	116	119	112	7,630	280
11	46	49	45	618	6,480	363	2,950	110	127	106	6,280	230
12	*60	48	49	665	6,690	332	2,040	105	151	102	4,930	196
13	111	48	51	587	5,740	305	2,580	100	142	105	3,840	184
14	196	48	73	438	4,460	280	3,480	96	128	188	3,020	171
15	266	56	82	374	3,620	266	3,550	92	153	305	2,460	171
16	177	57	66	762	2,930	251	4,500	93	165	411	2,040	165
17	129	61	68	943	2,350	237	7,890	116	149	424	1,640	159
18	111	57	65	844	1,840	223	8,440	273	129	398	1,210	153
19	102	51	68	877	1,310	216	6,910	455	117	556	729	145
20	89	49	72	910	1,040	203	5,160	10,900	109	587	438	140
21	78	49	71	943	1,760	196	3,840	12,200	103	649	323	135
22	72	51	66	976	2,300	184	3,020	6,090	99	794	266	134
23	66	55	63	877	2,350	177	2,350	3,970	94	1,040	237	157
24	62	54	59	877	2,240	171	1,760	2,460	90	1,280	210	230
25	60	51	58	910	2,040	171	1,140	1,720	90	1,280	190	184
26	56	51	56	910	1,800	190	665	1,310	92	1,210	177	165
27	55	50	54	844	1,720	203	*424	1,110	92	1,170	159	*165
28	56	48	54	794	1,890	196	332	943	92	1,340	151	177
29	75	48	54	729	-	*177	280	729	99	1,280	153	210
30	64	48	57	602	------	171	251	438	98	1,110	177	251
31	56	------	58	438	------	159	------	296	------	1,040	196	------
Total	2,412	1,590	1,729	16,718	108,659	20,079	66,527	45,186	3,855	16,430	81,521	6,953
Mean	77.8	53.0	55.8	539	3,881	648	2,218	1,458	128	530	2,630	232
Ac-ft	4,780	3,150	3,430	33,160	215,500	39,830	132,000	89,620	7,650	32,590	161,700	13,790

Calendar year 1954: Max 15,800 Min 36 Mean 494 Ac-ft 357,890
Water year 1954-55: Max 15,400 Min 36 Mean 1,018 Ac-ft 737,200

Peak discharge (base, 8,000 cfs).--Feb. 6 (6:30 p.m.) 15,400 cfs (18.36 ft); Apr. 17 (9 p.m.) 8,440 cfs (16.62 ft); May 21 (1:30 a.m.) 15,800 cfs (18.51 ft); Aug. 8 (5 a.m.) 17,200 cfs (18.76 ft).
* Discharge measurement made on this day.

Tenmile Creek near Elizabeth, La.

Location.--Lat 30°50'11", long 92°52'26", in NW¼SW¼ sec. 34, T. 2 S., R. 5 W., near left bank on downstream side of bridge on State Highway 112 (renumbered), 0.3 mile downstream from Carter Branch and 5.3 miles southwest of Elizabeth.

Drainage area.--91.5 sq mi.

Records available.--October 1949 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 100 ft (from topographic map).

Average discharge.--6 years, 143 cfs (103,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,620 cfs Feb. 6 (gage height, 14.66 ft); minimum, 8.5 cfs Oct. 7-11 (gage height, 2.10 ft).
1949-55: Maximum discharge, 31,900 cfs May 18, 1953 (gage height, 21.33 ft, from floodmark), from rating curve extended above 8,900 cfs on basis of slope-area determination of peak flow; minimum, that of Oct. 7-11, 1954.

Remarks.--Records good except those for periods of no gage-height record, which are poor.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 18-27, Oct. 30 to Nov. 3, Nov. 6-14, Apr. 25 to May 16, May 28 to Sept. 25)

2.1	8.5	9.5	442
2.4	17	10.5	620
2.7	27	11.5	955
3.0	38	12.5	1,490
4.0	78	13.0	1,880
6.0	185	14.0	3,330
8.0	312	14.4	4,110

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	12	14	15	*38	*66	25	30	29	18	35	*197
2	9.8	12	14	16	34	80	26	29	28	20	50	150
3	9.5	12	15	16	31	54	26	29	26	25	200	100
4	9.2	14	15	*18	129	50	28	28	25	30	*570	125
5	9.2	14	14	17	2,080	46	26	28	24	20	1,700	150
6	8.8	13	14	16	4,110	43	25	27	24	*18	1,000	100
7	8.5	13	14	15	3,200	40	24	27	22	18	700	50
8	8.5	13	*14	15	1,600	37	23	27	21	16	500	35
9	8.5	*13	14	20	1,140	35	28	26	23	16	300	30
10	8.5	12	14	174	579	34	114	26	40	15	150	25
11	8.5	12	14	233	167	32	319	25	42	15	100	20
12	13	12	22	141	107	32	520	26	28	16	80	20
13	40	12	27	58	80	31	1,280	26	25	50	65	*19
14	*43	12	44	41	70	32	2,210	25	22	120	55	19
15	24	15	24	37	64	50	1,420	26	21	80	50	21
16	17	16	18	103	60	34	915	59	20	90	45	20
17	14	15	16	191	58	30	248	60	19	80	45	18
18	13	14	15	173	84	29	94	112	18	50	40	18
19	12	14	14	249	100	27	70	108	18	40	40	17
20	12	14	14	267	107	27	60	1,630	18	35	40	17
21	12	14	14	143	265	26	54	1,200	17	100	35	18
22	12	14	14	110	356	26	48	1,090	17	180	35	20
23	12	14	14	130	391	25	44	833	17	150	35	22
24	12	14	13	84	322	26	41	276	20	120	30	21
25	12	14	13	58	137	26	38	*84	20	70	30	22
26	12	14	13	47	94	26	36	60	17	50	25	32
27	13	14	14	43	78	25	*34	48	16	35	25	31
28	15	14	14	76	72	24	33	40	17	35	25	24
29	14	14	14	78	-	*23	32	36	17	35	25	21
30	13	14	13	60	-------	22	31	33	17	50	30	19
31	12	-------	14	46	-------	22	-------	30	-------	40	40	-------
Total	427.0	404	500	2,690	15,553	1,060	7,872	6,104	668	1,637	6,100	1,381
Mean	13.8	13.5	16.1	86.8	555	34.2	262	197	22.3	52.8	197	46.0
Cfsm	0.151	0.148	0.176	0.949	6.07	0.374	2.86	2.15	0.244	0.577	2.15	0.503
In.	0.17	0.16	0.20	1.09	6.32	0.43	3.20	2.48	0.27	0.67	2.48	0.56
Ac-ft	847	801	992	5,340	30,850	2,100	15,610	12,110	1,320	3,250	12,100	2,740

Calendar year 1954: Max 4,850 Min 8.5 Mean 80.8 Cfsm 0.883 In. 11.98 Ac-ft 58,510
Water year 1954-55: Max 4,110 Min 8.5 Mean 122 Cfsm 1.33 In. 18.03 Ac-ft 88,060

Peak discharge (base, 500 cfs).--Feb. 6 (8 p.m.) 4,620 cfs (14.66 ft); Apr. 13 (7:30 p.m.) 2,630 cfs (13.62 ft); May 20 (1:30 p.m.) 1,980 cfs (13.12 ft); Aug. 5 (time unknown) 1,930 cfs (13.05 ft).
* Discharge measurement made on this day.
Note.--No gage-height record July 2-5, July 9 to Aug. 3, Aug. 5-31, Sept. 2-11; discharge estimated on basis of records for Whiskey Chitto Creek near Oberlin and nearby stations.

Whiskey Chitto Creek near Oberlin, La.

Location.--Lat 30°41'55", long 92°53'35", in NE¼NE¼ sec. 20, T. 4 S., R. 5 W., near left bank on downstream side of bridge on State Highway 26 (renumbered), 1 mile downstream from Tenmile Creek, 8 miles upstream from Bundick Creek, and 10 miles northwest of Oberlin.

Drainage area.--510 sq mi.

Records available.--January 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 46.24 ft above mean sea level (Louisiana Geodetic Survey benchmark). Prior to Oct. 19, 1944, wire-weight gage at same site and datum.

Average discharge.--16 years, 897 cfs (649,400 acre-ft per year).

Extremes.--Maximum discharge during year, 14,800 cfs Feb. 7 (gage height, 20.32 ft); minimum, 109 cfs Oct. 8 (gage height, 3.39 ft).

1939-55: Maximum discharge, 144,000 cfs May 18, 1953 (gage height, 32.8 ft, from floodmark), from rating curve extended above 35,000 cfs on basis of slope-area determination of peak flow; minimum observed, 102 cfs Sept. 19, 1939; minimum gage height, 3.37 ft Sept. 15, 16, 1954.

Flood of June 1886 reached a stage of 25.7 ft, from floodmarks preserved by local residents.

Remarks.--Records good except those for period of no gage-height record, which are fair.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 27 to July 4, July 6)

Oct. 1 to Jan. 3, Apr. 16 to Sept. 30

3.4	110	6.0	598
3.5	123	8.0	1,320
4.0	192	10.0	2,160
5.0	362	12.0	3,060

Note.--Same as following table above 12.0 ft.

Jan. 4 to Apr. 15

3.7	139	12.0	3,060
4.0	194	14.0	4,000
5.0	396	16.0	5,400
6.0	646	18.0	8,000
8.0	1,340	20.0	13,600
10.0	2,170	21.0	17,700

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	119	146	126	174	*304	*525	234	262	254	154	324	*657
2	119	136	126	171	274	500	242	254	*238	160	536	858
3	122	128	126	174	254	463	254	246	238	174	3,790	753
4	120	137	126	*204	301	429	334	238	214	268	*5,060	456
5	116	136	126	183	4,160	407	304	230	207	352	10,200	343
6	114	132	124	162	11,600	386	264	222	200	*238	9,050	445
7	111	133	*124	148	14,400	364	240	214	192	a210	6,680	504
8	110	142	124	141	10,600	344	228	214	185	a200	4,980	343
9	110	*139	124	155	7,180	334	431	207	185	a190	4,220	297
10	110	133	123	284	5,160	324	1,230	207	192	a185	3,170	280
11	114	131	123	525	3,240	324	2,040	200	200	a185	1,590	254
12	127	128	137	796	1,380	314	2,120	200	222	a190	1,160	246
13	154	127	149	674	846	314	3,690	200	271	a300	914	238
14	*164	124	178	407	674	304	4,980	192	262	512	627	271
15	200	135	238	314	604	314	7,420	192	230	956	517	246
16	200	135	230	396	551	314	6,310	200	434	657	445	230
17	168	133	185	525	525	294	4,490	230	297	770	392	222
18	144	154	164	764	512	274	2,150	254	246	688	362	214
19	132	171	151	1,040	688	274	858	514	214	423	343	214
20	127	153	146	1,260	780	264	642	5,270	200	423	324	207
21	123	142	143	1,220	1,040	264	543	5,580	185	480	306	207
22	122	136	140	796	1,620	254	480	4,460	178	1,120	288	214
23	119	131	137	632	1,910	264	434	3,750	171	1,160	280	246
24	118	130	136	618	1,830	375	392	3,010	167	840	271	222
25	120	128	136	591	1,540	354	362	1,480	163	770	262	412
26	119	128	136	364	897	284	343	627	164	627	254	*804
27	122	128	136	324	660	264	*324	468	160	423	262	598
28	136	128	137	304	578	252	306	372	161	456	262	362
29	140	124	136	396	-	*238	288	315	164	434	254	297
30	137	124	136	429	-------	228	271	280	160	570	306	262
31	150	-------	140	354	-------	226	-------	271	-------	456	402	-------
Total	4,087	4,052	4,463	14,525	74,108	10,069	42,204	30,359	6,354	14,571	57,831	10,902
Mean	132	135	144	469	2,647	325	1,407	979	212	470	1,866	363
Cfsm	0.259	0.265	0.282	0.920	5.19	0.637	2.76	1.92	0.416	0.922	3.66	0.712
In.	0.30	0.30	0.33	1.06	5.40	0.73	3.08	2.21	0.46	1.06	4.22	0.79
Ac-ft	8,110	8,040	8,850	28,810	147,000	19,970	83,710	60,220	12,600	28,900	114,700	21,620

Calendar year 1954: Max 24,000 Min 106 Mean 532 Cfsm 1.04 In. 14.16 Ac-ft 384,900
Water year 1954-55: Max 14,400 Min 110 Mean 749 Cfsm 1.47 In. 19.94 Ac-ft 542,500

Peak discharge (base, 3,000 cfs).--Feb. 7 (8 a.m.) 14,800 cfs (20.32 ft); Apr. 15 (12 m.) 8,190 cfs (18.13 ft); May 20 (1 p.m.) 5,790 cfs (16.47 ft); Aug. 5 (10 a.m.) 11,600 cfs (19.36 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of partial record and records for stations on nearby streams.

Bundick Creek near Dry Creek, La.

Location.--Lat 30°40'55", long 93°02'15", on line between NE¼ and NW¼ sec. 25, T. 4 S., R. 7 W., near right bank on downstream side of bridge on State Highway 113 (renumbered), 1 mile northeast of town of Dry Creek and 8 miles upstream from mouth.

Drainage area.--238 sq mi.

Records available.--January 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 56.92 ft above mean sea level (Louisiana Geodetic Survey benchmark). Prior to Nov. 20, 1943, wire-weight gage at same site at datum 7.16 ft lower. Nov. 20, 1943, to Oct. 19, 1944, wire-weight gage at present site and datum.

Average discharge.--16 years, 417 cfs (301,900 acre-ft per year).

Extremes.--Maximum discharge during year, 17,600 cfs Aug. 4 (gage height, 19.03 ft); minimum, 54 cfs Oct. 8 (gage height, 2.69 ft).
1939-55: Maximum discharge, 37,000 cfs May 19, 1953 (gage height, 23.67 ft, from floodmark), from rating curve extended above 10,000 cfs on basis of slope-area and contracted-opening determinations of peak flow; minimum, 49 cfs for many days in September and October 1939; minimum gage height, 2.53 ft, present datum, Sept. 24, 25, 1939.

Remarks.--Records good.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 11 to Mar. 16, Apr. 20 to May 19, June 1-9, 15, 19-26, June 30 to July 12)

Oct. 1 to Aug. 2

2.6	50	12.0	1,420		
3.0	78	13.0	1,720		
4.0	155	14.0	2,280		
5.0	257	15.0	3,730		
7.0	533	16.3	6,770		
10.0	1,010				

Aug. 3 to Sept. 30

12.0	1,420	15.0	3,920
13.0	1,780	16.0	6,080
14.0	2,510	17.5	11,400

Note.--Same as preceding table below 12.0 ft.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	63	58	89	*111	211	95	115	108	86	163	362
2	59	59	58	98	104	*201	99	111	*100	89	255	403
3	59	57	58	108	98	191	104	108	98	92	*2,160	251
4	59	62	59	104	219	176	111	104	94	91	11,300	176
5	59	60	59	*95	3,880	168	111	104	92	93	9,180	143
6	58	59	59	86	5,420	159	100	100	90	100	3,740	150
7	56	59	59	81	6,190	155	94	100	86	*95	2,410	251
8	56	60	*59	80	4,360	147	91	100	84	84	1,780	159
9	56	*59	58	92	2,610	143	311	98	100	79	1,370	135
10	56	59	58	142	1,920	135	1,150	98	139	78	1,370	123
11	57	57	58	360	1,350	131	1,340	97	163	82	1,780	115
12	57	56	65	417	445	127	1,140	97	147	78	1,660	111
13	*62	56	73	335	309	127	1,990	96	135	178	725	273
14	68	56	95	201	264	123	2,190	95	115	879	328	240
15	86	63	119	135	233	119	2,430	95	98	989	239	147
16	78	65	111	176	222	115	2,180	139	325	670	191	123
17	68	68	89	239	216	111	1,700	196	286	734	168	115
18	61	68	78	341	211	108	618	139	127	766	155	111
19	58	70	73	619	206	104	257	160	98	878	143	108
20	58	67	70	557	239	104	211	1,920	88	894	135	104
21	56	63	69	459	347	100	191	6,730	83	623	131	104
22	56	61	68	316	553	98	176	4,480	81	472	127	111
23	56	61	67	239	638	108	163	2,490	79	621	123	151
24	56	59	67	222	638	139	155	1,820	81	500	119	201
25	56	58	67	168	548	131	147	882	79	686	115	417
26	55	58	67	135	328	111	139	222	86	715	111	578
27	58	59	68	119	251	104	*135	172	172	290	111	*348
28	63	59	68	111	228	97	127	147	201	580	111	172
29	66	58	69	111	-	92	123	131	119	544	127	143
30	68	58	72	135	-------	*90	119	119	91	361	*172	127
31	66	-------	82	127	-------	89	-------	115	-------	216	216	-------
Total	1,888	1,817	2,180	6,497	32,138	4,014	17,797	21,380	3,645	12,643	40,715	5,952
Mean	60.9	60.6	70.3	210	1,148	129	593	690	122	408	1,313	198
Cfsm	0.256	0.255	0.295	0.882	4.82	0.542	2.49	2.90	0.513	1.71	5.52	0.832
In.	0.30	0.28	0.34	1.02	5.02	0.63	2.78	3.34	0.57	1.98	6.36	0.93
Ac-ft	3,740	3,600	4,320	12,890	63,740	7,960	35,300	42,410	7,230	25,080	80,760	11,810

Calendar year 1954: Max 14,000 Min 55 Mean 262 Cfsm 1.10 In. 14.94 Ac-ft 189,600
Water year 1954-55: Max 11,300 Min 55 Mean 413 Cfsm 1.74 In. 23.55 Ac-ft 298,800

Peak discharge (base, 1,500 cfs).--Feb. 7 (6:30 a.m.) 6,470 cfs (16.20 ft); Apr. 15 (5 p.m.) 2,610 cfs (14.29 ft); May 21 (11:30 a.m.) 7,980 cfs (16.64 ft); Aug. 4 (6 p.m.) 17,600 cfs (19.03 ft).
* Discharge measurement made on this day.

Calcasieu River near Kinder, La.

Location.--Lat 30°30'10", long 92°54'55", in NW¼SE¼ sec. 30, T. 6 S., R. 5 W., on left bank on downstream side of bridge on U. S. Highway 190, 0.5 mile downstream from Whiskey Chitto Creek and 4 miles west of Kinder.

Drainage area.--1,700 sq mi.

Records available.--August 1922 to January 1925, October 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 11.95 ft above mean sea level, datum of 1929 (Louisiana Geodetic Survey benchmark). August 1922 to January 1925, water-stage recorder at site 400 ft downstream at datum 1.77 ft higher. October 1938 to July 9, 1939, wire-weight gage at present site and datum.

Average discharge.--19 years (1922-24, 1938-55), 2,883 cfs (2,087,000 acre-ft per year).

Extremes.--Maximum discharge during year, 40,100 cfs Feb. 8 (gage height, 20.80 ft); minimum, 211 cfs (regulated) Oct. 8 (gage height, 2.41 ft).
1922-25, 1938-55: Maximum discharge, 182,000 cfs May 19, 1953 (gage height, 32.00 ft); minimum, 166 cfs Aug. 17, 1951 (gage height, 1.99 ft).

Remarks.--Records good. Paper mill at Elizabeth pumps about 5 cfs from wells which is later discharged into Mill Creek 36 miles above station. This discharge is continuous and fairly constant. Water is diverted during period April to September at points just above station and 5 miles above station for irrigation of about 7,500 acres of rice, part of which is below station. The maximum rate of withdrawal is about 100 cfs and this diversion results in marked regulation of the low-water flow.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 19 to Dec. 15, Dec. 18 to Jan. 3, Jan. 6-9, Mar. 8 to Apr. 9, Apr. 25 to May 19, May 30 to June 10, June 26 to July 14, Aug. 20 to Sept. 1; rate of change in stage used as a factor Feb. 5 to Mar. 6, Apr. 10-25, May 20-27, July 14-18, 23-27, Aug. 3-8, 10-17)

2.4	208	13.0	5,750
3.0	374	14.0	6,900
4.0	674	15.0	8,850
5.0	1,020	16.0	11,800
7.0	1,850	18.0	21,400
9.0	2,850	20.0	34,000
11.0	4,100	20.7	39,300

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	248	315	265	354	982	2,940	550	658	722	446	1,750	1,180
2	251	304	265	374	*840	*3,240	550	596	*611	505	1,540	1,720
3	251	293	262	368	739	3,480	520	550	550	626	*4,530	1,620
4	251	338	262	274	707	3,360	550	535	520	580	11,900	1,370
5	246	346	262	*388	7,450	2,910	596	490	490	690	23,400	1,210
6	235	324	259	374	29,300	2,380	550	446	490	*658	25,500	1,250
7	222	318	*259	352	38,600	1,800	520	432	461	565	19,500	1,330
8	213	307	262	338	38,100	1,410	505	418	403	505	18,000	1,250
9	213	307	262	388	29,300	1,210	924	388	418	476	21,400	1,020
10	219	298	259	1,030	23,800	1,090	5,140	352	596	461	17,700	910
11	290	*287	262	1,370	15,100	982	7,980	321	690	476	13,800	789
12	*565	279	290	1,780	10,800	910	8,280	343	690	772	10,100	674
13	789	276	307	1,870	8,030	875	7,820	354	674	702	8,340	626
14	580	273	318	1,540	6,690	823	10,200	338	626	2,260	5,800	772
15	596	298	368	1,210	5,650	789	11,900	315	580	4,010	4,260	772
16	626	310	446	1,940	4,670	772	13,100	293	658	3,760	3,400	658
17	520	304	432	2,330	3,940	739	13,400	343	946	2,880	2,730	611
18	432	304	374	2,230	3,290	706	12,900	432	756	2,700	2,230	580
19	374	321	343	2,530	2,680	674	10,400	677	550	2,430	1,740	565
20	346	324	329	2,790	2,560	642	8,110	11,500	490	2,530	1,290	550
21	324	307	324	2,730	3,800	626	6,360	27,000	432	2,280	1,060	535
22	312	293	321	2,580	4,870	596	4,980	27,000	374	2,330	875	535
23	304	284	312	2,080	5,140	580	3,950	19,100	352	3,270	789	580
24	296	284	304	1,850	4,950	611	3,110	12,400	349	3,500	739	674
25	290	279	301	1,760	4,660	706	2,330	8,050	354	3,560	706	772
26	284	276	298	1,580	3,900	658	*1,560	4,450	346	2,760	690	1,210
27	287	276	296	1,450	3,170	611	1,130	2,720	403	2,500	642	1,490
28	296	273	307	1,330	2,880	596	946	1,970	505	2,180	642	1,090
29	304	268	354	1,250	-	*565	806	1,540	550	2,480	626	*840
30	321	265	324	1,290	------	535	722	1,190	446	2,330	658	772
31	318	------	315	1,170	------	520	------	884	------	2,130	*875	------
Total	10,803	8,931	9,542	43,000	266,598	38,336	140,389	126,085	16,032	57,352	207,212	27,955
Mean	348	298	308	1,387	9,521	1,237	4,680	4,067	534	1,850	6,684	932
Ac-ft	21,430	17,710	18,930	85,290	528,800	76,040	278,500	250,100	31,800	113,800	411,000	55,450

Calendar year 1954: Max 46,500 Min 192 Mean 1,363 Ac-ft 987,100
Water year 1954-55: Max 38,600 Min 213 Mean 2,609 Ac-ft 1,889,000

* Discharge measurement made on this day.

English Bayou near Lake Charles, La.

Location.--Lat 30°16'17", long 93°10'37", in lot 22, T. 9 S., R. 8 W., on downstream side of first pile bent right of right turn span pier on U. S. Highway 171, 1.0 mile upstream from Calcasieu River, and 4 miles northeast of city of Lake Charles.

Records available.--October 1954 to September 1955 (gage heights only).

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

Extremes.--Maximum gage height during year, 6.08 ft Feb. 9; minimum, -1.71 ft Dec. 19, but may have been less during periods of no gage-height record.

Remarks.--Gage heights affected by tides at all stages. High stage on Calcasieu River causes reverse flow.

Gage height in feet, at 8 a.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	1.17	1.33	0.96	(a)	(a)	(a)	1.04	1.63	1.63	1.49	1.87
2	-	.86	.59	.48	(a)	(a)	(a)	1.56	1.61	1.65	1.76	1.86
3	-	.81	.52	.49	(a)	(a)	(a)	1.70	1.60	1.60	2.00	1.72
4	-	2.06	.75	.56	1.91	1.78	(a)	1.49	1.76	1.60	2.57	1.67
5	-	.32	1.32	.93	2.83	1.71	(a)	1.36	1.74	1.60	2.56	1.82
6	-	.82	-1.08	.82	3.64	1.62	(a)	1.13	1.59	1.52	2.82	1.83
7	-	.93	-.06	.90	4.66	.60	(a)	1.09	1.20	1.43	3.30	1.72
8	-	.77	1.26	1.88	5.82	1.40	(a)	1.02	.93	1.38	(a)	1.85
9	-	.77	.69	2.28	6.06	1.46	(a)	1.02	1.01	1.45	(a)	1.84
10	-	1.21	.61	2.50	5.73	1.43	(a)	1.13	.86	1.05	(a)	2.07
11	-	1.39	1.42	1.14	4.76	1.51	(a)	.93	.77	.92	3.52	1.98
12	-	1.57	1.80	1.74	3.12	1.16	(a)	.86	.69	1.26	3.33	1.78
13	-	2.00	.03	(a)	2.36	.80	(a)	.73	.94	1.50	2.81	1.92
14	-	2.20	.41	(a)	2.22	.64	(a)	.61	1.48	1.92	2.34	1.86
15	-	2.21	.07	(a)	1.71	.95	(a)	.52	1.65	2.07	2.01	1.65
16	-	1.72	.19	(a)	1.61	.95	(a)	.74	1.83	2.10	1.75	1.62
17	-	1.52	.48	(a)	1.58	.68	(a)	1.07	1.71	2.16	1.76	1.78
18	-	1.34	-.69	(a)	(a)	1.07	(a)	1.54	1.84	2.04	1.69	1.93
19	-	.40	-1.71	(a)	(a)	1.22	(a)	1.95	1.66	1.92	(a)	2.15
20	-	-.39	-.53	(a)	(a)	1.69	(a)	3.04	1.42	1.77	(a)	2.10
21	-	.59	.13	(a)	(a)	2.22	(a)	3.35	1.11	1.56	(a)	2.11
22	1.45	.43	.20	(a)	(a)	.44	(a)	3.90	.92	1.56	(a)	2.25
23	1.65	-.11	.40	(a)	(a)	.85	(a)	4.90	.88	1.47	(a)	2.15
24	1.87	.69	.54	(a)	(a)	1.39	(a)	4.87	.68	1.35	(a)	2.02
25	1.80	.00	.56	(a)	(a)	1.28	(a)	3.87	1.02	1.47	(a)	1.86
26	2.06	.65	.92	(a)	(a)	-.82	(a)	3.39	.98	1.80	(a)	1.72
27	2.08	1.08	1.23	(a)	(a)	-.92	1.28	3.60	1.25	1.73	(a)	1.95
28	1.56	1.39	1.45	(a)	(a)	-.88	1.71	3.21	1.19	1.84	(a)	2.02
29	1.53	-.06	.59	(a)	-	.14	1.43	2.31	1.38	1.83	(a)	2.00
30	.98	.92	-.20	(a)	--	.28	1.20	1.40	1.52	1.59	2.08	2.10
31	1.26	------	.40	(a)	------	(a)	------	1.63	------	1.12	1.91	------

a No gage-height record.

Beckwith Creek near De Quincy, La.

Location.--Lat 30°28'10", long 93°21'50", in NW¼ sec. 11, T. 7 S., R. 10 W., on right bank at upstream side of bridge on State Highway 12 (renumbered), a quarter of a mile upstream from New Orleans, Texas and Mexico Railway bridge, 2½ miles upstream from unnamed tributary, and 4 miles northeast of De Quincy.

Drainage area.--148 sq mi.

Records available.--August 1945 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 25.29 ft above mean sea level, datum of 1929. Prior to Oct. 29, 1950, wire-weight gage at same site and datum.

Average discharge.--10 years, 221 cfs (160,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,800 cfs May 21 (gage height, 24.45 ft); minimum, 1.1 cfs Oct. 3, 4, Nov. 30 to Dec. 7; minimum gage height, 1.02 ft Oct. 3, 4. 1945-55: Maximum discharge, that of May 21, 1955; minimum, 0.2 cfs Oct. 9, 10, 1948; minimum gage height, 0.87 ft Sept. 26, 1954.

Remarks.--Records good.

Revisions (water years).--WSP 1118: 1946, 1947(M).

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 8 to Jan. 11, June 5-10)

Oct. 1 to May 20				May 21 to Sept. 30			
1.0	1.1	6.0	214	1.8	6.8	10.0	625
1.2	1.6	8.0	392	2.0	9.8	13.0	1,020
1.4	2.4	10.0	614	2.5	22	16.0	1,530
1.6	4.0	13.0	1,010	3.0	39	18.0	2,110
1.8	6.2	16.0	1,480	4.0	92	19.0	2,780
2.0	9.3	18.0	2,040	6.0	231	20.0	4,190
2.5	19	19.0	2,780	8.0	403	24.0	12,700
3.0	33	21.0	6,030				
4.0	80						

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.4	3.4	1.1	5.6	13	51	11	9.7	*16	34	40	1,020
2	1.3	3.0	1.1	5.1	*12	44	25	8.8	14	55	*54	365
3	1.2	2.4	1.1	7.3	11	*38	22	7.9	12	44	1,390	338
4	1.2	2.6	1.1	14	135	33	20	7.3	10	21	6,800	245
5	1.4	2.4	1.2	*15	3,170	29	16	6.8	9.2	49	6,080	121
6	1.5	2.8	1.2	15	4,190	26	13	6.2	8.4	37	2,880	58
7	1.3	3.0	1.2	9.7	4,540	23	11	5.8	7.8	*23	1,730	40
8	1.2	3.0	1.2	6.2	3,310	21	9.5	5.5	13	14	1,140	33
9	1.4	2.8	*1.4	18	2,060	20	154	5.1	8.7	10	1,170	27
10	1.6	2.6	1.4	77	1,450	18	1,070	5.7	132	47	1,870	25
11	1.6	*2.2	1.3	46	979	17	1,260	5.5	231	140	1,870	21
12	6.0	1.9	1.8	69	530	17	979	5.4	247	34	1,660	71
13	*32	1.8	2.2	85	137	16	1,640	5.0	247	24	1,390	58
14	11	1.8	2.8	67	80	16	1,290	4.5	162	136	869	28
15	12	8.9	6.9	65	58	15	1,040	5.4	73	291	296	22
16	17	6.3	11	223	103	14	1,050	5.8	101	218	179	28
17	12	4.0	7.2	131	184	13	951	7.2	279	259	94	21
18	6.6	2.9	11	309	353	12	588	7.2	167	303	58	16
19	4.3	5.0	9.5	307	180	12	128	31	160	271	42	14
20	3.2	3.8	6.1	172	168	11	63	1,490	73	271	33	12
21	2.5	2.5	4.7	144	285	10	44	*11,300	33	188	27	10
22	2.2	1.9	3.6	131	543	10	34	7,000	21	230	22	9.0
23	2.0	1.7	2.9	80	317	10	27	2,600	19	347	19	11
24	2.0	1.5	2.6	51	263	8.8	23	1,560	14	183	17	11
25	1.9	1.4	2.4	44	230	8.6	20	972	11	136	15	271
26	1.9	1.3	2.4	35	154	8.6	17	338	9.2	95	13	329
27	1.9	1.2	2.5	25	91	8.6	15	80	8.1	58	13	*223
28	1.9	1.2	2.8	20	66	8.6	*13	48	7.5	39	536	195
29	1.9	1.2	2.9	18	-	8.3	12	34	6.8	32	711	103
30	2.2	1.1	3.0	16	------	7.2	11	25	74	156	*312	50
31	2.2	-----	3.7	14	------	*6.5	-----	20	------	102	365	------
Total	141.8	81.6	105.3	2,224.9	23,612	541.2	10,556.5	25,612.8	2,174.7	3,847	31,695	3,775.0
Mean	4.57	2.72	3.40	71.8	843	17.5	352	826	72.5	124	1,022	126
Cfsm	0.031	0.018	0.023	0.485	5.70	0.118	2.38	5.58	0.490	0.838	6.91	0.851
In.	0.04	0.02	0.03	0.56	5.93	0.14	2.65	6.44	0.55	0.97	7.96	0.95
Ac-ft	281	162	209	4,410	46,830	1,070	20,940	50,800	4,310	7,630	62,870	7,490

Calendar year 1954: Max 6,920 Min 0.8 Mean 141 Cfsm 0.953 In. 12.89 Ac-ft 101,700
Water year 1954-55: Max 11,300 Min 1.1 Mean 286 Cfsm 1.93 In. 26.24 Ac-ft 207,000

Peak discharge (base, 1,600 cfs).--Feb. 7 (11:30 a.m.) 4,720 cfs (20.31 ft); Apr. 13 (2:30 p.m.) 1,770 cfs (17.28 ft); May 21 (2 p.m.) 13,800 cfs (24.45 ft); Aug. 4 (7:30 p.m.) 7,400 cfs (21.70 ft); Aug. 10 (11:30 p.m.) 1,940 cfs (17.55 ft).

* Discharge measurement made on this day.

Hickory Branch at Kernan, La.

Location.--Lat 30°30'05", long 93°16'45", in NW¼ sec. 34, T. 6 S., R. 9 W., on right bank at upstream side of bridge on State Highway 12 (renumbered), 120 ft upstream from New Orleans, Texas and Mexico Railway bridge, 0.7 mile southwest of Kernan, 3 miles upstream from Cowpen Creek, and 10 miles northeast of DeQuincy.

Drainage area.--82.2 sq mi.

Records available.--August 1945 to September 1955.

Gage.--Water-stage recorder. Prior to Mar. 3, 1946, wire-weight gage at same site and datum.

Average discharge.--10 years, 134 cfs (97,010 acre-ft per year).

Extremes.--Maximum discharge during year, 6,850 cfs May 20 (gage height, 27.83 ft); no flow for many days.
1945-55: Maximum discharge, that of May 20, 1955; no flow at times during 1948, 1951, 1953-54.

Remarks.--Records good.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 17		Nov. 18 to Apr. 12				Apr. 13 to Sept. 30			
2.2	0	2.2	0	4.0	87	2.4	0.2	3.2	34
2.3	.2	2.3	.1	5.0	183	2.5	1.1	3.5	53
2.4	.4	2.4	.2	8.0	510	2.6	2.8	4.0	90
2.5	.8	2.5	.6	11.0	1,000	2.7	5.6	5.0	183
2.6	1.3	2.6	1.6	14.0	1,600	2.9	16		
2.7	2.5	2.7	3.6	17.0	2,370				
2.9	9.0	2.8	6.9	20.0	3,360	Note.--Same as preceding table above 5.0 ft.			
3.1	18	3.0	16	23.0	4,570				
		3.3	33	25.0	5,480				
		3.6	53						

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.2	0.2	1.0	8.1	21	5.0	2.4	4.9	28	14	806
2	.6	.2	.1	.5	*6.9	18	19	2.0	*3.4	17	*180	293
3	1.0	.1	.1	.4	5.0	*16	14	1.7	3.0	28	2,200	158
4	1.0	.8	.1	.3	115	14	8.1	1.4	2.6	46	4,490	51
5	1.3	.6	.1	*.3	4,090	12	4.7	1.1	2.2	95	1,910	27
6	1.1	.3	0	.3	5,440	11	3.2	.8	1.8	28	554	19
7	1.0	.3	0	.2	2,810	8.5	3.2	.7	1.4	*16	203	15
8	.8	.2	*0	.1	921	7.7	2.5	.6	1.2	10	100	12
9	.6	.2	0	21	259	6.9	312	.4	1.5	47	1,320	9.2
10	.4	.1	0	300	80	6.5	1,520	.4	16	514	2,020	7.2
11	.5	*0	0	112	47	5.7	1,480	.3	79	129	881	6.0
12	2.5	0	.1	34	34	5.4	931	.7	64	32	332	7.2
13	*15	0	.1	19	27	5.0	2,320	.7	32	111	84	4.9
14	8	0	.2	11	22	5.0	1,220	.5	17	1,340	46	4.0
15	6.9	5.9	.2	81	20	4.7	467	.8	103	930	31	3.4
16	5.5	6.9	.2	480	19	4.4	117	4.9	664	175	23	6.0
17	4.9	8.6	.2	186	38	3.9	46	56	163	115	19	6.4
18	2.4	5.0	.2	403	145	3.4	31	37	94	115	16	4.9
19	1.5	3.2	.1	492	70	3.2	24	38	39	104	12	3.7
20	1.2	2.1	.1	138	199	3.0	19	4,350	21	84	10	2.8
21	1.0	1.3	.1	61	297	2.5	16	4,280	14	43	8.2	2.4
22	.8	.9	.1	80	458	2.1	14	1,090	9.2	249	7.7	2.4
23	.7	.7	.1	55	229	1.8	11	235	6.4	459	6.8	30
24	.6	.6	.1	31	104	1.8	9.2	57	4.6	247	5.6	38
25	.6	.5	.1	22	53	1.8	7.2	34	4.0	70	4.9	70
26	.5	.5	.1	16	35	1.5	6.0	25	2.8	34	4.0	17
27	.4	.4	.1	13	28	1.3	4.9	19	2.2	22	3.4	*16
28	.5	.3	.2	11	24	1.2	*4.2	15	2.8	16	379	9.2
29	.4	.3	.3	11	-	1.0	3.4	11	137	20	*368	5.6
30	.3	.2	.2	11	------	.9	3.2	8.2	80	52	100	3.7
31	.2	-----	.3	9.3	------	*.9	-----	6.4	------	23	214	------
Total	62.5	40.4	3.7	2,600.4	15,584.0	182.1	8,625.8	10,281.0	1,577.0	5,199	15,546.6	1,641.0
Mean	2.02	1.35	0.12	83.9	557	5.87	288	332	526	168	502	54.7
Cfsm	0.025	0.016	0.0015	1.02	6.78	0.071	3.50	4.04	0.640	2.04	6.11	0.665
In.	0.03	0.02	0.002	1.18	7.05	0.08	3.90	4.65	0.71	2.35	7.03	0.74
Ac-ft	124	80	7.0	5,160	30,910	361	17,110	20,390	3,130	10,310	30,840	3,250

Calendar year 1954: Max 2,840 Min 0 Mean 60.5 Cfsm 0.736 In. 10.00 Ac-ft 43,850
Water year 1954-55: Max 5,440 Min 0 Mean 168 Cfsm 2.04 In. 28.10 Ac-ft 121,700

Peak discharge (base, 2,000 cfs).--Feb. 6 (4 a.m.) 5,900 cfs (25.89 ft); Apr. 13 (7 a.m.) 2,520 cfs (17.49 ft); May 20 (6:30 p.m.) 6,850 cfs (27.83 ft); Aug. 4 (11:30 a.m.) 5,380 cfs (24.78 ft); Aug. 9 (8 p.m.) 3,760 cfs (18.28 ft).
* Discharge measurement or observation of no flow made on this day.

Sabine River near Emory, Tex.

Location.--Lat 32°46', long 95°48', on left bank at downstream side of bridge on State Highway 19, 3.0 miles upstream from Giladon Creek, 7.5 miles south of Emory, Rains County, 8.0 miles downstream from McBees Creek, and at mile 501.
Drainage area.--965 sq mi.
Records available.--July 1952 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 350.28 ft above mean sea level, unadjusted (Texas Reclamation Department benchmark).
Extremes.--1952: Maximum discharge during period July to September, 2.1 cfs July 26 (gage height, 4.76 ft); no flow at times.
1952-53: Maximum discharge during water year, 34,400 cfs Apr. 30 (gage height, 20.28 ft); no flow at times.
1953-54: Maximum discharge during water year, 8,800 cfs Jan. 18 (gage height, 14.63 ft); no flow at times.
1954-55: Maximum discharge during water year, 5,950 cfs Oct. 26 (gage height, 13.88 ft); no flow at times.
Maximum stage known since 1900, 25.7 ft in June 1943, information from local resident and Texas Highway Department.
Remarks.--Records good.

Discharge, in cubic feet per second, July to September 1952

July 25	*1.5	Aug. 1	0.4
26	2.0	2	.3
27	1.6	3	.2
28	1.1	4	.1
29	.8	5	.1
30	.7	6	.1
31	.6		

* Discharge measurement made on this day.
Note.--Record began July 25; no flow Aug. 7 to Sept. 30.
Observation of no flow made Aug. 18, Sept. 10.

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
August 1952	1.2	0.4	0	0.04	0.000042	0.00005	2.4

Peak discharge (base 9,000 cfs).--No peak above base.

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	*204	940	65	15	100	*21,300	6.8	0	2.0	0.5
2	(*)	0	94	1,370	40	14	*216	*8,290	5.9	0	1.3	.3
3		0	277	1,520	27	13	160	*3,090	5.3	0	.9	.8
4		0	1,400	524	28	12	76	1,130	4.3	0	.7	219
5		*0	1,640	112	20	11	39	152	2.4	0	**.6	104
6		0	2,720	*84	15	9.6	29	64	1.6	0	.6	20
7		0	2,290	67	13	8.2	146	43	.8	0	.3	8.2
8		0	847	44	11	7.5	580	33	.7	*0	.2	4.5
9		0	133	26	9.6	12	676	27	.6	0	.1	2.3
10		0	54	18	8.7	393	190	25	*.3	0	.1	*1.9
11		0	34	14	*12	835	52	38	.1	0	0	.9
12		0	24	12	30	1,360	199	735	.1	0	1.5	.6
13		0	18	10	24	*1,710	598	2,500	.1	0	3.8	.5
14		0	14	9.0	29	861	795	4,520	.1	0	1.3	.3
15		0	12	8.5	38	265	636	*5,120	.1	0	.8	.3
16		0	9.[illegible]	8.5	28	104	146	10,100	.4	0	1.0	.4
17		0	*8.0	9.3	23	67	54	12,900	.7	247	1.6	.3
18		0	6.8	12	19	60	33	11,700	.5	668	2.6	.2
19		0	525	245	18	199	23	7,280	.3	598	92	.2
20		*28	2,080	622	18	622	17	3,200	.2	471	54	.1
21		155	3,210	815	18	476	13	1,650	.1	109	16	.2
22		52	4,530	716	18	129	10	373	0	133	13	.3
23		27	2,540	275	19	118	8.7	80	0	250	11	.2
24		*35	868	283	22	590	932	50	0	75	6.6	.1
25		*513	134	283	24	726	1,170	81	0	41	4.3	0
26		860	61	298	24	240	3,510	68	0	24	2.6	0
27		*1,060	42	180	21	76	*4,170	34	0	15	1.6	0
28		3,410	32	86	17	380	2,750	21	0	10	1.0	0
29		3,000	25	52	-	635	10,300	14	0	6.4	.8	0
30		1,180	46	51	------	563	28,800	11	0	4.3	.6	0
31		------	675	56	------	160	------	8.0	------	2.8	.6	------
Total	0	10,320	24,553.4	8,750.3	639.3	10,671.3	57,028.7	94,637.0	31.4	2,054.5	223.5	366.1
Mean	0	344	792	282	22.8	344	1,901	3,053	1.05	85.6	7.21	12.2
Cfsm	0	0.358	0.824	0.293	0.024	0.358	1.98	3.18	0.0011	0.089	0.0075	0.013
In.	0	0.40	0.95	0.34	0.02	0.41	2.21	3.66	0.001	0.10	0.009	0.01
Ac-ft	0	20,470	48,700	17,360	1,270	21,170	113,100	187,700	62	5,270	443	726

Calendar year 1952: Max - Min - Mean - Cfsm - In. - Ac-ft -
Water year 1952-53: Max 28,800 Min 0 Mean 575 Cfsm 0.598 In. 8.11 Ac-ft 416,300

Peak discharge (base, 9,000 cfs).--Apr. 30 (5 p.m.) 34,400 cfs (20.28 ft); May 17 (9 p.m.) 13,700 cfs (15.81 ft).
* Discharge measurement or observation of no flow made this day.
** Field estimate made on this day.

Sabine River near Emory, Tex.--Continued

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		6.0	9.0	8.7	550	9.8	4.5	63	44	0.1		
2		12	101	7.5	454	7.7	*4.3	108	104	0		
3		9.8	670	7.0	171	6.4	2.6	315	587	0		
4		10	835	7.3	95	4.9	2.0	292	795	0		
5		12	1,020	7.7	89	4.1	1.6	187	1,090	0		
6		*191	1,640	7.0	64	3.8	1.3	83	244	0		
7		366	*1,770	5.9	36	3.4	1.4	*46	120	0		
8		196	525	5.1	24	3.4	49	24	38	0		
9		86	80	5.1	19	3.2	210	14	22	0		
10		94	42	116	16	3.0	184	58	16	0		
11		57	110	*299	13	2.8	128	736	*9.6	0		
12		39	916	192	13	3.0	250	1,060	6.4	0		
13	(*)	27	1,260	92	11	3.0	1,200	1,300	5.3	0		
14		20	1,860	399	8.2	2.7	1,330	1,750	4.3	0		
15		16	1,940	1,830	*6.8	2.6	2,310	*3,100	3.4	*0		
16		12	684	3,650	6.4	2.4	3,020	3,900	3.0	0		
17		10	108	6,330	5.9	2.2	1,980	*2,260	2.6	0		
18		9.6	55	8,230	5.3	2.4	626	584	2.3	0		
19		9.6	38	5,120	244	2.7	116	75	1.9	0		
20		19	29	2,360	778	2.2	50	34	1.5	0	(*)	
21		182	22	764	778	2.0	29	21	1.5	0		
22		520	18	530	804	1.9	19	15	3.4	0		(*)
23		467	15	435	292	1.9	13	11	2.7	0		
24		136	13	207	74	1.9	10	8.2	1.8	0		
25		50	10	364	41	2.2	7.3	6.6	1.2	0		
26		31	8.7	695	25	2.7	5.9	5.5	.8	0		
27		23	8.0	1,120	18	3.2	4.7	4.7	.6	0		
28		18	9.3	1,810	14	3.3	4.5	34	.4	0		
29		14	9.0	1,600	-	3.2	3.8	446	.2	0		
30		11	9.6	906	------	2.6	4.9	358	.2	0		
31		-----	9.8	480	-----	3.2	-----	97	------	0		------
Total	0	2,654.0	13,824.4	37,590.3	4,655.6	103.8	11,572.8	16,996.0	3,113.1	0.1	0	0
Mean	0	88.5	446	1,213	166	3.35	386	548	104	0.003	0	0
Cfsm	0	0.092	0.464	1.26	0.173	0.0035	0.401	0.570	0.108	0.0000031	0	0
In.	0	0.10	0.54	1.45	0.18	0.004	0.45	0.66	0.12	0.000004	0	0
Ac-ft	0	5,260	27,420	74,560	9,230	206	22,950	33,710	6,170	0.2	0	0

Calendar year 1953: Max 28,800 Min 0 Mean 525 Cfsm 0.546 In. 7.40 Ac-ft 379,800
Water year 1953-54: Max 8,230 Min 0 Mean 248 Cfsm 0.258 In. 3.50 Ac-ft 179,500

Peak discharge (base, 9,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	812	1.4	9.8	3.9	24	482	6.1	4.7	0.6	0	300
2	134	136	*1.3	8.0	3.8	20	550	5.1	3.0	.2	0	108
3	46	71	1.3	7.0	3.8	16	538	8.7	1.8	.1	0	38
4	138	886	1.4	6.4	208	14	206	8.5	1.2	0	.2	22
5	62	1,330	1.3	5.3	1,260	12	80	6.1	.9	0	69	13
6	29	1,950	1.4	3.9	1,500	9.6	58	4.5	60	0	40	9.0
7	15	2,580	2.0	3.2	*3,330	8.0	37	3.4	86	0	13	6.4
8	8.7	1,320	2.2	*2.7	2,760	7.0	24	2.7	40	0	5.1	4.5
9	4.9	230	1.9	3.2	1,160	5.9	65	2.0	90	0	2.3	3.0
10	2.8	62	1.6	40	192	5.5	876	1.5	71	0	1.3	1.9
11	1.7	36	3.9	88	74	*4.5	870	1.3	28	0	6.1	1.1
12	1.2	24	24	52	45	3.8	631	1.4	42	0	28	.8
13	.8	17	12	122	33	3.2	1,060	1.5	21	0	60	.6
14	.6	16	8.0	88	25	2.8	1,190	*1.3	12	0	24	.3
15	.4	338	5.5	64	19	2.4	*2,450	23	8.0	0	12	.2
16	.2	393	4.1	67	15	2.2	3,000	24	*5.1	0	6.6	.1
17	.1	133	16	82	12	2.1	1,560	31	2.6	.1	3.8	0
18	0	65	14	84	10	5.5	212	246	1.3	.2	2.6	0
19	0	40	11	108	11	68	68	197	.8	.1	1.6	0
20	0	27	8.7	76	70	57	43	89	.6	0	1.1	0
21	0	20	7.0	47	504	569	30	88	53	*0	15	0
22	206	16	5.9	30	899	725	23	334	38	0	29	0
23	741	12	4.9	22	1,330	835	18	416	15	0	32	0
24	*3,750	8.5	4.1	16	564	1,300	20	136	15	0	19	0
25	2,750	6.6	3.6	12	109	1,070	20	55	24	0	*12	0
26	3,820	4.9	3.0	11	59	186	16	32	13	0	7.3	0
27	*4,450	3.4	3.2	8.5	40	64	12	64	7.5	0	4.5	1.5
28	2,260	2.4	6.6	7.3	30	40	9.8	56	4.5	0	3.4	2.6
29	1,130	2.0	9.3	6.1	-	25	8.2	19	2.3	0	2.8	4.5
30	1,140	1.6	8.5	5.3	------	19	7.0	10	1.1	0	11	4.3
31	1,520	-----	10	4.7	-----	22	------	6.8	------	0	421	------
Total	22,242.4	10,543.4	189.1	1,090.4	14,270.5	5,128.5	14,164.0	1,880.9	653.4	1.3	833.7	521.8
Mean	717	351	6.10	35.2	510	165	472	60.7	21.8	0.04	26.9	17.4
Cfsm	0.746	0.365	0.0063	0.037	0.530	0.172	0.491	0.063	0.023	0.0000042	0.028	0.018
In.	0.86	0.41	0.007	0.04	0.55	0.20	0.55	0.07	0.03	0.00005	0.03	0.02
Ac-ft	44,120	20,910	375	2,160	28,310	10,170	28,090	3,730	1,300	2.6	1,650	1,030

Calendar year 1954: Max 8,230 Min 0 Mean 293 Cfsm 0.305 In. 4.14 Ac-ft 212,200
Water year 1954-55: Max 4,450 Min 0 Mean 196 Cfsm 0.204 In. 2.77 Ac-ft 141,800

Peak discharge (base, 9,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

Sabine River near Mineola, Tex.

Location.--Lat 32°36'45", long 95°29'10", near left bank on downstream side of pier of bridge on U. S. Highway 69, 3.2 miles south of Mineola, Wood County, 4.5 miles upstream from International-Great Northern Railroad bridge, and at mile 461.

Drainage area.--1,445 sq mi.

Records available.--May 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 304.16 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 1,057 cfs (765,200 acre-ft per year).

Extremes.--Maximum discharge during year, 4,850 cfs Oct. 29 (gage height, 16.78 ft); minimum daily, 0.1 cfs Oct. 5, 19-21.
1939-55: Maximum discharge, 76,000 cfs Apr. 1, 1945; maximum gage height, 24.37 ft June 8, 1943; no flow at times.
Maximum stage known since at least 1915, that of June 8, 1943.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.7	2,370	*27	68	60	108	160	33	32	16	5.6	430
2	36	1,710	26	54	48	93	370	31	25	14	5.6	430
3	14	1,340	24	46	43	85	734	27	21	13	11	418
4	2.5	1,220	24	41	241	80	820	24	19	12	14	255
5	.1	1,250	23	38	934	71	696	22	18	12	13	95
6	3.6	1,220	22	14	1,250	63	421	20	17	12	11	39
7	5.2	1,340	21	17	1,470	60	246	20	16	11	15	21
8	5.0	1,510	20	*20	*1,760	60	168	20	30	11	58	15
9	3.9	1,880	20	33	2,140	58	147	18	102	10	42	12
10	2.6	2,070	20	37	2,800	56	557	17	75	9.8	23	10
11	2.1	1,370	33	36	3,020	*53	1,230	*16	100	9.4	21	9.2
12	1.7	614	397	37	1,910	49	1,660	16	99	8.8	57	8.0
13	1.4	181	442	35	757	48	2,450	16	54	8.4	82	7.2
14	.9	72	292	33	226	47	*3,230	16	36	10	96	6.6
15	.6	401	189	31	114	46	3,020	15	35	44	82	7.2
16	.4	1,170	123	32	93	45	2,450	15	*26	204	52	7.2
17	.2	1,250	88	31	85	44	2,140	17	21	140	29	6.4
18	.2	1,160	63	38	78	42	2,140	18	18	93	35	5.4
19	.1	886	46	255	78	54	2,140	46	17	35	18	5.0
20	.1	458	40	312	133	226	1,350	275	37	23	14	4.4
21	.1	186	38	255	237	2,260	925	312	36	*17	13	4.1
22	.2	96	35	228	332	4,480	543	186	18	15	11	4.1
23	3.3	68	32	210	584	4,600	262	141	20	13	9.0	4.1
24	120	54	30	201	856	4,200	165	321	54	11	8.0	8.6
25	1,730	45	28	193	1,070	*3,180	114	376	38	11	*9.2	13
26	2,800	40	28	189	944	2,210	78	221	25	9.8	17	9.2
27	4,300	36	28	173	453	1,600	59	98	20	9.0	16	7.4
28	*4,720	33	31	169	166	923	49	59	22	8.2	19	6.6
29	4,850	30	42	114	-	383	42	60	21	7.4	48	6.0
30	4,600	28	63	85	------	179	37	80	18	6.6	317	5.2
31	*3,460	----	82	70	------	136	------	50	------	6.2	598	------
Total	26,672.9	24,088	2,377	3,095	21,882	25,539	28,403	2,586	1,070	810.6	1,749.4	1,859.9
Mean	860	803	76.7	99.8	782	824	947	83.4	35.7	26.1	56.4	62.0
Cfsm	0.595	0.556	0.053	0.069	0.541	0.570	0.655	0.058	0.025	0.018	0.039	0.043
In.	0.69	0.62	0.06	0.08	0.56	0.66	0.73	0.07	0.03	0.02	0.05	0.05
Ac-ft	52,900	47,780	4,710	6,140	43,400	50,660	56,340	5,130	2,120	1,610	3,470	3,690

Calendar year 1954: Max 6,700 Min 0 Mean 409 Cfsm 0.283 In. 3.84 Ac-ft 296,000
Water year 1954-55: Max 4,850 Min 0.1 Mean 384 Cfsm 0.266 In. 3.62 Ac-ft 278,000

Peak discharge (base, 11,000 cfs).--No peak above base.
* Discharge measurement made on this day.

Lake Fork Sabine River near Quitman, Tex.

Location.--Lat 32°46', long 95°28', near center of main channel at upstream side of bridge on State Highway 37, half a mile downstream from Dry Creek, and 2.5 miles south of Quitman, Wood County.

Drainage area.--586 sq mi.

Records available.--June 1924 to April 1926, February 1939 to September 1955. Discharge for some highwater periods in 1925-26 published in WSP 1342.

Gage.--Wire-weight gage read twice daily, oftener during floods. Datum of gage is 317.42 ft above mean sea level, datum of 1929. June 27, 1924, to Apr. 30, 1926, staff gage at site 1,000 ft downstream at same datum.

Average discharge.--17 years (1924-25, 1939-55), 443 cfs (320,700 acre-ft per year).

Extremes.--Maximum discharge during year, 4,680 cfs Oct. 26 (gage height, 16.40 ft, from graph based on gage readings); no flow Oct. 1-5, 14-21, July 8-15, July 21 to Aug. 4.
1924-26, 1939-55: Maximum discharge, 75,600 cfs Mar. 30, 1945 (gage height, 29.85 ft, from floodmark), from rating curve extended above 49,000 cfs; no flow at times.
Maximum stage known since at least 1895, that of Mar. 30, 1945. Flood of July 1895 reached a stage of about 25.9 ft, from information by local resident.

Remarks.--Records good.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 4-18, June 15-24, June 28 to July 31, Aug. 17-29, Sept. 10-30)

2.1	0	2.8	7.2	10.0	602
2.2	.2	3.0	12	12.0	1,030
2.3	.5	3.5	24	13.0	1,330
2.4	1.0	4.0	41	14.0	1,800
2.5	2.0	6.0	142	15.0	2,540
2.6	3.3	8.0	300	16.0	3,840

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	177	*7.6	112	24	57	182	29	32	0.9	0	446
2	0	80	7.2	90	23	55	495	26	19	.6	0	446
3	0	40	6.8	63	22	52	660	23	12	.5	0	383
4	0	252	6.4	44	84	50	720	20	9.0	.3	0	163
5	0	512	6.4	36	476	46	438	18	7.0	.2	5.9	40
6	8.9	602	6.4	31	680	42	300	16	6.2	.2	4.7	18
7	5.9	888	6.2	26	720	38	360	14	20	.1	59	11
8	2.7	866	6.2	*24	*932	35	478	12	74	0	42	8.1
9	1.3	577	6.2	23	980	32	320	11	55	0	16	5.1
10	.6	162	6.2	47	531	*31	385	10	22	0	8.1	3.2
11	.3	66	7.4	115	232	29	640	*9.6	12	0	6.1	1.9
12	.2	30	54	156	133	28	760	8.5	8.1	0	118	1.5
13	.1	23	136	192	71	27	1,230	7.6	5.5	0	86	1.2
14	0	20	112	166	59	26	*1,860	7.2	4.3	0	31	.9
15	0	51	98	115	52	24	1,860	6.8	3.3	0	7.2	.8
16	0	201	83	101	47	23	1,500	6.4	*2.6	.8	4.3	.7
17	0	154	57	127	45	22	1,110	8.3	2.1	1.1	3.0	.6
18	0	83	41	184	42	21	569	12	1.6	.8	2.7	.5
19	0	50	30	216	46	42	262	16	1.3	.3	3.3	.4
20	0	42	23	184	85	149	118	42	1.0	*.1	1.8	.3
21	0	32	20	136	139	1,330	96	48	.8	0	.9	.3
22	6.9	24	17	101	192	2,800	88	31	.7	0	.7	.7
23	140	18	15	73	273	2,200	80	41	.6	0	.5	1.0
24	337	15	14	59	190	1,690	73	47	2.8	0	.5	1.2
25	743	13	13	49	109	1,050	63	30	15	0	*.5	3.2
26	3,620	12	13	42	78	350	52	20	7.4	0	.4	2.9
27	3,220	9.6	12	37	66	170	43	16	4.7	0	.3	2.0
28	*2,030	9.0	17	33	59	112	38	12	2.9	0	.3	1.5
29	1,190	8.1	50	29	-	85	34	135	2.0	0	13	1.0
30	602	7.9	53	26	------	71	31	247	1.5	0	112	1.0
31	324	------	88	25	------	63	------	90	------	0	308	------
Total	12,232.9	5,024.6	1,019.0	2,662	6,390	10,750	14,845	1,020.4	336.4	5.9	836.2	1,547.0
Mean	395	167	32.9	85.9	228	347	495	32.9	11.2	0.19	27.0	51.6
Cfsm	0.674	0.285	0.056	0.147	0.389	0.592	0.844	0.056	0.019	0.00032	0.046	0.088
In.	0.78	0.32	0.06	0.17	0.41	0.68	0.94	0.06	0.02	0.0004	0.05	0.10
Ac-ft	24,260	9,970	2,020	5,280	12,670	21,320	29,440	2,020	667	12	1,660	3,070

Calendar year 1954: Max 5,380 Min 0 Mean 197 Cfsm 0.336 In. 4.57 Ac-ft 143,000
Water year 1954-55: Max 3,620 Min 0 Mean 155 Cfsm 0.264 In. 3.59 Ac-ft 112,400

Peak discharge (base, 6,600 cfs).--No peak above base.
* Discharge measurement made on this day.

Big Sandy Creek near Big Sandy, Tex.

Location.--Lat 32°36', long 95°06', near center of channel on downstream side of pier of bridge on State Highway 155, 0.8 mile upstream from St. Louis Southwestern Railroad bridge, 1.3 miles northeast of Big Sandy, Upshur County, and 7.1 miles upstream from mouth.

Drainage area.--236 sq mi.

Records available.--February 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 278.38 ft above mean sea level, datum of 1929, supplementary adjustments of 1942. Prior to Oct. 5, 1940, wire-weight gage and Oct. 5, 1940, to Nov. 26, 1951, water-stage recorder, at site 0.7 mile upstream at datum 3.00 ft higher.

Average discharge.--16 years, 211 cfs (152,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,590 cfs Mar. 24 (gage height, 13.52 ft); minimum, 11 cfs Oct. 1 (gage height, 2.59 ft).

1939-55: Maximum discharge, 38,000 cfs Mar. 31, 1945 (gage height, 22.4 ft, from floodmark), from rating curve extended above 5,000 cfs on basis of weather records and records for nearby streams; minimum, 7.4 cfs Sept. 7, 1954 (gage height, 2.39 ft).

Maximum stage known since at least 1905, that of Mar. 31, 1945. Maximum stage known during period 1905 to Mar. 30, 1945, 20.4 ft in January 1939 (probably backwater from Sabine River), from information by observer.

Remarks.--Records good. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 5 to Feb. 4, Mar. 20-23, Aug. 30 to Sept. 30)

2.6	11	9.0	300
3.0	19	11.0	630
3.5	30	12.0	920
4.0	43	13.0	1,340
5.0	73	13.3	1,490
7.0	157		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	43	*34	58	62	102	147	70	40	15	27	70
2	24	38	33	62	60	98	132	63	36	14	26	40
3	21	39	34	65	58	94	122	60	32	14	32	31
4	17	91	34	66	107	90	118	56	30	14	40	32
5	15	80	34	65	217	88	137	51	29	13	43	35
6	14	71	33	65	210	85	173	47	40	13	34	35
7	13	60	33	65	197	82	197	44	39	13	28	32
8	13	57	34	*60	179	78	185	41	36	12	23	27
9	13	60	34	58	*179	75	173	40	34	12	22	27
10	13	58	34	71	191	*75	217	41	40	12	22	32
11	14	52	40	78	210	73	224	43	40	12	30	35
12	14	45	113	76	203	71	249	*48	34	12	57	34
13	14	40	122	73	179	68	376	45	29	12	70	34
14	14	38	118	75	142	66	*341	41	26	12	46	32
15	14	76	118	87	118	66	341	38	25	12	34	32
16	13	88	114	94	102	65	320	36	*23	24	34	32
17	12	76	118	92	94	63	341	36	22	35	32	26
18	12	65	127	102	87	62	352	36	22	40	29	22
19	13	56	122	114	90	108	300	42	20	41	27	20
20	13	50	102	106	173	122	242	82	20	*39	25	18
21	13	48	87	102	179	467	300	83	20	39	23	19
22	20	45	75	94	157	*580	210	76	20	35	21	19
23	30	43	66	92	137	660	154	78	19	35	19	27
24	50	40	60	88	122	*1,490	127	94	18	39	*18	39
25	48	39	57	83	122	1,160	110	114	20	38	18	40
26	*50	36	56	78	118	770	96	114	21	34	18	36
27	52	35	56	75	118	508	88	96	19	30	17	32
28	56	35	58	70	110	352	87	78	17	29	17	27
29	50	35	60	66	--	272	85	66	16	28	21	24
30	47	34	57	63	------	210	78	54	16	26	68	24
31	47	------	57	62	------	167	------	47	------	29	118	------
Total	755	1,573	2,120	2,405	3,921	8,267	6,022	1,860	803	735	1,039	933
Mean	24.4	52.4	68.4	77.6	140	267	201	60.0	26.8	23.7	33.5	31.1
Cfsm	0.103	0.222	0.290	0.329	0.593	1.13	0.852	0.254	0.114	0.100	0.142	0.132
In.	0.12	0.25	0.33	0.38	0.62	1.30	0.95	0.29	0.13	0.12	0.16	0.15
Ac-ft	1,500	3,120	4,200	4,770	7,780	16,400	11,940	3,690	1,590	1,460	2,060	1,850

Calendar year 1954: Max 668 Min 7.9 Mean 80.6 Cfsm 0.342 In. 4.63 Ac-ft 58,330
Water year 1954-55: Max 1,490 Min 12 Mean 83.4 Cfsm 0.353 In. 4.80 Ac-ft 60,360

Peak discharge (base, 1,500 cfs).--Mar. 24 (1 p.m.) 1,590 cfs (13.52 ft).
* Discharge measurement made on this day.

Sabine River near Gladewater, Tex.

Location.--Lat 32°32', long 94°57', on right bank on downstream side of pier of bridge on U. S. Highway 271, half a mile downstream from Glade Creek, 1 mile southwest of Gladewater, Gregg County, and at mile 398.

Drainage area.--2,846 sq mi.

Records available.--October 1932 to September 1955.

Gage.--Water-stage recorder and wire-weight gage. Datum of gage is 243.85 ft above mean sea level (Texas Reclamation Department benchmark based on Geological Survey datum). Prior to Oct. 13, 1933, chain gage at same site and datum.

Average discharge.--23 years, 2,001 cfs (1,449,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,900 cfs Mar. 29; maximum gage height, 26.33 ft Mar. 29; minimum discharge, 19 cfs Oct. 1.
1932-55: Maximum discharge, 138,000 cfs Apr. 2, 1945 (gage height, 44.16 ft, from floodmark), from rating curve extended above 91,000 cfs; minimum, 5.6 cfs Aug. 16, 1939.
Maximum stage known since at least 1914, that of Apr. 2, 1945. Flood in May 1914 reached a stage of about 41.7 ft (discharge, 71,100 cfs), from information by local resident.

Remarks.--Records good. Small diversions above station for oilfield operations and municipal supply.

Rating table, water year 1954-55, except periods when rate of change in stage used as a factor (gage height, in feet, and discharge, in cubic feet per second)

4.2	22	11.0	1,320
4.5	41	16.0	2,540
5.0	91	20.0	3,710
5.5	166	24.0	5,000
6.0	256	27.0	6,120
8.0	660		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	*k3,740	*197	332	362	k1,380	k3,310	472	382	72	72	k1,090
2	28	k4,160	191	362	342	k1,020	k2,200	412	402	65	65	k1,400
3	35	*k4,440	184	392	322	k755	k1,520	372	322	61	312	k1,330
4	35	k4,660	182	402	k729	k610	1,280	332	233	59	265	k1,150
5	34	*k4,380	184	402	k1,930	552	k1,500	302	182	48	227	k1,000
6	32	k3,960	171	402	k2,380	512	k1,780	283	168	45	179	k841
7	29	k3,380	163	*372	k2,560	472	1,900	265	175	41	148	k541
8	26	k2,880	160	342	2,540	442	k1,770	242	156	38	120	332
9	26	k2,550	156	312	*2,570	412	1,610	220	140	35	101	207
10	28	k2,390	155	352	2,620	*402	k2,040	211	134	32	94	155
11	52	k2,400	207	382	2,710	392	k2,380	207	188	31	153	180
12	77	2,490	k640	442	k2,910	382	k2,840	*202	249	30	252	148
13	64	2,510	k974	k600	k3,080	372	*k3,500	206	225	29	254	120
14	56	k2,100	k1,340	704	3,140	352	k3,600	198	215	35	332	105
15	48	k1,730	1,440	748	k2,880	342	k3,750	189	*207	34	342	92
16	41	k1,400	k1,240	792	k2,040	342	k3,880	184	161	133	312	86
17	36	1,320	k980	792	k1,250	332	k4,140	193	129	240	256	80
18	33	k1,520	k733	k998	k768	322	k4,370	198	114	492	195	71
19	31	k1,680	k610	1,190	k637	404	k4,550	234	103	492	145	64
20	31	1,700	512	1,230	k1,150	k778	k4,820	427	95	*442	117	60
21	29	k1,640	432	1,300	k1,540	k3,750	k5,130	k701	103	302	105	56
22	52	k1,330	372	k1,270	1,580	k5,230	5,100	k920	103	197	92	60
23	54	k908	332	k1,120	k1,460	5,000	k4,890	990	148	142	78	66
24	167	k541	312	k970	1,370	5,070	k4,170	k862	161	118	*69	150
25	197	382	292	k806	1,370	k5,450	k2,930	748	136	108	65	189
26	k506	312	274	k653	k1,470	k5,620	k1,880	k867	111	95	62	211
27	k1,130	274	274	k546	k1,630	k5,810	k1,160	k828	111	80	57	175
28	k1,660	247	302	492	1,660	5,800	k755	k650	108	69	56	150
29	k2,120	225	322	442	-	5,840	k588	492	91	62	57	124
30	k2,630	209	322	412	------	k5,550	532	382	79	57	226	105
31	k3,200	------	312	382	------	k4,870	------	312	------	64	k742	------
Total	12,511	61,458	13,965	19,941	49,000	68,565	83,875	13,101	5,131	3,748	5,550	10,338
Mean	404	2,049	450	643	1,750	2,212	2,800	423	171	121	179	345
Cfsm	0.142	0.720	0.158	0.226	0.615	0.777	0.984	0.149	0.060	0.043	0.063	0.121
In.	0.16	0.80	0.18	0.26	0.64	0.90	1.10	0.17	0.07	0.05	0.07	0.14
Ac-ft	24,820	121,900	27,700	39,550	97,190	136,000	166,400	25,990	10,180	7,430	11,010	20,510

Calendar year 1954: Max 6,140 Min 8.8 Mean 870 Cfsm 0.306 In. 4.15 Ac-ft 629,800
Water year 1954-55: Max 5,840 Min 24 Mean 951 Cfsm 0.334 In. 4.54 Ac-ft 688,700

* Discharge measurement made on this day.
k Computed by using rate of change in stage as a factor.

Sabine River near Tatum, Tex.

Location.--Lat 32°22', long 94°28', near right bank on downstream side of pier of bridge on State Highway 43, 5 miles upstream from Potter Creek, 5.2 miles northeast of Tatum, Rusk County, 7 miles downstream from Cherokee Bayou, and at mile 339.

Drainage area.--3,586 sq mi.

Records available.--January 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 204.18 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Sept. 21, 1945, wire-weight gage at same site and datum.

Average discharge.--16 years, 2,792 cfs (2,021,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,040 cfs Apr. 14 (gage height, 16.55 ft); minimum, 13 cfs Oct. 1.

1939-55: Maximum discharge, 123,000 cfs Apr. 4, 1945 (gage height, 33.80 ft, from graph based on gage readings), from rating curve based on extension of ratings for main channels above 40,000 cfs and measured flow over road at gage height 31.5 ft; minimum observed, 9.1 cfs Oct. 9, 1939.

Maximum stage known since at least 1884, that of Apr. 4, 1945. Flood in May 1884 reached a stage of 32 ft, from information by local residents.

Remarks.--Records good. Several small diversions above station for oilfield operations and municipal supply. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 28 to Nov. 26, Jan. 20 to Mar. 1, and July 17 to Sept. 30)

1.5	13	5.0	580
2.0	31	7.0	1,150
2.5	70	9.0	1,900
3.0	137	13.0	3,820
3.5	225	16.5	5,970
4.0	333		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	2,440	299	542	712	2,080	5,410	910	739	131	193	822
2	14	2,820	281	516	685	1,990	5,340	794	619	120	172	1,000
3	14	3,320	266	529	658	1,700	5,080	712	606	109	310	1,160
4	15	3,720	258	554	743	1,360	4,240	632	567	108	668	1,290
5	19	*4,100	251	572	1,990	1,120	2,690	567	479	103	1,090	1,200
6	24	4,200	239	*593	3,660	1,000	1,900	516	466	94	911	1,090
7	26	4,260	237	593	4,420	910	1,860	466	429	82	606	970
8	28	4,200	231	554	4,480	850	1,990	429	356	70	429	794
9	29	3,930	219	486	*4,200	766	2,080	392	310	61	333	593
10	26	3,520	214	492	3,770	*739	2,800	356	273	54	260	392
11	24	3,020	234	593	3,470	712	3,770	333	256	47	225	310
12	28	2,720	604	672	3,320	685	4,260	*333	245	44	281	256
13	32	*2,530	1,120	658	3,270	672	*5,480	322	258	42	404	262
14	42	2,580	1,360	685	3,270	645	5,970	333	288	39	392	225
15	75	2,670	1,360	794	3,320	619	5,760	344	*284	44	356	183
16	64	2,770	1,460	940	3,320	593	5,210	333	266	139	380	153
17	50	2,420	1,430	1,060	3,120	580	4,830	310	262	537	380	137
18	42	1,860	1,290	1,290	2,440	554	4,480	288	227	940	344	125
19	37	1,660	1,260	2,080	1,620	567	4,370	322	193	739	299	112
20	34	1,660	880	2,400	1,580	685	4,320	620	197	*794	243	102
21	30	1,740	766	2,220	2,440	1,530	4,370	910	288	685	199	95
22	46	1,740	658	2,040	3,070	4,490	4,480	1,120	356	554	168	98
23	58	1,580	598	1,900	3,120	5,620	4,650	1,670	281	429	*148	108
24	155	1,290	542	1,740	2,820	5,970	4,710	3,820	239	333	139	226
25	284	940	492	1,540	2,440	5,900	4,770	3,600	217	273	124	537
26	416	672	454	1,320	2,170	5,760	4,650	2,300	214	223	104	880
27	380	516	442	1,120	2,080	5,480	4,200	1,700	190	193	90	1,000
28	764	416	454	1,000	2,080	5,340	2,990	1,500	163	174	82	970
29	1,320	368	504	910	-	5,280	1,660	1,400	151	155	80	794
30	1,700	*333	610	822	------	5,280	1,110	1,260	145	153	92	606
31	2,040	-----	559	766	-----	5,340	-----	1,030	------	192	382	------
Total	7,830	69,995	19,572	31,961	74,268	74,817	119,430	29,622	9,564	7,661	9,884	16,490
Mean	253	2,333	631	1,031	2,652	2,413	3,981	956	319	247	319	550
Cfsm	0.071	0.651	0.176	0.288	0.740	0.673	1.11	0.267	0.089	0.069	0.089	0.153
In.	0.08	0.73	0.20	0.33	0.77	0.78	1.24	0.31	0.10	0.08	0.10	0.17
Ac-ft	15,530	138,800	38,820	63,390	147,300	148,400	236,900	58,750	18,970	15,200	19,600	32,710

Calendar year 1954: Max 6,320 Min 9.8 Mean 1,081 Cfsm 0.30 In. 4.10 Ac-ft 782,500
Water year 1954-55: Max 5,970 Min 14 Mean 1,291 Cfsm 0.36 In. 4.89 Ac-ft 934,400

* Discharge measurement made on this day.

Sabine River at Logansport, La.

Location.--Lat 31°58', long 94°00', near center of span on upstream side of bridge on U. S. Highway 84, 200 ft upstream from Texas and New Orleans Railroad bridge at Logansport, De Soto Parish, 3 miles upstream from Bayou Castor, and at mile 267.

Drainage area.--4,858 sq mi.

Records available.--July 1903 to September 1955 (January 1907 to September 1923 monthly records only, published in WSP 850). Gage-height records collected at same site since 1903 are contained in reports of U. S. Weather Bureau; used by Geological Survey 1903-5, and corrected to datum of Geological Survey gage.

Gage.--Wire-weight gage read twice daily. Datum of gage is 147.72 ft above mean sea level, datum of 1929. July 1, 1903 to Dec. 31, 1906, chain gage at present site at datum 2.0 ft lower. Jan. 1, 1907, to Aug. 23, 1934, chain gage at present site and datum. Aug. 24, 1934, to Feb. 14, 1941, chain gage 200 ft downstream at present datum.

Average discharge.--49 years (1903-19, 1922-55), 3,226 cfs (2,336,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,600 cfs Apr. 18; maximum gage height, 25.20 ft Aug. 4 (backwater from Bayou Castor); minimum discharge, 28 cfs Oct. 3-4.
1903-55: Maximum discharge, 92,000 cfs Apr. 8, 1945 (gage height, 44.07 ft, from floodmark); minimum observed during periods of daily records, 16 cfs Sept. 26-28, Oct. 3, 4, 1939.
Maximum stage known prior to 1945, 39.4 ft in May 1884, present datum.

Remarks.--Records good except those for periods of backwater, which are fair. Small diversions above station.

Cooperation.--Gage-height record collected in cooperation with U. S. Weather Bureau.

Revisions (water years).--WSP 850: 1903-6.

Rating table, water year 1954-55, except periods of backwater from Bayou Castor (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 13-27, Jan. 15-22)

-2.2	26	4.0	1,160
-2.0	37	8.0	2,620
-1.5	72	12.0	4,450
-1.0	116	16.0	6,550
0.0	230	20.0	8,900
1.5	480	25.0	13,000

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31	*1,730	470	860	1,160	3,410	6,940	2,780	2,500	243	217	198
2	29	2,070	430	a860	1,040	3,140	6,600	1,770	1,770	224	243	440
3	28	2,460	393	776	950	3,000	6,440	1,420	1,350	a204	c2,110	666
4	28	*2,870	376	720	980	2,740	6,330	1,220	1,100	198	c8,470	980
5	30	3,410	a358	692	1,420	2,380	6,220	1,100	a1,010	180	c11,800	1,220
6	30	3,950	333	692	a3,600	a2,030	5,670	950	920	168	10,800	1,290
7	30	a4,250	316	692	6,110	1,730	4,200	776	920	162	a8,840	1,260
8	30	4,400	308	720	6,990	1,520	2,960	a748	1,040	157	5,890	1,160
9	30	4,450	292	a776	7,580	1,420	2,740	692	1,040	152	2,880	1,010
10	a32	4,350	308	748	7,940	1,290	c3,860	627	776	146	1,390	860
11	*33	4,050	278	748	8,060	1,220	c5,400	576	614	136	920	679
12	37	3,590	a262	804	7,700	1,130	c6,820	544	a533	131	640	490
13	44	3,140	855	980	a6,820	1,100	c7,940	511	460	123	a500	384
14	46	a2,870	2,220	1,070	5,620	1,070	c9,180	490	*430	124	450	324
15	47	2,700	*3,050	1,220	4,600	1,040	c10,300	a490	412	120	460	308
16	47	2,820	3,460	a1,260	4,100	1,010	11,400	c500	421	118	500	285
17	a50	2,960	3,100	1,290	4,050	980	a12,400	*c578	412	334	460	250
18	51	2,920	2,620	1,700	3,860	950	12,600	c602	384	679	430	a224
19	64	2,780	a2,220	*2,740	3,640	950	*12,000	755	376	1,130	421	186
20	71	2,160	1,800	4,100	a3,150	a1,010	11,100	2,750	350	1,390	402	174
21	72	a1,990	1,460	4,850	3,230	c2,570	9,880	4,750	316	1,320	a367	157
22	76	1,920	1,190	5,150	4,350	c4,850	8,660	a4,700	324	*1,290	342	146
23	80	*1,880	1,010	a4,850	5,400	*c6,550	7,400	4,750	402	a1,070	*285	141
24	a84	1,840	e60	4,300	*6,060	c7,580	a6,550	6,220	490	e04	256	*141
25	90	1,700	a748	3,590	6,220	*c8,300	6,000	7,460	470	578	230	a136
26	97	1,350	a692	2,870	6,000	8,720	5,780	8,300	376	430	198	184
27	170	1,100	653	2,300	a5,200	a8,780	5,670	8,660	324	324	192	423
28	376	a860	640	1,920	4,100	8,660	5,560	8,900	300	292	186	804
29	490	640	640	1,630	-	8,300	5,150	a8,240	278	256	174	1,040
30	804	544	653	a1,460	------	7,820	4,050	6,550	262	243	162	1,070
31	a1,290	-----	748	1,290	-----	7,340	-----	4,000	------	a230	162	------
Total	4,417	77,774	32,743	57,658	129,930	112,590	215,800	92,411	20,360	12,956	60,377	16,630
Mean	142	2,592	1,056	1,860	4,640	3,632	7,193	2,981	679	418	1,948	554
Cfsm	0.029	0.533	0.217	0.383	0.955	0.747	1.48	0.613	0.140	0.086	0.401	0.114
In.	0.03	0.60	0.25	0.44	0.99	0.86	1.65	0.71	0.16	0.10	0.46	0.13
Ac-ft	8,760	154,300	64,940	114,400	257,700	223,300	428,000	183,300	40,380	25,700	119,800	32,990

Calendar year 1954: Max 11,400 Min 18 Mean 1,499 Cfsm 0.308 In. 4.20 Ac-ft 1,085,000
Water year 1954-55: Max 12,600 Min 28 Mean 2,284 Cfsm 0.470 In. 6.38 Ac-ft 1,654,000

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.
c Backwater from Bayou Castor.

Tenaha Creek near Shelbyville, Tex.

Location.--Lat 31°46', long 94°05', near center of span at downstream side of bridge on State Highway 87, 1 mile northwest of Shelbyville, Shelby County, 4.2 miles downstream from Gulf, Colorado and Santa Fe Railway bridge, and 6.5 miles upstream from Bell Creek.

Drainage area.--87.0 sq mi.

Records available.--March 1952 to September 1955.

Gage.--Wire-weight gage read twice daily.

Extremes.--Maximum discharge during year, 2,340 cfs Apr. 13 (gage height, 10.20 ft, from graph based on gage readings); no flow Oct. 1-21.
1952-55: Maximum discharge, 15,200 cfs Mar. 11, 1953; no flow at times.

Remarks.--Records good. Diversion above station for municipal supply.

Rating tables, water year 1954-55 (gage height, in feet, and discharge in cubic feet per second)
(Shifting-control method used Jan. 10-18, Mar. 21-23)

Oct. 1 to Jan. 18

0.8	0	1.3	4.5
.9	.3	1.5	9.0
1.0	.8	2.0	27
1.1	1.7	3.0	75
1.2	2.9	5.0	199

Note.--Same as following table above 5.0 ft.

Jan. 19 to Sept. 30

0.6	0.1	2.0	24
.7	.2	2.5	46
.8	.5	3.0	71
.9	1.0	5.0	199
1.0	1.8	7.0	362
1.2	4.2	8.0	486
1.4	7.5	9.0	750
1.7	14	10.0	2,020

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.3	0.7	6.5	8.3	20	31	8.5	6.8	0.7	1.1	3.6
2	0	.2	.7	6.1	8.3	16	51	7.3	5.4	.6	1.2	2.5
3	0	.2	.6	4.5	6.4	15	33	5.9	4.4	.5	184	1.3
4	0	.7	.7	3.5	57	14	25	5.9	3.8	.5	220	1.0
5	0	4.1	.7	2.7	278	14	20	5.2	3.6	.5	256	.6
6	0	2.0	.7	2.6	540	12	18	5.0	3.6	.5	88	.4
7	0	1.1	.7	2.2	517	10	15	5.0	2.9	.4	20	.3
8	0	.7	.6	2.2	*358	*8.9	13	4.6	2.9	.4	11	.2
9	0	.5	.7	2.9	106	8.3	63	4.1	2.5	.4	7.5	.2
10	0	.4	.7	9.0	48	8.3	640	3.9	2.2	.3	6.1	.2
11	*0	.4	.8	18	30	10	826	3.7	2.1	.3	5.1	.2
12	0	.3	3.6	9.9	22	9.5	1,010	3.9	2.0	3.3	4.2	.2
13	0	.3	11	6.1	19	7.7	1,780	5.6	1.6	2.1	3.7	.2
14	0	.3	5.7	3.6	18	6.6	793	5.6	*1.4	4.3	2.9	.1
15	0	11	*3.0	5.7	16	7.3	294	5.6	1.4	14	2.6	.2
16	0	27	2.1	38	17	7.5	92	5.6	1.6	5.2	2.2	.2
17	0	6.5	1.6	29	15	6.6	60	*7.3	1.4	2.9	1.8	.2
18	0	3.2	1.4	*44	14	6.8	50	8.5	1.4	1.6	1.6	.2
19	0	1.8	1.8	160	14	10	*41	7.0	1.4	17	1.3	.1
20	0	1.5	1.4	94	20	91	34	180	1.2	9.1	1.2	.1
21	0	1.5	1.3	41	51	306	30	146	.9	8.3	1.2	.1
22	.1	1.4	1.4	26	97	*765	27	46	3.9	*5.6	1.1	.1
23	3.8	*1.1	2.2	19	71	731	23	62	5.0	3.9	*1.1	.1
24	2.4	1.1	2.7	14	42	238	20	384	3.6	3.0	1.0	*.2
25	1.0	1.0	2.5	12	29	66	15	342	2.1	2.7	.8	.5
26	1.4	.8	2.5	9.1	23	38	13	114	1.6	2.2	.7	.5
27	.7	.8	2.9	10	22	26	12	27	1.2	1.6	.5	.4
28	.2	.8	3.6	13	20	22	12	15	.9	1.3	1.2	.4
29	.3	.8	53	12	-	20	12	11	.7	1.1	1.5	.3
30	.3	.7	26	10	------	19	10	9.3	.8	.9	4.2	.2
31	.3	-----	10	8.7	-----	18	-----	7.7	------	1.5	4.5	------
Total	10.5	72.5	147.3	625.3	2,467.0	2,538.5	6,063	1,452.2	74.3	96.7	839.3	14.8
Mean	0.34	2.42	4.75	20.2	88.1	81.9	202	46.8	2.48	3.12	27.1	0.49
Cfsm	0.0039	0.028	0.055	0.232	1.01	0.941	2.32	0.538	0.028	0.036	0.311	0.0056
In.	0.004	0.03	0.06	0.27	1.05	1.08	2.59	0.62	0.03	0.04	0.36	0.006
Ac-ft	21	144	292	1,240	4,890	5,040	12,030	2,880	147	192	1,660	29

Calendar year 1954: Max 1,200 Min 0 Mean 19.0 Cfsm 0.218 In. 2.96 Ac-ft 13,720
Water year 1954-55: Max 1,780 Min 0 Mean 39.5 Cfsm 0.454 In. 6.14 Ac-ft 28,560

Peak discharge (base, 500 cfs).--Mar. 23 (1 a.m.) 889 cfs (9.03 ft); Apr. 10 (12 m.) 1,090 cfs (9.40 ft); Apr. 13 (3 a.m.) 2,340 cfs (10.20 ft).
* Discharge measurement or observation of no flow made on this day.

Bayou San Patricio near Noble, La.

Location.--Lat 31°43'15", long 93°42'25", in lot 38, T. 9 N., R. 13 W., near right bank on downstream side of bridge on U. S. Highway 171, 1.6 miles downstream from Kansas City Southern Railway bridge and 2.5 miles northwest of Noble.

Drainage area.--154 sq mi.

Records available.--October 1951 to September 1955.

Gage.--Wire-weight gage and crest-stage indicator; gage read twice daily. Datum of gage is 169.73 ft above mean sea level, datum of 1929, supplementary adjustment of 1941.

Extremes.--Maximum discharge during year, 1,200 cfs Aug. 6 (gage height, 10.65 ft); no flow for many days.
1951-55: Maximum discharge, 9,330 cfs Apr. 30, 1953 (gage height, 14.75 ft); no flow for many days in 1954.

Remarks.--Records fair.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 27 to Apr. 10, Sept. 8-30)

Oct. 1 to May 25, July 19, to Sept. 30

2.6	0.	4.5	40
2.7	4	5.0	62
2.8	1.0	6.0	119
2.9	1.6	7.0	195
3.0	2.3	8.0	294
3.2	4.1	9.0	425
3.5	8.2	10.0	750
3.9	17	10.5	1,110

May 26 to July 18

2.9	0.2	3.3	2.5
3.0	.4	3.6	8.8
3.1	.6	3.9	17
3.2	1.2		

Note.--Same as preceding table above 3.9 ft.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0.3	1.5	5.6	*a45	6.9	5.9	0.2	1.9	3.8
2		0	0	.3	1.5	4.6	a70	6.4	4.8	.2	3.1	4.7
3		0	0	.3	1.5	4.1	a65	6.2	3.6	.2	112	3.4
4		0	0	.3	1.8	3.8	a50	5.8	3.0	.5	283	2.8
5		.1	0	.6	42	3.3	36	5.4	2.7	7.4	465	2.6
6		0	0	.5	113	3.1	27	5.1	2.8	4.4	1,110	2.6
7		0	0	.5	155	2.8	22	5.0	2.3	2.2	810	2.6
8		0	0	.6	147	2.6	19	5.0	2.0	1.1	506	2.6
9		0	0	1.5	*72	*2.4	86	4.8	1.7	.7	113	2.5
10		0	0	2.4	27	2.4	434	4.8	2.3	3.2	72	2.4
11		0	0	2.5	13	2.3	645	4.7	2.5	5.9	24	2.4
12		0	.1	*2.0	8.4	2.2	845	4.6	1.9	1.4	13	2.5
13		0	.3	1.6	6.0	2.3	1,030	4.7	1.4	.8	8.9	21
14		0	.3	1.7	4.7	3.5	990	4.6	1.2	2.8	6.8	*25
15		.3	.2	2.1	4.1	4.7	780	4.4	.8	5.7	5.4	9.2
16		*.1	.1	3.2	3.6	3.6	645	7.5	.7	12	4.5	6.4
17		.1	*0	2.8	3.3	2.8	500	7.4	.6	67	3.7	5.1
18		0	0	4.8	3.0	2.6	182	6.3	.5	60	3.3	4.2
19		0	0	8.4	2.7	2.6	53	38	.5	106	3.5	3.1
20	(*)	0	0	4.2	3.7	2.9	38	179	.5	77	2.7	3.4
21		0	0	3.0	7.9	207	28	195	*.4	29	2.4	2.9
22		0	0	2.6	19	440	23	261	.5	15	2.1	2.7
23		0	0	2.4	18	622	18	231	.4	12	2.0	2.4
24		0	0	2.1	16	750	15	*213	.5	8.2	1.9	2.5
25		0	0	2.5	13	845	12	294	.4	5.6	1.9	6.6
26		0	0	2.7	11	585	11	318	.3	3.9	1.5	8.7
27		0	1.4	2.4	8.6	176	9.2	106	.2	*3.1	1.4	7.0
28		0	1.3	2.3	6.6	51	8.6	30	.2	2.7	1.5	7.0
29		0	.9	2.0	-	34	*8.0	16	.2	2.4	1.5	5.5
30		0	.6	1.8	------	a29	7.4	11	.2	2.4	*1.5	4.4
31		------	.5	1.7	------	a22	------	7.9	------	2.1	2.6	------
Total	0	0.6	5.7	66.1	714.9	3,915.2	6,702.2	1,999.5	45.0	445.1	3,572.1	162.2
Mean	0	0.02	0.18	2.13	25.5	126	223	64.5	1.50	14.4	115	5.41
Cfsm	0	0.00013	0.0012	0.014	0.166	0.818	1.45	0.419	0.0097	0.094	0.747	0.035
In.	0	0.0001	0.001	0.02	0.17	0.95	1.62	0.48	0.01	0.11	0.86	0.04
Ac-ft	0	1.2	11	131	1,420	7,770	13,290	3,970	89	883	7,090	322

Calendar year 1954: Max 2,390 Min 0 Mean 42.6 Cfsm 0.277 In. 3.75 Ac-ft 30,800
Water year 1954-55: Max 1,110 Min 0 Mean 49.3 Cfsm 0.314 In. 4.26 Ac-ft 35,000

Peak discharge (base, 600 cfs).--Mar. 25 (12:30 p.m.) 880 cfs (10.18 ft); Apr. 13 (5 p.m.) 1,070 cfs (10.45 ft); Aug. 6 (7:30 a.m.) 1,200 cfs (10.65 ft).
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of 1 discharge measurement and records for stations on nearby streams.

Bayou San Miguel near Zwolle, La.

Location.--Lat 31°39'10", long 93°39'10", in NE¼NW¼ sec. 25, T. 8 N., R. 13 W., near right bank on downstream side of bridge on U. S. Highway 171, 1¼ miles northwest of Zwolle and 3½ miles upstream from Bayou Scie.

Drainage area.--113 sq mi.

Records available.--September 1948 to September 1955.

Gage.--Water-stage recorder. Prior to Mar. 4, 1949, staff gage at same site and datum.

Average discharge.--7 years, 108 cfs (78,190 acre-feet per year).

Extremes.--Maximum discharge during year, 830 cfs Apr. 13 (gage height, 10.21 ft); no flow for many days.
1948-55: Maximum discharge, 15,000 cfs June 3, 1950 (gage height, 15.75 ft); no flow at times each year.

Remarks.--Records good except those between 300 and 1,000 cfs, which are poor. Records of chemical analyses for the water year 1955 are published in WSP 1402.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 9 to Sept. 30)

Oct. 1 to Apr. 12

2.0	0	3.0	8.7	8.0	158
2.1	.6	3.5	17	8.5	209
2.2	1.1	4.0	26	9.0	310
2.3	1.7	5.0	47	9.5	470
2.4	2.4	6.0	74	10.0	699
2.7	5.1	7.0	110	10.2	830

Apr. 13 to Sept. 30

1.6	0	2.4	4.3
1.7	.4	2.7	6.6
1.8	.8	3.0	9.6
2.0	1.8	3.4	15
2.2	3.0	4.0	26

Note.--Same as preceding table above 4.0 ft.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	1.0	*4.3	2.5	4.2	0.8	4.8	0.2
2					0	1.0	4.5	2.3	3.6	.7	9.4	.3
3					0	.9	11	2.1	3.2	.7	153	.5
4					.1	.8	11	1.8	2.8	1.0	420	.7
5					5.4	.7	10	1.6	2.7	.8	574	1.4
6					14	.4	7.8	1.5	2.4	.7	290	1.0
7					87	.3	5.8	1.3	2.2	.6	63	.7
8					107	**.1	4.3	1.2	2.1	.5	16	.6
9					*42	0	8.4	1.1	1.9	1.0	7.8	.4
10					18	0	192	1.0	1.8	1.4	6.2	.3
11					8.4	0	515	1.0	10	1.2	9.3	.2
12				(*)	4.5	0	705	1.0	6.6	1.1	5.6	.2
13					2.7	0	802	1.2	4.4	1.0	3.4	.2
14					1.8	0	625	1.3	3.2	2.4	1.8	*.2
15					1.2	152	389	1.4	2.6	2.9	1.0	.3
16		(*)			.9	139	115	2.2	2.3	7.0	.7	.1
17			(*)		.6	36	40	2.7	2.0	20	.5	0
18					.4	14	25	4.6	1.7	19	.5	0
19					.3	7.4	17	11	1.6	48	.5	0
20	(*)				.2	4.6	13	354	1.5	21	.3	0
21					.8	32	10	456	*1.6	10	.1	0
22					1.3	294	8.6	277	1.4	5.9	0	0
23					.7	424	7.3	77	1.1	3.5	0	0
24					.4	281	6.2	*258	1.0	5.9	0	0
25					.3	65	5.3	434	1.0	5.9	0	0
26					.2	25	4.4	331	.9	3.1	0	26
27					.1	14	3.8	80	.8	*2.1	0	12
28					.3	9.1	3.4	20	.7	1.8	0	3.7
29					-	6.2	*2.9	10	.9	1.8	0	1.9
30					------	4.4	2.8	6.8	1.0	3.0	*0	1.2
31		------			------	3.4	------	5.2	------	10	.1	------
Total	0	0	0	0	298.6	1,496.3	3,559.8	2,351.8	73.2	184.8	1,568.0	52.1
Mean	0	0	0	0	10.7	48.3	119	75.9	2.44	5.96	50.6	1.74
Cfsm	0	0	0	0	0.095	0.427	1.05	0.672	0.022	0.053	0.448	0.015
In.	0	0	0	0	0.10	0.49	1.17	0.77	0.02	0.06	0.52	0.02
Ac-ft	0	0	0	0	592	2,970	7,060	4,660	145	367	3,110	103

Calendar year 1954: Max 910 Min 0 Mean 25.3 Cfsm 0.224 In. 3.05 Ac-ft 18,310
Water year 1954-55: Max 802 Min 0 Mean 26.3 Cfsm 0.233 In. 3.15 Ac-ft 19,010

Peak discharge (base, 800 cfs).--Apr. 13 (6 a.m.) 830 cfs (10.21 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Sabine River near Milam, Tex.

Location.--Lat 31°28', long 93°45', near right bank 104 ft upstream from bridge on State Highway 21, 2.8 miles downstream from Patroon Bayou, 6.5 miles northeast of Milam, Sabine County, 7.2 miles upstream from Palo Gaucho Bayou, and at mile 195.

Drainage area.--6,543 sq mi.

Records available.--October 1923 to August 1925 (published as "at Sabinetown"), January 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 97.96 ft above mean sea level, datum of 1929, supplementary adjustment of 1941. Oct. 9, 1923, to Aug. 31, 1925, staff gage 7.4 miles downstream at different datum. Jan. 19, 1939, to Dec. 21, 1945, wire-weight gage 104 ft downstream at present datum.

Average discharge.--16 years (1939-55), 5,725 cfs (4,145,000 acre-ft per year).

Extremes.--Maximum discharge during year, 13,900 cfs Apr. 18 (gage height, 26.80 ft); minimum, 33 cfs Oct. 2.

1923-25, 1939-55: Maximum discharge, 83,400 cfs Apr. 12, 1945 (gage height, 48.87 ft); minimum, 26 cfs Sept. 24, 1954.

Maximum stage known since at least 1884, that of Apr. 12, 1945. Flood of about July 28, 1933, reached a stage of 48 ft, from information by former observer. Flood in 1884 reached a stage about 2 ft lower than that of 1945 at ferry about 10 miles upstream from information by local resident.

Remarks.--Records good. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 15, June 26 to Aug. 3, Sept. 20-25)

5.5	28	10.0	1,000
5.8	62	15.0	4,100
6.2	125	20.0	7,750
7.0	337	25.0	12,200
8.0	660	27.0	14,000

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	796	711	728	1,400	4,560	8,260	4,490	6,050	512	512	281
2	34	1,200	627	796	1,240	3,720	7,670	3,120	3,360	627	512	278
3	36	1,580	561	865	1,160	3,240	7,110	2,200	2,250	610	2,080	307
4	38	*1,950	512	865	1,080	3,010	6,800	1,720	1,720	495	8,000	570
5	39	2,350	463	813	1,850	2,790	6,580	1,440	1,360	431	11,900	848
6	*36	2,790	447	762	3,840	2,570	6,420	1,280	1,160	368	13,100	1,000
7	35	3,300	415	745	6,120	2,200	5,980	1,160	1,080	331	13,200	1,160
8	34	3,720	393	745	6,880	1,850	4,820	1,080	1,000	301	13,100	1,200
9	34	3,900	380	779	7,270	*1,670	3,600	970	1,000	295	12,200	1,160
10	34	3,970	368	813	7,750	1,490	4,980	882	1,160	284	8,600	1,040
11	34	3,970	359	813	8,090	1,360	9,110	830	1,080	284	3,890	970
12	42	3,840	368	796	8,430	1,280	10,700	779	882	270	1,950	830
13	52	3,540	365	796	8,520	1,200	12,200	728	762	250	1,320	694
14	50	3,060	384	848	8,000	1,160	13,200	694	660	270	1,000	578
15	45	2,840	*1,140	1,000	6,720	1,120	13,700	660	*594	415	830	479
16	42	2,680	2,250	1,080	5,240	1,120	13,800	660	561	384	728	421
17	44	2,620	2,960	1,080	4,420	1,200	13,900	830	544	495	711	390
18	46	2,740	3,010	1,240	4,040	1,120	13,900	*796	528	830	711	359
19	48	2,900	2,680	*1,540	3,900	1,040	13,900	882	512	935	694	322
20	52	2,790	2,250	2,100	3,720	1,000	*13,800	6,300	495	1,400	627	270
21	53	2,350	1,950	3,300	3,360	1,510	13,600	8,260	528	1,800	594	242
22	61	2,050	1,580	4,230	3,360	5,750	13,200	7,590	561	*1,670	578	225
23	80	1,900	1,320	4,750	4,230	*8,770	12,400	6,200	479	1,540	512	209
24	96	*1,850	1,120	4,820	5,100	9,720	11,100	6,500	463	1,400	*463	228
25	102	1,800	970	4,490	5,820	10,400	8,680	8,000	512	1,160	421	*250
26	104	1,720	882	3,780	6,200	10,800	7,030	8,680	594	935	374	199
27	105	1,540	813	3,120	6,200	10,900	6,200	9,110	561	796	343	188
28	105	1,280	762	2,520	5,600	10,800	5,820	9,450	495	677	331	225
29	114	1,040	694	2,100	-	10,400	5,680	9,630	447	578	319	479
30	272	865	677	1,760	------	9,720	5,310	9,630	495	495	310	813
31	463	-----	694	1,540	-----	8,940	-----	8,770	------	479	290	------
Total	2,368	72,931	32,105	55,614	139,540	136,410	279,450	123,321	31,893	21,317	100,200	16,215
Mean	76.3	2,431	1,036	1,794	4,984	4,400	9,315	3,978	1,063	688	3,232	540
Cfsm	0.012	0.371	0.158	0.274	0.762	0.672	1.42	0.608	0.162	0.105	0.494	0.083
In.	0.01	0.41	0.18	0.32	0.79	0.78	1.59	0.70	0.18	0.12	0.57	0.09
Ac-ft	4,690	144,700	63,680	110,300	276,800	270,600	554,300	244,600	63,260	42,280	198,700	32,160

Calendar year 1954: Max 13,700 Min 27 Mean 1,925 Cfsm 0.294 In. 3.99 Ac-ft 1,393,000
Water year 1954-55: Max 13,900 Min 34 Mean 2,771 Cfsm 0.423 In. 5.74 Ac-ft 2,006,000

* Discharge measurement made on this day.

Palo Gaucho Bayou near Hemphill, Tex.

Location.--Lat 31°23', long 93°50', near center of span at downstream side of bridge on State Highway 87, 0.2 mile upstream from Boregas Creek, 3.6 miles north of Hemphill, Sabine County, 4.2 miles downstream from Sandy Creek, and about 13 miles upstream from Sabine River.

Drainage area.--121 sq mi.

Records available.--March 1952 to September 1955.

Gage.--Wire-weight gage read twice daily.

Extremes.--Maximum discharge during year, 1,880 cfs Apr. 14 (gage height, 16.79 ft, from graph based on gage readings); no flow Oct. 1-26, Nov. 3.
1952-55: Maximum discharge, 17,000 cfs Apr. 29, 1953 (gage height, 22.50 ft); no flow at times.
Maximum stage known since at least 1907, 26.6 ft in July 1933, from information by local resident. Flood in June 1950 reached a stage of 23.0 ft, from information by State Highway Department.

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

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 10-15)

Oct. 1 to Feb. 6

2.0	0	4.0	36
2.1	.1	5.0	78
2.2	.5	6.0	132
2.3	1.0	8.0	282
2.4	1.8	9.0	371
2.5	2.7	10.0	465
2.7	5.1	13.0	810
3.0	10	16.0	1,480
3.5	21		

Feb. 7 to Sept. 30

1.8	0	3.0	12
1.9	.1	3.5	24
2.0	.3	4.0	41
2.1	.7	5.0	84
2.2	1.2	6.0	140
2.4	2.8	8.0	285
2.7	6.6	9.0	371

Note.--Same as preceding table above 9.0 ft.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	1.7	6.9	11	47	39	20	18	3.2	7.4	3.2
2	0	.1	2.0	6.6	10	43	74	18	16	2.8	9.4	2.8
3	0	0	2.0	6.4	9.8	39	55	16	14	6.3	46	2.0
4	0	.2	2.2	6.2	14	35	39	14	13	17	99	1.6
5	0	.1	2.3	5.6	303	32	32	13	12	18	63	1.3
6	*0	.1	2.4	6.2	706	29	30	12	11	9.5	33	1.1
7	0	.2	2.4	5.8	644	25	26	11	9.7	7.4	17	1.0
8	0	.3	2.4	5.8	256	*24	22	9.7	8.6	5.1	13	.8
9	0	.2	2.6	12	119	23	42	9.0	8.0	3.9	10	.7
10	0	.2	2.6	21	89	24	592	8.1	20	3.2	8.6	.6
11	0	.1	2.4	28	72	24	962	7.8	116	2.8	7.0	.7
12	0	.1	4.1	21	57	23	842	9.4	44	2.6	6.4	.7
13	0	.1	5.2	14	50	22	1,230	13	23	4.0	5.7	.6
14	0	.1	*7.1	12	47	20	*1,480	12	*17	5.7	5.0	.5
15	0	1.5	7.7	11	45	20	412	9.4	13	4.6	4.3	.5
16	0	12	6.3	15	44	19	177	7.8	12	2.8	3.5	.5
17	0	10	5.0	31	55	18	131	*7.2	11	5.0	2.8	.5
18	0	4.7	4.3	*64	53	18	113	6.6	10	3.0	2.3	.5
19	0	3.1	3.9	108	46	17	99	15	8.8	2.8	1.9	.4
20	0	1.8	3.7	70	72	17	86	494	7.5	5.0	1.4	.4
21	0	1.5	3.7	42	140	30	72	1,180	6.8	*4.3	1.2	.3
22	0	1.3	3.4	25	158	222	65	435	12	3.6	1.1	.8
23	0	1.2	3.4	20	113	213	59	102	13	3.0	*1.0	2.0
24	0	*1.2	3.7	17	84	94	55	184	8.3	2.8	1.0	*1.6
25	0	1.2	3.7	15	63	*55	44	146	6.3	2.4	1.0	3.7
26	0	1.2	3.9	13	55	41	36	72	5.7	1.9	.9	3.2
27	1.0	1.2	4.2	12	52	32	33	51	5.1	1.5	.8	3.0
28	1.4	1.2	5.9	12	49	28	29	38	3.9	3.1	2.0	2.2
29	.6	1.4	14	13	-	27	26	33	3.4	31	2.4	1.4
30	.4	1.5	10	12	------	26	22	27	3.2	26	4.0	1.1
31	.2	-----	8.7	11	------	26	-----	22	------	14	3.6	------
Total	3.6	47.9	136.9	648.7	3,416.8	1,313	6,924	3,003.0	460.3	208.3	365.7	39.7
Mean	0.12	1.60	4.42	20.9	122	42.4	231	96.9	15.3	6.72	11.8	1.32
Cfsm	0.00099	0.013	0.037	0.173	1.01	0.350	1.91	0.801	0.126	0.056	0.098	0.011
In.	0.001	0.01	0.04	0.20	1.05	0.40	2.13	0.92	0.14	0.06	0.11	0.01
Ac-ft	7.1	95	272	1,290	6,780	2,600	13,730	5,960	913	413	725	79

Calendar year 1954: Max 1,430 Min 0 Mean 39.9 Cfsm 0.330 In. 4.46 Ac-ft 28,890
Water year 1954-55: Max 1,480 Min 0 Mean 45.4 Cfsm 0.375 In. 5.07 Ac-ft 32,860

Peak discharge (base, 900 cfs).--Apr. 11 (10 p.m.) 1,100 cfs (14.74 ft); Apr. 14 (2 a.m.) 1,880 cfs (16.79 ft); May 21 (9 a.m.) 1,360 cfs (15.59 ft).
* Discharge measurement or observation of no flow made on this day.

Bayou Anacoco near Leesville, La.

Location.--Lat 31°09'35", long 93°21'05", in NW¼NW¼ sec. 13, T. 2 N., R. 10 W., near left bank on downstream side of bridge on State Highway 8 (renumbered), 2¾ miles upstream from Prairie Creek and 5½ miles west of Leesville.

Drainage area.--114 sq mi.

Records available.--September 1948 to September 1955.

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

Average discharge.--7 years, 176 cfs (127,400 acre-ft per year).

Extremes.--Maximum discharge during year, 16,500 cfs Aug. 3 (gage height, 17.64 ft); minimum, 6.4 cfs Oct. 9, 10 (gage height, 2.99 ft).
1948-55: Maximum discharge, 26,200 cfs Apr. 29, 1953 (gage height, 19.39 ft); minimum, 4.3 cfs Sept. 27, 1954; minimum gage height, 2.50 ft Sept. 1, 2, 1951.

Remarks.--Records good.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-29, Dec. 15 to Jan. 9, Apr. 29 to May 17)

3.2	6.1	13.0	1,020
3.5	14	13.5	1,170
4.0	33	14.0	1,510
5.0	86	14.5	2,270
6.0	147	15.0	3,590
8.0	303	15.5	5,470
10.0	522	15.9	7,410
12.0	833		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	9.7	13	20	31	95	*32	26	13	14	122	379
2	7.8	8.4	13	18	29	86	64	24	12	14	121	118
3	7.6	7.4	13	17	28	76	62	23	12	15	7,280	65
4	7.4	9.4	13	16	52	69	44	22	12	36	6,500	46
5	7.6	10	13	16	695	64	36	21	11	182	1,420	37
6	7.4	12	13	16	1,160	59	32	20	11	67	1,800	33
7	7.4	11	12	16	1,460	52	29	19	11	28	1,190	30
8	6.6	11	13	16	*776	48	27	18	11	20	354	28
9	6.6	10	12	18	271	*45	32	17	13	16	251	26
10	6.9	9.7	12	62	158	44	399	17	18	14	203	23
11	7.1	9.7	13	*122	125	45	815	16	20	13	164	22
12	8.1	9.4	22	65	98	44	987	17	24	14	128	28
13	18	9.2	48	41	82	41	2,080	17	17	134	104	39
14	18	9.2	38	33	75	39	1,940	18	14	650	86	29
15	14	14	24	33	70	36	550	19	13	410	68	24
16	11	*26	*18	116	67	34	189	21	11	163	56	22
17	9.2	26	15	107	110	33	140	123	11	187	47	21
18	8.6	20	14	120	113	32	116	139	10	341	41	19
19	8.1	17	13	285	89	31	98	62	9.4	361	36	18
20	*7.6	15	12	236	128	31	85	159	*9.2	163	33	19
21	7.6	14	12	92	503	34	73	171	10	92	30	22
22	7.4	14	12	89	923	40	64	73	11	98	27	53
23	7.6	13	12	85	900	52	56	*46	12	80	25	72
24	7.8	13	12	60	315	42	52	36	11	174	24	166
25	7.8	13	12	48	168	36	46	34	13	104	27	148
26	8.1	13	13	41	131	30	40	29	11	62	31	68
27	9.7	13	14	39	116	27	36	23	9.7	53	27	45
28	20	13	16	39	107	25	33	19	11	*614	33	*35
29	24	12	20	40	-	24	*30	17	11	979	62	30
30	16	12	28	36	------	24	29	15	11	311	*59	26
31	11	-----	25	33	-----	24	-----	14	------	147	190	------
Total	310.6	384.1	520	1,977	8,780	1,362	8,216	1,275	373.3	5,556	20,539	1,691
Mean	10.0	12.8	16.8	63.8	314	43.9	274	41.1	12.4	179	663	56.4
Cfsm	0.088	0.112	0.147	0.560	2.75	0.385	2.40	0.361	0.109	1.57	5.82	0.495
In.	0.10	0.13	0.17	0.64	2.86	0.44	2.68	0.42	0.12	1.81	6.70	0.55
Ac-ft	616	762	1,030	3,920	17,410	2,700	16,300	2,530	740	11,020	40,740	3,350

Calendar year 1954: Max 2,600 Min 4.5 Mean 66.1 Cfsm 0.580 In. 7.88 Ac-ft 47,880
Water year 1954-55: Max 7,280 Min 6.6 Mean 140 Cfsm 1.23 In. 16.62 Ac-ft 101,100

Peak discharge (base, 900 cfs).--Feb. 7 (7 a.m.) 1,620 cfs (14.12 ft); Feb. 23 (5 a.m.) 999 cfs (12.92 ft); Apr. 14 (12:30 a.m.) 2,990 cfs (14.76 ft); July 29 (10 a.m.) 1,100 cfs (13.27 ft); Aug. 3 (9 p.m.) 16,500 cfs (17.64 ft).
* Discharge measurement made on this day.

Bayou Anacoco near Rosepine, La.

Location.--Lat 30°57'10", long 93°21'10", on line between secs. 25 and 26, T. 1 S., R. 10 W., near center of span on downstream side of bridge on parish road from Rosepine to Evans, just downstream from Pocosin Creek, 4.8 miles northwest of Rosepine.

Drainage area.--366 sq mi (revised).

Records available.--October 1951 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 120 ft (extrapolated from topographic map of nearby area). Prior to Nov. 11, 1954, wire-weight gage and crest-stage indicator at same site and datum.

Extremes.--Maximum discharge during year, 36,200 cfs Aug. 4 (gage height, 25.24 ft); minimum, 10 cfs Nov. 14 (gage height, 3.38 ft).
1951-55: Maximum discharge, 64,300 cfs May 19, 1953 (gage height, 28.38 ft); minimum, 7.2 cfs Sept. 23, 1954; minimum gage height, 3.28 ft Oct. 31, 1951.

Remarks.--Records good. Low flow partly regulated by Anacoco-Prairie Lake 15 miles above station.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 24 to July 14, Aug. 11 to Sept. 6)

Oct. 1 to Feb. 22

3.4	12	6.0	334
3.6	28	8.0	700
4.0	66	10.0	1,090
4.5	116	12.0	1,500
5.0	177		

Note.--Same as following table above 12.0 ft.

Feb. 23 to Sept. 30

3.3	18	12.0	1,500
3.5	34	15.0	2,280
4.0	77	18.0	3,500
4.5	133	19.0	4,080
5.0	201	20.0	5,200
6.0	368	21.0	8,250
8.0	730	22.0	13,500
10.0	1,110	24.0	26,800

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	19	16	69	90	386	*82	92	47	32	548	394
2	14	19	17	70	83	332	121	82	41	31	404	548
3	13	19	17	64	79	297	109	77	37	55	2,450	404
4	12	21	18	60	181	247	109	72	38	59	24,300	280
5	12	23	18	57	1,880	231	109	68	31	52	21,000	231
6	12	23	26	61	2,800	201	104	64	29	56	7,770	159
7	12	21	23	62	3,240	187	300	59	28	72	3,640	127
8	13	19	22	59	*3,140	159	266	57	28	68	2,920	109
9	12	19	20	112	2,260	*146	217	54	31	55	1,990	92
10	12	18	18	267	1,240	140	1,030	53	88	46	1,170	82
11	14	14	18	*235	757	133	1,780	50	127	42	768	116
12	25	12	48	177	512	127	2,120	49	80	39	566	297
13	47	12	80	151	386	121	4,510	49	55	41	494	159
14	39	12	74	128	300	121	6,350	51	45	646	368	115
15	28	26	*63	133	251	115	6,050	51	40	1,440	280	98
16	18	*34	60	212	220	104	3,290	54	36	1,660	216	92
17	14	32	55	198	212	104	1,440	72	34	1,020	173	82
18	13	23	51	303	377	98	806	87	30	844	140	72
19	13	18	46	530	283	92	602	186	28	806	121	68
20	*14	16	41	476	317	92	458	1,860	24	787	104	64
21	14	16	38	404	1,180	92	368	794	*25	705	92	76
22	14	16	36	360	2,120	104	314	*476	25	762	82	173
23	15	16	34	275	2,220	104	263	332	23	584	72	332
24	17	16	33	220	1,800	92	216	231	24	494	68	476
25	17	16	33	177	1,190	92	187	166	22	530	68	386
26	17	16	33	147	787	87	159	121	22	*458	64	386
27	18	16	35	140	584	87	140	98	24	332	64	297
28	26	16	53	152	476	77	127	82	20	386	157	*216
29	28	15	81	126	-	72	*115	68	23	684	263	166
30	24	15	77	105	------	68	98	59	28	901	*280	133
31	18	-----	59	95	------	66	------	52	------	820	231	------
Total	560	558	1,243	5,625	28,965	4,376	31,840	5,666	1,133	14,507	70,863	6,230
Mean	18.1	18.6	40.1	181	1,034	141	1,061	183	37.8	468	2,286	208
Cfsm	0.049	0.051	0.110	0.495	2.83	0.385	2.90	0.500	0.103	1.28	6.25	0.568
In.	0.06	0.06	0.13	0.57	2.94	0.44	3.24	0.58	0.12	1.47	7.20	0.63
Ac-ft	1,110	1,110	2,470	11,160	57,450	8,680	63,150	11,240	2,250	28,770	140,600	12,360

Calendar year 1954: Max 5,400 Min 7.8 Mean 186 Cfsm 0.508 In. 6.99 Ac-ft 134,400
Water year 1954-55: Max 24,300 Min 12 Mean 470 Cfsm 1.28 In. 17.44 Ac-ft 340,400

Peak discharge (base, 1,500 cfs).--Feb. 7 (6 p.m.) 3,300 cfs (17.55 ft); Feb. 23 (5:30 p.m.) 2,280 cfs (15.00 ft); Apr. 15 (12:30 a.m.) 7,200 cfs (20.74 ft); May 20 (6:30 a.m.) 2,220 cfs (14.79 ft); July 16 (10:30 a.m.) 1,780 cfs (13.07 ft); Aug. 4 (5:30 p.m.) 36,200 cfs (25.24 ft).
* Discharge measurement made on this day.

Sabine River near Bon Wier, Tex.

Location.--Lat 30°45'00", long 93°36'30", near center of main channel at upstream side of bridge on U. S. Highway 190, 0.7 mile upstream from Quicksand Creek, 0.8 mile upstream from Gulf, Colorado and Santa Fe Railway bridge, 2.0 miles east of Bon Wier, Newton County, 2.4 miles upstream from Caney Creek, and at mile 98.

Drainage area.--8,323 sq mi.

Records available.--October 1923 to September 1934, January 1939 to September 1955. Gage-height records collected in this vicinity since 1913 are contained in reports of the U. S. Weather Bureau.

Gage.--Wire-weight gage read twice daily. Datum of gage is 46.42 ft above mean sea level, datum of 1929. Oct. 6, 1923, to July 7, 1931, chain gage at site 0.8 mile downstream at same datum. July 8, 1931, to Sept. 30, 1934, and Jan. 21, 1934, to Jan. 16, 1942, chain gage at present site and datum.

Average discharge.--27 years (1923-34, 1939-55), 7,661 cfs (5,546,000 acre-ft per year).

Extremes.--Maximum discharge during year, 29,700 cfs Aug. 6 (gage height, 19.65 ft); minimum, 217 cfs Oct. 9-11.

1923-34, 1939-55: Maximum discharge, 115,000 cfs May 19, 1953 (gage height, 25.70 ft); minimum observed, 185 cfs Sept. 11, 22, 24, 1925.

Maximum stage known since at least 1833, 30.5 ft Apr. 23 or 24, 1913, from information by Gulf, Colorado and Santa Fe Railway Co. and local residents. Flood in May 1884 reached a stage of about 26 ft and that of May 1935, 23.4 ft.

Remarks.--Records good. Small diversions above station.

Revisions (water years).--WSP 1342: 1953.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 4-10, Dec. 21 to Feb. 5, Feb. 26 to Mar. 24, May 6-20, June 6 to July 4, Aug. 17 to Sept. 5)

0.1	207	7.0	5,350
.5	317	12.0	12,000
1.0	525	16.0	19,200
2.0	1,040	20.0	31,500
4.0	2,450		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*227	332	1,310	1,130	2,290	7,100	9,660	6,260	9,380	845	1,780	2,450
2	227	355	1,160	1,100	2,050	6,380	9,100	5,570	8,270	845	1,470	2,130
3	221	620	1,040	1,100	1,890	5,350	8,400	4,800	6,020	895	5,320	1,720
4	221	1,160	920	1,100	1,780	4,700	7,750	3,700	3,900	950	19,800	1,400
5	225	*1,640	870	1,160	5,520	4,500	7,360	2,940	2,850	1,130	23,900	1,820
6	237	2,050	795	1,190	11,000	4,000	6,980	2,370	2,290	1,040	29,300	1,640
7	227	2,450	720	1,160	13,200	3,700	7,230	2,130	1,970	895	27,200	1,610
8	219	2,770	695	1,130	13,200	*3,400	7,100	1,890	1,820	820	22,700	1,640
9	217	3,210	670	1,250	12,300	2,850	6,260	1,750	1,750	745	19,200	1,720
10	217	3,700	630	1,610	11,100	2,850	6,740	1,610	1,930	695	17,800	1,720
11	217	3,900	615	2,010	9,660	2,610	10,100	1,470	2,050	650	14,900	1,640
12	223	3,900	695	1,750	9,100	2,450	13,700	1,400	1,890	695	10,600	1,720
13	251	3,900	820	1,500	8,960	2,290	21,600	1,340	1,680	670	6,620	2,010
14	317	3,800	*870	1,400	8,960	2,130	23,300	1,250	1,500	895	4,300	1,680
15	344	3,600	745	1,340	8,820	2,050	21,200	1,190	1,310	1,880	2,940	1,440
16	295	*3,400	695	1,500	8,270	2,010	20,500	1,160	*1,340	2,770	2,450	1,280
17	269	3,030	895	1,860	7,100	1,890	19,600	1,160	1,190	2,770	2,010	1,130
18	254	2,850	2,010	1,930	6,020	1,780	17,600	1,310	1,070	2,290	1,780	1,010
19	244	2,770	2,690	2,690	5,350	1,820	15,600	*1,470	980	1,970	1,610	980
20	237	2,770	2,850	2,940	4,910	1,820	14,900	6,310	950	1,930	1,500	*920
21	229	2,850	2,690	*2,850	5,680	1,750	*14,700	8,680	920	*2,050	1,400	870
22	227	2,770	2,450	3,210	8,820	1,750	14,500	9,380	895	2,370	1,340	1,190
23	227	2,450	2,130	4,100	8,820	2,600	14,200	9,660	895	2,940	1,250	1,720
24	244	2,210	1,820	4,700	7,880	6,020	14,200	8,400	895	2,850	1,160	1,860
25	257	2,050	1,610	5,020	7,490	8,400	13,000	7,230	845	2,530	*1,100	2,130
26	263	1,930	1,440	5,020	7,360	9,380	11,600	7,490	795	2,290	1,070	1,720
27	*310	1,890	1,310	4,700	7,360	9,940	9,520	8,270	770	1,970	1,010	1,340
28	340	1,860	1,250	4,200	7,230	*10,200	7,750	8,820	820	1,750	1,250	1,190
29	411	1,680	1,220	3,600	-	10,400	6,860	9,100	895	1,820	2,050	980
30	395	1,500	1,190	3,030	------	10,400	6,500	9,380	1,010	2,050	1,970	870
31	355	-----	1,130	2,610	-----	9,940	-----	9,380	------	1,970	2,770	------
Total	8,147	73,397	39,935	73,890	212,120	146,460	367,510	146,870	62,880	49,970	233,550	45,530
Mean	263	2,447	1,288	2,384	7,576	4,725	12,250	4,738	2,096	1,612	7,534	1,518
Cfsm	0.032	0.294	0.155	0.286	0.910	0.567	1.47	0.569	0.252	0.194	0.905	0.182
In.	0.04	0.33	0.18	0.33	0.95	0.65	1.64	0.66	0.28	0.22	1.04	0.20
Ac-ft	16,160	145,600	79,210	146,600	420,700	290,500	728,900	291,300	124,700	99,110	463,200	90,310

Calendar year 1954: Max 18,200 Min 207 Mean 2,798 Cfsm 0.336 In. 4.57 Ac-ft 2,026,000
Water year 1954-55: Max 29,300 Min 217 Mean 4,001 Cfsm 0.481 In. 6.52 Ac-ft 2,896,000

* Discharge measurement made on this day.

Big Cow Creek near Newton, Tex.

Location.--Lat 30°49'10", long 93°47'05", near center of span at downstream side of bridge on State Highway 87, 2.6 miles southwest of Newton, Newton County, 5.0 miles downstream from Bishop Creek, and 8.0 miles upstream from Whiteoak Creek.

Drainage area.--141 sq mi.

Records available.--April 1952 to September 1955.

Gage.--Wire-weight gage read twice daily. Datum of gage is 134 ft above mean sea level (State Highway Department bridge plans).

Extremes.--Maximum discharge observed during year, 2,480 cfs Apr. 13 (gage height, 15.34 ft); minimum observed, 26 cfs July 9, 10.
1952-55: Maximum discharge, 20,200 cfs Apr. 29, 1953 (gage height, 19.45 ft); minimum observed, 23 cfs Sept. 29, Oct. 4, 5, 1952, Sept. 13, 14, 15, 16, 1954.
Maximum stage known since at least 1907, 27.5 ft in April 1922, from information by local resident.

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

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*32	37	38	54	58	86	69	42	32	29	37	226
2	30	35	39	58	56	77	134	41	31	36	36	94
3	29	34	40	52	55	74	80	40	30	38	322	55
4	27	32	40	48	73	72	51	39	30	35	886	44
5	27	*35	40	45	1,090	69	51	38	30	32	406	39
6	28	44	39	50	1,870	67	51	38	30	30	114	36
7	31	39	38	50	1,190	63	214	37	30	28	83	35
8	29	36	38	49	354	62	224	36	30	27	64	34
9	27	35	38	92	170	61	94	36	63	26	64	32
10	27	34	38	210	131	62	580	35	55	26	74	30
11	28	34	38	187	110	62	1,260	34	46	32	50	29
12	39	33	64	100	94	61	692	36	42	33	63	29
13	62	33	*134	72	88	57	1,840	39	34	44	80	36
14	69	38	100	63	88	55	968	35	31	55	94	34
15	44	225	59	64	83	54	200	33	30	72	54	31
16	31	254	48	120	83	53	114	*36	*35	83	46	30
17	29	184	45	*131	309	51	91	53	63	55	42	30
18	28	69	43	192	261	51	*80	100	55	54	40	29
19	28	53	42	336	796	50	74	62	32	53	38	28
20	28	48	40	142	117	50	69	110	31	54	36	*27
21	28	44	40	100	*354	52	67	117	30	*42	35	27
22	28	*43	40	106	803	53	62	74	34	48	34	27
23	39	42	40	94	287	67	60	50	36	48	33	48
24	80	40	40	74	146	54	56	44	30	61	31	43
25	72	40	40	67	114	50	54	42	29	47	*30	44
26	55	40	40	63	94	46	49	39	28	38	31	45
27	50	40	41	62	91	45	47	36	28	34	31	36
28	72	39	49	64	88	43	46	35	29	38	114	30
29	52	39	52	72	-	43	45	34	29	44	162	29
30	49	39	74	62	------	*45	44	34	28	42	150	28
31	42	-----	58	59	-----	46	-----	35	------	41	290	------
Total	1,240	1,738	1,515	2,938	9,053	1,781	7,466	1,460	1,061	1,325	3,570	1,285
Mean	40.0	57.9	48.9	94.8	323	57.5	249	47.1	35.4	42.7	115	42.8
Cfsm	0.284	0.411	0.347	0.672	2.29	0.408	1.77	0.334	0.251	0.303	0.816	0.304
In.	0.33	0.46	0.40	0.78	2.39	0.47	1.97	0.39	0.28	0.35	0.94	0.34
Ac-ft	2,460	3,450	3,000	5,830	17,960	3,530	14,810	2,900	2,100	2,630	7,080	2,550

Calendar year 1954: Max 1,830 Min 23 Mean 73.2 Cfsm 0.519 In. 7.05 Ac-ft 52,970
Water year 1954-55: Max 1,870 Min 26 Mean 94.3 Cfsm 0.669 In. 9.10 Ac-ft 68,300

Peak discharge (base, 1,000 cfs).--Feb. 6 (5 a.m.) 2,150 cfs (15.20 ft); Apr. 13 (8 p.m.) 2,480 cfs (15.34 ft).
* Discharge measurement made on this day.

Cypress Creek near Buna, Tex.

Location.--Lat 30°25'45", long 93°54'20", near center of span at downstream side of bridge on Farm Road 253, 1.0 mile downstream from unnamed tributary, 3.2 miles east of Buna, Jasper County, and about 10 miles upstream from Little Cypress Creek.

Drainage area.--63.4 sq mi.

Records available.--March 1952 to September 1955.

Gage.--Wire-weight gage read twice daily. Datum of gage is 46 ft above mean sea level (State Highway Department bridge plans).

Extremes.--Maximum discharge during year, 3,800 cfs Apr. 13 (gage height, 11.95 ft, from graph based on gage readings); no flow at times.
1952-55: Maximum discharge, 3,800 cfs Apr. 23, 1952, and Apr. 13, 1955; maximum gage height, 11.95 ft Apr. 13, 1955, from graph based on gage readings; no flow at times.

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

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 16-31, Jan. 31, Feb. 1-4, 10, 11, 24-26, July 28-31)

1.6	0	6.0	97
1.7	.1	7.0	156
1.8	.3	8.0	269
2.0	1.0	8.5	380
2.2	2.2	9.0	575
2.5	4.8	10.0	1,220
3.0	11	11.0	2,350
4.0	31	11.5	3,100
5.0	60		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	14	10	32	0.8	0.4	0	0	4.3	126
2		0	0	8.8	8.1	26	2.9	.4	0	0	2.7	75
3		0	0	3.5	6.6	20	1.4	.3	0	0	18	40
4		0	0	2.5	7.0	16	.8	.2	0	0	336	16
5		0	0	1.9	1,130	13	.6	.1	0	.1	575	11
6		0	0	2.3	*2,140	10	.4	.1	0	.1	390	7.1
7		0	0	3.5	1,780	*7.6	.3	.1	0	.1	183	4.6
8		0	0	2.5	980	5.7	.2	0	0	.1	56	2.7
9		0	0	22	650	4.8	700	0	0	0	24	1.7
10		0	0	351	428	4.7	799	0	0	0	15	.9
11		0	0	264	163	5.7	1,050	0	.1	0	13	.7
12		0	1.0	96	52	4.3	915	0	.3	0	9.2	.9
13		0	3.9	42	31	3.4	2,800	0	.2	0	5.0	2.2
14		0	2.1	25	24	2.8	1,570	0	.1	0	2.8	1.3
15		7.2	1.2	7.9	20	2.3	820	0	.1	0	1.7	1.0
16		9.2	1.0	169	17	1.8	462	0	.3	0	1.3	.6
17		1.5	.6	110	20	1.1	152	0	.2	0	1.9	.4
18	(*)	.5	.5	215	26	1.4	48	0	.4	0	1.2	.4
19		.3	.5	395	29	1.3	27	0	.2	0	1.0	.3
20		.2	.4	158	96	1.2	17	8.9	.1	0	.7	.3
21		.1	*.4	102	664	1.2	12	2.4	*0	.2	.5	.2
22		0	.4	107	702	.8	8.1	.8	0	.3	.4	.2
23		*0	.3	74	575	.7	5.6	.3	0	.4	.3	.2
24		0	.3	46	395	.6	4.0	*.1	0	.2	.3	.2
25		0	.3	28	*277	.5	*2.8	0	0	.2	.2	.2
26		0	.3	18	168	.4	2.1	.5	0	1.8	*.2	.2
27		0	.3	*25	60	.3	1.5	.3	0	2.8	.2	.2
28		0	.4	60	40	.2	1.0	.2	0	*19	206	.6
29		0	.4	33	-	.2	.8	.2	0	36	600	.6
30		0	.3	20	------	**.2	.6	.1	0	23	530	.3
31		-----	1.1	13	------	.2	------	.1	------	10	374	------
Total	0	19.0	15.7	2,419.9	10,498.7	170.4	9,405.9	15.5	2.0	94.3	3,353.9	296.0
Mean	0	0.63	0.51	78.1	375	5.50	314	0.50	0.07	3.04	108	9.87
Cfsm	0	0.0099	0.0080	1.23	5.91	0.087	4.95	0.0079	0.0011	0.048	1.70	0.156
In.	0	0.01	0.009	1.42	6.16	0.10	5.52	0.009	0.001	0.06	1.97	0.17
Ac-ft	0	38	31	4,800	20,820	338	18,660	31	4.0	187	6,650	587

Calendar year 1954: Max 1,570 Min 0 Mean 46.1 Cfsm 0.727 In. 9.84 Ac-ft 33,340
Water year 1954-55: Max 2,800 Min 0 Mean 72.0 Cfsm 1.14 In. 15.43 Ac-ft 52,150

Peak discharge (base, 1,000 cfs).--Feb. 6 (5:30 p.m.) 2,580 cfs (11.13 ft), Apr. 11 (3 a.m.) 1,130 cfs (9.90 ft), Apr. 13 (12 m.) 3,800 cfs (11.95 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Sabine River near Ruliff, Tex.

Location.--Lat 30°18'10", long 93°44'40", near right bank at downstream side of bridge on State Highway 235, 2.4 miles north of Ruliff, Newton County, 4.2 miles upstream from Kansas City Southern Railway bridge, 4.5 miles downstream from Cypress Creek, and at mile 40.

Drainage area.--9,440 sq mi.

Records available.--October 1924 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4.08 ft above mean sea level, datum of 1929, supplementary adjustment of 1941. Prior to Mar. 1, 1941, staff gage at Kansas City Southern Railway bridge 4.2 miles downstream at datum 2.02 ft lower. Mar. 1, 1941, to Dec. 8, 1948, wire-weight gage at present site and datum.

Average discharge.--31 years, 8,882 cfs (6,430,000 acre-ft per year).

Extremes.--Maximum discharge during year, 34,700 cfs Apr. 16 (gage height, 14.80 ft); minimum, 315 cfs Oct. 1.

1924-55: Maximum discharge, 121,000 cfs May 22, 1953 (gage height, 19.98 ft); minimum, 310 cfs Sept. 28, 1954.

Maximum stage known since at least 1835, about 22.2 ft in May or June 1884 (adjusted to present site and datum of basis of slope of flood of June 8, 9, 1950), from information by local resident.

Remarks.--Records good. No large diversion above station. Records of chemical analyses and water temperatures for the water year 1955 are published in WSP 1402.

Revisions (water years).--WSP 1282: 1925-27, 1928(M), 1929, 1941(M), 1942.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 4, Dec. 20-29, Feb. 13 to Mar. 3, Mar. 28 to Apr. 15, Apr. 19 to May 2, May 22 to June 5, Aug. 20-28)

1.6	325	10.0	5,400
2.0	435	11.0	6,980
3.0	770	12.0	9,300
5.0	1,640	13.0	13,200
8.0	3,470	14.0	22,000
9.0	4,300	15.0	38,000

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	325	578	2,160	1,640	3,780	10,300	11,400	9,920	9,920	1,440	2,770	8,260
2	325	542	1,990	1,590	3,330	9,920	11,400	9,020	9,920	1,440	2,640	9,020
3	325	495	1,790	1,540	2,980	9,600	11,400	8,260	9,920	1,340	3,620	8,020
4	338	525	1,590	1,540	2,770	9,020	11,000	7,580	9,920	1,440	7,380	5,900
5	338	752	1,440	1,540	3,790	8,260	10,600	6,600	8,500	1,590	11,000	4,020
6	338	1,250	1,300	1,540	8,070	7,180	10,300	5,160	6,330	1,640	14,100	3,330
7	338	1,790	1,160	1,590	13,200	6,260	9,600	4,020	4,500	1,640	18,500	3,050
8	338	2,280	1,090	1,590	19,000	5,540	9,020	3,400	3,470	1,490	24,800	2,770
9	338	2,700	1,030	1,690	22,700	5,040	9,920	3,050	2,980	1,300	29,800	2,580
10	325	3,190	970	2,040	24,100	4,600	11,800	2,770	2,980	1,200	29,800	2,580
11	325	3,540	930	2,840	24,100	4,110	12,200	2,580	3,330	1,160	26,400	2,520
12	325	3,940	930	3,620	21,400	3,780	12,700	2,460	3,540	1,050	24,100	2,520
13	325	4,110	990	3,700	17,500	3,540	14,400	2,340	3,470	1,010	22,000	2,460
14	338	4,300	1,030	3,190	14,100	3,330	19,000	2,220	3,190	1,120	19,000	2,640
15	362	4,600	1,250	2,640	12,700	3,190	26,400	2,100	2,770	1,250	15,100	2,580
16	480	4,500	1,300	2,700	11,800	2,980	33,900	1,990	2,520	1,790	10,600	2,400
17	495	4,400	1,160	2,980	11,400	2,840	33,000	1,940	2,340	3,120	6,980	2,100
18	*450	4,300	1,090	3,260	11,000	2,770	28,900	1,940	2,220	3,780	4,600	1,940
19	405	3,940	1,640	3,620	10,600	2,640	24,100	2,100	2,040	3,620	3,470	1,740
20	405	3,620	2,460	4,110	10,300	2,640	22,000	3,860	1,840	3,190	2,910	1,590
21	362	3,470	*2,910	4,800	9,600	2,640	19,600	7,030	1,690	2,910	2,640	1,490
22	350	3,470	2,980	4,800	9,600	2,580	17,500	9,600	*1,590	2,840	2,520	1,390
23	362	*3,400	2,770	4,700	10,600	2,520	16,200	11,400	1,540	2,910	2,340	1,440
24	390	3,260	2,580	4,920	*11,400	2,840	15,100	12,200	1,440	3,400	2,220	1,940
25	390	2,980	2,340	5,400	12,200	4,700	14,400	*12,200	1,390	3,860	2,160	2,400
26	420	2,770	2,160	*5,820	12,700	6,600	*13,800	11,400	1,390	3,700	*2,040	2,770
27	480	2,640	1,940	5,960	12,200	8,020	13,500	10,600	1,300	3,330	1,940	2,980
28	480	2,520	1,840	5,960	11,000	9,020	12,700	9,600	1,250	*3,050	2,620	2,910
29	495	2,460	1,740	5,680	-	*9,600	12,200	9,600	1,200	2,980	4,970	*2,400
30	560	2,340	1,640	5,040	------	10,300	11,000	9,600	1,300	2,770	5,960	1,990
31	612	-----	1,640	4,400	-----	10,600	-----	9,600	------	2,700	6,980	------
Total	12,139	84,662	51,840	106,440	337,920	176,960	479,040	196,140	109,790	70,060	315,960	93,730
Mean	392	2,822	1,672	3,434	12,070	5,708	15,970	6,327	3,660	2,260	10,190	3,124
Cfsm	0.042	0.299	0.177	0.364	1.28	0.604	1.69	0.670	0.388	0.239	1.08	0.331
In.	0.05	0.33	0.20	0.42	1.33	0.70	1.89	0.77	0.43	0.28	1.24	0.37
Ac-ft	24,080	167,900	102,800	211,100	670,300	351,000	950,200	389,000	217,800	139,000	626,700	185,900

Calendar year 1954: Max 28,100 Min 312 Mean 3,903 Cfsm 0.413 In. 5.59 Ac-ft 2,825,000
Water year 1954-55: Max 33,900 Min 325 Mean 5,574 Cfsm 0.590 In. 8.01 Ac-ft 4,036,000

* Discharge measurement made on this day.

Cow Bayou near Mauriceville, Tex.

Location.--Lat 30°11'05", long 93°54'40", near center of span at downstream side of bridge on State Highway 235, half a mile upstream from Kansas City Southern Railway bridge and 3 miles southwest of Mauriceville, Orange County.

Drainage area.--127 sq mi.

Records available.--March 1952 to September 1955.

Gage.--Wire-weight gage read twice daily. Datum of gage is 4.7 ft above mean sea level (State Highway Department bridge plans).

Extremes.--Maximum discharge during year, 962 cfs Feb. 9 (gage height, 10.72 ft); no flow at times.
1952-55: Maximum discharge, 3,380 cfs Apr. 24, 1952 (gage height, 15.16 ft); no flow at times.
Maximum stage known since at least 1940, 16.51 ft on Feb. 2, 1952, from floodmarks.

Remarks.--Records good. No diversion above station. Records of chemical analyses and water temperatures for the water year 1955 are published in WSP 1402.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 12-17, Sept. 25-30; backwater from unknown source Feb. 6-8)

1.5	0	3.0	40
1.6	.1	4.0	110
1.8	.6	5.0	200
2.0	2.4	7.0	435
2.2	7.0	9.0	701
2.4	14	11.0	1,010
2.6	21		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	0.1	0.2	14	114	0.7	1.2	0.7	0.4	0.4	170
2	.1	.2	.1	.2	11	74	.8	.9	.7	.4	.7	216
3	.1	.2	.2	.2	9.4	47	.7	.7	1.0	.4	40	315
4	0	.2	.1	.3	61	34	.6	.6	.7	.4	122	339
5	.1	.2	.1	.4	435	27	.5	.4	.5	.4	106	273
6	.4	.2	.1	.4	*673	21	.4	.3	.3	.3	81	175
7	.3	.2	.1	1.0	788	14	.3	.3	.2	.3	67	102
8	.2	.2	.1	21	912	10	.3	.2	.2	.2	50	51
9	.3	.2	.1	44	945	7.3	157	.2	.3	.2	34	25
10	.4	.1	.1	68	848	5.6	435	.2	11	.2	26	13
11	.3	.1	.1	56	604	4.3	591	.2	7.9	.2	26	7.9
12	.1	.1	.1	39	435	3.3	701	.2	5.4	.2	25	6.7
13	.1	.1	.1	26	303	2.5	*833	.2	3.7	.2	20	5.1
14	.1	.1	.1	43	200	2.2	896	.2	2.4	.2	13	13
15	0	20	.1	94	118	1.6	928	.3	5.8	.3	7.0	34
16	0	7.0	.2	122	88	1.4	848	1.2	19	.3	4.1	13
17	0	3.9	.2	130	72	1.2	788	2.0	24	.4	3.7	6.2
18	*0	2.1	.2	185	56	.9	564	1.4	8.5	.8	1.0	2.4
19	0	1.2	.2	206	41	.8	339	15	4.3	1.0	.7	1.1
20	0	1.0	*.2	250	55	.7	216	575	1.8	1.4	.5	.6
21	0	.7	.2	250	76	.6	138	246	1.6	1.4	.4	.4
22	.1	.3	.2	228	130	.4	80	74	*1.2	1.2	.2	.3
23	.5	*.2	.2	170	*165	.4	46	27	.8	.8	.2	.3
24	1.6	.1	.2	130	233	.4	30	*16	.5	.8	*.2	.3
25	1.2	.1	.1	*94	279	.3	*13	12	.3	.8	.2	.3
26	.8	.1	.1	64	261	.2	7.0	8.2	.3	.8	.2	.3
27	.6	.1	.1	47	222	.2	3.9	4.6	.2	*.7	.4	.3
28	.5	.1	.2	40	165	.2	2.5	2.4	.2	.6	29	.4
29	.3	.1	.1	36	-	*.2	2.2	1.4	.5	.7	69	.5
30	.2	.1	.2	24	------	.2	2.0	1.0	.8	.6	57	.4
31	.2	-----	.2	17	------	.1	-----	.8	------	.5	54	------
Total	8.5	39.3	4.4	2,386.7	8,199.4	376.0	7,624.9	994.1	104.8	17.1	838.9	1,772.5
Mean	0.27	1.31	0.14	77.0	293	12.1	254	32.1	3.49	0.55	27.1	59.1
Cfsm	0.0021	0.010	0.0011	0.606	2.31	0.095	2.00	0.253	0.027	0.0043	0.213	0.465
In.	0.002	0.01	0.001	0.70	2.40	0.11	2.23	0.29	0.03	0.005	0.25	0.52
Ac-ft	17	78	8.7	4,730	16,260	746	15,120	1,970	208	34	1,660	3,520

Calendar year 1954: Max 645 Min 0 Mean 29.6 Cfsm 0.233 In. 3.15 Ac-ft 21,410
Water year 1954-55: Max 945 Min 0 Mean 61.3 Cfsm 0.483 In. 6.55 Ac-ft 44,350

Peak discharge (base, 1,300 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

Neches River near Neches, Tex.

Location.--Lat 31°54', long 95°26', near left bank on downstream side of pier of bridge on U. S. Highway 79, half a mile downstream from International-Great Northern Railroad bridge, 1 mile downstream from Walnut Creek, 4.4 miles northeast of Neches, Anderson County, and at mile 333.

Drainage area.--1,129 sq mi.

Records available.--February 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 263.93 ft above mean sea level, datum of 1929. Prior to Oct. 27, 1945, wire-weight gage at present site and datum.

Average discharge.--16 years, 794 cfs (574,800 acre-ft per year).

Extremes.--Maximum discharge during year, 4,300 cfs Mar. 27 (gage height, 15.26 ft); minimum, 2.0 cfs Oct. 1.

1939-55: Maximum discharge, 45,500 cfs Apr. 2, 1945 (gage height, 22.07 ft); no flow Oct. 3-5, 1939.

Flood in May 1908 reached a stage of 24.3 ft, from information by local resident. Flood in May 1884 was probably higher.

Remarks.--Records good. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 31 to June 30, July 28 to Sept. 30)

1.3	2.7	8.0	380
1.5	5.2	10.0	650
1.7	8.3	12.0	1,070
2.0	14	13.0	1,480
2.5	26	14.0	2,390
3.0	42	15.0	3,800
4.0	82	16.0	5,800
6.0	197		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	820	634	328	740	1,100	2,030	450	1,380	66	40	50
2	3.3	900	514	328	634	1,070	1,610	402	1,130	56	37	56
3	3.8	1,020	414	318	542	1,020	1,380	369	840	50	42	64
4	4.2	1,130	338	318	500	940	1,160	328	528	49	56	88
5	4.5	1,200	298	318	740	860	1,020	289	348	44	41	141
6	4.6	1,280	271	318	1,020	760	900	253	280	39	37	190
7	5.5	1,260	253	308	1,240	668	800	227	244	36	35	197
8	7.7	1,200	235	298	1,380	587	722	204	*219	31	36	153
9	11	1,070	227	308	1,480	514	650	190	190	28	39	102
10	12	990	*219	338	1,510	474	800	172	172	25	*39	75
11	12	*940	219	402	*1,610	438	1,130	*166	162	24	40	58
12	11	940	518	414	1,740	414	1,480	166	147	23	56	50
13	13	940	1,040	402	1,780	391	1,690	190	126	22	58	45
14	23	940	1,130	*402	1,690	402	1,740	183	115	*21	42	42
15	16	990	1,070	414	1,540	557	*1,880	183	110	22	39	*42
16	13	1,020	920	474	1,430	587	2,130	197	102	64	36	45
17	12	1,020	820	514	1,280	*528	2,440	412	98	73	36	46
18	12	990	780	602	1,130	438	2,500	587	93	52	41	43
19	12	920	780	780	990	402	2,340	587	82	82	44	39
20	13	860	800	880	965	462	2,130	602	77	159	41	36
21	13	820	840	940	1,020	587	2,030	618	77	244	35	34
22	35	820	840	990	1,020	1,120	1,780	618	75	308	30	38
23	160	880	800	990	1,020	2,800	1,540	618	73	338	27	58
24	159	965	722	990	1,020	*3,140	1,380	686	73	280	26	84
25	227	1,020	634	990	990	2,800	1,160	800	75	183	25	110
26	348	1,020	542	1,020	1,020	3,220	990	940	79	120	24	123
27	528	1,020	474	1,020	1,040	4,200	840	1,130	79	88	22	162
28	618	940	426	990	1,070	4,100	704	1,380	88	71	24	197
29	*686	880	402	965	-	3,540	602	1,690	90	58	30	227
30	704	760	380	900	------	2,860	450	1,780	82	50	36	227
31	760	------	348	820	------	2,390	------	1,650	------	45	39	------
Total	4,434.5	29,575	17,888	19,079	32,141	43,369	42,008	18,067	7,234	2,751	1,153	2,822
Mean	143	986	577	615	1,148	1,399	1,400	583	241	88.7	37.2	94.1
Cfsm	0.127	0.873	0.511	0.545	1.02	1.24	1.24	0.516	0.213	0.079	0.033	0.083
In.	0.15	0.97	0.59	0.63	1.06	1.43	1.38	0.60	0.24	0.09	0.04	0.09
Ac-ft	8,800	58,660	35,480	37,840	63,750	86,020	83,320	35,840	14,350	5,460	2,290	5,600

Calendar year 1954: Max 5,800 Min 0.5 Mean 409 Cfsm 0.362 In. 4.92 Ac-ft 296,300
Water year 1954-55: Max 4,200 Min 2.9 Mean 604 Cfsm 0.535 In. 7.27 Ac-ft 437,400

* Discharge measurement made on this day.

Neches River near Alto, Tex.

Location.--Lat 31°34', long 95°10', near left bank on downstream side of pier of bridge on State Highway 21, 600 ft downstream from Bowles Creek, 7½ miles southwest of Alto, Cherokee County, and at mile 274.

Drainage area.--1,903 sq mi.

Records available.--January 1944 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 198.29 ft above mean sea level, datum of 1929, supplementary adjustment of 1937.

Average discharge.--11 years, 1,234 cfs (893,400 acre-ft per year).

Extremes.--Maximum discharge during year, 3,340 cfs Apr. 3 (gage height, 16.55 ft); minimum, 0.3 cfs Oct. 3, 4.
1944-55: Maximum discharge, 42,800 cfs Apr. 4, 1945 (gage height, 26.85 ft); minimum, 0.1 cfs Sept. 27, 28, 1954.
Maximum stage known since at least 1861, 28.2 ft in May 1884, from information by local residents (discharge, 50,000 cfs).

Remarks.--Records good. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 26-28, Dec. 4-13, Mar. 1-31, Apr. 7 to May 20, Aug. 4 to Sept. 30)

1.0	0.5	5.0	275
1.1	1.8	7.0	490
1.2	3.8	10.0	885
1.4	9.6	13.0	1,500
1.7	22	15.0	2,150
2.0	36	17.0	3,800
3.0	100		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	526	885	638	1,170	1,650	2,800	1,450	1,320	131	93	74
2	.5	562	870	586	1,130	1,560	3,050	1,150	1,320	131	84	74
3	.5	586	856	550	1,090	1,500	3,230	916	1,380	127	93	70
4	.5	651	800	514	1,090	1,480	3,140	772	1,400	119	135	67
5	3.6	730	730	490	1,420	1,450	2,960	664	1,380	111	325	69
6	4.6	828	625	478	1,900	1,420	2,730	586	1,280	123	245	75
7	3.8	856	526	467	2,150	1,380	2,450	526	*1,130	111	176	84
8	3.1	870	445	456	2,190	1,300	2,120	478	856	100	127	107
9	3.4	916	*379	467	2,040	1,210	1,800	434	638	89	*104	147
10	3.4	*965	335	526	*1,940	1,130	1,710	*390	502	81	88	171
11	3.1	999	305	526	1,840	1,050	1,870	357	423	74	81	163
12	2.7	999	357	612	1,770	965	2,010	346	357	68	79	139
13	2.1	999	651	*574	1,740	870	2,250	325	315	63	77	119
14	2.0	965	856	574	1,740	814	*2,310	325	285	*58	93	*100
15	1.3	982	856	586	1,740	*772	2,250	305	255	55	90	82
16	1.0	1,050	842	612	1,770	730	2,250	305	235	51	92	71
17	4.1	932	965	677	1,800	703	2,250	305	216	49	83	65
18	6.5	1,090	1,050	805	1,800	730	2,190	325	202	47	72	63
19	7.7	1,030	1,070	1,250	1,800	800	2,150	401	189	56	66	63
20	13	1,020	1,050	1,530	1,870	856	2,150	853	184	92	68	61
21	14	982	982	1,590	2,010	856	2,150	1,500	202	92	74	62
22	17	965	916	1,500	2,150	916	2,250	1,740	230	104	75	63
23	24	916	870	1,350	2,250	1,020	2,380	1,680	240	111	70	61
24	70	885	856	1,280	2,190	1,020	2,380	1,740	202	225	65	65
25	176	828	856	1,230	2,120	1,110	2,380	1,650	171	275	59	81
26	240	814	856	1,190	2,010	1,320	2,250	1,210	163	305	52	92
27	245	800	842	1,210	1,870	1,590	2,150	965	147	305	46	104
28	*315	814	828	1,210	1,770	1,800	2,010	916	139	255	48	115
29	401	842	828	1,210	-	1,980	1,940	1,070	135	189	54	139
30	467	870	800	1,210	------	2,150	1,770	1,480	131	143	67	151
31	490	- - -	703	1,190	-------	2,450	-------	1,420	-------	115	82	---- --
Total	2,526.4	26,272	23,790	27,088	50,360	38,582	69,330	26,584	15,627	3,855	2,963	2,797
Mean	81.5	876	767	874	1,799	1,245	2,311	858	521	124	95.6	93.2
Cfsm	0.043	0.460	0.403	0.459	0.945	0.654	1.21	0.451	0.274	0.065	0.050	0.049
In.	0.05	0.51	0.46	0.53	0.98	0.75	1.35	0.52	0.31	0.08	0.06	0.05
Ac-ft	5,010	52,110	47,190	53,730	99,890	76,530	137,500	52,730	31,000	7,650	5,880	5,550

Calendar year 1954: Max 3,450 Min 0.2 Mean 503 Cfsm 0.264 In. 3.57 Ac-ft 364,200
Water year 1954-55: Max 3,230 Min 0.5 Mean 794 Cfsm 0.417 In. 5.65 Ac-ft 574,800

* Discharge measurement made on this day.

Neches River near Diboll, Tex.

Location.--Lat 31°08', long 94°48', near center of main span on upstream side of bridge on U. S. Highway 59, 630 ft downstream from Texas and New Orleans Railroad bridge, 2.9 miles downstream from Alabama Creek, 3.8 miles south of Diboll, Angelina County, and at mile 204.

Drainage area.--2,670 sq mi.

Records available.--November 1923 to August 1925, March 1939 to September 1955.

Gage.--Wire-weight gage read twice daily. Datum of gage is 134.46 ft above mean sea level, datum of 1929. Prior to July 10, 1925, chain gage at site 630 ft upstream, July 10 to Aug. 31, 1925, chain gage and Mar. 30, 1939,to Sept. 24, 1943, wire-weight gage, at site 500 ft upstream, all at present datum.

Average discharge.--17 years (1924-25, 1939-55), 1,800 cfs (1,303,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,710 cfs Apr. 11 (gage height, 13.80 ft); minimum, 0.8 cfs Oct. 1.
1923-25, 1939-55: Maximum discharge, 49,900 cfs May 4, 1944 (gage height, 18.70 ft); no flow Aug. 15-22, 1925.
Maximum stage known, about 21.0 ft, present site, in May 1884, from information by local residents (discharge, about 80,000 cfs).

Remarks.--Records good. No large diversion above station.

Revisions (water year).--WSP 1242: 1950.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8	434	722	805	1,330	2,330	1,330	2,260	2,580	206	176	92
2	.8	418	702	784	1,330	2,410	1,490	2,190	2,000	206	188	83
3	1.4	418	702	763	1,300	2,330	1,600	2,190	1,680	194	170	82
4	1.3	450	702	742	1,420	2,330	1,720	2,120	1,520	194	176	83
5	1.6	484	702	663	2,330	2,330	1,810	2,060	1,490	194	244	85
6	1.9	518	*702	607	3,090	2,260	1,900	1,950	*1,490	200	372	82
7	2.1	553	722	553	3,720	2,120	2,000	1,680	1,490	188	309	78
8	2.1	*589	682	501	3,580	2,000	2,120	1,360	1,520	170	*309	78
9	1.7	607	644	484	*3,330	1,900	2,330	*1,030	1,560	170	296	77
10	1.7	644	625	484	3,090	1,810	3,860	784	1,560	165	250	81
11	1.7	663	518	467	2,770	1,720	5,580	625	1,490	148	212	89
12	*1.6	702	467	*467	2,580	1,640	4,840	535	1,360	136	154	107
13	1.6	722	402	484	2,490	1,560	*5,080	484	1,150	124	130	138
14	1.6	742	450	518	2,410	*1,460	5,200	434	870	120	110	154
15	1.6	1,050	467	553	2,330	1,360	4,730	418	644	104	100	148
16	1.6	982	484	571	2,330	1,280	4,200	387	501	93	95	139
17	1.6	914	535	644	2,260	1,200	3,860	358	418	89	90	123
18	2.1	892	589	784	2,190	1,100	3,450	358	380	82	95	110
19	2.8	848	625	1,050	2,120	1,000	3,210	358	344	79	98	96
20	4.1	848	663	1,030	2,120	982	2,870	705	316	74	96	87
21	5.2	826	742	1,150	2,120	1,380	2,580	1,120	309	68	95	75
22	6.6	826	763	1,230	2,120	1,900	2,490	1,560	296	64	86	68
23	16	826	805	1,230	2,120	1,810	2,410	1,640	276	*74	82	68
24	36	805	826	1,250	2,190	1,720	2,410	1,490	289	100	80	72
25	50	805	870	1,250	2,260	1,560	2,410	1,390	296	105	82	81
26	42	805	870	1,330	2,260	1,420	2,330	1,720	296	120	80	86
27	55	805	870	1,390	2,330	1,280	2,330	2,120	276	154	81	89
28	90	784	870	1,420	2,330	1,180	2,260	2,580	256	182	91	90
29	216	763	848	1,420	-	1,120	2,260	3,210	237	200	87	110
30	358	742	826	1,390	------	1,120	2,260	3,330	218	200	92	*122
31	402	-----	805	1,360	-----	1,200	-----	3,090	------	188	100	------
Total	1,312.5	21,465	21,200	27,374	65,850	50,812	86,920	45,536	27,112	4,391	4,626	2,873
Mean	42.3	716	684	883	2,352	1,639	2,897	1,469	904	142	149	95.8
Cfsm	0.016	0.268	0.256	0.331	0.881	0.614	1.08	0.550	0.339	0.053	0.056	0.036
In.	0.02	0.30	0.30	0.38	0.92	0.71	1.21	0.63	0.38	0.06	0.06	0.04
Ac-ft	2,600	42,580	42,050	54,300	130,600	100,800	172,400	90,320	53,780	8,710	9,180	5,700

Calendar year 1954: Max 6,260 Min 0.6 Mean 596 Cfsm 0.223 In. 3.04 Ac-ft 431,700
Water year 1954-55: Max 5,580 Min 0.8 Mean 985 Cfsm 0.369 In. 5.01 Ac-ft 713,000

* Discharge measurement made on this day.

Neches River near Rockland, Tex.

Location.--Lat 31°01'45", long 94°23'50", on left bank 2,100 ft upstream from Texas and New Orleans Railroad bridge, 2,200 ft downstream from bridge on U. S. Highway 69, 1 mile north of Rockland, Tyler County, 3.6 miles downstream from Billams Creek, and at mile 158.
Drainage area.--3,539 sq mi.
Records available.--July 1903 to September 1955 (July 1903 to September 1923, monthly records only, in WSP 850). Gage-height records collected in this vicinity since 1903 are contained in reports of U. S. Weather Bureau.
Gage.--Staff gage read twice daily. Datum of gage is 91.41 ft above mean sea level, datum of 1929. Prior to July 1, 1933, staff gages at various sites in this vicinity at present datum.
Average discharge.--49 years (1903-10, 1913-55), 2,430 cfs (1,759,000 acre-ft per year).
Extremes.--Maximum discharge during year 12,700 cfs Apr. 15 (gage height, 19.52 ft); minimum, 3.3 cfs Oct. 18-22.
1903-55: Maximum discharge, 49,800 cfs May 6, 1944 (gage height, 31.84 ft); minimum observed during period of daily records, 3.0 cfs Oct. 15, 1931.
Maximum stage known, 34.9 ft in May 1884, from information by local resident, (discharge, about 62,000 cfs).
Remarks.--Records good. No large diversion above station.
Revisions (water years).--WSP 878: 1926-27. WSP 1342: 1922(M), 1935.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 17 to Feb. 5, Mar. 22 to Apr. 10)

-1.4	2.0	1.0	392
-1.3	3.7	2.0	800
-1.2	6.2	4.0	1,860
-1.0	14	8.0	4,300
-.8	28	12.0	6,900
-.5	60	16.0	9,700
0.0	138	20.0	13,200
.5	248		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.8	229	900	1,020	1,280	a2,300	1,280	2,440	2,500	224	288	106
2	6.8	269	875	1,000	1,280	a2,400	1,470	2,380	2,680	212	261	109
3	6.4	313	850	975	1,250	a2,400	1,580	2,320	2,740	206	253	118
4	5.8	360	825	950	1,280	a2,500	1,640	2,320	2,620	215	210	118
5	6.8	382	825	925	3,220	a2,500	1,690	2,260	2,260	212	197	104
6	6.2	423	800	900	5,470	a2,500	1,690	2,200	1,860	210	229	94
7	5.6	451	800	825	5,540	a2,400	1,740	2,200	1,640	203	304	90
8	5.6	489	800	731	*5,340	a2,300	1,800	2,140	1,520	194	354	83
9	5.6	520	825	664	5,210	*2,200	2,020	1,960	1,520	188	366	79
10	5.6	560	825	664	5,210	a2,100	6,340	1,740	1,520	168	324	74
11	5.6	580	800	643	5,080	a2,000	8,090	1,360	1,520	158	296	72
12	5.6	622	754	643	4,950	a1,900	8,760	1,080	1,520	158	256	73
13	*6.2	643	708	643	4,690	1,860	*11,100	825	1,470	168	208	77
14	5.6	686	643	622	4,240	1,740	12,100	664	1,390	150	183	98
15	4.8	1,250	540	643	3,840	1,690	12,600	580	1,200	160	160	112
16	4.1	1,330	*540	800	3,460	1,580	12,000	528	925	154	158	154
17	3.7	*1,420	580	900	3,100	1,520	10,900	540	*664	131	110	154
18	3.3	1,220	580	1,100	2,800	1,390	9,700	643	492	127	104	142
19	3.3	1,120	622	1,470	2,560	1,300	8,580	664	423	129	88	125
20	3.3	1,080	708	*1,640	2,440	1,280	7,600	*731	373	122	88	112
21	3.3	1,080	777	1,640	2,440	1,300	6,510	950	392	129	94	98
22	4.6	1,120	800	1,520	a2,500	1,580	5,600	1,300	330	125	*94	88
23	15	1,100	850	1,520	a2,600	2,320	4,690	1,420	304	*120	91	86
24	40	1,050	875	1,520	a2,600	2,560	3,910	1,580	293	124	88	82
25	40	975	875	1,470	a2,500	2,440	3,280	1,690	277	106	80	74
26	44	975	925	1,420	a2,400	2,260	2,920	1,690	274	125	76	*73
27	53	950	975	1,390	a2,300	2,080	2,740	1,640	a276	133	82	73
28	55	950	1,000	1,300	a2,300	1,860	2,620	1,640	279	164	106	76
29	53	950	1,000	1,280	-	*1,580	2,560	1,800	274	210	122	82
30	50	925	1,000	1,280	------	1,330	2,500	1,960	258	253	112	82
31	106	-----	1,000	1,280	-----	1,220	-----	2,200	-----	279	101	------
Total	570.6	24,022	24,877	33,378	91,880	60,390	160,010	47,445	33,794	5,257	5,483	2,908
Mean	18.4	801	802	1,077	3,281	1,948	5,334	1,530	1,127	170	177	96.9
Cfsm	0.005	0.226	0.227	0.304	0.927	0.551	1.51	0.432	0.318	0.048	0.050	0.027
In.	0.006	0.25	0.26	0.35	0.97	0.63	1.68	0.50	0.36	0.06	0.06	0.03
Ac-ft	1,130	47,650	49,340	66,200	182,200	119,800	317,400	94,110	67,030	10,430	10,880	5,770

Calendar year 1954: Max 5,280 Min 3.3 Mean 772 Cfsm 0.218 In. 2.97 Ac-ft 558,800
Water year 1954-55: Max 12,600 Min 3.3 Mean 1,345 Cfsm 0.380 In. 5.16 Ac-ft 971,900

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and comparison with records for station near Diboll.

Lake Tyler near Whitehouse, Tex.

Location.--Lat 32°14'30", long 95°10'30", at intake tower of pumphouse, 2.0 miles north of Whitehouse Dam on Prairie Creek, 3.2 miles northeast of Whitehouse, Smith County, and 4.3 miles upstream from Mud Creek.

Drainage area.--69 sq mi, approximately.

Records available.--April 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level (city of Tyler benchmark). Prior to May 3, 1949, staff gage at dam at same datum. May 3, 1949, to July 11, 1951, staff gage at pumphouse 660 ft shoreward at same datum.

Extremes.--Maximum contents during year, 45,080 acre-ft Mar. 21 (elevation, 376.23 ft); minimum, 35,160 acre-ft Oct. 17-22; minimum elevation, 371.77 ft Oct. 22.
1949-55: Maximum contents, 45,320 acre-ft May 15, 16, 1953, May 12, 1954; minimum since first appreciable storage, 12,580 acre-ft Sept. 9-16, 1949 (elevation, 358.4 ft).

Remarks.--Lake is formed by rolled earth-fill dam, 4,708 ft long. Spillway is concrete flume, 200 ft wide, located about 800 ft to left of dam. Storage began Jan. 8, 1949, and dam completed May 13, 1949. Total capacity, 43,400 acre-ft (elevation, 375.5 ft, top of spillway). Usable capacity, 39,000 acre-ft between elevations 375.5 and 350.0 ft (bottom of lowest sluice gates). Dead storage, 4,400 acre-ft. Water used for municipal supply for city of Tyler.

Month-end elevation, contents, and diversions, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions for municipal use (acre-feet)
Sept.30	372.04	35,600	-	-
Oct. 31	372.31	36,260	+660	589
Nov. 30	372.74	37,140	+880	460
Dec. 31	373.19	38,240	+1,100	443
Calendar year 1954	-	-	-3,960	6,932
Jan. 31	373.78	39,560	+1,320	443
Feb. 28	375.04	42,200	+2,640	367
Mar. 31	375.50	43,400	+1,200	523
Apr. 30	375.40	43,160	-240	553
May 31	375.48	43,400	+240	618
June 30	374.88	41,980	-1,420	700
July 31	374.57	41,320	-660	757
Aug. 31	374.38	40,880	-440	739
Sept.30	374.13	40,220	-660	669
Water year 1954-55	-	-	+4,620	6,861

† Elevation at 12 p.m.

Mud Creek near Jacksonville, Tex.

Location.--Lat 31°58'40", long 95°09'40", on right bank on downstream side of pile bent of bridge on U. S. Highway 79, 0.6 mile downstream from Caney Creek, 3.9 miles downstream from another Caney Creek, 4 miles downstream from International-Great Northern Railroad bridge, and 6.9 miles east of Jacksonville, Cherokee County.

Drainage area.--382 sq mi.

Records available.--May 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 271.64 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 291 cfs (210,700 acre-ft per year).

Extremes.--Maximum discharge during year, 3,200 cfs Mar. 23 (gage height, 8.65 ft); no flow Oct. 1-21.
1939-55: Maximum discharge, 23,400 cfs May 3, 1944 (gage height, 14.09 ft), from rating curve extended above 11,000 cfs by logarithmic plotting; no flow at times.
Maximum stage known occurred in May 1884; maximum stage known since May 1884, about 20 ft in May 1908 and December 1913, from information by local residents.

Remarks.--Records good. Flow regulated by Lake Tyler on Prairie Creek (see preceding page). No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 24-30, Nov. 20 to Dec. 11, Dec. 19 to Jan. 18, Jan. 27 to Feb. 4, May 1-16, June 3-July 7)

1.0	0	4.0	105
1.1	.3	5.0	179
1.2	1.2	6.0	281
1.3	2.6	6.5	382
1.4	4.2	7.0	670
1.6	7.8	8.0	2,190
2.0	16	9.0	4,160
3.0	48		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	57	34	119	102	269	225	96	215	11	4.0	27
2	0	37	33	105	99	240	205	83	126	10	3.7	44
3	0	30	33	89	92	225	196	73	92	9.3	40	40
4	0	90	33	80	156	210	192	65	76	9.1	49	32
5	0	192	34	77	538	196	187	59	65	11	15	18
6	0	215	34	74	720	179	171	54	62	9.3	15	13
7	0	252	36	73	710	163	159	51	58	11	14	8.1
8	0	240	35	69	822	151	155	49	*52	7.8	11	6.8
9	0	140	*32	68	945	140	167	49	50	5.9	6.1	6.1
10	0	74	*32	83	809	133	449	49	48	4.7	*7.2	5.7
11	0	*54	37	112	*583	130	690	*49	48	3.7	10	5.0
12	0	46	565	130	456	130	690	50	44	3.0	36	4.2
13	0	41	508	*140	344	126	2,450	58	39	2.6	39	3.7
14	0	38	382	130	252	218	1,660	78	35	*2.3	21	*5.0
15	0	62	379	119	210	269	*1,190	58	28	66	13	9.3
16	0	148	398	136	196	*196	783	97	29	134	8.1	7.8
17	0	179	377	148	183	155	630	220	28	71	7.4	5.4
18	0	225	295	275	171	136	514	180	26	70	5.5	4.0
19	0	230	179	478	171	144	428	196	24	83	5.2	3.3
20	0	192	116	420	428	230	344	710	24	58	5.7	3.0
21	0	122	92	420	750	407	295	372	34	42	3.8	3.0
22	13	75	83	451	606	809	295	235	26	29	3.7	6.1
23	21	56	77	438	576	2,690	269	187	24	22	3.2	7.6
24	98	49	73	398	583	*2,540	225	167	27	18	2.7	17
25	116	45	69	302	555	1,560	187	183	27	14	2.1	17
26	96	43	67	257	490	861	155	230	25	13	1.4	19
27	130	39	67	155	408	614	130	288	22	11	1.0	39
28	140	38	96	136	332	490	119	355	18	9.1	1.7	48
29	*151	37	116	122	-	412	116	377	15	7.4	4.7	34
30	155	36	116	119	------	332	105	355	13	5.7	11	20
31	112	-----	126	112	-----	257	-----	295	------	4.5	13	------
Total	1,032	3,082	4,554	5,836	12,287	14,612	13,381	5,368	1,400	758.4	364.2	462.1
Mean	33.3	103	147	188	439	471	446	173	46.7	24.5	11.7	15.4
Cfsm	0.087	0.270	0.385	0.492	1.15	1.23	1.17	0.453	0.122	0.064	0.031	0.040
In.	0.10	0.30	0.44	0.57	1.20	1.42	1.30	0.52	0.14	0.07	0.04	0.04
Ac-ft	2,050	6,110	9,030	11,580	24,370	28,980	26,540	10,650	2,780	1,500	722	917

Calendar year 1954: Max 3,720 Min 0 Mean 120 Cfsm 0.314 In. 4.25 Ac-ft 86,520
Water year 1954-55: Max 2,690 Min 0 Mean 173 Cfsm 0.453 In. 6.14 Ac-ft 125,200

Peak discharge (base, 1,400 cfs).--Mar. 23 (4 p.m.) 3,200 cfs (8.65 ft), Apr. 13 (10 a.m.) 2,900 cfs (8.46 ft).
* Discharge measurement made on this day.

Angelina River near Lufkin, Tex.

Location.--Lat 31°27'40", long 94°43'35", near right bank at downstream side of bridge on U. S. Highway 59, 400 ft upstream from Procella Creek, half a mile downstream from Little Loco Bayou, 1.5 miles upstream from Texas and New Orleans Railroad bridge, and 8 miles north of Lufkin, Angelina County.

Drainage area.--1,630 sq mi (revised).

Records available.--October 1923 to September 1934, July 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 164.72 ft above mean sea level, datum of 1929. Oct. 29, 1923, to Jan. 17, 1926, chain gage at Texas and New Orleans Railroad bridge 1.5 miles downstream at datum 1.39 ft lower; Jan. 18, 1926, to Sept. 30, 1934, chain gage at Lufkin-Nacogdoches highway bridge 1,400 ft upstream at present datum.

Average discharge.--27 years (1923-34, 1939-55), 1,284 cfs (929,600 acre-ft per year).

Extremes.--Maximum discharge during year, 3,720 cfs Apr. 23 (gage height, 11.05 ft); minimum, 3.2 cfs Oct. 21, 22.
1923-34, 1939-55: Maximum discharge, 38,200 cfs Feb. 24, 1932; maximum gage height, 18.55 ft May 7, 1944; minimum discharge, 2.3 cfs Oct. 12, 1939.
Maximum stage known, about 26.5 ft in May 1884, from information by local residents.

Remarks.--Records good. No large diversion above station. Records of chemical analyses and water temperatures for the water year 1955 are published in WSP 1402.

Revisions (water years).--WSP 718: 1924, 1926.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 25 to Dec. 16, June 6 to Sept. 21)

0.0	2.6	5.0	254
.2	5.6	6.0	398
.5	11	7.0	650
1.0	23	8.0	1,010
1.5	38	9.0	1,550
2.0	56	10.0	2,340
3.0	104	11.0	3,640
4.0	171	12.0	6,100

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	113	197	336	1,400	1,580	2,120	1,040	2,390	125	167	72
2	4.2	128	171	360	1,160	1,690	2,250	808	2,160	110	135	68
3	4.6	149	152	398	930	1,760	2,250	632	1,870	98	178	80
4	5.0	171	138	431	825	1,800	2,160	542	1,490	95	264	101
5	5.1	201	132	431	912	1,760	1,910	475	1,160	80	314	113
6	5.3	213	*125	420	1,260	1,660	1,550	420	950	72	240	116
7	5.0	213	119	409	1,490	1,490	1,180	369	*808	66	222	113
8	4.8	217	116	398	1,520	1,280	930	336	720	64	*213	110
9	4.6	*235	110	388	*1,430	1,080	808	300	600	64	*453	104
10	4.3	254	107	378	1,400	912	878	*275	519	64	555	98
11	4.0	259	107	378	1,400	808	1,140	254	475	60	615	82
12	*3.9	264	113	*398	1,490	720	1,430	244	431	56	650	70
13	4.2	275	142	409	1,620	668	*1,720	235	360	52	585	*60
14	4.3	281	171	431	1,760	615	2,030	235	314	47	442	54
15	4.2	300	194	475	1,910	*585	2,250	230	294	*44	287	46
16	4.0	307	259	508	2,030	555	2,340	230	287	41	213	41
17	3.8	294	378	519	2,120	542	2,200	249	259	41	190	38
18	3.3	259	464	570	2,160	519	2,160	275	235	40	171	36
19	3.3	240	570	650	2,070	570	2,340	352	226	37	160	36
20	3.4	244	685	755	1,990	600	2,660	600	217	52	146	35
21	3.3	281	825	808	1,830	738	3,130	1,080	217	184	122	33
22	5.8	300	950	878	1,620	930	3,560	1,180	209	324	110	32
23	8.4	307	1,040	970	1,430	1,280	3,720	1,210	201	453	95	32
24	13	314	1,080	1,080	1,340	1,280	3,560	2,030	186	530	82	37
25	14	328	1,040	1,210	1,280	1,210	3,270	3,270	194	615	80	39
26	20	328	895	1,310	1,280	1,140	2,990	3,270	230	685	77	40
27	20	321	720	1,430	1,370	1,160	2,600	2,990	235	685	68	37
28	23	300	555	1,520	1,460	1,280	2,250	2,720	205	600	70	46
29	40	264	464	1,580	-	1,460	1,870	2,780	167	442	80	60
30	68	230	369	1,580	------	1,660	1,430	2,720	142	281	80	77
31	95	-----	336	1,550	-----	1,870	-----	2,540	------	213	77	------
Total	395.5	7,590	12,724	22,958	42,487	35,202	64,686	33,891	17,751	6,320	7,141	1,908
Mean	12.8	253	410	741	1,517	1,136	2,156	1,093	592	204	230	63.5
Cfsm	0.0079	0.155	0.252	0.455	0.931	0.697	1.32	0.671	0.363	0.125	0.141	0.039
In.	0.009	0.17	0.29	0.52	0.97	0.80	1.48	0.77	0.41	0.14	0.16	0.04
Ac-ft	784	15,050	25,240	45,540	84,270	69,820	128,300	67,220	35,210	12,540	14,160	3,790

Calendar year 1954: Max 4,180 Min 2.7 Mean 428 Cfsm 0.263 In. 3.56 Ac-ft 309,500
Water year 1954-55: Max 3,720 Min 3.3 Mean 693 Cfsm 0.425 In. 5.76 Ac-ft 501,900

* Discharge measurement made on this day.

Angelina River near Zavalla, Tex.

Location.--Lat 31°13', long 94°18', near right bank on downstream side of pier of bridge on State Highway 147, just downstream from Harvey Bayou, 3 miles downstream from Attoyac Bayou, and 8½ miles northeast of Zavalla, Angelina County.

Drainage area.--2,880 sq mi (revised).

Records available.--October 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 104.48 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 5,610 cfs Apr. 13 (gage height, 17.17 ft); minimum, 26 cfs Oct. 16, 17.
1951-55: Maximum discharge, 37,300 cfs May 18, 1953 (gage height, 27.72 ft); minimum, 22 cfs Sept. 22-24, 1954.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Southland Paper Mill pumps about 22 cfs from wells, of which about 18 cfs is later discharged into Mill Creek, 20 miles above station. The town of Nacogdoches discharges about 2 cfs sewage effluent into LaNana Bayou, 27 miles above station. This discharge is continuous and fairly constant.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 15-22, Dec. 22 to Feb. 17, July 24 to Aug. 5)

0.8	23	5.0	824
1.0	35	8.0	1,680
1.5	80	12.0	3,180
2.0	150	15.0	4,500
3.0	342	17.0	5,500

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27	124	386	772	1,490	1,940	2,540	3,260	4,410	278	564	195
2	28	122	364	648	1,550	1,840	2,460	3,020	4,410	258	432	193
3	28	132	342	540	1,550	1,810	2,300	2,620	4,180	234	331	172
4	32	155	309	480	1,680	1,840	2,300	1,940	3,820	a220	331	158
5	34	172	278	480	3,100	1,910	2,340	1,370	3,140	a200	745	145
6	37	193	254	492	4,220	1,940	2,380	1,030	2,660	a180	1,010	139
7	36	227	236	504	3,950	1,980	2,380	850	2,300	a170	1,060	139
8	34	278	225	516	3,640	1,980	2,300	720	1,870	a160	1,010	144
9	33	320	216	516	3,560	1,940	2,150	648	1,490	a140	928	145
10	33	342	209	552	3,430	1,870	3,520	576	1,170	a130	876	142
11	33	342	204	564	3,180	1,740	4,650	528	1,010	a130	720	142
12	32	342	207	576	2,940	1,580	4,130	504	850	a120	648	145
13	31	342	222	564	2,740	1,400	*5,500	456	720	a120	648	169
14	*30	364	238	528	2,620	1,230	5,000	432	624	a120	672	204
15	27	648	278	540	2,580	1,080	4,750	408	*552	a110	696	202
16	26	624	*342	624	2,580	980	4,600	408	504	a110	648	145
17	27	*624	342	696	2,540	928	4,410	408	456	a110	528	122
18	30	648	353	954	2,340	876	4,270	*432	432	a110	408	119
19	31	624	408	1,260	2,220	850	4,220	480	408	a100	309	106
20	29	600	468	*1,340	2,220	824	4,130	1,230	386	a100	268	93
21	28	552	516	1,260	2,380	1,100	4,040	2,220	342	a110	248	87
22	34	480	552	1,230	2,580	2,220	3,910	1,740	320	a120	238	85
23	49	408	624	1,230	*2,700	2,500	3,780	1,550	320	a200	213	82
24	60	397	696	1,230	2,740	2,380	3,600	1,870	320	331	*195	82
25	62	397	772	1,200	2,660	2,190	3,310	2,420	342	468	181	91
26	85	397	876	1,200	2,500	2,150	3,220	2,740	342	564	164	*95
27	134	397	954	1,200	2,300	2,220	3,310	2,980	309	624	145	108
28	147	408	1,010	1,230	2,120	2,220	3,390	3,180	298	672	147	128
29	140	408	1,030	1,280	-	*2,220	3,430	3,470	298	*720	169	128
30	132	397	1,010	1,370	------	2,300	3,430	3,860	298	746	162	119
31	128	-----	902	1,430	-----	2,380	-----	4,270	------	696	169	------
Total	1,617	11,464	14,823	27,006	74,110	54,418	105,750	51,620	38,581	8,351	14,863	4,024
Mean	52.2	382	478	871	2,647	1,755	3,525	1,665	1,286	269	479	134
Cfsm	0.018	0.133	0.166	0.302	0.919	0.609	1.22	0.578	0.446	0.093	0.166	0.047
In.	0.02	0.15	0.19	0.35	0.96	0.70	1.37	0.67	0.50	0.11	0.19	0.05
Ac-ft	3,210	22,740	29,400	53,570	147,000	107,900	209,800	102,400	76,520	16,560	29,480	7,980

Calendar year 1954: Max 3,900 Min 22 Mean 714 Cfsm 0.248 In. 3.36 Ac-ft 517,200
Water year 1954-55: Max 5,500 Min 26 Mean 1,114 Cfsm 0.387 In. 5.26 Ac-ft 806,600

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

Dam B Reservoir at Town Bluff, Tex.

Location.--Lat 30°47'47", long 94°10'52", near right bank 70 ft upstream from outlet structure of Dam "B" on Neches River, about 0.4 mile north of Town Bluff, Tyler County, and at mile 114. Prior to Oct. 25, 1954, at site 560 ft upstream.
Drainage area.--7,407 sq mi.
Records available.--April 1951 to September 1955.
Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, Galveston-Houston supplementary adjustment. Prior to Oct. 25, 1954, at site 560 ft upstream at same datum.
Extremes.--Maximum contents during year, 98,420 acre-ft May 28 (elevation, 83.30 ft); no storage Oct. 1-13.
1951-55: Maximum contents, 128,400 acre-ft May 22, 1953; no storage Sept. 18 to Oct. 13, 1954.
Remarks.--Reservoir is formed by earth-fill dam with a concrete section having six 40- by 35- foot taintor gates. Total length of dam, 6,867 ft. There is a 6,100-foot uncontrolled emergency spillway on left bank with crest at elevation 85.0 ft. Sill of taintor gates at elevation 50.0 ft. Capacity of service spillway, 80,000 cfs with pool level at 85.0 ft. Total spillway capacity, 218,300 cfs at elevation 93.0 ft, maximum design level. Dam completed in April 1951 and storage begun Apr. 16, 1951. Water used for industrial, municipal, and irrigation supplies.
Data regarding dam are shown in the following table.

	Elevation (feet)	Capacity (acre-feet)
Maximum design level	93.0	306,400
Uncontrolled spillway	85.0	124,700
Normal operating level	83.0	94,200
Sill, 2 hydraulic slide gates	52.0	20
Sill, 6 taintor gates	50.0	0

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, at 8 a.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	8,170	72,790	89,150	90,600	88,100	93,430	94,660	93,700	81,400	75,080	54,760
2	0	9,120	74,720	88,880	90,470	89,410	92,880	92,880	95,070	79,820	75,540	55,040
3	0	9,990	76,130	88,490	89,930	90,200	91,000	90,070	93,980	77,900	75,890	54,580
4	0	11,220	77,540	88,880	89,020	90,870	89,410	88,880	92,610	76,720	77,070	54,210
5	0	12,510	79,210	89,540	93,840	90,740	87,580	89,020	90,740	75,080	78,610	53,200
6	0	13,740	81,030	90,600	92,210	90,870	87,320	90,740	91,800	73,590	79,670	52,750
7	0	15,110	81,640	91,270	86,290	87,840	89,540	92,070	91,270	72,450	81,280	51,680
8	0	16,740	82,760	91,540	80,910	86,290	90,600	93,290	90,740	71,000	83,000	50,530
9	0	18,620	84,130	92,610	80,910	86,680	92,210	93,560	92,610	69,130	84,640	49,740
10	0	20,330	85,270	93,020	85,400	89,150	92,880	93,290	88,620	67,510	86,550	49,050
11	0	22,360	86,290	90,070	88,880	91,940	89,810	92,880	88,750	65,920	87,840	48,540
12	0	24,530	89,280	88,620	87,190	92,880	86,940	92,210	91,270	64,770	87,190	48,110
13	0	26,770	89,410	88,750	85,010	91,540	87,580	91,800	93,840	63,940	86,040	47,680
14	110	28,270	89,280	88,360	83,750	87,840	87,320	92,480	95,070	63,940	84,640	47,350
15	198	33,100	90,070	90,070	83,500	86,290	88,620	93,020	94,940	64,250	81,890	47,100
16	275	39,600	90,600	91,130	86,940	87,580	89,150	93,160	93,430	64,140	79,330	46,760
17	355	45,270	91,800	92,070	89,930	87,580	88,360	93,980	90,470	64,560	76,240	46,430
18	436	49,480	92,480	96,040	88,880	88,880	86,940	93,840	89,020	64,450	73,360	46,010
19	498	53,110	93,160	93,980	86,940	89,540	86,680	93,840	89,810	63,940	70,440	45,600
20	560	54,950	93,980	90,600	86,290	88,880	88,880	94,940	90,470	64,560	68,370	45,020
21	644	56,820	94,520	88,750	86,290	89,540	88,880	92,210	91,400	65,080	66,760	44,370
22	689	59,130	95,070	86,680	86,940	89,930	88,230	92,880	92,210	65,180	64,770	43,810
23	900	60,700	94,390	86,810	87,840	91,540	89,540	93,840	92,610	65,920	62,300	43,410
24	1,580	62,300	93,560	87,580	88,620	93,700	93,020	94,800	92,610	66,970	60,110	43,010
25	3,290	63,630	93,160	90,340	88,230	91,270	92,750	93,560	91,940	67,940	56,640	42,850
26	4,280	65,080	92,750	92,610	87,580	90,870	90,470	92,880	91,540	68,690	53,480	42,300
27	4,900	66,970	92,750	94,940	86,420	83,750	89,150	95,210	90,470	69,450	50,970	41,600
28	5,810	68,050	93,020	93,980	86,290	86,290	89,810	96,180	88,100	70,340	51,230	40,820
29	6,380	69,460	92,610	92,880	-	89,540	91,940	95,070	85,780	71,330	52,030	40,290
30	6,960	70,890	89,930	92,070	-------	92,340	93,560	92,070	83,130	72,450	52,480	39,760
31	7,520	-------	88,750	91,130	-------	93,560	-------	91,270	-------	73,820	54,030	-------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	-	0	-
Oct. 31	70.42	7,520	+7,520
Nov. 30	81.11	70,890	+63,370
Dec. 31	82.59	88,750	+17,860
Calendar year 1954	-	-	-3,590
Jan. 31	82.77	91,130	+2,380
Feb. 28	82.40	86,290	-4,840
Mar. 31	82.95	93,560	+7,270
Apr. 30	82.95	93,560	0
May 31	82.78	91,270	-2,290
June 30	82.15	83,130	-8,140
July 31	81.37	73,820	-9,310
Aug. 31	79.44	54,030	-19,790
Sept.30	77.73	39,760	-14,270
Water year 1954-55	-	-	+39,760

† Elevation at 8 a.m.

Neches River at Town Bluff, Tex.

Location.--Lat 30°47'36", long 94°10'28", on left bank about 2,000 ft downstream from Dam B, half a mile northeast of Town Bluff, Tyler County, about 8 miles downstream from Wolf Creek, and at mile 113.

Drainage area.--7,407 sq mi.

Records available.--March 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, Galveston-Houston supplementary adjustment. May 21, 1953, to Dec. 3, 1954, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 21,000 cfs Apr. 13 (gage height, 73.22 ft); minimum daily, 3.5 cfs Nov. 2.
1951-55: Maximum discharge, 90,900 cfs May 21, 22, 1953 (gage height, 82.85 ft); minimum daily, that of Nov. 2, 1954.
Maximum stage known about 86.8 ft in May 1884 (discharge about 120,000 cfs), from information by Corps of Engineers.

Remarks.--Records fair. Flow regulated by Dam B Reservoir (see preceding page) up to a reservoir stage of 85.0 ft. No large diversion above station.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-26, July 13 to Aug. 4)

Oct. 1 to Nov. 19				Nov. 20 to Sept. 30			
48.6	3.2	49.8	78	50.3	220	60.0	5,500
48.7	5.0	50.2	139	50.7	320	64.0	9,200
48.9	10	50.6	223	51.3	510	68.0	13,800
49.2	25	51.1	357	52.0	780	72.0	19,200
49.5	47			54.0	1,720	74.0	22,400
				57.0	3,450		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	148	6.9	375	2,250	3,330	3,930	4,490	5,820	5,180	1,620	397	600
2	148	3.5	375	2,130	3,330	3,930	4,940	6,620	6,540	1,620	600	528
3	148	19	375	1,770	3,330	3,930	4,940	6,300	7,500	1,470	740	528
4	148	52	390	1,420	3,750	4,050	4,940	5,100	7,500	1,320	950	510
5	148	55	375	1,270	8,730	4,420	4,490	3,810	6,380	1,320	562	510
6	148	47	345	1,270	16,700	4,940	4,170	2,850	5,020	1,150	492	680
7	148	47	320	1,220	*18,500	5,180	3,510	2,670	4,780	1,150	492	840
8	148	44	375	1,220	16,800	4,420	3,570	2,790	2,940	1,320	475	760
9	148	38	422	1,830	12,800	3,630	5,180	2,850	4,900	1,270	492	510
10	148	38	390	2,790	9,310	2,970	14,000	2,790	4,290	1,270	562	492
11	148	37	375	2,670	9,420	3,270	19,500	2,550	2,020	1,220	1,140	510
12	150	34	656	1,970	9,310	3,930	19,300	2,250	1,130	803	1,670	510
13	122	74	905	1,520	9,200	4,700	20,900	1,510	*1,420	680	1,770	492
14	67	98	700	1,270	8,300	4,420	*20,700	1,020	1,870	700	1,920	492
15	66	*114	440	1,320	6,140	3,210	20,700	995	2,550	680	2,310	492
16	64	*117	440	1,620	5,100	2,670	20,700	1,080	2,910	660	2,310	492
17	61	87	*492	1,620	5,820	2,430	20,400	1,370	2,670	680	2,250	492
18	59	68	620	2,970	6,700	2,070	19,200	1,320	1,200	680	2,020	492
19	63	353	580	4,860	6,540	2,070	16,700	*1,560	545	605	1,770	*492
20	70	680	740	4,940	6,060	2,070	14,400	2,850	562	*292	1,320	492
21	54	680	1,060	*4,860	5,740	2,190	13,300	3,390	700	285	1,370	492
22	61	660	1,470	4,110	*5,900	2,610	11,000	3,330	680	280	*1,520	492
23	61	620	1,920	3,030	*5,740	2,970	8,800	3,330	680	278	1,520	492
24	62	640	1,920	2,190	5,660	5,260	7,600	3,750	882	275	1,720	492
25	68	600	1,920	1,820	5,660	6,460	8,200	4,110	972	272	1,870	492
26	35	600	1,920	2,020	5,580	6,900	7,700	3,810	1,040	270	1,720	492
27	10	600	1,970	2,850	5,420	5,220	6,300	3,930	1,670	272	1,270	492
28	8.9	580	2,470	3,330	4,490	2,790	5,420	4,560	1,920	272	972	475
29	*7.4	510	3,390	3,330	-	2,730	5,500	6,140	1,870	*268	905	475
30	7.4	405	3,090	3,330	------	*2,850	5,180	6,060	1,870	265	600	475
31	7.4	------	2,490	3,330	------	3,510	------	5,340	------	265	660	------
Total	2,732.1	7,907.4	33,310	76,130	213,360	115,730	325,730	105,855	84,191	23,512	38,369	15,783
Mean	88.1	264	1,075	2,456	7,620	3,733	10,860	3,415	2,806	758	1,238	526
Ac-ft	5,420	15,610	66,070	151,000	423,200	229,500	646,100	210,000	167,000	46,640	76,100	31,310

Calendar year 1954: Max 12,400 Min 3.5 Mean 1,924 Ac-ft 1,393,000
Water year 1954-55: Max 20,900 Min 3.5 Mean 2,856 Ac-ft 2,068,000

* Discharge measurement made on this day.

Note.--Oct. 1 to Dec. 2, discharge computed from once-daily staff-gage readings and record of Dam "B" gate operations furnished by Corps of Engineers.

Neches River at Evadale, Tex.

Location.--Lat 30°21', long 94°05', near left bank on downstream side of pier of bridge on U. S. Highway 96, 200 ft upstream from Gulf, Colorado and Santa Fe Railway bridge at Evadale, Jasper County, 600 ft downstream from Mill Creek, 15 miles upstream from Village Creek, and at mile 55.

Drainage area.--7,908 sq mi.

Records available.--July 1904 to December 1906, October 1923 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 8.25 ft above mean sea level, datum of 1929, Galveston-Houston supplementary adjustment of 1936. July 1, 1904, to Dec. 31, 1906, reference point on Gulf, Colorado and Santa Fe Railway bridge at datum 5.5 ft lower. Oct. 1, 1923, to July 12, 1934, staff gages at site about 70 ft downstream at same datum. July 13, 1934, to Dec. 7, 1948, staff gage at same site and datum.

Average discharge.--34 years (1904-6, 1923-55), 6,413 cfs (4,643,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23,200 cfs Apr. 16-18; maximum gage height, 16.10 ft Apr. 17; minimum discharge, 73 cfs Nov. 6.
1904-6, 1923-55: Maximum discharge, 92,100 cfs May 11, 1944 (gage height, 23.58 ft, from floodmark); minimum, that of Nov. 6, 1954.
Maximum stages known, 26.2 ft in May 1884 (discharge, about 125,000 cfs) and 24.5 ft in August 1915 (discharge, about 102,000 cfs), from rating curve extended above 92,000 cfs by logarithmic plotting. Stages by Gulf, Colorado and Santa Fe Railway Co.

Remarks.--Records good. Flow largely regulated by Dam "B" 59 miles upstream (see p. 56). Records of chemical analyses and water temperatures for the water year 1955 are published in WSP 1402.

Revisions (water years).--WSP 718: 1929.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 9 to Jan. 3, Apr. 24 to Aug. 5, Aug. 14 to Sept. 4)

-1.2	64	6.0	2,310
-.8	114	9.0	4,400
-.4	176	11.0	6,800
0.0	248	13.0	10,400
1.0	460	15.0	17,500
3.0	1,040	16.2	23,800

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	191	96	532	2,700	3,190	6,220	3,120	5,460	5,700	1,640	370	1,560
2	193	*88	472	2,360	3,190	5,460	3,780	5,340	5,340	1,560	370	1,320
3	191	80	448	2,150	3,190	4,800	4,600	5,700	5,460	1,480	558	1,070
4	191	79	448	1,950	3,330	4,400	5,120	6,220	6,080	1,440	780	900
5	195	74	436	1,640	4,700	4,300	5,340	6,220	6,800	1,320	1,070	810
6	193	74	436	1,400	7,100	4,500	5,230	5,340	6,950	1,240	1,210	750
7	193	106	436	1,280	9,960	4,800	4,900	3,940	6,500	1,210	1,000	722
8	191	134	425	1,240	13,800	5,340	4,400	3,000	5,700	1,070	810	810
9	188	138	403	1,320	17,500	5,460	4,120	2,700	4,900	1,100	722	900
10	184	144	414	1,640	19,000	5,010	5,340	2,640	4,030	1,180	680	810
11	184	132	460	2,260	18,000	4,030	7,740	2,640	4,400	1,180	694	694
12	181	118	496	2,760	14,900	3,400	11,400	2,530	3,700	1,180	780	666
13	179	116	496	2,530	12,400	3,540	18,500	2,420	2,200	1,070	1,210	652
14	179	117	680	2,000	11,200	4,120	21,600	2,000	1,480	840	1,560	638
15	183	171	840	1,640	10,400	4,700	*22,700	1,480	1,520	780	1,720	638
16	163	229	750	1,440	9,740	4,400	23,200	1,180	1,860	750	1,950	638
17	140	276	597	1,520	8,400	3,470	23,200	1,140	2,260	722	2,200	624
18	126	306	545	1,720	7,100	2,880	23,200	1,280	2,480	680	2,310	624
19	122	276	571	2,150	7,100	2,480	22,700	1,400	2,100	722	2,310	610
20	117	224	666	3,400	7,580	2,260	22,700	1,440	1,240	722	2,260	610
21	118	267	666	4,600	8,230	2,150	21,600	1,900	840	638	1,860	610
22	*124	520	*780	5,010	8,060	2,150	19,000	2,640	*780	496	1,600	610
23	171	584	1,000	5,010	7,740	2,310	17,000	3,000	810	460	1,600	610
24	191	*597	1,400	4,210	7,580	2,580	14,100	3,060	780	448	1,680	610
25	200	597	1,640	3,190	*7,260	3,330	11,200	3,120	780	436	1,720	610
26	198	584	1,680	2,310	6,950	4,900	9,340	*3,470	900	414	*1,860	610
27	188	571	1,720	*2,000	6,800	6,220	*8,580	3,620	930	392	1,950	624
28	188	571	1,720	2,200	6,650	6,800	8,060	3,620	1,070	*403	2,000	624
29	160	571	1,860	2,760	-	5,460	7,100	3,860	1,480	392	1,950	*610
30	123	558	2,420	3,060	------	3,700	6,080	4,600	1,600	392	2,150	624
31	106	------	2,760	3,120	------	3,000	------	5,340	------	381	2,000	------
Total	5,251	8,398	28,197	76,570	251,050	128,170	364,950	102,300	90,670	26,738	44,934	22,188
Mean	169	280	910	2,470	8,966	4,135	12,160	3,300	3,022	863	1,449	740
Ac-ft	10,420	16,660	55,930	151,900	498,000	254,200	723,900	202,900	179,800	53,030	89,130	44,010

Calendar year 1954: Max 10,600 Min 74 Mean 2,009 Ac-ft 1,454,000
Water year 1954-55: Max 23,200 Min 74 Mean 3,149 Ac-ft 2,280,000

* Discharge measurement made on this day.

Village Creek near Kountze, Tex.

Location.--Lat 30°24', long 94°16', on left bank 800 ft downstream from bridge on Farm Road 418, 1.2 miles upstream from Gulf, Colorado and Santa Fe Railway bridge, 3.2 miles northwest of Kountze, Hardin County, and 4½ miles downstream from Beech Creek.

Drainage area.--837 sq mi.

Records available.--May 1924 to November 1929 (October 1927 to November 1929, discharge measurements only), April 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 25.12 ft above mean sea level, datum of 1929. Prior to Apr. 30, 1939, inverted chain gage at site 1.2 miles downstream at different datum.

Average discharge.--19 years (1924-27, 1939-55), 918 cfs (664,600 acre-ft per year).

Extremes.--Maximum discharge during year, 8,190 cfs Apr. 14 (gage height, 16.75 ft); minimum, 36 cfs Oct. 22.

1924-27, 1939-55: Maximum discharge, 67,200 cfs Nov. 26, 1940 (gage height, 27.6 ft, from floodmark), from rating curve extended above 35,000 cfs by logarithmic plotting; minimum, 32 cfs Sept. 28, 1939.

Maximum stage known, about 34 ft in August 1915, present site and datum. Flood of May 27, 1929, reached a stage of about 32 ft, present site and datum. Above stages were determined on basis of information by engineers of Gulf, Colorado and Santa Fe Railway for site 1.2 miles downstream.

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

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 10, Nov. 22 to Dec. 16, July 22 to Aug. 4, Sept. 1-30)

1.5	38	7.0	870
2.0	69	10.0	1,630
2.5	109	12.0	2,400
3.0	158	13.5	3,330
4.0	289	15.0	5,040
5.0	458	16.5	7,600

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	43	104	94	175	224	512	158	252	115	66	158	440
2	45	94	93	187	218	476	187	231	106	81	137	320
3	46	82	91	193	205	449	224	212	98	78	127	238
4	47	75	90	199	243	413	289	199	95	78	132	187
5	53	72	89	187	1,400	387	289	187	90	98	286	152
6	54	70	89	169	3,350	362	238	169	86	132	531	127
7	50	81	89	169	*4,370	*344	205	158	80	137	458	110
8	49	104	89	187	4,500	320	187	147	95	127	312	98
9	49	98	89	282	4,250	304	426	142	121	111	218	93
10	49	86	88	610	4,130	289	1,730	137	119	91	169	90
11	49	80	86	550	3,800	282	2,660	132	113	81	142	86
12	48	74	94	458	2,610	282	3,170	127	115	74	187	90
13	46	70	108	422	1,450	274	4,760	123	105	70	231	127
14	46	70	132	328	870	266	*7,600	120	98	70	169	110
15	49	160	212	266	694	252	6,680	122	91	72	132	116
16	47	282	231	252	631	238	5,330	123	83	103	119	114
17	44	282	187	282	590	224	4,760	132	78	266	113	142
18	43	362	152	438	550	218	3,420	304	73	336	97	121
19	42	378	137	782	610	205	2,100	336	70	259	87	104
20	40	266	121	760	673	199	1,140	328	67	193	79	94
21	38	199	114	760	760	199	804	370	66	218	74	90
22	41	164	*108	694	1,140	193	673	387	65	218	70	84
23	48	142	104	590	1,260	193	570	370	*78	224	70	102
24	86	*125	102	494	1,160	193	512	266	105	245	68	111
25	*212	116	100	422	980	181	458	199	108	336	66	137
26	238	109	99	353	782	169	413	*164	96	289	*63	127
27	312	105	102	*312	631	164	*370	142	81	205	59	122
28	252	101	107	296	570	158	328	132	72	*158	86	152
29	158	97	114	282	-	152	289	127	66	187	322	137
30	122	94	122	259	------	*147	266	164	66	199	512	*114
31	114	-----	142	245	-----	142	-----	132	------	193	494	------
Total	2,560	4,142	3,575	11,603	42,651	8,187	50,236	6,134	2,701	4,995	5,768	4,135
Mean	82.6	138	115	374	1,523	264	1,675	198	90.0	161	186	138
Cfsm	0.099	0.165	0.137	0.447	1.82	0.315	2.00	0.237	0.108	0.192	0.222	0.165
In.	0.11	0.18	0.16	0.52	1.89	0.36	2.23	0.27	0.12	0.22	0.26	0.18
Ac-ft	5,080	8,220	7,090	23,010	84,600	16,240	99,640	12,170	5,360	9,910	11,440	8,200

Calendar year 1954: Max 2,500 Min 38 Mean 266 Cfsm 0.318 In. 4.28 Ac-ft 192,300
Water year 1954-55: Max 7,600 Min 38 Mean 402 Cfsm 0.480 In. 6.50 Ac-ft 291,000

* Discharge measurement made on this day.

Bridgeport Reservoir above Bridgeport, Tex.

Location.--Lat 33°13'20", long 97°50'10", at left end of Bridgeport Dam on West Fork Trinity River, 2.0 miles west of Bridgeport, Wise County, 5.8 miles upstream from Big Sandy Creek, and at mile 626.

Drainage area.--1,114 sq mi.

Records available.--April 1932 to September 1955 (prior to October 1950 monthly figures only).

Gage.--Staff gage read once daily. Datum of gage is 0.06 ft above mean sea level, datum of 1929. Prior to Jan. 26, 1944, staff gages at various sites in vicinity of present gage at present datum.

Extremes.--Maximum contents observed during year, 58,480 acre-ft June 25 to July 1 (gage height, 796.9 ft); minimum observed, 20,400 acre-ft Jan. 12-20 and Mar. 16-21 (gage height, 786.0 ft).

1932-55: Maximum contents observed, 407,600 acre-ft Apr. 29, 30, 1942 (gage height, 836.2 ft); minimum observed at monthly intervals since appreciable storage began, 2,200 acre-ft Dec. 31, 1933.

Remarks.--Reservoir is formed by a rolled-fill earthen-type dam, containing a concrete service spillway with three 20-foot bays, two of which are equipped with vertical lift gates, the other left open, and two emergency spillways of natural ground. Dam completed Dec. 15, 1931; storage began Apr. 1, 1932. Capacity, 270,300 acre-ft between gage heights 751.4 ft (bottom of three 48-inch outlet conduits) and 826.1 ft (top of service spillway). Dead storage is negligible. Reservoir is used for flood control and municipal supply for city of Fort Worth. Figures given herein represent total contents. Capacity figures for current year based on a redetermination of reservoir capacity during fall of 1952.

Cooperation.--Capacity curve and records of daily gage heights furnished by Tarrant County Water Control and Improvement District No. 1.

Revisions.--WSP 1148: Drainage area.

Contents, in acre-feet, at 7 a.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41,460	34,440	29,520	23,200	20,960	20,960	22,360	22,640	34,100	58,480	49,820	33,760
2	41,460	34,100	29,200	22,640	20,680	20,960	22,360	22,640	33,760	58,060	49,430	33,420
3	41,460	33,420	28,890	22,360	20,680	20,960	22,360	22,640	33,760	58,060	48,650	32,740
4	40,380	33,080	28,270	21,800	20,960	20,960	22,360	22,640	34,100	58,060	48,260	32,400
5	39,300	32,400	27,960	21,240	21,240	20,680	22,360	22,640	34,100	57,640	47,480	31,760
6	38,600	32,080	27,340	20,960	21,240	20,680	22,360	22,640	35,120	57,220	47,090	31,440
7	37,900	31,760	27,030	20,680	21,240	20,680	22,360	22,640	35,800	56,380	46,700	30,800
8	37,200	31,120	26,410	20,680	21,240	20,680	22,360	22,640	35,800	55,960	45,940	30,480
9	36,500	30,800	26,100	20,680	21,240	20,680	22,360	22,640	36,500	55,540	45,560	29,840
10	36,150	30,480	26,100	20,680	21,240	20,680	22,360	22,920	36,850	54,700	44,800	29,520
11	36,150	31,120	26,100	20,680	21,240	20,680	22,640	22,640	37,550	53,880	44,420	29,840
12	36,150	31,440	26,410	20,400	20,960	20,680	22,640	22,360	37,900	53,470	43,660	29,200
13	36,150	31,440	26,410	20,400	20,960	20,680	22,640	22,080	37,900	53,060	43,280	28,890
14	36,150	31,120	26,410	20,400	20,960	20,680	22,640	22,080	37,900	52,240	42,900	28,270
15	36,150	31,120	26,410	20,400	20,960	20,680	22,640	21,800	37,900	51,830	42,540	27,960
16	35,800	31,120	26,410	20,400	20,960	20,400	22,640	21,240	38,250	51,010	41,820	27,340
17	35,800	30,080	26,410	20,400	20,960	20,400	22,640	21,520	38,250	51,010	41,460	27,030
18	35,800	30,080	26,410	20,400	20,960	20,400	22,640	21,520	38,950	50,600	40,740	26,410
19	35,800	30,080	26,410	20,400	20,960	20,400	22,640	21,800	42,180	51,420	40,380	26,100
20	35,800	30,080	26,410	20,400	20,960	20,400	22,640	23,490	49,820	51,010	39,660	25,520
21	35,800	30,480	26,410	20,680	20,960	20,400	22,640	29,200	51,830	51,830	38,950	25,530
22	35,800	30,480	26,410	20,680	20,960	21,800	22,640	31,440	53,880	53,470	38,600	24,650
23	35,460	30,480	26,100	20,680	20,960	22,080	22,640	33,080	55,960	54,700	38,250	24,360
24	35,460	30,480	25,810	20,680	20,960	22,360	22,920	33,420	58,060	54,290	37,550	23,780
25	35,460	30,480	25,520	20,680	20,960	22,360	23,200	33,420	58,480	53,470	37,200	23,490
26	35,460	30,480	25,230	20,960	20,960	22,360	23,200	33,760	58,480	53,060	36,500	23,200
27	35,460	30,480	24,940	20,960	20,960	22,360	22,920	33,760	58,480	52,650	36,150	24,070
28	35,460	30,480	24,650	20,960	20,960	22,360	22,920	33,760	58,480	51,830	35,800	30,480
29	35,460	30,160	24,360	20,960	-	22,360	22,920	34,100	58,480	51,420	35,120	40,020
30	35,120	29,840	23,780	20,960	-------	22,360	22,920	34,100	58,480	50,600	34,780	45,560
31	34,780	-------	23,490	20,960	-------	22,360	-------	34,100	-------	50,120	34,440	-------

Monthly gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30.....	792.4	40,740	-
Oct. 31.....	790.7	34,780	-5,960
Nov. 30.....	789.2	29,840	-4,940
Dec. 31.....	787.1	23,490	-6,350
Calendar year 1954.....	-	-	-57,060
Jan. 31.....	786.2	20,960	-2,530
Feb. 28.....	786.2	20,960	0
Mar. 31.....	786.7	22,360	+1,400
Apr. 30.....	786.9	22,920	+560
May 31.....	790.5	34,100	+11,180
June 30.....	796.9	58,480	+24,380
July 31.....	794.9	50,120	-8,360
Aug. 31.....	790.6	34,440	-15,680
Sept.30.....	793.7	45,560	+11,120
Water year 1954-55.....	-	-	+4,820

†.Gage height at 7 a.m.

Big Sandy Creek near Bridgeport, Tex.

Location.--Lat 33°13', long 97°41', on downstream side of bridge on State Highway 24, 1.9 miles upstream from Turkey Creek, 4.4 miles upstream from mouth, and 5 miles east of Bridgeport, Wise County.

Drainage area.--332 sq mi.

Records available.--October 1936 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 727.44 ft above mean sea level, datum of 1929.

Average discharge.--18 years (1937-55), 88.2 cfs (63,850 acre-ft per year); median of yearly mean discharges, 53 cfs.

Extremes.--Maximum discharge during year, 521 cfs June 20 (gage height, 8.18 ft); no flow at times.

1936-55: Maximum discharge, 53,000 cfs June 10, 1941 (gage height, 15.69 ft, from floodmark), from rating curve extended above 22,000 cfs by logarithmic plotting; no flow at times.

Maximum stage known, that of June 10, 1941.

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

Revisions.--WSP 1148: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.6	0	3.0	22
1.7	.1	4.0	55
1.8	.2	6.0	133
1.9	.5	6.5	165
2.0	1.0	7.0	218
2.1	1.7	7.5	306
2.3	4.0	8.0	445
2.5	7.6		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34		0			0	a0	0	0	0		
2	.3		0			0	a0	0	0	0		
3	0		0			0	a0	0	0	0		
4	0		0	(*)		0	a0	0	9.4	0		
5	0		0			0	a0	0	25	*0		
6	63		0			0	a0	0	.2	0		
7	2.2		0			0	a0	0	0	0		
8	.3		0			0	a0	0	22	0		
9	.1		0			0	a0	0	82	0	(*)	
10	0		0		(*)	0	a6.3	1.2	79	0		
11	2.3		1.8			0	**.1	2.9	29	0		
12	33		26			0	.1	*2.3	4.8	0		
13	.3		.4			0	.1	**.1	.8	0		
14	.1		.1			0	0	0	.2	0		(*)
15	0		0			0	0	0	.2	0		
16	0		0			0	0	0	3.8	0		
17	0	(*)	0			0	0	.2	.3	.1		
18	0		0	(*)		*0	0	0	167	0		
19	*0		0			0	0	67	262	0		
20	0		0			9.6	0	105	445	0		
21	0		0			5.5	0	94	435	0		
22	0		0			.2	0	64	119	0		
23	0		0			0	5.1	24	40	0		
24	0		0			0	.1	3.4	7.2	0		
25	0		0			0	0	.7	1.4	0		
26	0		0			a0	0	41	.5	0		
27	0		0			a0	0	*11	.2	0		
28	0		5.8			a0	*31	2.1	.1	0		
29	0		.8		-	a0	.7	.4	0	0		
30	0		0		------	a0	0	.2	0	0		
31	0	------	0		------	a0	------	.1	------	0		------
Total	135.6	0	34.9	0	0	15.3	43.5	419.6	1,734.1	.1	0	0
Mean	4.37	0	1.13	0	0	0.49	1.45	13.5	57.8	0.003	0	0
Ac-ft	269	0	69	0	0	30	86	832	3,440	0.2	0	0

Calendar year 1954: Max 386 Min 0 Mean 8.64 Ac-ft 6,260
Water year 1954-55: Max 445 Min 0 Mean 6.53 Ac-ft 4,730

Peak discharge (base, 1,600 cfs). No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis recorded range in stage and engineer's notes.

West Fork Trinity River near Boyd, Tex.

Location.--Lat 33°05'05", long 97°33'30", on right bank at downstream side of bridge on State Farm Road 730, 0.6 mile northeast of Boyd, Wise County, 3.5 miles downstream from Boggy Creek, and at mile 602. Prior to Dec. 14, 1954, at site 2.2 miles downstream.

Drainage area.--1,729 sq mi.

Records available.--January 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 660.57 ft above mean sea level, datum of 1929. Prior to Dec. 14, 1954, at site 2.2 miles downstream at datum 5.48 ft lower.

Average discharge.--8 years, 183 cfs (132,500 acre-ft per year).

Extremes.--Maximum discharge during year, 1,300 cfs June 20 (gage height, 11.85 ft); no flow at times.

1947-55: Maximum discharge, 6,650 cfs July 28, 1950 (gage height, 18.20 ft, former site and datum); no flow at times.

Maximum stage known since at least 1880, 20.7 ft in 1908, present site and datum, from floodmarks, from information by local residents.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
1088	1947	Apr. 16, 1947	2,480	15.53
1118	1948	Feb. 26, 1948	2,900	15.81
1148	1949	May 17, 1949	2,330	14.79

Remarks.--Records good. Flow largely regulated by Bridgeport Reservoir, 21 miles upstream. Sustained flow during several periods is release from Bridgeport Reservoir.

Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water year 1948, superseding those published in WSP 1118, are given herewith:

Jan. 1, 1948..... 2,550
Feb. 26, 1948..... 2,700

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
January 1948.....	4,235	2,550	10	137	8,400
February.....	7,574	2,700	15	261	15,020
Water year 1947-48.....	54,123.9	2,700	0	148	107,300
Calendar year 1948.....	53,467.4	2,700	0	146	106,000

Revised peak discharge.--1947-48: Dec. 8 (2:30 p.m.) 2,260 cfs; Jan. 1 (1 p.m.) 2,800 cfs; Feb. 26 (1 p.m.) 2,900 cfs.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	202	213	204	0	0	0	0.3	0.6	a1	220	204
2	30	202	207	204	0	0	0	.1	.5	a1	220	204
3	5.6	207	207	204	0	0	0	0	.4	a.5	220	204
4	384	207	207	204	.3	0	0	0	.4	a0	220	204
5	552	202	207	204	.4	0	0	0	26	*0	220	204
6	624	202	213	204	1.0	0	0	0	40	140	220	204
7	592	202	213	203	.7	0	0	0	3.4	232	220	204
8	552	202	*213	64	.4	0	0	0	26	232	220	204
9	552	202	a135	7.0	.2	0	0	0	134	232	*220	204
10	273	202	a10	4.2	**.1	0	.4	0	96	237	220	204
11	18	207	a2	2.8	.1	0	.2	90	53	237	215	275
12	75	207	a1	2.0	0	0	.3	*194	15	232	215	248
13	564	207	a1	1.4	0	0	.3	189	4.6	232	215	215
14	560	207	3.3	1.1	*0	0	.8	184	1.4	232	215	*210
15	5.8	102	1.6	1.1	0	0	.4	184	.6	226	215	204
16	2.0	49	1.1	1.0	0	0	.2	197	82	220	215	204
17	.8	*5.0	.6	.7	0	0	.1	88	128	237	215	204
18	.3	2.1	a.4	**.8	0	*0	.1	4.4	408	390	215	204
19	**.1	1.1	a.2	.6	0	1.8	.1	*626	626	*562	210	204
20	.4	.6	.2	.4	0	1.2	0	713	1,040	265	210	199
21	.8	.3	a.1	.4	0	.8	0	186	386	237	210	199
22	.4	.2	**.1	.3	0	3.0	0	91	342	232	210	199
23	.4	.1	122	.2	0	.9	3.9	54	154	226	210	199
24	8.4	*0	204	.2	0	.3	2.9	23	61	226	210	204
25	134	0	210	.1	0	.1	1.6	7.9	28	226	210	215
26	4.4	0	210	.1	0	.1	.4	6.8	13	226	210	210
27	11	0	210	.1	0	0	**.1	*27	a8	226	210	204
28	26	0	220	.1	0	0	.1	12	a4	206	210	199
29	8.3	70	226	0	-	0	4.4	4.4	a3	220	210	204
30	106	213	210	0	------	0	1.4	1.4	a2	220	210	210
31	202	------	204	0	------	0	------	.6	------	220	210	------
Total	5,338.7	3,301.4	3,652.6	1,515.6	3.2	8.2	17.7	2,883.9	3,686.9	6,393.5	6,650	6,250
Mean	172	110	118	48.9	0.11	0.26	0.59	93.0	123	206	215	208
Ac-ft	10,590	6,550	7,250	3,010	6.3	16	35	5,720	7,310	12,680	13,190	12,400

Calendar year 1954: Max 940 Min 0 Mean 142 Ac-ft 102,600
Water year 1954-55: Max 1,040 Min 0 Mean 109 Ac-ft 78,760

Peak discharge (base, 2,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of weather records and engineers' notes.

Eagle Mountain Reservoir above Fort Worth, Tex.

Location.--Lat 32°52'35", long 97°28'15", at right end of main dam on West Fork Trinity River, 3.0 miles downstream from Ash Creek, 4.1 miles downstream from Walnut Creek, 14.6 miles northwest of Fort Worth, Tarrant County, and at mile 583.

Drainage area.--1,974 sq mi.

Records available.--February 1934 to September 1955 (prior to October 1950 monthly figures only).

Gage.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929. Prior to Feb. 24, 1943, staff gages at several sites within 1 mile of present site at present datum.

Extremes.--Maximum contents observed during year, 113,900 acre-ft Jan. 5 (elevation, 639.9 ft); minimum observed, 96,690 acre-ft May 9-11 (elevation, 637.1 ft).
1934-55: Maximum observed, 333,500 acre-ft Apr. 26, 1942 (elevation, 659.9 ft); minimum observed at monthly intervals since appreciable storage began, 9,320 acre-ft June 30, 1934.

Remarks.--Reservoir is formed by a composite rolled-fill and hydraulic-fill earthen-type dam, containing a concrete service spillway with four 25-foot bays, three of which are equipped with vertical lift gates, and the other left open. There is an emergency spillway of natural ground. Dam completed Oct. 24, 1932, and storage began Feb. 28, 1934. Capacity, 182,700 acre-ft, between elevations 599.9 ft (bottom of four 48-inch outlet conduits) and 649.1 ft (top of service spillway). Dead storage is negligible. Reservoir used for flood control and to maintain level of Lake Worth from which city of Fort Worth derives its municipal supply. Figures herein represent total contents. Capacity figures since Oct. 1, 1951, are based on redetermination of reservoir capacity during fall of 1952.

Cooperation.--Capacity curve and records of daily elevations furnished by Tarrant County Water Control and Improvement District No. 1.

Revisions.--WSP 1148: Drainage area.

Contents, in acre-feet, at 8 a.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	110,000	108,700	107,500	111,900	110,700	108,700	105,000	100,200	106,300	110,000	108,100	107,500
2	110,000	108,700	108,100	112,800	110,700	108,700	105,000	99,050	106,300	110,000	107,500	107,500
3	110,000	109,400	108,100	112,600	110,700	108,700	105,000	99,050	105,700	108,700	106,300	106,900
4	110,700	109,400	108,700	113,200	110,700	108,100	105,000	99,050	106,300	107,500	105,700	106,300
5	110,700	110,700	108,700	113,900	111,300	108,100	104,400	99,050	108,300	106,900	105,000	105,700
6	111,900	110,700	108,700	113,200	111,300	108,100	103,200	99,050	106,300	106,900	105,000	105,700
7	111,900	110,000	109,400	112,600	111,300	108,100	102,600	98,480	108,300	106,300	105,700	105,700
8	111,900	110,000	109,400	112,600	111,300	108,100	102,600	97,870	108,300	106,900	105,700	105,700
9	111,300	110,000	110,000	112,600	111,300	108,100	102,600	98,690	106,900	106,900	105,700	106,300
10	111,900	110,000	110,000	113,200	111,300	108,100	102,600	98,690	106,900	106,900	106,300	106,300
11	112,600	110,000	110,000	113,200	110,700	108,100	103,200	96,690	106,900	106,300	106,300	106,900
12	112,600	110,000	110,000	113,200	110,700	108,100	103,200	97,870	105,700	105,700	106,900	107,500
13	112,600	110,000	110,700	113,200	110,700	107,500	103,200	97,870	105,000	104,400	106,900	108,100
14	112,600	110,700	110,700	113,200	110,700	106,300	103,200	98,460	105,000	105,000	107,500	108,100
15	112,600	111,300	110,700	113,200	110,000	106,300	103,200	98,460	105,000	105,000	107,500	107,500
16	111,900	111,300	110,700	113,200	110,000	106,300	103,200	98,460	105,000	105,700	107,500	106,900
17	111,300	111,300	110,700	113,200	110,000	106,300	103,200	99,050	105,700	105,700	106,900	106,300
18	111,300	111,300	110,700	113,200	110,000	106,300	103,200	99,050	106,900	106,300	105,700	105,700
19	111,300	111,300	110,700	113,200	110,000	106,300	102,600	100,200	107,500	106,900	105,000	105,700
20	111,300	111,300	110,700	113,200	110,700	106,300	102,600	105,000	109,400	107,500	104,400	105,700
21	111,300	111,300	110,000	112,600	110,700	106,300	102,600	106,300	110,700	108,100	104,400	106,300
22	110,700	111,300	110,000	112,600	110,700	106,300	102,600	106,900	111,300	108,700	104,400	106,300
23	110,700	111,300	109,400	113,200	110,700	106,300	102,600	106,900	111,900	107,500	105,000	106,900
24	110,000	110,700	108,700	112,600	109,400	106,300	102,000	106,900	112,600	106,900	105,000	107,500
25	109,400	110,700	108,700	112,600	108,100	106,300	101,400	106,900	112,600	106,300	105,700	107,500
26	108,700	110,700	109,400	112,600	108,100	105,700	101,400	106,900	111,300	106,300	105,700	108,100
27	108,700	110,700	110,000	112,600	108,100	105,700	100,800	106,900	110,700	106,300	105,700	108,100
28	108,700	110,000	110,000	112,600	108,700	105,700	100,800	106,900	110,700	106,900	106,300	108,700
29	108,700	108,100	111,300	112,600	-	105,700	100,800	106,900	110,000	106,900	106,900	108,700
30	108,700	106,900	111,300	111,300	-------	105,000	100,800	106,900	110,000	107,500	106,900	109,400
31	108,700	-------	111,900	110,700	-------	105,000	-------	106,300	-------	107,500	107,500	-------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	639.3	110,000	-
Oct. 31	639.1	108,700	-1,300
Nov. 30	638.8	106,900	-1,800
Dec. 31	639.6	111,900	+5,000
Calendar year 1954	-	-	-2,600
Jan. 31	639.4	110,700	-1,200
Feb. 28	639.1	108,700	-2,000
Mar. 31	638.5	105,000	-3,700
Apr. 30	637.8	100,800	-4,200
May 31	638.7	106,300	+5,500
June 30	639.3	110,000	+3,700
July 31	638.9	107,500	-2,500
Aug. 31	638.9	107,500	0
Sept.30	639.2	109,400	+1,900
Water year 1954-55	-	-	-600

† Elevation at 8 a.m.

Clear Fork Trinity River near Aledo, Tex.

Location.--Lat 32°38'25", long 97°33'50", on left bank 3 miles downstream from Turkey Creek, 3½ miles upstream from bridge on U. S. Highway 377, 4 miles southeast of Aledo, Parker County, and 11.8 miles upstream from Benbrook Dam.

Drainage area.--246 sq mi.

Records available.--August 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 723.33 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark).

Average discharge.--8 years, 35.5 cfs (25,700 acre-ft per year).

Extremes.--Maximum discharge during year, 4,170 cfs May 19 (gage height, 16.42 ft); no flow at times.

1947-55: Maximum discharge, 12,400 cfs May 17, 1949 (gage height, 25.00 ft), from rating curve extended above 7,300 cfs by logarithmic plotting; no flow at times.

Maximum stage known since 1858, about 34 ft between Apr. 25 and May 9, 1922, from information by local resident.

Remarks.--Records good. No diversion above station. Discharge affected by fifteen U. S. Soil Conservation Service flood-retarding structures above station, total capacity not known.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 13 to May 2, May 11-18, May 31 to June 4, July 19-28, Sept. 11-16)

2.1	0	3.1	29
2.2	.2	3.3	49
2.3	.6	3.6	96
2.4	1.0	4.0	180
2.5	1.9	4.5	305
2.6	3.4	5.0	445
2.7	6.4	6.0	725
2.8	10	8.0	1,390
2.9	15	10.0	2,140

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0.7	0.2	2.4	6.8		0
2						0	.7	.1	1.8	6.4		*0
3						0	.7	0	*1.7	5.8		0
4						0	.7	0	170	3.0		0
5						0	.7	0	77	2.0		0
6						0	.6	0	14	2.0		0
7						0	.8	0	33	2.0		0
8						0	.8	0	63	1.9		0
9						0	1.0	0	104	1.9		0
10		(*)				0	1.3	0	13	1.9		0
11						0	3.3	.2	6.4	1.9		179
12						0	8.0	4.3	3.7	1.9		9.1
13						68	7.9	2.5	2.6	1.9		2.5
14						4.2	1.9	.7	2.2	1.9		1.7
15						.9	1.1	.4	1.9	1.9		1.2
16						.7	.9	.5	1.8	2.8		.7
17			(*)		(*)	.5	.8	7.4	2.6	2.2		0
18						.6	.8	2.7	1,200	117		0
19						1.6	.8	1,960	464	84		0
20						2.0	.7	436	446	25		0
21						*1.1	.7	37	42	15		0
22						.8	.6	19	27	*12		0
23						.6	.5	14	20	8.1		0
24						.6	5.8	12	15	6.1		0
25						.6	*2.4	11	12	3.4		4.3
26						.5	1.0	24	10	1.8		1.0
27						.5	.8	18	9.6	1.0		.3
28						.5	.6	6.8	8.8	.6		.1
29					-	.5	.5	4.0	8.4	0		0
30					------	.6	.4	3.0	7.6	0		0
31		------			------	.7	------	2.5	------	0		------
Total	0	0	0	0	0	85.5	47.4	2,566.3	2,771.5	322.2	0	199.9
Mean	0	0	0	0	0	2.76	1.58	82.8	92.4	10.4	0	6.66
Ac-ft	0	0	0	0	0	170	94.0	5,090	5,500	639	0	396

Calendar year 1954: Max 67 Min 0 Mean 1.59 Ac-ft 1,150
Water year 1954-55: Max 1,960 Min 0 Mean 16.4 Ac-ft 11,890

Peak discharge (base, 3,000 cfs).--May 19 (8 p.m.) 4,170 cfs (16.42 ft).
* Discharge measurement or observation of no flow made on this day.

Benbrook Reservoir near Benbrook, Tex.

Location.--Lat 32°39', long 97°27', in intake structure of Benbrook Dam on Clear Fork Trinity River, 2.5 miles south of Benbrook, Tarrant County, 3.5 miles upstream from Marys Creek, and 15 miles upstream from mouth of Clear Fork.

Drainage area.--433 sq mi.

Records available.--October 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942.

Extremes.--Maximum contents during year, 16,720 acre-ft June 24 (elevation, 666.06 ft); minimum, 5,010 acre-ft May 9 (elevation, 653.70 ft).
1952-55: Maximum contents, that of June 24, 1955; minimum since first appreciable storage began, that of May 9, 1955.

Remarks.--Reservoir is formed by a rolled earth-fill dam 9,130 ft long including a 500-foot uncontrolled concrete spillway. Outlet works consists of 13-foot diameter concrete conduit controlled by two 6.5- by 13-foot broome-type gates (elevation of sill, 622.0 ft) and two 30-inch steel pipes controlled by slide gates (elevation inverts at intakes to wet wells, 656.0 ft). Gates closed Sept. 29, 1952. Capacity, 258,600 acre-ft at crest of spillway (elevation, 724.0 ft), 164,800 acre-ft at crest of 100-foot notch in spillway (elevation, 710.0 ft), and 88,250 acre-ft at top of conservation pool (elevation, 694.0 ft). Figures given herein represent total contents. Reservoir built for flood control, navigation, and low-flow regulation.

Cooperation.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6,200	5,710	5,540	5,380	5,270	5,220	5,270	5,160	10,700	16,460	15,990	15,060
2	6,190	5,700	5,540	5,370	5,260	5,220	5,260	5,130	10,680	16,430	15,960	15,000
3	6,170	5,730	5,530	5,380	5,290	5,220	5,260	5,120	10,650	16,400	15,920	14,960
4	6,160	5,710	5,520	5,390	5,320	5,220	5,260	5,070	11,040	16,360	15,870	14,940
5	6,170	5,710	5,520	5,390	5,300	5,210	5,260	5,060	11,240	16,320	15,850	14,920
6	6,160	5,700	5,510	5,380	5,290	5,200	5,240	5,050	11,280	16,290	15,810	14,890
7	6,140	5,690	5,500	5,370	5,280	5,190	5,230	5,040	11,280	16,260	15,770	14,870
8	6,130	5,690	5,490	5,370	5,280	5,180	5,240	5,030	11,580	16,200	15,690	14,810
9	6,110	5,690	5,480	5,410	5,270	5,180	5,270	5,010	11,820	16,160	15,660	14,770
10	6,090	5,690	5,480	5,400	5,260	5,170	5,260	5,060	11,840	16,140	15,600	14,830
11	6,050	5,690	5,490	5,370	5,250	5,170	5,260	5,110	11,840	16,090	15,780	15,200
12	6,030	5,680	5,480	5,360	5,240	5,160	5,300	5,110	11,820	16,050	15,740	15,220
13	6,020	5,680	5,480	5,350	5,240	5,280	5,310	5,100	11,790	16,010	15,720	15,190
14	5,980	5,700	5,470	5,350	5,240	5,300	5,300	5,100	11,770	15,970	15,670	15,170
15	5,960	5,700	5,460	5,350	5,240	5,300	5,290	5,080	11,770	16,050	15,630	15,130
16	5,950	5,700	5,460	5,350	5,230	5,280	5,290	5,100	11,790	16,050	15,590	15,050
17	5,930	5,700	5,420	5,350	5,220	5,270	5,290	5,090	11,770	16,050	15,550	15,020
18	5,880	5,680	5,410	5,330	5,240	5,290	5,290	5,130	14,640	16,100	15,530	15,000
19	5,860	5,670	5,400	5,320	5,270	5,280	5,280	9,450	15,620	16,340	15,500	14,980
20	5,850	5,670	5,400	5,320	5,240	5,390	5,280	10,650	16,570	16,360	15,460	14,940
21	5,840	5,660	5,400	5,320	5,240	5,370	5,270	10,730	16,640	16,360	15,440	14,920
22	5,830	5,650	5,400	5,310	5,220	5,350	5,260	10,730	16,690	16,380	15,350	14,860
23	5,830	5,640	5,390	5,300	5,220	5,350	5,250	10,740	16,710	16,360	15,320	16,150
24	5,820	5,630	5,390	5,300	5,220	5,350	5,230	10,740	16,690	16,330	15,300	16,160
25	5,780	5,630	5,390	5,290	5,210	5,320	5,220	10,730	16,680	16,290	15,260	16,150
26	5,770	5,610	5,390	5,290	5,220	5,300	5,200	10,780	16,660	16,260	15,230	16,140
27	5,770	5,610	5,390	5,280	5,220	5,300	5,200	10,850	16,620	16,230	15,200	16,130
28	5,780	5,600	5,420	5,280	5,220	5,290	5,190	10,830	16,610	16,190	15,190	16,100
29	5,760	5,550	5,400	5,280	-	5,280	5,180	10,810	16,570	16,150	15,140	16,060
30	5,740	5,540	5,390	5,270	------	5,280	5,170	10,770	16,540	16,130	15,130	16,040
31	5,730	------	5,380	5,270	------	5,280	------	10,730	------	16,090	15,100	------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	655.50	6,190	-
Oct. 31	654.83	5,730	-460
Nov. 30	654.53	5,540	-190
Dec. 31	654.29	5,380	-160
Calendar year 1954	-	-	-2,760
Jan. 31	654.12	5,270	-110
Feb. 28	654.05	5,220	-50
Mar. 31	654.13	5,280	+60
Apr. 30	653.96	5,170	-110
May 31	660.84	10,730	+5,560
June 30	665.92	16,540	+5,810
July 31	665.57	16,090	-450
Aug. 31	664.78	15,100	-990
Sept.30	665.53	16,040	+940
Water year 1954-55	-	-	+9,850

† Elevation at 12 p.m.

Clear Fork Trinity River near Benbrook, Tex.

Location.--Lat 32°39'54", long 97°26'30", on left bank 1½ miles downstream from Benbrook Dam, 1.7 miles southeast of Benbrook, Tarrant County, and 2.9 miles upstream from Marys Creek.

Drainage area.--435 sq mi.

Records available.--July 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 604.22 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark).

Average discharge.--8 years, 66.1 cfs (47,850 acre-ft per year) unadjusted.

Extremes.--Maximum discharge during year, 185 cfs Aug. 22 (gage height, 3.92 ft); no flow at times.

1947-55: Maximum discharge, 82,900 cfs May 17, 1949 (gage height, 28.72 ft), from rating curve extended above 11,000 cfs on basis of velocity-area studies and slope-area determination of peak flow; no flow at times.

Maximum stage known since at least 1922, that of May 17, 1949.

Remarks.--Records good. Flow regulated by Benbrook Reservoir since September 1952 (see preceding page).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.31	0	2.7	5.4
2.45	.2	2.8	9.5
2.5	.5	2.9	14
2.55	1.0	3.0	22
2.6	2.0	3.1	30

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	0.4	0.6	0.4	0.1	0.2	0.2	0	0.2	*13	*27	0.2
2	5.7	.3	.5	.4	.1	.2	.2	0	.1	.6	.7	14
3	4.3	3.0	.5	.4	.2	.2	.2	0	**.1	.3	.4	.8
4	*2.6	5.0	.6	.4	2.5	.1	.2	19	2.3	.3	.3	.3
5	.4	.7	.7	.4	4.6	.1	.2	.4	3.3	.3	.2	.2
6	.3	.5	.8	.4	4.0	.1	.2	.2	2.5	.3	.1	0
7	.2	.4	.6	.4	1.3	.1	.2	.2	2.9	.2	.1	0
8	2.1	.5	.4	.4	.2	.1	.2	.2	4.5	.2	*22	16
9	5.0	.6	.2	.7	.2	.1	3.6	.2	2.2	.2	.5	.4
10	3.6	**.5	.2	5.5	.2	.1	7.1	1.4	2.0	.2	14	.1
11	16	.4	.2	8.1	.1	.1	4.4	9.3	1.8	14	3.5	.8
12	3.5	.4	.3	7.7	.1	.1	7.6	2.7	1.8	.6	3.5	4.0
13	.2	.4	.2	4.2	.2	1.9	7.7	1.0	2.2	.2	5.7	4.3
14	0	.4	.1	.4	.2	4.0	5.3	.9	1.3	.2	6.1	4.0
15	0	.7	0	.4	.2	2.5	.7	.9	2.7	30	5.6	.4
16	0	.4	0	.3	.2	1.0	.4	2.3	5.0	.5	1.0	29
17	0	.3	*18	.3	*.2	.2	.4	2.9	3.6	.2	.4	.5
18	19	.2	.5	3.5	.2	.4	.4	4.1	6.0	*5.6	.3	0
19	.5	.1	.3	5.0	4.5	2.6	.4	11	4.0	14	.3	0
20	.3	0	.3	.5	5.7	14	.3	1.3	1.8	9.7	.4	0
21	.3	0	.3	.4	3.3	*5.0	.3	1.1	1.3	3.3	.3	0
22	.4	0	.3	.4	.4	2.4	.2	1.1	1.0	2.9	28	29
23	.4	0	.4	.4	.3	.6	.1	1.3	.9	3.3	1.1	8.5
24	.3	0	.6	.4	.2	.4	.1	2.0	.7	3.6	.4	3.3
25	19	0	.8	.4	.2	.4	*0	2.2	.5	3.3	.2	3.3
26	.8	0	.9	.3	.2	.4	0	2.5	.4	.6	.1	4.3
27	.5	0	.8	.2	.2	.3	0	2.0	.4	.3	.1	5.4
28	5.1	0	4.7	.2	.2	.3	0	2.0	.3	.2	.1	4.3
29	9.0	20	8.4	.2	-	.3	0	1.5	.2	.2	*17	1.5
30	4.5	.9	.9	.1	------	.3	0	.9	.1	.1	1.1	1.5
31	.5	-----	.7	.2	------	.2	-----	.5	------	.1	.4	------
Total	105.7	36.1	43.8	43.0	30.0	38.7	40.6	75.1	56.1	108.5	140.9	136.1
Mean	3.41	1.20	1.41	1.39	1.07	1.25	1.35	2.42	1.87	3.50	4.54	4.54
Ac-ft	210	72	87	85	60	77	81	149	111	215	279	270

Calendar year 1954: Max 26 Min 0 Mean 2.29 Ac-ft 1,660
Water year 1954-55: Max 30 Min 0 Mean 2.34 Ac-ft 1,700

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

Clear Fork Trinity River at Fort Worth, Tex.

Location.--Lat 32°44', long 97°21', near right bank on downstream side of right pier of bridge on Vickery Boulevard at Fort Worth, Tarrant County, 100 ft upstream from East-West Expressway bridge, 310 ft downstream from Texas and Pacific Railway bridge, 3 miles upstream from mouth, 5 miles downstream from Marys Creek, and 10 miles downstream from Benbrook Dam.

Drainage area.--526 sq mi.

Records available.--March 1924 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 532.91 ft above mean sea level, datum of 1929. Prior to June 23, 1925, staff gage at site 338 ft upstream at datum 8.37 ft higher. June 23, 1925, to Dec. 7, 1938, water-stage recorder at site 88 ft upstream at present datum.

Average discharge.--31 years, 103 cfs (74,570 acre-feet per year), unadjusted.

Extremes.--Maximum discharge during year, 1,080 cfs May 19 (gage height, 4.37 ft); no flow at times.

1924-55: Maximum discharge, 107,000 cfs May 17, 1949 (gage height, 28.20 ft), from rating curve extended above 16,000 cfs on basis of contracted-opening determination of peak flow; no flow at times.

Maximum stage known since at least 1900, that of May 17, 1949. Flood of Apr. 25, 1922, reached a stage of 27.5 ft, present datum (discharge, 74,300 cfs, by slope-area determination of peak flow, data furnished by city engineer of Fort Worth).

Revisions.--The maximum discharge for the water year 1925 has been revised to 9,000 cfs May 10, 1925 (gage height, 6.40 ft), superseding figure and date published in WSP 608.

Remarks.--Records good. Flow largely regulated since August 1950 by Benbrook Reservoir (see p. 65). Texas & Pacific Railway Co. diverts small amount of water from pool in which gage is located.

Revisions.--WSP 1148: Drainage area. Revised figures of discharge, in cubic feet per second, for some periods in the water years 1924, 1925 and 1927, superseding those published in WSP 588, 608, and 648, are given herewith:

June 2, 1924.....	810
May 7, 1925.....	4,610
May 10, 1925.....	3,200
Mar. 16-31, 1927.....	†85
Apr. 1-27, 1927.....	†50

† Average for period indicated.

Month	Maximum	Minimum	Mean	Runoff in acre-feet
March 1924.....	2,700	-	418	25,700
June.....	810	6.4	97.9	5,820
May 1925.....	4,610	6.4	393	24,100
Water year 1924-25.....	4,610	0	41.6	30,100
Calendar year 1925.....	4,610	0	45.9	33,200
March 1927.....	-	3.8	60.6	3,730
April.....	-	22	48.1	2,860
Water year 1926-27.....	-	0	13.8	10,000
Calendar year 1927.....	-	0	16.1	11,600

Clear Fork Trinity River at Fort Worth, Tex.--Continued

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.5	0	2.9	73
2.6	4.8	3.1	143
2.7	19	3.3	222
2.8	43	3.5	332

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	0.1	0	2.0	1.3	2.8	4.8	0	0	a0	0	0
2	1.0	0	0	2.0	.2	2.0	2.0	0	0	a5	0	*0
3	.7	16	0	.1	20	2.8	2.8	0	*0	a2	0	0
4	.6	2.0	0	0	20	2.8	1.4	0	130	a1	.4	0
5	0	2.8	0	.7	9.7	2.8	.5	.8	16	a0	0	0
6	1.5	.7	0	.3	9.7	2.0	.2	.7	8.4	a0	0	0
7	0	0	0	0	5.9	.5	.2	0	8.4	a0	0	0
8	0	0	0	.2	2.8	1.3	2.8	0	26	a0	0	0
9	0	0	0	17	.7	1.3	12	0	28	a0	2.1	0
10	0	0	0	6.7	.2	**1.3	16	4.8	11	a0	.4	8.7
11	0	0	4.3	5.9	.2	0	9.7	35	7.1	a0	32	4.3
12	8.5	0	6.1	8.4	.7	.9	52	45	4.8	a0	9.6	0
13	.5	0	2.0	8.4	.7	48	11	4.8	2.8	a0	1.0	0
14	0	1.5	2.0	4.8	.2	19	9.7	2.8	.7	a0	0	0
15	0	2.0	2.0	2.8	.7	7.1	7.1	.7	a10	a0	.6	0
16	0	.1	.7	2.0	.2	4.8	3.8	17	a100	a10	.7	0
17	0	0	1.3	2.0	.2	3.8	2.8	5.9	a25	a15	.2	12
18	0	0	12	2.8	*1.3	15	2.8	15	a200	a10	.6	.4
19	0	0	2.8	3.8	42	8.4	2.8	274	a50	a5	0	0
20	0	0	.7	8.4	8.4	140	2.8	62	a25	a3	0	0
21	0	0	.4	2.8	8.4	36	2.8	16	a10	a2	0	0
22	0	0	0	2.0	4.8	9.7	.7	7.1	a7	**a1	0	0
23	0	0	.2	2.0	2.8	8.4	.7	3.8	a5	*0	5.2	62
24	0	0	.7	.7	1.3	4.8	.7	2.8	a2	0	.3	11
25	0	0	.7	2.0	2.0	2.8	*1.2	.7	a1	0	.4	3.8
26	4.4	0	.7	2.0	2.0	2.8	0	4.8	a0	0	0	5.5
27	6.4	0	.7	2.0	2.0	2.8	0	2.8	a0	0	0	8.4
28	7.1	0	14	2.8	2.8	3.8	0	1.3	a0	0	0	5.9
29	.8	0	5.9	2.0	-	5.9	0	.2	a0	0	0	3.8
30	4.8	0	8.4	2.0	- - -	1.3	0	.7	a0	0	0	.7
31	3.8	- - - -	2.8	1.3	- - - - -	2.8	- - - - -	0	- - - - -	0	.8	- - - - -
Total	51.1	25.2	68.4	99.9	151.2	347.7	153.3	508.7	678.2	54	54.3	126.5
Mean	1.65	0.84	2.21	3.22	5.40	11.2	5.11	16.4	22.6	1.74	1.75	4.22
Ac-ft	101	50	136	198	300	690	304	1,010	1,350	107	108	251

Calendar year 1954: Max 106 Min 0 Mean 2.58 Ac-ft 1,870
Water year 1954-55: Max 274 Min 0 Mean 6.35 Ac-ft 4,600

* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of weather records and records of nearby stations.

West Fork Trinity River at Fort Worth, Tex.

Location (revised).--Lat 32°46', long 97°20', on left bank 200 ft downstream from Clear Fork Trinity River, 950 ft upstream from Texas Electric Service Co.'s concrete dam, 1,000 ft upstream from Paddock Viaduct (North Main Street) at Fort Worth, Tarrant County, and at mile 559.

Drainage area.--2,627 sq mi.

Records available.--October 1920 to September 1955. Gage-height records collected in this vicinity since 1910 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder and concrete control. Datum of gage is 519.24 ft above mean sea level, datum of 1929 (Texas Reclamation Department benchmark based on Coast and Geodetic Survey datum). Prior to Aug. 21, 1954, water-stage recorder at site 850 ft downstream at same datum.

Average discharge.--35 years, 420 cfs (304,100 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 1,360 cfs May 19 (gage height, 3.32 ft); minimum daily, 0.7 cfs Aug. 2-4, Sept. 7, 8.

1920-55: Maximum discharge, 85,000 cfs Apr. 25, 1922 (gage height, 23.95 ft), by slope-area determination of peak flow by city engineer of Fort Worth; maximum gage height, 25.91 ft May 17, 1949 (discharge, 64,300 cfs); no flow at times.

Maximum stage known since at least 1900, that of May 17, 1949.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow largely regulated by Bridgeport Reservoir since 1932 (see p. 60), Eagle Mountain Reservoir since 1934 (see p. 63), Benbrook Reservoir since 1952 (see p. 65), and Lake Worth (capacity, 33,300 acre-ft). During the year, the City of Fort Worth diverted 50,780 acre-ft of water from Lake Worth for municipal use and returned 30,530 acre-ft of sewage effluent below station. Several small diversions above station.

Revisions.--WSP 1148: Drainage area. Revised figures of discharge, in cubic feet per second, for high-water period in the water year 1925, superseding those published in WSP 608, are given herewith:

May 6, 1925..... 1,060
May 7, 1925..... 5,490

Month	Maximum	Minimum	Mean	Runoff in acre-feet
May 1925.....	5,490	24	1,110	68,200
Water year 1924-25.....	5,490	0	108	78,100
Calendar year 1925.....	5,490	0	120	86,900

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 16-23, 30)

0.9	0.1	1.4	98
1.0	4.6	1.7	205
1.1	18	2.0	356
1.2	38	2.4	626

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	8.7	3.3	6.5	6.5	7.5	11	5.5	10	5.5	1.8	a2.0
2	13	8.7	2.7	6.5	6.5	7.5	8.7	5.5	16	10	.7	*1.8
3	7.5	19	3.3	7.5	38	7.5	6.5	4.6	13	13	.7	1.0
4	5.5	48	3.3	6.5	96	6.5	5.5	5.5	271	8.7	.7	1.0
5	3.9	14	2.7	6.5	23	5.5	3.9	8.7	105	7.5	1.4	1.0
6	2.2	7.5	3.3	6.5	16	6.5	1.8	11	31	3.9	1.8	1.0
7	2.7	4.6	*3.9	5.5	14	7.5	3.3	13	29	1.4	2.7	.7
8	3.3	4.6	3.3	5.5	13	4.6	4.6	8.7	69	1.4	7.5	**.7
9	3.3	6.5	3.9	25	10	3.3	19	8.7	108	11	5.5	1.0
10	3.9	6.5	3.3	70	7.5	2.2	38	25	48	10	3.3	38
11	4.6	5.5	9.0	14	6.5	2.2	13	83	33	8.7	42	29
12	8.7	5.5	25	13	6.5	1.8	92	77	25	5.5	24	8.7
13	6.5	5.5	8.7	10	5.5	51	38	16	23	7.5	6.5	8.7
14	4.6	7.5	6.5	11	5.5	33	25	18	19	5.5	3.3	8.7
15	4.6	11	5.5	10	6.5	14	18	27	27	5.5	1.4	7.5
16	4.6	7.5	4.6	8.7	6.5	8.7	11	95	231	23		6.5
17	5.5	5.5	3.9	*8.7	5.5	7.5	8.7	*40	95	36		9.9
18	5.5	3.9	6.5	11	6.5	23	7.5	38	458	33		5.8
19	4.6	3.9	8.7	8.7	98	31	6.5	602	193	19		4.6
20	4.6	3.9	6.5	11	73	265	3.9	322	98	14	a1.0	3.9
21	4.6	4.6	5.5	10	40	154	3.9	76	48	18		3.3
22	4.6	4.6	4.6	7.5	14	36	3.9	29	38	10		*3.9
23	3.9	4.6	3.9	7.5	8.7	19	3.3	21	16	6.5		98
24	2.2	3.9	2.7	6.5	7.5	14	2.7	16	11	5.5		38
25	1.8	2.7	4.6	*6.5	8.7	10	4.6	13	10	3.3		13
26	4.6	2.7	6.5	6.5	10	4.6	3.3	51	11	2.7		7.5
27	27	3.3	5.5	6.5	10	6.5	3.3	38	8.7	*2.7	a1.5	11
28	27	3.3	46	6.5	8.7	7.5	3.3	14	7.5	2.7		6.5
29	10	4.6	25	6.5	-	*6.5	1.8	10	7.5	3.3		5.5
30	10	3.3	13	6.5	------	4.6	1.8	11	8.7	2.7	a2.0	4.6
31	11	------	8.7	6.5	------	7.5	------	8.7	------	2.7		------
Total	224.8	225.4	243.9	329.1	558.1	766.0	357.8	1,701.9	2,068.4	290.2	123.8	332.8
Mean	7.25	7.51	7.87	10.6	19.9	24.7	11.9	54.9	68.9	9.36	3.99	11.1
Ac-ft	446	447	484	653	1,110	1,520	710	3,380	4,100	576	246	660

Calendar year 1954: Max 272 Min 0 Mean 10.9 Ac-ft 7,870
Water year 1954-55: Max 602 Min 0.7 Mean 19.8 Ac-ft 14,330

Peak discharge (base, 4,000 cfs).--No peak above base.

* Discharge measurement made on this day.

** Field estimate made on this day.

a No gage-height record; discharge estimated on basis of weather records and records of Clear Fork Trinity River at Fort Worth.

West Fork Trinity River at Grand Prairie, Tex.

Location.--Lat 32°46', long 96°59', on right bank 440 ft downstream from bridge on Grand Prairie-Sowers-Irving highway, 1 mile northeast of Grand Prairie, Dallas County, 6 miles upstream from Mountain Creek, and at mile 515.

Drainage area.--3,070 sq mi.

Records available.--March 1925 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 412.98 ft above mean sea level, datum of 1929. Prior to Dec. 6, 1933, chain gage at site 440 ft upstream at same datum.

Average discharge.--30 years, 561 cfs (406,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,660 cfs May 20 (gage height, 14.57 ft); minimum, 41 cfs Dec. 27 (gage height, 1.31 ft).

1925-55: Maximum discharge, 62,000 cfs May 17, 1949 (gage height, 28.00 ft), from rating curve extended above 36,000 cfs by logarithmic plotting; minimum observed, 3.2 cfs June 6, 1925.

Maximum stage known since at least 1900, about 30.6 ft in 1908 (probably May), from information by local resident. Flood in April 1922 reached a stage of 29 ft, from floodmarks.

Remarks.--Records good. Flow largely regulated by Bridgeport Reservoir since 1932 (see p. 60), Eagle Mountain Reservoir since 1934 (see p. 63), Benbrook Reservoir since 1952 (see p. 65), and Lake Worth (capacity, 33,300 acre-ft). Cities of Fort Worth, Arlington, and Grand Prairie discharge sewage effluent between station at Fort Worth and this station. Several diversions above Fort Worth for municipal and other uses.

Revisions (water year).--WSP 628: 1925. WSP 1148: Drainage area.

Rating table, water year 1954-55 (gage height, in feet and discharge, in cubic feet per second)

1.2	39	5.0	892
1.5	62	7.0	1,520
2.0	134	10.0	2,610
2.5	234	13.4	4,100
3.0	348		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	127	58	52	63	55	63	61	54	58	61	52	62
2	134	*57	52	56	61	68	70	46	58	61	51	58
3	89	73	51	50	77	65	68	49	60	57	50	53
4	80	129	51	50	124	65	60	56	75	52	51	53
5	55	180	52	58	285	64	58	55	396	51	52	49
6	60	84	49	58	130	60	62	57	*210	53	52	44
7	60	68	47	57	77	53	59	60	*100	58	53	47
8	64	56	50	56	74	53	56	59	94	56	51	52
9	61	55	52	55	76	60	65	56	180	57	49	54
10	59	60	53	79	72	60	108	49	206	56	50	55
11	55	59	53	212	68	58	155	71	129	53	73	60
12	53	58	56	105	63	58	132	174	86	51	*208	124
13	58	56	66	73	62	57	348	230	68	53	148	62
14	59	58	70	68	58	108	146	94	69	56	70	60
15	60	57	61	65	58	*116	94	71	66	57	58	*63
16	56	62	*57	66	70	77	83	147	199	68	53	66
17	51	65	54	60	65	65	72	321	424	82	58	59
18	47	61	52	59	63	61	62	164	867	93	57	55
19	49	57	51	69	69	87	62	1,840	1,180	*140	55	56
20	58	55	47	65	248	188	68	4,060	468	74	55	56
21	58	53	49	61	157	820	63	1,200	250	65	54	58
22	58	46	55	65	140	363	62	274	142	65	51	57
23	61	46	55	62	83	126	59	138	106	60	50	74
24	59	54	52	56	71	92	58	105	87	56	53	208
25	53	53	52	55	68	77	51	97	85	51	53	137
26	50	51	51	62	65	72	53	83	72	48	55	100
27	57	46	42	60	66	64	*59	139	61	50	56	81
28	90	51	44	*61	62	56	57	137	63	51	53	76
29	120	48	82	60	-	58	58	83	65	52	51	71
30	90	47	136	60	------	66	58	62	63	52	51	65
31	64	------	76	56	------	61	------	58	------	53	58	------
Total	2,075	1,903	1,770	2,082	2,567	3,341	2,467	10,089	5,987	1,892	1,931	2,115
Mean	66.9	63.4	57.1	67.2	91.7	108	82.2	325	200	61.0	62.3	70.5
Ac-ft	4,120	3,770	3,510	4,130	5,090	6,630	4,890	20,010	11,880	3,750	3,830	4,200

Calendar year 1954: Max 1,120 Min 41 Mean 70.1 Ac-ft 50,780
Water year 1954-55: Max 4,060 Min 42 Mean 105 Ac-ft 75,810

Peak discharge (base, 5,000 cfs).--No peak above base.
* Discharge measurement made on this day.

Elm Fork Trinity River near Sanger, Tex.

Location.--Lat 33°23'25", long 97°05'10", on right bank on downstream side of pier of bridge on State Farm Highway 455 (relocated), 4.1 miles downstream from Spring Creek, 5.0 miles upstream from Isle du Bois Creek, and 5.4 miles northeast of Sanger, Denton County. Prior to May 7, 1955, at site 500 ft downstream.

Drainage area.--379 sq mi.

Records available.--April 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 553.93 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942 (Corps of Engineers benchmark). Prior to May 7, 1955, at site 500 ft downstream at same datum.

Average discharge.--6 years, 93.7 cfs (67,840 acre-ft per year).

Extremes.--Maximum discharge during year, 11,000 cfs May 20 (gage height, 26.20 ft); no flow at times.

1949-55: Maximum discharge, 20,100 cfs Sept. 14, 1950 (gage height, 27.15 ft at site then in use), from rating curve extended above 11,000 cfs by logarithmic plotting; no flow at times.

Maximum stage known since at least 1903, about 30.7 ft in 1908, from information by local residents. Flood of May 18, 1935, reached a stage of 29.7 ft, from floodmarks.

Remarks.--Records fair except those for period Apr. 6-21, which are poor. Flow for periods Oct. 5-30 and Apr. 19 to May 18 largely was water diverted by pumping from Red River by city of Dallas for municipal use.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	102	66	1.9	3.0	0.7	1.7	2.8	a57	11	*10	a1.0	2.2
2	49	31	1.4	1.9	.7	1.6	3.3	a57	8.7	7.6	a1.0	.9
3	7.6	5.5	1.4	1.4	1.1	1.7	2.5	a57	*7.6	6.7	a.9	.4
4	3.3	3.6	1.4	1.3	10	2.1	1.9	a57	8.7	7.0	a.8	.2
5	22	3.5	1.6	1.3	38	1.7	1.4	*57	14	9.9	a.8	.1
6	70	2.4	1.6	1.0	14	1.4	a1.3	a57	20	7.9	a.7	.1
7	66	1.9	1.7	1.3	6.3	1.2	a75	a57	13	6.3	a.6	0
8	61	1.5	1.7	1.4	3.3	1.2	a25	57	383	5.2	a.6	0
9	59	1.3	1.7	1.2	2.2	1.2	a10	54	569	4.6	a.5	*0
10	61	3.6	1.6	2.0	1.9	1.5	a25	60	*126	3.8	a.4	0
11	63	5.0	1.9	15	1.4	1.5	a10	104	81	3.9	a.4	2.5
12	62	2.2	8.2	13	1.2	1.3	a25	138	67	4.8	*.4	12
13	63	1.2	11	5.1	1.4	1.3	a10	*64	54	5.0	a.3	4.2
14	61	.9	3.4	2.2	1.3	1.3	a5	61	37	5.6	a.3	1.7
15	63	.6	*1.5	2.2	1.4	1.4	a3	57	28	5.9	a.2	.8
16	63	.4	1.0	11	1.4	1.3	a2	121	*500	5.9	a.2	.4
17	63	.5	.7	*7.0	1.3	1.0	a2	82	*139	11	a.2	.2
18	63	*.5	.6	3.2	1.6	1.4	a1	63	779	11	a.2	.1
19	66	.4	.5	1.9	3.2	2.2	a5	*1,780	658	6.5	a.2	.1
20	66	.6	.5	2.5	10	70	a15	*9,580	935	5.2	a.2	0
21	66	.8	.6	1.6	11	85	a25	*1,400	179	3.7	a.1	0
22	68	.6	.7	1.1	4.6	12	*39	130	100	2.8	a.1	0
23	79	.5	.7	1.0	3.0	5.4	a50	a79	483	2.3	a.1	48
24	59	.4	.8	1.0	2.4	2.9	a50	a71	62	2.1	a.1	34
25	60	.5	1.0	.9	*2.1	2.2	a50	*51	35	2.0	a.1	275
26	36	1.2	1.0	.8	1.9	1.6	a57	a43	24	1.7	**.1	137
27	66	.8	1.2	.7	1.9	1.4	a57	*64	19	1.5	.1	67
28	68	1.0	88	.7	1.9	1.3	a57	52	16	a1.4	.1	13
29	66	1.1	101	.7	-	1.3	a57	31	13	a1.3	.1	99
30	66	1.4	18	.6	------	1.4	a57	21	11	a1.3	0	12
31	66	------	7.4	.6	------	*2.9	------	14	------	a1.2	.9	------
Total	1,833.9	140.9	265.7	88.6	131.2	215.4	725.2	14,576	5,381.0	155.1	11.7	710.9
Mean	59.2	4.70	8.57	2.86	4.69	6.95	24.2	470	179	5.00	0.38	23.7
Ac-ft	3,640	279	527	176	260	427	1,440	28,910	10,670	308	23	1,410

Calendar year 1954: Max 1,070 Min 0.4 Mean 60.5 Ac-ft 43,780
Water year 1954-55: Max 9,580 Min 0 Mean 66.4 Ac-ft 48,070

Peak discharge (base, 4,000 cfs).--May 20 (6:30 a.m.) 11,000 cfs (26.20 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of weather records, engineer's notes, pumping records, and records for nearby station.

Isle du Bois Creek near Pilot Point, Tex.

Location.--Lat 33°24'53", long 97°00'00", on left bank on downstream side of pier of highway bridge, 1.4 miles downstream from Wolf Creek, 2.2 miles downstream from Indian Creek, 2.5 miles northwest of Pilot Point, Denton County, and 7.3 miles upstream from mouth.

Drainage area.--261 sq mi.

Records available.--April 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 559.70 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942 (Corps of Engineers benchmark).

Average discharge.--6 years, 80.0 cfs (57,920 acre-ft per year).

Extremes.--Maximum discharge during year, 4,100 cfs May 21 (gage height, 21.65 ft); no flow at times.

1949-55: Maximum discharge, 23,300 cfs Sept. 13, 1950 (gage height, 26.35 ft), from rating curve extended above 4,600 cfs on basis of slope-area determination of peak flow; no flow at times.

Maximum stage known since at least 1900, about 29.3 ft in 1908, from information by local residents.

Remarks.--Records fair. No diversion above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	61	0.2	0	18	0.1	1.6	110	16	2.7	*0.3		0
2	193	0	0	8.2	.1	1.6	64	*5.8	2.2	.1		0
3	20	.1	0	3.9	.5	1.3	12	3.1	*1.8	.1		0
4	5.7	1.6	0	2.2	280	1.2	4.9	1.9	2.1	.1		0
5	1.4	1.7	0	1.2	448	1.2	2.8	1.3	8.1	.1		0
6	105	2.3	0	.9	85	1.0	2.2	1.0	6.2	0		0
7	85	3.3	0	.5	26	.9	78	.7	2.8	0		0
8	6.8	1.5	0	.3	11	.7	37	.5	1.8	0		0
9	2.7	.7	0	.2	5.6	.7	14	.5	1.8	0		*0
10	1.4	53	0	7.8	3.1	.7	60	.5	1.4	0		0
11	.7	8.1	0	43	1.9	.5	101	.7	1.3	0		0
12	.6	1.7	.7	27	1.4	.5	50	34	1.1	.2	(*)	0
13	8.7	.6	.2	9.7	1.1	.6	92	46	.7	.1		0
14	3.4	.1	0	5.1	1.0	.6	34	9.7	.7	*0		0
15	.7	0	*.4	8.7	.8	.6	12	4.6	.7	0		0
16	.3	0	.6	44	.7	.5	5.8	a100	*269	0		0
17	0	0	.2	*29	.6	.5	3.3	a100	*330	.3		0
18	0	*0	.1	44	.5	.7	2.3	a10	665	1.0		0
19	0	0	0	169	21	1.1	1.6	1,820	1,030	.1		0
20	0	0	0	44	488	145	1.3	*2,820	145	0		0
21	*0	0	0	14	160	833	20	*3,400	42	0		0
22	0	0	0	6.0	24	208	16	549	17	0		0
23	141	0	0	3.5	9.0	38	69	a50	86	0		0
24	834	0	0	2.1	5.1	14	84	a25	41	0		0
25	351	0	0	1.6	*3.3	7.2	21	*16	10	0		0
26	28	0	0	1.1	2.5	3.7	6.2	99	5.4	0		42
27	12	0	0	.8	2.1	2.4	18	*146	3.5	0		26
28	3.7	0	42	.5	2.0	1.7	422	46	2.3	0		4.4
29	1.6	0	387	.4	-	1.4	350	13	1.6	0		1.5
30	.9	0	196	.3	------	1.0	84	5.8	.9	0		.6
31	.4	------	59	.2	------	*.9	------	3.9	------	0		------
Total	1,869.0	74.9	686.2	497.2	1,584.4	1,272.8	1,778.4	9,130.0	2,684.1	2.4	0	74.5
Mean	60.3	2.50	22.1	16.0	56.6	41.1	59.3	295	89.5	0.08	0	2.48
Ac-ft	3,710	149	1,360	986	3,140	2,520	3,530	18,110	5,320	4.8	0	148

Calendar year 1954: Max 2,920 Min 0 Mean 40.2 Ac-ft 29,110
Water year 1954-55: Max 3,400 Min 0 Mean 53.8 Ac-ft 38,980

Peak discharge (base, 2,500 cfs).--May 21 (6:30 a.m.) 4,100 cfs (21.65 ft).

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

a No gage-height record; discharge estimated on basis of weather records, engineer's notes, and records for nearby station.

Clear Creek near Sanger, Tex.

Location.--Lat 33°20', long 97°11', on right bank at downstream side of bridge on U. S. Highway 77, 1,350 ft downstream from Duck Creek, 1.1 miles upstream from Gulf, Colorado and Santa Fe Railway bridge, and 1.8 miles south of Sanger, Denton County.

Drainage area.--296 sq mi.

Records available.--March 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 587.23 ft above mean sea level, datum of 1929 Fort Worth supplementary adjustment of 1942 (Corps of Engineers benchmark).

Average discharge.--6 years, 38.7 cfs (28,020 acre-ft per year).

Extremes.--Maximum discharge during year, 8,400 cfs May 19 (gage height, 22.81 ft); no flow at times.

1949-55: Maximum discharge, 11,200 cfs Sept. 13, 1950 (gage height, 24.80 ft); no flow at times.

Maximum stage known since at least 1880, 31.5 ft in 1908 at railroad bridge 1.1 mile downstream, from information by Gulf, Colorado and Santa Fe Railway Co. Flood in May 1935 reached a stage of 29.0 ft, from information by State Highway Department.

Remarks.--Records good except those above 1,000 cfs and those for period of no gage-height record, which are fair. No large diversion above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							0	0	0.2	*0.5		0
2							0	0	.1	.3		0
3							0	0	**.1	.1		0
4							0	0	.2	0		0
5							0	0	32	0		0
6							15	0	139	0		0
7							15	0	5.3	0		0
8							2.0	0	1,290	0		0
9							.1	0	2,060	0		*0
10							0	0	57	0		0
11							0	2.2	18	0		0
12							0	1.4	11	0	(*)	0
13							0	0	7.8	0		0
14							0	0	6.0	0		0
15			(*)				0	0	4.5	0		0
16							0	0	29	0		0
17				(*)			0	0	6.0	1.5		0
18		(*)					0	0	638	3.4		0
19							0	2,060	884	1.1		0
20							0	*4,060	390	1.8		0
21	(*)						0	*151	90	.1		0
22							0	35	23	0		0
23						(*)	0	14	34	0		9.0
24							0	8.0	a7	0		4.8
25					(*)		0	*5.5	a3	0		285
26							0	14	a2	0	(*)	30
27							39	*38	a1	0		7.4
28							17	8.9	a1	0		3.2
29					-		*0	4.7	a.5	0		.4
30							0	2.9	a.5	0		0
31						(*)		1.4		0		
Total	0	0	0	0	0	0	88.1	6,407.0	5,740.2	8.8	0	337.8
Mean	0	0	0	0	0	0	2.94	207	191	0.28	0	11.3
Ac-ft	0	0	0	0	0	0	175	12,710	11,390	17	0	670

Calendar year 1954: Max 794 Min 0 Mean 7.81 Ac-ft 5,650
Water year 1954-55: Max 4,060 Min 0 Mean 34.5 Ac-ft 24,960

Peak discharge (base, 3,000 cfs).--May 19 (8 p.m.) 8,400 cfs (22.81 ft); June 8 (10:30 p.m.) 6,050 cfs (19.67 ft).

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

** Field estimate made on this day.

a No gage-height record; discharge estimated on basis of engineer's notes and weather records.

Lake Dallas near Lake Dallas, Tex.

Location.--Lat 33°07', long 96°59', in gatehouse at Garza Dam on Elm Fork Trinity River, 1.6 miles upstream from Little Elm Creek and 2.0 miles southeast of town of Lake Dallas, Denton County.

Drainage area.--1,165 sq mi.

Records available.--December 1928 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 0.08 ft above mean sea level, datum of 1929. Prior to Jan. 6, 1943, staff gages at several sites in vicinity of present gage at same datum.

Extremes.--Maximum contents during year, 128,000 acre-ft June 23 (gage height, 522.2 ft); minimum, 56,100 acre-ft Dec. 22-26 (gage height, 512.6 ft).
1928-55: Maximum contents not determined; maximum gage height, 534.0 ft Apr. 25, 1942, from floodmarks (all gates were open during passing of crest through lake); minimum contents observed, 19,220 acre-ft Nov. 22, 1952 (gage height, 503.2 ft).

Remarks.--Reservoir is formed by earthen hydraulic-fill dam, consisting of 567 ft of concrete service spillway and 2 dikes. There are two emergency earthen spillways beyond right end of dam. Dam completed in November 1927 and storage began Feb. 16, 1928. Capacity, 156,600 acre-ft (gage height, 525.0 ft, top of service spillway). Water can be withdrawn through one 18-inch outlet gate (gage height of bottom of gate, 474.0 ft), four 48-inch outlet gates (gage height of bottom of gate, 463.0 ft), and one 6-inch gate (gage height of bottom of gate, 474.0 ft). Dead storage is negligible. Water is used by city of Dallas for municipal supply. Since Feb. 1, 1954, the city of Dallas has at times operated 6 pumps (total capacity, about 120 cfs) to divert water from Red River into Lake Dallas. See record for Elm Fork Trinity River near Sanger (p. 71). Figures given herein represent total contents.

Cooperation.--Capacity table furnished by city of Dallas.

Revisions.--WSP 1148: Drainage area.

Month-end gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	513.3	60,150	-
Oct. 31	513.6	61,950	+1,800
Nov. 30	513.0	58,350	-3,600
Dec. 31	512.9	57,750	-600
Calendar year 1954	-	-	-10,440
Jan. 31	512.9	57,750	0
Feb. 28	513.6	61,950	+4,200
Mar. 31	513.8	63,150	+1,200
Apr. 30	514.0	64,350	+1,200
May 31	519.8	106,000	+41,650
June 30	521.7	123,200	+17,200
July 31	519.3	101,800	-21,400
Aug. 31	516.6	81,450	-20,350
Sept.30	515.1	71,400	-10,050
Water year 1954-55	-	-	+11,250

† Gage height at 12 p.m.

Garza-Little Elm Reservoir near Lewisville, Tex.

Location.--Lat 33°04', long 96°58', in intake structure of Lewisville Dam on Elm Fork Trinity River, 2.4 miles northeast of Lewisville, Denton County, 3 miles upstream from bridge on State Highway 121, and 12 miles upstream from Denton Creek.

Drainage area.--1,658 sq mi.

Records available.--November 1954 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Prior to May 17, 1955, staff gage at site 4,000 ft upstream at same datum.

Extremes.--Maximum contents during period, 32,610 acre-ft Sept. 30 (elevation, 477.55 ft); minimum, 332 acre-ft Nov. 1 (elevation, 450.30 ft).

Remarks.--Reservoir is formed by a rolled earth-fill dam, 32,888 ft long, including a 560-foot uncontrolled concrete spillway. Outlet works consist of 16-foot diameter concrete conduit controlled by three 6.5- by 13-foot broome-type gates (elevation of sill, 448.0 ft) and two 60-inch steel pipes controlled by service valves (elevation, inverts at intakes to wet wells, 481.0 ft). Gates closed Nov. 1, 1954, and dam completed January 1955. Capacity, 1,016,200 acre-ft at crest of spillway (elevation, 532.0 ft) and 489,500 acre-ft at top of conservation pool (elevation, 515.0 ft). Figures given herein represent total storage and are for the portion of the pool downstream from Lake Dallas (see preceding page). When hydrologic conditions permit, Garza Dam will be breached incorporating the pool of Lake Dallas. Reservoir built for flood control and water conservation.

Cooperation.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Contents, in acre-feet, November 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		356	778	1,110	1,250	10,150	12,500	13,100	23,180	31,290	30,830	32,120
2		360	773	1,110	1,250	10,090	12,840	13,120	23,220	31,250	30,830	31,990
3		489	760	1,120	1,260	10,040	12,760	13,360	23,290	31,210	30,960	31,910
4		584	748	1,130	1,680	9,940	12,760	13,470	23,390	31,160	31,160	31,870
5		647	741	1,130	3,000	9,910	12,730	13,470	23,500	31,120	31,370	31,790
6		669	742	1,120	3,790	9,930	12,760	13,690	23,530	31,040	31,290	31,500
7		672	747	1,120	3,880	9,910	12,710	13,930	23,600	30,960	31,210	31,410
8		675	742	1,120	3,890	9,850	12,690	13,950	24,260	30,830	31,120	31,500
9		710	767	1,140	3,890	9,800	12,650	13,760	24,860	30,830	30,960	31,540
10		720	789	1,160	3,810	9,750	12,600	13,800	24,680	30,790	30,960	31,790
11		728	808	1,160	3,760	9,700	13,040	13,890	24,540	30,790	31,160	32,030
12		735	816	1,150	3,720	9,670	13,320	13,930	24,510	30,750	31,290	32,030
13		732	840	1,160	3,640	9,700	13,320	13,970	24,370	30,710	31,290	31,910
14		729	859	1,170	3,600	9,730	13,300	14,060	24,370	30,750	31,290	31,740
15		738	863	1,180	3,490	9,680	13,280	14,100	24,440	30,790	31,250	31,500
16		732	878	1,190	3,440	9,600	13,210	14,300	25,270	31,000	31,250	31,290
17		728	886	1,200	3,400	9,570	13,210	15,060	25,830	31,460	31,210	31,080
18		728	893	1,220	3,400	9,620	13,260	15,560	28,170	31,620	31,370	30,880
19		728	898	1,140	5,830	9,760	13,260	16,960	29,730	31,740	31,500	30,590
20		734	907	1,140	9,720	10,300	13,260	19,570	30,630	31,830	31,740	30,540
21		760	920	1,180	10,940	11,560	13,190	21,210	31,290	31,790	31,870	30,670
22		770	933	1,190	10,670	12,310	13,130	21,310	31,290	31,620	31,870	30,920
23		749	937	1,200	10,540	12,450	13,170	21,340	31,330	31,370	31,870	31,330
24		746	954	1,210	10,420	12,390	13,210	21,340	31,370	31,210	31,870	31,660
25		749	971	1,210	10,260	12,280	13,100	21,340	31,410	31,120	31,790	32,240
26		757	984	1,210	10,150	12,200	13,040	21,970	31,410	31,040	31,700	32,240
27		760	997	1,210	10,140	12,160	12,970	22,670	31,370	30,960	31,620	32,120
28		767	1,010	1,210	10,140	12,110	12,860	22,920	31,370	30,920	31,790	31,950
29		770	1,020	1,220	-	12,050	12,820	22,980	31,330	30,880	31,990	31,830
30		770	1,060	1,230	-------	12,020	13,000	23,010	31,290	30,880	32,200	32,610
31		-------	1,090	1,240	-------	12,020	-------	23,050	-------	30,830	32,200	-------

Monthly elevation and contents, November 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Nov. 1, 1954..	450.30	332	-
Nov. 30.....	455.90	770	-
Dec. 31.....	458.43	1,090	+438
Jan. 31, 1955..	459.45	1,240	+320
Feb. 28.....	469.75	10,140	+8,900
Mar. 31.....	470.80	12,020	+1,880
Apr. 30.....	471.28	13,000	+980
May 31.....	475.00	23,050	+10,050
June 30.....	477.23	31,290	+8,240
July 31.....	477.12	30,830	-460
Aug. 31.....	477.45	32,200	+1,370
Sept.30.....	477.55	32,610	+410
The period...	-	-	+32,278

† Elevation at 12 p.m. except Nov. 1, when elevation is for 10 a.m.

Elm Fork Trinity River near Lewisville, Tex.

Location.--Lat 33°02'45", long 96°57'40", on left bank at downstream side of pier of bridge on State Highway 121, 1.8 miles east of Lewisville, Denton County, 1.9 miles downstream from Garza-Little Elm Reservoir, 2.0 miles downstream from Hickory Creek, and 8.3 miles upstream from Denton Creek.

Drainage area.--1,671 sq mi.

Records available.--March 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 432.39 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark). Prior to Jan. 6, 1950, wire-weight gage read once daily, 0.6 mile upstream at datum 3.26 ft lower.

Average discharge.--6 years, 350 cfs (253,400 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 874 cfs Oct. 2 (gage height, 10.32 ft); minimum daily, 0.8 cfs Jan. 19.
1949-55: Maximum discharge, 21,700 cfs Sept. 15, 1950 (gage height, 30.75 ft); minimum daily, that of Jan. 19, 1955.
Maximum stage known since at least 1907, 33.8 ft in 1908, present site and datum, from floodmarks.

Remarks.--Records good. Flow largely regulated by Lake Dallas (see p. 74) and Garza-Little Elm Reservoir (see preceding page). The city of Dallas installed pumps (total capacity about 120 cfs) and began diverting Feb. 1, 1954, from Red River to Elm Fork Trinity River basin above Lake Dallas.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Nov. 6 and Feb. 19 to Mar. 20)

1.6	0	3.0	52
1.7	1.0	4.0	117
1.8	2.5	6.0	295
1.9	4.5	9.0	650
2.1	10	9.6	742
2.5	26		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	528	70	44	23	14	22	30	88	*102	195	232	149
2	730	53	53	23	17	36	23	108	96	214	232	182
3	235	34	61	*22	19	36	24	136	107	209	184	182
4	55	5.5	61	22	15	45	32	150	120	191	120	146
5	*94	15	57	22	8.5	32	42	186	72	196	115	117
6	83	33	53	33	6.8	1.4	40	151	74	214	245	230
7	106	42	53	37	*17	18	44	144	95	214	275	196
8	105	42	53	22	28	36	46	126	137	222	275	196
9	83	40	53	22	27	40	61	38	64	236	285	204
10	82	36	50	3.7	27	44	49	107	43	236	245	169
11	110	37	35	4.5	27	48	16	30	81	245	184	95
12	142	36	6.1	27	32	62	1.9	56	86	265	146	138
13	158	36	38	2.0	40	62	1.6	72	131	255	204	107
14	168	36	40	1.6	40	40	9.6	87	175	*240	222	152
15	148	19	36	1.6	38	30	32	88	164	240	204	156
16	125	16	33	1.3	34	26	30	92	104	170	214	132
17	100	29	33	1.3	34	34	30	79	75	98	236	140
18	106	*28	34	1.3	26	45	26	65	121	95	188	144
19	140	31	34	.8	38	32	21	97	6.0	93	*152	178
20	136	34	32	.9	7.7	138	21	35	3.5	97	121	178
21	136	62	26	9.5	*6.1	29	34	9.5	65	147	114	184
22	130	34	26	22	30	1.6	106	72	136	216	214	122
23	82	45	26	22	30	21	71	72	140	255	227	*96
24	291	49	26	22	24	50	50	77	102	236	232	89
25	584	42	26	21	19	36	74	106	128	240	255	93
26	137	43	24	21	19	27	82	89	128	265	249	100
27	56	43	15	21	19	28	*85	77	160	265	255	114
28	129	43	2.0	18	19	40	71	94	186	236	200	114
29	123	43	9.1	15	-	38	94	118	186	232	138	114
30	90	44	23	15	------	35	91	170	186	232	140	116
31	83	------	23	14	------	35	------	170	------	232	98	------
Total	5,273	1,120.5	1,085.2	472.5	662.1	1,168.0	1,338.1	2,989.5	3,271.5	6,479	6,201	4,333
Mean	170	37.4	35.0	15.2	23.6	37.7	44.6	96.4	109	209	200	144
Ac-ft	10,460	2,220	2,150	937	1,310	2,320	2,650	5,930	6,490	12,850	12,300	8,590

Calendar year 1954: Max 4,450 Min 2.0 Mean 146 Ac-ft 105,800
Water year 1954-55: Max 730 Min 0.8 Mean 94.2 Ac-ft 68,210

* Discharge measurement made on this day.

Denton Creek near Justin, Tex.

Location.--Lat 33°07', long 97°18', on right bank at downstream side of bridge on State Farm Highway 156, 100 ft upstream from Gulf, Colorado and Santa Fe Railway bridge, 2.2 miles north of Justin, Denton County, 3.0 miles upstream from Olivers Creek, 12.9 miles upstream from Harriet Creek, and 32.9 miles upstream from Grapevine Dam.

Drainage area.--409 sq mi.

Records available.--October 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 606.66 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942.

Average discharge.--6 years, 43.5 cfs (31,490 acre-ft per year).

Extremes.--Maximum discharge during year, 839 cfs May 20 (gage height, 7.48 ft); no flow at times.
1949-55: Maximum discharge, 6,210 cfs May 1, 1950 (gage height, 15.67 ft); no flow at times.
Maximum stage known, 21.6 ft in May 1908, which was about 1 ft higher than flood in May 1935 at site 1,500 ft upstream, from floodmarks, from information by local residents.

Remarks.--Records good. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.14	0	2.2	37
1.2	.3	2.5	58
1.3	1.5	3.0	99
1.4	3.0	4.0	200
1.5	5.1	5.0	318
1.7	11	6.0	488
1.9	20	7.0	710

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	0			
2								0	0			
3								0	0			
4								0	0			
5								0	4.5	(*)		
6								0	39			
7								0	6.5			
8								0	10			
9		(*)						0	176			(*)
10								0	208			
11								0	104			
12								0	35			
13								0	11			
14								0	4.0			
15								0	1.5		(*)	
16			(*)					0	.2			
17								0	0			
18				(*)		(*)		0	63			
19								209	161			
20								646	330			
21								376	292			
22								94	185			
23								36	56			
24								13	26			
25								4.9	15			
26								6.0	6.5			
27							(*)	*5.3	2.7			
28								9.6	.8			
29					-			2.6	0			
30					------			.9	0			
31		------			------		------	0	------			------
Total	0	0	0	0	0	0	0	1,403.3	1,737.7	0	0	0
Mean	0	0	0	0	0	0	0	45.3	57.9	0	0	0
Ac-ft	0	0	0	0	0	0	0	2,780	3,450	0	0	0

Calendar year 1954: Max 423 Min 0 Mean 11.1 Ac-ft 8,020
Water year 1954-55: Max 646 Min 0 Mean 8.61 Ac-ft 6,230

Peak discharge (base, 3,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

Denton Creek near Roanoke, Tex.

Location.--Lat 33°02', long 97°12', on right bank 1,100 ft downstream from bridge on U. S. Highway 377, 1,200 ft downstream from Texas and Pacific Railway bridge, 2.5 miles northeast of Roanoke, Denton County, and 8.5 miles downstream from Olivers Creek.

Drainage area.--621 sq mi.

Records available.--October 1923 to December 1927, March 1939 to September 1955 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 523.55 ft above mean sea level, datum of 1929. Oct. 12, 1923, to Dec. 31, 1927, chain gage at site 240 ft downstream at same datum.

Average discharge.--19 years (1924-27, 1939-55), 161 cfs (116,600 acre-ft per year); median of yearly mean discharges, 131 cfs.

Extremes.--Maximum discharge during year, 1,600 cfs June 19 (gage height, 8.80 ft); no flow at times.

1923-27, 1939-55: Maximum discharge, 49,700 cfs Apr. 20, 1942 (gage height, 30.20 ft), from rating curve extended above 32,000 cfs on basis of velocity-area studies; no flow at times.

Maximum stage known, 31 ft in May 1908, from floodmarks pointed out by local residents.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
628	1924	Dec. 12, 1923	9,700	20.65
628	1926	Mar. 21, 1926	7,650	18.1
648	1927	Apr. 19, 1927	4,980	14.1

Remarks.--Records fair.

Revisions.--WSP 1148: Drainage area. Revised figures of discharge, in cubic feet per second, for the water years 1924-28, superseding those published in WSP 588, 608, 628 and 648 are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1923		1924-Con.		1926-Con.		1927-Con.	
Nov. 15	2,090	May 26	1,080	Apr. 25	810	Jan. 26	628
16	1,900			May 8	800	27	339
Dec. 12	4,290	1925		9	1,830	Feb. 28	929
13	5,070	Apr. 26	925	10	855	Mar. 1	3,640
14	2,780	27	1,010	11	620	2	1,170
15	1,580	May 7	1,970	June 1	459	7	935
		9	3,460	2	1,060	8	1,080
1924		10	760	3	938	Apr. 13	903
Mar. 14	625			19	800	14	1,810
15	930	1926		20	1,100	18	2,530
17	2,340	Oct. 16	803	21	1,070	19	3,700
18	940	Jan. 21	786	July 8	644	20	2,300
19	2,430	Mar. 21	2,970	27	921	21	2,200
20	2,980	22	890	28	920	22	1,690
21	1,160	Apr. 12	645	29	1,120	23	1,710
22	720	21	445	Sept. 6	446		
Apr. 23	1,190	22	576			1928	
26	1,030	23	805	1927		Dec. 13	915
27	858	24	719	Jan. 25	900	28	978

Month	Maximum	Minimum	Mean	Runoff in acre-feet
November 1923	2,090	4.5	185	11,030
December	5,070	24	571	35,100
March 1924	2,980	17	519	31,890
April	1,190	38	204	12,140
May	1,080	21	113	6,950
Water year 1923-24	5,070	0	150	109,200
Calendar year 1924	2,980	0	80.6	58,530
April 1925	1,010	0.1	113	6,720
May	3,460	0.6	239	14,690
Water year 1924-25	3,460	0	30.6	22,140
October 1925	803	0	32.6	2,000
Calendar year 1925	3,460	0	33.4	24,200
January 1926	786	0	51.5	3,170
March	2,970	0.8	150	9,230
April	810	7.0	197	11,740
May	1,830	3.3	162	9,970
June	1,100	0.7	245	14,590
July	1,120	2.3	178	10,970
September	446	0	34.0	2,020
Water year 1925-26	2,970	0	96.3	69,740
Calendar year 1926	2,970	0	106	76,770
January 1927	900	18	121	7,410
February	929	51	193	10,720
March	3,640	89	406	24,970
April	3,700	58	701	41,720
Water year 1926-27	3,700	0	143	103,300
December 1927	978	2.8	85.6	5,260
Calendar year 1927	3,700	0	141	102,300

Denton Creek near Roanoke, Tex.--Continued

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.22	0	3.0	15
2.26	.1	3.3	31
2.3	.2	3.6	53
2.35	.4	4.0	94
2.4	.7	4.5	164
2.5	1.7	5.0	259
2.6	3.0	6.0	520
2.7	5.0	7.2	944
2.85	9.3		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0	0	0	1.0	a0.2		0
2					0	0	0	0	.6	a.1		0
3					0	0	0	0	.4	a.1		0
4					0	0	0	0	.3	a.1		0
5					0	0	0	0	.3	**.1		0
6					0	0	0	0	9.4	0		0
7					0	0	0	0	29	0		0
8					0	0	0	0	8.1	0		0
9		(*)			0	0	.2	0	88	0		*0
10					0	0	.8	0	290	0		0
11					0	0	.2	0	151	0		346
12					0	0	1.3	0	76	0		11
13					0	41	8.3	0	33	0		2.1
14					0	24	4.0	0	9.3	0		1.0
15					0	a3.4	1.0	0	4.0	0	(*)	.5
16			(*)		0	a.8	.4	0	2.6	0		.3
17					0	a.2	.3	0	1.5	14		.1
18				(*)	0	0	.1	0	203	6.0		0
19					.9	0	.1	728	713	6.0		0
20					.3	0	.1	909	536	1.9		0
21					0	0	.1	552	382	.8		0
22					0	0	*0	144	285	.4		0
23					0	0	0	58	109	.1		0
24					0	0	0	22	42	.1		0
25					*0	0	0	9.3	27	0		0
26					0	0	0	276	12	0		0
27					0	0	0	*37	a4.2	0		0
28					0	0	0	8.5	a1.7	0		0
29					-	0	0	6.9	a.8	0		0
30						0	0	2.8	a.4	0		0
31		------			------	*0	------	1.5	------	0		------
Total	0	0	0	0	1.2	69.4	16.9	2,755.0	3,020.6	29.9	0	361.0
Mean	0	0	0	0	0.04	2.24	0.56	88.9	101	0.96	0	12.0
Ac-ft	0	0	0	0	2.4	138	34	5,460	5,990	59	0	716

Calendar year 1954: Max 392 Min 0 Mean 14.5 Ac-ft 10,480
Water year 1954-55: Max 909 Min 0 Mean 17.1 Ac-ft 12,400

Peak discharge (base, 7,200 cfs).-- No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, records of upstream stations, and weather records.

Grapevine Reservoir near Grapevine, Tex.

Location.--Lat 32°58', long 97°03', in intake structure of Grapevine Dam on Denton Creek, 2.7 miles northeast of Grapevine, Tarrant County, 4.3 miles upstream from bridge on State Highway 121, and 11.7 miles upstream from mouth of Denton Creek.

Drainage area.--694 sq mi.

Records available.--July 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Prior to May 16, 1953, staff gage at site 1,000 ft upstream at present datum.

Extremes.--Maximum contents during year, 33,470 acre-ft Oct. 1 (elevation, 504.04 ft); minimum, 14,180 acre-ft May 18 (elevation, 494.88 ft).
1952-55: Maximum contents, 39,380 acre-ft June 19, 1954 (elevation, 506.08 ft); minimum since appreciable storage began, that of May 18, 1955.

Remarks.--Reservoir is formed by an earth-fill dam, 12,850 ft long, including a 500-foot uncontrolled concrete spillway. Outlet works consists of a 13-foot diameter concrete conduit controlled by two 6.5- by 13-foot broome-type gates (elevation of sill, 475.0 ft) and two 30-inch steel pipes controlled by slide gates (elevation inverts at intakes to wet wells, 500.5 ft). Dam completed June 1952 and gates closed July 3, 1952. Capacity, 435,500 acre-ft at crest of spillway (elevation, 560.0 ft) and 188,500 acre-ft at top of conservation pool (elevation, 535.0 ft). Figures given herein represent total contents. Reservoir built for flood control, navigation, and water conservation.

Cooperation.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33,470	32,570	29,780	26,690	23,210	20,860	18,480	14,990	21,540	27,720	26,110	24,790
2	33,440	32,410	29,680	26,550	23,090	20,780	18,380	14,930	21,460	27,650	26,040	24,680
3	33,410	32,490	29,630	26,460	23,150	20,660	18,290	14,830	21,360	27,600	26,020	24,640
4	33,380	32,410	29,560	26,360	23,150	20,570	18,180	14,770	21,340	27,560	25,930	24,600
5	33,360	32,300	29,480	26,340	23,130	20,450	18,070	14,700	21,320	27,480	25,880	24,550
6	33,330	32,140	29,380	26,130	23,090	20,330	17,960	14,640	21,280	27,440	25,840	24,510
7	33,280	32,040	29,280	26,020	22,940	20,190	17,820	14,550	21,280	27,370	25,790	24,490
8	33,220	31,930	29,230	25,910	22,840	20,050	17,700	14,470	21,580	27,290	25,770	24,420
9	33,170	31,850	29,060	25,980	22,730	19,930	17,790	14,410	21,580	27,250	25,700	24,380
10	33,110	31,750	28,890	25,820	22,630	19,830	17,700	14,390	22,080	27,200	25,680	24,360
11	33,090	31,690	29,060	25,700	22,420	19,730	17,580	14,470	22,330	27,150	25,660	25,010
12	33,030	31,590	28,940	25,590	22,310	19,640	17,610	14,460	22,420	27,110	25,640	24,990
13	32,950	31,480	28,790	25,430	22,160	19,600	17,500	14,380	22,420	27,060	25,570	24,970
14	32,900	31,430	28,690	25,370	22,060	19,520	17,380	14,310	22,420	26,990	25,500	24,920
15	32,790	31,350	28,570	25,230	21,930	19,350	17,240	14,270	22,370	26,940	25,460	24,990
16	32,740	31,220	28,470	25,100	21,830	19,220	17,140	14,240	22,580	26,900	25,410	24,920
17	32,650	31,140	28,350	25,030	21,680	19,130	17,030	14,190	22,540	26,900	25,300	24,880
18	32,600	31,120	28,200	24,970	21,620	19,200	16,930	14,180	23,460	26,900	25,280	24,860
19	32,550	30,910	28,080	24,770	21,950	19,110	16,820	17,500	25,390	26,850	25,230	24,840
20	32,520	30,830	27,960	24,660	21,810	19,750	16,680	19,850	26,500	26,800	25,170	24,790
21	32,490	30,700	27,870	24,550	21,680	19,750	16,610	21,080	27,320	26,780	25,120	24,840
22	32,520	30,600	27,750	24,440	21,540	19,640	16,560	21,340	27,870	26,710	25,080	24,840
23	32,600	30,500	27,600	24,310	21,440	19,520	16,340	21,460	28,030	26,660	25,060	24,920
24	32,600	30,390	27,480	24,190	21,340	19,430	16,000	21,440	28,030	26,620	25,010	24,950
25	32,550	30,320	27,370	24,080	21,240	19,260	15,790	21,320	28,030	26,520	24,950	24,990
26	32,630	30,240	27,250	23,950	21,140	19,130	15,610	21,910	28,030	26,430	24,880	24,990
27	32,870	30,110	27,250	23,820	21,060	19,000	15,420	21,950	27,960	26,390	24,840	24,970
28	32,870	30,040	27,220	23,680	20,980	18,890	15,240	21,910	27,940	26,320	24,990	24,970
29	32,820	29,880	27,080	23,510	-	18,760	15,160	21,830	27,890	26,290	24,920	24,920
30	32,760	29,830	26,940	23,380	-------	18,640	15,060	21,740	27,820	26,250	24,900	24,900
31	32,680	-------	26,830	23,500	-------	18,570	-------	21,620	-------	26,180	24,860	-------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	503.94	33,190	-
Oct. 31	503.75	32,680	-510
Nov. 30	502.66	29,830	-2,850
Dec. 31	501.42	26,830	-3,000
Calendar year 1954	-	-	-4,420
Jan. 31	499.82	23,300	-3,530
Feb. 28	498.70	20,980	-2,320
Mar. 31	497.45	18,570	-2,410
Apr. 30	495.43	15,060	-3,510
May 31	499.02	21,620	+6,560
June 30	501.84	27,820	+6,200
July 31	501.14	26,180	-1,640
Aug. 31	500.55	24,860	-1,320
Sept.30	500.57	24,900	+40
Water year 1954-55	-	-	-8,290

† Elevation at 12 p.m.

Denton Creek near Grapevine, Tex.

Location.--Lat 32°59'15", long 97°00'45", on left bank at downstream side of left pier of bridge on State Highway 121, 1.3 miles downstream from Bakers Branch, 4.3 miles downstream from Grapevine Dam, 5.0 miles northeast of Grapevine, Tarrant County, and 6.1 miles upstream from mouth.

Drainage area.--694 sq mi.

Records available.--October 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 439.11 ft above mean sea level, datum of 1929.

Average discharge.--8 years, 91.5 cfs (66,240 acre-ft per year), unadjusted.

Extremes.--Maximum discharge during year, 606 cfs May 18 (gage height, 11.73 ft); no flow for several periods.
1947-55: Maximum discharge, 13,900 cfs Feb. 26, 1948 (gage height, 30.38 ft), from rating curve extended above 6,000 cfs by conveyance-slope method; no flow at times.
Maximum stage known occurred in May 1908 and was slightly higher than the flood in April 1942, which reached a stage of 35.9 ft, from floodmarks, from information by local resident.

Remarks.--Records fair. Flow regulated by Grapevine Reservoir (see preceding page).

Revision.--WSP 1148: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*11	16	e23	55	53	52	51	38	*23	a1.3	0.5	
2	2.0	*48	e23	55	52	52	51	25	23	a1.2	.5	
3	0	56	e22	55	54	52	51	25	24	a1.2	.6	
4	0	33	e23	54	55	52	51	*24	33	a1.1	.7	
5	*0	45	e24	54	22	52	51	24	6.9	a1.1	.5	
6	0	45	e22	53	22	51	51	24	3.3	a1.0	.5	
7	0	45	e22	54	37	51	51	25	3.1	a1.0	.4	
8	0	44	*26	54	51	51	50	25	105	a1.0	.4	
9	0	*44	*62	56	51	*50	53	24	18	a.9	.4	
10	0	29	*50	58	50	50	50	25	3.4	a.9	.4	
11	0	29	52	55	49	49	48	26	2.4	a.9	.4	
12	0	33	51	56	48	49	56	25	2.6	a.9	.4	
13	0	e40	47	56	49	52	48	24	2.7	a.8	.2	
14	0	e40	47	56	49	49	*47	24	2.3	*.8	a.1	
15	0	e38	46	56	50	49	47	25	2.2	.8	a.1	
16	0	e37	46	56	50	48	46	25	6.6	.8	a0	
17	0	e36	44	56	50	49	46	25	2.6	1.0	a0	
18	0	e35	45	55	50	56	49	a130	82	1.0	a0	
19	0	e35	45	54	77	51	55	a20	58	.9	*0	
20	0	e33	45	53	53	112	54	a2	10	.8	0	
21	0	e32	44	53	*51	14	53	a0	3.1	.7	0	
22	0	e32	*47	53	51	14	53	a0	2.8	.5	0	
23	0	e30	60	53	52	50	53	a0	2.7	.5	0	
24	0	e29	59	53	52	*50	53	a25	2.2	.5	0	
25	0	e28	57	53	52	50	53	a25	2.0	.5	0	
26	0	e27	57	53	53	50	52	a8	a1.8	.4	0	
27	13	e26	57	53	53	50	53	a15	a1.6	.4	0	
28	0	e26	56	*53	54	51	53	a23	a1.5	.4	0	
29	0	e24	55	52	-	51	50	a23	a1.4	.4	0	
30	0	e23	*54	52	-	51	48	a23	a1.3	.4	0	
31	0	------	55	52	------	52	------	a23	------	.4	0	------
Total	26.0	1,038	1,366	1,681	1,390	1,560	1,527	750	434.5	24.5	6.1	0
Mean	0.84	34.6	44.1	54.2	49.6	50.3	50.9	24.2	14.5	0.79	0.20	0
Ac-ft	52	2,060	2,710	3,330	2,760	3,090	3,030	1,490	862	49	12	0

Calendar year 1954: Max 186 Min 0 Mean 8.54 Ac-ft 6,180
Water year 1954-55: Max 130 Min 0 Mean 26.9 Ac-ft 19,440

* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of records of releases from Grapevine Reservoir and pen trace.
e Stage-discharge relation indefinite; discharge estimated on basis of records of releases made from Grapevine Reservoir.

Elm Fork Trinity River near Carrollton, Tex.

Location.--Lat 32°52'25", long 96°55'50", on left bank at downstream side of bridge on State Highway 114, 100 ft downstream from Hackberry Creek, 0.8 mile upstream from California Dam, and 5.3 miles southwest of Carrollton, Dallas County.

Drainage area.--2,534 sq mi.

Records available.--January 1907 to September 1920 (monthly records only, in WSP 850), October 1920 to March 1923, August 1923 to September 1955. Prior to November 1923, published as "near Dallas."

Gage.--Water-stage recorder and concrete control. Datum of gage is 410.46 ft above mean sea level, datum of 1929. Prior to November 1923, staff gage at site 7 miles downstream at different datum. Nov. 1, 1923, to Nov. 13, 1934, staff gage and Nov. 14, 1934, to July 6, 1938, water-stage recorder, at site 8.5 miles upstream at datum 22.94 ft higher. July 7, 1938, to Apr. 14, 1939, staff gage at site 0.8 mile downstream at same datum.

Average discharge.--47 years (1907-22, 1923-55), 811 cfs (587,100 acre-ft per year).

Extremes.--Maximum discharge during year, 1,180 cfs Mar. 20 (gage height, 3.23 ft); no flow at times.

1907-55: Maximum gage height, about 28 ft May 25, 1908, present site and datum, from floodmarks, furnished by State Reclamation Department (discharge not determined); maximum discharge subsequent to 1908, 90,700 cfs Apr. 26, 1942 (gage height, 21.05 ft); no flow at times.

Remarks.--Records fair except those below 50 cfs, which are poor. Flow largely regulated by Lake Dallas since February 1928 (see p. 74), Garza-Little Elm Reservoir since November 1954 (see p. 75) and Grapevine Reservoir since July 1952 (see p. 80). During the year the city of Dallas diverted 36,650 acre-ft of water above station for municipal use. Some leakage through control not included in discharge figures given herein.

Revisions (water years).--WSP 788: 1924. WSP 1148: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 1 to Aug. 31)

0.86	0	1.3	81
.9	.8	1.6	191
1.0	11	2.0	410
1.1	29	2.7	830

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	287	54	6.5	0	84	68	34	73	81	90	119	17
2	815	70	0	0	87	73	27	52	62	112	123	68
3	414	109	0	*0	96	103	7.8	57	36	109	127	109
4	68	76	0	26	109	84	.2	59	47	119	109	145
5	18	44	0	54	68	62	0	110	81	93	62	66
6	60	52	.8	65	42	59	2.6	163	*60	119	68	50
7	49	73	.1	34	42	49	7.8	96	34	109	145	112
8	84	76	0	96	87	39	16	149	161	119	166	87
9	39	87	0	100	96	36	29	70	485	130	166	90
10	36	87	15	90	100	42	54	41	34	127	170	100
11	36	68	29	68	93	25	17	37	68	130	157	96
12	42	68	16	84	93	29	34	30	57	157	100	109
13	66	62	3.4	78	103	49	65	25	27	183	103	84
14	96	54	9.2	62	109	36	34	51	76	*142	166	49
15	119	73	19	62	106	17	14	42	123	149	149	78
16	106	46	12	62	106	5.4	27	54	95	178	142	52
17	76	44	3.4	62	103	.2	42	49	27	116	123	52
18	57	41	4.3	65	103	0	57	65	511	96	149	39
19	88	44	19	59	106	38	36	452	261	90	*114	65
20	81	59	12	59	140	242	44	400	168	54	112	84
21	90	46	3.4	62	62	417	49	69	12	52	78	68
22	106	54	.1	81	78	30	104	46	16	65	101	87
23	118	27	0	87	87	5.4	119	23	93	127	123	*62
24	107	57	0	87	90	3.4	68	29	72	170	116	34
25	636	65	.1	84	78	1.8	52	47	68	157	142	36
26	260	84	25	87	78	1.2	62	90	84	149	142	32
27	66	70	21	87	78	3.4	*70	42	44	142	162	39
28	62	62	5.4	76	78	14	76	41	84	134	170	52
29	110	59	1.2	59	-	*22	78	27	93	116	103	52
30	73	46	.1	84	------	12	78	49	90	119	93	52
31	70	------	0	81	------	32	------	87	------	127	65	------
Total	4,335	1,857	206.0	2,001	2,502	1,598.8	1,304.4	2,625	3,148	3,780	3,865	2,066
Mean	140	61.9	6.65	64.5	89.3	51.6	43.5	84.7	105	122	125	68.9
Ac-ft	8,600	3,680	409	3,970	4,960	3,170	2,590	5,210	6,240	7,500	7,670	4,100

Calendar year 1954: Max 3,870 Min 0 Mean 107 Ac-ft 77,540
Water year 1954-55: Max 815 Min 0 Mean 80.2 Ac-ft 58,100

Peak discharge (base, 8,100 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

Turtle Creek at Dallas, Tex.

Location.--Lat 32°48', long 96°48', on left bank 68 ft upstream from Hall Street Dam, 210 ft upstream from Hall Street at Dallas, Dallas County, and 2.0 miles north of Dallas County courthouse.

Drainage area.--7.98 sq mi.

Records available.--April 1948 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 428.15 ft above mean sea level, unadjusted (city of Dallas reference mark). Prior to Dec. 17, 1951, water-stage recorder at site 52 ft upstream at same datum.

Average discharge.--7 years, 5.11 cfs (3,700 acre-ft per year).

Extremes.--Maximum and minimum discharges for the water years 1948-55 are contained in the following table:

Water year	Maximum			Minimum	
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)
1948†	May 11, 1948	1,630	4.68	At times	0
1949	May 18, 1949	2,800	6.15	Do.	0
	May 27, 1949	2,800	6.15	-	-
1950	May 1, 1950	2,060	5.29	At times	0
1951	Sept.12, 1951	1,700	4.82	Do.	0
1952	May 17, 1952	2,220	5.47	Do.	0
1953	Apr. 23, 1953	910	3.54	Do.	0
1954	Apr. 12, 1954	2,980	6.40	Do.	0
1955	June 18, 1955	852	3.44	Do.	0

† Period April to September.

1948-55: Maximum discharge, 2,980 cfs Apr. 12, 1954 (gage height, 6.40 ft), from rating curve extended above 190 cfs on basis of weir formula $Q = 3.3\,L(H)^{\frac{3}{2}}$; no flow at times.

Maximum stage known since at least 1903, 6.8 ft Aug. 27, 1947, from floodmarks.

Remarks.--Records good except those below 10 cfs, which are poor, and those above 200 cfs, which are fair.

Rating table, Apr. 1, 1948, to Sept. 30, 1955 (gage height, in feet, and discharge, in cubic feet per second)

1.17	0	1.5	46
1.18	.1	1.6	68
1.19	.5	1.8	123
1.2	1.0	2.0	185
1.25	5.4	2.4	330
1.3	11	2.8	510
1.4	26		

Discharge, in cubic feet per second, 1948

Day	Apr.	May	June	July	Day	Apr.	May	June	July	Day	Apr.	May	June	July
1	0	0.1	1.6	1.0	11	0	168	0.1	a1	21	0	5.2	0	0
2	0	.1	1.0	1.0	12	.1	5.4	0	a1	22	0	0	0	0
3	0	3.1	.5	a1	13	4.4	1.6	0	a1	23	0	0	.5	0
4	0	4.3	1.0	a1	14	0	1.0	.5	a0	24	0	0	40	0
5	0	18	1.0	a1	15	.1	1.0	0	a0	25	8.0	40	1.0	0
6	0	8.6	.1	a1	16	0	.5	.1	a0	26	5.4	5.4	52	0
7	0	6.4	1.0	a1	17	0	.5	0	a0	27	2.3	6.7	1.6	0
8	0	2.4	3.3	a1	18	0	.5	0	a0	28	.5	1.6	165	0
9	0	.1	2.4	a1	19	0	5.9	0	a0	29	1.2	1.6	9.8	0
10	0	9.6	.1	a1	20	0	11	0	0	30	2.6	2.4	1.6	0
										31	-	2.4	-	0
Total											24.6	313.4	284.2	13.0
Mean											0.82	10.1	9.47	0.42
Runoff in acre-feet											49	622	564	26

Peak discharge (base, 880 cfs).--May 11 (7:30 a.m.) 1,630 cfs (4.68 ft).

a No gage-height record; discharge estimated on basis of pen trace, weather records, and engineer's notes.

Note.--No flow Aug. 1 to Sept. 30.

Turtle Creek at Dallas, Tex.--Continued

Discharge, in cubic feet per second, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	0.1	1.0	0.5	0.1	1.0	a0	0	a0
2	0	0	0	.1	.1	0	0	.1	1.0	a0	0	a0
3	0	0	0	.1	1.0	.1	0	.1	0	a0	0	a0
4	0	.6	0	0	0	0	0	.1	0	a0	.3	a0
5	0	0	0	0	0	.5	0	0	0	a0	0	a0
6	0	0	0	0	0	0	0	0	0	a0	0	a0
7	0	0	0	5.4	0	.1	0	0	0	a0	0	0
8	0	0	0	4.3	0	0	0	0	0	a0	0	3.1
9	0	0	0	0	0	1.0	.5	1.7	0	a0	0	0
10	3.1	0	0	3.3	0	0	.1	4.0	0	0	0	0
11	0	0	0	4.3	0	0	.5	.1	0	0	0	0
12	0	.1	0	.5	.5	.1	.1	0	0	0	0	0
13	0	.1	0	.1	1.6	0	.1	0	155	0	0	1.4
14	0	.5	100	0	2.4	0	0	0	150	0	0	0
15	0	4.9	1.0	0	1.6	.5	.1	0	2.4	0	1.5	0
16	0	1.0	.1	4.7	0	0	.1	0	a.5	0	0	4.6
17	1.3	0	1.6	.1	0	0	0	0	a0	0	0	0
18	0	0	.1	9.8	0	0	.1	474	a0	0	0	0
19	0	0	0	2.4	0	0	9.8	1.6	a0	0	0	0
20	0	0	0	0	0	.1	5.4	0	a0	0	a0	0
21	0	0	0	0	4.3	22	2.3	0	a0	0	a0	0
22	0	0	0	.7	0	6.4	.1	0	a0	0	a0	0
23	0	0	0	.5	189	1.6	1.9	.4	a5	0	a0	0
24	0	0	.1	423	65	.1	0	37	a5	.4	a0	0
25	0	0	0	18	19	13	3.1	0	a75	0	a0	0
26	0	0	0	51	11	20	0	0	a2	0	a0	0
27	0	0	0	64	8.6	3.3	0	201	a.5	0	a0	0
28	0	.5	1.0	11	.5	9.8	0	1.0	a0	0	a0	0
29	0	0	.5	9.8	-	11	0	59	a0	0	a0	0
30	0	0	0	7.5	------	5.4	.5	81	a0	0	a0	0
31	0	------	0	2.4	------	0	------	1.6	------	0	a0	------
Total	4.4	7.7	104.4	623.0	304.7	96.0	25.2	862.8	397.4	0.4	1.8	9.1
Mean	0.14	0.26	3.37	20.1	10.9	3.10	0.84	27.8	13.2	0.01	0.06	0.30
Ac-ft	8.7	15	207	1,240	604	190	50	1,710	788	0.8	3.6	18

Calendar year 1948: Max - Min - Mean - Ac-ft -
Water year 1948-49: Max 474 Min 0 Mean 6.68 Ac-ft 4,840

Peak discharge (base, 880 cfs).--Jan. 24 (5:30 a.m.) 2,220 cfs (5.46 ft); Feb. 23 (11 p.m.) 1,330 cfs (4.23 ft); May 18 (6 a.m.) 2,800 cfs (6.15 ft); May 27 (2 a.m.) 2,800 cfs (6.15 ft); June 13 (10 p.m.) 2,220 cfs (5.50 ft). a No gage-height record; discharge estimated on basis of weather records, pen trace, and engineer's notes.

Discharge, in cubic feet per second, water year October 1949 to September 1950

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	8.6	0	0	265	0	0	152	0			0.5
2	0	4.2	0	.1	20	0	0	14	3.2	e0.1	e0.1	6.8
3	51	0	1.0	0	2.4	0	0	1.6	0			12
4	18	0	.5	.5	25	0	0	.5	0		.1	76
5	.5	.5	.1	0	4.3	0	0	.1	11	.5		5.4
6	.1	1.6	0	.5	.5	0	0	.1	.1	.5		1.6
7	1.4	1.6	0	0	e.5	0	0			a0		1.0
8	2.7	2.4	.1	0	e.5	0	0			a0		1.0
9	0	.3	.1	0	7.4	0	0	e.1		a0		1.6
10	0	0	1.0	0	e.5	0	0			a25		1.6
11	.5	0	0	0	20	0	0	33		a.1	e.1	3.3
12	0	0	0	18	150	79	0	.1		a.1		2.4
13	0	0	0	21	7.6	0	20	173		a5		1.0
14	.1	0	0	0	.1	0	.1	3.3	e.1	a.1		1.0
15	0	0	0	0	0	0	8.4	.5		a.1		.5
16	0	0	0	0	0	0	49	.5		a.1		8.2
17	0	0	1.0	0	0	0	.5	.5		a.1	1.8	2.4
18	0	0	0	a0	0	0	.1	.1		.1	.4	.1
19	0	0	0	a0	0	0	49	.1		1.0	e.1	31
20	0	0	0	a0	0	0	3.3	4.3		.5	e.1	1.6
21	58	.1	0	a0	0	0	1.0	0	58	1.6	1.6	.5
22	.1	0	0	a0	0	0	1.0	0		1.0	75	.5
23	12	0	0	a0	0	.5	6.9	.1		0	.5	1.0
24	249	.1	1.0	0	0	.5	3.3	0		0	e.1	1.0
25	.5	0	4.2	0	0	1.0	.5	0	e.1	.1	e.1	1.0
26	0	0	0	0	0	.1	.5	0		44	e.1	.5
27	0	1.0	0	0	0	.1	.5	0		69	12	1.0
28	0	.1	0	0	0	.1	2.7	0		9.9	24	1.0
29	0	0	0	0	-	0	99	15	31	.1	.8	1.0
30	.5	0	0	0	------	0	5.4	2.1	.5	.1	6.5	1.0
31	4.3	------	0	126	------	0	------	0	------	.1	.1	------
Total	398.7	20.5	9.0	166.1	503.8	81.3	251.2	401.3	105.9	159.5	124.8	167.5
Mean	12.9	0.68	0.29	5.36	18.0	2.62	8.37	12.9	3.53	5.15	4.03	5.58
Ac-ft	791	41	18	329	999	161	498	796	210	316	248	332

Calendar year 1949: Max 474 Min 0 Mean 7.53 Ac-ft 5,450
Water year 1949-50: Max 265 Min 0 Mean 6.55 Ac-ft 4,740

Peak discharge (base, 880 cfs).--Oct. 24 (7 a.m.) 1,740 cfs (4.85 ft); Feb. 1 (5 p.m.) 1,420 cfs (4.40 ft); Feb. 12 (4 a.m.) 1,000 cfs (3.72 ft); Apr. 29 (4:30 p.m.) 1,060 cfs (3.80 ft); May 1 (8 p.m.) 2,060 cfs (5.29 ft); May 13 (4:30 a.m.) 1,210 cfs (4.03 ft).

a No gage-height record; discharge estimated on basis of pen trace and weather records.
e Stage-discharge relation indefinite; discharge estimated on basis of record chart, weather record, and engineer's notes.

Turtle Creek at Dallas, Tex.--Continued

Discharge, in cubic feet per second, water year October 1950 to September 1951

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	0.5		1.6	a0.5	0	0	17	a0	9.1	0.5	0
2	1.0	4.5		.1	a0	0	0	0	a200	6.8	0	0
3	e1.0	2.4		0	a0	0	0	5.1	a10	0	0	0
4	e1.0	2.4		0	a0	0	0	0	a.5	0	.5	0
5	e1.0	1.6		0	a0	0	0	.5	a.1	0	0	0
6	1.0			0	a0	0	0	2.4	a.1	0	.1	0
7	.5			0	a0	0	0	6.5	a0	0	0	0
8	1.0			0	a0	.1	0	0	a0	0	.1	0
9	1.0			0	a0	.1	0	19	a0	0	.1	3.3
10	1.0	e.5	e0.5	0	a0	.1	0	1.6	a5	0	.1	26
11	.5			0	a0	14	0	0	a.1	0	0	0
12	1.0			.1	a0	0	0	0	a20	0	0	140
13	1.0			10	a1.0	0	0	0	a.5	0	0	1.0
14	1.0			1.0	a20	0	0	0	a.1	0	.1	.5
15	.1	35		0	a.5	0	0	13	a15	0	0	.1
16	.1	3.3		0	a.5	0	0	.1	a5	0	.1	2.4
17	0			0	a1	0	0	a.1	a.1	0	0	.5
18	0			a0	a1	0	.1	a5	.1	0	0	.5
19	3.3			a0	a1	0	.1	a.1	.1	0	0	
20	1.0			a0	a15	0	11	a.1	0	0	0	
21	3.5		4.0	a0	a1	0	1.9	a.1	0	0	0	
22	3.3			a0	a.5	0	0	a150	0	0	24	
23	1.6	e.5		a0	a.5	0	0	a5	0	0	.3	
24	1.0			a0	a.5	0	0	a.5	0	0	0	
25				a0	a.5	0	2.3	a.1	0	0	0	e.5
26			e.2	a0	0	4.8	0	a0	0	0	0	
27	e.5			a0	0	0	0	a0	0	0	0	
28				a0	0	0	0	a0	0	0	0	
29				a2.0	-	0	2.3	a0	0	0	0	
30				a.5	--	.5	0	a0	0	.1	0	
31				a2.0	-----	.1	-----	a0	-----	0	0	-----
Total	30.4	61.2	16.0	17.3	43.5	19.7	17.7	226.2	256.7	16.0	25.9	180.3
Mean	0.98	2.04	0.52	0.56	1.55	0.64	0.59	7.30	8.56	0.52	0.84	6.01
Ac-ft	60	121	32	34	86	39	35	449	509	32	51	358

Calendar year 1950: Max 265 Min 0 Mean 5.67 Ac-ft 4,100
Water year 1950-51: Max 200 Min 0 Mean 2.50 Ac-ft 1,810

Peak discharge (base, 880 cfs).--Sept. 12 (6:30 p.m.) 1,700 cfs (4.82 ft).
a No gage-height record; discharge estimated on basis of pen trace and weather records.
e Stage-discharge relation indefinite; discharge estimated on basis of recorder chart, weather records, and engineer's notes.

Discharge, in cubic feet per second, water year October 1951 to September 1952

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		e1		a1	7.6	5.4	0.5	2.4	1.6	1.0	0.1	0.5
2				a1	1.0	7.5	e3	5.4	*1.6	1.0	0	.1
3				a8.5	0	12	a1	3.3	1.6	*.5	0	1.0
4				a1	0	1.6	a.5	2.4	1.6	1.6	0	1.0
5			e0.5	a1	.5	1.6	a.5	2.4	11	1.6	.5	.5
6				a1	1.0	3.3	a.5	1.0	4.3	1.6	*.5	1.0
7				a1	1.0	4.3	a.5	1.0	1.6	1.6	.5	1.6
8			1.6	a1	1.0	4.3	a.5	1.0	1.6	2.4	.5	1.6
9				a1	1.0	14	a.5	1.0	1.6	2.4	.1	1.6
10				a1	1.6	21	a.5	7.7	1.0	1.6	.1	1.0
11	e0.5		e.5	1.0	1.6	1.6	a50	1.0	1.0	1.6	.1	1.0
12				1.0	1.0	1.0	*a35	1.0	1.0	1.6	.1	1.0
13		e.5	1.6	1.0	.1	.5	7.5	1.0	.5	1.6	.1	1.0
14			1.6	1.0	.1	1.6	4.3	1.0	.5	1.0	.1	1.0
15			e1	1.0	7.1	1.6	1.0	.5	.5	1.6	.1	2.8
16			e1	*1.0	*3.3	1.6	1.0	.5	.5	1.0	0	2.4
17			*1.0	a1	.5	25	1.0	158	1.0	2.4	0	4.3
18			1.0	a1	.5	4.6	1.0	59	1.0	71	0	1.0
19			1.0	1.0	1.0	4.3	1.0	7.5	.5	4.3	.1	*.5
20			1.0	1.0	1.6	3.3	24	*4.3	.5	1.6	.1	.1
21			.5	11	1.6	1.6	152	1.6	.5	1.0	.1	.1
22	10		.5	1.6	2.4	*.5	119	1.0	.5	.5	.1	.1
23	17		1.0	1.6	3.3	0	5.4	*96	.5	.5	.5	.1
24	e1		1.0	4.3	6.7	0	4.3	14	.5	.5	.5	.1
25	e.5		1.0	4.3	28	0	a2.5	4.3	.5	.5	1.6	.1
26	e.5	8.0	a1.0	1.6	3.3	e3	a2.5	2.4	.5	0	1.6	.1
27	41	e1	a1.0	1.6	1.0	1.0	a2.5	1.6	.5	0	1.6	.1
28	16		a1.0	1.6	.5	1.0	a2.5	15	.5	0	1.0	.5
29	1.0	e.5	1.0	1.6	1.6	.5	a2.5	1.6	.5	.1	1.0	.1
30	e.5		1.0	1.6	--	1.0	a2.5	1.6	.5	1.6	1.0	.5
31	26	-----	.5	1.6	-----	1.0	-----	1.6	-----	0	1.0	-----
Total	124.0	23.5	25.8	59.9	79.9	129.7	429.5	402.1	39.5	107.7	13.0	26.8
Mean	4.00	0.78	0.83	1.93	2.76	4.18	14.3	13.0	1.32	3.47	0.42	0.89
Ac-ft	246	47	51	119	158	257	852	798	78	214	26	53

Calendar year 1951: Max 200 Min 0 Mean 2.68 Ac-ft 1,940
Water year 1951-52: Max 158 Min 0 Mean 3.99 Ac-ft 2,900

Peak discharge (base, 880 cfs).--Apr. 21 (12 p.m.) 1,980 cfs (5.23 ft); Apr. 22 (about 9:30 a.m.) 1,390 cfs (4.37 ft); May 17 (10:30 p.m.) 2,220 cfs (5.47 ft); June 18 (3 p.m.) 970 cfs (3.65 ft).
* Discharge measurement made on this day. a No gage-height record; discharge estimated on basis of pen trace, weather records, and engineer's notes. e Stage-discharge relation indefinite; discharge estimated on basis of recorder chart, weather records, and engineer's notes.

Turtle Creek at Dallas, Tex.--Continued

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.5	8.6	0.5	0.5	4.3	5.4	1.0	2.4	0.5	0.5	6.4
2	.5	.5	4.3	1.0	.1	2.4	6.4	1.6	2.4	.1	.5	4.3
3	.5	0	10	2.4	.1	3.2	5.4	1.6	1.6	.1	.5	32
4	1.0	0	5.4	3.3	.5	3.3	5.4	3.3	1.6	.1	.1	9.8
5	1.0	1.0	4.3	3.3	1.0	4.3	6.5	1.0	.5	.1	.1	4.3
6	1.6	.1	3.3	2.4	.5	4.3	6.0	1.0	.1	.1	.5	3.3
7	2.4	0	2.4	*2.4	.5	4.3	2.4	1.0	.5	.1	.5	2.4
8	1.6	0	2.4	2.4	.5	4.3	1.6	*1.6	.5	.1	.5	2.4
9	1.6	*23	2.4	4.3	1.0	85	1.6	3.3	.5	.1	1.1	2.4
10	2.4	2.4	2.4	4.3	4.7	16	.5	7.0	.5	.1	0	4.3
11	2.4	6.4	3.3	4.3	9.4	7.5	.5	5.4	.1	0	0	4.3
12	2.4	7.5	2.4	3.3	4.3	4.3	.5	26	.5	0	9.4	4.3
13	2.4	4.3	3.3	4.3	3.3	4.3	.5	15	.1	0	.5	6.4
14	2.4	1.6	4.3	5.4	3.3	4.3	.5	16	.1	0	.5	7.5
15	1.6	1.6	3.3	5.4	3.3	4.3	.5	92	**.1	*.5	.5	7.5
16	1.6	1.0	5.4	7.5	2.4	7.5	.5	51	.1	1.0	.1	7.5
17	.1	33	4.3	9.1	2.4	5.5	1.0	5.4	.1	1.0	1.4	7.5
18	.1	7.8	16	7.3	4.3	4.3	1.0	5.4	.1	.5	1.6	8.6
19	.6	5.4	85	3.3	3.3	4.3	.5	3.3	.1	.1	1.0	6.4
20	.1	3.3	5.4	3.3	*20	3.3	.5	3.3	0	2.4	.5	3.3
21	0	1.0	6.4	2.4	3.3	4.3	1.0	2.4	0	0	*.5	20
22	.1	2.4	3.3	2.4	3.3	15	1.0	2.4	0	.9	.5	3.3
23	.1	42	*3.3	11	2.4	1.6	71	2.4	.1	.1	.5	3.3
24	.1	94	2.4	2.4	8.8	1.0	31	2.4	.1	.1	.5	3.3
25	.1	103	2.4	1.6	3.3	*1.6	1.0	2.4	.1	.1	1.0	1.6
26	.5	8.6	2.4	1.0	2.4	6.4	.5	1.6	.5	.6	.5	1.6
27	.5	5.4	2.4	1.0	1.6	6.2	1.0	1.6	.5	0	.1	1.0
28	*.1	3.3	2.4	1.0	3.3	4.3	139	1.6	.5	0	.1	.5
29	.5	3.3	3.3	1.0	-	4.3	22	1.6	12	.1	.1	.1
30	.5	2.4	21	1.6	--	14	2.4	1.6	1.0	.5	2.2	.1
31	.5	------	1.6	1.0	-----	3.3	------	1.6	------	.5	21	------
Total	29.8	364.8	229.1	105.9	93.8	243.0	317.1	266.8	26.7	9.8	46.8	169.7
Mean	0.96	12.2	7.39	3.42	3.35	7.84	10.6	8.61	0.89	0.32	1.51	5.66
Ac-ft	59	724	454	210	186	482	629	529	53	19	93	337

Calendar year 1952: Max 158 Min 0 Mean 5.22 Ac-ft 3,790
Water year 1952-53: Max 139 Min 0 Mean 5.21 Ac-ft 3,780

Peak discharge (base, 880 cfs).--Apr. 23 (6:30 p.m.) 910 cfs (3.54 ft).
* Discharge measurement made on this day.
** Field estimate made on this day.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	**0.1	7.5	5.4	2.4	4.3	1.0	1.0	4.3	0.5	0.1	6.4	1.0
2	.1	5.4	12	2.4	4.3	1.0	1.0	11	.5	.1	2.4	**.1
3	.1	22	26	3.3	3.3	1.0	1.0	1.6	.5	.1	1.6	.1
4	.5	82	1.0	3.3	2.4	1.0	1.0	1.6	.5	.1	1.0	.1
5	.5	5.4	1.0	2.4	3.3	3.3	1.6	1.6	1.0	.1	1.0	.1
6	.1	2.4	1.0	3.3	5.4	1.0	1.0	1.6	.5	1.0	**.5	.1
7	.1	6.9	1.0	3.3	4.3	.1	2.2	1.6	.5	1.0	0	2.4
8	.5	1.0	1.0	4.3	4.3	1.0	1.0	1.0	.5	**2.1	0	1.0
9	1.0	1.0	*1.0	4.3	2.4	1.0	0	1.6	.5	1.0	.1	1.0
10	1.0	*1.0	1.6	8.6	1.6	.1	0	142	1.0	.5	.5	1.0
11	1.6	1.6	25	1.6	1.6	.5	137	61	.1	0	1.0	1
12	1.6	2.4	4.3	1.6	1.6	.5	194	163	0	.1	.5	0
13	1.6	2.4	2.4	5.4	3.3	.5	11	11	0	.5	.5	.1
14	1.6	3.3	2.4	14	3.3	.5	9.8	5.4	0	.5	.5	.1
15	1.6	3.3	3.3	66	6.4	1.0	7.5	3.3	93	.5	.1	.1
16	1.0	3.3	4.3	5.4	3.3	2.4	7.5	2.4	8.2	.5	.1	.1
17	1.0	3.3	4.3	2.4	2.4	2.4	9.8	1.6	1.0	.5	.5	.1
18	1.0	4.3	4.3	1.6	4.3	4.3	8.6	1.6	1.0	.1	.5	.5
19	.5	33	5.4	3.3	11	1.6	8.6	1.6	1.0	.1	2.8	.1
20	.1	2.4	6.4	*4.3	.1	1.6	7.5	1.6	1.0	.1	.5	.4
21	.4	4.3	6.4	3.3	.1	2.4	6.4	1.6	.5	.1	.5	11
22	2.6	4.3	7.5	7.5	.5	3.3	3.3	1.0	.1	.1	26	1.0
23	52	4.3	2.4	9.8	1.0	2.4	2.4	.5	.1	.1	2.4	.5
24	4.3	6.4	2.4	7.5	*1.0	8.3	1.6	1	.1	.1	2.4	.5
25	51	6.4	4.3	5.4	.5	8.5	1.6	*12	.1	.1	.1	.5
26	22	6.4	6.4	7.5	.1	.5	1.6	2.4	.1	.5	0	1.0
27	3.3	4.3	10	3.3	.5	1.6	5.4	1.0	0	.5	0	1.0
28	2.4	2.4	7.5	2.4	.5	1.6	15	.5	.1	1.0	0	1.0
29	4.3	2.4	2.4	2.4	-	**1.0	*1.0	1.0	.5	1.0	0	38
30	4.3	5.4	1.6	21	--	.1	98	.5	.1	3.3	3.0	41
31	5.4	------	2.4	2.4	------	.5	------	.5	------	18	2.4	------
Total	167.6	240.5	166.4	215.7	77.1	56.0	547.4	442.4	113.0	33.8	57.3	104.0
Mean	5.41	8.02	5.37	6.96	2.75	1.81	18.2	14.3	3.77	1.09	1.85	3.47
Ac-ft	332	477	330	428	153	111	1,090	877	224	67	114	206

Calendar year 1953: Max 139 Min 0 Mean 5.08 Ac-ft 3,680
Water year 1953-54: Max 194 Min 0 Mean 6.09 Ac-ft 4,410

Peak discharge (base, 880 cfs).--Apr. 11 (8 p.m.) 1,980 cfs (5.17 ft); Apr. 12 (12:30 a.m.) 2,980 cfs (6.40 ft); Apr. 30 (7:30 a.m.) 1,120 cfs (3.89 ft); May 10 (12:30 p.m.) 880 cfs (3.48 ft); May 12 (4:30 a.m.) 1,060 cfs (3.80 ft); June 15 (7:30 p.m.) 1,270 cfs (4.18 ft).
* Discharge measurement made on this day.
** Field estimate made on this day.

Turtle Creek at Dallas, Tex.--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	1.0	1.6	0.1	3.3	2.4	2.4	1.6	1.0	0.5	a0.1	2.4
2	2.4	1.0	0	.1	3.3	2.4	5.4	1.6	1.0	.5	a.1	1.6
3	1.0	49	0	.5	35	2.4	4.3	1.0	*.5	.5	a4.5	1.0
4	.5	1.6	0	**.5	29	2.4	4.3	1.0	27	.5	a1	1.6
5	**.5	.1	.5	1.0	.5	2.4	5.4	1.0	14	1.0	a.5	1.0
6	.5	a.1	.1	1.0	.1	3.3	4.3	.5	1.6	1.0	a.5	2.4
7	1.0	a.1	.1	1.0	0	5.4	1.0	.5	1.6	*.5	a.5	1.0
8	1.6	a.1	.5	1.6	0	5.4	1.6	1.0	24	1.0	*.5	.5
9	3.3	a.1	1.0	27	0	5.4	49	.5	6.4	.5	1.0	**.5
10	.5	a.1	.1	14	0	6.4	18	3.7	2.4	.1	1.0	21
11	4.3	a.1	15	.5	0	5.4	4.3	25	1.6	.5	7.4	51
12	2.4	a.1	5.4	.5	**.5	4.3	51	6.6	1.6	.5	2.4	.5
13	1.0	a.1	1.0	.1	.1	16	5.4	1.6	2.4	.5	1.6	.5
14	.5	a.1	1.6	.5	.1	1.0	4.3	3.3	2.4	.5	1.6	.5
15	.5	a10	1.0	3.3	.1	*1.0	3.3	3.3	2.4	1.0	2.4	3.1
16	1.0	a1	1.6	.1	.1	2.4	2.4	19	26	12	3.3	0
17	1.0	a.5	1.6	.1	1.0	3.3	2.4	2.4	2.4	4.3	2.4	0
18	1.0	a.5	2.4	15	1.6	9.0	2.4	1.6	104	3.3	10	0
19	1.0	*.5	1.6	1.0	29	8.3	2.4	91	11	1.6	8.6	0
20	1.0	.5	1.0	.5	3.3	74	2.4	53	4.3	1.0	4.3	0
21	1.6	3.3	1.0	.5	1.6	11	2.4	4.3	1.6	1.0	1.6	.5
22	5.4	1.0	1.0	.5	1.6	4.3	2.4	3.3	1.6	1.0	2.4	0
23	54	2.4	1.0	.5	1.6	3.3	2.4	3.3	1.0	.5	1.6	54
24	9.8	1.6	1.0	1.0	2.4	3.3	2.4	3.3	1.0	.5	1.6	9.8
25	2.4	3.3	1.6	1.0	2.4	3.3	1.6	4.3	1.0	.1	3.3	3.7
26	1.6	1.6	1.6	1.0	2.4	2.4	*1.6	8.2	1.0	.1	1.6	.5
27	9.3	1.6	1.6	1.6	2.4	4.3	2.4	1.0	1.6	a.1	1.6	.1
28	24	1.6	9.7	1.6	2.4	5.4	1.6	.5	1.0	a.1	4.3	.1
29	1.0	1.0	3.3	1.6	-	4.3	2.4	1.0	1.0	a.1	3.3	0
30	1.0	1.0	.5	1.6	--	4.3	1.6	1.6	1.0	a.1	42	0
31	1.0	------	.1	2.4	------	4.2	------	1.6	------	a.1	3.3	------
Total	172.1	85.0	58.5	81.7	123.8	212.7	196.8	251.6	249.4	35.0	120.3	157.3
Mean	5.55	2.83	1.89	2.64	4.42	6.86	6.56	8.12	8.31	1.13	3.88	5.24
Ac-ft	341	169	116	162	246	422	390	499	495	69	239	312

Calendar year 1954: Max 194 Min 0 Mean 5.38 Ac-ft 3,900
Water year 1954-55: Max 104 Min 0 Mean 4.78 Ac-ft 3,460

Peak discharge (base, 880 cfs).--No peak above base.
* Discharge measurement made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of pen trace, weather records, and engineer's notes.

Trinity River at Dallas, Tex.

Location.--Lat 32°47', long 96°48', on left bank on downstream side of left pier of Commerce Street viaduct at Dallas, Dallas County, 5¼ miles downstream from confluence of West and Elm Forks, and at mile 500.

Drainage area.--6,120 sq mi.

Records available.--October 1898 to December 1899 (gage heights only, in WSP 28, 37), July 1903 to September 1955 (January 1907 to September 1920 monthly records only, in WSP 850). Gage-height records collected in this vicinity since 1903 are contained in reports of the U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 368.02 ft (corrected) above mean sea level, datum of 1929, supplementary adjustment of 1954. Oct. 1, 1898, to Dec. 31, 1899, sliding pointer at site 2 miles upstream at different datum. July 1, 1903, to July 20, 1930, chain gage at present site and datum. July 21, 1930, to Sept. 30, 1932, chain gage at site 6 miles downstream at datum 3.08 ft lower.

Average discharge.--52 years (1903-55), 1,480 cfs (1,071,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,010 cfs May 20; maximum gage height, 26.76 ft May 20; minimum discharge, 36 cfs Sept. 7 (gage height, 11.83 ft); minimum daily, 45 cfs Sept. 7.

1903-55: Maximum discharge, 184,000 cfs May 25, 1908 (gage height, 52.6 ft), from rating curve extended above 109,000 cfs; minimum observed for periods 1903-6, 1920-55, 1.2 cfs July 4, 1953.

Maximum stage known since at least 1840, that of May 25, 1908. Flood in 1866 reached about same stage.

Remarks.--Records good except those for period of rapidly changing stage, which are fair. Flow largely regulated by Bridgeport Reservoir since 1932 (see p. 60), Eagle Mountain Reservoir since 1934 (see p. 63), Benbrook and Grapevine Reservoirs since 1952 (see p. 65, 80), Lake Dallas since 1928 (see p. 74), Garza-Little Elm Reservoir since 1954 (see p. 75), and several smaller reservoirs, all of which have a combined capacity of 2,128,000 acre-ft. During the year the city of Dallas diverted 77,000 acre-ft of water above the station for municipal use and returned 59,500 acre-ft of sewage effluent below station. Sewage effluent from the cities of Fort Worth, Arlington, and Grand Prairie enters above the station.

Revisions (water years).--WSP 850: 1903-6 (monthly and annual means). WSP 1148: Drainage area.

Rating table, water year 1954-55, except period when rate of change in stage was a factor (gage height, in feet, and discharge, in cubic feet per second) (Shifting-control method used June 17, 18, June 21 to Sept. 30)

11.7	33	16.0	1,320
12.0	84	20.0	2,340
12.5	179	23.0	3,450
13.0	294	25.0	4,420
14.0	600	28.0	6,250

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	389	84	79	84	66	74	63	72	74	74	58	79
2	890	63	72	68	72	82	63	65	74	74	58	74
3	604	135	70	61	102	82	72	58	*72	75	66	63
4	159	224	70	*60	215	84	65	72	101	66	80	68
5	*77	188	65	68	222	84	55	72	419	63	65	74
6	79	133	60	70	204	80	61	72	314	60	63	46
7	75	89	56	70	117	74	58	80	185	*70	61	45
8	77	74	60	70	82	70	56	86	296	70	*55	56
9	79	63	63	92	82	84	120	108	1,030	68	51	*61
10	75	68	66	117	79	86	153	70	335	70	79	82
11	74	70	80	179	*74	77	167	90	194	68	145	88
12	66	74	102	168	74	74	240	172	134	58	243	141
13	72	70	77	106	74	88	301	250	104	70	209	102
14	72	76	91	89	72	85	198	160	88	70	106	80
15	74	86	77	86	66	*136	111	109	98	74	82	100
16	75	66	70	82	77	106	89	166	195	147	61	97
17	72	77	63	81	77	80	80	325	439	161	65	82
18	65	70	61	100	82	72	68	264	1,140	115	83	75
19	60	*66	66	82	122	86	58	980	1,850	159	117	70
20	70	65	66	84	144	210	63	k5,330	1,090	124	75	68
21	74	66	63	75	229	1,260	63	k2,480	403	88	70	75
22	79	61	66	75	173	635	60	532	200	80	61	75
23	155	58	70	79	132	185	60	211	138	79	55	183
24	156	66	66	72	93	108	56	140	117	72	63	244
25	384	74	68	65	80	89	53	122	106	65	61	232
26	408	74	68	72	80	75	*53	115	93	68	63	174
27	113	63	72	74	80	74	62	126	77	88	68	113
28	133	63	72	74	82	61	65	173	68	79	82	106
29	171	66	84	74	-	56	63	117	79	66	102	95
30	150	66	140	75	------	61	70	86	74	65	126	86
31	99	------	115	72	------	71	------	82	------	65	95	------
Total	5,126	2,498	2,298	2,624	3,052	4,489	2,746	12,785	9,587	2,551	2,668	2,934
Mean	165	83.3	74.1	84.6	109	145	91.5	412	320	82.3	86.1	97.8
Ac-ft	10,170	4,960	4,560	5,200	6,050	8,900	5,450	25,360	19,020	5,060	5,290	5,820

Calendar year 1954: Max 4,440 Min 45 Mean 159 Ac-ft 115,100
Water year 1954-55: Max 5,330 Min 45 Mean 146 Ac-ft 105,800

Peak discharge (base, 11,000 cfs).--No peak above base.
* Discharge measurement made on this day.
k Discharge computed by using rate of change in stage as a factor.

Honey Creek near McKinney, Tex.

Location.--Lat 33°17', long 96°39', on right bank at downstream side of highway bridge, 4.5 miles downstream from Haw Branch, 5.6 miles upstream from mouth, and 6.0 miles northwest of McKinney, Collin County.

Drainage area.--39.0 sq mi, of which 11.67 sq mi is above flood-detention structures.

Records available.--July 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 563.68 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 1,720 cfs Feb. 19 (gage height, 15.74 ft); no flow at times.
1951-55: Maximum discharge, 2,340 cfs May 15, 1953; maximum gage height, 16.66 ft May 12, 1954; no flow at times.
Maximum stage known since at least 1930, 23.0 ft in spring of 1950, from information by local resident.

Remarks.--Records fair. Some regulation by several flood-detention reservoirs upstream. Station operated as part of the Honey Creek basin hydrologic cooperative program of the Geological Survey and U. S. Soil Conservation Service to evaluate rainfall-runoff relation, soil conservation practices, and the effects of flood-detention structures.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*32	1.0	0.3	1.0	3.1	8.1	33	1.5	0.7	0.5		
2	.2	.8	.4	.8	2.3	9.6	23	1.1	.6	.4		
3	0	1.7	*.3	.8	2.6	6.6	16	1.0	.5	.3		
4	0	2.6	.3	.8	52	*5.2	8.8	.8	.9	.3		
5	0	.5	.3	.8	17	5.0	5.5	.7	.6	.2		
6	0	.3	.2	.7	11	4.8	5.2	.7	.5	0		
7	.5	.2	.2	*.6	10	4.8	4.3	.8	.3	0		
8	1.4	.2	.3	.6	8.1	3.6	*3.5	0	.2	0		
9	1.0	.2	.3	.8	6.9	3.4	11	0	.2	0		
10	.6	.2	.3	3.8	6.2	3.4	22	1.5	*.2	0		
11	.4	.1	.4	1.7	2.7	2.8	11	2.2	.2	0		
12	.5	.1	8.9	1.2	4.2	2.5	17	1.3	.2	*0		
13	.4	.1	1.2	1.0	4.7	6.6	9.6	*.8	.2	0		
14	.4	.2	.9	1.0	4.0	3.9	7.1	.5	.2	0		
15	.2	.3	.7	2.2	3.9	2.8	6.0	4.7	.2	0		
16	0	.4	.6	1.8	4.0	2.2	5.2	32	*8.1	0		(*)
17	0	.3	.5	1.5	2.5	2.0	5.0	14	1.0	0		
18	0	.2	.5	26	2.7	3.7	4.8	5.7	52	0		
19	0	.2	.4	6.9	339	12	3.9	49	4.2	0		
20	0	.2	.5	5.4	50	*71	3.6	50	3.0	0		
21	0	.2	.5	4.8	22	39	3.1	14	2.4	0		
22	0	.2	.5	4.2	18	18	2.7	7.1	2.1	0		
23	93	.2	.5	3.5	16	13	3.4	3.7	1.9	0		
24	6.6	.2	.5	3.5	11	10	2.3	2.7	1.5	0		
25	.1	.3	.6	3.0	8.7	9.7	1.9	1.8	1.2	0		
26	17	.3	.6	3.0	9.4	6.0	1.8	20	1.0	0		
27	*38	.3	.6	2.8	9.2	5.2	1.7	9.9	.9	0		
28	6.2	.3	1.2	*2.6	9.6	5.4	3.1	5.4	.8	0		
29	2.3	.3	2.4	2.2	-	4.8	2.7	2.2	.7	0		
30	1.4	.2	1.2	2.4	--	4.5	2.1	1.4	.6	0		
31	1.2	------	1.0	2.6	------	52	------	1.0	------	0		------
Total	203.4	12.3	27.1	94.0	640.8	331.6	230.3	237.5	87.1	1.7	0	0
Mean	6.56	0.41	0.87	3.03	22.9	10.7	7.68	7.66	2.90	0.05	0	0
Ac-ft	403	24	54	186	1,270	658	457	471	173	3.4	0	0

Calendar year 1954: Max 630 Min 0 Mean 7.11 Ac-ft 5,150
Water year 1954-55: Max 339 Min 0 Mean 5.11 Ac-ft 3,700

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

East Fork Trinity River near McKinney, Tex.

Location.--Lat 33°12'15", long 96°35'41", on right bank at downstream side of bridge on State Highway 24, 1.2 miles northeast of McKinney, Collin County, 2.8 miles downstream from Honey Creek, 7.2 miles upstream from Wilson Creek and 22.4 miles upstream from Lavon Dam.

Drainage area.--188 sq mi.

Records available.--August 1949 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 511.69 ft above mean sea level, datum of 1929.

Average discharge.--6 years, 68.5 cfs (49,590 acre-ft per year).

Extremes.--Maximum discharge during year, 1,010 cfs Feb. 20 (gage height, 14.39 ft); no flow Sept. 18-19.
1949-55: Maximum discharge, 8,800 cfs June 11, 1950 (gage height, 17.23 ft), from rating curve extended above 5,000 cfs by logarithmic plotting; no flow at times.
Maximum stage known since at least 1913, about 21.0 ft in April 1942, from information by local residents.

Remarks.--Records good. Some regulation from Soil Conservation Service flood-retarding structures above station. Small diversions for irrigation above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 28 to Dec. 3, Feb. 23 to Mar. 19, July 26 to Aug. 4)

3.28	0	3.9	8.5
3.3	.1	4.0	12
3.4	.4	6.0	128
3.5	1.0	10.0	410
3.6	1.9	13.0	670
3.7	3.3	14.0	830
3.8	5.5		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	221	1.0	0.8	5.0	6.6	41	456	25	9.9	1.5	0.2	0.2
2	43	.6	.8	4.1	7.5	36	105	20	8.9	1.1	.4	.3
3	5.6	2.6	*.7	3.9	6.9	31	70	15	7.5	.8	.4	.3
4	1.5	29	.6	3.3	139	*28	49	12	8.5	.6	*.4	.4
5	.6	11	.6	3.3	185	32	37	10	13	.6	.3	.6
6	.4	4.3	.5	3.0	57	30	35	9.6	12	.4	.2	.5
7	.2	2.4	.6	*2.5	41	22	99	8.5	9.9	.4	.1	.7
8	1.4	1.8	.6	2.1	34	17	*34	7.5	10	.3	.2	.6
9	6.3	1.3	.5	2.1	30	16	34	6.6	9.9	.2	.2	.8
10	5.0	4.4	.4	3.9	26	17	174	6.6	*5.0	.2	.3	1.2
11	3.7	2.7	.4	12	20	17	100	9.9	4.3	.2	.2	.1
12	3.0	1.0	14	12	14	13	99	15	3.7	*.4	.2	.1
13	2.8	.8	33	7.5	17	13	126	*12	3.0	.4	.2	.2
14	2.5	.6	10	5.3	19	27	54	8.5	2.5	.4	.2	.2
15	2.3	.6	4.1	4.5	18	23	43	185	2.5	.4	.2	.4
16	3.6	.6	2.5	7.5	17	14	36	100	88	44	.3	*.4
17	3.5	.7	1.9	11	16	10	32	135	103	76	.3	.1
18	1.0	.6	1.5	43	14	11	31	28	243	14	.4	0
19	1.1	.4	1.1	64	120	28	29	166	223	3.3	.4	0
20	.6	.4	.8	33	765	271	26	447	26	1.6	.2	.1
21	.2	.6	.7	24	127	*674	25	126	20	1.6	.2	.1
22	.2	.6	.6	20	80	234	22	48	12	1.0	.2	.1
23	234	.6	.6	16	63	107	20	32	12	.4	.2	.2
24	452	.7	.7	14	50	83	26	26	15	.4	.2	.2
25	47	.7	.8	12	41	68	19	22	6.9	.3	.2	.2
26	11	.6	.9	9.9	39	54	13	65	4.8	.2	.2	.2
27	126	.7	1.1	9.2	41	46	12	141	3.7	.2	.2	36
28	*31	.7	1.5	*8.5	41	48	385	31	3.0	.3	.2	12
29	22	.9	2.5	7.5	-	47	131	20	2.3	.2	.2	1.8
30	3.1	.9	7.5	6.6	---	43	39	14	1.9	.3	.4	.7
31	1.4	------	7.9	6.6	------	40	------	11	------	.2	.3	------
Total	1,237.0	73.8	100.2	367.3	2,035.0	2,141	2,361	1,763.2	875.2	151.9	7.8	58.7
Mean	39.9	2.46	3.23	11.8	72.7	69.1	78.7	56.9	29.2	4.90	0.25	1.96
Ac-ft	2,450	146	199	729	4,040	4,250	4,680	3,500	1,740	301	15	116

Calendar year 1954: Max 2,000 Min 0 Mean 41.7 Ac-ft 30,190
Water year 1954-55: Max 765 Min 0 Mean 30.6 Ac-ft 22,170

Peak discharge (base, 1,200 cfs).--No peak above base.
* Discharge measurement made on this day.

Sister Grove Creek near Princeton, Tex.

Location.--Lat 33°12', long 96°29', on right bank at downstream side of highway bridge, 1.4 miles northeast of Princeton, Collin County, 2.3 miles downstream from Stiff Creek, 5 miles upstream from mouth, and 15 miles upstream from Lavon Dam.
Drainage area.--115 sq mi.
Records available.--September 1949 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 487.52 ft above mean sea level, unadjusted (Corps of Engineers benchmark).
Average discharge.--6 years, 46.5 cfs (33,660 acre-ft per year).
Extremes.--Maximum discharge during year, 564 cfs Mar. 21 (gage height, 13.23 ft); no flow at times.
1949-55: Maximum discharge (revised), 5,700 cfs May 2, 1950 (gage height, 15.77 ft); no flow at times.
Maximum stage known since at least 1865, about 22 ft in July 1913, from information by local residents.
Revisions.--Figures of maximum discharge for the water years 1950 and 1951 have been revised to 5,700 cfs May 2, 1950 (gage height, 15.77 ft) and 3,230 cfs June 3, 1951 (gage height, 15.04 ft), superseding figures published in WSP 1178 and 1212, respectively.
Remarks.--Records fair. No diversion above station.
Revisions.--Revised figures of discharge, in cubic feet per second, for high-water period in the water year 1950, superseding those published in WSP 1178, are given herewith:

May 2, 1950..... 4,340 cfs

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
May 1950.....	11,818	4,340	38	381	23,440
Water year 1949-50.....	45,675.7	4,340	0	125	90,600
Calendar year 1950.....	45,475.3	4,340	5.6	125	90,200

Revised peak discharge.--1949-50: Jan. 13 (1 p.m.) 2,400 cfs; Feb. 1 (6 p.m.) 2,100 cfs; Feb. 12 (10 p.m.) 3,360 cfs; May 2 (5 a.m.) 5,700 cfs; Sept. 14 (2:30 p.m.) 2,210 cfs.
1950-51: June 3 (7:30 p.m.) 3,230 cfs; June 12 (8 p.m.) 2,910 cfs.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 2 to Feb. 20)

4.4	0	5.0	3.7	7.0	54
4.5	.1	5.2	6.5	8.0	96
4.6	.3	5.4	10	9.0	151
4.7	.8	5.7	16	11.0	298
4.8	1.6	6.0	23	12.2	410
4.9	2.5	6.5	38		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0	3.5	a1	6.8	5.2	24	178	23	6.4	0		
2	15	4.7	a1	4.6	5.2	22	61	18	5.8	0		
3	7.0	6.8	*1.2	3.3	6.0	*19	38	16	5.0	0		
4	1.8	25	1.0	2.9	38	19	36	14	4.6	0	(*)	
5	.3	26	.9	2.5	98	18	30	12	4.2	0		
6	0	16	1.0	*1.9	39	16	28	11	4.9	0		
7	0	a4	1.2	1.6	22	15	41	9.8	4.4	0		
8	0	a2	1.6	1.6	16	14	*29	8.9	24	0		
9		a2	1.8	1.8	15	14	26	7.9	26	0		
10		a4	1.3	2.3	14	14	64	7.2	*3.7	0		
11			1.3	2.2	12	15	59	7.9	2.4	0		
12			2.1	3.0	8.9	14	40	9.5	2.4	*0		
13			3.2	6.5	8.0	13	56	*8.7	2.2	0		
14			12	4.7	9.6	14	33	7.0	1.6	0		
15			7.5	4.2	10	15	27	50	1.2	0		
16			4.2	3.1	9.6	12	25	31	1.4	27		(*)
17			2.7	3.1	9.1	11	23	35	.9	98		
18	a24		2.1	6.4	8.6	15	22	19	8.6	165		
19			1.8	7.9	12	21	21	19	9.7	40		
20			1.6	15	237	128	18	93	18	28		
21		a.4	1.6	11	72	*410	18	97	6.5	12		
22			1.4	9.3	38	191	16	31	1.6	5.0		
23			1.4	8.7	31	69	15	20	1.1	1.5		
24			1.5	7.9	28	56	15	16	.7	.5		
25			1.7	7.2	25	47	14	14	.4	.1		
26			2.0	6.8	24	41	11	13	.1	0		
27			2.1	*6.4	24	35	9.8	33	.1	0		
28	*10		2.2	6.0	24	37	132	20	0	0		
29	6.4		2.9	5.8	-	38	149	11	0	0		
30	6.7		3.1	5.6	------	36	32	8.4	0	0		
31	5.0	----	4.3	5.3	------	34	-------	6.8	------	0		------
Total	508.2	102.0	74.7	165.4	849.2	1,427	1,266.8	678.1	147.9	377.1	0	0
Mean	16.4	3.40	2.41	5.34	30.3	46.0	42.2	21.9	4.93	12.2	0	0
Ac-ft	1,010	202	148	328	1,680	2,830	2,510	1,340	293	748	0	0

Calendar year 1954: Max 992 Min 0 Mean 26.4 Ac-ft 19,150
Water year 1954-55: Max 410 Min 0 Mean 15.3 Ac-ft 11,090

Peak discharge (base, 1,800 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of record for East Fork Trinity River near McKinney, Tex.

Lavon Reservoir near Lavon, Tex.

Location.--Lat 33°02', long 96°29', in right abutment of spillway in dam on East Fork Trinity River, three-quarters of a mile upstream from St. Louis Southwestern Railway bridge, 1 mile upstream from bridge on State Highway 78, and 2.5 miles west of Lavon, Collin County.

Drainage area.--777 sq mi.

Records available.--October 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Prior to Jan. 20, 1954, staff gage in the approach channel at present datum.

Extremes.--Maximum contents during year, 143,800 acre-ft May 21 (elevation, 472.02 ft); minimum, 92,040 acre-ft Oct. 21 (elevation, 466.75 ft).
1953-55: Maximum contents, that of May 21, 1955; minimum, 216 acre-ft Oct. 25, 1953 (elevation, 443.35 ft).

Remarks.--Reservoir is formed by a rolled earth-fill dam, 9,499 ft long, including a 568-foot gated spillway. Outlet works consist of twelve 40- by 28-foot taintor gates and five 36-inch diameter sluices. Gates were closed Sept. 14, 1953, and dam was completed in October 1953. Capacity, 423,400 acre-ft at top of taintor gates (elevation, 490.0 ft), 143,600 acre-ft at top of conservation pool (elevation, 472.0 ft), 56,290 acre-ft at spillway crest (elevation, 462.0 ft), and 14,330 acre-ft at invert of sluices (elevation, 453.0 ft). Figures given herein represent total contents. The reservoir is designed for flood control and water conservation.

Cooperation.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94,360	100,700	100,900	100,100	101,800	112,100	129,900	137,800	141,000	139,900	135,700	129,400
2	94,720	100,400	100,800	100,000	101,800	112,100	130,900	137,500	140,900	139,700	135,200	129,100
3	94,800	101,100	100,800	100,000	102,500	112,100	131,000	137,400	140,700	139,400	134,900	128,900
4	94,720	101,600	100,800	100,000	104,100	112,300	131,400	137,500	140,400	139,200	134,700	128,700
5	94,720	101,600	100,800	100,100	105,200	113,000	131,800	137,400	140,400	138,900	134,600	128,500
6	94,720	101,800	100,400	100,100	105,900	112,700	131,800	137,300	140,300	138,600	134,500	128,300
7	94,450	101,800	100,400	100,100	105,900	112,500	131,800	137,200	140,100	138,300	134,100	128,100
8	94,270	101,800	100,400	100,100	105,900	112,300	131,900	137,000	141,300	137,900	134,000	127,800
9	94,180	101,900	100,300	101,000	105,900	112,200	133,000	136,700	141,100	137,700	133,800	127,500
10	94,090	101,900	100,100	100,900	106,100	112,300	133,300	137,200	140,700	137,600	133,800	128,900
11	94,010	102,000	100,300	100,900	105,900	112,700	133,800	137,500	140,300	137,500	133,600	128,700
12	93,920	102,000	100,400	100,900	105,900	113,000	134,900	137,500	140,200	137,300	133,400	128,500
13	93,750	102,000	100,400	100,800	105,900	113,300	135,700	137,500	139,800	137,100	133,100	128,200
14	93,580	102,100	100,400	101,000	106,100	113,300	135,900	137,500	139,800	136,700	132,800	128,100
15	92,900	102,200	100,300	101,000	106,100	113,400	136,000	137,900	139,600	136,700	132,400	127,800
16	92,640	102,100	100,300	101,000	106,200	113,200	136,200	138,400	140,100	136,800	132,100	127,600
17	92,470	102,200	100,300	101,000	106,100	113,200	136,300	139,200	140,100	137,200	131,900	127,400
18	92,470	102,200	100,200	101,400	105,900	113,600	136,400	139,200	141,200	138,000	131,700	127,200
19	92,300	101,800	100,100	101,300	108,000	114,000	136,500	140,200	141,900	138,300	131,600	127,000
20	92,130	101,800	100,100	101,300	109,000	117,300	136,600	142,800	142,400	138,100	131,400	126,700
21	92,040	101,800	100,100	101,600	110,500	123,900	136,700	143,800	142,400	138,000	131,200	126,500
22	92,810	101,600	100,100	101,700	110,700	126,800	136,800	143,100	142,400	137,900	131,000	126,500
23	94,630	101,700	100,100	101,600	110,800	127,900	137,000	142,800	142,200	137,600	130,900	127,000
24	97,040	101,300	100,000	101,600	111,100	128,500	136,700	142,500	141,900	137,300	130,700	127,600
25	98,650	101,200	99,910	101,500	111,100	128,700	136,600	141,900	141,800	137,100	130,600	127,900
26	99,280	101,400	99,910	101,600	111,400	128,800	136,500	141,600	141,600	136,700	130,300	127,800
27	100,400	101,200	100,600	101,600	111,600	128,700	136,200	141,700	141,400	136,600	130,100	127,800
28	100,900	101,200	100,400	101,600	111,800	128,800	136,600	141,900	141,100	136,500	130,100	127,800
29	100,900	100,900	100,300	101,600	-	128,800	137,800	141,600	140,600	136,200	129,900	127,500
30	100,800	100,900	100,100	101,500	-------	128,800	137,900	141,400	140,200	136,100	129,800	129,100
31	100,500	-------	99,910	101,500	-------	129,000	-------	140,900	-------	135,800	129,600	-------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	466.91	93,410	-
Oct. 31	467.71	100,500	+7,090
Nov. 30	467.75	100,900	+400
Dec. 31	467.64	99,910	-990
Calendar year 1954	-	-	+90,530
Jan. 31	467.82	101,500	+1,590
Feb. 28	468.92	111,800	+10,300
Mar. 31	470.64	129,000	+17,200
Apr. 30	471.48	137,900	+8,900
May 31	471.75	140,900	+3,000
June 30	471.69	140,200	-700
July 31	471.28	135,800	-4,400
Aug. 31	470.70	129,600	-6,200
Sept.30	470.65	129,100	-500
Water year 1954-55	-	-	+35,690

† Elevation at 12 p.m.

East Fork Trinity River near Lavon, Tex.

Location.--Lat 33°01'23", long 96°28'32", on left bank at downstream side of bridge on State Highway 78, 150 ft downstream from St. Louis Southwestern Railway bridge, 3,500 ft downstream from Lavon Dam, 2.5 miles west of Lavon, Collin County, and at mile 54.9.

Drainage area.--779 sq mi.

Records available.--October 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 429.58 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 264 cfs May 21 (gage height, 6.42 ft); no flow at times.
1953-55: Maximum discharge, 556 cfs July 25, 1954 (gage height, 9.37 ft); no flow at times.
Maximum stage known since at least 1894, 22.3 ft in 1913 and in April 1942, from information by St. Louis Southwestern Railway Co. and local residents.

Remarks.--Records good. Flow regulated by Lavon Reservoir (see preceding page).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 3-5, Sept. 11-15, 22-30)

1.1	0	2.2	20
1.2	.3	3.0	48
1.3	1.0	4.0	96
1.4	2.1	6.0	231
1.6	5.4	6.2	247

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0	9.1	9.6	12	11	0	0
2			(*)		0	0	9.1	9.6	11	11	36	0
3					0	*0	9.1	9.3	g10	11	98	0
4					• 11	0	9.3	9.3	g10	11	*56	0
5					29	0	9.3	9.6	g10	11	44	0
6				(*)	28	0	9.6	9.8	g10	11	22	0
7					*27	0	*9.6	9.8	g10	11	15	0
8					21	0	9.6	10	g10	5.0	0	0
9					6.3	0	10	9.8	*11	0	0	0
10					.2	0	9.8	10	11	0	0	0
11					0	0	9.8	10	10	0	0	.1
12					0	0	9.8	*9.8	10	*0	0	6.3
13					0	2.9	9.8	9.3	10	0	0	1.1
14					0	18	9.8	9.3	10	0	0	.5
15					0	11	9.8	10	11	0	0	*.3
16					0	10	9.8	9.3	11	0	0	0
17					0	9.8	9.8	9.1	11	4.7	0	0
18					0	9.8	9.8	9.1	11	11	0	0
19					.3	9.3	9.8	9.8	11	11	0	0
20					14	11	10	9.6	11	11	0	0
21					27	8.6	9.8	116	11	11	0	0
22					27	8.9	9.8	247	11	11	3.3	8.6
23					19	9.1	9.8	247	11	11	.8	14
24					12	9.1	9.6	239	10	11	0	11
25					5.4	9.1	9.6	164	10	6.7	0	11
26					.1	8.9	9.8	37	10	0	*0	10
27					0	9.1	9.8	10	10	0	0	10
28	(*)				0	9.1	9.8	11	11	0	0	11
29					-	9.1	9.8	12	11	0	0	12
30					------	9.1	9.6	11	11	0	0	11
31		------			------	9.3	------	11	------	0	0	------
Total	0	0	0	0	227.3	181.2	290.1	1,297.1	317	170.4	275.1	106.9
Mean	0	0	0	0	8.12	5.85	9.67	41.8	10.6	5.50	8.87	3.56
Ac-ft	0	0	0	0	451	359	575	2,570	629	338	546	212

Calendar year 1954: Max 532 Min 0 Mean 16.2 Ac-ft 11,750
Water year 1954-55: Max 247 Min 0 Mean 7.85 Ac-ft 5,680

* Discharge measurement or observation of no flow made on this day.
g Computed from twice-daily staff-gage readings.

East Fork Trinity River near Crandall, Tex.

Location.--Lat 32°38', long 96°29', on right bank at downstream side of bridge on U. S. Highway 175, 4,500 ft downstream from Mustang Creek, 1.8 miles northwest of Crandall, Kaufman County, 2.9 miles upstream from Little Buffalo Creek, and at mile 13.8.

Drainage area.--1,257 sq mi.

Records available.--June 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 343.69 ft (revised) above mean sea level, datum of 1929.

Average discharge.--6 years, 456 cfs (330,100 acre-ft per year).

Extremes.--Maximum discharge during year, 688 cfs June 19 (gage height, 11.48 ft); no flow at times.
1949-55: Maximum discharge, 24,000 cfs May 4, 1950 (gage height, 22.12 ft); no flow at times.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Flow largely regulated by Lavon Reservoir since September 1953 (see p. 92).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 21 to Aug. 5 and Sept. 12-30)

2.9	0	4.5	18
3.0	.1	5.0	31
3.1	.4	5.5	46
3.2	.8	6.0	67
3.3	1.3	7.0	119
3.5	2.8	8.0	190
3.7	4.7	9.0	288
4.0	8.8	11.1	604

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.3	18	a1.5	a4	5.7	a18	73	11	18	17	a0.2	0.6
2	74	8.8	*1.5	a4	5.6	a18	194	11	16	16	g.1	1.0
3	72	6.4	a1.5	a4	5.6	*18	95	7.4	15	16	a0	1.2
4	20	16	a1.5	a4	45	17	41	6.6	14	14	g.1	.5
5	8.6	164	a1.5	a4	254	15	26	16	14	12	32	.4
6	4.7	97	a1.5	*4.2	240	15	22	14	19	12	60	.3
7	a3	33	a1.5	4.2	125	14	*19	11	24	12	52	.2
8	a2	16	a1.5	4.2	72	11	18	8.8	19	12	16	.1
9	a1.5	9.6	a1.5	4.1	56	12	21	6.8	*15	7.8	7.3	.1
10	a1	6.4	2.6	5.2	46	a6	62	5.2	14	4.9	22	0
11	a1	5.0	3.6	9.8	39	a5	77	8.0	15	*4.9	*7.4	212
12	a.5	4.0	3.5	25	25	a4	302	*9.4	20	3.6	11	128
13	a.5	3.4	3.5	22	20	a4	482	23	15	.7	41	21
14	a0	3.2	3.9	15	15	a4	296	32	12	g0	14	8.2
15	a0	4.9	7.6	10	13	a4	112	22	9.8	g0	4.4	*4.7
16	a0	4.7	9.1	9.0	13	a4	54	103	62	g.9	2.1	3.3
17	a0	3.8	6.8	8.0	13	a20	38	249	372	g3.5	1.0	2.6
18	a0	4.4	5.4	8.0	14	a12	30	78	517	49	7.4	2.2
19	a0	4.4	4.4	7.9	14	a8	27	46	581	9.5	2.0	2.0
20	a0	3.6	3.9	20	221	a6	26	332	435	17	.3	1.8
21	a0	3.4	3.3	23	253	a4	27	601	215	8.6	.1	1.6
22	a0	a3.2	3.6	17	117	a120	19	243	247	g1.4	.1	1.6
23	.5	a3	4.0	13	64	a350	18	196	84	g.2	0	3.6
24	4.0	a3	a4	11	50	a150	14	261	77	g.1	0	34
25	34	a2.5	a4	9.4	45	a60	26	251	42	11	0	102
26	20	a2.5	a4	8.4	34	a35	18	241	26	9.4	0	45
27	15	a2.5	a4	*7.3	30	a25	18	151	24	2.9	0	34
28	118	a2	a4	6.7	a23	a22	16	74	22	7.8	0	20
29	*175	a2	a4	6.4	-	a21	16	31	21	12	0	16
30	113	a2	a4	6.0	------	a23	14	22	20	3.3	48	14
31	49	------	a4	5.7	------	25	-----	20	------	g.9	7.5	------
Total	720.6	442.7	110.7	290.5	1,857.9	1,050	2,201	3,091.2	2,984.8	270.4	336.0	662.0
Mean	23.2	14.8	3.57	9.37	66.4	33.9	73.4	99.7	99.5	8.72	10.8	22.1
Ac-ft	1,430	878	220	576	3,690	2,080	4,370	6,130	5,920	536	666	1,310

Calendar year 1954: Max 4,250 Min 0 Mean 88.8 Ac-ft 64,260
Water year 1954-55: Max 601 Min 0 Mean 38.4 Ac-ft 27,810

Peak discharge (base, 6,100 cfs).--No peak above base.
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations.
g Computed from once-daily wire-weight-gage readings.

Trinity River near Rosser, Tex.

Location.--Lat 32°25'40", long 96°27'50", on left bank at downstream side of left pier of bridge on State Highway 34, 2.5 miles south of Rosser, Kaufman County, 8.5 miles downstream from East Fork Trinity River, and at mile 451.

Drainage area.--8,162 sq mi.

Records available.--July 1924 to September 1925 (October 1924 to September 1925, gage heights only), November 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 302.65 ft above mean sea level, datum of 1929. July 25, 1924, to Sept. 30, 1925, staff gage at abandoned lock and dam No. 7, 1.7 miles upstream at datum 6.94 ft higher.

Average discharge.--16 years (1939-55), 2,780 cfs (2,013,000 acre-ft per year).

Extremes.--Maximum discharge during year, 6,060 cfs May 21 (gage height, 21.09 ft); minimum, 116 cfs Oct. 19.

1924, 1938-55: Maximum discharge not determined, occurred Apr. 23 or 24, 1942, following numerous breaks in levee system on both banks; maximum gage height, 41.55 ft Apr. 22, 1942, just prior to levee breaks; maximum daily discharge, 133,000 cfs Apr. 23, 1942; minimum, 34 cfs Sept. 8-11, 1924.

Flood in May 1908 reached a stage of about 33 ft, present site and datum, from information by Corps of Engineers (discharge believed to have been about the same as that of Apr. 23 or 24, 1942).

Remarks.--Records good. Flow largely regulated by reservoirs above Dallas and after September 1953 by Lavon Reservoir on East Fork Trinity River (see p. 92). Levee system constructed in 1916. Cities of Fort Worth and Dallas diverted considerable water for municipal supply, of which about 60 percent is returned as sewage. Several small diversions on West Fork above Fort Worth. Records of chemical analyses and water temperatures for the water year 1955 are published in WSP 1402.

Revisions.--WSP 1148: Drainage area.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 1-10, May 28 to June 9)

Oct. 1 to Mar. 22				Mar. 23 to Sept. 30			
3.5	112	8.0	790	3.5	119	8.0	790
4.0	157	11.0	1,560	3.6	129	12.0	1,860
6.0	423			4.0	169	17.0	3,830
				6.0	425	21.0	6,000

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	516	227	124	221	147	179	205	159	208	180	144	261
2	747	179	*128	179	152	185	350	154	202	174	134	180
3	828	173	128	147	152	*179	332	139	196	174	144	159
4	882	326	128	137	270	179	249	139	191	164	154	144
5	422	536	128	142	794	173	202	139	231	144	174	129
6	203	454	128	*147	686	167	191	149	453	149	181	129
7	162	356	128	152	626	157	*174	154	488	159	196	127
8	152	223	132	147	440	152	174	149	323	159	174	123
9	147	179	132	147	298	152	174	159	*335	159	149	126
10	147	167	132	161	246	152	398	160	909	154	144	134
11	142	152	137	419	227	162	560	194	510	*149	*174	152
12	132	147	147	312	203	167	1,530	*227	313	144	428	299
13	137	147	222	327	185	162	3,180	306	231	149	313	255
14	132	143	167	256	173	167	1,380	320	191	149	320	220
15	132	214	167	209	162	173	930	306	*174	159	523	*167
16	132	326	167	185	162	206	484	327	186	230	154	192
17	132	197	157	173	157	221	339	1,010	403	455	154	254
18	124	173	147	167	162	197	280	794	720	326	144	164
19	116	167	142	240	182	191	249	626	2,150	274	180	144
20	120	162	132	221	387	185	219	2,530	2,620	243	196	139
21	120	152	137	197	590	318	208	5,900	1,830	268	170	144
22	128	142	147	197	608	1,310	208	4,800	891	191	139	149
23	146	137	142	179	504	1,450	191	1,600	559	169	134	154
24	326	132	147	167	356	662	186	646	360	159	134	295
25	358	132	147	157	272	330	169	536	293	144	129	364
26	366	128	137	157	233	249	159	488	237	139	134	425
27	604	128	128	*157	209	213	169	472	202	149	134	339
28	329	128	132	162	197	196	164	378	186	159	134	243
29	*360	128	152	152	-	186	164	346	186	159	202	208
30	416	124	173	157	------	180	164	274	180	159	471	186
31	360	------	191	152	------	180	-----	219	------	149	-	------
Total	9,018	5,981	4,506	5,923	8,780	8,780	13,382	23,800	15,958	5,739	6,100	6,005
Mean	291	199	145	191	314	283	446	768	532	185	197	200
Ac-ft	17,890	11,860	8,940	11,750	17,410	17,410	26,540	47,210	31,650	11,380	12,100	11,910

Calendar year 1954: Max 7,620 Min 116 Mean 349 Ac-ft 252,500
Water year 1954-55: Max 5,900 Min 116 Mean 312 Ac-ft 226,100

Peak discharge (base, 13,000 cfs).--No peak above base.
* Discharge measurement made on this day.

Cedar Creek near Mabank, Tex.

Location.--Lat 32°19'45", long 96°10'05", on right bank at downstream side of bridge on State Farm Highway 85, 2 miles downstream from Lacys Fork and 5½ miles southwest of Mabank, Kaufman County.

Drainage area.--734 sq mi.

Records available.--December 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 285.50 ft above mean sea level, unadjusted.

Average discharge.--16 years (1939-55), 457 cfs (330,900 acre-ft per year).

Extremes.--Maximum discharge during year, 4,720 cfs Mar. 22; maximum gage height, 15.11 ft Oct. 25; no flow at times.

1938-55: Maximum discharge, 44,800 cfs Mar. 30, 1945 (gage height, 25.43 ft), from rating curve extended above 13,000 cfs on basis of slope-area determination of peak flow at gage height 23.5 ft, at site 12 miles downstream; no flow at times.

Maximum stage known since at least 1900, that of Mar. 30, 1945. Flood of Sept. 29, 1936, reached a stage of about 23.5 ft, from floodmarks at site 12 miles downstream (discharge, 35,400 cfs, by slope-area determination).

Remarks.--Records good except those below 10 cfs, and those for period of no gage-height record, which are fair.

Revisions.--WSP 1148: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-5, Oct. 22 to Nov. 24, Dec. 11-17, Mar. 21-25, Apr. 10-18, June 5-16, June 27 to July 10, July 22 to Aug. 5, Aug. 9-20, Sept. 24)

-0.07	0	4.0	161
0.0	.1	6.0	319
.1	.4	9.0	680
.2	.9	11.0	1,040
.3	1.6	12.0	1,320
.6	4.9	13.0	1,720
.9	10	14.0	2,560
1.4	24	15.1	4,410
2.0	49		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	143	58	*2.5	26	5.6	15	18	5.4	3.3	1.6	0.4	a75
2	96	34	2.2	18	5.5	*13	169	4.2	1.9	1.3	.2	a30
3	66	81	2.0	12	5.4	11	216	2.6	1.4	1.0	0	a10
4	19	1,300	1.9	8.4	234	9.6	75	2.5	1.0	.8	0	a5
5	7.6	1,880	1.8	6.6	1,850	8.6	40	3.0	.6	.7	0	a2
6	4.4	1,250	1.5	5.5	2,400	8.8	*27	2.0	.4	.6	68	a1
7	2.6	197	1.2	4.5	1,450	7.7	18	1.9	.2	.4	31	a1
8	1.5	81	1.1	4.3	232	6.1	13	1.9	*.1	.2	9.6	a0
9	.9	52	1.8	4.3	86	5.4	12	1.7	.1	.2	3.9	a0
10	.5	36	1.7	6.1	57	4.9	426	1.3	0	.2	2.5	a0
11	.3	26	4.1	22	38	4.7	1,720	*1.4	0	*0	*2.2	a0
12	.2	18	130	109	24	4.7	2,080	2.0	0	0	2.1	a0
13	.2	16	121	59	16	4.5	3,800	1.5	0	0	2.2	a0
14	.2	19	84	36	13	4.3	4,200	1.4	0	0	1.5	a0
15	.2	319	39	24	11	4.1	3,540	1.2	0	0	1.0	*0
16	.1	1,280	18	19	9.4	3.7	1,010	87	29	0	.8	0
17	.1	1,380	10	21	8.4	3.6	128	864	501	0	.8	0
18	.1	418	6.1	133	7.7	3.3	75	253	288	0	.7	0
19	.1	77	5.0	301	48	3.7	52	99	46	12	.6	0
20	.1	48	4.3	214	835	44	42	195	28	37	19	0
21	.1	28	3.6	105	884	*1,590	39	232	181	12	18	0
22	309	16	3.2	62	323	4,270	30	98	137	4.2	a6	0
23	1,650	12	3.0	40	115	2,780	26	43	23	2.7	a4	0
24	2,850	8.2	2.6	25	64	1,420	21	22	92	2.0	a2	5.4
25	3,430	6.2	2.4	17	40	173	16	13	32	1.5	a1	5.4
26	2,030	5.0	2.4	*13	28	72	14	7.8	10	1.1	a1	62
27	833	4.5	2.4	10	22	45	18	12	4.3	.8	a1	118
28	298	3.6	2.5	8.8	18	32	14	12	3.1	.7	a0	36
29	211	3.1	2.7	7.5	-	24	8.8	6.9	2.5	.7	a0	12
30	*148	2.7	4.7	6.8	------	20	6.6	4.2	2.0	.6	a0	6.4
31	100	------	28	6.1	------	18	------	4.8	------	.4	a0	------
Total	12,202.2	8,659.3	496.7	1,334.9	8,830.0	10,614.7	17,854.4	1,787.7	1,367.9	82.7	179.5	369.2
Mean	394	289	16.0	43.1	315	342	595	57.7	45.6	2.67	5.79	12.3
Ac-ft	24,200	17,180	985	2,650	17,510	21,050	35,410	3,550	2,710	164	356	732

Calendar year 1954: Max 6,350 Min 0 Mean 168 Ac-ft 121,300
Water year 1954-55: Max 4,270 Min 0 Mean 175 Ac-ft 126,500

Peak discharge (base, 5,300 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
a No gage-height record, discharge estimated on basis of weather records.

Chambers Creek near Corsicana, Tex.

Location.--Lat 32°06'30", long 96°22'15", on right bank at downstream side of bridge on State Highway 31, 500 ft upstream from St. Louis Southwestern Railway bridge, 6 miles east of Corsicana, Navarro County, and 17 miles upstream from Richland Creek.

Drainage area.--971 sq mi.

Records available.--March 1939 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 294.26 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 450 cfs (325,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,350 cfs May 21 (gage height, 20.33 ft); no flow at times.
1939-55: Maximum discharge, 48,000 cfs May 3, 1944 (gage height, 27.19 ft); no flow at times.
Maximum stage known since at least 1913, about 27.5 ft in December 1913, from information by local residents.

Remarks.--Records good. During the year the city of Corsicana diverted approximately 2,800 acre-ft from the pool in which the gage is located for municipal supply. Discharge given herein does not include that pumped by the city.

Revisions (water years).--WSP 1148: 1941, drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

5.73	0	7.0	72
5.8	.1	7.2	116
6.0	1.0	7.5	156
6.2	4.5	9.0	350
6.4	11	14.0	1,140
6.6	24	20.0	2,280
6.8	42		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	0	(*)	0	0	0	0	0	1.9		0	816
2	454	0		0	0	*0	0	0	.1		0	702
3	186	6.7		0	0	0	4.8	.2	0		0	52
4	152	590		0	24	0	7.4	.2	0		0	9.0
5	30	236		*0	619	0	5.2	0	0		0	4.1
6	7.8	32		0	126	0	*3.2	0	0		0	.4
7	1.4	11		0	19	0	.8	0	0		0	0
8	5.8	3.1		0	7.4	0	0	0	*0		0	0
9	8.6	.1		0	.2	0	0	0	71		0	0
10	2.7	.1		0	1.1	0	2.1	0	72		*0	0
11	.1	.6		0	0	0	68	*0	6.8	(*)	34	0
12	0	.8		0	0	0	194	0	3.1		639	0
13	.1	.6		0	0	0	1,930	0	4.5		604	0
14	.1	4.9		0	0	0	1,120	0	.4		96	0
15	0	57		0	0	0	261	1.1	0		7.4	*0
16	0	297		0	0	0	19	0	62		4.5	0
17	0	147		0	0	0	15	64	856		.5	0
18	0	40		1.3	0	0	18	46	330		189	0
19	0	13		0	19	0	9.4	56	1,070		290	0
20	0	3.5		0	879	0	6.8	1,270	1,210		159	0
21	0	.1		0	237	877	5.5	*1,250	774		80	0
22	1.0	.1		0	9.7	2,070	3.5	*802	182		4.8	96
23	.9	0		0	.1	394	1.9	116	72		.4	66
24	2.4	0		0	.6	52	2.4	31	27		0	519
25	8.0	0		0	0	13	.2	18	40		0	1,760
26	6.0	0		*0	0	11	0	30	13		0	399
27	3.5	0		0	0	6.0	0	23	6.2		0	70
28	5.0	0		0	0	9.4	0	86	.6		0	34
29	6.0	0		0	-	5.8	0	83	0		0	13
30	*4.4	0		0	-	.1	0	17	0		0	4.5
31	.2	-----		0	-----	0	-----	6.5	-----		712	-----
Total	928.0	1,443.6	0	1.3	1,942.1	3,438.3	3,678.2	4,900.0	4,802.6	0	2,820.6	4,545.0
Mean	29.9	48.1	0	0.04	69.4	111	123	158	160	0	91.0	152
Ac-ft	1,840	2,860	0	2.6	3,850	6,820	7,300	9,720	9,530	0	5,590	9,010

Calendar year 1954: Max 2,940 Min 0 Mean 30.8 Ac-ft 22,330
Water year 1954-55: Max 2,250 Min 0 Mean 78.1 Ac-ft 56,520

Peak discharge (base, 13,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

Richland Creek near Richland, Tex.

Location.--Lat 31°57', long 96°25', on left bank at downstream side of bridge on U. S. Highway 75, 750 ft downstream from Texas and New Orleans Railroad bridge, 1 mile north of Richland, Navarro County, and 3.5 miles downstream from Pinoak Creek.

Drainage area.--737 sq mi.

Records available.--December 1924 to February 1925 (discharge measurements and monthly runoff only), March 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 299.12 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. Dec. 11, 1924, to Feb. 11, 1925, chain gage at site 750 ft upstream at same datum.

Average discharge.--16 years (1939-55), 376 cfs (272,200 acre-ft per year).

Extremes.--Maximum discharge during year, 3,740 cfs Mar. 22 (gage height, 20.38 ft); no flow at times.

1939-55: Maximum discharge, 58,900 cfs May 12, 1948 (gage height, 24.16 ft); no flow at times.

Maximum stage known since at least 1899, 25.5 ft in December 1913, from information by Texas and New Orleans Railroad.

Remarks.--Records good.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 9-12, Nov. 29 to Dec. 14, Dec, 24 to Jan. 20, May 20, 21, July 6, 10, July 30 to Aug. 1, Aug. 28-31, Sept. 4-25)

1.35	0	4.0	76
1.4	.1	5.0	132
1.5	.3	7.0	294
1.6	.6	10.0	660
1.7	1.3	13.0	1,180
1.8	2.5	16.0	1,820
1.9	4.7	19.0	2,560
2.1	9.1	20.0	2,890
2.4	17	21.0	6,900
3.0	34		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.3	*0	0	0.7	2.4	38	0.7	9.8	1.1	0	543
2	0	1.9	0	0	.6	*2.2	77	.6	5.4	.8	0	35
3	11	1.1	0	0	.6	1.9	17	.4	2.9	.6	0	11
4	21	77	0	0	62	1.6	7.3	.3	2.2	.4	0	6.5
5	8.4	256	0	*0	1,260	1.6	4.5	.3	2.0	.3	0	5.6
6	3.8	56	0	0	292	1.4	*3.4	.3	1.1	.2	0	4.7
7	1.4	16	0	0	72	1.1	27	.3	.8	.1	0	4.3
8	.4	6.9	0	0	32	1.1	51	.3	*.6	0	0	3.8
9	.1	2.7	0	0	18	1.1	23	11	.7	0	0	3.8
10	0	1.6	0	0	9.1	1.1	33	7.6	120	0	*0	3.8
11	0	1.0	0	0	4.3	1.1	501	*3.8	59	*0	0	3.4
12	0	.7	0	0	2.0	1.0	118	9.0	18	0	5.2	2.9
13	0	.7	0	0	1.4	1.0	411	24	7.1	0	8.7	2.0
14	0	.7	.1	0	1.1	.9	272	25	3.6	0	23	*2.4
15	0	1.1	3.8	0	.9	.9	50	66	2.2	0	9.3	4.7
16	0	68	4.3	0	.9	.8	21	17	23	0	4.0	4.7
17	0	79	2.5	0	.7	.8	11	76	787	19	1.8	4.3
18	0	24	1.7	13	.7	.7	7.3	76	696	70	1.1	3.4
19	0	10	1.1	370	4.3	.7	5.1	45	819	95	290	2.5
20	0	7.3	.7	77	2,130	.8	4.3	918	475	59	112	1.8
21	0	3.2	.5	24	1,280	884	13	*388	77	15	39	1.7
22	0	1.6	.4	11	130	3,120	79	*56	555	5.8	12	1.9
23	0	1.1	.3	5.4	46	1,160	31	46	72	2.7	4.9	1.6
24	0	1.0	.2	2.5	23	92	12	664	23	8.2	2.2	2.0
25	0	.8	.2	1.6	12	35	6.5	153	26	5.6	1.1	39
26	0	.6	.1	*1.4	7.6	18	3.6	49	31	1.9	.7	17
27	0	.5	.1	1.0	4.5	10	2.0	268	13	1.0	.3	3.6
28	21	.3	.1	.8	3.2	6.9	1.4	145	5.8	.7	.1	2.2
29	80	.2	0	.7	-	5.1	1.1	34	2.9	.3	.1	.8
30	*22	.1	0	.7	-	4.0	1.0	14	1.8	.1	0	.6
31	8.6	------	0	.7	------	4.0	------	14	------	0	418	------
Total	177.7	625.4	16.1	509.8	5,399.6	5,363.2	1,832.5	3,112.6	3,842.9	287.8	933.5	724.0
Mean	5.73	20.8	0.52	16.4	193	173	61.1	100	128	9.28	30.1	24.1
Ac-ft	352	1,240	32	1,010	10,710	10,640	3,630	6,170	7,620	571	1,850	1,440

Calendar year 1954: Max 3,720 Min 0 Mean 48.6 Ac-ft 35,170
Water year 1954-55: Max 3,120 Min 0 Mean 62.5 Ac-ft 45,260

Peak discharge (base, 12,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.

Trinity River near Oakwood, Tex.

Location.--Lat 31°38'50", long 95°47'20", on left bank at downstream side of bridge on U. S. Highways 79 and 84, 1½ miles upstream from International-Great Northern Railroad bridge, 6 miles northeast of Oakwood, Leon County, and at mile 313.

Drainage area.--12,912 sq mi.

Records available.--January 1905 to September 1955 (January 1905 to September 1923, monthly discharge and yearly summaries only, in WSP 850 and 878; figures below 500 cfs in these publications and minimum yearly discharge for water year 1924, published in WSP 878, have been found to be in error). Gage-height records collected in this vicinity since 1904 are contained in reports of the U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 175.06 ft (revised) above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. Prior to July 15, 1932, chain gage at site 1½ miles downstream at datum 1.06 ft lower. July 15, 1932, to Oct. 7, 1934, chain gage at present site and datum.

Average discharge.--32 years (1923-55), 4,797 cfs (3,473,000 acre-ft per year).

Extremes.--Maximum discharge during year, 11,600 cfs Mar. 25 (gage height, 30.15 ft); minimum, 114 cfs Oct. 1.

1923-55: Maximum discharge, 153,000 cfs Apr. 29, 1942 (gage height, 51.64 ft); minimum observed for period 1924-55, 22 cfs Aug. 18, 1934.

Flood of June 4, 1908, reached a stage of about 52.2 ft, present site and datum, from information by U. S. Weather Bureau (discharge, about 164,000 cfs).

Remarks.--Records good. Some regulation by reservoirs above Dallas.

Revisions.--WSP 1148: Drainage area. See also Records available.

Rating tables, water year 1954-55, except period when rate of change in stage is a factor (gage height, in feet, and discharge, in cubic feet per second)

(Shifting-control method used Apr. 25 to May 18)

Oct. 1-31				Nov. 1 to Sept. 30			
4.1	123	15.0	2,730	4.3	158	20.0	4,820
5.0	213	20.0	4,910	5.0	240	25.0	7,620
7.0	504	25.0	7,740	7.0	545	29.0	10,600
10.0	1,150	29.0	10,600	10.0	1,230	31.0	12,200
				15.0	2,750		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	128	2,030	305	333	a410	750	625	383	1,000	292	196	187
2	166	1,340	298	340	a410	666	666	354	750	266	196	527
3	248	1,000	292	347	a410	605	884	340	585	246	260	1,560
4	692	1,030	292	391	k883	527	838	319	491	240	292	1,420
5	931	k2,200	286	407	k2,870	509	884	305	439	227	202	794
6	1,030	3,690	286	391	k4,490	473	980	279	407	208	196	383
7	1,000	4,070	279	354	5,500	473	794	272	439	214	196	272
8	795	3,860	279	326	5,160	439	645	246	565	202	214	208
9	405	3,200	272	319	*4,640	399	666	234	*666	196	208	181
10	288	k1,920	272	333	k3,740	375	1,340	220	750	180	214	163
11	181	*1,100	363	423	k2,430	368	1,560	*246	666	175	266	164
12	176	666	1,000	a470	k1,350	361	k1,970	253	545	189	*286	158
13	171	527	1,310	a510	884	347	k4,600	260	956	*202	326	161
14	166	545	1,230	*605	729	340	k6,700	305	860	208	399	165
15	166	980	*1,100	a690	645	354	*8,300	361	565	196	956	*246
16	161	k1,450	932	a690	565	361	9,080	423	375	196	980	326
17	151	2,510	772	708	509	*368	8,090	545	312	196	625	298
18	151	2,860	687	1,030	509	375	k5,770	794	312	196	407	253
19	141	2,720	625	k2,140	473	391	k3,570	1,260	1,380	266	312	214
20	136	2,550	545	3,200	k716	439	k1,820	k2,800	2,220	509	279	266
21	136	2,030	473	3,040	k3,700	605	1,150	k4,360	2,680	545	361	279
22	146	1,180	439	2,310	5,550	k4,670	908	5,550	3,600	527	527	220
23	k1,750	729	375	1,700	5,060	k9,620	884	6,980	3,690	473	407	214
24	5,160	585	340	1,200	k3,270	10,900	932	7,820	2,890	455	333	234
25	k6,460	527	333	932	k2,160	11,400	838	7,360	1,910	347	246	289
26	8,690	491	319	750	1,560	k8,840	687	k4,570	1,050	266	196	1,350
27	10,100	423	319	666	1,150	k5,120	565	3,080	687	227	170	2,150
28	*9,860	354	319	545	908	k2,520	491	2,550	527	208	168	1,730
29	8,790	312	312	a490	-	k1,240	439	2,280	439	202	188	956
30	k5,440	305	312	a440	--	838	399	1,760	368	196	177	666
31	k3,130	------	333	a420	----	666	------	1,340	------	196	196	------
Total	66,945	47,184	15,299	26,500	60,681	65,339	67,075	57,849	32,124	8,246	9,979	16,034
Mean	2,160	1,573	494	855	2,167	2,108	2,236	1,866	1,071	266	322	534
Ac-ft	132,800	93,590	30,350	52,560	120,400	129,600	133,000	114,700	63,720	16,360	19,790	31,800

Calendar year 1954: Max 12,500 Min 105 Mean 1,003 Ac-ft 726,100
Water year 1954-55: Max 11,400 Min 128 Mean 1,297 Ac-ft 938,700

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, engineers' notes, and records for nearby stations.

k Computed by using rate of change in stage as a factor.

Note.--Recorder inoperative most of year due to construction of new bridge. Daily discharge computed from once-daily wire-weight-gage readings except Oct. 28-30, Feb. 8, 9, 22, 23, Mar. 23-27, Apr. 14-18, May 22-26, Aug. 30, 31, Sept. 1-6, 10-30, when recorder was operating.

Trinity River near Midway, Tex.

Location.--Lat 31°04'40", long 95°42'00", near center of channel on upstream side of bridge on State Highway 21, 5 miles northeast of Midway, Madison County, 8.5 miles downstream from Boggy Creek, and at mile 230.

Drainage area.--14,484 sq mi.

Records available.--April 1939 to September 1955.

Gage.--Wire-weight gage read twice daily. Datum of gage is 117.63 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 5,963 cfs (4,317,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,200 cfs Oct. 29 (gage height, 19.35 ft); minimum observed, 134 cfs Oct. 21.

1939-55: Maximum discharge, 146,000 cfs May 1, 1942 (gage height, 48.58 ft); minimum observed, 100 cfs Oct. 4, 1939.

Maximum stage known prior to construction of levees in 1916, about 45.0 ft in May 1890 (discharge not determined), from information by local residents. Flood of June 9, 1908, reached a stage of 44.3 ft, from floodmarks and from information by local residents. Flood of May 27, 1930, reached a stage of 46.7 ft, from floodmark (flow confined within levees).

Remarks.--Records good. Some regulation by reservoirs above Dallas and by Lavon Reservoir on East Fork Trinity River since Sept. 14, 1953 (see p. 92).

Revisions.--WSP 1148: Drainage area.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 1-21)

Oct. 1 to Nov. 3

2.4	134	9.0	3,000
3.0	283	12.0	4,850
4.0	600	16.0	7,600
6.0	1,420	19.0	9,900

Nov. 4 to Sept. 30

2.3	196	4.0	670
2.8	316	6.0	1,420
3.2	422		

Note.--Same as preceding table above 6.0 ft.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	204	4,720	450	495	638	1,330	1,100	755	1,690	465	205	286
2	190	2,820	422	480	622	1,130	1,060	638	1,330	408	196	252
3	170	1,740	408	465	*606	1,020	1,020	574	1,100	368	210	252
4	229	1,420	394	465	801	912	1,060	526	948	342	266	603
5	513	912	394	495	5,010	858	1,060	495	806	311	480	1,250
6	925	1,690	381	510	8,500	806	1,020	480	738	296	465	1,060
7	1,060	3,240	368	542	9,420	772	1,100	450	755	306	355	687
8	1,060	3,960	368	510	8,800	721	1,060	422	755	296	261	436
9	965	3,900	368	510	*7,180	687	1,290	408	*858	271	242	321
10	670	3,480	381	558	5,920	654	6,900	394	948	256	240	261
11	448	2,540	394	687	4,850	638	6,760	381	894	242	237	242
12	311	*1,600	1,380	738	3,840	622	6,830	*381	858	*228	*259	252
13	251	1,020	1,460	687	2,430	606	8,650	394	755	219	304	210
14	222	823	1,690	*638	1,500	590	7,180	394	823	228	324	205
15	204	1,800	*1,500	670	1,170	558	7,460	394	1,060	228	381	*196
16	190	1,890	1,290	823	1,020	558	*7,980	436	894	224	558	203
17	166	1,740	1,130	984	948	558	8,500	558	721	221	772	219
18	152	2,210	1,020	1,760	876	*542	8,280	738	590	210	654	210
19	145	2,820	876	3,720	823	622	7,180	858	542	226	495	196
20	138	2,820	806	3,780	1,400	606	5,180	1,370	702	259	450	254
21	134	2,540	738	3,840	3,540	654	3,360	2,760	1,790	316	436	274
22	216	2,320	670	3,720	4,720	789	2,380	4,140	2,380	495	355	288
23	513	1,640	622	3,120	6,130	2,630	1,790	5,110	3,240	574	394	304
24	2,220	1,100	574	2,320	6,200	6,340	1,420	6,760	3,540	510	510	342
25	4,780	772	526	1,690	4,850	8,650	1,330	8,050	3,180	465	422	408
26	6,480	687	495	1,290	3,240	9,660	1,250	7,900	2,260	422	368	422
27	7,680	606	480	1,060	2,210	9,420	1,130	6,060	1,420	368	276	510
28	9,580	542	606	948	1,640	7,750	948	3,960	912	311	219	1,330
29	*9,900	495	670	858	-	4,520	858	3,060	687	266	237	1,690
30	9,020	465	574	755	--	2,100	1,060	3,300	558	242	306	1,330
31	6,970	------	542	687	-----	1,250	------	2,650	------	221	311	------
Total	65,706	58,312	21,977	39,805	98,884	68,553	106,196	64,796	37,734	9,794	11,188	14,493
Mean	2,120	1,944	709	1,284	3,532	2,211	3,540	2,090	1,258	316	361	483
Ac-ft	130,300	115,700	43,590	78,950	196,100	136,000	210,600	128,500	74,840	19,430	22,190	28,750

Calendar year 1954: Max 11,900 Min 105 Mean 1,155 Ac-ft 836,400
Water year 1954-55: Max 9,900 Min 134 Mean 1,637 Ac-ft 1,185,000

* Discharge measurement made on this day.

Trinity River at Riverside, Tex.

Location.--Lat 30°52', long 95°24', near center of channel on upstream side of bridge on State Highway 45, 1,200 ft upstream from International-Great Northern Railroad bridge, 0.5 mile north of Riverside, Walker County, three-quarters of a mile downstream from Harmon Creek, and at mile 182.

Drainage area.--15,619 sq mi.

Records available.--January 1903 to December 1906 (monthly and yearly records only), October 1923 to September 1955. Gage-height records collected in this vicinity since 1903 are contained in reports of U. S. Weather Bureau.

Gage.--Wire-weight gage read twice daily. Datum of gage is 89.86 ft above mean sea level, datum of 1929, Galveston-Houston supplementary adjustment of 1936. Prior to May 6, 1941, chain, staff, or wire-weight gage at railroad bridge 1,200 ft downstream. Prior to July 1, 1903, at datum 7.7 ft lower.

Average discharge.--35 years (1903-6, 1923-55), 6,556 cfs (4,746,000 acre-ft per year).

Extremes.--Maximum discharge during year, 26,600 cfs Apr. 10 (gage height, 26.00 ft); minimum observed, 168 cfs Oct. 21, 22.

1903-6, 1923-55: Maximum discharge, 121,000 cfs May 5, 1942 (gage height, 52.75 ft, from floodmark); minimum observed, 70 cfs Aug. 20-26, Sept. 8-13, 1925, Sept. 29 to Oct. 4, 1931.

Maximum stage known since at least 1908, that of May 5, 1942. Flood of June 11, 1908, reached a stage of 50.1 ft, present site and datum (discharge, 100,000 cfs).

Remarks.--Records good. Some regulation by reservoirs above Dallas and by Lavon Reservoir on East Fork Trinity River since Sept. 14, 1953 (see p. 92).

Cooperation.--Gage-height record collected in cooperation with the U. S. Weather Bureau.

Revisions (water years).--WSP 828: 1935 (yearly mean only). WSP 1148: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.7	153	8.0	4,800
1.0	243	12.0	8,500
1.5	430	16.0	12,700
2.0	670	20.0	17,600
3.0	1,200	24.0	23,400
5.0	2,500		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	200	6,880	502	625	795	1,950	1,660	1,200	2,640	640	224	327
2	215	4,400	475	570	745	1,590	1,410	902	1,820	530	212	263
3	206	2,640	452	540	*695	1,380	1,410	720	1,440	457	218	243
4	197	1,880	430	530	3,390	1,200	1,320	670	1,120	580	250	231
5	200	1,590	426	530	12,700	1,070	1,320	590	930	502	266	704
6	444	1,470	402	535	19,000	985	1,260	560	820	382	493	1,350
7	930	2,080	378	555	19,400	930	1,200	530	745	320	535	1,100
8	1,150	3,600	378	590	*17,900	875	1,260	502	848	308	410	720
9	1,120	4,080	374	580	13,800	820	3,270	470	1,010	301	294	466
10	1,010	3,920	374	565	9,300	770	22,700	439	*1,040	273	253	339
11	770	3,360	374	605	6,700	745	22,200	426	1,100	243	240	298
12	545	*2,500	520	745	5,340	720	22,600	*414	930	*253	250	290
13	382	1,590	1,620	795	4,000	695	22,900	406	875	221	342	263
14	305	1,940	*1,950	745	2,640	670	19,000	414	720	224	418	231
15	256	9,100	2,220	745	1,760	640	15,700	422	820	269	323	*212
16	234	4,800	1,880	848	1,440	605	*11,800	439	1,010	231	378	206
17	228	3,360	1,500	1,040	1,290	595	9,900	535	875	243	555	206
18	209	2,640	1,260	3,110	1,150	*590	9,500	695	670	350	848	209
19	194	2,780	1,100	5,340	1,070	695	8,900	1,100	511	339	720	305
20	182	3,060	985	5,430	1,180	1,560	7,360	2,220	414	305	555	316
21	170	2,920	875	5,070	2,440	1,820	5,250	2,360	595	283	466	287
22	212	2,780	795	4,720	4,800	2,080	3,600	3,520	2,020	331	484	256
23	475	2,360	720	4,000	6,060	1,530	2,640	4,720	2,780	530	366	269
24	3,000	1,660	670	3,130	6,980	3,960	2,080	5,970	3,520	630	410	331
25	5,340	1,180	625	2,360	6,420	7,550	1,690	7,550	3,680	600	511	350
26	7,460	902	590	1,820	5,070	9,400	1,590	8,600	3,130	520	448	444
27	8,700	770	575	1,470	3,520	10,100	1,500	7,930	2,290	452	362	475
28	9,100	670	570	1,230	2,500	9,700	1,380	6,060	1,500	406	287	627
29	10,100	600	630	1,100	-	7,550	1,180	4,720	1,010	331	290	1,690
30	*9,900	540	720	985	------	4,080	1,040	3,840	795	273	276	1,760
31	8,900	------	660	875	------	2,220	------	3,680	------	246	305	------
Total	72,334	82,052	25,030	51,783	162,085	79,075	208,620	72,604	41,658	11,573	11,939	14,768
Mean	2,333	2,735	807	1,670	5,789	2,551	6,954	2,342	1,389	373	387	492
Ac-ft	143,500	162,700	49,650	102,700	321,500	156,800	413,800	144,000	82,630	22,950	23,780	29,290

Calendar year 1954: Max 14,200 Min 97 Mean 1,430 Ac-ft 1,035,000
Water year 1954-55: Max 22,900 Min 170 Mean 2,284 Ac-ft 1,653,000

* Discharge measurement made on this day.

Trinity River at Romayor, Tex.

Location.--Lat 30°25'30", long 94°51'05", near right bank on downstream side of pier of bridge on State Highway 105, 1.9 miles south of Romayor, Liberty County, 2.0 miles downstream from Gulf, Colorado and Santa Fe Railway bridge, 4.1 miles downstream from Big Creek, and at mile 94.

Drainage area.--17,192 sq mi.

Records available.--May 1924 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 35.92 ft above mean sea level, datum of 1929. Prior to September 1943, chain gage at railroad bridge 2.0 miles upstream, all readings were negative (distance below base of rail), datum of gage was 89.49 ft above mean sea level, datum of 1929.

Average discharge.--31 years, 7,334 cfs (5,310,000 acre-ft per year).

Extremes.--Maximum discharge during year, 34,000 cfs Apr. 13 (gage height, 23.15 ft); minimum, 214 cfs Oct. 1.

1924-55: Maximum discharge, 111,000 cfs May 9, 1942 (gage height, 35.8 ft, from floodmarks, present site and datum); minimum observed, 132 cfs Aug. 21, 22, 1925.

Revisions.--Figures of maximum discharge for the water years 1932 and 1935 have been revised to 58,000 cfs Feb. 25, 1932 (gage height, -20.5 ft, observed) and 72,000 cfs May 22, 23, 1935 (gage height, -19.05 ft, observed), superseding figures published in WSP 733 and 788, respectively.

Remarks.--Records good. Some regulation by reservoirs above Dallas. Records of chemical analyses and water temperatures for water year 1955 are published in WSP 1402.

Revisions.--WSP 1148: Drainage area. Revised figures of discharge, in cubic feet per second, for the water years 1932 and 1935, superseding those published in WSP 733 and 788, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1932		1932-Con.		1932-Con.		1935		1935-Con.	
Jan. 9	33,500	Jan. 28	50,100	Mar. 3	45,500	May 6	47,000	May 28	56,000
10	35,000	29	52,000	4	47,800	7	61,000	29	53,000
13	35,100	30	51,000	5	48,600	8	64,000	30	50,500
14	36,500	31	46,600	6	49,800	9	62,000	31	49,500
15	37,700	Feb. 1	42,400	7	51,000	10	60,000	June 1	51,000
16	37,700	2	37,700	8	52,000	11	56,000	2	55,000
17	38,000	21	37,000	9	53,000	12	47,800	3	55,500
18	38,500	22	44,000	10	54,000	19	47,800	4	55,500
19	42,000	23	52,000	11	53,000	20	59,000	5	55,000
20	43,000	24	57,000	12	52,000	21	68,500	6	55,000
21	42,400	25	58,000	13	50,100	22	71,500	7	54,000
22	42,000	26	57,000	14	46,600	23	72,000	8	54,000
23	41,600	27	54,000	15	44,500	24	68,500	9	53,000
24	42,400	28	51,000	16	41,600	25	66,500	10	51,000
25	43,000	29	47,800	17	38,000	26	63,000	11	49,000
26	45,600	Mar. 1	45,500	18	35,600	27	60,500		
27	48,600	2	44,500						

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
January 1932	-	52,000	2,210	33,840	2,081,000
February	-	58,000	25,200	37,720	2,170,000
March	-	54,000	3,490	32,820	2,020,000
Water year 1931-32	-	58,000	-	11,780	8,550,000
Calendar year 1932	-	58,000	525	11,350	8,241,000
May 1935	1,522,300	72,000	18,400	49,110	3,019,000
June	973,930	55,500	7,360	32,460	1,932,000
Water year 1934-35	4,036,165	72,000	257	11,060	8,005,000
Calendar year 1935	4,499,415	72,000	755	12,330	8,924,000

Trinity River at Romayor, Tex.--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	230	9,240	975	1,090	1,450	3,370	3,370	3,040	4,600	1,210	366	461
2	266	7,580	a940	1,030	1,360	2,720	2,720	2,240	3,730	950	335	429
3	266	5,500	a900	975	1,240	2,320	2,240	1,820	2,720	800	349	417
4	274	3,820	a880	900	1,510	2,030	1,960	1,450	2,100	725	342	377
5	290	2,880	a860	850	10,200	1,820	1,820	1,180	1,680	655	321	335
6	318	2,320	a840	825	24,900	1,610	1,610	1,000	1,420	725	338	324
7	310	2,030	a820	800	29,800	1,480	*1,580	900	1,210	678	346	520
8	314	1,960	a800	800	*26,200	1,390	1,480	800	1,060	549	425	1,180
9	676	2,960	a790	825	22,200	1,300	1,480	*725	975	481	565	1,120
10	1,060	*3,910	a780	875	17,100	1,240	11,300	655	*1,120	445	565	850
11	1,170	4,100	a780	925	11,800	1,180	32,400	610	1,270	413	469	655
12	1,100	3,820	a780	950	8,400	1,120	29,800	622	1,390	394	380	537
13	910	3,200	a780	*900	6,620	1,060	32,400	588	1,240	374	366	655
14	688	2,560	931	975	5,300	1,030	31,800	525	1,090	391	366	*565
15	520	5,050	2,030	1,060	4,100	1,000	25,300	489	975	*384	370	433
16	410	11,800	2,320	1,240	3,200	975	19,800	473	850	366	429	388
17	342	8,400	2,320	1,610	2,640	950	14,800	725	900	413	425	346
18	306	5,300	2,030	2,030	2,240	925	11,800	1,890	1,060	388	*405	321
19	*282	3,730	1,720	5,310	2,030	925	10,600	1,330	950	377	493	300
20	266	3,200	*1,510	7,100	1,890	925	9,940	1,460	750	363	725	294
21	246	3,200	1,360	6,620	1,820	1,960	8,680	4,000	622	380	750	321
22	266	3,280	1,240	5,900	2,320	*2,800	6,860	3,910	553	388	655	388
23	375	3,120	1,120	5,300	4,600	3,200	5,200	4,000	919	370	565	405
24	682	2,880	1,030	4,700	6,140	2,720	4,300	4,700	2,240	398	529	425
25	1,120	2,480	950	4,000	6,980	2,880	3,550	5,600	3,120	477	513	445
26	4,600	1,960	900	3,370	6,740	5,800	3,040	7,220	3,550	610	477	425
27	6,500	1,580	900	*2,800	5,700	8,260	2,720	8,540	3,460	610	557	425
28	8,540	1,330	1,060	2,320	4,400	9,520	2,480	8,120	2,880	565	549	465
29	8,960	1,180	1,210	2,030	-	9,520	3,200	6,860	2,170	517	497	525
30	9,800	1,060	1,120	1,750	-	7,840	3,820	5,400	1,580	461	433	622
31	10,100	------	1,060	1,580	------	5,300	------	4,900	------	409	421	------
Total	61,187	115,430	35,736	71,440	222,880	89,170	292,050	85,772	52,184	16,266	14,326	14,953
Mean	1,974	3,848	1,153	2,305	7,960	2,876	9,735	2,767	1,739	525	462	498
Ac-ft	121,400	229,000	70,880	141,700	442,100	176,900	579,300	170,100	103,500	32,260	28,420	29,660

Calendar year 1954: Max 17,100 Min 164 Mean 1,755 Ac-ft 1,270,000
Water year 1954-55: Max 32,400 Min 230 Mean 2,935 Ac-ft 2,125,000

* Discharge measurement made on this day.
a No gage-height record; discharge computed on basis of weather records and records for station at Riverside.

Trinity River at Liberty, Tex.

Location.--Lat 30°03'25", long 94°49'05", near center of channel on upstream side of bridge on U. S. Highway 90, in Liberty, Liberty County, 450 ft downstream from Texas and New Orleans Railroad bridge, and at mile 40.

Drainage area.--17,539 sq mi.

Records available.--October 1938 to September 1940 (gage heights, discharge measurements and some records of daily discharge), October 1940 to September 1955 (high-water records only). Gage-height records collected in this vicinity since 1903 are contained in reports of U. S. Weather Bureau.

Gage.--Wire-weight gage read once daily. Datum of gage is 2.22 ft below mean sea level, datum of 1929. Prior to June 24, 1942, staff gage at same site and datum.

Extremes.--Maximum discharge during year, 32,800 cfs Apr. 15 (gage height, 26.85 ft); minimum not determined (affected by tides); minimum gage height observed, 3.8 ft Oct. 20, 22.

1938-55: Maximum discharge, 114,000 cfs May 12, 1942 (gage height, 29.38 ft); minimum not determined (affected by tides); minimum gage height observed, 2.5 ft Nov. 4, 1939.

Maximum stage known since at least 1903, that of May 12, 1942. Flood of May 8-11, 1922, reached a stage of 28.6 ft, present datum, from observation by U. S. Weather Bureau at chain gage on railroad bridge upstream.

Remarks.--Records fair. Discharge not computed below gage height 10 ft because tides affect the stage-discharge relation. Some regulation by reservoirs above Dallas.

Cooperation.--Gage-height record furnished by U. S. Weather Bureau.

Revision.--WSP 1148: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	9,500		-	-	5,130	6,160	3,940	5,200			
2	-	*9,000		-	-	3,940	4,220	-	4,780			
3	-	7,610		-	-	-	-	-	4,010			
4	-	5,920		-	-	-	-	-	-			
5	-	4,290		-	4,280	-	-	-	-			
6	-	-		-	13,900	-	-	-	-			
7	-	-		-	23,700	-	-	-	-			
8	-	-		-	27,000	-	-	-	-			
9	-	-		-	26,500	-	-	-	-			
10	-	-		-	24,200	-	-	-	-			
11	-	4,150		-	20,100	-	16,600	-	-			
12	-	4,290		-	15,800	-	26,000	-	-			
13	-	4,080		-	12,500	-	28,600	-	-			
14	-	-		-	9,700	-	*31,200	-	-			
15	-	-		-	7,520	-	32,800	-	-			
16	-	6,870		-	5,920	-	31,200	-	-			
17	-	10,400		-	4,360	-	26,400	-	-			
18	-	8,300		-	-	-	20,600	-	-			
19	-	5,760		-	-	-	16,600	-	-			
20	-	4,220		5,600	-	-	14,200	-	-			
21	-	-		7,250	-	-	12,600	-	-			
22	-	-		6,980	-	-	10,500	-	-			
23	-	-		6,400	-	-	8,400	3,940	-			
24	-	-		5,760	4,920	-	6,480	4,150	-			
25	-	-		5,060	6,560	-	4,990	4,780	-			
26	-	-		4,360	7,340	-	3,940	5,840	-			
27	4,220	-		-	7,340	5,920	-	7,250	-			
28	6,400	-		-	6,400	8,100	-	8,300	-			
29	8,100	-		-	-	9,400	-	8,100	-			
30	8,600	-		-	------	9,500	-	6,890	-			
31	9,300	-----		-	-----	8,200	-----	5,760	------			------

Calendar year 1954: Max 16,300 Min - Mean - Ac-ft -
Water year 1954-55: Max 32,000 Min - Mean - Ac-ft -

* Discharge measurement made on this day.

West Fork San Jacinto River near Conroe, Tex.

Location.--Lat 30°15', long 95°28', near right bank at downstream side of pier of bridge on U. S. Highway 75, 285 ft upstream from International-Great Northern Railroad bridge, 3½ miles downstream from Lake Creek, and 4¼ miles south of Conroe, Montgomery County.

Drainage area.--832 sq mi.

Records available.--May 1924 to September 1927, July 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 100.06 ft above mean sea level, datum of 1929, supplementary adjustments of 1936 and 1943. May 7, 1924, to Sept. 30, 1927, inverted staff gage (zero at base of rail) at railroad bridge 285 ft downstream at datum 25.10 ft higher.

Average discharge.--19 years (1924-27, 1939-55), 558 cfs (404,000 acre ft per year).

Extremes.--Maximum discharge during year, 11,700 cfs Feb. 7 (gage height, 15.90 ft); minimum, 8.4 cfs Oct. 15-19.

1924-27, 1939-55: Maximum discharge, 110,000 cfs Nov. 25, 1940 (gage height, 25.85 ft), from rating curve extended above 43,000 cfs on basis of velocity-area studies; minimum, 5.2 cfs Sept. 9, 1952.

Maximum stage known since at least December 1913, that of Nov. 25, 1940. Flood in December 1913 reached a stage of 25.2 ft, present site and datum, from information by International-Great Northern Railroad (discharge, 101,000 cfs, from rating curve extended as indicated above).

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

Revisions (water years).--WSP 1058: 1926.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

10.0	3,800	23.0	17,700
15.0	7,700	25.0	23,100
20.0	13,200	27.0	34,600

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	55	40	114	86	127	60	44	28	a16	22	21
2	12	45	38	92	82	122	61	43	85	a16	21	18
3	11	39	36	85	77	118	61	40	83	a17	23	16
4	11	43	35	81	155	104	62	38	55	a19	26	18
5	12	53	34	76	1,570	100	*64	31	41	a21	25	22
6	12	39	31	78	4,500	95	61	28	34	a21	24	21
7	11	35	31	73	10,100	90	58	28	*30	a20	23	19
8	11	32	31	68	10,100	84	56	27	27	a19	22	18
9	11	35	29	68	*5,750	80	60	27	24	a18	24	17
10	11	31	*28	82	2,830	*78	131	*26	27	a18	42	15
11	11	*29	29	82	1,250	75	262	28	27	a17	40	15
12	11	26	186	*74	499	73	365	31	26	a17	35	15
13	10	23	96	69	322	72	1,040	30	25	17	38	15
14	*9.7	25	70	66	248	72	1,540	29	23	*25	37	17
15	9.2	128	95	85	200	70	1,820	28	22	22	32	*22
16	8.8	564	83	122	179	69	1,330	28	24	20	*86	25
17	8.8	810	70	145	158	66	790	29	24	20	158	29
18	9.2	1,370	68	480	145	65	343	29	23	21	157	23
19	9.2	1,540	56	935	143	63	187	63	22	21	113	19
20	9.2	747	47	750	163	63	141	568	21	23	80	16
21	9.2	220	43	970	210	69	113	285	25	22	56	17
22	58	130	39	1,110	252	76	100	107	22	20	43	17
23	112	96	36	630	239	92	85	82	21	18	32	18
24	1,680	78	33	292	210	89	80	81	21	37	28	19
25	601	68	31	187	190	85	66	63	20	35	24	18
26	160	59	39	154	185	78	60	49	a20	30	21	16
27	89	53	412	133	163	73	55	39	a19	28	20	16
28	175	50	234	127	145	68	61	37	a18	26	30	16
29	177	45	136	115	-	64	62	35	a17	24	45	a16
30	104	42	101	101	------	62	48	33	a16	23	30	a16
31	70	------	95	92	------	60	------	30	------	22	26	------
Total	3,445.3	6,510	2,332	7,536	40,151	2,502	9,222	2,036	870	673	1,383	550
Mean	111	217	75.2	243	1,434	80.7	307	65.7	29.0	21.7	44.6	18.3
Cfsm	0.133	0.261	0.090	0.292	1.72	0.097	0.369	0.079	0.035	0.026	0.054	0.022
In.	0.15	0.29	0.10	0.34	1.79	0.11	0.41	0.09	0.04	0.03	0.06	0.02
Ac-ft	6,830	12,910	4,630	14,950	79,640	4,960	18,290	4,040	1,730	1,330	2,740	1,090

Calendar year 1954: Max 1,680 Min 7.5 Mean 105 Cfsm 0.126 In. 1.70 Ac-ft 75,900
Water year 1954-55: Max 10,100 Min 8.8 Mean 212 Cfsm 0.255 In. 3.43 Ac-ft 153,100

Peak discharge (base, 4,300 cfs).--Feb. 7 (7 p.m.) 11,700 cfs (15.90 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

Spring Creek near Spring, Tex.

Location.--Lat 30°06'35", long 95°26'10", near left bank on downstream side of pier of bridge on U. S. Highway 75, 4,500 ft upstream from International-Great Northern Railroad bridge, 2.4 miles northwest of Spring, Harris County, and 4 miles downstream from Willow Creek.

Drainage area.--400 sq mi.

Records available.--April 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 78.10 ft above mean sea level, datum of 1929. Prior to Jan. 5, 1946, wire-weight gage at present site and datum.

Average discharge.--16 years, 239 cfs (173,000 acre ft per year).

Extremes.--Maximum discharge during year, 3,570 cfs Feb. 8 (gage height, 16.06 ft); minimum, 4.3 cfs Oct. 17.
1939-55: Maximum discharge, 42,700 cfs Nov. 25, 1940 (gage height, 28.60 ft, from graph based on gage readings); minimum, that of Oct. 17, 1954.
Maximum stage known since about 1879, 29.3 ft May 30, 1929, from floodmarks identified by local residents (discharge, 48,300 cfs).

Remarks.--Records good except those for periods of no gage-height record, which are fair.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.2	3.0	3.0	154
.4	7.8	4.0	243
.6	14	6.0	472
.8	22	9.0	970
1.0	30	12.0	1,700
1.5	54	14.0	2,400
2.0	82	16.0	3,500

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	a20	10	a50	23	a50	25	18	12	11	7.8	23
2	7.0	a16	10	a45	22	a45	24	17	12	9.2	7.8	22
3	6.5	a14	10	a40	22	a45	23	17	11	9.0	7.8	18
4	5.5	a16	10	a35	48	a40	22	16	11	9.2	8.4	15
5	5.5	a18	9.8	a30	274	a40	*22	16	11	13	7.8	11
6	5.5	a16	9.5	a28	1,100	a40	22	16	12	13	7.8	9.2
7	5.5	a14	9.5	a26	2,440	a35	22	16	*12	9.8	7.3	8.4
8	5.2	a12	9.8	a24	*3,320	a35	20	15	11	8.1	6.0	7.8
9	5.0	a14	9.5	a22	1,520	a35	22	15	11	7.8	6.2	7.5
10	5.0	a12	*9.5	a20	366	*34	28	15	14	7.8	7.0	7.0
11	5.0	*11	9.8	a22	166	34	57	*16	13	7.3	11	6.8
12	5.5	9.8	11	*25	126	33	154	16	12	6.8	7.8	6.5
13	5.2	9.5	43	29	102	32	102	17	13	*7.3	14	6.5
14	*5.2	10	62	25	88	31	138	19	12	9.2	18	6.8
15	4.5	17	41	23	79	30	130	22	12	11	9.8	*24
16	4.5	132	a50	25	75	30	69	19	11	14	*9.0	27
17	4.5	215	a40	38	70	29	47	18	10	10	14	71
18	4.5	82	a30	135	66	28	37	17	9.8	9.8	13	36
19	4.5	44	a25	283	63	27	31	35	9.5	9.2	13	15
20	4.5	29	a20	360	61	25	28	73	12	8.1	14	11
21	4.5	22	a18	168	a70	25	27	95	16	7.8	16	11
22	38	18	a16	82	a80	24	25	48	13	11	13	18
23	248	16	a14	60	a70	25	23	27	16	12	17	11
24	283	14	a12	48	a60	25	22	21	14	9.5	16	11
25	273	13	a10	39	a55	24	21	17	20	9.2	12	9.8
26	348	12	a30	33	a55	23	20	16	13	9.0	10	16
27	136	11	a180	41	a50	22	20	14	10	8.7	9.2	15
28	82	11	a140	46	a50	24	19	14	9.2	15	20	19
29	46	10	a110	30	-	26	18	14	9.2	10	16	11
30	29	10	a80	26	------	24	18	13	9.5	9.5	20	8.7
31	a25	-----	a60	25	-----	22	-----	12	------	7.8	30	------
Total	1,618.4	848.3	1,099.4	1,883	10,521	962	1,236	704	361.2	300.1	376.7	470.0
Mean	52.2	28.3	35.5	60.7	376	31.0	41.2	22.7	12.0	9.68	12.2	15.7
Cfsm	0.130	0.071	0.089	0.152	0.940	0.078	0.103	0.057	0.030	0.024	0.030	0.039
In.	0.15	0.08	0.10	0.18	0.98	0.09	0.11	0.07	0.03	0.03	0.04	0.04
Ac-ft	3,210	1,680	2,180	3,730	20,870	1,910	2,450	1,400	716	595	747	932

Calendar year 1954: Max 838 Min 4.5 Mean 38.9 Cfsm 0.097 In. 1.33 Ac-ft 28,140
Water year 1954-55: Max 3,320 Min 4.5 Mean 55.8 Cfsm 0.140 In. 1.90 Ac-ft 40,420

Peak discharge (base, 1,600 cfs).--Feb. 8 (10 a.m.) 3,570 cfs (16.06 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations.

Cypress Creek near Westfield, Tex.

Location.--Lat 30°02'08", long 95°25'43", near left bank at downstream side of pile bent of bridge on U. S. Highway 75, 0.9 mile upstream from Senger Gully, 1.8 miles northwest of Westfield, Harris County, 2.0 miles upstream from International-Great Northern Railroad bridge, and 11.0 miles upstream from mouth.

Drainage area.--262 sq mi.

Records available.--July 1944 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 63.89 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Prior to Mar. 17, 1951, at upstream side of bridge at datum 12.00 ft higher.

Average discharge.--11 years, 162 cfs (117,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,800 cfs Feb. 6 (gage height, 16.00 ft); no flow at times.

1944-55: Maximum discharge, 22,100 cfs Oct. 8, 1949 (gage height, 33.44 ft, present datum), from rating curve extended above 11,000 cfs by logarithmic plotting; no flow at times.

Maximum stage known since about 1875, 34 ft (present datum) in May 1929, from information by local resident. Flood of November 1940 reached a stage of about 32.2 ft (present datum), from information by State Highway Department.

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

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 6-17, Jan. 26 to Feb. 3, Mar. 10 to Apr. 9, Apr. 17 to May 18, May 27 to June 9, June 14-21)

Oct. 1 to Feb. 7				Feb. 8 to Sept. 30			
5.1	0	6.4	42	4.8	0	6.0	30
5.3	0.1	7.0	104	4.9	0.1	6.5	64
5.4	0.5	8.0	262	5.0	0.4	7.0	114
5.5	1.4	9.0	476	5.1	1.3	8.0	252
5.6	3.1	10.0	720	5.2	2.8	10.0	692
5.8	8.6	12.0	1,300	5.4	7.1	11.0	980
6.0	17	16.0	2,800	5.7	16		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	6.1	0.2	53	2.4	6	3.1	0	1.3	30	5.2	25
2	1.1	4.5	.2	48	1.7	5	1.3	0	1.3	3.9	4.8	20
3	.7	3.5	.1	32	1.3	5	.5	0	.4	1.3	5.0	18
4	.6	6.3	.1	23	155	4	.4	0	.2	22	2.8	15
5	17	5.5	.1	15	1,170	4	**.4	0	.1	11	4.3	10
6	6.1	2.7	0	14	2,520	3	.3	0	.3	4.8	2.9	8
7	2.0	5.0	0	10	1,600	3	.4	0	**.2	1.4	6.4	6
8	1.3	4.0	0	8.9	*920	2	.3	0	.3	.7	5.4	4
9	.9	1.9	0	8.3	589	2	.4	0	1.1	.4	4.1	3
10	.5	1.0	*0	11	333	*1.5	3.7	0	21	.5	3.5	2
11	.5	*.7	0	12	169	1.3	9.0	*0	24	.6	9.0	2
12	.6	1.7	.2	*10	85	1.1	24	.1	14	*.7	8.2	2
13	.4	1.3	.2	7.2	57	1.0	26	0	6.6	1.2	12	2
14	**.2	1.4	.1	5.0	45	.8	35	.3	2.8	83	68	2
15	.1	24	0	5.2	35	.7	27	.4	1.0	85	*70	7.6
16	.1	84	0	6.3	30	.7	11	.4	.6	35	41	*61
17	.1	68	0	6.3	25	.6	5.2	1.1	.4	18	34	18
18	.1	44	0	320	22	.6	2.6	13	.2	9.8	26	12
19	.1	26	0	421	20	.6	1.1	42	.1	7.1	125	7.1
20	.1	10	0	207	24	.6	.6	44	.5	6.6	60	4.1
21	.1	4.7	0	120	22	.7	.4	15	1.1	5.4	53	9.0
22	277	1.7	0	82	18	.4	.3	6.6	16	9.0	51	35
23	805	.7	0	48	14	.3	.4	3.9	43	7.1	37	20
24	344	1.6	0	26	12	.3	.2	3.5	15	9.5	31	95
25	170	1.3	0	16	10	.2	.1	5.2	9.2	6.4	24	35
26	79	.8	.1	11	8	.2	0	5.0	6.1	8.4	21	17
27	51	.7	290	14	7	.2	0	1.5	3.5	7.4	16	12
28	32	.6	421	10	6	.2	0	.7	1.7	7.1	21	23
29	20	.4	242	10	-	.2	.1	.9	.9	9.0	40	9.0
30	12	.2	127	5.8	------	.2	.1	.4	9.1	9.0	35	4.8
31	8.6	-----	76	3.5	------	.2	------	.2	------	8.2	30	------
Total	1,831.6	314.3	1,157.3	1,569.5	7,901.4	46.6	153.9	144.2	182.0	409.5	856.6	488.6
Mean	59.1	10.5	37.3	50.6	282	1.50	5.13	4.65	6.07	13.2	27.6	16.3
Cfsm	0.226	0.040	0.142	0.193	1.08	0.0057	0.020	0.018	0.023	0.050	0.105	0.062
In.	0.26	0.04	0.16	0.22	1.12	0.007	0.02	0.02	0.03	0.06	0.12	0.07
Ac-ft	3,630	623	2,300	3,110	15,670	92	305	286	361	812	1,700	969

Calendar year 1954: Max 7,760 Min 0 Mean 50.9 Cfsm 0.194 In. 2.62 Ac-ft 36,860
Water year 1954-55: Max 2,520 Min 0 Mean 41.2 Cfsm 0.157 In. 2.13 Ac-ft 29,860

Peak discharge (base, 1,000 cfs).--Oct. 22 (11:30 p.m.) 1,300 cfs (12.04 ft), Feb. 6 (12 m.) 2,800 cfs (16.00 ft).

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

** Field estimate made on this day.

Note.--No gage-height record Feb. 14 to Mar. 9, July 10, 11, and Aug. 29 to Sept. 14; discharge estimated on basis of engineer's notes, weather records, and records for nearby stations.

East Fork San Jacinto River near Cleveland, Tex.

Location.--Lat 30°20', long 95°07', near left bank at downstream side of pile bent of new bridge on State Highway 105, 1,880 ft downstream from Gulf, Colorado and Santa Fe Railway bridge, 1¼ miles west of Cleveland, Liberty County, and 4.3 miles downstream from Winters Creek. Prior to Sept. 13, 1955, at site 1,800 ft upstream.

Drainage area.--330 sq mi.

Records available.--April 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 107.98 ft above mean sea level, datum of 1929, supplementary adjustment of 1936. Prior to Sept. 13, 1955, water-stage recorder at site 1,800 ft upstream at datum 5.00 ft higher.

Average discharge.--16 years, 248 cfs (179,500 acre-ft per year).

Extremes.--Maximum discharge during year, 6,200 cfs Feb. 7 (gage height, 12.00 ft); minimum daily, 5.5 cfs Oct. 20, 21.

1939-55: Maximum discharge, 77,500 cfs Nov. 24, 1940 (gage height, 20.37 ft, site and datum then in use), from rating curve extended above 14,000 cfs by logarithmic plotting; minimum daily, 4.2 cfs Oct. 22, 1952.

Maximum stage known since at least 1900, that of Nov. 24, 1940. Flood of May 5, 1935, reached a stage of 19.9 ft, former site and datum, from information by local residents (discharge, 69,500 cfs, from rating curve mentioned above).

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

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Sept. 12				Sept. 13-30	
0.1	4.8	2.0	338	3.7	9.2
.2	11	3.0	580	3.8	13
.3	20	5.0	1,100	3.9	18
.5	41	7.0	1,750	4.0	23
.7	69	9.0	2,640	4.1	28
1.0	124	11.0	4,420	4.2	35
1.5	226	12.0	6,200		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	20	a17	46	a50	a61	33	a40	16	9.4	8.1	12
2	20	16	a16	50	a46	a56	41	a34	16	10	8.8	12
3	20	16	a16	46	a45	a52	40	a30	16	12	35	12
4	18	17	a16	38	a70	a49	40	a28	15	13	26	12
5	17	24	a16	33	a900	a47	41	a26	15	14	17	11
6	20	22	a16	32	a3,000	a45	*38	a24	14	11	13	10
7	18	16	a16	30	a5,800	a43	34	a23	14	12	9.4	10
8	14	16	a16	28	a4,400	42	31	a22	*16	11	8.1	a10
9	12	15	a16	28	*2,140	*44	a40	*22	25	10	10	a10
10	11	*14	16	31	641	44	a200	22	27	9.4	20	a10
11	9.4	14	16	38	244	42	a300	22	28	8.8	22	a16
12	9.4	14	22	*38	160	41	a400	23	27	8.8	13	a21
13	9.4	14	41	33	122	40	a800	26	19	10	8.8	20
14	9.4	16	50	31	100	39	a600	25	16	*12	11	*15
15	*7.4	24	*48	33	90	39	a400	24	15	11	19	13
16	6.8	207	32	63	81	38	a200	25	14	11	15	13
17	6.1	505	28	99	83	36	a130	30	14	11	*9.4	13
18	6.1	281	26	237	91	35	a100	34	14	9.4	8.8	12
19	6.1	83	24	580	86	35	a75	103	13	9.4	8.8	11
20	5.5	49	22	605	90	35	a60	228	12	11	8.1	11
21	5.5	35	21	480	90	35	a54	188	11	14	8.1	11
22	20	30	20	194	114	78	a49	76	11	13	8.1	10
23	49	26	20	110	146	76	a44	57	10	15	8.1	15
24	259	22	20	79	142	51	a40	38	11	17	8.8	32
25	283	21	20	62	102	44	a37	28	13	14	8.8	28
26	68	20	20	a54	83	38	a35	22	11	11	8.8	23
27	36	19	26	a52	a74	34	a33	20	10	10	9.4	16
28	28	a18	126	a58	a67	32	a33	18	10	9.4	10	14
29	26	a18	239	a64	-	32	a39	17	9.4	9.4	11	14
30	22	a17	92	a60	------	31	a42	16	9.4	9.4	11	13
31	19	-----	51	a54	-----	31	-----	16	------	8.8	11	------
Total	1,055.1	1,609	1,125	3,386	19,057	1,345	4,009	1,307	451.8	345.2	382.4	430
Mean	34.0	53.6	36.3	109	681	43.4	134	42.2	15.1	11.1	12.3	14.3
Cfsm	0.103	0.162	0.110	0.330	2.06	0.132	0.406	0.128	0.046	0.034	0.037	0.043
In.	0.12	0.18	0.13	0.38	2.15	0.15	0.45	0.15	0.05	0.04	0.04	0.05
Ac-ft	2,090	3,190	2,230	6,720	37,800	2,670	7,950	2,590	896	685	758	853

Calendar year 1954: Max 783 Min 5.5 Mean 49.2 Cfsm 0.149 In. 2.02 Ac-ft 35,590
Water year 1954-55: Max 5,800 Min 5.5 Mean 94.5 Cfsm 0.286 In. 3.89 Ac-ft 68,430

Peak discharge (base, 2,500 cfs).--Feb. 7 (time unknown) 6,200 cfs (12.00 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, floodmarks near gage, recorded range in stage, and records for nearby stations.

Peach Creek at Splendora, Tex.

Location.--Lat 30°14', long 95°10', at right bank on downstream side of pile bent of bridge on county road between Splendora and Conroe, about 1,500 ft west of depot at Splendora, Montgomery County, 2.5 miles upstream from Texas and New Orleans Railroad bridge, 2.5 miles upstream from bridge on U. S. Highway 59, and 9.7 miles upstream from Caney Creek.

Drainage area.--120 sq mi.

Records available.--December 1943 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 86.61 ft above mean sea level, datum of 1929, Galveston-Houston supplementary adjustment of 1936.

Average discharge.--11 years (1944-55), 82.5 cfs (59,730 acre-ft per year).

Extremes.--Maximum discharge during year, 940 cfs Feb. 7 (gage height, 7.90 ft); minimum, 5.3 cfs Oct. 19-21.

1943-55: Maximum discharge, 28,500 cfs Oct. 8, 1949 (gage height, 17.73 ft), from rating curve extended above 8,000 cfs on basis of slope-area determination of peak flow; minimum daily, 4.6 cfs Sept. 17, 24-26, 1954.

Maximum stage known since about 1895, that of Oct. 8, 1949. Flood in November 1940 reached a stage of 17.3 ft (adjusted to present site and datum), from information by local residents.

Remarks.--Records good. Small diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 9 to Mar. 5, Aug. 29 to Sept. 30)

0.5	4.2	3.0	87
.6	5.6	4.0	148
.8	9.0	5.0	235
1.0	13	6.0	368
1.5	25	7.0	608
2.0	42	8.0	985
2.5	63		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	16	13	24	22	36	18	13	11	6.4	7.7	14
2	10	15	13	27	22	34	18	11	10	6.6	7.4	8.5
3	8.8	14	13	28	21	33	20	11	9.7	6.6	7.6	12
4	8.5	15	14	24	43	32	22	11	9.4	6.4	8.1	10
5	8.5	15	14	22	335	31	18	10	9.4	6.7	9.7	9.0
6	7.9	19	14	21	761	29	*18	10	9.4	7.6	12	8.6
7	7.9	18	14	21	840	28	17	9.9	9.4	12	11	8.3
8	8.1	16	14	21	373	26	17	9.9	*14	10	9.2	8.3
9	7.6	14	13	21	174	*25	19	9.9	20	7.7	9.5	8.3
10	7.2	14	13	21	*102	25	32	*9.2	22	7.0	14	8.3
11	6.9	*13	13	22	82	24	94	9.4	16	7.0	11	8.3
12	6.9	13	15	24	70	24	105	9.4	16	7.0	13	8.1
13	6.7	13	18	*22	60	23	114	9.9	14	7.0	11	10
14	6.6	14	32	20	56	22	156	13	10	*8.5	10	13
15	*5.9	15	*25	20	54	22	82	11	9.0	9.0	10	*13
16	5.6	22	19	23	52	22	43	9.9	8.5	8.3	9.5	11
17	5.6	40	16	35	49	20	32	11	8.1	8.5	*8.6	14
18	5.6	26	15	52	47	20	29	11	8.1	8.1	8.1	13
19	5.5	18	14	70	45	20	26	18	7.9	7.9	7.9	12
20	5.3	16	14	63	47	20	24	102	7.7	8.1	9.7	10
21	5.5	15	13	48	52	20	22	61	7.6	7.7	9.2	9.5
22	31	14	13	38	52	19	21	32	7.6	8.3	9.4	10
23	118	14	13	35	54	20	20	30	7.7	13	9.0	18
24	148	14	13	30	48	20	18	16	8.1	14	8.5	18
25	262	13	13	26	42	19	17	13	8.3	18	7.9	19
26	162	13	13	24	40	17	16	13	7.7	13	7.2	21
27	48	13	14	23	38	17	15	13	7.2	9.7	7.2	17
28	30	13	24	26	38	16	14	12	6.9	9.2	14	13
29	24	13	56	31	-	16	13	12	6.6	8.6	19	12
30	20	13	42	27	------	16	13	11	6.4	8.3	16	11
31	17	-----	32	24	------	17	-----	11	------	8.3	14	------
Total	1,011.6	481	562	913	3,619	713	1,073	523.5	303.7	274.5	316.4	356.2
Mean	32.6	16.0	18.1	29.5	129	23.0	35.8	16.9	10.1	8.85	10.2	11.9
Cfsm	0.272	0.133	0.151	0.246	1.07	0.192	0.298	0.141	0.084	0.074	0.085	0.099
In.	0.31	0.15	0.17	0.28	1.12	0.22	0.33	0.16	0.09	0.09	0.10	0.11
Ac-ft	2,010	954	1,110	1,810	7,180	1,410	2,130	1,040	602	544	628	707

Calendar year 1954: Max 566 Min 4.6 Mean 22.1 Cfsm 0.184 In. 2.49 Ac-ft 15,980
Water year 1954-55: Max 840 Min 5.3 Mean 27.8 Cfsm 0.232 In. 3.13 Ac-ft 20,120

Peak discharge (base, 900 cfs).--Feb. 7 (5 a.m.) 940 cfs (7.90 ft).
* Discharge measurement made on this day.

Caney Creek near Splendora, Tex.

Location.--Lat 30°16', long 95°18', near right bank at downstream side of pile bent of county road bridge, 4 miles downstream from Gulf, Colorado and Santa Fe Railway bridge, and 8 miles west of Splendora, Montgomery County.

Drainage area.--104 sq mi.

Records available.--January 1944 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 123.44 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Average discharge.--11 years, 72.8 cfs (52,710 acre-ft per year).

Extremes.--Maximum discharge during year, 1,720 cfs Feb. 7 (gage height, 10.52 ft); minimum, 6.4 cfs Oct. 15-18.

1944-55: Maximum discharge, 14,900 cfs Apr. 1, 1945 (gage height, 18.19 ft), from rating curve extended above 6,000 cfs by logarithmic plotting; minimum, that of Oct. 15-18, 1954.

Maximum stage known since about 1885, 22.0 ft in November 1940, present site and datum, from information by local resident. Flood in May 1935 reached a stage of 19.3 ft, present site and datum, from information by local resident.

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

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.1	13	15	25	19	30	18	14	13	12	9.4	13
2	9.1	13	15	23	19	29	21	14	12	12	9.4	10
3	8.5	13	15	20	19	27	20	13	12	11	9.6	9.4
4	8.5	14	15	19	58	26	18	13	12	11	9.6	9.1
5	8.5	17	15	18	541	25	18	13	12	12	10	8.9
6	8.5	14	15	18	1,140	25	*17	13	12	12	9.8	8.9
7	8.3	13	15	18	1,070	22	16	12	12	13	9.8	9.1
8	7.8	13	15	17	142	22	16	12	*16	13	9.6	9.1
9	7.6	12	15	17	84	*22	17	12	16	13	9.6	8.9
10	7.5	12	15	18	*66	22	35	*12	16	12	9.3	8.5
11	7.5	*12	14	21	55	22	100	12	16	12	9.3	10
12	7.6	12	22	19	46	21	64	14	14	12	9.3	11
13	7.3	12	69	*17	44	21	365	14	13	13	9.3	9.4
14	7.3	13	33	17	42	20	139	12	12	*50	9.3	9.3
15	*6.6	183	*21	18	41	20	49	12	12	15	9.1	*16
16	6.4	237	17	28	38	20	34	12	13	13	9.1	14
17	6.4	38	16	54	38	19	28	20	14	12	*8.9	14
18	6.5	25	15	91	36	19	25	18	13	12	8.9	12
19	6.6	21	15	374	36	19	23	60	12	11	9.3	11
20	6.8	19	14	73	36	19	22	96	12	11	10	11
21	6.8	17	14	42	40	21	21	61	13	13	11	12
22	15	17	15	38	55	21	19	27	14	13	9.8	14
23	57	16	15	31	56	20	18	20	13	12	9.1	15
24	308	16	15	27	40	19	17	18	13	14	8.9	15
25	118	16	15	23	35	18	17	16	13	12	8.5	16
26	39	16	15	22	33	17	16	15	13	11	8.2	15
27	22	15	40	22	32	17	15	14	12	11	8.2	13
28	18	15	68	26	31	17	15	14	12	10	13	13
29	15	15	35	23	-	17	15	14	12	10	13	14
30	14	15	24	20	------	17	15	14	12	10	13	13
31	13	-----	22	20	-----	17	-----	13	------	10	15	------
Total	778.2	864	664	1,199	3,892	651	1,213	624	391	408	306.3	352.6
Mean	25.1	28.8	21.4	38.7	139	21.0	40.4	20.1	13.0	13.2	9.88	11.8
Cfsm	0.241	0.277	0.206	0.372	1.34	0.202	0.388	0.193	0.125	0.127	0.095	0.113
In.	0.28	0.31	0.24	0.43	1.39	0.23	0.43	0.22	0.14	0.15	0.11	0.13
Ac-ft	1,540	1,710	1,320	2,380	7,720	1,290	2,410	1,240	776	809	608	699

Calendar year 1954: Max 511 Min 6.4 Mean 23.3 Cfsm 0.224 In. 3.04 Ac-ft 16,860
Water year 1954-55: Max 1,140 Min 6.4 Mean 31.1 Cfsm 0.299 In. 4.06 Ac-ft 22,500

Peak discharge (base, 1,300 cfs).--Feb. 7 (4:30 a.m.) 1,720 cfs (10.52 ft).
* Discharge measurement made on this day.

Lake Houston near Sheldon, Tex.

Location.--Lat 29°54'55", long 95°08'30", at intake structure on San Jacinto River near right bank 100 ft upstream from Lake Houston Dam, 4.0 miles north of Sheldon, Harris County, 4.6 miles upstream from bridge on U. S. Highway 90, and 18 miles northeast of Houston. Upper gage (prior to October 1954, published as West Fork San Jacinto River near Humble), lat 30°01'35", long 95°15'30", at bridge on U. S. Highway 59, about half a mile downstream from Spring Creek, 2½ miles north of Humble, and 16 miles upstream from dam.

Drainage area.--2,811 sq mi at dam; 1,811 sq mi at upper gage.

Records available.--April 1954 to September 1955.

Gage.--Water-stage recorders. Datum of gage at dam is at mean sea level, datum of 1929, Galveston-Houston supplementary adjustment of 1936 (levels by U. S. Coast and Geodetic Survey in 1954 found 0.6 ft subsidence at dam, unadjusted). Prior to Aug. 3, 1954, staff gage read once daily. Datum of upper gage is 30.53 ft above mean sea level, datum of 1929.

Extremes.--1954: Maximum elevation at dam during period April to September 45.0 ft Aug. 3 (contents, 164,500 acre-ft); minimum elevation after first appreciable storage, 25.1 ft July 28 (contents, 14,510 acre-ft).
1954-55: Maximum elevation at dam during water year, 46.1 ft Feb. 8 (contents, 179,200 acre-ft); minimum, 42.6 ft Oct. 22 (contents, 135,800 acre-ft). Maximum elevation at upper gage, 46.8 ft Feb. 8; minimum, 42.0 ft Oct. 22.

Remarks.--Lake is formed by compacted earth-fill embankment sections 4,000 and 4,600 ft long. Spillway is a slab-and-buttress (Ambursen type) structure 3,160 ft long, located near center of dam. Dam completed and storage began Apr. 9, 1954. Total capacity, 158,200 acre-ft (elevation, 44.5 ft, top of spillway). Usable capacity, 150,000 acre-ft, between elevations 44.5 and 22.0 ft (bottom of 36-inch sluice gate). Water used for municipal supply for city of Houston, for industries in ship-channel area, and for irrigation.

Cooperation.--Skeleton capacity table and elevations Apr. 9 to Aug. 3, 1954, furnished by city of Houston.

Capacity table, Apr. 9, 1954, to Sept. 30, 1955 (elevation, in feet, and contents, in acre-feet)

25.0	14,200	40.0	108,500
30.0	34,000	45.0	164,500
35.0	65,700	50.0	239,600

Contents, in acre-feet, at 12 p.m. April to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	8,060	23,530	18,700	162,000	149,600
2							-	8,630	23,530	18,700	163,200	148,500
3							-	9,660	23,530	18,350	164,500	148,500
4							-	10,580	23,530	18,350	163,200	147,300
5							-	11,270	23,140	18,000	162,000	147,300
6							-	11,770	22,750	18,000	160,800	147,300
7							-	12,310	22,360	17,650	159,500	146,100
8							-	12,310	22,360	17,650	159,500	146,100
9							e400	12,580	21,970	17,650	159,500	146,100
10							e500	12,850	21,580	17,300	158,200	146,100
11							e700	12,850	21,580	16,990	157,000	146,100
12							900	13,120	21,190	16,680	155,800	144,900
13							1,110	13,390	21,190	16,370	154,500	144,900
14							1,350	13,930	20,800	15,750	154,500	143,700
15							2,120	15,440	20,800	15,750	153,200	143,700
16							2,940	17,300	20,450	15,750	153,200	142,600
17							3,740	19,750	20,100	15,750	153,200	142,600
18							4,400	20,800	20,100	15,750	152,000	142,600
19							5,310	21,190	20,100	15,750	152,000	142,600
20							5,700	21,190	20,100	15,750	152,000	141,400
21							6,340	21,190	20,100	15,750	150,800	141,400
22							6,500	21,190	20,450	15,440	150,800	141,400
23							6,660	21,190	20,100	15,440	150,800	140,200
24							6,820	21,190	20,100	15,440	150,800	140,200
25							6,820	21,970	19,750	15,440	150,800	139,100
26							6,820	23,140	19,750	14,820	149,600	139,100
27							6,820	23,530	19,400	14,820	149,600	139,100
28							6,980	23,530	19,400	14,510	149,600	138,000
29							6,980	23,530	19,050	22,360	149,600	139,100
30					-------		7,300	23,530	18,700	44,120	149,600	139,100
31		-------			-------		-------	23,530	-------	114,600	149,600	-------

e Contents estimated

Lake Houston near Sheldon, Tex.--Continued

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	139,100	157,000	158,200	158,200	159,500	160,800	152,000	159,500	157,000	147,300	140,200	143,700
2	139,100	158,200	157,000	158,200	159,500	160,800	152,000	158,200	157,000	146,100	140,200	143,700
3	139,100	158,200	157,000	159,500	159,500	160,800	152,000	158,200	157,000	147,300	140,200	143,700
4	139,100	158,200	157,000	159,500	162,000	160,800	152,000	158,200	157,000	147,300	140,200	143,700
5	139,100	158,200	157,000	158,200	169,800	159,500	152,000	158,200	155,800	146,100	140,200	143,700
6	139,100	158,200	155,800	157,000	175,100	159,500	153,200	157,000	155,800	146,100	140,200	143,700
7	140,200	158,200	155,800	157,000	179,200	159,500	153,200	157,000	155,800	146,100	140,200	143,700
8	140,200	157,000	155,800	159,500	179,200	159,500	152,000	157,000	155,800	146,100	139,100	143,700
9	140,200	157,000	155,800	159,500	176,500	159,500	153,200	157,000	154,500	144,900	141,400	142,600
10	140,200	157,000	154,500	158,200	171,200	159,500	154,500	155,800	154,500	144,900	141,400	143,700
11	140,200	157,000	154,500	158,200	164,500	159,500	155,800	155,800	154,500	143,700	141,400	143,700
12	140,200	157,000	154,500	158,200	163,200	159,500	158,200	155,800	153,200	143,700	141,400	143,700
13	140,200	157,000	153,200	158,200	162,000	159,500	160,800	155,800	153,200	144,900	142,600	142,600
14	140,200	157,000	154,500	158,200	162,000	159,500	163,200	155,800	153,200	144,900	142,600	142,600
15	139,100	157,000	154,500	158,200	160,800	159,500	163,200	154,500	153,200	144,900	142,600	142,600
16	138,000	157,000	154,500	158,200	160,800	159,500	163,200	155,800	152,000	144,900	141,400	142,600
17	138,000	159,500	153,200	159,500	160,800	159,500	163,200	155,800	152,000	143,700	141,400	142,600
18	138,000	159,500	152,000	162,000	160,800	159,500	162,000	155,800	150,800	143,700	141,400	142,600
19	136,900	159,500	152,000	163,200	160,800	159,500	160,800	157,000	150,800	143,700	142,600	142,600
20	136,900	160,800	152,000	163,200	159,500	159,500	160,800	157,000	150,800	143,700	142,600	142,600
21	136,900	160,800	152,000	163,200	158,200	157,000	160,800	158,200	150,800	142,600	142,600	142,600
22	138,000	159,500	152,000	162,000	158,200	155,800	159,500	159,500	150,800	142,600	142,600	142,600
23	140,200	159,500	152,000	162,000	159,500	155,800	159,500	159,500	149,600	142,600	141,400	142,600
24	143,700	159,500	152,000	162,000	159,500	155,800	159,500	159,500	149,600	142,600	141,400	142,600
25	153,200	158,200	152,000	160,800	159,500	155,800	159,500	159,500	149,600	142,600	141,400	142,600
26	155,800	158,200	152,000	160,800	160,800	152,000	159,500	158,200	148,500	142,600	140,200	142,600
27	157,000	158,200	152,000	159,500	160,800	152,000	159,500	158,200	148,500	141,400	140,200	142,600
28	157,000	158,200	155,800	159,500	160,800	152,000	159,500	159,500	147,300	141,400	142,600	141,400
29	157,000	158,200	155,800	159,500	-	152,000	159,500	159,500	147,300	141,400	142,600	141,400
30	157,000	158,200	155,800	159,500	-------	150,800	159,500	158,200	147,300	140,200	143,700	141,400
31	157,000	-------	157,000	159,500	-------	152,000	-------	158,200	-------	140,200	143,700	-------

Monthly elevation, contents, and diversions, April 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions (acre-feet)‡
Apr. 30, 1954	22.0	7,300	-	2,910
May 31	27.7	23,530	+16,230	5,550
June 30	26.4	18,700	-4,830	7,660
July 31	40.6	114,600	+95,900	5,740
Aug. 31	43.8	149,600	+35,000	6,160
Sept.30	42.9	139,100	-10,500	7,610
The period 1954	-	-	+139,100	35,630
Oct. 31	44.4	157,000	+17,900	6,010
Nov. 30	44.5	158,200	+1,200	5,380
Dec. 31	44.4	157,000	-1,200	5,630
Calendar year 1954	-	-	-	-
Jan. 31, 1955	44.6	159,500	+2,500	6,660
Feb. 28	44.7	160,800	+1,300	5,910
Mar. 31	44.0	152,000	-8,800	6,790
Apr. 30	44.6	159,500	+7,500	6,940
May 31	44.5	158,200	-1,300	9,400
June 30	43.6	147,300	-10,900	10,780
July 31	43.0	140,200	-7,100	10,600
Aug. 31	43.3	143,700	+3,500	8,250
Sept.30	43.1	141,400	-2,300	6,760
Water year 1954-55	-	-	+2,300	89,050

† Elevations at 12 p.m.

‡ Diversions by city of Houston and San Jancinto River Authority for municipal, industrial, and irrigation use; data on other diversions during irrigation season not available.

Barker Reservoir near Addicks, Tex.

Location.--Lat 29°46'05", long 95°38'45", at dam on Buffalo Bayou 45 ft upstream from reservoir outlet works, 1,160 ft upstream from Addicks-Howell county road, 1.1 miles south of Addicks, Harris County, and 1.2 miles upstream from South Mayde Creek. Upper gage, lat 29°43'10", long 95°44'00", on Buffalo Bayou, 2.8 miles west of Clodine, Fort Bend County, 4.8 miles (2.7 miles by reservoir) upstream from Mason Creek, 9.0 miles (6.4 miles by reservoir) upstream from reservoir outlet works.

Drainage area.--150 sq mi at outlet works; 105 sq mi at upper gage.

Records available.--August 1945 to September 1955.

Gages.--Water-stage recorders. Datum of both gages is 0.33 ft below mean sea level, datum of 1929, Galveston-Houston supplementary adjustment and Houston supplementary adjustment of 1943.

Extremes.--Maximum gage height at dam during year, 83.7 ft Feb. 8 (contents, 419 acre-ft); maximum at upper gage, 97.0 ft Feb. 6, 7.

1945-55: Maximum gage height at dam, 90.4 ft Aug. 30, 1945 (contents, 11,240 acre-ft); maximum at upper gage, 98.6 ft Aug. 28, 1945.

Maximum stage known near site of upper gage prior to construction of reservoir, 91.1 ft in December 1935, from floodmark about 1,100 ft to right of and 1,100 ft downstream from upper gage.

Remarks.--Reservoir is formed by rolled-fill earthen-type dam 72,844 ft long. Dam completed Feb. 3, 1946, but was first used for flood control in spring of 1945. Reservoir is operated for flood protection of city of Houston. It is a detention reservoir, with no provision for permanent storage. Outlet works consist of 5 concrete conduits, 2 of which are uncontrolled. The middle conduit is controlled by 2 vertical-lift steel gates; the 2 outer conduits are controlled by single vertical-lift steel gates. All gates remain closed except during recession of large floods or during emergencies. Capacity, 127,900 acre-ft between gage heights 75.0 ft (bottom of conduits) and 101.9 ft (top of design flood pool). No constructed emergency spillways; runoff considerably in excess of designed capacity will be discharged around ends of dam. Gage heights and contents not published for floods that do not produce a gage height of 82.0 ft (top of outlet structure) or higher at dam.

Cooperation.--Capacity table and gage-height record at dam furnished by Corps of Engineers.

Gage heights and contents at indicated time when flood runoff was partly stored in reservoir during February 1955

Date	Time	Gage height at upper gage (feet)	Gage height at dam (feet)	Contents (acre-feet)
Feb. 3	12 p.m.	91.1	75.3	3
4	2 p.m.	91.1	75.3	3
	4 p.m.	91.6	76.5	10
	6 p.m.	92.1	76.5	10
	12 p.m.	93.4	76.2	7
5	6 a.m.	95.1	76.4	9
	12 m.	95.7	77.0	14
	6 p.m.	96.0	77.7	21
	12 p.m.	96.2	78.3	28
6	6 a.m.	96.5	78.8	35
	12 m.	96.8	79.0	38
	6 p.m.	96.9	79.3	43
	12 p.m.	97.0	79.6	48
7	6 a.m.	96.9	80.1	57
	12 m.	96.9	81.0	79
	6 p.m.	96.9	81.9	122
	12 p.m.	96.8	82.7	205
8	6 a.m.	96.8	83.3	321
	12 m.	96.7	83.6	393
	12 p.m.	96.6	83.7	419
9	12 m.	96.5	83.3	321
	12 p.m.	96.4	82.6	190
10	12 m.	96.4	82.0	129
	12 p.m.	96.3	81.3	90
11	12 m.	96.2	80.7	71
	12 p.m.	96.1	80.2	59
12	12 m.	96.0	79.8	52
	12 p.m.	95.6	79.4	45
13	12 m.	94.6	78.9	37
	12 p.m.	93.9	78.2	27
14	6 a.m.	93.7	77.7	21
	12 m.	93.5	77.2	16
	12 p.m.	93.3	76.6	10
15	12 m.	93.0	76.4	9
	12 p.m.	92.9	76.2	7
16	12 m.	92.7	76.0	6
	12 p.m.	92.6	76.1	7

Addicks Reservoir near Addicks, Tex.

Location.--Lat 29°47'30", long 95°37'25", at dam on South Mayde Creek, 65 ft upstream from reservoir outlet works, 2,700 ft upstream from U. S. Highway 90, 1.2 miles east of Addicks, Harris County, and 1.4 miles upstream from mouth. Supplementary gages: lat 29°48'05", long 95°41'30", on South Mayde Creek at Groeschke Road Bridge, 3.2 miles west of Addicks, 4.6 miles (3.5 miles by reservoir) upstream from Langham Creek, and 5.5 miles (4.2 miles by reservoir) upstream from reservoir outlet works; lat 29°50'10", long 95°37'35", on Langham Creek at Clay Road Bridge, 3.6 miles north of Addicks, 4.4 miles (2.7 miles by reservoir) upstream from mouth, and 5.3 miles (3.1 miles by reservoir) upstream from reservoir outlet works.

Drainage area.--129 sq mi at outlet works; 30 sq mi at gage on South Mayde Creek; and 49 sq mi at gage on Langham Creek.

Records available.--June 1948 to September 1955.

Gages.--Water-stage recorders. Datum of all gages is at mean sea level, datum of 1929, Galveston-Houston supplementary adjustment and the Houston supplementary adjustment of 1943.

Extremes.--Maximum elevation at dam during year, 83.4 ft Feb. 7 (contents, 116 acre-ft); maximum at gage on South Mayde Creek, 106.2 ft Feb. 6; maximum at gage on Langham Creek, 100.9 ft Feb. 6.

1948-55: Maximum elevation at dam, 94.3 ft July 31, 1954; maximum at gage on South Mayde Creek, 107.1 ft July 30, 1954; maximum at gage on Langham Creek, 102.8 ft July 30 or 31, 1954.

Maximum stage known, 89.9 ft in December 1935 at bridge on U. S. Highway 90, 2,700 ft downstream from outlet works, from information by Corps of Engineers. This flood, from floodmarks, from information by local residents, reached a stage of 109.3 ft, 0.2 mile downstream, and 0.1 mile to right of gage on South Mayde Creek; and a stage of 104.5 ft, 1,900 ft to left and 700 ft upstream from gage on Langham Creek.

Remarks.--Reservoir is formed by rolled-fill earthen-type dam 61,166 ft long. Dam completed in fall of 1948. Reservoir is operated for flood protection of city of Houston. It is a detention reservoir with no provision for permanent storage. Outlet works consist of 5 concrete conduits, 2 of which are uncontrolled. The middle conduit is controlled by 2 vertical lift gates; the 2 outer conduits are controlled by single vertical lift steel gates. All gates will remain closed except during recession of large floods or during emergencies. Capacity, 188,030 acre-ft between elevations 73.0 ft (bottom of conduits) and 113.0 ft (top of design flood pool). No constructed emergency spillways; runoff considerably in excess of designed capacity will be discharged around ends of dam. Elevation and contents not published for floods that do not produce an elevation of 79.0 ft (top of outlet structure) or higher at dam.

Cooperation.--Capacity table and elevation record at dam furnished by Corps of Engineers.

Elevation and contents, at indicated time when flood runoff was partly stored in reservoir, during period in February 1955

Date	Time	Elevation on South Mayde Creek (feet)	Elevation on Langham Creek (feet)	Elevation at dam (feet)	Contents (acre-feet)
Feb. 3	12 p.m.	96.7	91.9	73.5	0
4	2 p.m.	96.7	92.5	73.8	1
	3 p.m.	96.8	94.2	75.7	6
	12 p.m.	102.9	99.3	76.8	12
5	6 a.m.	103.6	99.7	77.8	20
	12 m.	103.4	99.7	78.4	26
	12 p.m.	105.7	100.4	78.5	27
6	12 m.	106.2	100.9	78.6	28
	2 p.m.	106.1	100.9	78.8	30
	3 p.m.	106.1	100.9	82.2	86
	6 p.m.	105.9	100.8	82.7	98
	12 p.m.	105.6	100.6	83.3	113
7	8 a.m.	104.9	100.4	83.4	116
	12 m.	104.7	100.3	83.2	110
	6 p.m.	104.0	100.1	82.8	100
	12 p.m.	102.9	99.9	82.3	88
8	6 a.m.	102.0	99.5	80.8	59
	12 m.	101.2	98.8	79.7	42
	6 p.m.	100.5	98.0	78.9	32
	12 p.m.	100.0	97.3	78.3	25
9	12 m.	99.2	96.1	76.8	12
	12 p.m.	98.6	95.4	76.0	7

Buffalo Bayou near Addicks, Tex.

Location.--Lat 29°45'44", long 95°36'21", near right bank at downstream side of pile bent of bridge on Dairy-Ashford road over rectified channel, 1.8 miles downstream from South Mayde Creek, 2.6 miles southeast of Addicks, Harris County, 3.0 miles downstream from outlet works of Addicks Reservoir, and 3.2 miles downstream from outlet works of Barker Reservoir.

Drainage area.--310 sq mi.

Records available.--August 1945 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 0.31 ft below mean sea level, datum of 1929, Galveston-Houston supplementary adjustment of 1943. Prior to Feb. 2, 1948, water-stage recorder at bridge on natural channel 1,200 ft to right at same datum. Feb. 2 to May 21, 1948, staff gage at present site and datum.

Average discharge.--10 years, 172 cfs (124,500 acre-ft per year).

Extremes.--Maximum discharge during year, 2,550 cfs Feb. 7 (gage height, 60.70 ft); minimum daily, 0.1 cfs Dec. 10, 11.

1945-55: Maximum discharge, 11,200 cfs Aug. 29, 1945 (gage height, 81.23 ft); no flow at times.

Maximum stage known since 1896, 85.6 ft in December 1935, present datum (adjusted to former site from floodmark half a mile downstream, on basis of slope of flood of Aug. 29, 1945), from information by local resident.

Remarks.--Records good. Flood flow regulated by Barker and Addicks Reservoirs (see p. 113, 114). Extreme low flow sustained by drainage from irrigated lands.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 31 to Sept. 4)

49.0	0.1	50.5	69
49.1	0.6	51.0	121
49.2	1.7	52.0	267
49.3	3.3	54.0	670
49.4	5.5	56.0	1,160
49.5	8.3	59.0	2,020
49.7	16	61.0	2,640
50.0	32		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*25	13	*2.4	132	5.5	a5.5	*1.8	a0.3	*16	*7.1	28	227
2	30	10	1.8	96	*4.1	a4.7	2.2	*.3	8.3	4.8	23	*157
3	28	*12	1.6	75	3.7	*4.3	2.2	*.5	4.1	3.5	*42	101
4	26	14	1.0	*53	64	4.1	2.0	2.9	1.8	20	74	73
5	28	24	.8	39	885	4.1	1.8	2.6	1.1	23	66	65
6	33	18	.6	35	1,980	3.7	1.7	2.0	3.7	9.7	48	59
7	32	11	.4	23	2,460	a10	1.4	1.8	2.9	6.3	42	61
8	30	9.4	.4	17	2,340	a8	1.1	.9	4.2	9.0	31	54
9	29	7.4	.2	20	1,730	a5	1.2	.6	19	8.3	39	50
10	26	5.0	.1	39	1,160	a4	12	1.3	70	5.8	48	39
11	25	3.5	.1	33	790	a3	11	2.1	64	7.7	49	29
12	23	2.6	.3	29	582	a2	5.5	2.9	44	23	58	27
13	22	2.1	.3	25	435	a2	a6.2	11	31	39	94	27
14	20	2.4	.3	17	229	a1	a6.2	8.3	21	72	127	54
15	18	159	.3	17	104	a1	a5.5	11	12	62	125	58
16	13	267	.3	22	69	a1	a4.0	9.0	10	52	131	74
17	8.3	251	.4	26	62	a.9	a2.7	5.3	10	36	114	82
18	6.0	235	.4	367	a43	a.8	a1.9	7.7	9.7	29	101	75
19	4.5	204	.3	626	a32	a.8	a1.5	43	10	35	196	50
20	3.9	136	.4	395	a26	a.7	a1.1	104	11	39	292	40
21	3.3	81	.7	365	a22	a.7	a.9	128	6.5	36	235	100
22	3.9	50	.6	355	a20	a.7	a.7	83	13	33	150	196
23	372	33	.6	219	a19	a.6	a.6	37	15	32	119	132
24	405	23	.5	121	a16	a.6	a.5	23	37	40	93	336
25	243	16	.4	75	a13	a.6	a.5	16	63	54	77	244
26	133	11	1.9	52	a9.0	a.6	a.4	11	36	48	64	109
27	82	8.3	5.5	35	a7.6	a.6	a.4	5.5	18	37	55	88
28	44	5.5	111	20	a6.3	a.6	a.8	3.3	9.0	28	44	137
29	27	3.9	177	13	-	a.5	a.6	21	3.7	26	52	94
30	21	3.5	178	9.4	------	a.5	a.4	36	6.5	31	56	77
31	18	-----	166	8.6	-----	a.5	-----	28	------	25	78	------
Total	1,782.9	1,621.6	654.6	3,359.0	13,117.2	73.1	78.8	609.3	561.5	882.2	2,751	2,915
Mean	57.5	54.1	21.1	108	468	2.36	2.63	19.7	18.7	28.5	88.7	97.2
Cfsm	0.185	0.175	0.068	0.348	1.51	0.0076	0.0085	0.064	0.060	0.092	0.286	0.314
In.	0.21	0.19	0.08	0.40	1.57	0.009	0.009	0.07	0.07	0.11	0.33	0.35
Ac-ft	3,540	3,220	1,300	6,660	26,020	145	156	1,210	1,110	1,750	5,460	5,780

Calendar year 1954: Max 4,300 Min 0.1 Mean 92.7 Cfsm 0.299 In. 4.07 Ac-ft 67,140
Water year 1954-55: Max 2,460 Min 0.1 Mean 77.3 Cfsm 0.249 In. 3.40 Ac-ft 56,350

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, records for stations at Barker and Addicks Reservoirs, and Buffalo Bayou at Houston.

Buffalo Bayou at Houston, Tex.

Location.--Lat 29°45'42", long 95°23'52", near left bank of low water channel at downstream side of pier of Waugh Drive Bridge in Houston, Harris County, 0.41 mile upstream from Texas and New Orleans Railroad bridge, and 3.1 miles upstream from Whiteoak Bayou.

Drainage area.--362 sq mi.

Records available.--May 1936 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4.08 ft below mean sea level, datum of 1929, unadjusted for ground surface subsidence resulting from heavy ground-water withdrawals. Prior to June 19, 1936, reference point on upstream side of bridge at same datum.

Average discharge.--19 years, 260 cfs (188,200 acre-ft per year).

Extremes.--Maximum discharge during year, 2,310 cfs Feb. 8 (gage height, 20.44 ft); minimum daily, 5.1 cfs Dec. 19.

1936-55: Maximum discharge, 10,900 cfs Aug. 30, 1945 (gage height, 34.23 ft); minimum daily, 1.3 cfs May 24, 1939, Nov. 5, 1950.

Maximum stage known since 1835, 54.4 ft Dec. 9, 1935, present site and datum (discharge, 40,000 cfs, furnished by engineer for Harris County). Flood of May 31, 1929, reached a stage of 48.9 ft, present site and datum (discharge, 19,000 cfs at bridge on Capitol Avenue, 2 miles downstream, from rating curve extended above 15,300 cfs, stage-discharge relation materially affected by interference of bridge; furnished by city of Houston).

Remarks.--Records good except those for periods of no gage-height record, which are fair. Flood flow regulated by Barker and Addicks Reservoirs (see p. 113, 114). Extreme low flow sustained by drainage from irrigated lands and by industrial waste water.

Revisions.--WSP 1038: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

7.3	4.8	10.0	167
7.4	7.4	12.0	399
7.7	18	15.0	900
8.0	30	18.0	1,590
8.5	55	21.0	2,520
9.0	87		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*32	24	14	172	*17	a27	39	a6.6	34	*11	29	158
2	31	26	*11	128	14	*22	13	a6.2	*24	14	71	*227
3	32	41	8.0	94	16	a19	10	*5.8	16	73	87	158
4	68	*34	6.9	*73	613	a17	*9.8	5.8	10	18	*65	101
5	46	24	6.4	57	1,490	a15	a9.5	6.9	9.8	39	81	84
6	40	29	6.6	45	2,240	a14	a9.2	9.5	16	34	74	84
7	40	25	6.6	38	2,170	a34	a9.0	6.9	7.1	22	54	65
8	28	20	6.1	29	2,310	a23	a15	6.1	23	14	46	65
9	23	17	6.1	200	2,170	a17	a35	6.1	81	13	311	58
10	18	16	6.1	169	1,670	a15	a70	5.8	176	13	143	51
11	14	13	6.1	59	1,140	a13	a40	28	104	42	70	44
12	12	12	70	38	a900	a12	a30	11	69	82	66	38
13	10	14	7.4	32	a700	a11	a22	7.4	51	80	194	33
14	10	51	5.8	29	a550	12	a15	13	41	68	124	82
15	9.5	78	5.3	70	a450	14	a12	14	32	94	136	80
16	8.0	184	5.3	56	a380	12	a10	35	22	76	124	65
17	6.1	251	5.3	31	a330	9.8	a9	19	18	62	124	72
18	a5.6	239	5.3	546	a280	10	a8	13	16	44	108	76
19	a5.4	227	5.1	515	a240	9.2	a7.8	86	14	110	119	69
20	5.8	190	5.6	605	a180	10	a7.5	75	16	85	185	49
21	6.6	124	*5.8	441	a130	9.5	a7.2	108	27	62	239	78
22	77	75	5.3	386	a100	7.7	a7.0	120	15	62	185	149
23	69	48	5.3	347	a90	8.0	a6.8	77	17	77	128	162
24	371	35	5.6	205	a86	8.0	a6.6	42	23	44	101	132
25	373	27	5.6	116	a80	9.5	a6.6	31	40	46	86	269
26	239	22	47	80	a66	8.6	a6.6	42	64	59	72	183
27	136	16	36	58	a50	7.4	a6.6	23	42	50	66	142
28	80	13	16	41	a34	8.3	a7.6	14	29	43	72	94
29	47	12	112	28	-	9.8	a7.4	18	20	35	190	116
30	31	11	172	22	------	9.8	a7.0	30	15	30	116	86
31	26	-----	233	18	-----	10	-----	39	------	34	95	------
Total	1,900.0	1,898	842.6	4,728	18,496	412.6	450.2	911.1	1,071.9	1,536	3,561	3,070
Mean	61.3	63.3	27.2	153	661	13.3	15.0	29.4	35.7	49.5	115	102
Cfsm	0.169	0.175	0.075	0.423	1.83	0.037	0.041	0.081	0.099	0.137	0.318	0.282
In.	0.20	0.19	0.09	0.49	1.90	0.04	0.05	0.09	0.11	0.16	0.37	0.32
Ac-ft	3,770	3,760	1,670	9,380	36,690	818	893	1,810	2,130	3,050	7,060	6,090

Calendar year 1954: Max 4,000 Min 5.1 Mean 116 Cfsm 0.320 In. 4.37 Ac-ft 84,060
Water year 1954-55: Max 2,310 Min 5.1 Mean 107 Cfsm 0.296 In. 4.01 Ac-ft 77,120

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, engineers' notes, and records for stations near Addicks, Whiteoak, and Brays Bayou at Houston.

Whiteoak Bayou at Houston, Tex.

Location.--Lat 29°46'31", long 95°23'54", near right bank at downstream side of pier of Yale Street Bridge, in Houston, Harris County, 80 ft downstream from Texas and New Orleans Railroad bridge, 2.5 miles upstream from Little Whiteoak Bayou, and 4.1 miles upstream from mouth.

Drainage area.--92.0 sq mi.

Records available.--May 1936 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4.08 ft below mean sea level, datum of 1929, unadjusted for ground surface subsidence resulting from heavy ground-water withdrawals. Prior to June 17, 1936, reference point at same site and datum.

Average discharge.--19 years, 72.3 cfs (52,340 acre-ft per year).

Extremes.--Maximum discharge during year, 1,690 cfs Feb. 6 (gage height, 29.05 ft); minimum, 0.3 cfs Dec. 4.
1936-55: Maximum discharge, 8,600 cfs Nov. 2, 1943 (gage height, 42.45 ft); minimum, 0.1 cfs Aug. 16, Sept. 2, 1951.
Maximum stage known, 51.5 ft Dec. 9, 1935, present site and datum (discharge, 14,750 cfs, furnished by engineer for Harris County). Flood of May 31, 1929, reached a stage of 47.0 ± 0.5 ft, present site and datum (discharge, 9,360 cfs), computed on basis of current-meter measurement at stage 1 ft below crest, made at bridge 1 block downstream from gage, furnished by city of Houston.

Remarks.--Records good.

Revisions.--WSP 1038: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	4.2	1.2	4.4	*2.9	3.9	15	1.0	0.9	6.0	3.6	119
2	4.4	5.6	.9	2.3	2.9	*3.6	5.2	.9	.9	8.6	4.7	*33
3	11	6.5	.6	1.6	3.4	3.6	3.6	1.1	.7	42	12	15
4	46	10	.5	1.6	458	3.6	2.6	1.4	.8	11	21	7.3
5	50	3.4	2.4	3.9	1,290	3.6	2.6	2.2	.9	29	6.0	34
6	14	2.9	1.0	3.4	*1,420	3.1	2.3	2.2	3.6	9.4	4.4	86
7	4.7	2.9	1.7	2.0	625	4.7	2.2	1.6	2.4	4.9	3.9	14
8	11	2.6	1.2	24	266	6.5	2.3	.9	2.6	4.2	4.7	5.2
9	5.6	2.3	1.0	69	82	3.9	4.2	.9	11	3.9	2.9	4.9
10	5.6	2.0	1.2	13	45	3.6	22	.9	51	3.1	17	3.6
11	4.9	2.6	.6	5.2	29	3.6	9.4	8.0	11	6.2	6.5	4.2
12	4.2	2.0	7.3	3.6	16	3.1	8.6	4.4	4.7	45	2.3	4.2
13	2.6	1.6	3.6	2.6	11	3.1	6.5	1.7	a3.2	24	35	2.6
14	*2.3	14	2.3	4.4	8.1	3.1	3.9	1.0	a2.4	24	20	24
15	2.4	57	1.7	26	7.7	3.1	4.2	2.4	a2.0	6.0	6.9	44
16	1.8	11	1.6	6.9	6.5	3.1	2.9	4.9	a1.8	11	4.2	15
17	1.1	7.7	1.2	143	13	2.9	2.9	2.9	a1.6	3.9	1.2	11
18	1.4	5.2	.8	271	10	2.6	2.3	1.8	a1.5	2.6	1.0	9.0
19	1.6	3.6	.6	68	6.9	3.1	2.3	47	a1.5	96	2.2	4.4
20	1.6	2.3	2.3	29	9.0	2.2	2.0	11	a4.0	97	11	1.2
21	1.6	2.3	2.6	21	5.6	2.2	2.0	3.9	a15	17	4.2	22
22	61	1.8	*2.0	13	4.9	1.8	2.2	2.3	a16	*10	6.0	35
23	162	*1.7	2.3	9.4	4.4	2.3	2.2	2.0	a8.0	59	5.2	22
24	95	1.7	2.2	7.3	4.4	*2.0	2.2	1.6	*1.7	24	4.2	20
25	40	1.6	1.6	5.6	4.9	1.7	2.0	1.0	.8	21	2.3	44
26	19	.5	4.9	4.7	4.4	1.1	*1.7	.9	.9	15	7.7	17
27	11	1.2	9.4	4.7	3.9	1.4	1.8	*1.0	.9	8.6	6.0	55
28	9.0	.8	3.4	3.9	3.6	1.4	2.3	.9	.6	5.6	114	*32
29	6.5	.9	2.2	3.4	-	2.2	2.2	2.0	1.1	4.7	55	17
30	4.2	1.6	1.6	2.9	------	2.2	1.4	1.7	5.2	3.6	24	16
31	3.6	-----	9.4	3.1	-----	2.3	-----	1.1	------	1.7	12	------
Total	595.1	163.5	75.3	763.9	4,348.5	90.6	127.0	116.6	158.7	608.0	411.1	721.6
Mean	19.2	5.45	2.43	24.6	155	2.92	4.23	3.76	5.29	19.6	13.3	24.1
Cfsm	0.209	0.059	0.026	0.267	1.68	0.032	0.046	0.041	0.058	0.213	0.145	0.262
In.	0.24	0.07	0.03	0.31	1.76	0.04	0.05	0.05	0.06	0.25	0.17	0.29
Ac-ft	1,180	324	149	1,520	8,630	180	252	231	315	1,210	815	1,430

Calendar year 1954: Max 3,160 Min 0.5 Mean 31.9 Cfsm 0.347 In. 4.72 Ac-ft 23,110
Water year 1954-55: Max 1,420 Min 0.5 Mean 22.4 Cfsm 0.243 In. 3.32 Ac-ft 16,240

Peak discharge (base, 820 cfs).--Feb. 6 (6 a.m.) 1,690 cfs (29.05 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations.

Brays Bayou at Houston, Tex.

Location.--Lat 29°42'08", long 95°24'08", near left bank at downstream side of pile bent of Old Main Street Bridge in southwest section of Houston, Harris County, 0.8 mile upstream from Harris Gully, and 10.8 miles upstream from Buffalo Bayou.

Drainage area.--100 sq mi.

Records available.--May 1936 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 3.90 ft below mean sea level, datum of 1929, unadjusted for ground surface subsidence resulting from heavy ground-water withdrawals. Prior to June 20, 1936, reference point on bridge at present site and datum.

Average discharge.--19 years, 88.3 cfs (63,930 acre-ft per year).

Extremes.--Maximum discharge during year, 3,300 cfs Feb. 4 (gage height, 42.38 ft); minimum daily, 2.6 cfs Jan. 4.

1936-55: Maximum discharge, 8,120 cfs Nov. 2, 1943; maximum gage height, 51.70 ft Aug. 28, 1945; minimum daily discharge, 0.1 cfs Oct. 11, 12, 1937.

Maximum stage known since 1911, 56.0 ft in June 1919, present site and datum, from information by engineer for city of Houston. Flood of May 31, 1929, reached a stage of 50.4 ft, present site and datum (discharge, 11,095 cfs), from current-meter measurement at Lawndale Avenue Bridge, about 12 miles downstream from gage; furnished by city of Houston.

Remarks.--Records good except those for periods of no gage-height record, which are fair. No diversion above station. Low flow partly maintained by sewage effluent from Houston suburbs.

Revisions.--WSP 1038: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.7	7.4	8.0	21	6.9	a6.2	33	8.0	24	16	20	82
2	9.2	7.6	6.6	8.9	6.6	a6.4	9.1	9.1	19	11	98	47
3	6.8	24	6.6	5.0	11	a6.4	6.6	12	18	9.6	148	25
4	7.8	67	6.8	2.6	931	a6.2	7.8	10	19	15	47	18
5	26	12	6.3	14	1,560	a6.0	8.3	8.1	19	17	26	42
6	14	8.5	6.4	8.3	2,000	a5.4	7.4	8.3	29	10	22	28
7	11	6.8	5.8	7.6	*944	*a5.0	6.9	8.1	11	8.7	19	17
8	8.9	8.0	6.9	6.8	294	a20	6.9	8.0	12	9.1	18	16
9	8.3	7.3	6.1	292	136	a9.0	15	9.1	57	9.2	381	16
10	10	7.3	6.4	127	a50	a8.0	89	9.2	158	8.5	119	16
11	12	6.6	7.4	30	a30	a7.0	21	30	a80	39	24	102
12	12	6.4	86	14	a20	a7.0	13	19	a30	43	17	89
13	13	7.4	9.3	11	a15	a7.3	13	12	a12	8.9	44	26
14	*13	66	8.5	8.5	a12	a7.3	9.8	11	a9.0	39	24	48
15	12	53	6.3	116	a10	a7.0	8.3	11	a7.0	28	16	183
16	12	9.8	6.8	84	a9.0	6.9	7.8	23	a7.0	26	14	70
17	7.1	8.1	8.5	28	a25	6.9	7.3	17	a7.0	24	12	33
18	6.9	7.4	7.8	530	a15	7.1	9.6	12	a7.0	28	13	25
19	7.3	6.6	7.8	155	a9.0	6.8	8.0	81	a7.0	70	17	22
20	6.9	6.8	6.0	46	a14	6.8	9.1	108	a7.0	104	22	18
21	6.9	6.9	*4.8	38	a9.0	7.4	8.0	41	a13	44	23	43
22	89	7.4	3.1	20	a7.0	6.4	8.0	13	a30	*31	16	120
23	50	7.4	a8.0	13	a6.0	7.1	6.8	15	*9.2	25	16	55
24	9.4	*7.1	19	11	a6.3	*10	6.8	17	8.3	39	12	28
25	10	a7.0	6.0	9.4	a6.6	8.0	8.1	15	8.3	22	11	21
26	10	a7.2	55	7.8	a6.6	6.0	*8.9	*14	9.8	16	*10	13
27	7.4	a7.6	30	8.3	a6.4	6.4	13	11	9.1	18	10	56
28	6.8	a7.4	15	*7.8	a6.0	6.9	10	9.2	9.6	16	25	*18
29	7.4	a7.2	9.2	7.4	-	7.3	9.6	62	11	19	57	12
30	6.3	a9.0	6.6	7.1	------	7.6	8.0	26	20	30	40	14
31	6.1	-----	85	7.4	-----	7.4	-----	21	------	32	65	------
Total	422.2	408.2	462.0	1,652.9	6,152.4	229.2	384.1	658.1	667.3	816.0	1,386	1,303
Mean	13.6	13.6	14.9	53.3	220	7.39	12.8	21.2	22.2	26.3	44.7	43.4
Cfsm	0.136	0.136	0.149	0.533	2.20	0.074	0.128	0.212	0.222	0.263	0.447	0.434
In.	0.16	0.15	0.17	0.61	2.29	0.09	0.14	0.24	0.25	0.30	0.52	0.48
Ac-ft	837	810	916	3,280	12,200	455	762	1,310	1,320	1,620	2,750	2,580

Calendar year 1954: Max 746 Min 3.1 Mean 24.7 Cfsm 0.247 In. 3.37 Ac-ft 17,890
Water year 1954-55: Max 2,000 Min 2.6 Mean 39.8 Cfsm 0.398 In. 5.40 Ac-ft 28,840

Peak discharge (base, 1,300 cfs).--Feb. 4 (5 p.m.) 3,300 cfs (42.38 ft), Aug. 9 (6 p.m.) 2,030 cfs (39.40 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, 1 discharge measurement, weather records, and records for nearby stations.

Simms Bayou at Houston, Tex.

Location.--Lat 29°40'27", long 95°17'21", on left bank at downstream side of bridge on State Highway 35 in southeast secion of Houston, Harris County, and 5.6 miles upstream from mouth.

Drainage area.--64.0 sq mi.

Records available.--October 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Extremes.--Maximum discharge during year, 2,730 cfs Feb. 6 (gage height, 21.14 ft); minimum daily, 0.9 cfs Aug. 7.
1952-55: Maximum discharge, that of Feb. 6, 1955; minimum daily, that of Aug. 7, 1955.

Remarks.--Records good except those between 20 and 200 cfs, which are fair. Low flow is largely sewage effluent from Houston suburbs and drainage from lands irrigated with ground water. Diversions above station for irrigation.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 4-7, Sept. 26-29)

7.84	0.4	10.0	108
7.9	1.0	11.0	172
8.0	3.0	12.0	267
8.2	10	15.0	706
8.4	21	18.0	1,340
8.7	39	21.0	2,150
9.0	56		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	2.6	4.8	9.6	5.4	7.6	9.2	3.9	4.2	3.0	5.1	26
2	8.8	4.2	4.8	5.1	5.4	7.2	7.6	8.4	4.2	2.8	11	14
3	7.2	3.6	4.8	3.9	6.0	6.0	5.7	2.8	6.0	6.8	36	6.0
4	9.6	18	4.5	3.6	620	5.7	6.8	10	7.6	21	13	3.9
5	56	9.6	4.5	4.8	1,910	6.0	6.8	12	7.6	22	6.4	8.0
6	14	5.4	4.5	5.7	*2,090	5.1	6.0	5.1	10	12	3.0	11
7	6.8	4.2	4.5	4.8	53	*8.8	5.1	3.9	9.2	9.6	.9	6.4
8	6.0	3.6	4.2	4.5	114	12	5.4	3.0	4.2	14	1.5	17
9	5.7	3.6	4.5	159	49	4.5	10	3.3	2.8	11	22	5.4
10	6.0	3.6	4.8	87	32	3.9	40	3.3	20	8.0	38	3.6
11	6.8	3.9	5.4	23	25	3.3	14	12	11	8.4	9.2	29
12	5.7	4.2	6.4	10	20	2.8	70	16	4.8	14	1.5	25
13	5.7	4.2	5.7	6.4	16	2.8	21	10	3.6	19	53	12
14	*5.4	10	4.8	5.1	14	2.8	7.2	5.7	3.0	19	8.4	7.6
15	4.2	27	4.8	95	12	3.0	4.2	5.4	2.8	24	8.4	7.2
16	4.2	7.2	4.8	136	12	3.0	3.6	41	2.8	19	1.0	6.0
17	4.2	5.1	4.5	34	12	3.0	4.2	22	5.7	17	12	12
18	3.6	4.5	3.9	336	11	3.3	3.3	3.6	9.6	19	10	6.0
19	4.2	4.5	4.8	103	10	5.7	2.6	4.8	8.4	20	35	5.4
20	3.9	3.9	4.8	28	12	6.8	2.6	6.4	2.6	*17	12	15
21	2.3	3.9	*4.2	22	11	6.0	2.6	5.7	2.1	9.2	7.2	22
22	39	3.6	4.8	17	10	4.5	2.6	5.7	1.2	7.6	6.0	12
23	55	3.6	4.8	12	8.8	3.0	2.6	5.4	*5.7	8.4	7.6	19
24	14	*4.5	4.8	9.2	8.4	*4.2	2.6	4.8	5.5	9.6	9.2	24
25	7.2	4.2	5.1	7.2	8.0	3.0	2.6	9.2	2.6	1.5	*6.8	12
26	5.7	4.2	5.1	6.8	7.6	2.3	*3.6	*11	2.6	2.6	5.4	8.0
27	4.5	4.5	6.0	6.8	7.6	2.3	3.3	7.2	4.8	4.5	4.2	24
28	4.2	4.5	6.4	*6.0	7.6	2.8	4.2	6.0	2.1	6.8	32	*28
29	3.6	3.9	4.8	5.7	-	3.0	5.4	67	2.3	5.1	8.4	11
30	3.3	4.2	4.8	5.4	------	3.9	4.5	17	3.3	5.1	9.2	6.0
31	3.0	------	9.2	5.4	------	3.0	------	9.2	------	7.2	16	------
Total	323.8	174.0	155.8	1,168.0	5,097.8	141.3	269.3	330.8	162.3	354.2	399.4	392.5
Mean	10.4	5.80	5.03	37.7	182	4.56	8.98	10.7	5.41	11.4	12.9	13.1
Ac-ft	642	345	309	2,320	10,110	280	534	656	322	703	792	779

Calendar year 1954: Max 205 Min 1.2 Mean 11.7 Ac-ft 8,460
Water year 1954-55: Max 2,090 Min 0.9 Mean 24.6 Ac-ft 17,790

Peak discharge (base, 600 cfs).--Feb. 6 (5 a.m.) 2,730 cfs (21.14 ft).
* Discharge measurement made on this day.

Greens Bayou near Houston, Tex.

Location.--Lat 29°55'05", long 95°18'24", on right bank at downstream side of bridge on U. S. Highway 59, 10.5 miles northeast of Houston, Harris County, and 12.0 miles upstream from Halls Bayou.

Drainage area.--67.5 sq mi.

Records available.--October 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Extremes.--Maximum discharge during year, 1,740 cfs Feb. 4 (gage height, 56.94 ft); no flow at times.
1952-55: Maximum discharge, 7,000 cfs July 30, 1954 (gage height, 64.75 ft); no flow at times.

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

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 3 to Sept. 20)

48.1	0	49.5	61
48.2	.2	50.0	109
48.3	1.4	51.0	250
48.4	3.4	52.0	446
48.6	9.2	54.0	926
48.8	17	55.0	1,200
49.0	28		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0		0	0	0.2	1.4	0	0.3	184	4.4	40
2	0	0		0	0	.2	1.7	0	1.2	17	4.7	18
3	0	.1		0	0	.1	1.7	0	.3	11	37	7.6
4	0	.5		0	440	.1	.9	0	.1	3.9	38	4.7
5	0	.1		0	816	.1	.6	0	0	8.1	18	8.2
6	0	0		0	1,160	.1	.3	0	0	23	11	14
7	0	0		0	349	.1	.1	0	0	5.7	7.3	7.6
8	.1	0		0	116	.1	.1	0	0	2.5	3.4	5.5
9	0	0		.5	50	.1	.6	0	0	.9	2.3	3.4
10	0	0		6.6	29	*.1	7.8	0	0	.3	3.4	1.6
11	0	0		1.6	16	.1	5.5	0	0	.6	4.2	.6
12	0	0		.5	8.2	.1	2.3	0	0	12	4.2	3.7
13	0	0		.2	5.0	0	3.4	0	0	.2.5	4.2	5.0
14	0	1.6		.1	3.4	0	1.7	0	0	40	10	6.0
15	0	4.7		.8	2.5	0	1.2	0	0	12	16	30
16	0	3.0		1.1	1.7	0	.9	0	0	11	18	20
17	0	.9		.5	1.4	0	.7	0	0	16	27	7.6
18	0	.6		190	1.1	0	.3	0	0	9.2	21	3.0
19	*0	.6		55	.8	0	.1	10	0	4.2	17	1.1
20	0	.2	(*)	16	.9	0	.1	18	0	*8.0	26	.9
21	0	.1		8.9	.8	0	0	9.2	.8	14	18	.5
22	5.5	0		5.0	.6	*0	0	2.5	.9	5.5	13	.2
23	215	*0		2.3	.4	0	0	2.3	*13	3.9	13	.1
24	38	0		.9	.2	0	0	2.3	14	21	10	1.2
25	16	0		.3	.2	0	0	.6	4.2	20	*7.0	9.6
26	10	0		.1	.2	0	0	*.7	2.1	13	5.0	6.3
27	4.4	0		*.1	.2	0	*0	2.5	2.1	12	2.3	3.2
28	1.6	0		0	.2	0	0	.4	1.4	11	3.7	1.7
29	.6	0		0	-	0	0	.1	.8	9.6	16	*.5
30	.2	0		0	------	0	0	0	.6	8.9	11	.4
31	.1	------		0	------	0	------	0	------	7.0	8.9	------
Total	291.5	12.4	0	290.5	3,003.8	1.4	31.4	48.6	41.8	497.8	385.0	210.2
Mean	9.40	0.41	0	9.37	107	0.05	1.05	1.57	1.39	16.1	12.4	7.01
Ac-ft	578	25	0	576	5,960	2.8	62	96	83	987	764	417

Calendar year 1954: Max 4,670 Min 0 Mean 32.0 Ac-ft 23,150
Water year 1954-55: Max 1,160 Min 0 Mean 13.2 Ac-ft 9,550

Peak discharge (base, 700 cfs).--Feb. 4 (8 p.m.) 1,740 cfs (56.94 ft).
* Discharge measurement or observation of no flow made on this day.

Halls Bayou at Houston, Tex.

Location.--Lat 29°51'42", long 95°20'05", on right bank at downstream side of bridge on U. S. Highway 59 in northeast section of Houston, Harris County, 11.0 miles upstream from mouth.

Drainage area.--26.2 sq mi.

Records available.--October 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Extremes.--Maximum discharge during year, 1,530 cfs Feb. 6 (gage height, 56.62 ft), from rating curve extended as explained below; no flow at times.
1952-55: Maximum discharge, 2,410 cfs May 18, 1953 (gage height, 59.05 ft), from rating curve extended above 400 cfs by logarithmic plotting; no flow at times.

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	0.8	0.2	3.2	0.6	1.0	0.9	0.3	0	0	0.2	120
2	.5	.8	.2	1.0	.5	.9	1.0	.4	0	3.2	1.6	21
3	.3	3.3	.2	.6	.5	1.0	.6	.3	1.3	.4	4.4	5.9
4	1.2	8.9	.2	.4	368	.7	.5	.3	1.4	.2	3.2	2.3
5	1.1	2.2	.2	.5	553	.6	.4	.3	.3	.4	.5	103
6	.3	1.2	.1	1.2	896	.6	.4	.3	.2	10	.5	60
7	1.2	.6	.2	.5	103	.6	.3	.3	.1	2.4	.2	*12
8	1.6	.5	.1	.3	35	.6	.3	.4	0	.7	.2	4.5
9	.5	.5	.2	7.8	21	.2	.7	.5	.1	4.0	.2	2.0
10	.2	.5	.2	24	14	*.2	2.4	.4	4.8	4.2	.2	1.3
11	.1	.4	.2	9.0	8.8	.2	1.8	.6	1.2	4.2	.1	2.1
12	0	.4	3.0	4.4	5.2	.1	1.4	1.6	.1	35	.1	2.9
13	0	.4	.8	2.0	3.4	.1	1.0	1.6	0	99	.1	.9
14	.1	18	.2	1.3	2.7	.1	.8	1.4	0	a114	.1	15
15	0	28	.2	9.6	2.4	.1	.6	.7	0	a15	.1	*7.5
16	0	11	.2	13	4.0	.1	.5	.6	0	a4	.1	1.2
17	0	6.0	.2	5.7	64	.1	.5	.8	0	a3	.2	.9
18	0	2.9	.1	173	16	.2	.5	.5	0	a2	.8	.8
19	*.1	1.4	.1	21	11	.2	.6	13	0	a1.5	4.2	.7
20	.1	.8	*.2	9.2	14	.2	.5	9.9	0	*.9	4.9	1.0
21	.1	.6	.2	8.6	9.6	.2	.5	1.6	0	1.6	4.9	1.0
22	17	.5	.2	5.2	6.6	.3	.5	.4	.1	28	3.1	2.0
23	76	*.3	.2	3.4	4.2	*.3	.5	.2	*13	46	1.4	4.2
24	29	.3	.2	3.4	2.6	.3	.5	.1	2.3	10	1.4	3.8
25	23	.2	.3	4.7	1.8	.3	.4	.1	.3	.7	*.4	2.1
26	14	.2	1.8	3.0	1.8	.3	.4	*0	.1	.5	.2	2.1
27	6.6	.2	3.4	*2.7	1.5	.3	*.3	.2	.1	.3	.2	1.8
28	4.0	.2	1.5	1.8	1.3	.3	.6	0	0	.2	493	2.7
29	2.6	.2	.8	1.2	-	.5	.4	0	0	.1	118	*2.6
30	1.7	.2	.4	.9	------	.6	.4	0	0	.3	35	4.9
31	1.0	-----	4.6	.8	-----	.6	-----	0	------	.2	32	------
Total	183.6	91.5	20.8	323.4	2,152.5	11.8	20.2	36.8	25.4	392.0	711.5	392.2
Mean	5.92	3.05	0.67	10.4	76.9	0.38	0.67	1.19	0.85	12.6	23.0	13.1
Cfsm	0.226	0.117	0.026	0.397	2.94	0.015	0.026	0.045	0.032	0.481	0.879	0.500
In.	0.26	0.13	0.03	0.46	3.06	0.02	0.03	0.05	0.04	0.56	1.01	0.56
Ac-ft	364	181	41	641	4,270	23	40	73	50	778	1,410	778

Calendar year 1954: Max 1,560 Min 0 Mean 10.0 Cfsm 0.382 In. 5.19 Ac-ft 7,240
Water year 1954-55: Max 896 Min 0 Mean 11.9 Cfsm 0.455 In. 6.21 Ac-ft 8,650

Peak discharge (base, 300 cfs).--Jan. 18 (6 a.m.) 430 cfs (51.95 ft); Feb. 6 (6 a.m.) 1,530 cfs (56.62 ft); Aug. 28 (7 a.m.) 1,120 cfs (55.23 ft).

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

a No gage-height record; discharge estimated on basis of weather records and records for station at Greens Bayou near Houston.

Note.--Backwater from construction work Mar. 15 to Apr. 15, June 3, 4.

Clear Creek near Pearland, Tex.

Location.--Lat 29°35'50", long 95°17'12", near left bank at downstream side of pile bent of bridge on State Highway 35, 0.7 mile downstream from Gulf, Colorado and Santa Fe Railway bridge, 1.2 miles upstream from Hickory Slough, 2.3 miles north of Pearland, Brazoria County, and about 30 miles upstream from Clear Lake.

Records available.--July to October 1944, March to October 1946 (low-water records during irrigation season), April 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 29.93 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Prior to June 9, 1948, staff gage and June 9, 1948, to Apr. 22, 1952, water-stage recorder, at same site at datum 5.80 ft higher.

Extremes.--Maximum discharge during year, 1,350 cfs Feb. 6 (gage height, 14.00 ft); no flow at times.

1947-55: Maximum discharge, 1,840 cfs Oct. 8, 1949 (gage height, 18.98 ft, present datum); no flow at times.

Maximum stage known since 1932, that of Oct. 8, 1949.

Revisions.--The maximum discharge for the water year 1947 has been revised to 710 cfs Aug. 25, 1947 (gage height, 10.10 ft), superseding figure published in WSP 1088.

Remarks.--Records good except those for periods of no gage-height record and those below 20 cfs, which are fair. Diversions for irrigation above station. Large area of rice land above station is irrigated with water from Brazos River. Low flow from April to October is largely drainage from irrigated lands.

Note.--Discharges, in cubic feet per second, for some days in water years 1944 and 1946, not previously published because stage exceeded limits of rating, have been computed on basis of later ratings and are given herewith:

1944		1946-Con.	
Sept. 27	233	June 2	428
28	600	9	575
1946		10	512
May 16	470	14	353
19	323	July 2	240
20	559	Sept. 27	299
31	400	28	740
June 1	655	29	540
		30	418

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
September 1944	1,895.8	600	3.7	63.2	3,760
May 1946	4,062.2	559	.3	131	8,060
June	5,215	655	17	174	10,340
July	1,547	290	14	49.9	3,070
September	3,445	740	12	115	6,830

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	a0.5	0	0.1	0.3	0.5	a6.3	0.4	0.5	0.5	1.1	126
2	6.3	a1.3	0	.1	.2	.4	a3.1	.3	.1	.1	.8	83
3	6.9	a.8	0	.1	.2	.3	a1.7	1.0	.1	1.7	1.1	44
4	4.5	a1.1	0	0	**174	.2	*2.7	.3	.9	5.3	2.8	25
5	5.8	a1.2	0	0	711	.2	3.7	**.5	.2	1.4	3.7	16
6	5.6	a1.1	.1	.1	*1,150	.2	2.7	1.0	*.3	1.3	1.1	16
7	*3.5	a.8	0	**.1	498	**.2	2.1	1.5	.7	.4	.5	28
8	2.4	a.7	*0	.1	205	.4	1.3	.5	1.5	*.3	*1.5	*25
9	1.7	*.5	0	13	96	.3	3.3	.1	.7	.1	2.8	23
10	1.3	.3	0	*29	42	.2	9.3	0	4.3	.2	8.8	16
11	1.1	.2	0	11	16	.2	8.6	.8	3.3	.2	7.6	21
12	2.4	.2	.1	5.0	7.4	.2	35	14	.8	.7	15	34
13	2.8	.2	.1	3.3	4.3	.1	52	47	.4	1.6	14	12
14	2.4	.4	.1	1.6	3.5	.1	19	69	.6	2.2	9.6	12
15	.7	2.0	0	5.1	2.7	.1	5.2	79	.2	2.6	3.4	20
16	.5	.6	0	30	2.0	.1	2.2	83	.1	1.6	.4	24
17	.4	.4	0	19	1.7	.1	1.5	80	.3	1.4	2.0	22
18	.4	.3	0	104	1.3	.1	1.1	75	.6	.6	18	15
19	.4	.2	0	65	1.2	.1	.8	83	1.1	.8	71	10
20	.3	.1	0	28	1.1	.1	.8	102	.6	1.4	176	15
21	.4	.1	0	15	1.2	.1	.6	99	2.0	2.0	208	17
22	1.9	0	0	11	1.1	.1	1.1	79	3.0	4.6	200	12
23	9.6	.1	0	5.4	.8	.1	2.0	52	1.7	7.4	184	11
24	7.8	.1	0	2.4	.6	0	1.2	32	.2	2.6	168	21
25	3.5	0	0	3.0	.5	0	.3	19	.1	3.7	156	18
26	2.2	0	0	2.0	.5	0	.5	4.6	.3	4.8	160	8.0
27	1.8	0	.1	1.1	.4	0	.5	3.3	.1	2.1	156	6.3
28	1.6	0	.1	.8	.5	a.1	.1	1.6	.1	.8	233	7.4
29	1.5	0	.1	.6	-	a.5	.1	.8	.1	.2	36	6.0
30	a1.1	0	.1	.4	- --	a.1	.5	.7	.2	1.3	17	4.3
31	a.8	------	.1	.3	------	a3.7	-----	.7	------	3.3	47	------
Total	90.6	13.2	0.9	356.6	2,923.5	8.8	169.3	931.1	25.1	57.2	1,906.2	698.0
Mean	2.92	0.44	0.03	11.5	104	0.28	5.64	30.0	0.84	1.85	61.5	23.3
Ac-ft	180	26	1.8	707	5,800	17	336	1,850	50	113	3,780	1,380

Calendar year 1954: Max 112 Min 0 Mean 8.06 Ac-ft 5,830
Water year 1954-55: Max 1,150 Min 0 Mean 19.7 Ac-ft 14,240

Peak discharge (base, 600 cfs).--Feb. 6 (7 p.m.) 1,350 cfs (14.00 ft).

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

** Field estimate made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for station at Simms Bayou at Houston.

Chocolate Bayou near Alvin, Tex.

Location.--Lat 29°22'19", long 95°19'14", near center of span at downstream side of pile bent of bridge on State Farm Road 1462, 5½ miles southwest of Alvin, Brazoria County, and 6½ miles upstream from State Highway 35.

Records available.--August to October 1944, March to December 1946 (low-water records during irrigation season), January 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 13.31 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Prior to Nov. 26, 1949, staff gage at site 40 ft downstream at same datum. Nov. 26, 1949, to June 11, 1952, staff gage at present site and datum.

Average discharge.--8 years (1947-55), 93.7 cfs (67,840 acre-ft per year).

Extremes.--Maximum discharge during year, 1,860 cfs Feb. 7 (gage height, 15.97 ft); no flow at times.

1947-55: Maximum discharge, 7,400 cfs Oct. 8, 1949 (gage height, 18.80 ft, from floodmark), from rating curve extended above 4,000 cfs by logarithmic plotting; no flow at times in 1950, 1954-55.

Maximum stage known in recent years, 19.9 ft July 14, 1939, present site and datum (adjusted from floodmark 2,600 ft to right and 250 ft downstream from gage, on basis of slope of flood of Oct. 8, 1949), from information by local residents.

Remarks.--Records good. Large area of rice land above station is irrigated with water from Brazos River. Low flow from April to October is largely drainage from the irrigated lands. Diversions for irrigation above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 29 to Jan. 9, Jan. 14, Jan. 29 to Feb. 3, Feb. 24 to Apr. 1, Apr. 7, 8, Aug. 14 to Sept. 30)

0.65	0	3.0	54
.8	.1	4.0	103
.9	.3	5.0	165
1.0	.8	6.0	235
1.2	2.4	8.0	405
1.4	4.6	10.0	610
1.6	7.8	13.0	980
1.8	12	15.0	1,330
2.0	18	16.0	1,900
2.5	34		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	2.4	0	0	3.2	4.0	6.2	21	54	51	106	34
2	16	2.1	1.0	0	3.0	3.5	13	28	42	46	92	48
3	11	2.3	.4	.1	2.3	3.2	17	26	44	36	82	44
4	7.8	2.7	.4	.2	*57	2.8	*13	21	51	41	115	42
5	9.6	5.2	.9	.1	693	2.6	18	*29	45	72	103	44
6	9.6	3.8	.9	.1	1,460	2.3	14	26	*43	63	76	63
7	*8.9	2.6	.7	*0	1,660	2.1	5.6	29	49	49	74	72
8	6.4	1.7	.6	.4	997	2.1	3.9	39	50	*46	65	*65
9	4.1	*1.2	.4	2.0	430	*2.2	10	30	48	39	*58	56
10	3.4	.9	.4	27	132	2.2	76	21	98	43	70	49
11	7.6	.6	.3	24	58	2.0	65	21	172	44	74	50
12	4.2	.5	.4	13	32	1.9	36	88	121	53	76	48
13	2.3	.4	.2	8.2	21	1.6	35	139	89	72	79	79
14	2.0	.3	.2	5.2	17	1.4	23	61	65	61	74	74
15	1.7	.3	.2	10	14	1.4	13	82	55	65	74	106
16	1.3	.4	.1	153	12	1.2	7.1	70	47	76	76	106
17	.9	.4	.1	112	27	1.2	5.2	44	43	61	68	82
18	.6	.3	0	157	20	1.0	5.0	79	53	51	56	76
19	.4	.3	0	228	15	1.2	3.2	186	44	52	61	57
20	.3	.2	0	105	14	1.1	2.7	112	39	89	98	44
21	.3	.1	0	52	14	.8	11	61	45	89	92	31
22	2.3	.1	0	49	13	.8	16	38	46	82	82	28
23	66	.1	0	32	10	.6	15	41	65	92	76	23
24	58	0	0	20	7.3	.6	19	44	63	103	70	18
25	31	0	0	12	5.9	.6	23	38	49	92	65	16
26	19	0	0	8.5	5.0	.6	22	32	43	95	61	10
27	12	0	0	6.2	4.6	.5	20	30	54	86	53	7.3
28	7.4	0	0	4.9	4.4	.4	26	34	53	151	46	4.1
29	4.6	0	0	3.8	-	.4	26	35	51	179	52	3.6
30	3.4	0	0	3.4	------	.7	18	41	58	142	42	3.1
31	2.5	------	0	3.8	------	3.5	------	48	------	118	35	------
Total	323.6	28.9	7.2	1,040.9	5,731.7	50.5	567.9	1,594	1,779	2,339	2,251	1,383.1
Mean	10.4	0.96	0.23	33.6	205	1.63	18.9	51.4	59.3	75.5	72.6	46.1
Ac-ft	642	57	14	2,060	11,370	100	1,130	3,160	3,530	4,640	4,460	2,740

Calendar year 1954: Max 369 Min 0 Mean 40.2 Ac-ft 29,140
Water year 1954-55: Max 1,660 Min 0 Mean 46.8 Ac-ft 33,900

Peak discharge (base, 800 cfs).--Feb. 7 (1 a.m.) 1,860 cfs (15.97 ft).
* Discharge measurement or observation of no flow made on this day.

Oyster Creek near Angleton, Tex.

Location.--Lat 29°09'25", long 95°28'35", near left bank on downstream side of bridge on State Highway 35, 2¾ miles west of Angleton, Brazoria County, 4.0 miles upstream from Missouri Pacific Railroad bridge, 4½ miles downstream from another Missouri Pacific Railroad bridge, and about 45 miles upstream from Gulf of Mexico.

Records available.--October 1944 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1.31 ft below mean sea level, datum of 1929.

Average discharge.--10 years (1945-55), 139 cfs (100,600 acre-ft per year).

Extremes.--Maximum discharge during year, 532 cfs Feb. 7 (gage height, 16.12 ft); minimum daily, 0.3 cfs May 9, 10.

1944-55: Maximum discharge, 2,320 cfs Oct. 12, 1949 (gage height, 28.92 ft); minimum daily, that of May 9, 10, 1955.

Flood in December 1913 reached a stage of about 32 ft, from information by State Highway Department; flood of Dec. 5, 1940, reached a stage of 30.7 ft, from levels to floodmark on bridge to which gage is attached. At extreme high stages the Brazos River overflows into Oyster Creek above this station and there may be some relation between the stage of Brazos River at East Columbia and stage at this station.

Revisions.--The maximum discharge for the water year 1947 has been revised to 1,790 cfs Nov. 7, 1946 (gage height, 26.25 ft), superseding figure published in WSP 1088.

Remarks.--Records good. Diversions above station for irrigation. A large part of the flow is water released from Harris Reservoir (capacity, 12,000 acre-ft), for industrial use below station. Harris Reservoir is supplied with water diverted from the Brazos River during periods of flood flow.

Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water year 1947, superseding those published in WSP 1088, are given herewith:

1946		1946-Con.	
Nov. 5	1,030	Nov. 13	1,350
6	1,620	14	1,130
7	1,780	15	920
8	1,780	16	862
9	1,700	28	1,020
10	1,640	29	1,300
11	1,670	30	1,300
12	1,540		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
November 1946	28,670	1,780	47	956	56,870
Calendar year 1946	111,484	1,780	30	305	221,100
Water year 1946-47	76,448	1,780	16	209	151,600

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	72	70	80	77	98	86	2.7	179	173	4.0	255
2	60	71	70	80	80	92	83	23	179	167	4.3	281
3	61	80	69	80	80	89	80	27	173	161	4.6	222
4	60	86	68	80	*83	86	80	*6.6	167	161	7.8	179
5	62	86	68	80	212	86	77	2.1	161	161	7.4	161
6	63	83	68	*80	420	86	77	.9	173	149	3.7	161
7	63	86	*73	80	524	83	*76	.6	167	134	2.3	173
8	*63	*95	76	80	452	*83	76	.5	167	*131	*1.6	*179
9	62	89	74	86	364	83	86	.3	161	128	.9	173
10	61	83	74	92	301	83	123	.3	167	125	.9	155
11	62	83	74	83	248	80	132	2.5	167	143	1.0	128
12	65	77	77	83	197	80	48	30	161	155	3.0	128
13	73	80	77	80	161	80	20	*14	56	161	3.0	179
14	77	80	76	80	146	80	47	5.8	12	179	1.9	203
15	80	80	76	80	137	80	33	5.2	84	173	2.7	210
16	86	77	76	80	107	80	8.6	5.8	140	167	3.7	216
17	86	73	76	80	98	83	3.4	4.6	152	161	3.4	197
18	86	71	76	80	122	83	3.0	18	161	161	3.0	167
19	86	71	76	89	116	83	2.7	50	167	173	85	95
20	83	71	76	86	110	83	2.3	41	167	185	161	42
21	80	72	77	83	107	83	1.9	20	161	191	185	47
22	104	72	77	76	104	77	1.6	8.6	155	173	185	60
23	110	71	77	76	104	80	4.3	4.6	155	161	185	48
24	104	71	77	77	101	80	8.6	2.5	152	58	179	25
25	95	71	77	77	101	80	5.8	27	152	12	179	7.8
26	89	72	77	77	101	80	4.6	72	152	3.7	173	14
27	89	72	80	80	101	80	3.7	80	152	1.7	167	29
28	89	72	80	77	98	83	4.3	80	152	1.2	167	49
29	86	71	80	77	-	83	7.8	83	155	3.0	173	49
30	86	70	80	77	--	86	5.2	131	167	1.7	179	37
31	77	------	77	77	------	83	------	*161	------	1.4	179	------
Total	2,406	2,308	2,329	2,493	4,852	2,576	1,191.8	910.6	4,514	3,755.7	2,256.2	3,869.8
Mean	77.6	76.9	75.1	80.4	173	83.1	39.7	29.4	150	121	72.8	129
Ac-ft	4,770	4,580	4,620	4,940	9,620	5,110	2,360	1,810	8,950	7,450	4,480	7,680

Calendar year 1954: Max 222 Min 44 Mean 114 Ac-ft 82,340
Water year 1954-55: Max 524 Min 0.3 Mean 91.7 Ac-ft 66,370

Peak discharge (base, 920 cfs).--No peak above base.
* Discharge measurement made on this day.

Double Mountain Fork Brazos River near Aspermont, Tex.

Location.--Lat 33°00', long 100°11', near right bank on downstream side of pier of bridge on U. S. Highway 83, 8 miles downstream from Mountain Creek and 10 miles south of Aspermont, Stonewall County.

Drainage area.--7,980 sq mi, approximately, of which 6,470 sq mi is probably noncontributing.

Records available.--December 1923 to September 1934, June 1939 to September 1955.

Gage.--Water-stage recorder and movable wire-weight gage. Wire-weight gage read once daily. Altitude of gage is 1,628 ft (by barometer). Dec. 3, 1923, to Sept. 30, 1934, chain gage at site 90 ft downstream at same datum.

Average discharge.--26 years (1924-34, 1939-55), 174 cfs (126,000 acre-ft per year).

Extremes.--Maximum discharge during year, 91,400 cfs Sept. 26 (gage height, 27.50 ft); no flow at times.
1923-34, 1939-55: Maximum discharge, that of Sept. 26, 1955; no flow at times. Maximum stage known since at least 1899, that of Sept. 26, 1955; flood of June 1, 1935, reached a stage of 16.8 ft, from information by local residents.

Remarks.--Records fair. No large diversion above station.

Revisions (water years).--WSP 733: 1927(M).

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0	0	0.1	0.3	0.2	0	6.4	0.1	77	122	206	0
2	0	0	.1	.3	.3	0	5.6	.1	753	57	209	0
3	0	0	.1	.3	1.4	0	4.4	.1	1,180	36	117	0
4	0	0	.1	.3	947	0	3.5	.1	497	22	*94	0
5	4.2	0	.1	.4	685	0	3.3	.2	252	12	57	0
6	8.4	0	.1	.2	153	0	85	.1	129	8.4	43	0
7	0	0	.1	.2	60	0	29	.1	94	4.7	70	*0
8	3.1	0	.1	.2	8.4	0	13	.2	248	3.3	37	0
9	35	0	.1	.2	2.3	0	12	457	1,090	1.8	28	0
10	10	0	.1	.3	1.4	0	8.0	51	775	1.3	31	0
11	4.4	0	.1	.2	1.3	0	4.0	*4,500	390	1.2	28	17
12	2.9	0	.1	.2	.8	0	*1.5	1,210	189	1.2	23	13
13	1.5	0	.1	.2	.5	0	.9	509	112	.9	18	13
14	.5	180	.1	.2	.4	0	.6	260	703	*.8	15	4.7
15	*0	414	0	.4	.3	0	.4	124	3,140	.7	12	1.4
16	0	38	*0	.2	.2	0	.3	85	856	.7	10	.4
17	0	*7.6	.1	.2	.1	0	.2	*4,140	500	35	8.8	98
18	0	2.9	.1	*.2	0	0	.2	*11,400	203	3,190	*7.6	134
19	0	.4	.1	.2	0	0	.2	7,980	95	3,110	6.8	27
20	0	.7	.1	.2	0	4,270	.2	2,400	293	11,000	5.6	*16
21	0	.4	.1	**.2	0	2,360	.2	1,860	836	2,340	5.6	78
22	0	.2	.1	.2	0	690	.2	840	566	1,050	4.4	43
23	0	.1	.1	.2	0	298	.2	*11,900	312	752	5.0	23
24	0	.1	.1	.2	*0	132	.2	*3,620	168	535	2.1	43
25	0	.1	.1	.2	0	78	.2	980	96	530	.9	19,400
26	0	.1	.1	.2	0	65	.2	539	57	1,340	.6	*55,600
27	0	.1	.1	.2	0	50	*.1	*264	57	994	.2	*4,180
28	0	.1	.5	.3	0	35	.1	170	*32	1,080	.1	870
29	0	.1	.4	.2	-	20	.2	115	1,440	1,040	.1	466
30	0	.1	.5	.2	- --	*13	.1	98	421	849	0	331
31	0	------	.5	.2	------	9.6	------	82	------	505	0	------
Total	70.0	646.0	4.4	7.2	1,862.6	8,020.6	180.4	53,585.0	15,561	28,604.0	1,045.8	81,358.5
Mean	2.26	21.5	0.14	0.23	66.5	259	6.01	1,729	519	923	33.7	2,712
Ac-ft	139	1,280	8.7	14	3,690	15,910	358	106,300	30,860	56,740	2,070	161,400

Calendar year 1954: Max 18,000 Min 0 Mean 164 Ac-ft 118,500
Water year 1954-55: Max 55,600 Min 0 Mean 523 Ac-ft 378,800

Peak discharge (base, 8,800 cfs).--Mar. 20 (8 p.m.) 10,600 cfs (7.86 ft); May 18 (10:30 p.m.) 28,400 cfs (13.45 ft); May 23 (9 p.m.) 20,500 cfs (11.20 ft); July 20 (3:30 p.m.) 18,800 cfs (10.67 ft); Sept. 26 (12 m.) 91,400 cfs (27.50 ft).

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

** Field estimate made on this day.

Salt Fork Brazos River near Aspermont, Tex.

Location.--Lat 33°20', long 100°14', near left bank on downstream side of pier of bridge on U. S. Highway 83, 5½ miles downstream from Dove Creek and 13.2 miles northwest of Aspermont, Stonewall County.

Drainage area.--4,830 sq mi, approximately, of which 2,770 sq mi is probably noncontributing.

Records available.--December 1923 to August 1925, June 1939 to September 1955.

Gage.--Water-stage recorder and movable wire-weight gage. Wire-weight gage read once daily. Datum of gage is 1,588.70 ft above mean sea level, datum of 1929.. Dec. 5, 1923, to Aug. 29, 1925, chain gage at site 6.8 miles downstream at different datum.

Average discharge.--16 years (1939-55), 152 cfs (110,000 acre-ft per year).

Extremes.--Maximum discharge during year, 52,200 cfs Sept. 25 (gage height, 14.92 ft), from rating curve extended above 29,000 cfs by logarithmic plotting; no flow Aug. 26, 27, 29, 30 and Sept. 1-7.
1923-25, 1939-55: Maximum discharge, that of Sept. 25, 1955; no flow at times. Maximum stage since 1900, that of Sept. 25, 1955. Flood of December 1913 reached a stage of 14.4 ft, and flood of November 1934 reached a stage of 13.7 ft (from information by local residents).

Remarks.--Records fair.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*1.5	0.3	0.2	0.6	0.4	0.3	a3	280	59	452	40	a0
2	.5	.3	.2	.5	.3	.3	2.0	112	175	402	a25	a0
3	.4	.3	.2	.5	112	.3	a2	60	68	177	17	0
4	.4	.3	.2	.6	329	.2	a1	41	26	79	*19	0
5	.5	.3	.2	.9	78	.2	a1	31	48	30	274	0
6	.5	.3	.2	.5	25	.2	a1	29	180	18	333	0
7	.4	.3	.2	.5	13	.2	a1	24	158	10	79	0
8	.4	.3	.2	.6	8.0	.2	a.5	80	*95	4.5	49	*.1
9	.4	.3	.2	.8	4.8	.2	a.5	70	143	a3	50	.1
10	.4	.3	.2	2.2	3.2	.1	a.5	1,710	222	2.0	11	.1
11	.3	.3	4.5	2.2	2.0	.1	a.5	*5,780	269	.6	4.2	11
12	.3	.3	13	1.7	2.0	.1	*.5	609	69	.6	1.8	2.6
13	.3	.3	4.6	1.0	1.7	.1	.4	268	30	1.2	.4	.4
14	.3	39	1.5	1.8	1.3	.1	.5	a150	a20	2.0	.1	.3
15	.3	14	.6	2.4	1.2	.1	.5	97	260	*1.0	.1	.3
16	.3	4.8	*.5	2.4	.9	.1	.5	56	562	.6	.2	.3
17	.3	*.7	.4	1.8	.8	.1	.4	*46	158	11	a.3	.3
18	.3	.3	.4	*1.3	.8	.2	.5	1,180	95	79	*.4	.3
19	.3	.2	.4	.8	.9	.2	.5	2,720	1,030	442	.3	19
20	.3	.2	.4	.8	.6	2,460	.5	3,250	1,060	3,820	50	4.2
21	.3	.2	.4	.6	.6	243	.4	841	1,930	793	41	*.8
22	.3	.2	.4	.5	.5	63	.4	499	339	670	11	.6
23	.4	.2	.3	.5	.4	a20	.4	1,700	210	479	2.8	.7
24	.4	.2	.3	.4	*.4	a15	.4	*798	a180	350	.3	97
25	.4	.2	.3	.4	.3	a10	.4	402	132	177	.1	21,800
26	.3	.2	.3	.4	.4	8.5	.4	344	81	105	0	*23,300
27	.3	.2	.3	.4	.4	8.0	*.4	*155	*63	79	a0	*1,410
28	.3	.2	.6	.4	.3	7.1	.3	95	56	107	.1	660
29	.3	.2	1.2	.4	-	4.5	41	61	63	402	0	475
30	.3	.2	1.4	.4	------	*3.6	529	46	56	430	a0	a370
31	.3	------	1.0	.4	------	3.9	------	28	------	136	.1	------
Total	12.0	65.1	34.8	28.7	589.2	2,849.9	590.4	21,562	7,837	9,263.5	1,039.9	48,153.1
Mean	0.39	2.17	1.12	0.93	21.0	91.9	19.7	696	261	299	33.5	1,605
Ac-ft	24	129	69	57	1,170	5,650	1,170	42,770	15,540	18,370	2,060	95,510

Calendar year 1954: Max 14,600 Min 0.1 Mean 178 Ac-ft 128,900
Water year 1954-55: Max 23,300 Min 0 Mean 252 Ac-ft 182,500

Peak discharge (base, 12,000 cfs).--May 11 (7 a.m.) 12,400 cfs (8.00 ft); Sept. 25 (6 p.m.) 52,200 cfs (14.92 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of record for Double Mountian Fork Brazos River and weather records.

Brazos River at Seymour, Tex.

Location.--Lat 33°34', long 99°16', near left bank on downstream side of pier of bridge on U. S. Highways 277 and 283, three-quarters of a mile upstream from Wichita Valley Railway bridge, 1 mile southwest of courthouse in Seymour, Baylor County, and at mile 832.

Drainage area.--14,490 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--November 1923 to September 1955.

Gage.--Water-stage recorder and movable wire-weight gage. Wire-weight gage read once daily. Datum of gage is 1,240.97 ft above mean sea level, datum of 1929, supplementary adjustment of 1942.

Average discharge.--31 years (1924-55), 435 cfs (314,900 acre-ft per year).

Extremes.--Maximum discharge during year, 71,200 cfs Sept. 28 (gage height, 21.00 ft); no flow at times.

1923-55: Maximum discharge, 95,400 cfs Oct. 16, 1926 (gage height, 15.16 ft, from floodmarks), from rating curve extended above 48,000 cfs on basis of slope-area determination of peak flow; maximum gage height, that of Sept. 28, 1955; no flow at times.

Maximum stage known, that of Sept. 28, 1955. A flood in about 1906 reached about the same stage.

Remarks.--Records fair. No large diversion above station.

Revisions (water years).--WSP 808: 1924-28.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0.2	23	4.2	4.6	45	19	225	539	840	a6
2		0	.2	23	4.2	5.0	40	182	970	350	539	a5
3		0	.2	21	5.0	4.6	31	289	927	289	340	a4
4	(*)	0	.1	18	18	2.9	27	178	1,220	336	*261	249
5		0	.1	17	170	2.9	23	109	770	217	229	45
6		0	0	15	727	2.2	49	79	512	143	290	5.3
7		0	0	12	356	2.0	35	56	406	a100	143	a4
8		0	0	10	217	2.0	21	38	*575	a70	296	*2.0
9		0	0	9.0	138	2.2	18	990	1,020	52	175	a2
10		0	0	13	77	2.6	21	1,020	460	43	126	8.0
11		0	3.4	15	52	a2	46	2,930	966	36	81	25
12		0	95	12	a35	2.0	24	*6,040	694	27	51	16
13		0	233	11	a25	2.0	16	1,940	632	22	51	a10
14		0	102	12	17	2.0	13	998	400	12	37	a5
15		18	47	13	a15	a1	12	670	1,700	*18	a30	1.5
16		178	28	13	a13	.9	9.5	466	3,990	46	22	a0
17		233	*18	13	11	1.1	8.4	*322	3,080	43	17	0
18		*125	11	*9.0	7.5	2.9	8.4	3,200	1,450	49	*20	0
19		60	8.5	9.0	a7	3.6	9.0	*12,100	1,140	2,320	20	0
20		32	7.2	10	6.8	663	6.4	13,300	1,430	3,810	79	0
21		18	5.8	8.4	6.1	*6,690	6.1	6,880	2,400	1,100	20	*0
22		9.9	a4	7.2	5.7	*2,470	5.3	2,780	1,910	4,130	12	5.8
23		5.8	a3	7.2	5.7	1,040	5.0	2,390	1,440	2,270	9.5	66
24		2.7	a2	6.4	5.3	552	2.9	11,600	858	1,350	11	24
25		1.8	a3	6.8	*7.2	326	3.2	*3,400	581	980	a 11	3,550
26		1.2	a2	6.1	6.8	206	5.5	1,480	412	726	12	*18,300
27		.7	a2	5.3	6.4	140	7.9	866	*322	518	a 11	*46,800
28		.4	5.2	5.0	6.4	104	*3.2	546	236	1,120	a10	*40,500
29		.3	9.2	5.3	-	a80	2.0	350	188	921	a9	*4,350
30		.3	11	5.0	--	67	2.9	280	232	759	a8	1,960
31		-----	24	6.1	-----	*60	------	244	------	750	a7	------
Total	0	687.1	625.1	346.8	1,955.3	12,446.5	506.7	75,742	31,146	23,146	3,767.5	115,943.6
Mean	0	22.9	20.2	11.2	69.8	402	16.9	2,443	1,038	747	122	3,865
Ac-ft	0	1,360	1,240	688	3,880	24,690	1,010	150,200	61,780	45,910	7,470	230,000

Calendar year 1954: Max 18,600 Min 0 Mean 379 Ac-ft 274,600
Water year 1954-55: Max 46,800 Min 0 Mean 730 Ac-ft 528,200

Peak discharge (base, 11,000 cfs).--May 20 (7:30 a.m.) 18,000 cfs (8.90 ft); May 24 (5:30 p.m.) 14,300 cfs (7.80 ft); July 21 (11 a.m.) 13,700 cfs (7.70 ft); Sept. 28 (3 a.m.) 71,200 cfs (21.00 ft).

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

a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

Fort Phantom Hill Reservoir near Nugent, Tex.

Location.--Lat 32°37', long 99°40', at outlet gate tower near right shore, 120 ft above dam on Elm Creek, 4 miles upstream from Clear Fork Brazos River, and 5 miles south of Nugent, Jones County.

Drainage area.--478 sq mi.

Records available.--July 1940 to September 1955.

Gage.--Staff gage read once daily. Datum of gage is 1,580.00 ft above mean sea level.

Extremes.--Maximum contents observed during year, 71,900 acre-ft Sept. 27-30 (gage height, 54.5 ft); minimum observed, 34,680 acre-ft May 8-11 (gage height, 41.7 ft).
1940-55: Maximum contents observed, 80,900 acre-ft Oct. 17, 1941 (gage height, 56.8 ft); minimum observed, 19,950 acre-ft Apr. 23-25, 1953 (gage height, 34.5 ft).

Remarks.--Reservoir is formed by earth-fill dam with rock riprap face; dam completed and storage began in October 1938. Capacity, 69,550 acre-ft between gage heights 1.6 ft (sill of lowest outlet gate) and 54.0 ft (crest of spillway). Dead storage, 450 acre-ft. Records given herein represent total contents. Water is used for municipal supply. Lake Abilene on Elm Creek, Lake Kirby on Cedar Creek, and Lake Lytle on Lytle Creek (combined capacity, 23,900 acre-ft) are smaller reservoirs above station in Elm Creek basin. During year city of Abilene diverted 10,250 acre-ft of water into reservoir by pumping from Clear Fork Brazos River at a site above station at Nugent. An undetermined amount of flood flow was diverted by gravity ditch from Deadman Creek into reservoir.

Cooperation.--Gage-height record and capacity table furnished by city of Abilene.

Month-end gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents acre-feet)	Change in contents during month (acre-feet)
Sept.30	44.6	41,700	-
Oct. 31	44.0	40,200	-1,500
Nov. 30	44.2	40,700	+500
Dec. 31	43.6	39,240	-1,460
Calendar year 1954	-	-	-960
Jan. 31	43.2	38,280	-960
Feb. 28	43.2	38,280	0
Mar. 31	42.6	36,840	-1,440
Apr. 30	41.9	35,160	-1,680
May 31	48.0	50,200	+15,040
June 30	52.8	65,580	+15,380
July 31	52.2	63,420	-2,160
Aug. 31	51.7	61,650	-1,770
Sept.30	54.5	71,900	+10,250
Water year 1954-55	-	-	+30,200

† Gage height at 8 a.m.

Clear Fork Brazos River at Nugent, Tex.

Location.--Lat 32°41', long 99°40', on right bank 7 ft upstream from pier of county road bridge in Nugent, Jones County, 4 miles upstream from Deadman Creek.

Drainage area.--2,220 sq mi.

Records available.--February 1924 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,531.91 ft above mean sea level (levels by Brazos River Authority). Prior to Dec. 12, 1933, staff gage at site 575 ft downstream at same datum.

Average discharge.--31 years, 125 cfs (90,500 acre-feet per year).

Extremes.--Maximum discharge during year, 4,740 cfs Sept. 27 (gage height, 12.68 ft); no flow at times.
1924-55: Maximum discharge observed, 47,000 cfs Sept. 8, 1932 (gage height, 27.05 ft, site then in use), from rating curve extended above 25,000 cfs; no flow at times.
Maximum stage known, about 30.0 ft in 1876, from information by local residents. Floods in 1900 and May 1923 reached a stage of about 24 and 24.5 ft, respectively, from information by local residents.

Remarks.--Records good. Some regulation by reservoirs in Elm Creek basin (see preceding page) and Lakes Sweetwater and Trammel in Sweetwater Creek basin, which have a combined capacity of about 110,900 acre-ft. Diversions above station for municipal supply and oilfield operation materially affect low flow. During the year the city of Abilene diverted 10,250 acre-ft of water into Fort Phantom Hill Reservoir from the river above station.

Rating table, water year 1954-55 (gage height, in feet and discharge, in cubic feet per second)
(Shifting-control method used Oct. 11 to Nov. 14, June 27 to July 1)

1.2	0	2.6	168
1.3	.2	3.0	270
1.4	.7	4.0	570
1.5	2.2	5.0	920
1.6	7.2	6.0	1,340
1.7	16	7.0	1,800
1.8	27	8.0	2,300
2.0	56	10.0	3,300
2.3	107	12.0	4,320

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0	1.3	0.2	0.1	0.1	0	0	0	5.8	130	a0	0
2	0	.8	.2	.1	.1	0	0	0	5.0	70	a0	0
3	0	.8	.2	.1	.1	0	0	0	80	16	*0	0
4	0	.6	.2	.1	92	0	0	0	22	5.8	0	0
5	0	.5	.1	.1	53	0	0	0	36	2.2	22	0
6	0	.5	.1	.1	11	0	0	0	27	1.1	40	0
7	0	.4	.1	.1	.9	0	0	0	30	.8	7.2	*0
8	0	.4	.1	.1	.6	0	0	0	186	.5	1.3	.5
9	0	1.8	.1	.1	.5	0	.1	0	897	.4	.6	.3
10	0	1.9	.1	.2	.3	.1	.2	385	*258	.2	.4	.1
11	.3	76	.1	.2	.2	.1	.1	118	1.5	.2	.2	3.4
12	1.1	14	.1	.2	.2	0	.1	243	41	.1	.1	1.3
13	.6	5.2	.1	.2	.1	0	0	288	16	.1	.1	.5
14	.3	205	.1	.2	.1	0	0	260	14	*0	0	.3
15	.3	169	.1	.2	.1	0	0	33	500	0	0	.2
16	.2	53	**.1	.2	.1	0	0	183	1,290	0	0	.1
17	.2	*12	.1	.2	.1	0	0	150	370	112	0	0
18	.2	3.4	0	*.2	.1	0	0	412	554	637	0	0
19	.1	1.1	0	1.5	.1	0	0	854	66	262	63	0
20	.1	.9	0	.5	.1	0	0	1,050	93	40	57	*0
21	.1	.6	0	.3	.1	0	0	741	554	54	1.9	a0
22	.1	.4	0	.2	.1	0	0	361	298	229	112	a0
23	.1	.4	0	.2	**.1	0	0	197	39	22	28	a0
24	.1	.3	0	.2	.1	0	0	298	18	8.6	3.6	a600
25	.1	.2	0	.1	.1	0	0	134	12	28	.9	*a3,000
26	.1	.2	.1	.1	0	0	*0	*1,140	7.2	12	.5	*3,310
27	35	.2	.1	.1	0	0	0	865	5.8	a3	.3	*4,230
28	21	.2	.1	.1	0	0	0	73	*3.6	a2	.2	1,260
29	23	.1	.2	.1	-	*0	0	46	2.8	a1	.1	67
30	6.7	.2	.1	.1	---	.1	0	35	2.2	a1	.1	28
31	2.5	-----	.1	.1	-----	0	-----	14	-----	a0	0	-----
Total	92.2	551.4	2.8	6.3	160.3	0.3	0.5	7,880	5,434.9	1,639.0	339.5	12,501.7
Mean	2.97	18.4	0.09	0.20	5.72	0.01	0.02	254	181	52.9	11.0	417
Ac-ft	183	1,090	5.6	12	318	0.6	1.0	15,630	10,780	3,250	673	24,800

Calendar year 1954: Max 1,750 Min 0 Mean 22.1 Ac-ft 16,000
Water year 1954-55: Max 4,230 Min 0 Mean 78.4 Ac-ft 56,740

Peak discharge (base, 2,300 cfs).--Sept. 24 or 25 (time unknown) about 4,000 cfs; Sept. 27 (10:30 a.m.) 4,740 cfs (12.68 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record, discharge estimated.

Lake Stamford near Haskell, Tex.

Location.--Lat 33°05', long 99°35', on left bank at intake structure of West Texas Utilities Co. steam powerplant at Lake Stamford on Paint Creek, 1 mile upstream from dam, 1.7 miles upstream from California Creek, and 10 miles southeast of Haskell, Haskell County.

Drainage area.--360 sq mi.

Records available.--July 1953 to September 1955.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929 (levels by Freese and Nichols).

Extremes.--Maximum contents observed during year, 30,850 acre-ft June 22, Sept. 28-30 (elevation, 1,407.1 ft); minimum observed, 24,440 acre-ft Sept. 21-24 (elevation, 1,404.9 ft).
1953-55: Maximum contents observed, 41,500 acre-ft June 8-11, 1954 (elevation, 1,410.0 ft); minimum observed after first appreciable storage, 5,860 acre-ft, July 15, 1953 (elevation, 1,393.7 ft).

Remarks.--Lake is formed by an earth-fill dam. Dam completed in March 1953. Storage began in June 1953 but no appreciable storage before July 15, 1953. Capacity of lake, 60,000 acre-ft (elevation, 1,414.0 ft, crest of spillway). Dead storage, 430 acre-ft (elevation, 1,380.0 ft, invert elevation of 24-inch discharge conduit). Outlet works consist of an uncontrolled service spillway 900 ft to left of dam. It is a rectangular channel excavated in limestone. The natural rock bottom varies in elevation from 1,413.9 to 1,414.5 ft, capacity unknown. There is a 24-inch concrete pipe through the dam with invert elevation of 1,380.0 ft, which is controlled by gate valves located in a concrete manhole in the dam. Lake used for municipal water supply for cities of Stamford and Hamlin. The West Texas Utilities Co. owns and operates an electric power-plant on the left bank about 1 mile upstream from dam. The present plant circulates 28,000 gal cooling water per minute, which is pumped from and returned to lake near plant.

Cooperation.--Records of daily gage height furnished by West Texas Utilities Co. Area-capacity curves furnished by Freese and Nichols, consulting engineers, Fort Worth.

Month-end elevation and contents, and monthly diversions, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions for municipal use (acre-feet)
Sept.30	1,406.8	29,900	-	-
Oct. 31	1,406.3	28,400	-1,500	65.4
Nov. 30	1,406.5	29,000	+600	45.6
Dec. 31	1,406.3	28,400	-600	46.3
Calendar year 1954	-	-	+9,580	-
Jan. 31	1,406.3	28,400	0	42.1
Feb. 28	1,406.3	28,400	0	37.0
Mar. 31	1,406.0	27,500	-900	51.9
Apr. 30	1,405.5	26,100	-1,400	64.1
May 31	1,406.1	27,800	+1,700	65.7
June 30	1,406.9	30,200	+2,400	66.0
July 31	1,406.0	27,500	-2,700	118
Aug. 31	1,405.2	25,260	-2,240	149
Sept.30	1,407.1	30,850	+5,590	84.1
Water year 1954-55	-	-	+950	805

† Elevation at 8 a.m.

Clear Fork Brazos River at Fort Griffin, Tex.

Location.--Lat 32°56', long 99°13', on right bank just downstream from pier of bridge on old Fort Griffin-Throckmorton road, half a mile northeast of Fort Griffin, Shackelford County, 5,100 ft upstream from bridge on U. S. Highway 283, and 1.3 miles upstream from Mill Creek.

Drainage area.--3,974 sq mi.

Records available.--December 1923 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,174.09 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. Prior to June 23, 1932, chain gage at same site and datum.

Average discharge.--31 years (1924-55), 239 cfs (173,000 acre-ft per year).

Extremes.--Maximum discharge during year, 17,200 cfs Sept. 25 (gage height, 31.24 ft); no flow at times.

1923-55: Maximum discharge, 33,600 cfs Sept. 10, 1932 (gage height, 35.09 ft); no flow at times.

Maximum stage known, about 38.0 ft in 1900, from information by local residents.

Remarks.--Records good. Some regulation by reservoirs (total combined capacity, 174,000 acre-ft) as follows: Elm Creek basin (combined capacity, 93,900 acre-ft); Sweetwater Creek basin (combined capacity, 16,900 acre-ft); Lake Penick (capacity, 3,100 acre-ft); and Lake Stamford (capacity, 60,000 acre-ft). Diversions above station for irrigation, municipal supply, and oil field operations materially affect low flow.

Revisions.--Revised figures of discharge for high-water periods in the water year 1949, superseding those published in WSP 1148, are given herewith:

1949		1949-Con.	
Apr. 27	536	May 28	1,160
May 8	775	June 10	1,730
9	3,880	11	2,200
10	1,650	12	2,010
26	1,200	13	1,000
27	2,980		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
April 1949	2,023.9	536	0	67.5	4,010
May	18,187	3,880	33	587	36,070
June	8,944.0	2,200	1.7	298	17,740
Water year 1948-49	40,399.5	3,880	0	111	80,120
Calendar year 1949	38,151.2	3,880	0	105	75,660

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.4	0.1	0.6	0.5	0.6	0	59	8.6	6.1	0.4
2	0	0	.3	.1	.5	.5	.4	0	50	11	3.8	.2
3	0	0	.2	.1	.4	.4	.3	0	35	3.8	*2.5	.1
4	*0	0	.1	.1	19	.4	.2	0	25	2.5	2.0	0
5	0	0	.1	.1	47	.3	25	0	343	26	1.5	0
6	0	0	.1	.1	12	.2	25	0	164	26	.9	0
7	0	0	.1	0	11	.2	4.4	0	88	15	.6	*0
8	0	0	.1	0	47	.1	1.5	0	59	8	.4	0
9	0	0	0	.1	35	.1	1.2	0	56	3	.2	0
10	0	0	0	.1	21	.1	1.0	0	1,210	2	.2	0
11	0	0	.1	.1	13	.1	.6	0	694	1	.2	0
12	70	0	.1	0	9.5	.1	.5	0	250	1	.2	0
13	15	0	.1	0	6.9	.1	.2	0	103	.5	.2	0
14	4.4	.2	.1	0	5.4	.1	.2	0	55	*.4	.2	0
15	1.6	.4	*0	0	3.8	.1	.1	94	51	.4	.2	0
16	.9	33	0	0	3.3	.1	.1	286	134	.2	.2	0
17	.5	*64	0	*0	2.5	.1	0	81	1,180	.1	.2	0
18	.4	69	0	1,130	2.0	.1	0	260	823	.2	.2	0
19	.2	42	0	237	5.1	.1	0	*819	498	611	.2	0
20	.1	22	0	83	2.0	.2	0	2,080	388	385	.2	0
21	.1	13	0	35	1.3	.1	0	1,180	1,720	252	.2	0
22	.1	7.3	0	18	1.0	.1	0	807	1,220	90	.2	0
23	.1	4.7	0	11	*.9	.1	.1	702	686	76	.2	0
24	.1	3.0	0	6.9	.8	4.6	.1	444	238	170	.2	158
25	.1	1.8	0	4.7	.7	3.5	.1	410	117	68	14	*11,900
26	.1	1.3	0	3.3	.7	2.3	*.1	*323	64	35	28	13,400
27	.1	1.0	0	2.5	.6	1.5	.1	1,890	41	19	13	*13,300
28	0	.7	.1	1.6	.6	1.2	0	1,320	*27	12	6.5	*5,880
29	0	.5	.2	1.2	-	*.9	0	523	18	8.6	3.3	2,740
30	0	.4	.1	.9	------	.7	0	158	12	10	2.0	400
31	0	------	.1	.8	------	.6	------	86	------	10	.9	------
Total	93.8	264.3	2.3	1,536.8	253.6	19.5	61.8	11,463	10,408	1,856.3	88.7	47,778.7
Mean	3.03	8.81	0.07	49.6	9.06	0.63	2.06	370	347	59.9	2.86	1,593
Ac-ft	186	524	4.6	3,050	503	39	123	22,740	20,640	3,680	176	94,770

Calendar year 1954: Max 6,050 Min 0 Mean 82.5 Ac-ft 59,700
Water year 1954-55: Max 13,400 Min 0 Mean 202 Ac-ft 146,400

Peak discharge (base, 3,900 cfs).--Sept. 25 (6 a.m.) 17,200 cfs (31.24 ft).
* Discharge measurement or observation of no flow made on this day.

Hubbard Creek near Breckenridge, Tex.

Location.--Lat 32°50'15", long 98°57'00", near right bank on downstream side of pier of bridge on U. S. Highway 183, 2.3 miles downstream from Big Sandy Creek, 6.8 miles northwest of Breckenridge, Stephens County, 7 miles upstream from Gonzales Creek, and 8 miles upstream from Clear Fork Brazos River.

Drainage area.--1,087 sq mi.

Records available.--April to September 1955.

Gage.--Water-stage recorder.

Extremes.--Maximum discharge during period, 12,800 cfs May 20 (gage height, 30.98 ft); maximum gage height, 31.38 ft Sept. 25 (backwater from relief channels); no flow at times.

Maximum stage known since at least 1925, 33.8 ft July 20, 1953, from information by local resident and State Highway Department.

Remarks.--Records good. Lake Cisco (capacity, about 31,000 acre-ft), Lake McCarty (capacity, 2,800 acre-ft) and several smaller reservoirs with capacities from 100 to 400 acre-ft are on tributaries above gage. Diversions above station for municipal and industrial uses. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Rating tables, Apr. 15 to Sept. 30, 1955 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 19, 20, June 25-29, Sept. 25)

Apr. 15 to May 18, May 26 to Sept. 24

3.4	0	6.0	269
3.5	1.2	8.0	605
3.6	3.7	12.0	1,200
3.8	11	16.0	1,970
4.0	22	20.0	3,140
4.5	60	21.0	3,590
5.0	114		

May 19-25, Sept. 25-30

8.0	605	22.0	2,750
12.0	1,070	26.0	4,340
18.0	1,900		

Note.--Same as preceding table below 8.0 ft.

Discharge, in cubic feet per second, April to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	0	5.4	1.2	0.3	0
2							-	0	2.6	1.0	0	0
3							-	0	.8	.8	*0	0
4							-	0	.1	.4	594	0
5							-	0	0	0	*3,430	0
6							-	0	3.6	0	96	0
7							-	0	5.7	0	38	*0
8							-	0	2.3	0	24	0
9							-	0	700	0	11	0
10							-	0	*246	0	7.3	0
11							-	2.2	69	0	4.7	88
12							-	.8	35	0	2.8	32
13							-	0	21	0	1.8	24
14							-	9.9	13	0	1.0	19
15							2.3	9.3	*2,290	0	.5	10
16							.2	4.3	*2,840	0	.3	5.0
17							0	305	175	0	**.1	2.0
18							0	413	74	64	0	.3
19							0	5,990	42	290	120	*0
20							0	*5,180	1,680	106	132	0
21							0	*183	369	42	56	0
22							0	82	61	23	23	0
23							538	65	33	14	12	239
24							54	100	18	17	6.5	517
25							14	49	10	52	3.7	*9,170
26							*7.3	*352	5.7	42	2.3	*3,870
27							2	343	3.1	21	1.2	130
28							.3	74	2.0	11	.7	53
29							0	34	*1.4	6.1	.3	31
30					------		0	18	1.0	3.1	.1	20
31		------			------		------	10	------	1.2	0	------
Total							-	13,224.5	8,709.7	695.8	4,567.6	14,210.3
Mean							-	427	290	22.4	147	474
Ac-ft							-	26,230	17,280	1,380	9,060	28,190

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

Peak discharge (base, 2,000 cfs).--May 20 (3:30 a.m.) 12,800 cfs (30.98 ft); June 16 (2:30 a.m.) 5,360 cfs (24.40 ft); June 20 (5:30 p.m.) 3,800 cfs (21.38 ft); Aug 5 (2:15 a.m.) 7,480 cfs (25.87 ft); Sept. 25 (4:30 p.m.) 11,200 cfs (31.38 ft).

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

** Field estimate made on this day.

Brazos River near South Bend, Tex.

Location.--Lat 33°01'30", long 98°38'50", near left bank on left side of pier of bridge on State Highway 67, 0.3 mile upstream from Wichita Falls & Southern Railroad bridge, 1.6 miles downstream from Clear Fork Brazos River, 2.0 miles northeast of South Bend, Young County, and at mile 758.

Drainage area.--21,600 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--September 1938 to September 1955.

Gage.--Water-stage recorder and movable wire-weight gage. Wire-weight gage read once daily. Datum of gage is 1,002.98 ft above mean sea level, datum of 1929. Prior to Feb. 23, 1939, wire-weight gage at same site and datum.

Average discharge.--17 years, 912 cfs (660,300 acre-ft per year).

Extremes.--Maximum discharge during year, 50,500 cfs Sept. 26 (gage height, 28.73 ft); no flow Oct. 2-23, 26, 27.

1938-55: Maximum discharge, 87,400 cfs May 4, 1941 (gage height, 27.35 ft); no flow at times.

Maximum stage known, 36.2 ft in 1876, from information by State Highway Department and Corps of Engineers. Flood of Sept. 24, 1900, reached a stage of about 29.5 ft and flood of June 16, 1930, reached a stage of about 35.5 ft, from information by local residents.

Remarks.--Records fair. Some regulation by reservoirs (total combined capacity, 184,000 acre-ft) as follows: Elm Creek basin (combined capacity 93,900 acre-ft); Sweetwater Creek basin (combined capacity, 16,900 acre-ft); Lake Penick (capacity, 3,100 acre-ft); Lake Stamford (capacity, 60,000 acre-ft); and Lake Daniels (capacity, 10,000 acre-ft). Many small diversions above station for municipal supply and oilfield operation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	30	4.9	10	7.8	6.2	88	16	708	301	584	32
2	0	14	3.7	9.2	5.4	5.1	63	7.8	254	1,030	*604	57
3	0	9.6	3.2	9.2	5.6	4.1	48	5.1	381	758	648	38
4	0	8.4	3.0	9.6	16	3.2	40	3.6	7,210	498	523	30
5	0	4.6	2.5	9.6	36	2.4	186	3.6	2,870	409	2,360	22
6	*0	2.7	2.0	13	88	2.1	245	140	1,760	391	*1,700	*67
7	0	2.0	1.7	15	321	1.8	29	111	1,360	289	463	211
8	0	1.5	1.5	14	758	1.7	24	69	942	250	365	98
9	0	1.5	1.3	14	513	1.2	38	40	815	223	322	55
10	0	421	1.2	19	356	1.1	32	36	*2,240	169	270	38
11	0	402	1.5	18	305	.9	23	574	1,840	134	274	39
12	0	161	3.2	16	215	.9	16	*3,790	1,520	116	179	160
13	0	68	5.3	14	162	.7	13	*4,350	1,140	*103	149	277
14	0	32	4.6	12	116	.7	19	2,130	758	90	119	128
15	0	2,210	*5.3	14	83	.5	13	1,480	705	76	95	78
16	0	*2,780	82	14	57	.4	8.9	1,140	5,360	63	83	42
17	0	292	66	*12	39	.5	7.0	1,280	*3,430	57	*74	26
18	0	125	43	28	39	.6	5.8	1,840	8,680	67	69	20
19	0	84	32	710	65	.8	5.1	10,500	6,310	826	57	*12
20	0	96	25	836	67	2.4	4.4	*18,600	5,840	1,740	350	8.9
21	0	91	22	338	162	28	3.2	*16,000	5,230	3,730	215	6.2
22	0	71	15	179	109	*4,510	3.2	6,330	4,290	4,710	134	5.1
23	0	49	14	116	*57	2,300	1,450	3,430	3,610	1,980	98	5.8
24	.1	38	12	74	26	1,480	889	4,970	2,120	1,640	76	464
25	.1	31	10	48	17	878	*134	*10,900	1,280	1,480	53	23,000
26	0	18	8.4	36	12	568	44	3,910	910	1,110	36	*47,400
27	0	14	8.4	26	10	396	19	*3,200	636	845	29	*40,600
28	436	8.4	12	20	7.8	270	19	3,090	478	675	25	*31,400
29	338	6.0	12	16	-	*193	67	2,760	*396	584	23	36,200
30	122	4.6	13	11	------	134	36	1,520	343	845	114	*35,500
31	58	------	12	10	------	103	------	942	------	758	46	------
Total	954.4	7,076.3	431.7	2,670.6	3,655.8	10,897.3	3,572.6	103,168.1	73,416	25,947	10,137	216,020.0
Mean	30.8	236	13.9	86.1	131	352	119	3,328	2,447	837	327	7,201
Ac-ft	1,890	14,040	856	5,300	7,250	21,610	7,090	204,600	145,600	51,470	20,110	428,500

Calendar year 1954: Max 29,700 Min 0 Mean 740 Ac-ft 535,700
Water year 1954-55: Max 47,400 Min 0 Mean 1,255 Ac-ft 908,300

Peak discharge (base, 11,000 cfs).--May 21 (4:30 a.m.) 22,000 cfs (15.89 ft); May 25 (2 p.m.) 11,800 cfs (11.83 ft); June 4 (5:30 a.m.) 11,200 cfs (12.78 ft); June 18 (12 m.) 12,000 cfs (13.05 ft); Sept. 26 (3 p.m.) 50,500 cfs (28.73 ft); Sept. 30 (6 a.m.) 47,700 cfs (27.10 ft).

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

Possum Kingdom Reservoir near Graford, Tex.

Location.--Lat 32°52', long 98°26', in powerhouse at dam on Brazos River, 2.6 miles upstream from Loving Creek, 11.3 miles southwest of Graford, Palo Pinto County, and at mile 687.

Drainage area.--22,550 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--March 1941 to September 1955.

Gage.--Mercury U-tube gage. Datum of gage is 0.10 ft above mean sea level, datum of 1929 (levels by Brazos River Authority).

Extremes.--Maximum contents observed during year, 705,700 acre-ft June 18, 19, 23, 24, Sept. 26, 27 (gage height, 999.0 ft); minimum observed, 504,100 acre-ft Mar. 16-22 (gage height, 987.0 ft).
1941-55: Maximum contents observed, 743,900 acre-ft Oct. 5, 1941 (gage height, 1,001.0 ft); minimum observed, 273,300 acre-ft Feb. 19 to Mar. 17, 1953 (gage height, 967.0 ft).

Remarks.--Reservoir is formed by reinforced concrete dam of flat slab deck, massive buttress type, with 9 roof-weir (modified bear-trap) type gates, 2 bulkhead sections, and earthen dike section. Dam completed and storage began Mar. 21, 1941. Total capacity, 724,700 acre-ft (gage height, 1,000.0 ft, top of closed roof-weir gates). Usable capacity for power development, 698,900 acre-ft between gage height 911.5 ft (sill of powerhouse penstock) and gage height 1,000.0 ft (top of closed roof-weir gates). Water below gage height 911.5 ft can be withdrawn through high pressure outlet down to gage height 874.8 ft. Figures given herein represent total contents. Water used for power development, industry, and irrigation. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Cooperation.--Records of daily gage height and capacity table furnished by Brazos River Authority.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	519,600	509,700	522,600	518,200	506,900	508,300	518,200	522,600	683,400	688,900	688,900	665,400
2	519,600	509,700	521,100	518,200	506,900	508,300	518,200	522,600	681,600	688,900	687,000	663,600
3	519,600	509,700	521,100	516,800	506,900	506,900	518,200	522,600	679,800	688,900	687,000	663,600
4	519,600	508,300	521,100	516,800	506,900	506,900	518,200	522,600	700,100	690,700	687,000	663,600
5	518,200	508,300	521,100	516,800	506,900	506,900	519,600	522,600	690,700	690,700	687,000	661,800
6	518,200	508,300	521,100	516,800	506,900	506,900	519,600	522,600	688,900	690,700	690,700	658,200
7	516,800	508,300	521,100	516,800	506,900	506,900	519,600	521,100	688,900	688,900	690,700	654,600
8	515,400	508,300	521,100	516,800	506,900	506,900	519,600	521,100	683,400	687,000	688,900	652,800
9	515,400	508,300	521,100	516,800	506,900	506,900	519,600	518,200	683,400	685,200	685,200	652,800
10	515,400	509,700	519,600	516,800	508,300	506,900	519,600	518,200	683,400	685,200	681,600	651,000
11	514,000	509,700	519,600	515,400	508,300	505,500	519,600	518,200	681,600	683,400	681,600	651,000
12	514,000	509,700	519,600	515,400	508,300	505,500	519,600	519,600	681,600	679,800	681,600	649,200
13	514,000	509,700	519,600	515,400	508,300	505,500	519,600	528,400	681,600	678,000	679,800	649,200
14	512,600	509,700	519,600	514,000	509,700	505,500	519,600	531,200	681,600	674,400	679,800	649,200
15	512,600	514,000	519,600	514,000	509,700	505,500	519,600	532,700	681,600	672,600	679,800	649,200
16	511,200	521,100	519,600	514,000	509,700	504,100	519,600	537,300	683,400	670,800	678,000	649,200
17	511,200	522,600	518,200	514,000	509,700	504,100	519,600	537,300	698,200	670,800	676,200	647,400
18	511,200	524,000	518,200	514,000	509,700	504,100	519,600	538,800	705,700	670,800	674,400	647,400
19	511,200	524,000	518,200	512,600	509,700	504,100	518,200	562,400	698,200	670,800	674,400	647,400
20	509,700	524,000	518,200	511,200	509,700	504,100	518,200	590,200	696,400	670,800	672,600	645,600
21	509,700	524,000	518,200	511,200	509,700	504,100	518,200	631,200	702,000	676,200	672,600	645,600
22	509,700	524,000	518,200	511,200	509,700	508,300	518,200	647,400	703,800	688,900	670,800	643,800
23	509,700	524,000	518,200	511,200	509,700	514,000	521,100	654,600	705,700	692,600	669,000	643,800
24	509,700	524,000	518,200	511,200	509,700	516,800	522,600	656,400	705,700	696,400	669,000	643,800
25	509,700	524,000	518,200	509,700	509,700	518,200	522,600	670,800	703,800	696,400	669,000	683,400
26	509,700	524,000	518,200	509,700	508,300	518,200	522,600	681,600	700,100	696,400	669,000	705,700
27	509,700	522,600	518,200	508,300	508,300	518,200	522,600	683,400	694,500	696,400	669,000	705,700
28	509,700	522,600	518,200	508,300	508,300	518,200	522,600	683,400	690,700	694,500	669,000	687,000
29	509,700	522,600	518,200	508,300	-	518,200	522,600	683,400	688,900	692,600	667,200	687,000
30	509,700	522,600	518,200	508,300	-------	518,200	522,600	687,000	688,900	692,600	667,200	698,200
31	509,700	-------	518,200	508,300	-------	518,200	-------	685,200	-------	690,700	667,200	-------

Monthly gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	988.2	521,100	-
Oct. 31	987.4	509,700	-11,400
Nov. 30	988.3	522,600	+12,900
Dec. 31	988.0	518,200	-4,400
Calendar year 1954	-	-	-145,400
Jan. 31	987.3	508,300	-9,900
Feb. 28	987.3	508,300	0
Mar. 31	988.0	518,200	+9,900
Apr. 30	988.3	522,600	+4,400
May 31	997.9	685,200	+162,600
June 30	998.1	688,900	+3,700
July 31	998.2	690,700	+1,800
Aug. 31	996.9	667,200	-23,500
Sept.30	998.6	698,200	+31,000
Water year 1954-55	-	-	+177,100

† Gage height at 12 p.m.

Brazos River near Palo Pinto, Tex.

Location.--Lat 32°51'45", long 98°18'10", on right bank 35 ft upstream from bridge on Palo Pinto-Graford highway, 300 ft downstream from Dark Valley Creek, 6½ miles north of Palo Pinto, Palo Pinto County, 20 miles downstream from Possum Kingdom Dam, and at mile 667.

Drainage area.--22,760 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--January 1924 to September 1955. Published as "near Mineral Wells" 1924-33.

Gage.--Water-stage recorder. Datum of gage is 831.23 ft above mean sea level, datum of 1929. Prior to Nov. 15, 1933, chain gage at site 19 miles downstream at datum 38.19 ft lower.

Average discharge.--31 years (1924-55), 1,130 cfs (818,100 acre-ft per year).

Extremes.--Maximum discharge during year, 51,800 cfs Sept. 27 (gage height, 20.53 ft); minimum daily, 12 cfs Feb. 10.

1924-55: Maximum discharge, 95,600 cfs June 16, 1930 (gage height, 28.43 ft, site and datum then in use); no flow at times.

Maximum stage known was reached by flood of 1876, according to data by Corps of Engineers, and was several feet higher than any subsequent flood. Flood of June 1930 reached a stage of about 24 ft, present site and datum, from information by local residents.

Remarks.--Records good. Flow since 1941 largely regulated by Possum Kingdom Reservoir (see preceding page) and several smaller reservoirs in Clear Fork and other basins, having a combined capacity of about 915,000 acre-ft. Many small diversions above station for irrigation, municipal supply and oilfield operation.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Sept. 25				Sept. 26-30	
0.3	13	3.0	1,340	15.0	32,500
.4	22	4.0	2,240	17.0	39,500
.5	32	5.0	3,460	19.0	46,500
.7	62	7.0	8,000	21.0	53,500
1.0	130	9.0	14,000		
1.4	265	11.0	20,400		
2.0	575				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	409	28	27	26	35	298	18	26	1,710	100	844	664
2	385	24	31	24	28	126	21	20	1,640	52	*1,130	842
3	78	26	28	25	25	223	22	19	725	89	1,110	404
4	39	28	25	36	32	76	22	19	4,370	56	1,170	68
5	185	29	21	264	34	36	20	20	12,100	40	984	336
6	*306	27	22	189	30	27	19	154	4,130	39	1,170	*1,210
7	*480	25	21	54	25	22	35	638	2,920	903	652	1,550
8	298	58	21	34	21	21	299	686	2,920	1,170	1,550	1,670
9	483	96	22	101	18	21	84	168	2,920	991	1,730	1,040
10	78	54	22	54	12	20	80	213	2,460	739	1,640	377
11	42	42	22	219	14	102	232	262	2,130	671	900	95
12	136	100	28	237	86	72	139	186	1,860	1,500	516	130
13	112	56	32	212	61	34	78	144	1,570	*1,530	539	211
14	89	81	49	644	34	38	279	641	742	1,330	205	160
15	45	105	*32	188	236	283	160	290	467	1,400	239	172
16	28	*93	25	54	309	66	48	141	718	906	566	72
17	24	68	22	*46	62	34	29	361	339	615	742	35
18	21	35	22	298	36	29	22	1,010	5,220	517	794	27
19	20	28	22	564	28	40	20	2,140	*16,700	346	87	170
20	20	26	22	644	26	34	19	301	11,100	294	167	290
21	20	24	22	460	26	29	115	110	2,980	600	64	441
22	19	22	22	237	*82	29	388	273	2,980	1,110	925	284
23	24	53	24	70	57	22	253	118	2,980	1,160	523	256
24	26	52	24	55	38	122	72	1,130	2,980	626	80	84
25	30	31	25	444	35	45	*39	*1,250	2,980	408	42	5,340
26	28	25	24	498	216	29	28	1,500	2,980	1,040	31	33,300
27	28	76	24	323	257	22	22	2,240	2,980	1,420	27	*50,000
28	28	62	50	350	169	22	22	2,330	2,380	1,540	27	*48,800
29	25	32	89	265	-	*22	47	1,460	*973	1,590	27	37,000
30	47	25	60	68	------	22	45	1,720	341	1,340	26	*37,300
31	46	------	34	45	------	22	------	2,090	------	1,320	25	------
Total	3,599	1,431	914	6,728	2,032	1,990	2,677	21,660	101,295	25,442	18,532	222,328
Mean	116	47.7	29.5	217	72.6	64.2	89.2	699	3,376	821	598	7,411
Ac-ft	7,140	2,840	1,810	13,340	4,030	3,950	5,310	42,960	200,900	50,460	36,760	441,000

Calendar year 1954: Max 25,400 Min 10 Mean 891 Ac-ft 644,900
Water year 1954-55: Max 50,000 Min 12 Mean 1,120 Ac-ft 810,500

* Discharge measurement made on this day.

Palo Pinto Creek near Santo, Tex.

Location.--Lat 32°38', long 98°11', on left bank 0.5 mile upstream from Texas and Pacific Railway bridge, 1.4 miles downstream from Big Sunday Creek, 2.6 miles northeast of Santo, Palo Pinto County, 2.8 miles upstream from Wusser Creek, and 7.0 miles upstream from mouth.

Drainage area.--567 sq mi.

Records available.--November 1924 to September 1925 (gage heights only), April 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 762.63 ft above mean sea level, datum of 1929. Nov. 20, 1924, to Sept. 30, 1925, combination inclined and vertical staff gage at present site and datum.

Extremes.--Maximum discharge during year, 17,100 cfs May 19 (gage height, 25.68 ft); no flow at times.
1951-55: Maximum discharge, that of May 19, 1955; no flow at times.
Maximum stage known since at least 1880, about 28 ft May 8, 1922; flood of May 1908 was probably slightly lower than that of May 8, 1922; from information by local residents.

Remarks.--Records good. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.05	0	2.5	265
1.1	.1	3.0	580
1.2	1.8	4.0	1,340
1.3	2.8	6.0	2,400
1.4	6.6	8.0	3,400
1.5	13	11.0	4,900
1.7	33	15.0	7,000
1.9	67	19.0	9,700
2.1	114	23.0	13,700

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.5	0	0	0	0	0	0	15	0.3		0
2	0	.1	0	0	0	0	0	0	11	.3		0
3	0	*0	0	0	0	0	0	0	7.1	.2	(*)	0
4	0	.2	0	0	190	0	0	0	22	.2		0
5	0	4.2	0	*0	254	0	0	0	23	.1		0
6	0	1.2	*0	0	19	0	0	0	11	.1		0
7	0	.4	0	0	14	0	0	0	5.6	0		0
8	0	.1	0	0	5.6	0	0	0	5.2	0		0
9	0	0	0	0	*3.1	0	18	0	271	0		0
10	0	537	0	0	1.6	0	127	0	104	0		0
11	0	41	0	0	.8	0	43	0	40	0		239
12	0	10	36	0	.6	0	281	106	16	0		4.4
13	0	4.0	8.3	0	.5	63	*64	11	7.1	0		.7
14	0	31	2.5	0	.3	47	16	2.2	3.7	0		.2
15	0	805	1.2	0	.4	7.4	4.8	.6	1,620	0		0
16	0	60	.7	0	.3	*2.0	2.0	.3	702	0		0
17	0	15	.4	0	.3	.9	1.2	130	136	0		0
18	0	4.8	.2	17	.2	.5	.8	*321	198	74		0
19	0	2.2	.1	38	.2	.5	.4	*13,600	414	24		0
20	0	1.4	.1	9.1	.1	.4	.2	*1,400	150	22		0
21	0	1.2	0	3.7	.1	.3	.1	129	101	6.6		0
22	0	1.6	0	2.0	0	.2	0	82	*34	1.2		0
23	0	1.2	0	1.1	0	.1	13	45	11	.2		28
24	0	.7	0	.7	0	.1	25	26	9.3	0		254
25	0	.3	0	.5	0	0	12	20	6.6	0		477
26	0	.2	0	.3	0	0	3.1	100	4.4	0		82
27	284	0	0	.2	0	0	1.2	295	3.1	0		*18
28	153	0	0	.1	0	0	.6	111	1.8	0		4.8
29	26	0	0	0	-	0	.3	69	.9	0		2.0
30	6.6	0	0	0	------	0	.1	42	.5	0		.9
31	1.8	------	0	0	------	0	------	24	------	0		------
Total	471.4	1,523.3	49.5	72.8	491.1	122.4	613.8	16,514.1	3,934.3	129.2	0	1,111.0
Mean	15.2	50.8	1.60	2.35	17.5	3.95	20.5	533	131	4.17	0	37.0
Ac-ft	935	3,020	98	144	974	243	1,220	32,760	7,800	256	0	2,200

Calendar year 1954: Max 2,460 Min 0 Mean 19.4 Ac-ft 14,040
Water year 1954-55: Max 13,600 Min 0 Mean 68.6 Ac-ft 49,650

Peak discharge (base, 5,000 cfs).--May 19 (2:30 p.m.) 17,100 cfs (25.68 ft).
* Discharge measurement or observation of no flow made on this day.

Brazos River near Glen Rose, Tex.

Location.--Lat 32°15'40", long 97°41'50", on left bank 2 miles upstream from Paluxy Creek, 2.4 miles downstream from bridge on U. S. Highway 67, 4 miles northeast of Glen Rose, Somervell County, and at mile 509.

Drainage area.--24,840 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--October 1923 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 567.82 ft above mean sea level, datum of 1929. Prior to May 7, 1931, combination staff and inclined gage at site 300 ft downstream at same datum. Since Apr. 27, 1950, supplementary water-stage recorder as flood gage 2.4 miles upstream at bridge on U. S. Highway 67.

Average discharge.--32 years, 1,479 cfs (1,071,000 acre-ft per year).

Extremes.--Maximum discharge during year, 42,300 cfs Sept. 30 (gage height, 19.74 ft); minimum daily, 8.5 cfs May 9.

1923-55: Maximum discharge, 97,600 cfs May 18, 1935 (gage height, 23.68 ft), from rating curve extended above 68,000 cfs; no flow at times prior to construction of Possum Kingdom Dam.

Maximum stage known, about 30.0 ft May 8 or 9, 1922, from information by local residents.

Remarks.--Records good except those for periods of backwater, which are fair. Flow since 1941 largely regulated by Possum Kingdom Reservoir (see p. 134), except during major floods, and by several smaller reservoirs in Clear Fork and other basins, having a combined capacity of about 924,000 acre-ft. Many small diversions above station for irrigation, municipal supply, and oilfield operation.

Revisions (water years).--WSP 1058: 1932.

Rating table, water year 1954-55, except periods of backwater from debris or Paluxy Creek (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 22, Sept. 28, 29)

0.3	2.8	2.0	1,500
.4	11	3.0	3,010
.5	28	5.0	5,850
.6	56	8.0	10,400
.8	132	12.0	19,400
1.0	240	16.0	31,200
1.2	390	20.0	43,200
1.5	700		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	137	166	39	47	303	44	15	85	1,650	2,200	1,400	104
2	137	112	33	50	310	39	22	56	1,600	1,180	1,270	85
3	312	*85	36	53	247	41	24	39	2,100	886	1,180	70
4	471	70	44	53	210	60	20	28	1,860	510	*778	56
5	382	70	39	*56	186	151	16	22	2,380	358	1,030	47
6	358	60	*41	67	156	198	13	24	3,520	275	886	347
7	268	47	53	70	198	161	11	26	8,550	222	886	408
8	192	41	50	67	326	137	9.6	12	5,250	175	914	*247
9	142	44	41	63	*204	156	12	8.5	3,220	156	942	203
10	108	44	39	70	132	124	18	281	3,150	146	928	1,050
11	240	76	39	96	100	96	13	122	3,150	486	968	1,520
12	303	74	41	161	85	74	143	377	2,800	986	1,620	1,360
13	350	157	41	137	67	63	*277	303	2,280	844	1,500	804
14	254	228	39	116	56	*53	303	222	1,980	520	1,230	500
15	170	204	36	104	50	331	471	310	1,840	914	556	310
16	128	180	78	108	44	157	318	314	1,530	1,440	569	216
17	96	227	78	170	39	88	210	281	2,380	1,760	460	161
18	70	435	74	319	36	85	146	*552	1,810	1,650	334	175
19	81	240	60	326	41	96	132	16,300	2,660	1,220	280	161
20	85	170	50	247	50	96	161	*19,600	6,500	2,260	382	151
21	70	151	39	186	121	203	124	*8,350	13,400	1,700	726	142
22	60	116	39	156	146	176	92	*3,220	7,650	791	515	120
23	53	104	33	361	116	96	63	1,180	*4,410	490	303	5,000
24	47	92	39	480	88	70	67	652	3,220	366	204	2,240
25	39	78	39	426	74	53	33	426	3,010	604	161	560
26	36	67	36	350	63	41	24	334	2,940	956	424	453
27	53	56	33	254	56	33	250	457	2,940	928	460	9,300
28	60	47	36	186	47	28	261	2,100	2,940	471	282	*36,600
29	56	39	41	137	-	24	166	2,080	2,940	408	222	*40,200
30	92	39	47	268	-	20	112	2,380	2,800	956	170	*42,300
31	197	------	47	374	------	20	------	2,450	------	1,270	137	------
Total	5,047	3,519	1,380	5,558	3,551	3,014	3,506.6	62,591.5	106,460	27,128	21,717	144,890
Mean	163	117	44.5	179	127	97.2	117	2,019	3,549	875	701	4,830
Ac-ft	10,010	6,980	2,740	11,020	7,040	5,980	6,960	124,100	211,200	53,810	43,080	287,400

Calendar year 1954: Max 24,900 Min 18 Mean 964 Ac-ft 698,000
Water year 1954-55: Max 42,300 Min 8.5 Mean 1,064 Ac-ft 770,300

* Discharge measurement made on this day.

Note.--Backwater from debris or from Paluxy Creek May 18-20, Sept. 23; discharge computed by using fall as a factor.

Paluxy Creek at Glen Rose, Tex.

Location.--Lat 32°13'50", long 97°46'30", on left bank at downstream side of pier of bridge on U. S. Highway 67, 1 mile upstream from Cross Branch, 1.2 miles southwest of Glen Rose, Somervell County, and 4.7 miles upstream from mouth.
Drainage area.--399 sq mi.
Records available.--October 1923 to September 1925, May 1947 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 609.66 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. Oct. 27, 1923, to Sept. 30, 1925, chain gage at bridge 1.8 miles downstream at datum 13.62 ft lower.
Average discharge.--9 years (1924-25, 1947-55), 51.3 cfs (37,140 acre-ft per year).
Extremes.--Maximum discharge during year, 37,000 cfs May 19 (gage height, 22.5 ft); no flow Sept. 6-9.
1923-25, 1947-55: Maximum discharge, 48,500 cfs (revised) May 17, 1949 (gage height, 25.1 ft, from floodmark), from rating curve extended above 32,000 cfs by logarithmic plotting; no flow at times.
Maximum stage known, 27.2 ft Apr. 17, 1908, present site and datum. Flood of May 21, 1922, reached a stage of 26.0 ft, present site and datum. Flood of November 1918 reached about same stage as flood of May 21, 1922, from information by local resident.
Revisions.--Figures of maximum discharge for the water years 1949 and 1952 have been revised to 48,500 cfs May 17, 1949 (gage height, 25.1 ft, from floodmark) and 36,200 cfs May 23, 1952 (gage height, 22.3 ft, revised, superseding those published in WSP 1148 and 1242, respectively.
Remarks.--Records good.
Revisions.--Revised figures of discharge, in cubic feet per second, for high-water periods in the water years 1949 and 1952, superseding those published in WSP 1148 and 1242, are given herewith:

May 16, 1949	4,420
May 17, 1949	26,600
May 23, 1952	6,350
May 24, 1952	5,690

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
May 1949	36,927	26,600	28	1,191	73,240
Water year 1948-49	53,513.9	26,600	1.7	147	106,100
Calendar year 1949	56,339.1	26,600	5.5	154	111,800
May 1952	14,593.4	6,350	8.3	471	28,950
Water year 1951-52	-	6,350	0	48.6	35,320
Calendar year 1952	-	6,350	0	51.3	37,210

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	6.1	4.0	5.0	4.3	5.7	4.6	3.4	20	5.0	2.1	0.3
2	11	4.6	4.0	5.0	4.3	5.7	4.6	2.9	18	4.6	1.8	.2
3	3.0	4.6	4.0	5.0	4.6	5.3	4.3	2.7	16	4.3	1.6	.2
4	1.3	*16	4.3	5.0	18	5.3	4.3	2.5	16	4.0	*1.5	.1
5	1.4	21	3.7	*5.0	46	5.0	4.3	2.3	62	3.7	1.2	.1
6	1.1	9.0	3.4	4.6	30	4.6	4.3	2.3	25	3.7	1.1	0
7	.6	6.5	*3.4	4.3	16	4.6	4.3	1.9	15	3.2	.9	0
8	.5	5.0	3.7	4.3	11	4.3	4.0	1.8	25	2.7	.7	*0
9	.4	4.3	3.7	5.7	*8.5	4.3	5.7	1.6	40	2.5	.6	0
10	.3	54	3.7	9.9	7.0	4.3	9.2	339	57	2.5	.6	.2
11	.3	39	17	7.0	6.5	4.0	27	99	30	2.5	.6	98
12	.2	16	42	6.5	6.1	4.0	541	43	19	2.3	11	115
13	.2	9.0	15	6.1	5.7	4.3	100	22	14	2.1	5.8	22
14	.2	59	8.0	5.7	5.7	30	*31	9.6	12	1.9	2.5	6.5
15	.1	68	6.5	5.7	5.7	23	*20	6.1	15	1.9	1.3	4.0
16	.1	34	5.3	5.7	5.7	*11	14	146	87	1.9	.9	2.7
17	.2	17	5.0	5.7	5.7	8.0	11	*149	35	33	.6	1.8
18	.2	9.0	4.6	5.7	5.7	7.0	9.0	50	307	65	.4	1.3
19	.2	6.5	4.3	5.3	13	7.4	8.5	*6,900	142	31	28	1.0
20	.2	6.1	4.3	5.0	8.5	92	8.0	*361	54	12	22	.7
21	.2	5.3	4.3	5.3	7.0	64	7.0	131	43	58	6.1	.6
22	.2	4.6	4.3	5.0	7.0	15	6.1	*78	27	24	2.5	.5
23	.2	4.3	4.3	5.0	6.1	9.0	5.7	61	*18	12	1.1	*9,160
24	.2	4.3	4.3	4.6	5.7	8.0	5.0	51	14	7.4	.7	340
25	.3	4.3	4.0	4.6	5.7	6.5	4.6	44	11	5.7	.5	97
26	.3	4.3	4.6	4.6	5.7	5.7	4.3	43	9.6	5.0	.4	64
27	424	4.3	4.6	4.6	5.7	5.3	4.0	59	8.0	6.5	.3	47
28	125	3.7	5.3	4.6	5.7	5.3	4.3	44	7.0	4.6	.4	35
29	36	3.7	7.0	4.3	-	5.0	4.3	32	6.1	3.4	.3	29
30	14	3.7	9.0	4.3	-	5.0	3.7	27	5.7	2.9	.5	19
31	8.0	---	6.5	4.6	-----	5.0	------	24	------	2.5	.4	------
Total	640.9	437.2	208.1	163.7	266.6	373.6	868.1	18,740.1	1,158.4	321.8	98.4	10,046.2
Mean	20.7	14.6	6.71	5.28	9.52	12.1	28.9	605	38.6	10.4	3.17	335
Ac-ft	1,270	867	413	325	529	741	1,720	37,170	2,300	638	195	19,930

Calendar year 1954: Max 1,220 Min 0 Mean 18.6 Ac-ft 13,500
Water year 1954-55: Max 16,900 Min 0 Mean 91.3 Ac-ft 66,100

Peak discharge (base, 2,500 cfs).--May 19 (5 a.m.) 37,000 cfs (22.5 ft); Sept. 23 (12:30 p.m.) 18,100 cfs (16.9 ft).
* Discharge measurement or observation of no flow made on this day.
Note.--Computed from once-daily staff-gage readings Dec. 19 to Jan. 4.

Nolands River at Blum, Tex.

Location.--Lat 32°09'02", long 97°24'10", on right bank 30 ft upstream from bridge on county road from Blum to Rio Vista, 0.5 mile downstream from Gulf, Colorado and Santa Fe Railway bridge, 0.6 mile northwest of Blum, Hill County, 2.8 miles downstream from Mustang Creek, and 3.2 miles upstream from Rock Creek.

Drainage area.--276 sq mi.

Records available.--July 1924 to September 1925, November 1947 to September 1955.

Gage.--Water-stage recorder and wire-weight gage. Datum of gage is 551.48 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. July 29, 1924, to Sept. 30, 1925, and Nov. 14, 1947 to May 28, 1949, staff gage at railway bridge 0.5 mile upstream at datum 5.0 ft higher.

Average discharge.--8 years (1924-25, 1948-55), 48.1 cfs (34,820 acre-ft per year).

Extremes.--Maximum discharge during year, 8,200 cfs May 19 (gage height, 12.53 ft); no flow at times.

1924-25, 1947-55: Maximum discharge, 25,000 cfs May 17, 1949 (gage height, 24.0 ft, from floodmark), from rating curve extended above 16,000 cfs by logarithmic plotting; no flow at times.

Maximum stage known since 1887, 35.0 ft May 8, 1922, present site and datum, from information by local resident.

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

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	421	1.5	1.0	1.8	1.4	1.4	0.9	0.6	4.2	*0.7	0	6.1
2	21	1.2	.6	1.7	*1.5	1.2	1.1	.6	4.2	.8	0	2.4
3	5.6	4.7	.6	*1.7	2.0	1.1	2.0	.6	4.2	.6	0	1.4
4	2.4	6.6	.7	1.8	4.2	1.1	1.8	.6	4.5	.6	0	1.0
5	1.5	*4.6	.7	1.7	11	1.1	1.5	.6	9.0	.6	*0	.9
6	1.1	3.2	.5	1.5	5.1	1.1	1.1	.8	7.2	.6	0	.8
7	.9	2.2	.6	1.4	3.2	1.0	.9	.8	7.2	.4	0	.7
8	.9	1.8	.8	1.4	2.4	.9	.7	.6	95	.3	0	.5
9	1.0	13	.8	1.8	2.0	.8	1.0	.4	32	.2	.2	*.5
10	.9	10	.7	4.8	1.5	.8	3.0	23	9.4	.2	2.8	.6
11	.8	2.0	.8	8.2	1.1	.7	6.1	115	4.2	0	499	153
12	1.0	1.4	2.6	3.8	1.1	.7	200	73	2.4	0	80	18
13	.9	1.2	3.5	2.6	1.0	.6	38	21	1.7	0	11	8.3
14	.8	115	2.8	2.2	1.0	.4	10	9.1	1.1	0	4.2	3.5
15	.6	20	2.0	1.8	1.0	.4	*6.2	4.8	1.4	0	2.2	1.7
16	.5	8.1	1.5	1.8	1.1	.5	4.5	11	59	0	1.4	1.0
17	.5	3.0	1.4	1.5	1.2	*.8	3.7	4.6	9.2	0	1.1	.8
18	.6	1.2	1.2	1.8	1.2	.8	2.8	7.6	754	0	.9	.7
19	.6	.9	1.1	1.7	1.5	.8	2.2	3,460	89	0	.9	.5
20	.7	.8	1.1	1.5	2.8	.8	1.8	151	44	0	1.1	.4
21	.8	.8	1.1	1.8	4.8	11	1.8	37	16	0	1.1	.4
22	.8	.6	1.1	1.7	2.6	5.2	1.8	18	12	0	1.1	.4
23	.8	.6	1.1	1.7	2.0	2.6	1.7	10	7.2	0	.9	2,030
24	.7	.8	1.1	1.7	1.5	2.2	1.4	7.2	3.5	0	.8	269
25	.7	.7	1.1	1.7	1.5	1.7	1.2	5.2	2.2	0	.7	60
26	.7	.8	1.1	1.5	1.5	1.1	1.2	261	1.7	0	.7	19
27	9.3	.8	1.1	1.4	1.5	1.0	1.1	32	1.4	0	.6	12
28	7.1	.8	1.7	1.5	1.4	.9	1.1	12	1.1	0	.6	9.4
29	4.5	*.6	1.8	1.5	-	.8	.9	8.3	.8	0	.8	8.0
30	3.5	.6	1.5	1.5	- -	.8	.7	9.0	.8	0	275	6.9
31	2.2	- - -	1.7	1.5	- - - - -	.8	- - - - -	5.8	- - - - -	0	33	- - - - -
Total	494.4	209.5	39.4	64.0	64.1	45.1	302.2	4,291.2	1,189.6	5.0	920.1	2,617.9
Mean	15.9	6.98	1.27	2.06	2.29	1.45	10.1	138	39.7	0.17	29.7	87.3
Ac-ft	981	416	78	127	127	89	599	8,510	2,360	9.9	1,820	5,190

Calendar year 1954: Max 421 Min 0 Mean 5.10 Ac-ft 3,690
Water year 1954-55: Max 3,460 Min 0 Mean 28.1 Ac-ft 20,310

Peak discharge (base, 5,000 cfs).--May 19 (11:30 a.m.) 8,200 cfs (12.53 ft); Sept. 23 (12:15 p.m.) 6,290 cfs (10.93 ft).

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

Whitney Reservoir near Whitney, Tex.

Location.--Lat 31°52', long 97°22', on State Highway 22, in intake structure of Whitney Dam on Brazos River, 2.4 miles upstream from Coon Creek, 4.0 miles upstream from Iron Creek, 7.4 miles southwest of Whitney, Hill County, and at mile 442.

Drainage area.--26,170 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--December 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929 (levels by Corps of Engineers).

Extremes.--Maximum contents during year, 490,100 acre-ft May 21 (elevation, 525.89 ft); minimum, 339,000 acre-ft Nov. 3 (elevation, 516.78 ft).
1951-55: Maximum contents, that of May 21, 1955; minimum daily since power pool elevation was first reached in April 1954, that of Nov. 3, 1954.

Remarks.--Reservoir is formed by concrete gravity and rolled-earth dam. Dam completed in December 1950 and storage began Dec. 10, 1951. Total capacity, 2,017,500 acre-ft (elevation, 571.0 ft, top of taintor gates), of which 387,000 acre-ft (elevation, 520.0 ft) is allocated as base for power production and silt catchment and 1,630,500 acre-ft (elevation, 571.0 ft) is allocated for flood-control storage. Capacity at spillway crest, 642,200 acre-ft (elevation, 533.0 ft). Flood-control outlet works consist of sixteen 5- by 9-foot conduits, gate controlled, with sills at elevation 448.83 ft. There are two 16-foot diameter penstocks with inverts at elevation 476.0 ft. Reservoir designed for flood control and power development.

Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	351,400	339,600	345,000	342,100	350,700	356,100	355,800	363,100	404,100	389,600	373,300	372,000
2	351,400	339,200	344,800	342,100	350,400	356,000	355,500	362,500	400,300	387,800	374,100	370,100
3	351,300	339,700	344,800	342,100	351,000	356,000	355,100	362,500	395,500	388,800	375,000	369,700
4	351,400	339,700	344,500	342,100	351,100	356,000	355,500	362,600	390,200	387,000	375,500	369,500
5	351,900	339,600	344,400	342,800	353,600	356,500	356,500	362,500	385,000	385,800	375,200	367,600
6	352,300	339,400	344,100	342,400	353,900	356,500	356,700	363,200	381,100	384,300	376,600	365,000
7	351,600	339,400	343,800	342,300	354,200	356,500	356,100	362,800	388,800	382,500	377,300	362,900
8	351,600	339,300	343,800	342,300	354,300	356,500	355,400	362,500	395,500	380,100	375,800	359,800
9	351,300	339,300	343,500	343,500	354,500	356,500	356,700	362,200	393,200	380,000	375,000	359,600
10	351,100	339,300	343,400	343,400	354,800	356,700	357,000	364,000	390,400	380,000	375,000	361,000
11	351,000	339,300	343,400	343,300	354,900	356,700	356,500	367,600	387,700	377,600	380,000	364,400
12	351,000	339,300	343,300	343,500	354,900	357,300	358,500	368,000	384,300	376,900	381,800	367,100
13	350,900	339,300	343,100	343,300	355,200	357,300	359,500	368,300	382,300	375,300	384,000	368,900
14	350,700	343,300	343,000	343,800	355,100	357,000	359,900	368,600	384,700	373,200	386,100	368,600
15	350,300	344,500	342,800	344,000	355,400	357,400	361,100	368,600	388,800	372,100	386,100	367,000
16	349,700	344,500	342,700	344,000	355,800	357,400	361,700	371,500	390,200	375,000	384,800	366,200
17	349,400	345,100	342,500	344,700	355,500	357,600	362,500	372,100	389,700	378,400	382,900	366,200
18	349,000	345,400	342,400	344,700	355,400	357,700	362,500	373,000	390,400	380,700	383,400	366,200
19	348,400	345,700	342,400	345,000	357,000	357,600	362,800	438,800	386,200	382,900	382,000	364,300
20	347,800	346,000	342,400	345,800	356,500	358,800	363,500	476,600	387,700	385,100	380,300	362,200
21	347,400	346,200	342,500	346,100	356,200	358,600	363,500	490,100	405,400	387,200	378,300	361,300
22	347,100	346,100	342,400	346,700	356,100	358,500	363,500	485,900	406,700	384,500	378,700	359,900
23	346,700	346,000	342,400	346,400	356,100	358,500	363,500	471,000	399,500	381,500	378,400	403,300
24	346,700	346,000	342,400	347,200	356,400	358,600	363,500	447,300	393,700	380,100	376,900	404,700
25	345,100	345,700	342,300	347,700	356,400	358,300	363,200	423,500	390,400	377,600	375,500	398,400
26	343,500	345,700	342,300	348,800	356,400	358,000	362,600	417,600	387,000	377,600	374,100	382,900
27	343,300	345,700	342,300	349,100	356,500	357,600	362,500	411,900	385,800	377,300	374,100	360,200
28	342,100	345,400	342,300	349,400	356,500	357,400	362,900	408,000	386,900	374,700	374,600	381,100
29	341,600	345,100	342,100	349,600	-	357,000	363,200	407,400	388,300	372,300	374,100	416,200
30	340,600	345,100	342,000	349,300	-------	356,700	363,200	405,900	388,800	373,300	375,200	454,800
31	340,400	-------	342,000	349,300	-------	356,500	-------	404,700	-------	374,100	373,500	-------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	517.02	342,400	-
Oct. 31	516.88	340,400	-2,000
Nov. 30	517.21	345,100	+4,700
Dec. 31	516.99	342,000	-3,100
Calendar year 1954	-	--	-25,300
Jan. 31	517.50	349,300	+7,300
Feb. 28	518.00	356,500	+7,200
Mar. 31	518.00	356,500	0
Apr. 30	518.45	363,200	+6,700
May 31	521.10	404,700	+41,500
June 30	520.11	388,800	-15,900
July 31	519.17	374,100	-14,700
Aug. 31	519.13	373,500	-600
Sept.30	524.00	454,800	+81,300
Water year 1954-55	-	-	+112,400

† Elevation at 12 p.m.

Brazos River near Whitney, Tex.

Location.--Lat 31°50'30", long 97°19'30", on right bank 3,000 ft upstream from Iron Creek, 1.0 mile downstream from Coon Creek, 3.4 miles downstream from Whitney Dam, 7.5 miles south of Whitney, Hill County, and at mile 439.

Drainage area.--26,190 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--October 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 417.39 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Nov. 29, 1938, chain gage and Nov. 29, 1938, to Sept. 30, 1948, wire-weight gage, at site 8.3 miles upstream at datum 14.67 ft higher.

Average discharge.--17 years, 1,519 cfs (1,100,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,200 cfs Sept. 30 (gage height, 15.53 ft); minimum daily, 17 cfs Mar. 2.
1938-55: Maximum discharge, 71,800 cfs May 18, 1949 (gage height, 31.03 ft); minimum daily, 0.4 cfs May 9, 1953.
Maximum stage known since 1853, about 45 ft May 9, 1922, from information by local residents.

Remarks.--Records good. Flow regulated by Whitney Reservoir (see preceding page) and Possum Kingdom Reservoir (see p. 134) on Brazos River, and several smaller reservoirs in Clear Fork and other basins, having a combined capacity of about 1,311,000 acre-ft. Many small diversions above station for irrigation, municipal supply, and oilfield operations. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-21)

Oct. 1 to May 18		May 19 to Sept. 30			
4.5	9.8	4.3	14	7.0	1,380
4.6	18	4.4	24	8.0	2,440
4.8	52	4.6	55	10.0	5,420
5.0	110	4.8	99	12.0	9,500
5.5	300	5.0	157	14.0	14,600
6.0	540	5.5	350	17.0	24,600
6.7	970	6.0	620		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	837	528	26	32	31	339	55	58	2,100	1,520	1,540	671
2	305	53	32	32	*31	17	57	73	2,990	2,290	642	764
3	294	82	42	*32	47	34	57	56	3,990	423	560	140
4	286	*64	57	29	38	38	69	40	4,920	1,260	465	141
5	275	*52	55	29	50	40	62	31	4,600	868	*898	805
6	272	50	62	29	50	40	119	49	4,600	886	78	1,180
7	499	50	*29	29	48	38	68	47	4,600	923	282	1,380
8	262	50	34	31	48	38	283	48	4,440	1,140	1,610	1,930
9	205	52	34	36	48	38	53	61	4,440	59	1,270	*109
10	84	52	34	38	52	36	74	66	4,440	40	931	54
11	222	46	36	29	52	38	46	52	4,440	1,170	58	43
12	240	44	34	31	52	32	65	50	4,440	1,170	385	119
13	246	38	34	32	52	31	77	304	3,260	1,460	226	22
14	231	116	36	32	52	32	*58	58	1,010	1,670	60	686
15	241	58	40	32	52	31	66	59	319	1,500	604	1,050
16	234	44	26	31	52	66	74	48	942	151	934	647
17	74	42	22	32	52	*148	52	48	1,900	195	1,300	43
18	213	44	24	38	57	59	70	*66	2,970	177	216	175
19	242	44	24	29	171	67	87	1,450	4,440	122	852	914
20	234	52	25	32	43	106	97	2,300	3,790	245	957	947
21	244	52	25	32	32	95	79	3,390	5,950	825	1,590	531
22	164	50	25	32	32	47	80	6,160	9,260	2,190	381	748
23	125	62	36	32	31	32	100	*10,100	9,030	1,970	427	1,510
24	38	24	40	31	31	158	56	*13,600	*6,160	887	900	4,600
25	814	31	40	29	29	33	48	13,000	4,440	1,500	749	4,600
26	869	29	40	29	29	55	93	6,100	4,440	679	695	8,970
27	840	25	40	32	29	50	70	3,960	3,330	1,010	399	15,800
28	908	24	34	32	29	52	99	3,160	2,040	1,810	46	18,200
29	392	24	29	32	-	52	72	2,030	1,700	1,370	434	18,600
30	265	24	32	32	-- --	55	63	2,380	2,260	155	311	*19,200
31	43	------	32	32	------	55	------	2,390	------	443	991	------
Total	10,198	1,906	1,079	982	1,320	1,950	2,349	71,234	117,241	30,108	20,791	104,581
Mean	329	63.5	34.8	31.7	47.1	62.9	78.3	2,298	3,908	971	671	3,486
Ac-ft	20,230	3,780	2,140	1,950	2,620	3,870	4,660	141,300	232,500	59,720	41,240	207,400

Calendar year 1954 : Max 21,600 Min 18 Mean 927 Ac-ft 671,100
Water year 1954-55 : Max 19,200 Min 17 Mean 997 Ac-ft 721,400

* Discharge measurement made on this day.

Aquilla Creek near Aquilla, Tex.

Location.--Lat 31°51', long 97°12', on right bank just upstream from pier of bridge on Abbot-Aquilla county road, three-quarters of a mile upstream from Palls Branch and 1 mile southeast of Aquilla, Hill County.

Drainage area.--309 sq mi.

Records available.--December 1924 to August 1925, December 1938 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 450 ft (by barometer). Dec. 9, 1924, to Aug. 31, 1925, chain gage at same site and datum.

Average discharge.--16 years (1939-55), 108 cfs (78,190 acre-ft per year).

Extremes.--Maximum discharge during year, 4,850 cfs May 19 (gage height, 23.32 ft); no flow at times.

1924-25, 1938-55: Maximum gage height, 30.84 ft May 2, 1944 (discharge not determined); no flow at times.

Maximum stage known 34 ft Aug. 31, 1887, from information by local resident. Flood of Sept. 27, 1936, reached a stage of about 33 ft, from floodmark. Peak discharge of this flood as determined about 9 miles downstream from station, 84,500 cfs, by slope-area determination (drainage area, 370 sq mi).

Remarks.--Records good except those for period of no gage-height records, which are fair. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 27 to Feb. 3)

2.2	0	4.0	72
2.3	.1	5.0	160
2.4	.5	7.0	390
2.5	1.2	9.0	680
2.6	2.4	11.0	1,020
2.8	6.4	13.0	1,460
3.0	13	16.0	2,210
3.2	21	19.0	3,000
3.5	38		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*a1,100	0.4	0.1	0.3	0.1	0.3	a1	a0	1.4	**0.1	0	
2	1,180	.2	.1	.4	.1	.3	a1	a0	.8	.1	0	
3	26	98	.1	.4	.1	.1	a.7	a0	.7	0	1.6	
4	5.7	70	.1	*.5	46	.1	a.5	a0	.5	0	.2	
5	96	4.7	.1	.5	19	.1	a.3	a0	.5	0	*0	
6	62	1.2	.1	.4	6.0	.1	a150	a0	.6	0	0	
7	2.9	.6	.1	.4	3.1	.2	a15	a0	.8	0	0	
8	1.0	.4	.1	.4	*1.8	.3	a5	a0	31	0	0	
9	.6	1.6	0	.4	1.2	.3	a90	a0	124	0	0	(*)
10	.4	2.9	0	.6	1.0	.3	a80	a3	35	0	0	
11	.4	1.1	0	1.4	.8	.2	a10	a50	5.5	0	231	
12	.4	.5	0	.6	.7	.2	a7	a5	1.7	0	190	
13	2.8	.3	0	.2	.7	.3	a5	5	.8	0	9.2	
14	1.3	213	0	.1	.6	.3	a4	a2	.4	0	1.3	
15	.6	278	0	.1	.5	.3	*2.3	a.5	.2	2.7	.4	
16	.4	36	0	.1	.4	.3	1.1	a.1	514	32	.1	
17	.2	8.8	0	.1	.5	*.2	.7	a5	183	19	0	
18	.1	2.6	0	.4	.6	.3	.4	*a4	292	124	0	
19	.1	1.3	0	.6	520	.3	.3	2,640	260	12	0	
20	.1	.7	0	.6	60	229	28	596	52	1.4	.2	
21	0	.4	0	.3	4.6	491	17	30	194	.3	1.6	
22	0	.4	0	.1	1.2	22	2.0	9.6	a12	.1	.6	
23	0	.4	0	.1	.8	a8	.5	19	a3	0	.4	
24	0	.3	0	.1	.5	a5	.1	4.6	a1	0	.1	
25	0	.3	0	.1	.3	a4	a0	2.0	a.7	0	0	
26	0	.3	0	.1	.3	a4	a0	672	a.5	0	0	
27	0	.2	0	.1	.3	a3	a0	68	a.3	0	0	
28	.5	.1	0	.1	.3	a3	a0	139	a.2	0	0	
29	*1.6	**.1	.1	.1	-	a2	a0	48	a.1	0	0	
30	1.0	.1	.2	.1		a2	a0	7.5	a.1	0	0	
31	.6		.3	.1	- -	a2	- - - - - -	2.7	- - - - - -	0	0	- - - - - -
Total	2,484.7	724.9	1.4	9.8	671.3	779.5	421.9	4,323.0	1,716.8	191.7	436.7	0
Mean	80.2	24.2	0.05	0.32	24.0	25.1	14.1	139	57.2	6.18	14.1	0
Ac-ft	4,930	1,440	2.8	19	1,330	1,550	837	8,570	3,410	380	866	0

Calendar year 1954: Max 1,260 Min 0 Mean 18.3 Ac-ft 13,220
Water year 1954-55: Max 2,640 Min 0 Mean 32.2 Ac-ft 23,330

Peak discharge (base, 7,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations.

North Bosque River near Clifton, Tex.

Location.--Lat 31°48', long 97°35', on right bank 730 ft upstream from Gulf, Colorado and Santa Fe Railway bridge, and 1.4 miles northwest of Clifton, Bosque County.

Drainage area.--974 sq mi.

Records available.--November 1923 to September 1955.

Gage.--Staff gage read twice daily, oftener during floods. Datum of gage is 622.67 ft above mean sea level, datum of 1929. After July 14, auxiliary water-stage recorder at site 1.1 miles downstream at datum 17.02 ft lower.

Average discharge.--32 years, 192 cfs (139,000 acre-ft per year).

Extremes.--Maximum discharge during year, 21,300 cfs May 19 (gage height, 14.0 ft, from floodmark); no flow July 11-15, Aug. 2 to Sept. 22.
1923-55: Maximum discharge, 39,000 cfs Apr. 22, 1945 (gage height, 23.2 ft, from floodmark); no flow at times.
Maximum stage since 1887, 25 ft May 9, 1922, from information by local resident.

Remarks.--Records good.

Revisions (water years).--WSP 788: 1924-33. WSP 1058: 1945(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 26 to Jan. 20, Feb. 4)

0.2	0	1.0	98
.3	.2	1.2	166
.4	.9	1.5	354
.5	3.0	2.0	780
.6	10	3.0	2,000
.7	24	4.0	3,610
.8	43	7.0	9,750

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*875	17	1.1	0.5	0.4	1.4	2.5	1.6	30	2.3	0.1	0
2	38	9.2	2.3	.5	*.4	1.4	2.0	1.6	26	2.0	0	0
3	a10	8.3	2.5	*.8	.4	1.4	1.8	1.4	23	1.8	0	0
4	a4.1	*6.6	2.3	.2	1.3	1.3	1.8	1.1	21	1.3	*0	0
5	2.5	4.1	1.3	.3	2.0	1.3	1.8	.9	a160	.8	0	0
6	32	3.6	1.1	.3	23	1.3	1.6	.8	144	.7	0	0
7	4.7	3.6	1.4	.3	18	1.2	48.0	.7	68	.4	0	0
8	2.0	3.0	1.8	.3	11	1.2	48	.6	56	.2	0	*0
9	a1.6	3.0	1.4	.6	9.2	1.2	39	.5	438	.1	0	0
10	1.3	4.7	1.3	.5	7.5	1.1	34	1.3	140	.1	0	0
11	.5	a40	.9	.6	5.8	1.1	48	1,600	77	0	0	0
12	.6	60	.8	.6	4.7	1.1	24	176	46	0	0	0
13	18	56	.6	.6	3.6	1.0	540	104	32	0	0	0
14	39	a60	.6	.6	3.0	1.0	*120	58	24	0	0	0
15	16	206	.6	.6	2.8	.9	53	39	830	0	0	0
16	7.5	126	.6	.8	2.5	.8	35	21	213	14	0	0
17	a4.1	68	.5	.6	2.5	.7	24	198	86	66	0	0
18	3.0	35	.4	.6	2.5	.6	17	*141	48	35	0	0
19	2.5	21	.6	.6	2.3	.5	21	8,360	43	11	0	0
20	2.0	16	.6	.6	2.3	a1	14	5,360	a70	7.5	0	0
21	1.4	10	.6	.5	2.3	a20	8.3	245	327	7.5	0	0
22	1.1	10	.8	.5	2.0	a30	5.8	a120	71	5.2	0	0
23	.9	8.3	.7	.5	2.0	20	4.1	a90	*35	4.1	0	2,800
24	.8	6.6	.7	.5	2.0	16	4.1	63	20	5.8	0	*1,110
25	.8	4.1	.6	.5	1.8	8.3	3.0	50	18	5.8	0	155
26	.8	3.6	.6	.4	1.8	6.6	3.0	270	11	4.1	0	63
27	.9	3.6	.6	.4	1.6	5.2	3.0	*182	5.8	2.5	0	35
28	2.3	3.0	.6	.4	*1.6	4.1	2.8	98	4.7	1.6	0	68
29	26	2.0	.5	.4	-	3.0	2.3	a20	3.0	.8	0	30
30	56	*1.3	.5	.4	- - -	3.0	2.0	a10	2.5	*.6	0	*16
31	32	- - - -	.5	.4	- - - - -	3.0	- - - - -	a5	- - - - -	.2	0	- - - - -
Total	1,187.4	803.6	29.4	15.4	120.3	140.7	1,114.9	17,220.5	3,073.0	181.4	0.1	4,277
Mean	38.3	26.8	0.95	0.50	4.30	4.54	37.2	556	102	5.85	0.003	143
Ac-ft	2,360	1,590	58	31	239	279	2,210	34,160	6,100	360	0.2	8,480

Calendar year 1954: Max 1,510 Min 0 Mean 15.9 Ac-ft 11,540
Water year 1954-55: Max 8,360 Min 0 Mean 77.2 Ac-ft 55,870

Peak discharge (base, 8,300 cfs).--May 19 (11 p.m.) 21,300 cfs (14.0 ft); Sept. 23 (5 p.m.) 11,100 cfs (7.66 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records, engineers' notes, and records for nearby stations.

Note.--Doubtful gage-height record Jan. 21 to Feb. 3 and Feb. 14 to Mar. 19; discharge estimated on basis of discharge measurements, engineers' notes, weather records and records for nearby stations.

Brazos River at Waco, Tex.

Location.--Lat 31°33'40", long 97°07'45", on right bank at downstream side of pier of Washington Avenue Bridge in Waco, McLennan County, 2½ miles downstream from Bosque River and at mile 404.

Drainage area.--28,500 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--September 1898 to September 1955 (January 1912 to September 1914 monthly records only, published in WSP 850). Gage-height records collected in this vicinity since 1900 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 356.80 ft above mean sea level, datum of 1929, supplementary adjustment of 1942. Sept. 14, 1898, to Mar. 28, 1918, and May 6, 1922, to Feb. 12, 1934, staff or chain gages at several sites within about 350 ft of present site at same datum. May 28, 1918, to May 5, 1922, and Feb. 13, 1925, to Sept. 29, 1934, water-stage recorder at site about 300 ft downstream at same datum.

Average discharge.--57 years, 2,506 cfs (1,814,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23,600 cfs May 19 (gage height, 18.68 ft); minimum daily, 35 cfs Dec. 19, 20, Jan. 7.

1898-1955: Maximum discharge, 246,000 cfs Sept. 27, 1936 (gage height, 40.90 ft, levee on left bank was overtopped and broken by flood); minimum discharge for periods of daily record 1898-1911, 1914-55, no flow Aug. 20, 21, 1918, and probably for several days in August 1923.

Maximum stage 1854-97, 34.2 ft May 28, 1885. A stage of 39.7 ft was reached Dec. 3, 1913, when levee on left bank was broken by flood, from information by U. S. Weather Bureau.

Remarks.--Records good. Flow regulated by Possum Kingdom and Whitney Reservoirs on Brazos River (see p. 134, 140), several small reservoirs in Clear Fork and other basins (combined capacity, 184,000 acre-ft), and Lake Waco on Bosque River (capacity, 22,000 acre-ft); total combined capacity of all reservoirs, about 1,333,000 acre-ft. A siltation survey of Lake Waco by the Soil Conservation Service of the U. S. Department of Agriculture in December 1947 indicates a 44.07 percent capacity loss from siltation since storage began in April 1930. Many small diversions above station for municipal supply, irrigation, and oil field operation.

Revisions (water years).--WSP 850: 1899-1905, 1907-10 (monthly and yearly summaries only).

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 2, 3, 26-29)

Oct. 1 to Jan. 4				Jan. 5 to Sept. 30			
3.6	34	5.0	470	3.6	35	7.0	1,790
4.0	87	6.0	1,230	4.0	99	9.0	3,900
4.3	154	7.0	2,050	4.3	170	12	8,200
4.6	260	9.0	4,250	4.6	265	16	16,000
				5.0	429	19	24,500
				6.0	1,020		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*646	190	40	38	43	66	135	69	1,920	2,040	482	870
2	3,000	398	39	38	43	285	86	62	2,020	1,490	1,350	628
3	718	203	38	40	62	145	66	54	3,150	2,110	686	715
4	266	274	38	*39	95	66	62	62	4,920	578	571	224
5	232	194	41	40	140	59	64	54	4,380	1,260	*512	161
6	342	93	44	39	107	59	425	65	4,260	909	836	649
7	241	75	45	35	76	56	265	73	4,380	916	227	1,040
8	445	70	46	37	*66	54	112	58	4,780	932	187	1,220
9	221	67	42	47	60	52	216	45	4,920	1,130	1,440	*1,800
10	154	66	37	53	59	53	427	47	4,920	268	1,200	289
11	138	66	45	48	53	52	288	72	4,260	130	939	488
12	95	66	42	45	54	50	132	580	4,260	1,000	513	182
13	170	63	41	41	54	47	199	107	4,380	1,110	406	120
14	166	114	40	42	58	46	148	340	1,920	1,390	283	125
15	166	799	45	46	58	46	*176	198	1,170	1,600	210	470
16	173	370	45	48	58	46	142	899	1,480	1,540	423	908
17	173	115	44	49	53	*45	128	*1,410	1,740	335	860	653
18	154	87	41	87	53	67	118	633	2,460	597	1,230	220
19	94	73	35	53	519	71	95	13,500	4,320	373	417	105
20	179	69	35	48	1,490	114	166	16,000	4,500	238	799	741
21	182	67	36	43	240	1,860	454	*4,490	4,500	220	949	735
22	192	64	36	43	128	603	168	4,330	8,730	799	1,410	536
23	146	62	36	43	101	158	156	*8,060	9,480	2,160	408	724
24	124	62	36	42	86	103	107	12,700	*8,520	1,690	422	3,270
25	104	63	38	42	78	119	91	*14,200	4,640	802	835	4,500
26	667	55	51	43	75	122	67	12,600	4,380	1,380	702	4,790
27	958	51	46	43	73	71	60	6,760	4,380	698	666	*13,400
28	936	45	42	43	67	76	88	3,900	2,500	980	399	18,500
29	*973	42	41	42	-	73	73	2,740	2,010	1,690	203	18,000
30	430	*38	41	43	------	71	86	2,060	1,580	1,320	409	18,000
31	295	------	38	43	------	73	------	2,350	------	266	334	------
Total	12,780	4,001	1,264	1,383	4,049	4,808	4,800	108,518	120,860	31,951	20,308	94,063
Mean	412	133	40.8	44.6	145	155	160	3,501	4,029	1,031	655	3,135
Ac-ft	25,350	7,940	2,510	2,740	8,030	9,540	9,520	215,200	239,700	63,370	40,280	186,600

Calendar year 1954: Max 21,600 Min 35 Mean 1,052 Ac-ft 761,400
Water year 1954-55: Max 18,500 Min 35 Mean 1,120 Ac-ft 810,800

* Discharge measurement made on this day.

Leon Reservoir near Ranger, Tex.

Location.--Lat 32°21'30", long 98°41'00", at outlet works structure near center of dam, on Leon River, 7 miles south of Ranger, Eastland County, and 9 miles southeast of Eastland.

Drainage area.--293 sq mi.

Records available.--January to September 1955.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929.

Extremes.--Maximum contents observed during period, 19,640 acre-ft June 21-24 (elevation, 1,369.5 ft); minimum observed, 839 acre-ft Jan. 21 (elevation, 1,334.7 ft).

Remarks.--Reservoir is formed by rolled-fill earthen dam 3,700 ft long. Storage began April 1954; dam completed June 1954. Dam is property of Eastland County Water Supply District and was built to impound water for municipal use by cities of Ranger, Olden, and Eastland (see table below for diversions). Service spillway is uncontrolled circular drop outlet designed to discharge 5,000 cfs through 11-foot diameter concrete conduit. Emergency spillway 1,200 ft wide cut through natural ground near left end of dam. Reservoir capacity at service spillway, 27,290 acre-ft (elevation, 1,375.0 ft); reservoir capacity at emergency spillway, 40,210 acre-ft (elevation, 1,382.0 ft). Dead storage, 869 acre-ft (elevation, 1,335.0 ft). Water can be withdrawn for municipal use down to elevation 1,335.0 ft.

Cooperation.--Capacity curve and table furnished by Freese and Nichols, consulting engineers. Record of lake elevations and diversions for municipal use furnished by Eastland County Water Supply District.

Month-end elevation, contents, and monthly diversions, January to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions for municipal use (acre-feet)
Jan. 31	-	a1,060	-	-
Feb. 28	-	a1,110	+50	-
Mar. 31	-	a1,050	-60	-
Apr. 30	-	a1,000	-50	-
May 31	1,365.2	14,840	+13,840	-
June 30	1,369.3	19,390	+4,550	-
July 31	1,368.9	18,910	-480	72
Aug. 31	1,368.1	17,980	-930	164
Sept.30	1,367.8	17,640	-340	120
The period	-	-	-	356

† Elevation at 6 a.m.
a No gage-height record; contents estimated.

Leon River near Hasse, Tex.

Location.--Lat 31°57', long 98°28', on left bank at downstream side of bridge on U. S. Highways 67 and 377, 800 ft upstream from Gulf, Colorado and Santa Fe Railway bridge, 0.4 mile upstream from Walnut Creek, 2.1 miles northeast of Hasse, Comanche County, and 2.2 miles downstream from Copperas Creek.

Drainage area.--1,276 sq mi.

Records available.--January 1939 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,115.01 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942.

Average discharge.--16 years, 149 cfs (107,900 acre-ft per year).

Extremes.--Maximum discharge during year, 13,400 cfs May 19 (gage height, 16.77 ft); no flow at times.

1939-55: Maximum discharge, 38,500 cfs (revised) May 24, 1952 (gage height, 21.49 ft); no flow at times.

Maximum stage known since at least 1858, about 27 ft in May 1908, from information by local resident. At location about 2½ miles upstream, flood of May 1908 was 9.1 ft higher than that of May 1952, from floodmarks pointed out by local resident.

Revisions.--The maximum discharge for the water year 1952 has been revised to 38,500 cfs May 24, 1952 (gage height, 21.49 ft), superseding figure published in WSP 1242.

Remarks.--Records fair. No large diversion above station.

Revisions (water years).--WSP 1342: 1952. Revised figures of discharge, in cubic feet per second, for high-water period in the water year 1952, superseding those published in WSP 1342, are given herewith:

May 23, 1952..... 5,240
May 24, 1952..... 19,700

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
May 1952	30,004.8	19,700	0	968	59,510
Water year 1951-52	-	19,700	0	86.2	62,590
Calendar year 1952	-	19,700	0	88.7	64,400

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 15, Apr. 13, May 20, 21)

3.0	0	5.0	344
3.1	1.2	7.0	670
3.2	3.7	10.0	1,200
3.3	7.0	11.0	1,460
3.4	12	12.0	1,940
3.6	24	13.0	3,000
3.8	44	14.0	4,700
4.1	96	15.0	7,000
4.5	213		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	325	1.4	0.4	0.3	0.2	1.6	1.2	1.0	19	7.8		0
2	18	.3	.3	.3	.2	1.6	1.2	.9	15	6.2		0
3	1.8	0	.3	.3	.3	1.6	1.0	.7	13	5.1		0
4	0	9.5	.3	.3	129	1.4	1.2	.6	13	4.5		0
5	0	2.1	.1	.4	223	1.4	23	.4	164	3.9		0
6	47	.7	.1	.4	100	.9	345	.4	133	3.4		0
7	16	0	.1	.4	36	.9	46	.3	37	2.8		0
8	1.5	0	.1	.4	16	.7	12	.1	21	2.3		0
9	.1	0	0	.6	9.1	.7	5.5	0	85	2.1		0
10	0	160	0	1.4	5.5	.9	156	15	159	1.6		0
11	49	90	.4	.9	3.4	1.0	56	239	79	1.4		0
12	*882	15	3.7	1.0	2.3	.9	2,140	117	40	1.0		0
13	*155	4.8	.7	1.0	1.8	68	*1,150	36	21	.9		0
14	18	93	*.4	1.0	1.6	124	*114	12	*13	.7		0
15	3.8	*805	.3	.9	1.4	26	40	4.8	417	*.6		0
16	1.0	486	.3	.7	1.4	*8.7	22	2.3	1,010	52		0
17	0	140	.3	.7	*1.2	4.5	15	1.2	953	461		0
18	0	40	.2	1.2	1.4	3.1	11	19	410	67	(*)	0
19	0	17	.2	*1.2	1.6	2.8	8.3	*5,220	115	98		0
20	0	10	.1	3.7	1.4	3.9	7.4	6,670	188	153		0
21	0	5.8	.1	2.1	1.2	30	*6.2	*3,360	714	67		0
22	0	3.7	.1	1.0	1.2	8.4	5.1	*1,400	856	32		*0
23	0	2.3	.2	.6	1.0	3.1	4.2	518	139	14		625
24	0	1.6	.2	.4	.9	1.8	3.1	216	48	12		797
25	0	1.2	.1	.4	.9	1.4	2.6	78	30	20		88
26	0	1.0	.1	.3	1.0	1.0	1.8	*192	22	4.7		45
27	5.7	.9	.2	.2	1.4	.9	1.6	563	16	1.6		48
28	70	.6	.6	.2	1.6	1.0	1.6	218	13	.7		13
29	53	.4	.7	.2	-	1.2	1.6	74	10	.4		4.6
30	14	.4	.4	.2	--	1.2	1.2	36	9.1	.2		1.4
31	4.1	------	.3	.3	-----	1.2	------	25	------	0		------
Total	1,665.0	1,892.7	11.3	23.0	546.0	305.8	4,184.8	19,020.7	5,762.1	1,027.9	0	1,622.0
Mean	53.7	63.1	0.36	0.74	19.5	9.86	139	614	192	33.2	0	54.1
Ac-ft	3,300	3,750	22	46	1,080	607	8,300	37,730	11,430	2,040	0	3,220

Calendar year 1954: Max 3,760 Min 0 Mean 34.3 Ac-ft 24,800
Water year 1954-55: Max 6,670 Min 0 Mean 98.8 Ac-ft 71,520

Peak discharge (base, 2,800 cfs).--Apr. 12 (6:30 p.m.) 5,030 cfs (14.15 ft); May 19 (7 p.m.) 13,400 cfs (16.77 ft).

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

Leon River at Gatesville, Tex.

Location.--Lat 31°26'05", long 97°45'35", on right bank just downstream from pier of bridge on U. S. Highway 84, in Gatesville, Coryell County, 0.1 mile downstream from Dodds Creek and 5.3 miles upstream from Cottonwood Creek.

Drainage area.--2,313 sq mi.

Records available.--October 1950 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 723.85 ft above mean sea level, datum of 1929. Prior to Feb. 8, 1951, wire-weight gage at same site and datum.

Average discharge.--5 years, 93.9 cfs (67,980 acre-ft per year).

Extremes.--Maximum discharge during year, 10,600 cfs May 19 (gage height, 28.18 ft); no flow Oct. 1.
1950-55: Maximum discharge, that of May 19, 1955; no flow at times.
Maximum stage known since at least 1854, 35 ft in May 1908; flood in December 1913 (stage unknown) was the second highest, from information by local residents.

Remarks.--Records good. Small diversions above station for irrigation, municipal supply, and oilfield operation.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 6-16, Feb. 12-19, Feb. 21 to Mar. 20, Mar. 23 to Apr. 9, June 1-15)

Oct. 1 to May 17				May 18 to Sept. 30			
2.6	0	3.7	72	3.0	0.3	4.5	205
2.7	.2	4.0	114	3.1	.8	5.0	330
2.8	.8	4.5	200	3.2	2.2	7.0	805
2.9	2.3	5.0	304	3.3	5.0	10.0	1,540
3.0	5.0	6.0	550	3.4	9.5	14.0	2,690
3.2	17	7.0	815	3.5	16	18.0	4,000
3.4	35	9.0	1,380	3.7	38	22.0	5,470
				4.0	88	25.0	6,960

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.9	1.4	0.3	0.1	3.0	3.3	5.4	*135	41	8.0	3.8
2	.4	1.2	1.0	.4	.1	2.8	2.3	4.4	88	34	5.8	14
3	.4	17	.8	.4	.1	2.3	1.6	3.8	59	27	4.4	7.5
4	.2	22	.5	.4	90	2.1	1.4	3.3	48	24	3.5	4.1
5	.3	16	.2	.4	100	2.1	1.2	2.8	156	20	2.5	2.1
6	.5	14	.1	.3	100	2.1	1.0	2.3	111	17	2.1	1.3
7	.3	9.8	.2	.3	100	2.1	.8	2.1	51	14	1.8	.8
8	.3	6.6	.2	.4	100	1.9	.6	1.9	83	*11	1.4	.8
9	.3	25	.2	.6	80	1.6	522	1.9	315	11	1.9	.7
10	.3	16	.2	.7	70	1.4	246	1.8	111	9.0	2.1	4.4
11	.2	14	.2	.6	*50	1.2	111	3.0	62	8.0	11	36
12	.2	7.0	.2	.5	34	.8	55	186	57	6.6	1.4	62
13	.1	4.1	.2	.4	24	.6	31	111	113	4.7	2.8	20
14	856	37	.1	.4	19	*.6	248	311	113	24	2.2	7.0
15	707	111	.2	.4	16	.6	1,340	176	641	10	1.4	3.2
16	176	*172	.2	.7	14	.6	1,040	82	785	9.5	1.2	1.8
17	60	734	.2	1	12	.6	188	53	1,150	18	1.1	1.1
18	32	734	.2	.5	10	58	100	*1,190	2,570	123	1.2	.7
19	20	412	.2	3	830	35	67	*6,960	1,410	492	**1.6	.6
20	*16	158	.2	.5	26	34	*54	*1,320	845	570	3.0	.5
21	10	75	.2	.5	9.8	284	42	*732	430	325	1.1	*.5
22	6.2	42	.2	.5	6.2	70	34	2,240	505	288	2.8	.5
23	3.5	25	.3	.5	3.8	16	27	*3,590	415	190	*1.3	447
24	2.3	17	.3	.5	3.5	6.6	21	4,140	765	109	1.0	1,640
25	1.3	10	.2	.2	3.3	3.8	17	*2,210	627	66	.8	3,390
26	.9	8.1	.2	.2	3.3	2.8	15	1,630	232	44	.7	2,320
27	1.3	6.6	.2	.2	3.3	2.5	12	489	128	29	.6	654
28	1.3	4.4	.2	.2	3.3	2.8	9.8	255	88	20	.6	222
29	.9	3.0	.3	.2	-	5.8	8.1	310	67	15	.8	120
30	5.1	1.8	*.3	.2	--	5.0	6.2	480	49	10	5.1	82
31	3.5	------	.3	.2	------	4.1	------	250	------	9.5	9.0	------
Total	1,906.8	2,705.5	9.4	15.6	1,711.8	556.8	4,206.3	26,747.7	12,209	2,579.3	84.2	9,048.4
Mean	61.5	90.2	0.30	0.50	61.1	18.0	140	863	407	83.2	2.72	302
Ac-ft	3,780	5,370	19	31	3,400	1,100	8,340	53,050	24,220	5,120	167	17,950

Calendar year 1954: Max 2,220 Min 0 Mean 37.0 Ac-ft 26,790
Water year 1954-55: Max 6,960 Min 0 Mean 169 Ac-ft 122,500

Peak discharge (base, 7,000 cfs).--May 19 (6:30 a.m.) 10,600 cfs (28.18 ft).
* Discharge measurement made on this day.
** Field estimate made on this day.
Note.--No gage-height record Jan. 10 to Feb. 11; discharge estimated on basis of weather records and records for nearby stations.

Cowhouse Creek at Pidcoke, Tex.

Location.--Lat 31°17'05", long 97°53'05", on left bank 125 ft downstream from bridge on Farm Road 116 (relocated), 0.1 mile downstream from Beehouse Creek, 0.6 mile northeast of Pidcoke, Coryell County, and 4.9 miles upstream from Table Rock Creek.

Drainage area.--475 sq mi.

Records available.--October 1950 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 736.7 ft above mean sea level, datum of 1929.

Average discharge.--5 years, 30.1 cfs (21,790 acre-ft per year).

Extremes.--Maximum discharge during year, 23,000 cfs May 19 (gage height, 29.70 ft), from rating curve extended above 6,600 cfs on basis of slope-area determination at gage height 26.97 ft; no flow at times.
1950-55: Maximum discharge, that of May 19, 1955; no flow at times.
Maximum stage known since 1882, about 37.5 ft in 1900 and in 1944, from information by local resident.

Remarks.--Records fair. No diversion above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	141	e0	e0.3	0	0.1	14	0.1	0.1	0.6	a2	0	19
2	28	e0	e.3	0	.1	13	0	0	.4	a2	0	8.1
3	12	39	.3	0	.1	13	0	0	.3	a1	0	4.5
4	3.1	4.7	.3	0	2.2	12	0	0	58	a1	27	2.7
5	63	.1	.2	0	1.8	12	0	0	287	a.8	10	1.9
6	17	0	.2	0	2.5	12	0	0	24	a.5	2.9	1.4
7	2.6	0	.2	0	2.9	12	0	0	2.7	a.4	1.3	.9
8	.8	0	.2	0	1.5	12	0	0	7.8	**.2	.5	.7
9	.4	30	.2	0	1.1	12	1,230	0	16	.2	.2	.5
10	.3	22	.2	0	.8	12	410	*0	1.6	.1	.1	.4
11	.2	3.8	.2	0	*.6	12	53	*387	.4	0	119	1.1
12	.1	1.1	.2	0	.5	12	24	74	.3	0	105	2.3
13	0	.4	.2	0	.4	12	12	28	.2	0	16	1.0
14	0	254	.2	0	.4	*16	6.8	15	.1	0	5.9	.5
15	0	*289	.2	0	.3	*20	4.1	126	441	0	2.6	.3
16	0	20	.2	0	.3	7.1	2.7	41	*852	23	1.4	.1
17	0	9.1	.1	0	.3	3.6	2.0	64	*145	76	.8	.1
18	0	3.1	.1	.2	.2	2.7	1.3	*904	41	18	.5	.1
19	0	1.4	.1	.2	794	2.0	1.1	*1,350	23	7.6	347	0
20	*0	1.2	.1	.1	24	277	1.2	*135	329	65	82	0
21	0	.8	.1	.1	23	164	*1.2	*50	37	29	14	0
22	0	.6	.1	.1	18	6.5	3.6	26	16	10	11	*0
23	0	.4	.1	.1	16	1.3	2.9	22	10	5.1	*9.1	988
24	0	.4	.1	.1	15	.3	1.6	*15	16	2.7	4.3	464
25	0	.4	.1	.1	14	.1	1.0	8.8	11	1.5	2.4	130
26	0	e.4	.1	.1	14	0	.7	*423	11	.9	1.6	127
27	.2	e.4	.1	.1	14	0	.4	20	6.5	.5	1.2	60
28	.1	e.3	.1	.1	14	0	.4	3.6	a4	.3	.9	12
29	e.1	e.3	0	.1	-	0	.3	1.6	a3	.2	.8	6.5
30	e0	e.3	*0	.1	-	0	.2	1.4	a3	.1	406	3.8
31	e0	--	0	.1	----	0	------	.9	------	0	93	-- ---
Total	268.9	683.2	4.8	1.6	962.1	660.6	1,760.6	9,696.4	2,347.9	248.1	1,266.5	1,836.9
Mean	8.67	22.8	0.15	0.05	34.4	21.3	58.7	313	78.3	8.00	40.9	61.2
Ac-ft	533	1,360	9.5	3.2	1,910	1,310	3,490	19,230	4,660	492	2,510	3,640

Calendar year 1954: Max 289 Min 0 Mean 4.44 Ac-ft 3,210
Water year 1954-55: Max 7,350 Min 0 Mean 54.1 Ac-ft 39,150

Peak discharge (base, 3,000 cfs).--Feb. 19 (11:30 a.m.) 6,760 cfs (15.23 ft); Apr. 9 (8 p.m.) 10,300 cfs (19.09 ft); May 19 (2:30 a.m.) 23,000 cfs (29.70 ft); June 16 (3:30 p.m.) 3,360 cfs (11.70 ft); Aug. 19 (8 p.m.) 3,300 cfs (11.54 ft); Sept. 23 (7 p.m.) 3,000 cfs (11.08 ft).

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

** Field estimate made on this day.

a No gage-height record; discharge estimated on basis of weather records and engineers' notes.

e Stage-discharge relation indefinite; discharge estimated on basis of weather records and engineers' notes.

Belton Reservoir near Belton, Tex.

Location.--Lat 31°07', long 97°28', in intake structure at Belton Dam on Leon River, 1.4 miles upstream from bridge on State Highway 317, about 3.4 miles upstream from Nolan Creek, 4.2 miles north of Belton, Bell County, and 16.7 miles upstream from confluence with Lampasas River.
Drainage area.--3,533 sq mi.
Records available.--March 1954 to September 1955.
Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Feb. 20, 1955, staff gage at same site and datum.
Extremes.--Maximum contents during year, 169,400 acre-ft Sept. 30 (elevation, 562.97 ft); minimum observed, 7,720 acre-ft Oct. 14, 15.
1954-55: Maximum contents, that of Sept. 30, 1955; minimum (when gates were closed), 313 acre-ft Mar. 8, 1954 (elevation, 483.8 ft).
Remarks.--Reservoir is formed by a rolled earth-fill dam 5,524 ft long including a 1,300-foot uncontrolled earthen spillway and a 418-foot dike. Flood-control outlet works consists of a 22-foot diameter conduit controlled by three 7.0- by 22.0-foot electrically driven broome-type gates (elevation of invert, 483.0 ft). Low-flow outlet works consist of one 36- by 36-inch gated outlet located in wetwell (elevation of invert, 540.0 ft). Gates closed Mar. 8, 1954, and dam completed in April 1954. Reservoir built for flood control and conservation. Fort Hood Military Reservation has been allocated 12,000 acre-ft of storage in the reservoir. Data regarding dam is shown in the following table.

	Elevation (feet)	Capacity (acre-feet)
Design water surface	656.9	1,876,700
Spillway crest	631.0	1,097,600
Top of conservation pool	569.0	210,600
Invert of lowest intake	483.0	278

Cooperation.--Records furnished by Corps of Engineers and reviewed by Geological Survey.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7,950	9,170	14,530	13,760	13,510	21,820	24,460	45,650	119,000	149,600	151,200	152,100
2	7,950	9,170	14,530	13,760	13,510	21,780	24,440	45,570	119,300	149,600	151,200	152,000
3	7,950	9,170	14,530	13,760	13,510	21,750	24,400	45,450	119,400	149,500	151,000	151,800
4	7,870	9,090	14,530	13,760	13,640	21,730	24,380	45,370	119,500	149,400	150,800	151,600
5	7,870	9,090	14,400	13,760	13,760	21,710	24,380	45,310	120,800	149,300	150,600	151,500
6	7,870	9,090	14,400	13,760	13,890	21,660	24,340	45,370	121,900	149,200	150,500	151,300
7	7,870	9,090	14,400	13,760	14,020	21,600	24,310	45,340	122,200	149,100	150,400	151,200
8	7,870	9,090	14,400	13,760	14,020	21,600	24,250	45,280	122,700	148,900	150,300	151,000
9	7,870	9,170	14,400	13,760	14,020	21,580	27,610	45,200	123,600	148,800	150,100	151,300
10	7,800	9,260	14,280	13,760	14,020	21,560	37,750	45,400	124,300	148,800	150,100	151,500
11	7,800	9,350	14,280	13,760	14,150	21,550	40,600	48,020	124,600	148,700	150,600	151,800
12	7,800	9,350	14,150	13,760	14,400	21,510	41,050	48,950	124,700	148,500	151,500	152,200
13	7,800	9,350	14,150	13,640	14,530	21,490	41,210	48,980	124,700	148,400	151,600	152,200
14	7,720	9,630	14,150	13,640	14,530	21,460	41,210	49,160	124,800	148,500	151,400	152,200
15	7,720	10,300	14,150	13,640	14,660	21,530	41,210	49,340	128,000	148,400	151,300	152,200
16	8,330	10,700	14,150	13,640	14,660	21,550	42,470	50,240	131,000	148,500	151,000	152,100
17	9,090	10,800	14,150	13,760	14,660	21,550	44,970	50,780	133,000	149,000	150,800	152,000
18	9,350	11,430	14,020	13,760	14,800	21,560	45,680	53,130	135,100	149,200	151,300	151,900
19	9,540	12,440	14,020	13,760	16,940	21,560	45,900	75,030	138,700	149,400	152,100	151,800
20	9,540	13,510	14,020	13,760	20,110	21,670	45,990	82,980	142,800	149,400	152,600	151,600
21	9,540	14,020	14,020	13,760	21,710	23,360	46,040	90,190	144,700	150,500	152,700	151,600
22	9,450	14,280	14,020	13,760	21,820	24,020	46,020	91,440	145,600	150,900	152,500	151,500
23	9,350	14,400	14,020	13,640	21,860	24,460	45,990	94,480	146,500	150,500	152,500	152,600
24	9,350	14,530	14,020	13,640	21,840	24,640	45,960	99,650	147,000	151,800	152,300	154,700
25	9,350	14,660	13,890	13,640	21,820	24,720	45,900	105,600	147,900	151,800	152,200	157,200
26	9,350	14,660	13,890	13,640	21,840	24,640	45,850	111,800	149,200	151,900	152,000	161,700
27	9,350	14,660	13,890	13,640	21,840	24,620	45,790	115,900	149,700	151,800	151,900	166,900
28	9,350	14,660	13,890	13,510	21,840	24,600	45,760	117,400	149,800	151,800	151,800	168,700
29	9,260	14,660	13,890	13,510	-	24,560	45,710	117,800	149,800	151,600	151,600	169,100
30	9,260	14,530	13,890	13,510	-------	24,520	45,650	118,200	149,700	151,600	152,100	169,400
31	9,260	-------	13,890	13,510	-------	24,500	-------	118,600	-------	151,300	152,200	-------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30	514.6	8,030	-
Oct. 31	516.1	9,260	+1,230
Nov. 30	520.9	14,530	+5,270
Dec. 31	520.4	13,890	-640
Calendar year 1954	-	-	-
Jan. 31	520.1	13,510	-380
Feb. 28	525.24	21,840	+8,330
Mar. 31	526.95	24,500	+2,660
Apr. 30	535.73	45,650	+21,150
May 31	554.07	118,600	+72,950
June 30	559.73	149,700	+31,100
July 31	560.01	151,300	+1,600
Aug. 31	560.16	152,200	+900
Sept. 30	562.97	169,400	+17,200
Water year 1954-55	-	-	+161,370

† Elevation at 12 p.m.

Leon River near Belton, Tex.

Location.--Lat 31°04'15", long 97°26'30", on left bank 1,400 ft upstream from bridge on State Farm to Market Road 817, about three-quarters of a mile upstream from bridge on U. S. Highway 81 (rerouted), 2 miles east of Belton, Bell County, and about 2 miles upstream from Nolan Creek.

Drainage area.--3,547 sq mi.

Records available.--October 1923 to September 1955.

Gage.--Water-stage recorder above concrete dam. Datum of gage is 476.89 ft above mean sea level, datum of 1929. Prior to May 21, 1931, staff gage at same site and datum.

Average discharge.--32 years, 620 cfs (448,900 acre-ft per year).

Extremes.--Maximum discharge during year, 267 cfs May 11 (gage height, 3.01 ft); no flow at times.
1923-55: Maximum discharge, 70,600 cfs Apr. 22, 1945 (gage height, 24.41 ft), from rating curve extended above 45,000 cfs; no flow at times.
Maximum stage known, 25 ft in December 1913; flood in September 1921 reached a stage of 21 ft, from information by local residents.

Remarks.--Records good. Small diversions above station for irrigation, municipal supply, and oilfield operation. City of Temple diverts an average of about 5 cfs from gage pool for municipal use. Regulation by Belton Reservoir about 2½ miles upstream since Mar. 8, 1954 (see preceding page).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.3	0
2.4	5.2
2.5	24
2.6	57

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0	3.2	4.1	1.7	0	*4.1	7.7	4.1	6.4
2	1.7	0	0	0	3.2	3.2	1.7	0	2.4	6.4	6.4	6.4
3	3.2	0	0	0	4.1	2.4	1.7	0	3.2	5.2	7.7	6.4
4	1.7	0	0	0	7.7	2.4	1.7	1.2	3.2	6.4	7.7	5.2
5	1.7	1.1	0	0	6.4	2.4	1.7	3.2	5.2	5.2	7.7	5.2
6	1.1	1.1	0	0	14	2.4	1.1	5.2	6.4	4.1	6.4	6.4
7	1.1	1.1	0	0	21	2.4	.3	4.1	5.2	1.7	6.4	5.2
8	2.4	1.1	0	0	19	2.4	0	2.4	6.4	*1.1	5.2	4.1
9	1.7	1.7	.1	0	19	3.2	1.1	2.4	7.7	4.1	5.2	4.1
10	1.7	3.2	.6	.3	*13	3.2	13	2.4	11	5.2	6.4	5.2
11	.6	2.4	2.4	.3	2.4	3.2	16	56	5.2	4.1	6.4	14
12	.6	1.7	2.4	0	2.4	2.4	9.1	17	4.1	2.4	6.4	9.1
13	.6	1.1	2.4	0	4.1	1.7	13	11	4.1	2.4	6.4	5.2
14	0	5.2	2.4	0	5.2	1.1	13	9.1	6.4	4.1	6.4	4.1
15	0	3.2	1.1	0	4.1	*1.1	13	9.1	13	5.2	6.4	4.1
16	.3	*2.4	1.1	0	3.2	1.7	13	11	6.4	5.2	6.4	4.1
17	0	1.7	1.1	0	1.7	1.7	13	14	6.4	5.2	6.4	5.2
18	0	2.4	.6	1.1	2.4	3.2	11	13	11	6.4	16	5.2
19	0	2.4	0	**4.1	6.4	4.1	9.1	14	9.1	6.4	*14	3.2
20	*0	.3	0	21	28	5.2	*9.1	9.1	6.4	7.7	11	3.2
21	0	0	0	*16	16	5.2	9.1	7.7	5.2	6.4	9.1	*4.1
22	9.4	0	0	4.1	24	1.7	6.4	7.7	5.2	5.2	7.7	4.1
23	42	0	0	4.1	16	2.4	5.2	7.7	5.2	5.2	*7.7	6.4
24	21	0	0	4.1	6.4	2.4	5.2	7.7	4.1	5.2	7.7	6.4
25	2.4	0	0	2.4	3.2	2.4	4.1	7.7	4.1	5.2	6.4	6.4
26	0	0	1.1	3.2	5.2	1.1	2.4	7.7	4.1	5.2	6.4	5.2
27	0	0	3.2	4.1	5.2	1.7	0	6.4	4.1	5.2	7.7	5.2
28	0	0	2.4	3.2	5.2	3.2	0	7.7	4.1	5.2	9.1	5.2
29	0	0	0	2.4	-	2.4	0	7.7	4.1	5.2	7.7	5.2
30	0	0	*0	3.2		1.7	0	6.4	5.2	4.1	7.7	4.1
31	0		0	4.1		1.7		5.2		5.2	9.1	
Total	93.2	32.1	20.9	77.7	251.7	79.4	175.7	263.8	172.3	153.5	235.3	164.3
Mean	3.01	1.07	0.67	2.51	8.99	2.56	5.86	8.51	5.74	4.95	7.59	5.48
Ac-ft	185	64	41	154	499	157	348	523	342	304	467	326

Calendar year 1954: Max 42 Min 0 Mean 5.08 Ac-ft 3,690
Water year 1954-55: Max 56 Min 0 Mean 4.71 Ac-ft 3,410

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

Lampasas River at Youngsport, Tex.

Location.--Lat 30°57', long 97°43', on left bank 500 ft upstream from county road bridge and half a mile southeast of Youngsport, Bell County.

Drainage area.--1,242 sq mi.

Records available.--February 1924 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 633.46 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Mar. 14, 1931, staff gage at same site and datum.

Average discharge.--31 years, 269 cfs (194,700 acre-ft per year).

Extremes.--Maximum discharge during year, 27,000 cfs May 19 (gage height, 22.62 ft); minimum, 1.4 cfs Oct. 19-21.

1924-55: Maximum discharge, 53,200 cfs Sept. 28, 1936 (gage height, 33.5 ft, from floodmarks), from rating curve extended above 40,000 cfs; no flow at times in 1925, 1934, 1950-52, 1954.

Flood in September 1873 reached a stage of 44.2 ft and that of Dec. 2, 1913, reached a stage of 33.6 ft, from information by local residents.

Remarks.--Records good. Small diversions above station for municipal use.

Revisions (water years).--WSP 788: 1926, 1928, 1931.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 14-16, Jan. 18, 19, Feb. 4-6, 19-21, Mar. 21, 22, Apr. 10, 11, May 12, 13, 18-21, 27, June 5-9, 16, 17, 20, July 14, 15, 17-21, Aug. 11-13, 30, Sept. 11, 24, 25)

2.6	1.1	4.0	484
2.7	5.0	5.0	1,330
2.8	11	7.0	4,180
2.9	21	9.0	8,080
3.0	42	12.0	12,600
3.2	102	16.0	17,900
3.5	218		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	242	13	8.4	7.2	11	17	16	6.1	32	11	9.7	20
2	86	11	8.4	7.7	10	17	13	6.1	26	9.0	8.4	13
3	64	10	8.4	7.7	11	15	12	5.0	23	8.4	10	11
4	32	11	8.4	7.7	301	15	12	3.2	21	7.7	11	12
5	21	33	8.4	7.7	366	14	12	2.8	2,760	6.6	8.4	9.7
6	13	28	7.2	7.7	165	13	12	1.8	5,490	6.1	7.2	7.7
7	58	17	6.6	7.7	83	12	11	1.8	386	5.0	7.2	6.1
8	48	13	7.2	7.7	50	12	10	1.8	235	4.6	5.5	5.0
9	26	14	6.6	8.4	32	12	11	2.1	272	4.6	4.6	4.1
10	17	244	7.2	9.0	25	12	988	2.8	267	4.6	4.9	12
11	13	120	7.2	9.0	*20	12	249	6.0	157	*5.0	855	548
12	9.7	56	7.7	9.0	19	9.7	106	844	89	5.5	665	89
13	7.7	32	7.2	8.4	17	9.7	56	204	59	5.0	168	50
14	5.5	649	7.7	8.4	16	9.0	37	76	45	458	73	21
15	4.1	*6,960	7.7	7.7	14	*8.4	26	40	77	199	45	15
16	2.8	382	8.4	9.0	14	8.4	21	25	266	71	30	11
17	2.1	*149	8.4	9.7	13	8.4	19	21	585	1,610	23	9.0
18	1.8	80	8.4	323	13	9.0	16	7,790	157	1,100	20	7.2
19	1.4	50	8.4	350	716	9.7	13	13,800	83	467	17	5.0
20	1.4	32	8.4	120	771	10	13	*2,040	184	396	15	4.6
21	*1.4	25	8.4	67	149	391	*12	405	101	240	12	4.1
22	1.8	16	8.4	42	70	205	54	214	48	106	11	*4.6
23	2.1	13	7.7	28	45	83	50	131	35	73	*12	5.0
24	2.5	10	7.7	21	32	48	28	99	25	42	9.7	2,120
25	2.5	9.0	7.7	19	26	28	20	73	28	30	8.4	582
26	2.5	8.4	7.7	17	21	21	15	*64	21	25	6.6	157
27	4.1	8.4	7.7	16	20	19	11	457	17	21	4.6	116
28	4.6	8.4	7.7	14	19	15	9.7	146	14	19	4.6	64
29	5.0	7.7	7.7	13	-	14	7.7	80	13	14	4.1	32
30	13	8.4	*7.7	12	------	13	6.6	56	12	12	238	20
31	20	------	7.2	12	------	15	------	40	------	11	50	------
Total	716.0	9,018.3	241.9	1,195.7	3,049	1,085.3	1,867.0	26,644.5	11,528	4,977.1	2,348.9	3,965.1
Mean	23.1	301	7.80	38.5	109	35.0	62.2	860	384	161	75.8	132
Ac-ft	1,420	17,890	480	2,370	6,050	2,150	3,700	52,850	22,870	9,870	4,660	7,860

Calendar year 1954: Max 6,960 Min 0 Mean 39.7 Ac-ft 28,710
Water year 1954-55: Max 13,800 Min 1.4 Mean 183 Ac-ft 132,200

Peak discharge (base, 8,300 cfs).--Nov. 15 (4 a.m.) 14,700 cfs (13.42 ft); May 19 (7 p.m.) 27,000 cfs (22.62 ft); June 6 (12:30 a.m.) 15,800 cfs (14.39 ft).

* Discharge measurement made on this day.

San Gabriel River at Georgetown, Tex.

Location.--Lat 30°39'10", long 97°39'20", on left bank 100 ft downstream from Missouri-Kansas-Texas Railroad bridge, 1½ miles downstream from confluence of North and South Forks, and 1¾ miles northeast of Georgetown, Williamson County.

Drainage area.--415 sq mi.

Records available.--February 1924 to August 1925, July 1934 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 643.71 ft above mean sea level, datum of 1929. Feb. 27, 1924, to Aug. 31, 1925, staff gage at site 1 mile upstream at different datum.

Average discharge.--21 years (1934-55), 130 cfs (94,120 acre-ft per year).

Extremes.--Maximum discharge during year, 12,400 cfs May 18 (gage height, 11.48 ft); no flow at times.

1924-25, 1934-55: Maximum discharge, 37,500 cfs June 6, 1944 (gage height, 19.49 ft), from rating curve extended above 24,000 cfs by logarithmic plotting; no flow at times in 1954-55.

Maximum stage known, 39.36 ft in September 1921, present site and datum (from information by Missouri-Kansas-Texas Railroad Co.); discharge, 160,000 cfs, by slope-area determination of peak flow.

Remarks.--Records good. Several small diversions have some effect on low flow which is also regulated at times by gates in recreation dam 3,000 ft upstream.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 23 to Feb. 4, May 18, 19, June 6-10, Aug. 11, 12)

0.7	0	2.5	155
.8	.9	3.0	294
.9	3.0	3.5	544
1.0	6.0	4.0	930
1.2	18	5.0	2,100
1.5	41	6.0	3,640
2.0	88		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	2.3	1.8	1.6	5.3	3.2	80	0.8	5.3	1.6	1.2	1.8
2	1.6	2.0	1.8	1.6	5.7	3.2	19	.6	3.8	1.6	1.4	1.8
3	1.6	2.3	1.8	1.6	5.7	3.0	8.2	.6	1.1	1.6	2.0	1.8
4	1.6	2.5	1.8	1.4	122	3.0	6.0	.6	.3	1.1	1.2	1.6
5	1.6	2.5	1.8	1.4	199	3.0	4.3	.9	303	.9	1.1	1.4
6	1.6	2.5	1.8	1.4	60	3.0	3.8	1.1	*1,300	.8	1.4	5.8
7	1.4	2.0	2.0	1.4	28	3.0	3.2	.9	*82	.6	1.4	.9
8	1.4	1.4	2.5	1.6	17	3.0	3.2	.9	49	.6	9.5	0
9	1.4	1.4	3.0	1.6	12	3.0	3.5	.6	90	.8	1.4	0
10	1.2	1.6	3.0	1.8	*8.2	2.5	10	.5	366	1.1	1.2	0
11	1.1	1.6	3.2	1.8	6.4	2.5	10	1.1	96	*1.2	503	31
12	1.1	1.4	2.3	1.8	5.7	2.5	6.0	155	38	a1.1	757	47
13	1.2	1.6	2.3	1.8	5.7	2.3	4.0	28	22	a.8	215	16
14	1.1	2.3	2.5	1.6	5.0	2.3	3.5	28	15	a.5	32	6.0
15	1.1	2.3	2.5	1.8	4.6	2.3	2.7	10	12	a.4	15	3.8
16	1.1	2.3	2.7	2.0	4.3	2.3	.8	5.3	15	a.4	10	2.3
17	.9	2.7	2.3	2.3	4.0	2.3	.4	5.3	10	*a928	6.0	1.4
18	.8	2.3	2.3	38	4.0	*126	.1	*3,370	3.5	135	4.6	.6
19	.9	2.3	2.0	34	4.3	203	.1	765	6.8	46	4.0	.5
20	7.6	2.3	1.8	13	5.0	39	.2	147	6.0	102	3.2	.4
21	*2.5	1.6	1.6	6.8	5.7	42	.3	48	26	50	3.2	.3
22	2.0	1.6	1.6	5.0	5.0	43	.3	29	21	22	*2.7	.1
23	2.7	*1.6	1.6	4.2	4.3	17	.4	20	9.4	12	3.0	*.1
24	3.0	1.4	1.8	4.0	4.0	11	.4	16	6.0	8.2	3.2	.5
25	3.0	1.4	1.8	3.2	3.8	7.2	*.5	10	4.6	7.7	3.2	.9
26	2.7	1.6	1.8	3.2	3.8	5.3	.5	8.2	3.8	7.1	3.0	1.4
27	2.3	1.6	1.8	3.0	3.8	4.6	.6	7.2	3.2	1.8	2.7	.9
28	2.7	1.6	2.0	3.2	4.0	4.3	1.1	6.8	3.0	2.0	2.7	.8
29	2.3	1.6	1.6	3.8	-	4.0	1.1	8.2	2.3	2.0	2.5	.8
30	2.3	1.8	1.6	4.8	-	3.5	.9	9.4	1.8	2.0	2.3	.6
31	2.3		*1.6	4.8	----	5.6	------	6.8	------	1.8	2.0	------
Total	59.9	57.4	64.0	159.1	546.3	561.9	175.1	4,691.8	2,505.9	1,342.7	1,602.1	130.5
Mean	1.93	1.91	2.06	5.13	19.5	18.1	5.84	151	83.5	43.3	51.7	4.35
Ac-ft	119	114	127	316	1,080	1,110	347	9,310	4,970	2,660	3,180	259

Calendar year 1954: Max 93 Min 0 Mean 6.74 Ac-ft 4,880
Water year 1954-55: Max 3,370 Min 0 Mean 32.6 Ac-ft 23,590

Peak discharge (base, 3,600 cfs).--May 18 (6 a.m.) 12,400 cfs (11.48 ft); June 5 (11:30 p.m.) 7,600 cfs (9.18 ft); July 17 (about 7 a.m.) 4,120 cfs (6.90 ft); Aug. 12 (8:30 p.m.) 7,000 cfs (8.88 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage and weather records.

Little River at Cameron, Tex.

Location.--Lat 30°50', long 96°57', on right bank at site of old McCowan Bridge, 2,020 ft upstream from bridge on U. S. Highway 77, 1 mile upstream from Gulf, Colorado and Santa Fe Railway bridge, and 2 miles southeast of Cameron, Milam County.

Drainage area.--7,034 sq mi.

Records available.--November 1916 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 281.89 ft above mean sea level (levels by Corps of Engineers). Nov. 2, 1916, to Sept. 30, 1922, staff gage at site 1¾ miles upstream at different datum. Oct. 1, 1922, to Apr. 8, 1926, chain gage at McCowan Bridge 30 ft downstream at same datum. Apr. 9, 1926, to Oct. 9, 1933, chain gage at bridge on U. S. Highway 77, 2,020 ft downstream at datum 1.58 ft lower.

Average discharge.--38 years (1917-55), 1,731 cfs (1,253,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,200 cfs May 21 (gage height, 26.15 ft); minimum, 4.5 cfs Oct. 27.

1916-55: Maximum discharge, 647,000 cfs Sept. 10, 1921 (gage height, 53.2 ft, present datum, from floodmark), from rating curve extended above 90,000 cfs on basis of slope-area determination of peak flow; minimum, 0.3 cfs Oct. 29, 30, 1952.

Maximum stage known, that of Sept. 10, 1921; flood in 1852 reached about the same stage. Flood in December 1913 reached a stage of 49.0 ft. Stages based on information by local resident.

Remarks.--Records fair. Many small diversions for irrigation and municipal supply affect very low flows. Some regulation by Belton Reservoir on Leon River beginning Mar. 8, 1954 (see p. 149). Slight regulation by pumping above station.

Revisions (water years).--WSP 718: 1918-22.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.3	12	24	20	27	28	1,150	22	139	56	44	30
2	5.9	12	24	20	25	24	1,240	23	*128	47	39	73
3	5.0	11	27	21	25	20	225	20	103	41	33	92
4	5.7	10	26	20	285	14	66	16	84	37	32	62
5	14	9.6	26	20	3,340	33	41	15	76	33	615	48
6	52	13	26	18	3,950	37	24	14	3,400	31	194	37
7	50	13	25	20	*2,900	34	42	229	7,900	*31	72	31
8	56	11	25	22	575	31	38	810	5,130	31	45	29
9	29	12	24	22	212	30	38	220	2,750	28	38	24
10	21	17	24	23	105	31	2,280	43	2,650	24	32	23
11	20	15	30	23	64	31	4,090	19	3,130	22	34	38
12	18	15	32	22	60	30	2,000	59	1,560	21	1,270	33
13	27	29	27	23	51	29	2,040	1,430	545	19	2,180	594
14	22	197	25	28	47	28	472	1,140	313	24	1,830	248
15	18	775	24	34	55	27	145	526	416	30	460	121
16	14	*1,300	23	35	48	*24	72	232	1,680	24	236	73
17	12	*3,840	22	31	47	24	44	159	636	377	151	22
18	9.9	*834	22	73	43	39	32	240	326	562	*395	21
19	*9.3	*274	21	48	40	1,540	39	4,820	702	1,770	1,180	12
20	8.4	158	21	43	43	1,090	*34	9,070	402	1,260	666	*30
21	7.0	88	20	484	842	193	34	*10,100	218	650	598	34
22	6.3	61	20	296	931	1,480	48	*5,790	171	545	289	35
23	9.0	*32	20	136	267	361	44	1,260	238	340	155	28
24	12	27	20	68	137	374	39	510	185	263	92	26
25	9.9	26	19	34	78	159	39	343	147	287	69	192
26	7.6	25	19	26	53	78	33	250	117	141	53	1,460
27	8.4	24	19	31	50	41	27	538	90	98	45	580
28	24	24	19	34	39	39	28	2,650	78	78	42	220
29	18	24	*19	37	-	28	21	1,070	76	63	38	108
30	14	24	19	33	-	42	14	1,860	66	53	34	82
31	13	- - -	20	29	- - - - -	43	- - - - -	404	- - - - -	48	30	- - - - -
Total	533.7	7,912.6	712	1,774	14,339	5,982	14,439	43,882	33,456	7,034	10,991	4,406
Mean	17.2	264	23.0	57.2	512	193	481	1,416	1,115	227	355	147
Ac-ft	1,060	15,690	1,410	3,520	28,440	11,870	28,640	87,040	66,360	13,950	21,800	8,740

Calendar year 1954: Max 3,840 Min 0.6 Mean 101 Ac-ft 73,210
Water year 1954-55: Max 10,100 Min 5.0 Mean 399 Ac-ft 288,500

Peak discharge (base, 11,000 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No gage-height record Dec. 14 to Jan. 2, July 5,6; discharge estimated on basis of 1 discharge measurement and weather records.

Brazos River near Bryan, Tex.

Location.--Lat 30°37', long 96°29', on left bank 2.4 miles downstream from Little Brazos River, 5 miles downstream from Texas and New Orleans Railroad bridge, 9 miles southwest of Bryan, Brazos County, and at mile 285.

Drainage area.--38,430 sq mi, approximately, of which 9,240 is probably noncontributing.

Records available.--February 1918 to September 1955 in reports of Geological Survey. August 1899 to December 1902 in U. S. Department of Agriculture, Office of Experiment Stations, Bulletins Nos. 104, 119, and 133. Prior to September 1925, published as Brazos River near College Station.

Gage.--Water-stage recorder. Datum of gage is 192.33 ft above mean sea level, datum of 1929. Feb. 23, 1918, to Sept. 17, 1925, staff or chain gage at site 7½ miles downstream at different datum. Sept. 11, 1925, to Oct. 24, 1932, chain gage at site 3,000 ft upstream at same datum.

Average discharge.--36 years (1918-25, 1926-55), 5,291 cfs (3,831,000 acre-ft per year).

Extremes.--Maximum discharge during year, 30,700 cfs May 21; maximum gage height, 18.48 ft Apr. 11; minimum daily discharge, 135 cfs May 8.
1925-55: Maximum gage height, 46.1 ft May 20, 1930, present site and datum (discharge not determined); minimum daily discharge, 89 cfs Aug. 24, 1934.
Maximum stage 1899-1917, about 54.0 ft Dec. 5, 1913, present site and datum.

Remarks.--Records good. Flow regulated by reservoirs above Waco and after Mar. 8, 1954, by Belton Reservoir on Leon River (see p. 149). Many small diversions above station for irrigation, municipal supply, and oil field operation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	555	790	181	160	155	294	302	214	3,240	2,620	1,510	510
2	525	540	178	160	150	270	1,470	193	2,980	2,260	1,140	479
3	582	448	175	158	142	242	1,790	184	*2,620	2,440	636	525
4	844	377	175	158	282	220	1,000	170	2,380	2,040	718	790
5	1,940	325	170	158	2,410	208	658	168	3,310	2,260	1,220	766
6	1,140	413	175	152	6,800	246	421	158	4,920	*1,420	1,000	790
7	576	329	168	148	5,820	260	298	145	8,000	1,140	1,000	555
8	381	333	170	148	4,150	223	235	135	11,900	1,300	748	385
9	313	288	162	152	2,100	205	390	1,020	9,800	1,040	850	516
10	256	229	158	158	1,110	184	12,600	663	8,600	1,080	535	1,040
11	223	199	172	155	702	175	24,000	337	8,600	1,180	498	1,460
12	232	181	175	162	492	172	12,500	228	8,600	1,040	1,260	1,640
13	313	172	190	162	381	165	9,000	378	6,400	626	3,230	850
14	337	193	202	165	309	165	6,400	2,680	5,460	461	3,050	970
15	252	329	196	170	*274	155	3,370	1,940	5,100	923	2,480	850
16	294	1,790	220	175	235	155	1,690	1,180	3,510	1,260	*1,180	550
17	274	1,580	205	178	220	*150	1,040	692	3,720	1,510	820	417
18	249	4,300	175	246	205	158	724	1,040	3,440	1,840	680	438
19	*232	1,980	165	246	202	497	*570	3,510	4,150	1,640	1,100	*820
20	232	*880	162	405	284	1,240	470	15,100	4,450	2,210	3,100	702
21	232	598	160	349	341	1,560	409	*28,600	5,640	2,260	2,800	502
22	249	448	160	337	1,960	686	369	19,400	5,640	2,320	2,160	349
23	280	357	158	474	2,100	3,030	462	10,700	6,400	1,040	1,460	492
24	302	305	155	381	1,140	2,920	880	7,200	9,600	820	1,460	850
25	294	270	152	294	719	1,940	510	11,900	9,600	1,580	1,340	702
26	274	242	158	242	515	1,110	369	14,300	7,600	2,320	772	1,440
27	246	220	158	208	405	670	321	13,400	5,280	1,580	658	5,460
28	223	205	155	181	333	452	291	11,900	5,100	1,420	880	8,300
29	322	190	*152	168	-	349	263	7,800	4,920	1,140	850	13,600
30	736	181	148	162	--	317	235	5,460	3,440	910	790	15,600
31	820	------	158	165	-----	284	------	4,920	------	1,300	609	------
Total	13,728	18,692	5,288	6,577	33,936	18,702	83,037	165,713	174,400	46,780	40,534	62,348
Mean	443	623	171	212	1,212	603	2,768	5,346	5,813	1,509	1,308	2,078
Ac-ft	27,230	37,080	10,490	13,050	67,310	37,090	164,700	328,700	345,900	92,790	80,400	123,700

Calendar year 1954: Max 20,200 Min 148 Mean 1,277 Ac-ft 924,100
Water year 1954-55: Max 28,600 Min 135 Mean 1,835 Ac-ft 1,328,000

* Discharge measurement made on this day.
Note.--No gage-height record Oct. 1-18, Sept. 28, 29; discharge estimated on basis of recorded range in stage and weather records.

Yegua Creek near Somerville, Tex.

Location.--Lat 30°19', long 96°30', near center of span at downstream side of bridge on State Highway 36, 760 ft downstream from Gulf, Colorado and Santa Fe Railway bridge, 2 miles south of Somerville, Burleson County, and 5 miles upstream from Davidson Creek.

Drainage area.--990 sq mi.

Records available.--May 1924 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 199.29 ft above mean sea level, datum of 1929. Prior to Jan. 30, 1934, inverted chain gage at railway bridge 760 ft upstream at datum 34.30 ft higher.

Average discharge.--31 years, 278 cfs (201,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,380 cfs Feb. 6 (gage height, 7.97 ft); no flow at times.
1924-55: Maximum discharge, 56,800 cfs July 1, 1940 (gage height, 19.27 ft); no flow at times.
Maximum stage known, about 22.0 ft Dec. 5, 1913, present site and datum, from information from Gulf, Colorado and Santa Fe Railway Co.

Remarks.--Records fair.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 10 to Apr. 17, June 18 to July 13, Aug. 14-18)

1.0	0	3.0	31
1.1	.2	3.5	53
1.2	.4	4.0	81
1.3	.7	4.5	121
1.4	1.1	5.0	210
1.6	2.2	5.5	380
1.8	3.9	6.0	620
2.0	6.1	7.0	1,340
2.3	11	8.0	2,440
2.7	21		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0	0	0.4	5.9	1.4	1.6	18	0.9	0	2.1
2		0	0	0	.3	5.0	2.4	1.0	6.2	.6	0	39
3		0	0	0	.2	4.4	2.4	.6	*20	.4	0	35
4		0	0	0	41	3.9	2.4	.3	37	.2	1.0	12
5		0	0	0	904	3.5	2.2	.2	28	.1	.9	5.0
6		0	0	0	2,100	2.9	1.5	0	27	*.1	.5	2.7
7		0	0	0	1,900	2.5	9.6	0	26	0	.3	1.7
8		0	0	0	1,580	2.4	10	.6	102	0	.2	1.1
9		0	0	0	837	2.1	6.7	1.1	144	0	0	.7
10		0	0	0	525	2.0	5.5	.9	170	0	0	.4
11		0	0	0	394	1.9	4.5	3.1	261	0	0	.2
12		0	.1	0	210	1.8	*93	5.9	252	0	0	.2
13		0	.2	0	104	1.6	*348	4.5	231	0	0	.1
14		0	7.2	0	54	1.5	340	1.7	213	0	20	0
15		.5	13	0	*33	1.4	*330	.8	193	0	30	0
16		11	7.5	0	24	1.2	288	.4	157	0	*11	0
17		6.2	4.5	0	18	*1.2	182	.2	129	0	8.0	0
18	(*)	2.9	2.9	12	13	1.1	*109	.1	60	0	4.7	0
19		*1.7	1.9	48	11	.9	56	1.3	39	0	*2.7	*0
20		1.1	1.4	40	9.9	.9	32	13	35	0	14	0
21		.8	1.0	22	9.2	.8	20	3.5	46	0	91	0
22		.5	.7	10	8.4	.7	14	1.2	24	0	48	0
23		.4	.6	6.0	7.4	.6	10	.6	6.6	0	16	0
24		.3	.4	3.8	6.8	.9	8.0	.3	6.1	0	6.9	0
25		.2	.3	2.5	7.1	1.1	6.1	.1	5.4	0	3.7	0
26		.1	.2	1.8	7.1	1.0	4.7	0	2.4	0	2.0	0
27		.1	.2	1.4	8.2	.7	3.7	0	2.4	0	1.6	0
28		0	**.2	1.1	7.5	.6	3.4	0	12	0	5.0	0
29		0	.1	.9	-	.4	3.2	0	3.2	0	4.9	0
30		0	0	.7	-	.3	2.4	11	1.4	0	3.7	0
31		----	0	.5	-----	.3	------	52	------	0	2.8	------
Total	0	25.8	42.4	150.7	8,820.5	55.5	1,902.1	106.0	2,257.7	2.3	278.9	100.2
Mean	0	0.86	1.37	4.86	315	1.79	63.4	3.42	75.3	0.07	9.00	3.34
Ac-ft	0	51	84	299	17,500	110	3,770	210	4,480	4.6	553	199

Calendar year 1954: Max 545 Min 0 Mean 19.0 Ac-ft 13,790
Water year 1954-55: Max 2,100 Min 0 Mean 37.6 Ac-ft 27,260

Peak discharge (base, 1,400 cfs).--Feb. 6 (4 p.m.) 2,380 cfs (7.97 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Navasota River near Easterly, Tex.

Location.--Lat 31°10'10", long 96°17'55", near center of span at downstream side of bridge on U. S. Highway 79, 1 mile upstream from Missouri Pacific Railroad bridge and 6 miles northeast of Easterly, Robertson County.

Drainage area.--949 sq mi.

Records available.--March 1924 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 276.42 ft above mean sea level, datum of 1929. Prior to June 11, 1932, inverted staff gage at railroad bridge 1 mile downstream at datum 24.86 ft higher.

Average discharge.--31 years, 403 cfs (291,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,930 cfs Apr. 10 (gage height, 12.70 ft); minimum, 0.2 cfs Sept. 20.
1924-55: Maximum discharge, 60,300 cfs May 2, 1944 (gage height, 22.13 ft); no flow at times.
Maximum stage known since about 1867, about 24.0 ft in 1900, from information by local residents (discharge, about 71,000 cfs).

Remarks.--Records good.

Revisions (water years).--WSP 898: 1924, 1926-27, 1928(M), 1929-30, 1931(M).

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	4.4	1.6	3.0	5.9	32	54	28	53	6	1.5	1.4
2	2.3	2.5	1.5	2.8	5.4	27	150	24	*36	6	1.2	1.2
3	2.0	2.0	1.5	3.0	5.2	22	451	20	27	5	1.8	1.0
4	1.1	1.8	1.5	3.2	65	19	488	16	20	4	7.3	.9
5	.7	1.6	1.5	3.5	506	17	169	14	16	3	13	.7
6	5.7	1.4	1.3	4.2	1,140	14	87	12	15	2	10	.6
7	6.0	46	1.3	3.8	1,460	12	58	11	13	*1.9	6.0	.5
8	3.5	28	1.4	3.7	1,070	10	46	11	12	1.6	3.8	.5
9	2.3	14	1.4	4.0	435	9.4	180	9.6	10	1.4	2.5	.4
10	1.8	8.0	1.4	5.3	164	9.2	1,750	8.7	66	1.2	1.9	.3
11	1.4	5.3	1.4	6.0	84	9.1	1,580	8.2	586	1.1	1.5	.3
12	1.1	3.7	92	6.0	53	8.0	1,280	8.2	704	1.0	1.5	.3
13	.8	2.9	109	5.2	42	6.8	673	7.2	188	.9	1.4	.3
14	.7	8.8	331	4.3	*32	6	280	114	70	.8	1.3	.3
15	.4	58	141	4.8	22	6	268	61	46	.8	1.3	.4
16	.4	87	60	7.8	17	*5.8	146	28	33	1.0	1.2	.4
17	.3	142	28	7.5	14	5.6	93	23	24	.8	*1.2	.3
18	.3	*72	16	27	12	5.4	62	27	19	.6	1.6	.3
19	*.3	31	11	58	13	7.0	*49	136	105	160	1.9	.3
20	.3	17	7.8	356	21	8.5	37	694	222	50	28	*.2
21	.3	11	6.5	238	45	11	30	1,070	138	22	77	.3
22	.5	7.5	5.3	104	423	66	190	876	83	22	142	.4
23	1.1	5.4	4.6	46	784	811	660	224	59	17	40	.6
24	1.5	4.0	3.9	26	739	938	1,090	110	44	10	17	2.1
25	1.6	3.3	3.4	18	140	1,440	1,650	115	30	6.8	9.6	1.8
26	1.1	2.7	3.3	13	71	1,270	492	434	21	4.8	6.7	1.2
27	.8	2.3	3.9	11	52	150	93	323	16	3.9	5.2	.7
28	11	2.1	*3.8	9.6	40	77	62	128	12	3.4	3.4	.5
29	20	1.9	3.3	8.3	-	51	46	138	9	2.5	2.4	.4
30	18	1.8	3.0	7.2	-	35	36	131	7	2.1	2.0	.3
31	8.2	- -	3.0	6.5	-----	28	------	75	-----	1.8	1.6	------
Total	97.9	579.4	855.6	1,006.7	7,460.5	4,916.8	12,230	4,884.9	2,664	345.4	396.8	18.9
Mean	3.16	19.3	27.6	32.5	266	159	408	158	88.8	11.1	12.8	0.63
Ac-ft	194	1,150	1,700	2,000	14,800	9,750	24,260	9,690	5,280	685	787	37

Calendar year 1954: Max 1,970 Min 0.2 Mean 65.9 Ac-ft 47,700
Water year 1954-55: Max 1,750 Min 0.2 Mean 97.1 Ac-ft 70,330

Peak discharge (base, 3,100 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No gage-height record Mar. 14, 15, June 29 to July 6, Aug. 12-16; discharge estimated on basis of weather records and records for Navasota River near Bryan.

Navasota River near Bryan, Tex.

Location.--Lat 30°52'10", long 96°11'25", on right bank just downstream from pier of bridge on U. S. Highway 190, 2.5 miles upstream from Shepherd Creek and 17 miles northeast of Bryan, Brazos County.

Drainage area.--1,439 sq mi (revised).

Records available.--January 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 227.4 ft above mean sea level (State Highway Department Survey).

Extremes.--Maximum discharge during year, 7,320 cfs Apr. 13 (gage height, 13.37 ft); no flow Oct. 1-14.
1951-55: Maximum discharge, 28,100 cfs May 18, 1953 (gage height, 16.12 ft); no flow at times.

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

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 23-25, Nov. 15-21, Dec. 12-15, 17-19, Jan. 18, 19, Apr. 22-24, May 1, 2, 16-18, 21, June 2, 3, 11, 17, 21, 24, 25, July 9-22, 31, Aug. 1-7, 13-25)

3.1	0	5.5	49
3.2	.1	6.0	70
3.3	.2	7.0	134
3.4	.5	8.0	245
3.5	1.0	9.0	450
3.6	1.8	10.0	840
3.8	4.2	12.0	2,900
4.0	7.4	13.0	5,700
4.4	15	14.0	10,400
5.0	32		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	12	10	18	20	126	126	104	138	7.6	5.0	3.8
2	0	21	10	17	19	100	126	72	100	8.5	4.2	2.8
3	0	19	10	16	18	80	126	57	*70	11	3.8	4.9
4	0	16	9.6	15	61	68	225	47	51	10	3.5	8.5
5	0	13	9.2	15	865	59	435	40	39	9.0	3.4	4.4
6	0	11	9.0	15	1,330	51	485	34	33	7.9	3.1	2.4
7	0	9.8	9.2	15	1,600	46	252	29	28	*7.1	3.2	1.3
8	0	9.0	9.6	15	1,420	41	143	26	25	6.4	6.0	1.0
9	0	9.2	9.6	15	1,550	38	128	24	25	5.9	9.8	.8
10	0	24	9.4	16	1,650	34	2,400	22	47	5.4	10	.7
11	0	33	11	18	1,210	33	3,780	20	88	5.0	8.7	.8
12	0	24	57	20	590	31	3,900	19	185	4.5	6.7	.9
13	0	8.5	94	22	245	30	6,620	18	468	4.2	5.4	.8
14	0	17	70	22	*158	29	3,900	17	590	5.8	4.4	.8
15	2.1	149	162	22	118	28	2,900	17	292	4.2	3.6	.6
16	3.2	104	280	22	88	*26	1,760	61	118	3.6	3.1	.6
17	3.1	103	202	22	68	25	940	94	75	3.1	*2.5	.6
18	2.8	148	113	125	56	31	485	70	53	2.6	2.4	.5
19	*2.6	*143	66	230	50	242	*258	59	41	2.6	2.6	.5
20	1.9	126	42	143	285	140	174	57	32	2.6	2.9	*.5
21	2.2	80	29	185	590	72	138	256	88	18	3.2	.4
22	8.4	48	23	326	485	72	114	630	190	72	3.5	.6
23	134	31	19	297	348	70	94	865	148	56	9.3	.8
24	108	23	18	180	502	153	246	970	104	35	75	.8
25	54	19	17	104	690	485	538	575	78	25	85	.8
26	26	16	16	63	750	730	750	198	59	20	52	4.3
27	20	14	16	44	378	970	1,030	190	43	16	29	6.4
28	16	13	*18	34	163	1,210	970	382	32	12	17	6.7
29	14	11	18	28	-	790	377	337	24	9.0	11	5.9
30	12	10	18	24		259	148	185	16	7.2	7.1	4.4
31	10	-	18	22	-	134	------	158	------	6.0	5.0	------
Total	420.3	1,264.5	1,402.6	2,110	15,327	6,203	33,568	5,633	3,280	393.2	391.4	68.3
Mean	13.6	42.2	45.2	68.1	547	200	1,119	182	109	12.7	12.6	2.28
Ac-ft	834	2,510	2,780	4,190	30,400	12,300	66,580	11,170	6,510	780	776	135

Calendar year 1954: Max 2,380 Min 0 Mean 103 Ac-ft 74,600
Water year 1954-55: Max 6,620 Min 0 Mean 192 Ac-ft 139,000

Peak discharge (base, 4,600 cfs).--Apr. 13 (6 a.m.) 7,320 cfs (13.37 ft).
* Discharge measurement made on this day.

Brazos River near Hempstead, Tex.

Location.--Lat 30°07'25", long 96°11'00", near center of span at bridge on U. S. Highway 290, 4,500 ft upstream from Texas and New Orleans Railroad bridge, 6.5 miles northwest of Hempstead, Waller County, 8 miles upstream from Caney Creek, and at mile 196.

Drainage area.--42,670 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--October 1938 to September 1955. Gage-height records collected in this vicinity at intermittent periods since 1903 are contained in reports of U. S. Weather Bureau.

Gage.--Wire-weight gage read twice daily, oftener during floods. Datum of gage is 117.99 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Prior to Nov. 1, 1940, chain gage at railroad bridge 4,500 ft downstream at datum 5.97 ft lower.

Average discharge.--17 years, 6,326 cfs (4,580,000 acre-ft per year).

Extremes.--Maximum discharge during year, 23,200 cfs May 22 (gage height, 18.9 ft); minimum daily, 234 cfs Jan. 6, 7.
1938-55: Maximum discharge, 116,000 cfs Nov. 30, 1940 (gage height, 44.04 ft); minimum daily, 137 cfs Nov. 6, 1952.
Maximum stage known since at least 1899, 56.1 ft Dec. 8, 1913, present site and datum, from information by Texas and New Orleans Railroad Co., obtained at bridge 4,500 ft downstream. Flood of July 4, 1899, reached a stage of 53.6 ft, present site and datum, from information by Texas and New Orleans Railroad Co.

Remarks.--Records good. Flow largely regulated by reservoirs above Bryan. Many small diversions above station for irrigation, municipal supply, and oilfield operations.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 18-21, 23, 27, 28, Mar. 1-5, 22-24, 28-31, Apr. 1-3, 5-10, 26-30, May 1-5, 10-13, 16, 18-20, July 8-20, 23-30, Aug. 1-14, 18-21, 25-31, Sept. 1-28; rate of change in stage used as a factor Feb. 4-16, Apr. 11-13, 16, 18-24, May 20, 21, 23-27, 29-31, June 1, 8-10, 14, Sept. 28-30)

0.7	225	5.0	2,180
1.0	276	7.0	3,690
1.5	407	10.0	6,700
2.0	588	14.0	12,500
3.0	1,020	19.0	23,400

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	466	477	297	250	*306	1,110	885	975	5,490	4,220	1,060	862
2	376	*818	289	246	284	1,020	975	*1,020	*4,580	3,210	1,340	772
3	550	840	274	236	280	*975	1,040	1,040	3,610	2,670	1,490	688
4	628	688	264	*250	678	930	2,040	998	3,370	2,460	*1,240	670
5	512	588	264	245	5,430	795	*1,910	818	3,050	2,460	885	688
6	876	477	256	234	12,900	648	1,210	668	3,210	*2,320	840	795
7	1,340	428	260	234	14,600	512	908	588	4,130	2,390	1,180	818
8	*952	449	250	237	13,000	442	729	531	6,740	1,610	1,090	818
9	668	442	*240	240	10,700	463	688	470	11,200	1,490	1,020	*708
10	531	407	240	240	8,100	442	729	442	10,400	1,460	885	550
11	477	387	245	240	6,220	383	13,600	885	8,440	1,280	885	588
12	449	334	293	238	4,880	367	19,300	952	8,440	1,260	708	975
13	449	299	397	240	4,140	361	14,800	708	8,440	1,400	688	1,490
14	446	299	387	237	3,460	344	11,400	588	6,960	1,260	1,230	1,400
15	397	418	342	246	2,750	319	11,100	764	5,820	930	2,810	952
16	336	628	334	254	2,300	301	9,550	2,040	5,380	750	2,670	1,020
17	312	550	342	268	1,910	299	8,830	1,790	4,680	952	2,180	885
18	297	1,150	334	329	1,490	295	7,760	1,240	3,950	1,280	1,260	708
19	280	2,740	339	668	1,040	289	6,680	1,040	3,950	1,490	975	588
20	284	2,740	353	772	862	284	5,920	1,540	4,040	1,850	840	569
21	289	1,850	373	818	708	398	4,880	12,000	4,220	1,790	1,300	795
22	293	1,180	367	885	648	1,290	4,310	22,200	4,780	2,110	2,670	750
23	336	885	344	840	952	1,490	3,460	17,100	5,380	1,910	2,530	628
24	512	708	306	772	2,460	1,520	2,590	*10,800	6,040	1,400	2,040	531
25	648	588	291	772	2,390	3,130	2,110	7,850	7,540	1,180	1,550	550
26	628	512	276	729	1,850	2,890	1,790	10,400	8,970	1,040	1,550	795
27	569	449	284	668	1,460	1,970	1,240	14,000	8,050	1,670	1,280	750
28	550	380	276	608	1,260	1,240	998	13,900	5,930	2,040	930	2,270
29	512	344	260	531	--	930	908	12,000	4,980	1,430	840	5,110
30	428	326	253	407	--	840	930	8,880	4,780	1,400	952	*10,800
31	367	------	250	350	------	862	------	6,730	------	1,210	952	------
Total	15,758	22,381	9,280	13,284	107,058	27,139	143,270	154,957	176,550	53,922	41,870	39,523
Mean	508	746	299	429	3,824	875	4,776	4,999	5,885	1,739	1,351	1,317
Ac-ft	31,260	44,390	18,410	26,350	212,300	53,830	284,200	307,400	350,200	107,000	83,050	78,390

Calendar year 1954: Max 21,000 Min 240 Mean 1,589 Ac-ft 1,150,000
Water year 1954-55: Max 22,200 Min 234 Mean 2,205 Ac-ft 1,597,000

Peak discharge (base, 50,000 cfs).--No peak above base.
* Discharge measurement made on this day.

Brazos River near San Felipe, Tex.

Location.--Lat 29°46'20", long 96°02'10", near center of span at right side of pier of bridge on U. S. Highway 90, 200 ft downstream from Missouri-Kansas-Texas Railroad bridge, 1.3 miles downstream from Irons Creek, 5.0 miles southeast of San Felipe Post Office, Austin County, and at mile 142.

Drainage area.--43,690 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--December 1938 to September 1955 (gage heights only, October 1945 to September 1953).

Gage.--Water-stage recorder. Datum of gage is 79.32 ft above mean sea level, datum of 1929. Prior to Apr. 17, 1940, chain gage at site 200 ft upstream at same datum.

Average discharge.--8 years (1939-45, 1953-55), 8,776 cfs (6,354,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,600 cfs May 23 (gage height, 16.91 ft); minimum daily, 250 cfs Dec. 12.
1938-55: Maximum discharge, 152,000 cfs Nov. 25, 1940 (gage height, 41.10 ft); minimum daily, that of Dec. 12, 1954.
Maximum stage known, 49.0 ft Dec. 9, 1913, from information by local resident.

Remarks.--Records good except for periods of no gage-height record, which are fair. Flow regulated by reservoirs above Bryan (see Brazos River at Waco and near Bryan). Many small diversions above station for irrigation, municipal use, and oilfield operation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	541	462	370	320	430	1,550	930	998	6,680	5,100	1,370	1,040
2	524	530	350	300	*384	1,330	952	1,030	*5,870	4,350	1,170	982
3	425	767	320	300	354	*1,130	1,010	*1,050	4,800	3,270	1,420	879
4	451	*844	310	*286	384	1,090	1,090	1,090	4,070	2,910	1,600	774
5	640	774	290	300	1,550	1,050	2,110	1,040	3,660	2,670	1,420	697
6	570	678	280	290	10,100	922	*2,160	886	3,400	2,610	1,040	*710
7	640	599	280	280	14,700	774	1,600	722	3,530	2,380	930	816
8	*1,250	530	280	280	13,000	678	1,040	605	4,650	2,380	1,250	893
9	982	450	*272	280	11,800	605	837	541	7,400	1,820	1,170	886
10	735	501	260	290	9,900	582	856	484	10,800	1,640	1,130	795
11	605	470	260	290	7,800	559	1,090	468	9,680	1,640	952	653
12	518	450	250	290	6,190	524	14,800	666	8,400	*1,460	*930	611
13	450	440	326	290	5,250	490	15,600	1,040	8,400	1,460	945	908
14	440	446	384	290	4,350	468	12,500	781	8,200	1,550	1,460	1,460
15	440	441	436	300	3,790	441	10,800	622	6,850	1,460	1,640	1,550
16	400	446	414	330	3,270	414	10,300	622	6,030	1,130	2,670	1,170
17	370	617	369	390	2,730	394	9,240	2,010	5,550	915	2,670	1,090
18	340	611	364	473	2,380	394	8,400	2,440	4,950	998	2,160	1,040
19	320	1,330	374	628	1,910	379	7,600	1,550	4,350	1,370	1,500	837
20	310	2,670	384	691	1,500	379	6,850	1,250	4,210	1,640	1,210	703
21	310	3,400	389	788	1,130	359	6,030	1,840	4,350	1,860	1,050	622
22	320	2,380	404	774	908	345	5,400	13,900	4,500	1,820	1,370	741
23	457	1,550	420	809	816	975	4,650	18,600	5,250	2,160	2,610	830
24	460	1,090	420	809	886	1,680	3,930	*13,200	5,710	2,060	2,500	747
25	457	837	389	760	2,330	1,820	3,030	8,400	5,870	1,640	2,110	628
26	634	703	425	735	2,610	3,150	2,440	7,600	7,800	1,330	1,680	582
27	628	600	468	716	2,160	2,910	2,060	10,300	8,800	1,130	1,600	767
28	605	520	394	672	1,820	2,220	1,500	12,500	7,600	1,680	1,460	830
29	570	460	374	611	-	1,640	1,210	12,500	5,870	2,010	1,130	1,870
30	553	410	360	564	-	1,090	1,020	10,600	5,250	1,640	960	5,310
31	507		340	496	-	975	-	8,200	-	1,600	1,020	-
Total	16,452	26,006	10,956	14,632	114,432	31,317	141,037	137,535	182,480	61,683	46,127	31,421
Mean	531	867	353	472	4,087	1,010	4,701	4,437	6,083	1,990	1,488	1,047
Ac-ft	32,630	51,580	21,730	29,020	227,000	62,120	279,700	272,800	361,900	122,300	91,490	62,320

Calendar year 1954: Max 16,500 Min 250 Mean 1,557 Ac-ft 1,127,000
Water year 1954-55: Max 18,600 Min 250 Mean 2,230 Ac-ft 1,615,000

Peak discharge (base, 50,000 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No gage-height record Oct. 13-22, Nov. 9, 11-13, Nov. 27 to Dec. 8, Dec. 9-11, Dec. 30 to Jan. 3, Jan. 5-17; discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

Brazos River at Richmond, Tex.

Location.--Lat 29°35', long 95°45', near right bank on downstream side of pier of bridge on U. S. Highway 59 in Richmond, Fort Bend County, 925 ft downstream from Texas and New Orleans Railroad bridge and at mile 93.

Drainage area.--44,050 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--January 1903 to June 1906 and October 1922 to September 1955 in reports of Geological Survey. Published as "at Rosenberg" October 1922 to September 1931 and equivalent except for diversion by Richmond Irrigation Co.'s canal. June to November 1901 and June to September 1902 in U. S. Department of Agriculture, Office of Experiment Stations, Bulletins Nos. 119 and 133. Gage-height records collected in this vicinity since 1914 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder and wire-weight gage. Datum of gage is 40.94 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. June to November 1901, June to September 1902, and January 1903 to June 1906, various types of nonrecording gages at railroad bridge 925 ft upstream at different datums. Oct. 1, 1922, to Sept. 30, 1931, chain gage at Rosenberg 7.6 miles upstream at datum about 4 ft higher.

Average discharge.--35 years (1903-5, 1922-55), 7,173 cfs (5,193,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,300 cfs May 23 (gage height, 12.76 ft); minimum daily, 281 cfs May 11.

1903-6, 1931-55: Maximum discharge, 117,000 cfs Nov. 28, 1940 (gage height, 38.40 ft); minimum daily, 35 cfs Aug. 23, 1934.

Maximum stage known since at least 1884, 48.2 ft Dec. 10, 1913, present datum, from floodmarks on right bank 1,000 ft upstream from gage. From information by Southern Pacific Railroad Co., other floods at railroad bridge, present datum, are as follows: May 1884, stage 43.7 ft; June 13, 1885, stage 44.7 ft; July 1899, stage 45.6 ft; May 2, 1915, stage 43.3 ft; May 9, 1922, stage 40.9 ft. Flood of June 6, 1929, reached a stage of 40.6 ft, present site and datum from floodmarks (discharge 120,000 cfs).

Remarks.--Records good. Flow regulated by reservoirs above Bryan. Considerable water diverted above station for irrigation and municipal supply materially affect low flows. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Revisions.--Figure of daily discharge for Dec. 1, 1932, published in WSP 748, is in error. The correct figure is 972 cfs.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	495	585	550	468	617	1,620	862	824	7,740	4,760	1,220	928
2	555	545	510	429	545	1,460	741	753	6,300	4,620	1,140	960
3	580	530	486	397	495	1,300	765	741	5,320	3,800	895	928
4	525	753	446	374	549	1,220	798	791	4,200	2,850	995	843
5	520	869	408	367	1,440	1,140	960	817	3,310	2,430	1,220	705
6	661	843	408	360	6,090	1,100	1,540	747	3,070	2,230	1,180	705
7	560	747	374	350	15,200	1,030	1,660	656	2,800	2,130	876	705
8	595	672	408	343	15,700	928	1,220	486	2,960	1,880	639	759
9	1,180	617	343	363	13,400	798	1,030	333	4,340	1,840	843	778
10	1,180	565	374	356	11,400	700	960	302	8,780	1,380	862	772
11	888	560	374	346	*9,100	650	960	281	11,600	1,180	810	759
12	723	555	374	346	7,060	650	5,120	322	9,480	1,300	723	711
13	617	530	374	343	5,740	617	16,900	447	8,420	1,080	759	639
14	560	520	374	336	4,760	585	14,800	960	8,420	960	753	830
15	525	*575	408	353	4,060	550	11,800	862	7,910	995	960	1,380
16	505	550	*495	350	3,430	*525	10,600	565	*6,450	995	1,180	1,500
17	500	515	490	346	2,960	505	9,860	454	5,600	882	2,080	1,220
18	482	595	459	545	2,480	486	9,100	*1,600	5,320	717	*2,230	1,030
19	442	661	433	643	2,130	472	7,910	2,960	4,480	729	1,880	1,030
20	*412	980	437	856	1,800	459	6,900	2,330	3,800	995	1,380	850
21	393	2,100	446	*850	1,540	437	6,020	1,260	3,670	*1,180	1,060	817
22	408	2,800	454	960	1,260	425	5,320	4,010	3,800	1,380	862	*759
23	468	2,080	459	928	1,060	293	4,620	17,900	4,060	1,420	995	778
24	545	1,460	477	960	995	406	3,800	*16,900	4,760	1,700	2,030	882
25	468	1,100	486	960	995	1,060	*2,960	12,000	5,180	1,660	2,130	843
26	477	928	477	928	1,980	1,320	2,330	8,760	5,740	1,260	1,800	753
27	634	817	768	876	2,230	2,530	1,800	8,080	8,080	1,030	1,420	688
28	694	717	995	862	1,880	2,480	1,580	11,800	8,590	928	1,420	804
29	672	644	628	810	-	1,840	1,220	13,600	6,900	1,220	1,420	895
30	634	595	612	753	--	1,260	995	12,800	5,320	1,750	995	1,730
31	606	- - -	550	688	------	869	- -----	10,000	------	1,460	817	------
Total	18,504	25,988	14,877	18,046	120,896	29,715	135,131	134,341	176,400	52,721	37,574	26,981
Mean	597	866	480	582	4,318	959	4,504	4,334	5,880	1,701	1,212	899
Ac-ft	36,700	51,550	29,510	35,790	239,800	58,940	268,000	266,500	349,900	104,600	74,530	53,520

Calendar year 1954: Max 19,300 Min 98 Mean 1,558 Ac-ft 1,128,000
Water year 1954-55: Max 17,900 Min 281 Mean 2,168 Ac-ft 1,569,000

Peak discharge (base, 39,000 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Discharge Dec. 3-15 computed from once-daily wire-weight-gage readings.

Brazos River near Juliff, Tex.

Location.--Lat 29°26', long 95°32', on left bank just downstream from South Texas Water Co. pumping plant, 3½ miles west of Juliff, Fort Bend County, 5½ miles downstream from Gulf, Colorado and Santa Fe Railway bridge, and at mile 67.

Drainage area.--44,130 sq mi, approximately, of which 9,240 sq mi is probably noncontributing.

Records available.--May 1949 to September 1955.

Gage.--Two water-stage recorders. Datum of gage is at mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Average discharge.--6 years, 2,765 cfs (2,002,000 acre-ft per year).

Extremes.--Maximum discharge during year, 19,100 cfs May 24; maximum gage height, 32.42 ft Feb. 8; no flow May 8-11 due to pumping.

1949-55: Maximum discharge, 76,300 cfs May 19, 1953; maximum gage height, 55.49 ft May 20, 1953; no flow at times due to pumping.

Maximum stage known since at least 1884, 64.0 ft about Dec. 11, 1913, present datum, from floodmark 4 miles to left of gage, from information by local resident. From same source and at same site and datum, other floods as follows: about May 10, 1922, stage 61.0 ft; about June 7, 1929, stage 61.0 ft; about Nov. 29, 1940, stage 61.5 ft. Flood in July 1899 was probably exceeded only by the flood in 1913.

Remarks.--Records good. Flow regulated by reservoirs above Bryan. Considerable water diverted above station for irrigation and municipal supply. The Briscoe Irrigation Co. and the South Texas Water Co. have permits to divert a maximum of 600 and 400 cfs, respectively, above station for irrigation, industrial, and municipal supply.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 5-12, Feb. 9-19, Mar. 6-27, Apr. 15-25, 28-30, May 1-18, 23-31, June 1-5, 30, July 1-15; rate of change in stage as a factor Feb. 6, 7, 9-16, Apr. 12-23, May 23-26, 28-31, June 1-3)

16.0	0	18.0	422
16.1	4.5	19.0	925
16.2	11	20.0	1,610
16.4	28	22.0	3,310
16.7	63	24.0	5,400
17.0	113	28.0	10,300
17.5	245	33.0	18,700

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	451	402	375	573	643	1,980	600	98	7,410	3,910	836	606
2	527	371	339	500	578	1,730	634	40	5,760	3,410	752	700
3	592	321	236	464	509	1,500	478	5.8	4,750	3,050	554	695
4	587	410	215	435	683	1,390	486	*19	3,910	2,350	500	629
5	540	752	245	266	1,660	1,280	601	55	2,780	*1,770	780	610
6	573	865	201	127	5,330	1,220	895	54	*2,270	1,460	865	578
7	*653	807	187	*115	16,000	1,150	1,390	12	2,100	1,320	700	550
8	559	726	*332	129	17,100	1,050	*1,120	0	2,100	1,180	333	563
9	780	*653	375	227	14,100	*925	865	0	2,610	1,080	239	*629
10	1,180	601	360	280	12,200	836	807	0	5,420	865	*418	624
11	1,050	559	357	239	*9,920	752	807	0	9,520	527	335	615
12	865	554	375	261	7,980	695	1,800	8.0	9,000	560	390	554
13	726	536	357	371	6,450	664	15,600	46	7,560	727	386	500
14	653	522	360	368	5,350	500	14,600	263	7,320	267	430	473
15	592	550	375	375	4,430	443	11,900	464	7,200	195	447	895
16	573	578	426	386	3,730	527	10,800	284	6,000	324	807	1,250
17	559	532	478	368	3,220	496	10,400	92	4,960	324	1,320	1,150
18	545	532	473	496	2,870	482	8,730	488	4,410	200	1,980	865
19	443	629	439	690	2,610	464	8,350	2,450	4,010	59	1,770	836
20	339	700	422	895	2,180	451	7,410	2,690	3,310	128	1,280	726
21	310	1,280	430	836	1,860	435	6,110	1,500	3,050	412	895	653
22	317	2,430	435	865	1,610	406	5,080	1,040	2,870	610	643	674
23	375	2,430	439	895	1,390	375	4,430	15,700	2,960	925	491	563
24	394	1,770	451	895	1,250	236	3,710	*17,200	3,410	1,050	940	554
25	339	1,280	464	895	1,150	443	2,780	12,000	4,010	1,250	1,900	573
26	221	1,050	464	895	1,560	601	1,980	8,620	4,310	985	1,730	592
27	289	925	473	836	2,430	1,600	1,320	7,440	5,880	679	1,420	518
28	473	807	998	807	2,270	2,180	985	10,100	7,320	536	1,180	500
29	486	522	807	780	-	1,650	613	12,600	6,480	491	1,280	610
30	451	371	653	752	-	1,150	198	12,200	4,740	1,050	1,080	610
31	418	------	643	695	------	722	------	9,440	------	1,150	700	------
Total	16,860	24,465	13,184	16,716	131,063	28,333	125,479	114,908.8	147,430	32,844	27,381	19,895
Mean	544	816	425	539	4,681	914	4,183	3,707	4,914	1,059	883	663
Ac-ft	33,440	48,530	26,150	33,160	260,000	56,200	248,900	227,900	292,400	65,150	54,310	39,460

Calendar year 1954: Max 18,500 Min 0 Mean 1,238 Ac-ft 896,100
Water year 1954-55: Max 17,200 Min 0 Mean 1,914 Ac-ft 1,386,000

* Discharge measurement made on this day.

Note.--No recorder record Apr. 21 to May 3, June 2-8, 16-20, 24-27, June 30 to July 4, and Sept. 19-25; discharge computed on basis of twice daily staff-gage readings.

Big Creek near Needville, Tex.

Location.--Lat 29°28'35", long 95°48'45", near center of stream at downstream side of bridge on State Highway 36, 1.5 miles downstream from Coon Creek, 5½ miles north of Needville, Fort Bend County, and 10½ miles upstream from Fairchild Creek.

Drainage area.--37.6 sq mi.

Records available.--May 1947 to June 1950, March 1952 to September 1955.

Gage.--Water-stage recorder; concrete low-water control to Apr. 18, 1955. Datum of gage is 69.39 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. May 20, 1947, to June 30, 1950, wire-weight gage at present site and datum.

Average discharge.--5 years (1947-49, 1952-55), 19.3 cfs (13,970 acre-ft per year).

Extremes.--Maximum discharge during year, 1,030 cfs Feb. 6 (gage height, 10.28 ft); no flow at times.

1947-50; 1952-55: Maximum discharge, 2,660 cfs Oct. 8, 1949 (gage height, 12.99 ft); no flow at times.

Maximum stage known since about 1913, 14.4 ft in August 1945, from information by local resident.

Remarks.--Records fair. No diversion above station.

Revisions (water years).--WSP 1148: 1947.

Rating tables, water year 1954-55, except periods of backwater from temporary road crossing (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 4-7)

Oct. 1 to Apr. 18				Apr. 19 to Sept. 30			
2.2	0	5.0	58	-1.1	0	-0.2	26
2.3	.2	6.0	105	-1.0	.4	0.0	37
2.4	.8	7.0	178	-.9	1.4	.5	76
2.5	1.8	8.0	290	-.8	3.2	1.0	122
2.7	3.7	9.0	460	-.6	8.4	1.5	180
3.0	7.3	10.0	690	-.4	16	2.0	250
3.5	16	11.0	1,080				
4.0	26						

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0		0	0		12	0	0.6	0.6	1.7	57
2	0	0		0	0		4.1	0	.5	.6	1.3	40
3	0	0		0	0		1.8	0	.4	32	.8	28
4	0	0		0	176		1.2	0	.3	49	.7	20
5	0	0		0	765		.7	0	.2	17	.7	14
6	.2	0		0	*920		.4	0	.2	9.5	.7	12
7	.3	0		0	425		.1	0	**.2	6.7	.7	8.8
8	.2	0		0	54		*0	0	.2	4.6	.7	6.2
9	.1	0		5.3	19		0	0	.1	3.4	.7	5.1
10	0	0		8.7	9.2		0	0	7.6	2.8	14	3.4
11	0	0		1.4	5.0		0	120	3.4	2.4	6.2	2.1
12	0	0		.3	2.6		0	80	2.8	1.6	4.6	1.6
13	0	0		.1	1.0		.4	30	2.1	9.5	3.0	1.4
14	0	0		0	.6		.4	10	1.4	9.1	9.1	3.9
15	0	0		.4	.1	(*)	*0	5	1.0	9.5	4.4	5.1
16	0	.4	(*)	3.0	0		0	5	*.6	7.0	2.2	2.8
17	0	*0		4.5	3.0		0	5	.6	5.6	1.9	2.2
18	*0	0		215	.1		0	*120	.6	4.6	*1.7	2.2
19	0	0		64	0		0	*246	.7	63	1.6	1.9
20	0	0		12	0		0	*129	.6	56	1.6	2.2
21	0	0		*6.1	0		0	28	.6	*21	2.8	2.2
22	.4	0		4.2	0		0	8.4	.6	13	5.9	*2.2
23	5.1	0		2.3	0		0	7.0	.7	11	3.9	2.1
24	.8	0		1.0	0		0	4.6	.8	10	2.2	2.1
25	.1	0		.4	0		*0	*2.8	.7	7.6	2.2	1.9
26	0	0		.2	0		0	2	.7	7.8	2.2	1.7
27	0	0		0	0		0	2	.7	7.0	1.9	1.3
28	0	0		0	0		0	1	.7	5.6	1.6	.7
29	0	0		0	-		0	1	1.4	3.2	9.1	.6
30	0	0		0	-		0	.8	.6	2.8	1.4	.6
31	0			0	- -		- - - - - -	.7	- - - - - -	2.2	18	- - - - - -
Total	7.2	0.4	0	328.9	2,380.6	0	21.1	808.3	31.6	385.7	109.5	235.3
Mean	0.23	0.01	0	10.6	85.0	0	0.70	26.1	1.05	12.4	3.53	7.84
Ac-ft	14	0.8	0	652	4,720	0	42	1,600	63	765	217	467

Calendar year 1954: Max 179 Min 0 Mean 2.09 Ac-ft 1,510
Water year 1954-55: Max 920 Min 0 Mean 11.8 Ac-ft 8,540

Peak discharge (base, 500 cfs).--Feb. 6 (10 a.m.) 1,030 cfs (10.28 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
Note.--No gage-height record Apr. 19 to May 18, May 26 to June 6; discharge estimated on basis of 2 discharge measurements, recorded range in stage, and weather records. Backwater from temporary road crossing Feb 13 to Apr. 18. Discharge May 19 to Sept. 30 computed from twice-daily readings of reference point or wire-weight gage.

San Bernard River near Boling, Tex.

Location.--Lat 29°18'45", long 95°53'35", near left bank at downstream side of pile bent of bridge on State Farm Highway 442, 2½ miles downstream from Snake Creek and 4½ miles northeast of Boling, Wharton County.

Drainage area.--720 sq mi, approximately.

Records available.--May 1954 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 30.7 ft above mean sea level (State Highway Department bridge plans).

Extremes.--Maximum discharge during year, 4,780 cfs Feb. 9 (gage height, 21.55 ft); minimum, 3.9 cfs Oct. 15-22.
1954-55: Maximum discharge, that of Feb. 9, 1955; minimum, that of Oct. 15-22, 1954.
Maximum stage known since 1900, 43.5 ft in 1913 (probably December). Flood in September 1938 reached a stage of 43.3 ft, from information by local resident.

Remarks.--Records good. Diversions above station for irrigation.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 28, 29, June 8-11, 14-18)

2.7	3.2	8.0	370
2.8	4.7	10.0	680
3.0	8.5	12.0	1,070
3.5	23	16.0	2,150
4.0	42	18.0	2,860
5.0	91	20.0	3,750
6.0	161	22.0	5,100

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	30	6.2	299	21	25	9.9	a9.0	39	52	69	440
2	14	22	6.4	235	18	23	32	a9.0	41	47	62	277
3	9.2	18	6.4	174	16	21	53	a8.5	47	47	58	225
4	8.1	16	7.0	116	313	20	45	a8.5	46	109	54	192
5	9.7	22	16	80	1,420	19	38	a8.0	41	103	54	153
6	12	19	11	60	*2,780	18	33	a10	40	75	60	126
7	12	16	7.9	50	*3,850	17	26	8.3	32	60	53	103
8	12	15	6.6	56	4,140	a16	21	8.5	87	52	47	86
9	9.2	13	6.6	67	4,700	a15	17	11	137	47	47	75
10	5.2	12	6.2	88	4,140	a14	a16	13	130	44	46	67
11	4.7	10	6.1	62	2,540	a14	a14	18	182	41	60	59
12	4.4	8.7	6.6	60	1,260	a13	a12	97	255	35	88	328
13	16	7.9	6.2	48	734	a12	a10	97	288	31	80	292
14	7.0	7.2	6.2	38	440	a12	28	137	225	35	72	210
15	4.2	7.0	6.2	35	288	*12	46	109	169	39	69	220
16	3.9	7.0	*6.2	37	182	12	56	69	*149	38	60	174
17	3.9	*6.6	6.1	35	145	12	60	49	116	38	60	130
18	*3.9	6.4	5.9	357	97	11	55	142	91	46	*60	112
19	3.9	6.1	6.1	608	72	11	42	1,260	65	60	69	83
20	3.9	6.1	6.2	734	60	10	32	*2,340	51	80	83	147
21	3.9	6.1	6.1	*680	51	9.9	24	2,540	41	*91	83	310
22	5.0	5.9	6.1	454	45	9.2	19	2,340	36	83	106	205
23	24	5.7	6.1	384	42	9.0	a14	1,510	37	86	134	*116
24	46	5.6	6.2	299	39	9.0	a12	839	30	75	106	80
25	18	5.6	6.2	200	36	8.5	*9.9	482	47	55	88	60
26	27	5.7	6.6	134	33	7.9	a 11	299	56	51	83	49
27	54	5.9	7.0	88	30	7.7	a10	196	49	52	80	43
28	58	5.9	241	60	28	7.7	a13	116	46	51	80	47
29	55	5.9	680	45	-	7.7	a 11	75	49	52	103	49
30	48	6.1	468	34	-	7.7	a9.5	56	50	58	105	42
31	39		358	26		7.7	- - - -	44	- - - -	67	299	- - - -
Total	540.1	314.4	1,933.4	5,643	27,520	399.0	779.3	12,908.8	2,672	1,800	2,518	4,500
Mean	17.4	10.5	62.4	182	983	12.9	26.0	416	89.1	58.1	81.2	150
Ac-ft	1,070	624	3,830	11,190	54,590	791	1,550	25,600	5,300	3,570	4,990	8,930

Calendar year 1954: Max - Min - Mean - Ac-ft -
Water year 1954-55: Max 4,700 Min 3.9 Mean 169 Ac-ft 122,000

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records.

Lake J. B. Thomas near Vincent, Tex.

Location.--Lat 32°35'09", long 101°12'18", at Big Spring pump station on south side of reservoir, 4.0 miles upstream from dam on Colorado River, 7.3 miles north of Vincent, Howard County, 12.5 miles west of Ira, and at mile 845.

Drainage area.--3,524 sq mi, of which 2,590 sq mi is probably noncontributing. Contributing area includes 363 sq mi above Bull Creek diversion dam.

Records available.--October 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Nov. 4, 1953 to Feb. 7, 1955, Colorado River Municipal Water District staff gage at site 4.0 miles downstream at same datum.

Extremes.--Maximum contents observed during year, 170,000 acre-ft Sept. 28-30, (elevation, 2,253.5 ft); minimum contents, 72,340 acre-ft Apr. 29, May 2-4, 8, 9, (elevation, 2,235.1 ft).
1953-55: Maximum contents, that of Sept. 28-30, 1955; minimum contents, 10,000 acre-ft Oct. 1, 1953 (contents estimated).

Remarks.--Reservoir is formed by rolled-fill earthen dam, 14,500 ft long; storage began in July 1952; dam completed in September 1952. No appreciable storage prior to July 1953. The service spillway is a reinforced concrete structure of clover-leaf design, with two uncontrolled openings 14 by 14 ft, designed to discharge a total of 10,000 cfs. Two emergency spillways, one 500 ft wide located at left end of dam and one 1,600 ft wide located at right end of dam, are designed to discharge 161,000 cfs at elevation 2,275.0 ft (maximum design level). Capacity of reservoir, 255,000 acre-ft at elevation 2,264.0 ft (top of lower emergency spillway); 204,000 acre-ft at elevation 2,258.0 ft (top of service spillway); 1,300 acre-ft at elevation 2,200.0 ft (lip of intake to service outlet). Dam built by Colorado River Municipal Water District to impound water for municipal and industrial use. All flow of Bull Creek is diverted into Lake J. B. Thomas by means of a diversion dam across the creek and a gravity canal through the intervening ridge except that which will flow through the spillway at one end of the dam during extreme floods. See table below for total diversions.

Cooperation.--Capacity curve prepared and furnished by Freese and Nichols, consulting engineers. Record of elevations and diversions furnished by Colorado River Municipal Water District.

Month-end elevation and contents, and monthly diversions, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions for municipal and industrial use (acre-feet)
Sept.30	2,237.0	79,900	-	-
Oct. 31	2,236.5	77,880	-2,020	719
Nov. 30	2,236.1	76,260	-1,620	614
Dec. 31	2,235.6	74,300	-1,960	566
Calendar year 1954	-	-	+51,360	2,290
Jan. 31	2,235.4	73,510	-790	660
Feb. 28	-	a73,120	-390	555
Mar. 31	2,235.8	75,080	+1,960	855
Apr. 30	2,235.2	72,730	-2,350	1,070
May 31	2,243.9	111,700	+38,970	1,010
June 30	2,244.0	112,200	+500	1,300
July 31	2,247.7	132,700	+20,500	1,430
Aug. 31	2,247.0	128,600	-4,100	1,510
Sept.30	2,253.5	170,000	-41,400	1,340
Water year 1954-55	-	-	+90,100	11,630

† Elevations at 7 a.m.
a No gage-height record; contents estimated.

Bluff Creek near Ira, Tex.

Location.--Lat 32°35'29", long 101°03'05", near left bank on downstream side of pier of highway bridge, 1.8 miles upstream from mouth, 2.8 miles east of Ira, Scurry County, and 11.6 miles southwest of Snyder, Scurry County.

Drainage area.--38 sq mi, approximately.

Records available.--October 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,177.95 ft above mean sea level, datum of 1929. July 15 to Nov. 5, 1948, staff gage at present site and datum.

Average discharge.--8 years, 1.97 cfs (1,430 acre-ft per year).

Extremes.--Maximum discharge during year, 1,100 cfs May 23 (gage height, 7.76 ft); no flow at times.

1947-55: Maximum discharge, 5,200 cfs July 5, 1948 (gage height, 16.22 ft, from floodmark), from rating curve extended above 1,500 cfs on basis of slope-area determinations at gage height 11.92 ft and of peak flow; no flow at times each year.

Maximum stage known, that of July 5, 1948.

Remarks.--Records fair. No diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.4	0	3.5	50
2.5	.1	4.0	99
2.6	.4	4.5	164
2.7	1.3	5.0	255
2.8	4.0	6.0	520
3.0	14		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	0			
2								0	0			
3		(*)						0	0			
4							(*)	0	0			
5	(*)							.1	0			
6				(*)	(*)			*0	0			
7			(*)					0	0			
8					(*)			0	0			
9								0	0			
10								163	0			
11								*359	0			
12								*4.9	0			
13								*.6	0			
14								.2	0			
15								.1	0			
16								.1	.4			
17								.1	0			
18								4.6	0			
19								.1	0			
20								.3	39			
21								.1	1.5			
22								19	.2			
23								420	.1			
24								*9.6	0			
25								.7	0			
26								.3	0			
27								**.2	0			(*)
28					(*)			.1	*0	(*)		
29					-			0	0			
30					--			0	0			
31		------			------		------	0	------		(*)	------
Total	0	0	0	0	0	0	0	983.1	41.2	0	0	0
Mean	0	0	0	0	0	0	0	31.7	1.37	0	0	0
Ac-ft	0	0	0	0	0	0	0	1,950	82	0	0	0

Calendar year 1954: Max 631 Min 0 Mean 2.34 Ac-ft 1,700
Water year 1954-55: Max 420 Min 0 Mean 2.80 Ac-ft 2,030

Peak discharge (base, 250 cfs).--May 10 (8 p.m.) 964 cfs (7.38 ft); May 23 (6:30 a.m.) 1,100 cfs (7.76 ft); June 20 (2 a.m.) 520 cfs (5.98 ft).

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

** Field estimate made on this day.

Deep Creek near Dunn, Tex.

Location.--Lat 32°33'50", long 100°53'55", at center of downstream side of bridge on State Farm to Market Highway 1606, 2.0 miles northwest of Dunn, Scurry County, 3.0 miles upstream from Sulphur Draw, and 8.0 miles upstream from mouth.

Drainage area.--178 sq mi.

Records available.--April 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,172.17 ft above mean sea level, datum of 1929. Prior to Apr. 21, 1955, staff or wire-weight gage at same site and datum.

Extremes.--Maximum discharge during year, 4,700 cfs May 23 (gage height, 22.90 ft); no flow at times.
1953-55: Maximum discharge, that of May 23, 1955; no flow at times.
Maximum discharge known since at least 1881, 36,400 cfs June 19, 1939, by slope-area determination of peak flow at site 8.0 miles upstream from present gage. Flood of 1892 reached about same stage as that of June 19, 1939, from information by local residents.

Remarks.--Records fair prior to Apr. 22, good thereafter except those for periods of no gage-height record, which are fair.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 24, 25, July 27-30, Aug. 22, 23, Sept. 4, 5, 27)

Oct. 1 to May 10				May 11 to Sept. 30			
2.8	0	3.4	14	3.1	0	4.0	69
2.9	.3	3.6	32	3.2	.2	5.0	200
3.0	1.0	4.0	72	3.3	1.2	7.0	490
3.1	2.2	5.0	200	3.4	4.9	10.0	970
3.2	4.0	7.0	490	3.5	10	13.0	1,460
3.3	7.2			3.6	19	17.0	2,370
				3.8	43		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0		0	*1.1	2.6	0	0
2					*0	0		0	1.2	2.2	0	0
3		(*)			0	0		0	.8	1.5	0	0
4					168	0	(*)	0	.7	.5	0	1.7
5	(*)				17	0		*5.9	.6	.1	0	0
6				(*)	1.5	0		11	.4	0	0	0
7			(*)		.2	0		.1	.2	0	0	0
8					*0	0		.4	.3	0	0	0
9					0	0		.3	.2	0	0	0
10					0	0		381	.2	0	0	0
11					0	0		*1,040	.2	0	0	0
12					0	0		*31	.2	0	0	0
13					0	0		*5.4	.1	0	0	0
14					0	0		.8	0	0	0	0
15					0	0		.2	0	0	0	0
16					0	0		.1	7.6	0	0	0
17					0	0		*36	9.4	0	0	0
18					0	0	(*)	1,190	.2	10	0	0
19					0	0		a1,090	.1	34	0	0
20					0	398		a66	12	20	0	0
21					0	*193		a16	.2	.8	18	0
22					0	*15	(*)	a15	0	*.3	3.3	0
23					0	*2.5		*a2,260	0	.1	.1	0
24					0	.2		*140	0	0	0	0
25					0	0		15	0	0	0	a294
26					0	0		8.0	0	0	0	*a605
27					0	0		*4.4	0	18	0	*33
28					*0	0		3.4	*100	*2.6	0	4.9
29					-	0		2.0	68	.4	0	22
30					--	0		1.8	4.9	0	0	*3.9
31		------			------	0	------	1.5	------	0	*0	------
Total	0	0	0	0	186.7	608.7	0	6,325.3	208.6	93.1	21.4	964.5
Mean	0	0	0	0	6.67	19.6	0	204	6.95	3.00	0.69	32.2
Ac-ft	0	0	0	0	370	1,210	0	12,550	414	185	42	1,910

Calendar year 1954: Max 1,700 Min 0 Mean 7.73 Ac-ft 5,600
Water year 1954-55: Max 2,260 Min 0 Mean 23.0 Ac-ft 16,680

Peak discharge (base, 400 cfs).--Feb. 4 (about 12 m.) 634 cfs (7.86 ft); Mar. 20 (about 8 p.m.) 1,660 cfs (14.0 ft); May 11 (1 a.m.) 3,390 cfs (20.08 ft); May 18 (2 p.m.) 2,300 cfs (16.66 ft); May 23 (4:30 p.m.) 4,700 cfs (22.90 ft); June 28 (11 p.m.) 1,020 cfs (10.27 ft); Sept. 25 (about 12 p.m.) 1,620 cfs (13.80 ft).

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

a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

Colorado River at Colorado City, Tex.

Location.--Lat 32°23'33", long 100°52'42", on right bank at Colorado City, Mitchell County, 3,517 ft upstream from bridge on U. S. Highway 80, 4,100 ft upstream from Texas and Pacific Railway bridge, 1.6 miles upstream from Lone Wolf Creek, and at mile 796.

Drainage area.--4,082 sq mi, approximately, of which 2,590 sq mi is probably noncontributing.

Records available.--November 1923 to August 1925, May 1946 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,030.16 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. Nov. 28, 1923, to Aug. 31, 1925, chain gage at site 1.4 miles downstream at different datum. May 9 to Aug. 5, 1946, staff gage at site 185 ft upstream at same datum.

Average discharge.--9 years (1946-55), 72.7 cfs (52,630 acre-ft per year).

Extremes.--Maximum discharge during year, 8,360 cfs May 11 (gage height, 14.34 ft); no flow at times.
1923-25, 1946-55: Maximum discharge, 24,900 cfs July 6, 1948 (gage height, 22.37 ft, from floodmark); no flow at times.
Maximum stage known since at least 1910, 35.9 ft June 20, 1939, present site and datum, based on floodmarks 1,000 ft upstream and 3,740 ft downstream from gage (discharge, 66,000 cfs, by slope-area determination of peak flow at site 2.5 miles upstream from gage).

Remarks.--Records good. Flow slightly regulated since July 1952 by Lake J. B. Thomas (see p. 164).

Revisions.--WSP 1118: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.5	0	3.7	430
2.6	1.5	4.0	645
2.7	6.6	4.5	1,120
2.8	16	5.0	1,540
2.9	32	7.0	2,610
3.0	56	9.0	4,050
3.2	128	11.0	5,600
3.4	237		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	0.3	0	0	0.3	0	11	13	13	0
2	0	0	0	.2	0	0	0	0	16	4.6	5.2	0
3	0	0	0	.2	*0	0	0	0	5.9	1.8	3.0	0
4	0	*0	0	.2	.2	0	0	0	5.2	.7	2.2	0
5	*0	0	0	.3	s.1	0	*0	3.7	4.6	.3	15	38
6	0	0	0	**.1	21	0	0	*3.5	3.0	.1	12	23
7	0	0	*0	0	8.7	0	0	2.3	2.2	0	6.6	17
8	0	0	0	.1	*3.5	0	0	11	1.5	0	2.6	8.0
9	0	0	0	.3	2.2	0	0	6.6	1.8	0	.9	3.0
10	0	0	0	.4	1.8	0	0	12	1.5	0	.7	1.8
11	0	0	0	.3	.7	0	0	*5,110	.9	0	.3	8.1
12	0	0	0	.3	.3	0	0	*1,260	.4	0	.1	9.0
13	0	0	0	.2	.2	0	0	191	.1	.2	0	13
14	0	6.7	0	.1	.3	0	0	56	0	.2	0	5.2
15	0	1.2	0	.3	.2	0	0	28	0	.1	0	2.6
16	0	1.2	0	.2	.2	0	0	20	10	.1	0	1.2
17	0	.7	0	.1	.1	0	0	33	8.0	.1	0	.7
18	0	.2	0	.2	.1	0	0	818	30	33	0	.3
19	0	.1	0	0	.2	0	0	810	18	51	0	.1
20	0	0	0	0	.3	30	0	208	230	65	0	.1
21	0	0	0	0	.1	*374	0	97	132	33	0	0
22	0	0	0	0	0	*67	0	41	32	13	0	0
23	0	0	0	0	0	*23	0	*2,730	14	6.6	0	0
24	0	0	0	0	0	12	0	*1,900	8.7	3.5	0	0
25	0	0	0	0	0	6.6	0	167	5.2	1.5	0	1.4
26	0	0	0	0	0	3.5	0	91	2.6	.4	0	554
27	6.3	0	0	0	0	2.6	0	32	1.5	.3	0	*2,410
28	.4	0	0	0	*0	1.5	0	20	*.4	*5.5	0	146
29	.1	0	0	0	-	.9	0	13	84	22	0	49
30	0	0	.4	0	- - -	.3	0	8.7	50	23	*0	*90
31	0	------	.4	0	------	.3	------	6.6	------	26	0	------
Total	6.8	10.1	0.8	3.8	48.2	521.7	0.3	13,679.4	680.5	305.0	61.6	3,381.5
Mean	0.22	0.34	0.03	0.12	1.72	16.8	0.01	441	22.7	9.84	1.99	113
Ac-ft	13	20	1.6	7.5	96	1,030	0.6	27,130	1,350	605	122	6,710

Calendar year 1954: Max 4,280 Min 0 Mean 53.9 Ac-ft 39,040
Water year 1954-55: Max 5,110 Min 0 Mean 51.2 Ac-ft 37,090

Peak discharge (base, 4,000 cfs).--May 11 (10 a.m.) 8,360 cfs (14.34 ft); May 24 (1 a.m.) 5,200 cfs (10.52 ft); Sept. 27 (4 a.m.) 4,800 cfs (10.00 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

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Morgan Creek near Westbrook, Tex.

Location.--Lat 32°23'42", long 101°01'32", on left bank on downstream side of highway bridge, 1.1 miles upstream from Graze Creek, 2.7 miles north of Westbrook, Mitchell County, and 14 miles upstream from mouth.
Drainage area.--249 sq mi, of which 21 sq mi is probably noncontributing.
Records available.--June 1954 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 2,076.64 ft above mean sea level, datum of 1929.
Extremes.--1954: Maximum discharge during period June to September, 1,530 cfs June 30 (gage height, 13.08 ft); no flow at times.
1954-55: Maximum discharge during water year, 1,550 cfs May 11 (gage height, 13.16 ft); no flow at times.
Maximum stage known since 1882, 30.0 ft April 1922, from information by local resident.
Remarks.--Records good except those for periods of no gage-height record, which are fair.

Rating table, June 1, 1954, to Sept. 30, 1955 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 5, 6, 10, June 21, 22, July 16-18, 22, 23, Aug. 6, 1955)

0.9	0	2.5	26
1.0	.4	3.0	47
1.1	.8	4.0	108
1.3	1.8	5.0	187
1.5	3.4	7.0	405
1.7	5.9	9.0	700
2.0	12	12.0	1,270

Discharge, in cubic feet per second, 1954

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	0	206	0	(*)	11	0	0.4	0		21	0	0	0	
2	0	36	0		12	0	.1	0		22	0	0	0	
3	0	14	0		13	0	0	0		23	0	0	25	
4	0	4.9	0		14	0	*0	0		24	0	0	16	
5	0	2.4	0		15	0	0	0		25	0	0	1.1	
6	0	1.6	0		16	0	0	0		26	0	0	.1	
7	0	1.2	0		17	*0	0	*0		27	0	0	0	
8	0	.8	0		18	0	0	0		28	0	0	0	
9	0	1.2	0		19	0	0	0		29	*329	0	0	
10	0	.9	0		20	0	0	0		30	1,190	0	0	
										31	-	0	0	-
Total											1,519	269.5	42.2	0
Mean											50.6	8.69	1.36	0
Runoff in acre-feet											3,010	535	84	0

Peak discharge (base, 300 cfs).--June 30 (7:30 a.m.) 1,530 cfs (13.08 ft).
* Discharge measurement or observation of no flow made on this day.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0		0	0	0	0.3	
2						0		0	.2	0	0	
3					(*)	0		0	0	0	0	
4		(*)				0	(*)	0	0	0	0	
5	(*)					0		*.9	0	0	0	
6			(*)	(*)		0		4.3	0	0	.6	
7						0		3.7	0	0	.1	
8						0		1.9	0	0	0	
9						0		1.1	0	0	0	
10						0		.4	0	0	0	
11						0		*570	0	0	0	
12						0		*351	0	0	0	
13						0		*14	0	0	0	
14						0		2.2	0	0	0	
15						0		.6	0	29	0	
16						0		1.4	.2	.8	0	
17						0		*1.4	216	0	0	
18						0		1.5	29	4.8	0	
19						0		1.0	6.5	62	0	
20						.2		21	2.1	17	0	
21						0		5.5	.6	7.7	278	
22						0		1.0	0	2.3	68	
23						0		*773	0	.1	a8.2	
24						0		*313	0	0	a2.6	
25						0		17	0	0	a1.3	
26						0		7.3	0	0	a.7	(*)
27						0		*.9	0	*0	a.1	
28					(*)	0		.1	*0	479	a0	
29					-	0		0	0	149	a0	
30						0		0	0	19	*a0	
31						0		0		2.0	0	
Total	0	0	0	0	0	0.2	0	2,094.2	254.6	772.7	359.9	0
Mean	0	0	0	0	0	0.01	0	67.6	8.49	24.9	11.6	0
Ac-ft	0	0	0	0	0	0.4	0	4,150	505	1,530	714	0

Calendar year 1954: Max - Min - Mean - Ac-ft -
Water year 1954-55: Max 773 Min 0 Mean 9.54 Ac-ft 6,910

Peak discharge (base, 300 cfs).--May 11 (10 p.m.) 1,550 cfs (13.16 ft); May 23 (10 p.m.) 1,480 cfs (12.87 ft); June 17 (1 p.m.) 526 cfs (7.86 ft); July 28 (3:30 p.m.) 946 cfs (10.41 ft); Aug. 21 (1:30 p.m.) 652 cfs (8.68 ft).
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge interpolated or estimated on basis of records for nearby stations.

Graze Creek near Westbrook, Tex.

Location.--Lat 32°25'03", long 101°01'10", on right bank 1.2 miles upstream from mouth and 4.2 miles north of Westbrook, Mitchell County.

Drainage area.--21.2 sq mi.

Records available.--June 1954 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,092.66 ft above mean sea level, datum of 1929.

Extremes.--1954: Maximum discharge during period June to September, 125 cfs June 29 (gage height, 2.18 ft); no flow at times.
1954-55: Maximum discharge during water year, 251 cfs May 11 (gage height, 3.61 ft); no flow at times.
Maximum stage since 1919, 19.0 ft June 1939, from information by local residents.

Remarks.--Records good.

Discharge, in cubic feet per second, 1954

Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.	Day	June	July	Aug.	Sept.
1	0	0.1		(*)	11	0	0			21	0	0		
2	0	0			12	0	0			22	0	0		
3	0	0			13	0	0			23	0	0		
4	0	0			14	0	0			24	0	0		
5	0	0			15	0	0			25	0	0		
6	0	0			16	0	*0			26	0	0		
7	0	0			17	0	0	(*)		27	0	0		
8	0	0			18	0	0			28	*0	0		
9	0	0			19	0	0			29	*26	0		
10	0	0			20	0	0			30	*2.7	0		
										31	-	0		
Total											28.7	0.1	0	0
Mean											0.96	0.003	0	0
Runoff in acre-feet											57	0.2	0	0

Peak discharge (base, 50 cfs).--June 29 (7 a.m.) 125 cfs (2.18 ft).
* Discharge measurement or observation of no flow made on this day.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0			0		0	0		0	0
2			0			0		0	0		0	0
3			0		(*)	0		0	0		0	0
4		(*)	0			0	(*)	0	0		0	0
5	(*)		0			0		**1.7	0		0	0
6			0	(*)		0		0	0		0	0
7			*0			0		0	0		0	0
8			0			0		0	0		0	0
9			0			0		0	0		0	0
10			0			0		3.9	0		0	0
11			.1			0		*130	0		0	.4
12			0			0		*2.2	0		0	0
13			0			0		**.1	0		0	0
14			0			0		0	0		0	0
15			0			0		0	0		0	0
16			0			0		0	5.8		0	0
17			0			0		*0	2.3		0	0
18			0			0		.4	.1		0	0
19			0			0		.1	0		0	0
20			0			.3		0	0		0	0
21			0			0		0	0		*11	0
22			0			0		5.9	0		.1	0
23			0			0		*87	0		0	0
24			0			0		*2.4	0		0	0
25			0			0		.1	0		0	.6
26			0			0		0	0		0	*0
27			0			0		0	0	(*)	0	0
28			0		(*)	0		0	*0		0	0
29			0		-	0		0	0		0	0
30			0		--	0		0	0		*0	0
31		- - - -	0		- - - - - -	0	- - - - -	0	- - - - - -		0	- - - - - -
Total	0	0	0.1	0	0	0.3	0	233.8	8.2	0	11.1	1.0
Mean	0	0	0.003	0	0	0.01	0	7.54	0.27	0	0.36	0.03
Ac-ft	0	0	0.2	0	0	0.6	0	464	16	0	22	2.0

Calendar year 1954: Max - Min - Mean - Ac-ft -
Water year 1954-55: Max 130 Min 0 Mean 0.70 Ac-ft 505

Peak discharge (base, 50 cfs).--May 11 (10:30 a.m.) 251 cfs (3.61 ft); May 23 (11 a.m.) 170 cfs (2.70 ft); June 16 (7 p.m.) 62 cfs (1.60 ft); Aug. 21 (2 p.m.) 110 cfs (2.03 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Lake Colorado City near Colorado City, Tex.

Location.--Lat 32°20'40", long 100°55'10", on left bank at municipal water-intake structure, 1.7 miles upstream from Lake Colorado City Dam on Morgan Creek, 2.2 miles downstream from Texas and Pacific Railway bridge, 2.5 miles upstream from mouth, and 4.0 miles southwest of Colorado City, Mitchell County.

Drainage area.--267 sq mi.

Records available.--April 1949 to September 1955.

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Prior to Aug. 23, 1950, staff gages at or near powerplant about 0.7 mile downstream at same datum.

Extremes.--Maximum contents during year, 23,400 acre-ft May 24-27; maximum elevation, 2,065.23 ft May 26; minimum contents, 19,290 acre-ft May 3, 4, 7; minimum elevation, 2,061.90 ft May 4.

1949-55: Maximum contents, 27,870 acre-ft July 1-4, 1954 (elevation, 2,068.13 ft); minimum since first appreciable storage, 5,800 acre-ft Apr. 11-13, 1950 (elevation, 2,045.72 ft).

Remarks.--Reservoir is formed by a rolled-fill earthen dam, 4,800 ft long; storage began in April 1949; dam completed in September 1949. Reservoir is operated by Texas Electric Service Co. for cooling purposes in operation of steam powerplant. Colorado City diverts water for municipal supply (see table below). Service spillway is of cloverleaf design, located 100 ft upstream from dam, having two uncontrolled openings 10 by 12 ft, designed to discharge a total of 5,000 cfs. An emergency spillway, 1,200 ft wide and designed to discharge 150,000 cfs directly into the Colorado River, is located 600 ft upstream and to left of dam. Capacity of reservoir, 38,700 acre-ft at elevation, 2,073.7 ft (top of emergency spillway), 31,800 acre-ft at elevation 2,070.3 ft (top of service spillway), and 158 acre-ft dead storage at elevation 2,024.3 ft (bottom of service outlet conduit). Water for municipal supply can be withdrawn down to elevation 2,045 ft. Capacity curve prepared and furnished by Texas Electric Service Co. Record of diversions for municipal use furnished by Colorado City.

Month-end elevation, and contents, and monthly diversions, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions for municipal use (acre-feet)
Sept.30	2,065.11	23,250	-	-
Oct. 31	2,064.49	22,450	-800	50
Nov. 30	2,064.06	21,930	-520	34
Dec. 31	2,063.72	21,440	-490	54
Calendar year 1954	-	-	+8,240	923
Jan. 31	2,063.49	21,200	-240	51
Feb. 28	2,063.21	20,840	-360	47
Mar. 31	2,062.71	20,240	-600	68
Apr. 30	2,062.02	19,400	-840	91
May 31	2,065.01	23,100	+3,700	77
June 30	2,064.60	22,580	-520	92
July 31	2,064.68	22,710	+130	104
Aug. 31	2,064.17	22,060	-650	123
Sept.30	2,063.55	21,320	-740	55
Water year 1954-55	-	-	-1,930	846

† Elevation at 12 p.m.

Champlin Creek near Colorado City, Tex.

Location.--Lat 32°19', long 100°49', on right bank 600 ft downstream from South Fork, 5 miles southeast of Colorado City, Mitchell County, and 5½ miles upstream from mouth.

Drainage area.--158 sq mi.

Records available.--October 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,047.2 ft above mean sea level, datum of 1929 (State Highway Department Survey). Prior to July 5, 1949, staff gage at same site and datum.

Average discharge.--8 years, 11.3 cfs (8,180 acre-ft per year).

Extremes.--Maximum discharge during year, 7,260 cfs May 10 (gage height, 10.0 ft); no flow at times.

1947-55: Maximum discharge, 10,200 cfs Oct. 25, 1947 (gage height, 10.40 ft, from floodmark), from rating curve extended above 2,400 cfs on basis of slope-area determinations at gage heights 8.88 and 10.40 ft; no flow at times.

Maximum stage known since at least 1898, about 18.5 ft July 7 or 8, 1945, from floodmarks on left bank opposite gage.

Remarks.--Records good except those above 1,000 cfs, which are fair.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.5	0	1.3	62
.6	.2	1.6	122
.7	1.5	2.0	235
.8	6.2	3.0	630
.9	12	4.0	1,220
1.0	20	5.0	2,010
1.1	30		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0	0.1	0.2	0.1	0.1	0.1	0.1	6.3	0.4	0	0.1
2	.1	0	.1	.2	.1	.1	.1	.1	309	.3	0	.1
3	.1	*0	.1	.2	.2	.1	.1	.1	8.4	.2	0	.1
4	.1	0	.1	.2	*47	.1	.1	.1	2.8	.2	0	.1
5	**.1	0	.1	.2	.4	.1	*.1	.1	.9	.2	6.3	.1
6	.1	0	.1	**.2	.2	.1	.1	**.1	.5	.2	.1	.1
7	.1	0	**.1	.2	.2	.1	.1	.1	.4	.2	0	.1
8	.1	0	.1	.2	**.2	.1	.1	108	.4	.2	0	.1
9	.1	0	.1	.2	.2	.1	.1	*124	.4	.2	0.1	.1
10	.1	0	.1	.2	.1	.1	.1	*1,280	.3	.2	.5	.1
11	.1	0	.1	.2	.1	.1	.1	268	.2	.2	.1	3.2
12	.1	.1	.1	.2	.1	.1	.1	*25	.2	.2	.1	.2
13	.1	.1	.1	.2	.1	.1	.1	4.2	.2	.2	.1	.1
14	.1	.1	.1	.2	.2	.2	.1	1.2	.2	.2	.1	.1
15	.1	.1	.1	.2	.2	.1	.1	.6	88	58	.1	.1
16	.1	.1	.1	.2	.2	.1	.1	440	7.8	3.3	.1	.1
17	.1	.1	.1	.2	.2	.1	.1	266	3.2	405	.1	.1
18	.1	.1	.1	.1	.1	.1	.1	10	1.2	90	7.2	.1
19	.1	.1	.1	.1	.1	.1	.2	156	.5	492	.5	.1
20	.1	.1	.1	.2	.1	.2	.1	12	118	10	.2	.1
21	.1	.1	.1	.2	.1	.1	.1	2.4	11	2.8	.4	.1
22	.1	.1	.1	.2	.1	.1	.1	1.2	1.9	1.2	.2	.1
23	.1	.1	.1	.2	.1	.1	.1	39	.4	.4	.1	.1
24	.1	.1	.1	.2	.1	.1	.1	*7.7	.2	.4	.1	.1
25	.1	.1	.2	.2	.1	.1	.1	2.8	.1	.2	.1	1.4
26	.1	.1	.2	.2	.1	.1	.1	219	.1	.2	.1	.2
27	5.8	.1	.2	.2	.1	.1	.1	9.6	.1	**4.7	.1	**.1
28	.1	.1	.2	.2	**.1	.1	.1	2.4	**24	.3	.1	.1
29	.1	.1	.2	.2	-	.1	.1	.9	9.2	.1	.1	.1
30	.1	.1	.2	.2	- -	.1	.1	.5	.9	.1	.1	.1
31	.1	- - - -	.2	.2	- - - - -	.1	- - - - -	.5	- - - - -	.1	**.1	- - - - -
Total	8.8	1.9	3.8	6.0	50.9	3.3	3.1	2,981.7	596.3	1,071.9	17.1	7.6
Mean	0.28	0.06	0.12	0.19	1.82	0.11	0.10	96.2	19.9	34.6	0.55	0.25
Ac-ft	17	3.8	7.5	12	101	6.5	6.1	5,910	1,180	2,130	34	15

Calendar year 1954: Max 2,150 Min 0 Mean 11.5 Ac-ft 8,290
Water year 1954-55: Max 1,280 Min 0 Mean 13.0 Ac-ft 9,420

Peak discharge (base, 2,000 cfs).--May 10 (2:30 a.m.) 7,260 cfs (10.0 ft); May 16 (9:30 p.m.) 3,210 cfs (6.30 ft); July 17 (6:30 p.m.) 3,110 cfs (6.24 ft).

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

** Field estimate made on this day.

Colorado River at Robert Lee, Tex.

Location.--Lat 31°53'05", long 100°28'45", near left bank at downstream side of pier of bridge on State Highway 208 in Robert Lee, Coke County, half a mile upstream from Mountain Creek and at mile 712.

Drainage area.--15,770 sq mi, approximately, of which 11,600 sq mi is probably noncontributing.

Records available.--September 1915 to September 1920 (October 1918 to September 1920, gage heights only), October 1923 to December 1927, April 1939 to September 1955. Published as "near Bronte" 1915-20 and as "near Robert Lee" 1923-27.

Gage.--Water-stage recorder. Datum of gage is 1,771.70 ft above mean sea level, datum of 1929 (levels by Bureau of Reclamation). Sept. 19, 1915, to Sept. 30, 1920, chain gage at site 16 miles downstream at different datum. Oct. 23, 1923, to Dec. 31, 1927, staff gage at site 9 miles downstream at different datum.

Average discharge.--22 years (1915-18, 1924-27, 1939-55), 185 cfs (133,900 acre-ft per year).

Extremes.--Maximum discharge during year, 7,940 cfs May 12 (gage height, 10.84 ft); no flow at times.
1915-20, 1923-27, 1939-55: Maximum discharge, 31,700 cfs June 22, 1939 (gage height, 21.70 ft, from graph based on gage readings), from rating curve extended above 26,000 cfs on basis of slope-area determination of peak flow; no flow at times.
Maximum stage known since at least 1907, about 25.5 ft in April 1922, from information by local residents.

Remarks.--Records good except those for periods of no gage-height record, which are fair. About 2,200 acres irrigated above station. Flow slightly regulated by Lake Colorado City (see p. 170), and Lake J. B. Thomas (see p. 164).

Revisions.--WSP 1118: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0	a0.4	0	*36	113	2.0	a0.4
2					0	0	a.2	0	28	75	3.0	**a.2
3		(*)			0	0	a.1	0	343	50	7.0	a0
4	(*)				*54	0	a0	0	129	30	270	a0
5					a.6	0	*0	0	62	20	81	a0
6				(*)	118	0	0	*0	34	11	62	a0
7			(*)		*54	0	0	0	24	8.6	109	a0
8					18	0	0	14	17	3.3	60	a0
9					4.3	0	0	*428	16	1.9	36	a0
10					1.3	0	0	*2,960	14	1.6	21	a0
11					a1.3	0	0	1,960	11	1.4	13	a0
12					a.7	0	0	5,980	8.6	1.4	10	a0
13					a.4	0	0	*1,620	5.6	1.4	5.0	169
14					**a.2	0	0	440	3.6	1.4	2.3	62
15					a.2	0	0	459	117	1.4	*1.4	28
16					a.2	0	0	*138	87	241	1.1	14
17					a.1	0	0	1,160	63	132	.7	5.6
18					a.1	0	0	a1,380	42	550	.4	2.3
19					a.1	0	0	a164	25	305	380	1.4
20					a.1	1.9	0	a935	24	611	373	a.5
21					a0	a0	0	a225	20	188	243	a.3
22					a0	*a0	0	a106	171	*142	116	a.2
23					a0	0	0	a754	142	80	64	33
24					a0	33	0	*a2,780	*70	61	56	2.8
25					a0	38	0	a2,120	42	66	48	4.0
26					a0	19	0	*a990	25	27	25	15
27					a0	11	0	607	16	13	12	*5.0
28					*0	5.6	0	181	*55	10	6.3	2,090
29					-	2.3	0	107	485	7.0	a2.0	*483
30					--	1.4	0	69	325	3.6	a1.3	162
31		------			------	a.4	-----	48	------	3.0	a.6	------
Total	0	0	0	0	253.6	112.6	0.7	25,625	2,440.8	2,761.0	2,012.1	3,078.7
Mean	0	0	0	0	9.06	3.63	0.02	827	81.4	89.1	64.9	103
Ac-ft	0	0	0	0	503	223	1.4	50,830	4,840	5,480	3,990	6,110

Calendar year 1954: Max 13,400 Min 0 Mean 200 Ac-ft 144,900
Water year 1954-55: Max 5,980 Min 0 Mean 99.4 Ac-ft 71,980

Peak discharge (base, 7,700 cfs).--May 12 (7 a.m.) 7,940 cfs (10.84 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of records for nearby station.

Oak Creek Reservoir near Blackwell, Tex.

Location.--Lat 32°04', long 100°17', on left bank at municipal pump station 2 miles upstream from dam on Oak Creek, 3 miles southeast of Blackwell, Nolan County, 14 miles north of Bronte, Coke County, and 20 miles upstream from mouth.

Drainage area.--222 sq mi.

Records available.--May 1953 to September 1955.

Gage.--Staff gage read once daily. Datum of gage is at mean sea level, datum of 1929.

Extremes.--Maximum contents observed during year, 19,550 acre-ft May 26-28, June 15-17, July 19, 20; maximum elevation, 1,989.34 ft May 27; minimum contents observed, 13,580 acre-ft May 7, 8; minimum elevation, 1,984.21 ft May 8.
1953-55: Maximum contents observed, that of May 26-28, June 15-17, July 19, 20, 1955; minimum observed, 7,060 acre-ft Aug. 1, 1953 (elevation, 1,976.2 ft).

Remarks.--Reservoir is formed by a rolled-fill earthen dam, 3,800 ft long. Dam completed in May 1952; no appreciable storage prior to May 12, 1953. Reservoir is property of city of Sweetwater and was built to impound water for municipal use by cities of Sweetwater, Blackwell, and Bronte. Uncontrolled service spillway is channel 300 ft wide located to right of dam with crest at elevation 2,000.0 ft (reservoir capacity, 39,360 acre-ft). Emergency spillway is channel 800 ft wide located between dam and service spillway with crest at elevation 2,005.0 ft (reservoir capacity, 52,940 acre-ft). Service outlet (elevation, 1,951.0 ft) can release water to Oak Creek through 24-inch pipeline. Dead storage is 100 acre-ft. See table below for total diversions for municipal use.

Cooperation.--Capacity curve furnished by Freese & Nichols, Consulting Engineers. Record of lake elevations and diversions furnished by City of Sweetwater.

Month-end elevation and contents, and monthly diversions, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions for municipal use (acre-feet)
Sept.30	1,985.40	14,800	-	-
Oct. 31	1,984.80	14,180	-620	196
Nov. 30	1,985.24	14,590	+410	168
Dec. 31	1,984.76	14,180	-410	160
Calendar year 1954	-	-	+2,660	-
Jan. 31	1,984.45	13,780	-400	135
Feb. 28	1,985.19	14,590	+810	130
Mar. 31	1,984.85	14,280	-310	157
Apr. 30	1,984.43	13,780	-500	201
May 31	1,989.15	19,410	+5,630	188
June 30	1,988.88	19,000	-410	126
July 31	1,989.05	19,130	+130	139
Aug. 31	1,988.72	18,730	-400	206
Sept.30	1,988.47	18,470	-260	196
Water year 1954-55	-	-	+3,670	2,002

† Elevation at 8 a.m.

Colorado River at Ballinger, Tex.

Location.--Lat 31°43'50", long 99°56'25", near left bank on downstream side of pier of bridge on U. S. Highway 83 in Ballinger, Runnels County, 2,000 ft upstream from Elm Creek and at mile 659.

Drainage area.--16,840 sq mi, approximately, of which 11,600 sq mi is probably noncontributing.

Records available.--June 1907 to September 1955 (June 1907 to November 1915 monthly records only, published in WSP 850). Gage-height records collected in this vicinity from 1903-29 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 1,593.74 ft above mean sea level, datum of 1929. Prior to Nov. 29, 1930, staff, chain, or Mott gages at several sites upstream within 1 mile of present site at various datums.

Average discharge.--48 years, 373 cfs (270,000 acre-ft per year).

Extremes.--Maximum discharge during year not determined, occurred May 19; maximum gage height, 21.50 ft May 19, (backwater from Elm Creek); no flow at times.

1907-55: Maximum discharge, 75,400 cfs Sept. 18, 1936 (gage height, 28.6 ft); no flow at times.

Maximum stage since at least 1882, about 36 ft sometime in 1884, present site and datum, from information by local residents. Flood of Aug. 6, 1906, reached a stage of about 32.0 ft, present site and datum, from floodmarks (backwater from Elm Creek).

Remarks.--Records good except those for periods of no gage-height record or backwater from Elm Creek, which are poor. Small diversions above station for irrigation affect low flow. Flow slightly regulated by Lake Colorado City (see p. 170), and since July 1952 by Lake J. B. Thomas (capacity, 204,000 acre-ft).

Revisions (water years).--WSP 850: 1916-17. WSP 1118: Drainage area.

Rating table, water year 1954-55, except periods of backwater from Elm Creek (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 18-26, Feb. 12 to Apr. 13, Apr. 23 to May 2)

0.9	0	1.8	115
1.0	.2	2.0	186
1.1	.7	2.5	407
1.2	3.2	3.0	720
1.3	7.2	4.0	1,690
1.4	17	5.0	2,830
1.5	37	7.0	5,300
1.6	60	11	10,500

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0			0	.2	2.0	0.2	78	284	33	0.4
2		0			0	.3	.9	.1	65	135	31	.2
3		0			0	.3	.2	0	53	78	29	0
4		0			a93	.2	.3	0	456	65	27	0
5		0			a93	.2	.2	0	1,300	44	303	0
6		0			a86	.2	.2	*0	244	39	133	0
7		0		(*)	a78	.2	.1	0	98	37	63	0
8		0			a60	**.2	.1	0	65	33	83	0
9		0			*39	.2	.1	*952	*63	29	70	0
10		0			29	.2	.1	*697	58	27	51	0
11		0			19	.1	*0	3,590	37	25	48	0
12		0			9.5	.1	.1	4,320	35	21	39	0
13		0			6.3	.1	.1	*2,880	33	17	35	0
14		0			4.3	.1	0	953	33	9.0	35	0
15		0	(*)		3.2	0	0	418	292	2.6	33	0
16		0			.9	0	0	463	237	9.6	27	20
17		0			.4	0	0	1,660	621	1,110	19	16
18		4.9			.4	0	0	c9,510	136	437	15	5.9
19		6.3			.3	72	0	*c8,830	78	1,130	74	5.4
20		5.0			.3	46	0	*1,380	53	378	319	3.6
21	(*)	3.9			.3	11	0	1,090	42	537	330	1.2
22		1.2			.3	5.0	0	a520	37	209	188	6.6
23		.4			.3	1.2	190	536	80	148	103	*1,630
24		**.3			.3	.4	148	1,210	144	100	*68	918
25		.3			.3	.3	26	3,070	81	70	39	381
26		0			.2	.2	5.0	1,530	58	*68	42	82
27		0			.2	.2	3.2	1,090	42	51	31	33
28		0			.2	.2	.4	550	39	42	13	511
29		0				.2	.3	258	66	39	6.8	1,040
30		0				.1	.2	148	390	37	2.9	407
31						0		103		35	.7	
Total	0	22.3	0	0	524.7	139.4	377.5	45,758.3	5,014	5,236.2	2,291.4	5,061.3
Mean	0	0.74	0	0	18.7	4.50	12.6	1,476	167	169	73.9	169
Ac-ft	0	44	0	0	1,040	276	749	90,760	9,950	10,390	4,540	10,040

Calendar year 1954: Max 13,500 Min 0 Mean 314 Ac-ft 227,300
Water year 1954-55: Max 9,510 Min 0 Mean 177 Ac-ft 127,800

Peak discharge (base, 8,900 cfs).--May 19, time and discharge unknown (21.50 ft).

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

** Field estimate made on this day.

a No gage-height record; discharge estimated on basis of records for adjacent station and weather records.

c Backwater from Elm Creek.

Elm Creek at Ballinger, Tex.

Location.--Lat 31°45'00", long 99°56'50", on right bank 1,000 ft upstream from storage dam at Ballinger, Runnels County, and 1¼ miles upstream from mouth.

Drainage area.--458 sq mi.

Records available.--April 1932 to September 1955.

Gage.--Water-stage recorder and concrete dam control. Datum of gage is 1,617.72 ft above mean sea level, datum of 1929.

Average discharge.--23 years, 47.5 cfs (34,390 acre-ft per year).

Extremes.--Maximum discharge during year, 15,600 cfs May 18 (gage height, 8.65 ft); no flow at times.

1932-55: Maximum discharge, 29,200 cfs May 14, 1946 (gage height, 10.84 ft), from rating curve extended above 15,000 cfs; no flow at times.

Flood in August 1906 reached a stage of about 14.6 ft, affected by backwater from Colorado River, from information by local residents.

Remarks.--Records good except those for period of no gage-height record, which are poor. Stage-discharge relation during period of low flow affected by wind action and occasional accumulation of drift on dam. Low flow affected by diversion of Ballinger city pumping plant.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

3.8	0	4.7	950
3.9	11	5.0	1,450
4.0	67	5.5	2,450
4.1	144	6.0	3,710
4.2	244	7.0	7,270
4.4	500		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	2.5	0.2	0	0
2								0	1.0	.2	0	0
3								0	.4	.1	0	0
4								0	278	0	0	0
5								0	158	0	128	0
6								0	50	0	78	0
7				(*)				0	4.5	0	31	0
8						(*)		0	76	0	15	0
9					(*)			0	235	0	4.5	0
10								0	109	0	1.5	0
11							(*)	0	37	0	1.5	0
12								0	20	0	1.5	0
13								0	15	0	1.5	0
14								0	11	0	4.5	0
15			(*)					0	78	0	2.5	0
16								0	139	105	.5	0
17								*343	25	110	0	0
18								6,440	11	81	0	0
19								5,820	11	11	11	0
20								597	7.0	2.5	20	0
21	(*)							173	4.5	2.5	80	0
22								81	4.5	1.5	20	0
23								61	2.5	1.0	11	*1,180
24		(*)						131	2.5	1.0	**.6	599
25								31	1.5	.6	.4	1,990
26								144	1.0	*.4	0	913
27								74	1.0	0	0	263
28								31	.6	0	0	144
29								15	.4	0	0	95
30								7.0	.4	0	0	81
31								7.0		0	0	
Total	0	0	0	0	0	0	0	13,955.0	1,257.3	317.0	413.0	5,265
Mean	0	0	0	0	0	0	0	450	41.9	10.2	13.3	176
Ac-ft	0	0	0	0	0	0	0	27,680	2,490	629	819	10,440

Calendar year 1954: Max 12,000 Min 0 Mean 81.8 Ac-ft 59,260
Water year 1954-55: Max 6,440 Min 0 Mean 58.1 Ac-ft 42,060

Peak discharge (base, 2,100 cfs).--May 18 (8:30 p.m.) 15,600 cfs (8.65 ft); Sept. 25 (7 a.m.) 3,020 cfs (5.74 ft).

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

** Field estimate made on this day.

Note.--No gage-height record June 17 to July 26; discharge estimated on basis of weather records and records for nearby stations.

South Concho Irrigation Co.'s canal at Christoval, Tex.

Location.--Lat 31°13', long 100°30', on right bank at Christoval, Tom Green County, 85 ft downstream from point of diversion and 100 ft downstream from bridge on U. S. Highway 277.

Records available.--November 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,017.02 ft above mean sea level, datum of 1929.

Average discharge.--15 years (1940-55), 9.05 cfs (6,550 acre-ft per year).

Extremes.--Maximum daily diversion for irrigation during year (excluding flood flow), 12 cfs July 18-20; minimum daily, 1.8 cfs Oct. 16.
1939-55: Maximum daily diversion for irrigation (excluding flood flow), 21 cfs June 27, 28, 1941, Sept. 18, 21, 1942; minimum daily, 0.2 cfs May 21-25, June 10, 15, 16, 1953.

Remarks.--Records fair. Canal diverts water for irrigation from right bank of South Concho River, 600 ft upstream from station at Christoval. Water Service Report to the State Board of Water Engineers indicates 1,200 acres irrigated during the current year.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff-in acre-feet
October	3.8	1.8	2.87	177
November	4.2	2.9	3.63	216
December	4.6	3.4	4.19	257
Calendar year 1954	8.7	1.8	4.17	3,020
January	6.0	4.3	5.28	324
February	7.2	5.2	5.94	330
March	5.2	3.6	4.38	269
April	5.8	4.0	4.88	290
May	9.7	3.1	5.74	353
June	9.4	5.1	6.93	412
July	12	4.7	8.10	499
August	5.4	3.9	4.49	276
September	-	-	5.83	347
Water year 1954-55	12	1.8	5.18	3,750

Note.--No gage-height record Nov. 4-15, Feb. 23 to Mar. 6, Aug. 26 to Sept. 30; discharge estimated on basis of recorded range in stage and records for South Concho River at Christoval.

South Concho River at Christoval, Tex.

Location.--Lat 31°13', long 100°30', near center of stream on downstream side of center pier of Panhandle and Santa Fe Railway bridge at Christoval, Tom Green County, 12 miles upstream from Lake Nasworthy.

Drainage area.--434 sq mi.

Records available.--February 1930 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,010.22 ft above mean sea level, datum of 1929. Prior to July 17, 1930, staff gage at same site and datum.

Average discharge.--25 years, 34.8 cfs (25,190 acre-ft per year).

Extremes.--Maximum discharge during year, 3,860 cfs July 18 (gage height, 7.00 ft); no flow Feb. 28, Mar. 1.

1930-55: Maximum discharge, 100,000 cfs July 23, 1938 (gage height, 21.95 ft, from floodmarks), from rating curve extended above 9,000 cfs on basis of slope-area determination at gage height 20.5 ft; minimum, that of Feb. 28, Mar. 1, 1955.

Maximum stage known since at least 1882, about 23 ft Aug. 6, 1906, from information by local residents.

Remarks.--Records good. Low flow materially affected by diversion 600 ft above station to South Concho Irrigation Co.'s canal (see preceding page).

Revisions (water years).--WSP 1118: 1943(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 15, 18, 19, June 28-30, July 16-19)

1.6	0	2.3	97
1.7	1.2	2.5	182
1.8	5.1	2.7	310
1.9	13	3.0	520
2.0	25	4.0	1,240
2.1	42	5.0	2,100

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.7	*0.4	0.2	0.5	0.2	0.2	0.5	1.2	6.9	8.7	14	7.6
2	.5	.4	.3	.7	.3	.2	.5	1.0	5.1	5.7	13	7.6
3	.5	.4	*.3	.8	.4	.2	.5	1.0	2.0	5.7	13	9.1
4	.5	.4	.3	.8	.8	.2	.5	*.7	1.0	5.7	12	11
5	.8	.4	.3	.5	.7	.3	.7	1.7	.8	6.3	11	11
6	.8	.4	.4	*.5	.5	.3	.5	1.2	.7	6.3	11	11
7	.7	.3	*.4	.3	.4	*.3	.5	1.2	.5	6.9	9.1	11
8	.7	.4	.4	.4	.4	.3	*.7	1.2	*.4	6.9	9.1	11
9	.5	.5	.4	.5	.3	.4	.8	1.2	.4	8.3	9.1	9.9
10	.4	.8	.4	.5	*.4	.4	.8	1.2	.7	7.6	9.9	11
11	.4	.7	.5	.4	.4	.4	1.0	1.4	.5	6.9	9.9	15
12	.4	.7	.5	.4	.4	.4	1.0	1.4	.4	6.9	8.3	8.3
13	.4	.8	.5	.3	.4	.4	.8	1.4	.4	6.3	8.3	8.3
14	.4	1.0	.5	.3	.4	.4	1.0	3.4	.4	6.3	8.3	8.3
15	.4	1.0	.7	.3	.4	.4	1.0	*82	.4	5.1	8.3	8.3
16	.4	1.0	.7	.5	.4	.4	1.2	*5.6	.4	26	8.3	7.6
17	.4	.7	.7	.5	.3	.4	1.2	23	.5	195	8.3	3.6
18	.5	.7	.7	.4	.3	.4	1.4	16	.8	*1,930	8.3	3.6
19	.5	.7	.7	.4	.3	.4	1.4	204	.8	*500	8.3	3.1
20	.7	.7	.7	.4	.3	.4	1.7	14	.8	*53	13	3.1
21	.7	.4	.7	.3	.3	.4	1.7	6.3	1.0	17	12	3.1
22	.5	.4	.7	.3	.3	.4	1.7	6.3	1.0	15	9.9	3.1
23	.5	.3	.7	.3	.3	.4	1.4	5.7	1.0	13	9.9	3.1
24	.7	.3	.7	.3	.3	.5	1.4	5.7	1.0	13	9.9	3.1
25	.7	.3	.8	.3	.2	.5	1.4	6.3	1.2	12	*8.3	3.1
26	.7	.3	.8	.3	.2	.5	1.7	5.7	2.0	11	6.9	3.1
27	.7	.3	.8	.3	.1	.5	1.7	6.3	1.7	9.9	6.9	3.1
28	.5	.3	.8	.3	.2	.5	1.4	5.7	60	9.9	6.9	3.1
29	.4	.2	.7	.3	-	.5	1.4	5.1	*653	9.9	6.9	3.6
30	.4	.2	.7	.2	- - -	.5	1.2	6.3	*57	11	6.9	3.6
31	.4	- - - - -	.7	.2	- - - - -	.5	- - - - -	6.9	- - - - -	14	7.6	- - - - -
Total	16.8	15.4	17.7	12.5	9.9	12.0	32.7	430.1	802.8	2,939.3	292.6	201.4
Mean	0.54	0.51	0.57	0.40	0.35	0.39	1.09	13.9	26.8	94.8	9.44	6.71
Ac-ft	33	31	35	25	20	24	65	853	1,590	5,830	580	399

Calendar year 1954: Max 5.7 Min 0.2 Mean 1.65 Ac-ft 1,190
Water year 1954-55: Max 1,930 Min 0.1 Mean 13.1 Ac-ft 9,480

Peak discharge (base, 160 cfs).--May 15 (3 a.m.) 228 cfs (2.97 ft); May 19 (1 a.m.) 828 cfs (4.17 ft); June 29 (9 a.m.) 1,360 cfs (4.83 ft); July 18 (12:30 p.m.) 3,860 cfs (7.00 ft).

* Discharge measurement made on this day.

Middle Concho River near Tankersly, Tex.

Location.--Lat 31°22'35", long 100°36'50", on left bank 220 ft upstream from bridge on U. S. Highway 67, 3 miles northeast of Tankersly, Tom Green County, and 9.5 miles upstream from Spring Creek.
Drainage area.--1,280 sq mi, of which 152 sq mi is probably noncontributing.
Records available.--February 1930 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 1,919.51 ft above mean sea level, datum of 1929.
Average discharge.--25 years, 40.7 cfs (29,470 acre-ft per year).
Extremes.--Maximum discharge during year, 7,440 cfs Aug. 5 (gage height, 17.03 ft); no flow at times.
1930-55: Maximum discharge, 35,900 cfs Sept. 26, 1946 (gage height, 24.30 ft, from floodmark), from rating curve extended above 11,000 cfs on basis of computed flow over Nasworthy Dam, 12 miles downstream, corrected for inflow and storage for flood of Sept. 26, 1936; no flow at times.
Maximum stage known, about 27.2 ft in April 1922, from information by State Highway Department.
Remarks.--Records good except those for periods of no gage-height record, which are poor. Small diversions for irrigation above station affect low flow.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 18-20, Aug. 4-6, 19)

0.8	0	1.3	17	2.5	213
.9	.9	1.4	24	4.0	628
1.0	2.4	1.7	62	6.0	1,380
1.1	5.8	2.0	111	9.0	2,650
1.2	11				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0			0	0	*46	0	11
2			(*)		*a0			0	0	323	0	5.0
3					a0			0	0	2.8	0	2.6
4					a0			0	0	32	343	1.2
5				(*)	a450			*0	0	12	*2,630	.6
6					a60		(*)	0	0	4.2	*274	.6
7					*14	(*)		0	0	1.0	45	.4
8					5.4			0	*0	0	*21	.4
9					*1.5			0	0	0	11	.4
10					.1			0	0	0	5.0	.4
11					0			0	0	0	2.1	136
12					0			356	0	0	*1.7	188
13					0			61	0	0	16	43
14					0			15	0	0	7.7	16
15					0			37	0	0	3.2	s.o
16					0			*21	0	0	1.5	4.2
17					0			6.1	0	*515	.4	2.4
18					0			1.7	0	*356	0	1.2
19					0			.4	0	*194	*1,590	.6
20					0			0	0	*219	154	.4
21					0			0	0	*106	147	.4
22					0			0	0	*72	*32	.4
23					0			0	0	48	14	.4
24					0			0	0	22	9.2	.3
25					0			0	0	*11	5.4	.3
26					0			0	0	5.0	2.9	.2
27					0			0	0	2.4	1.7	.1
28	(*)				0			0	17	.9	.8	.1
29					-			0	*172	.1	.6	.1
30								0	*67	0	63	.1
31								0		0	46	
Total	0	0	0	0	531.0	0	0	498.2	256	1,972.4	5,428.2	424.8
Mean	0	0	0	0	19.0	0	0	16.1	8.53	63.6	175	14.2
Ac-ft	0	0	0	0	1,050	0	0	988	508	3,910	10,770	843

Calendar year 1954: Max 3,820 Min 0 Mean 53.5 Ac-ft 38,730
Water year 1954-55: Max 2,630 Min 0 Mean 25.0 Ac-ft 18,070

Peak discharge (base, 1,700 cfs).--July 17 (4:30 p.m.) 1,720 cfs (6.80 ft); Aug. 5 (1:30 a.m.) 7,440 cfs (17.03 ft); Aug. 19 (12 m.) 3,430 cfs (10.88 ft).
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of change in contents in Lake Nasworthy.

Dove Creek Spring near Knickerbocker, Tex.

Location.--Lat 31°11', long 100°44', at W. G. Rawls ranchhouse, 200 ft downstream from spring, 300 ft upstream from confluence with Dove Creek, 1.8 miles upstream from Stilson Dam, and 8.5 miles southwest of Knickerbocker, Tom Green County.
Records available.--April 1944 to September 1955 (discharge measurements only).
Extremes.--Maximum discharge measured during year, 8.06 cfs Aug. 2; minimum measured, 3.57 cfs Dec. 2.
1944-55: Maximum discharge measured, 17.2 cfs Aug. 23, 1944; minimum measured, that of Dec. 2, 1954.
Remarks.--Discharge measurements represent total flow of springs. Flow emerges from limestone outcrop at left bank of draw that extends upstream for about 1 mile and responds to rainfall on Edwards Plateau. Water used for irrigation below station.

Discharge measurements, in cubic feet per second, water year October 1954 to September 1955

Oct. 28..... 3.98	Feb. 10..... 4.08	June 8..... 3.96
Dec. 2..... 3.57	Mar. 7..... 3.91	Aug. 2..... 8.06
Jan. 6..... 3.71	Apr. 8..... 4.01	Sept. 2..... 6.65

Spring Creek near Tankersly, Tex.

Location.--Lat 31°21'30", long 100°32'05", on right bank 2.8 miles upstream from mouth and 6.5 miles east of Tankersly, Tom Green County.

Drainage area.--734 sq mi.

Records available.--Februaruy 1930 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 1,874.61 ft above mean sea level, datum of 1929.

Average discharge.--25 years, 31.4 cfs (22,730 acre-ft per year).

Extremes.--Maximum discharge during year, 19,900 cfs July 18 (gage height, 18.75 ft); no flow at times.
1930-55: Maximum discharge, 26,900 cfs Aug. 23, 1942 (gage height, 21.37 ft), from rating curve extended above 18,000 cfs; no flow at times.
Maximum stage known, about 26.0 ft in 1882, from information by local residents.

Remarks.--Records good. Many small diversions above station for irrigation.

Revisions (water years).--WSP 928: 1936.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 29 to July 1, July 19, 20, Aug. 4, 5, 19, 20)

1.1	0	1.9	19
1.2	.6	2.2	50
1.3	1.6	2.6	118
1.4	2.9	3.0	218
1.5	4.6	4.0	565
1.7	8.8	7.0	2,200
1.8	13	11.0	5,400

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	0	4.8	2.8	1.3
2								0	0	4.8	2.6	1.3
3			(*)		(*)			0	0	5.3	2.6	.9
4								0	0	4.8	34	.2
5				(*)				*0	0	4.6	176	.1
6							(*)	0	0	4.2	7.8	0
7						(*)		0	0	3.2	3.5	0
8								0	*0	1.3	2.6	0
9								0	0	.4	1.4	0
10								0	0	.1	1.5	0
11								0	0	0	1.1	6.3
12								0	0	0	1.0	4.3
13								0	0	0	1.4	2.2
14								0	0	0	1.1	.9
15								0	0	19	.9	.9
16								0	0	155	.8	.9
17								0	0	*712	.8	.8
18								686	0	*4,980	.8	.8
19								166	0	*752	387	.8
20								31	0	*175	430	.6
21								9.7	0	*43	43	.4
22								3.6	0	*22	*17	.4
23								1.4	0	14	5.6	.5
24								.6	0	12	2.3	.8
25								.4	0	*10	.9	1.5
26								.4	0	5.2	.7	1.2
27								.2	0	3.4	.5	.9
28	(*)							.1	62	3.1	.8	.7
29								0	*29	2.9	1.1	.6
30								0	*5.3	2.9	1.4	.6
31								0		2.6	1.5	
Total	0	0	0	0	0	0	0	899.4	96.3	6,947.6	1,134.5	29.9
Mean	0	0	0	0	0	0	0	29.0	3.21	224	36.6	1.00
Ac-ft	0	0	0	0	0	0	0	1,780	191	13,780	2,250	59

Calendar year 1954: Max 3,250 Min 0 Mean 14.9 Ac-ft 10,770
Water year 1954-55: Max 4,980 Min 0 Mean 25.0 Ac-ft 18,060

Peak discharge (base, 300 cfs).--May 18 (8 p.m.) 6,100 cfs (11.70 ft); June 28 (6 p.m.) 850 cfs (4.60 ft); July 18 (2 p.m.) 19,900 cfs (18.75 ft); Aug. 4 (11 p.m.) 655 cfs (4.07 ft); Aug. 19 (10 p.m.) 2,200 cfs (6.97 ft).
* Discharge measurement or observation of no flow made on this day.

Lake Nasworthy near San Angelo, Tex.

Location.--Lat 31°23'15", long 100°28'40", on left bank 250 ft upstream from Nasworthy Dam on South Concho River, 0.5 mile downstream from Middle Concho River, and 6 miles southwest of San Angelo, Tom Green County.

Drainage area.--2,659 sq mi, of which 152 sq mi is probably noncontributing.

Records available.--March 1930 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,840.00 ft above mean sea level, datum of 1929.

Extremes.--Maximum contents during year, 12,710 acre-ft Aug. 19-21; maximum gage height, 32.45 ft Aug. 21; minimum, 480 acre-ft May 10 (gage height, 15.63 ft).
1930-55: Maximum contents, 26,900 acre-ft Sept. 15, 1936 (gage height, 38.36 ft); minimum, that of May 10, 1955.

Remarks.--Lake is formed by 5,480-foot dam comprised of a 3,780-foot earthen section, two emergency spillways, 300 and 600 ft in length, and a concrete service spillway having a bank of fifteen 25-foot taintor gates and one collapsible floodgate. Dam completed and storage began Mar. 28, 1930. Capacity of reservoir, 27,470 acre-ft at gage height, 39.0 ft (top of 300-foot emergency spillway); 13,990 acre-ft at gage height, 33.2 ft (top of taintor gates); 12,390 acre-ft (revised) at gage height 32.2 ft, revised (top of collapsible floodgate). Capacity at top of 600-foot emergency spillway (gage height, 41.0 ft) not determined. There is no dead storage. The figures of contents and the capacities shown herein have been adjusted for sedimentation. Siltation surveys made by the U. S. Department of Agriculture, Soil Conservation Service, in December 1938 and May 1953 show that for the period March 1930 to December 1938, 1,191 acre-ft of silt were deposited, and from December 1938 to May 1953 an additional 1,023 acre-ft were deposited, making a total siltation of 2,214 acre-ft at gage height 32.2 ft. Water used for San Angelo municipal supply.

Month-end gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	24.9	a4,100	-
Oct. 31	23.0	2,880	-1,220
Nov. 30	21.2	2,060	-820
Dec. 31	19.0	1,240	-820
Calendar year 1954	-	-	-10,030
Jan. 31	17.5	845	-395
Feb. 28	19.4	1,380	+535
Mar. 31	16.2	578	-802
Apr. 30	15.9	525	-53
May 31	28.2	7,090	+6,565
June 30	29.5	8,570	+1,480
July 31	31.8	11,750	+3,180
Aug. 31	31.8	11,750	0
Sept.30	31.0	10,470	-1,280
Water year 1954-55	-	-	+6,370

† Gage height at 12 p.m.
a Contents by capacity table used beginning Oct. 1, 1954; contents Sept. 30, 1954, by capacity table used prior to Oct. 1, 1954, was 5,020 acre-ft.

North Concho River at Sterling City, Tex.

Location.--Lat 31°50', long 100°59', on right bank at downstream side of Sterling City-Big Lake county road bridge, 0.3 mile south of Sterling City, Sterling County, 3.5 miles downstream from Lacy Creek, and 4 miles upstream from Sterling Creek.

Drainage area.--690 sq mi, of which 75 sq mi is probably noncontributing.

Records available.--September 1939 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,242.36 ft above mean sea level, datum of 1929. Prior to Dec. 6, 1939, chain gage at same site and datum.

Average discharge.--16 years, 11.2 cfs (8,110 acre-ft per year).

Extremes.--Maximum discharge during year, 1,490 cfs May 11 (gage height, 12.69 ft); no flow at times.
1939-55: Maximum discharge, 26,000 cfs July 6, 1948 (gage height, 23.70 ft), from rating curve extended above 5,700 cfs on basis of slope-area determination at gage height 23.52 ft; no flow at times each year.
Maximum stage known since at least 1891, that of July 6, 1948.

Remarks.--Records fair. Small diversions above station for irrigation.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 11-13)

2.4	0	3.3	17
2.5	.3	3.6	30
2.6	.8	4.0	54
2.7	2.0	5.0	135
2.8	3.6	7.0	350
3.0	7.8	10.0	860

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	(*)							0	0	*0		0
2								0	.9	0		0
3								0	0	0		0
4								0	0	0		0
5								0	0	0		0
6								0	0	0		0
7								0	0	0		0
8								0	0	0		0
9								0	0	0		0
10								0	0	0	(*)	0
11								611	0	0		31
12								64	0	0		5.7
13								7.4	0	0		.5
14								1.0	0	0		0
15								.6	0	0		0
16								0	0	234		0
17								0	0	*20		0
18								0	0	**.8		0
19								0	0	0		0
20								0	0	0		0
21								0	0	0		0
22								0	0	0		0
23								.3	0	0		0
24								0	0	0		0
25								0	0	0		0
26								0	0	0		0
27								0	0	0		0
28					(*)			0	0	0		0
29	(*)				-		(*)	0	0	0		0
30		(*)			-			0	0	0		*0
31		------	(*)	(*)	------	(*)	------	*0	------	0		------
Total	0	0	0	0	0	0	0	684.3	0.9	254.8	0	37.2
Mean	0	0	0	0	0	0	0	22.1	0.03	8.22	0	1.24
Ac-ft	0	0	0	0	0	0	0	1,360	1.8	505	0	74

Calendar year 1954: Max 2,660 Min 0 Mean 23.3 Ac-ft 16,860
Water year 1954-55: Max 611 Min 0 Mean 2.68 Ac-ft 1,940

Peak discharge (base, 300 cfs).--May 11 (4 p.m.) 1,490 cfs (12.69 ft); July 16 (9:30 p.m.) 1,170 cfs (11.43 ft).

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

North Concho River near Carlsbad, Tex.

Location.--Lat 31°36', long 100°40', near left bank and attached to upstream side of left wingwall of State Sanatorium dam, 1.5 miles downstream from Live Oak Creek and 2 miles upstream from Carlsbad, Tom Green County.

Drainage area.--1,529 sq mi, of which 123 sq mi is probably noncontributing.

Records available.--March 1924 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 2,000.78 ft above mean sea level, datum of 1929. Prior to Feb. 4, 1925, and from Sept. 29, 1936 to Feb. 7, 1937, staff gage at same site and datum.

Average discharge.--31 years, 45.6 cfs (33,010 acre-ft per year).

Extremes.--Maximum discharge during year, 2,920 cfs July 17 (gage height, 7.93 ft); no flow at times.

1924-55: Maximum discharge, 94,600 cfs Sept. 26, 1936 (gage height, 16.0 ft, from floodmarks), from rating curve extended above 11,000 cfs on basis of slope-area determinations at gage heights 14.45 and 16.0 ft; no flow at times.

Maximum stage known since at least 1853, that of Sept. 26, 1936.

Remarks.--Records good. Diversions by pumping above station affect low flow, (combined capacity of pumps, 40 cfs); low flow slightly regulated by small reservoir above station.

Revisions (water year).--WSP 748: 1930(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

3.7	0	4.4	25
3.8	.2	4.6	61
3.9	.3	5.0	158
4.0	.6	5.5	315
4.1	1.2	6.0	570
4.2	2.9	6.5	950
4.3	10		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	(*)					0	0.4	0.3	0.3	*0	*0.1	*10
2						0	.4	.3	.2	0	.1	1.4
3						0	.4	.3	.2	0	.1	.6
4						0	.4	.3	.2	0	.1	.3
5						0	.4	.3	.2	0	.1	.2
6						0	.4	.3	.2	0	0	.2
7						0	.4	.3	.2	0	0	.1
8						0	.4	.3	.2	0	0	.1
9						0	.4	.3	.2	0	0	.1
10						0	.4	.3	.2	0	*0	.1
11						0	.4	243	.1	0	0	115
12						0	.4	643	.1	0	0	39
13						0	.4	63	.1	0	0	20
14						0	.4	24	.1	0	0	4.3
15						0	.4	9.3	.1	0	0	1.7
16						0	.3	4.8	.1	0	0	.6
17						0	.3	4.8	.1	897	0	.3
18						37	.3	3.1	0	99	0	.2
19						26	.3	3.1	0	13	68	.2
20						4.0	.3	1.0	0	5.4	28	.2
21						2.2	.3	.5	0	1.6	2.2	.1
22						1.2	.3	.4	0	.6	.4	.1
23						.6	.3	4.9	0	.4	.2	.1
24						.5	.3	5.3	0	.2	.2	.1
25						.4	.3	4.3	0	.2	.2	.1
26						.4	.3	19	0	.2	.2	.1
27						.4	.3	24	0	.1	.2	0
28					(*)	.4	.3	9.3	0	.1	.2	0
29	(*)				-	.4	*.3	3.1	0	.1	.2	0
30		(*)			--	.4	.3	1.3	0	.1	.2	*0
31		- - - -	(*)	(*)	- - - - -	*.4	- - - - -	*.5	- - - - -	.1	*28	- - - - -
Total	0	0	0	0	0	74.3	10.5	1,074.7	2.8	1,018.1	128.7	195.2
Mean	0	0	0	0	0	2.40	0.35	34.7	0.09	32.8	4.15	6.51
Ac-ft	0	0	0	0	0	147	21	2,130	5.6	2,020	255	387

Calendar year 1954: Max 2,970 Min 0 Mean 29.2 Ac-ft 21,170
Water year 1954-55: Max 897 Min 0 Mean 6.86 Ac-ft 4,970

Peak discharge (base, 1,500 cfs).--May 12 (1 a.m.) 2,240 cfs (7.58 ft); July 17 (6:30 a.m.) 2,920 cfs (7.93 ft).

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

Note.--Water below crest of control Mar. 25 to May 10, June 3-17, July 25 to Aug. 5, Aug. 24-30, Sept. 6-10, 19-30; discharge is estimated seepage under control.

San Angelo Reservoir at San Angelo, Tex.

Location.--Lat 31°29'04", long 100°28'53", at San Angelo Reservoir dam on North Concho River, 3.1 miles northwest of San Angelo, Tom Green County, 6.2 miles downstream from Dry Creek, and 10.1 miles downstream from Grape Creek.
Drainage area.--1,790 sq mi, of which 123 sq mi is probably noncontributing.
Records available.--February 1952 to September 1955.
Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929. Prior to May 12, 1953, staff gage at same site and datum.
Extremes.--Maximum contents during year, 50,560 acre-ft Oct. 1 (elevation, 1,890.40 ft); minimum, 36,580 acre-ft Sept. 30 (elevation, 1,885.07 ft).
1952-55: Maximum contents, 59,270 acre-ft June 8, 1954 (elevation, 1,893.34 ft); minimum contents since first appreciable storage, 31,020 acre-ft Apr. 11, 1954 (elevation, 1,882.62 ft).
Remarks.--Reservoir is formed by a rolled-fill earthen-type dam 37,500 ft long. Dam completed May 3, 1951; gates closed and storage began Feb. 1, 1952. Reservoir is operated for flood control and part of water supply for city of San Angelo. Outlet works consists of six gate-controlled outlets at elevation 1,840.0 ft opening into two 18-foot diameter concrete conduits, and two 30-inch gate-controlled outlets at elevation 1,878.5 ft for water-supply outlet. The emergency spillway to the right of the dam is a concrete dam of Ogee-type crest 1,150 ft long designed to discharge 355,000 cfs at elevation 1,958.0 ft (maximum design level). Total controlled capacity 396,400 acre-ft at elevation 1,938.5 ft (top of emergency spillway); 119,200 acre-ft at elevation 1,908.0 ft (top of conservation pool); 38,800 acre-ft dead storage at elevation 1,886.0 ft.
Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50,530	48,660	47,330	46,180	45,450	44,960	43,370	41,200	40,970	38,570	38,430	37,780
2	50,470	48,580	47,330	46,180	45,420	44,960	43,320	41,090	40,890	38,520	38,340	37,710
3	50,410	48,550	47,300	46,180	45,450	44,960	43,270	41,020	40,810	38,340	38,270	37,640
4	50,360	48,500	47,270	46,150	45,640	44,940	43,190	40,940	40,760	38,120	39,040	37,570
5	50,360	48,440	47,190	46,120	45,640	44,910	43,140	40,890	40,690	37,930	39,060	37,490
6	50,300	48,380	47,140	46,100	45,640	44,860	43,030	40,790	40,640	37,760	39,010	37,420
7	50,240	48,330	47,110	46,070	45,580	44,830	42,930	40,690	40,560	37,640	38,940	37,370
8	50,180	48,300	47,050	46,040	45,560	44,800	42,870	40,590	40,510	37,520	38,890	37,300
9	50,130	48,330	47,030	46,040	45,500	44,800	42,850	40,540	40,440	37,450	38,820	37,250
10	50,070	48,300	47,000	46,040	45,420	44,750	42,850	40,460	40,380	37,370	38,790	37,180
11	50,020	48,270	47,000	46,040	45,390	44,700	42,850	40,460	40,280	37,320	38,710	37,300
12	49,960	48,240	46,920	46,040	45,340	44,670	42,800	41,680	40,210	37,280	38,690	37,300
13	49,900	48,190	46,890	46,020	45,310	44,640	42,590	41,790	40,110	37,200	38,640	37,300
14	49,820	48,220	46,810	45,990	45,280	44,640	42,510	41,790	40,030	37,280	38,540	37,250
15	49,730	48,100	46,780	45,990	45,340	44,620	42,460	41,710	39,960	37,400	38,520	37,130
16	49,650	48,080	46,720	45,960	45,310	44,540	42,410	41,680	39,960	37,400	38,440	37,060
17	49,530	48,020	46,640	45,960	45,280	44,510	42,330	41,610	39,880	38,660	38,390	37,010
18	49,450	47,940	46,560	45,930	45,280	44,480	42,250	41,740	39,830	39,330	38,340	36,940
19	49,390	47,880	46,530	45,910	45,280	44,450	42,220	41,810	39,760	39,360	38,420	36,890
20	49,340	47,860	46,510	45,880	45,200	44,320	42,200	41,740	39,680	39,330	38,540	36,820
21	49,280	47,830	46,480	45,850	45,150	44,220	42,170	41,660	39,630	39,280	38,570	36,770
22	49,200	47,770	46,450	45,800	45,120	44,160	42,120	41,610	39,430	39,210	38,520	36,770
23	49,140	47,740	46,420	45,770	45,100	44,080	41,990	41,530	39,230	39,130	38,470	36,750
24	49,110	47,690	46,420	45,720	45,040	44,000	41,860	41,450	39,130	39,080	38,390	36,840
25	49,080	47,630	46,420	45,690	45,020	43,900	41,810	41,400	39,040	39,040	38,300	36,820
26	49,030	47,580	46,400	45,660	45,020	43,790	41,740	41,380	38,960	38,890	38,220	36,770
27	48,970	47,580	46,400	45,640	45,020	43,740	41,680	41,320	38,840	38,820	38,150	36,730
28	48,920	47,440	46,370	45,610	44,990	43,690	41,500	41,220	38,740	38,710	38,080	36,700
29	48,830	47,360	46,320	45,580	-	43,610	41,400	41,140	38,660	38,640	38,000	36,660
30	48,780	47,360	46,260	45,560	-------	43,580	41,300	41,070	38,590	38,540	37,930	36,580
31	48,690	-------	46,230	45,530	-------	43,480	-------	41,020	-------	38,470	37,840	-------

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	1,890.40	50,560	-
Oct. 31	1,889.74	48,690	-1,870
Nov. 30	1,889.26	47,360	-1,330
Dec. 31	1,888.85	46,230	-1,130
Calendar year 1954	-	-	+12,440
Jan. 31	1,888.59	45,530	-700
Feb. 28	1,888.39	44,990	-540
Mar. 31	1,887.82	43,480	-1,510
Apr. 30	1,886.98	41,300	-2,180
May 31	1,886.87	41,020	-280
June 30	1,885.90	38,590	-2,430
July 31	1,885.85	38,470	-120
Aug. 31	1,885.59	37,840	-630
Sept.30	1,885.07	36,580	-1,260
Water year 1954-55	-	-	-13,980

† Elevation at 12 p.m.

North Concho River at San Angelo, Tex.

Location.--Lat 31°27'56", long 100°26'51", near left bank on downstream side of pier of Sixth Street Bridge in San Angelo, Tom Green County, 2.2 miles downstream from San Angelo Dam, and 3.2 miles upstream from confluence with South Concho River.

Drainage area.--1,795 sq mi, of which 123 sq mi is probably noncontributing.

Records available.--October 1915 to September 1931, July 1947 to September 1955.

Gage.--Water-stage recorder. Concrete dam control since July 1947. Datum of gage is 1,813.42 ft above mean sea level, datum of 1929. Prior to Sept. 1, 1920, staff gage and Sept. 1, 1920, to Feb. 11, 1929, water-stage recorder, at site 1.6 miles downstream at datum 11.02 ft lower. Feb. 12, 1929, to Sept. 30, 1931, water-stage recorder at site 1.6 miles downstream at datum 13.02 ft lower.

Average discharge.--21 years (1916-27, 1929-31, 1947-55), 45.1 cfs (32,650 acre-ft per year).

Extremes.--Maximum discharge during year, 530 cfs Aug. 4 (gage height, 2.99 ft); no flow at times.
1915-31, 1947-55: Maximum discharge, about 47,000 cfs June 13, 1930 (gage height, 22.52 ft, site and datum then in use); no flow at times.
Flood of Sept. 17, 1936, reached a stage of 34.6 ft, from floodmarks (discharge, 184,000 cfs, by slope-area method).

Remarks.--Records good. Flow completely regulated by San Angelo Reservoir (see preceding page).

Revisions (water years).--WSP 568: 1916-22.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.4	0	1.9	2.8
1.5	.1	2.0	4.5
1.6	.4	2.1	13
1.7	.9	2.2	44
1.8	1.7	2.4	122

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		(*)		0	0.5	0.2	15	19	1.1	1.4	0.8	0.6
2				0	.3	.2	9.2	19	1.1	1.1	.8	**.6
3				0	.3	.2	9.2	19	1.1	24	.8	.6
4				*0	3.2	.2	11	19	1.1	82	62	.5
5				0	1.5	.2	15	*19	1.1	*71	7.5	.5
6				0	.7	.2	13	31	1.1	33	1.4	.4
7				0	.5	.2	13	32	.9	19	1.0	.5
8				0	.3	.1	13	15	.7	13	.8	.5
9				.1	.2	.1	9.2	17	**.7	2.4	.8	.4
10				.6	.2	.1	3.3	17	1.1	.8	.9	.5
11				.6	.2	.2	2.4	15	.8	.7	1.1	1.2
12				.5	.2	.1	5.7	15	.8	.7	.9	.9
13				.3	.2	.4	17	15	.7	.6	.9	.7
14				.2	.2	.4	17	15	.7	.7	.8	.7
15				.2	.2	.3	17	15	.7	1.0	.8	.7
16				.4	.2	**.2	17	15	.8	1.2	.8	.7
17				.4	.2	.1	17	17	1.0	1.4	.8	.7
18				.3	.2	.1	17	58	.9	4.8	.8	.7
19				.3	.3	*25	3.9	5.1	.8	2.5	5.3	.6
20				.3	.3	*72	17	2.0	.8	1.5	2.1	.6
21				.3	.3	*4.4	*17	1.5	.8	1.2	1.1	.6
22				.3	.2	3.5	17	1.4	33	1.1	.7	.7
23				.3	.2	*3.2	17	1.2	*93	1.1	.6	.8
24				.3	.2	2.9	17	1.1	3.6	1.1	.6	1.2
25				.2	.2	2.8	17	.9	1.8	1.1	.6	1.6
26				.2	.2	2.7	17	2.2	1.5	.9	.6	.8
27				.2	.2	2.6	17	1.0	4.4	.8	.6	.7
28				.2	.2	2.6	22	.7	*24	.8	.6	.5
29				.2	-	2.7	22	.7	33	.7	.7	.5
30				.2	-	6.5	22	.8	2.2	.8	.7	.5
31		------		.4	------	*17	------	1.0	------	.8	.7	------
Total	0	0	0	7.0	11.6	151.4	426.9	391.6	215.3	273.2	98.6	20.5
Mean	0	0	0	0.23	0.41	4.88	14.2	12.6	7.18	8.81	3.18	0.68
Ac-ft	0	0	0	14	23	300	847	777	427	542	196	41

Calendar year 1954: Max 81 Min 0 Mean 0.43 Ac-ft 310
Water year 1954-55: Max 93 Min 0 Mean 4.37 Ac-ft 3,170

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

Concho River near San Angelo, Tex.

Location.--Lat 31°27'10", long 100°24'40", on right bank 0.5 mile downstream from confluence of North Concho and South Concho Rivers and 1.8 miles southeast of San Angelo, Tom Green County.

Drainage area.--4,492 sq mi, of which 275 sq mi is probably noncontributing.

Records available.--September 1915 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,776.79 ft above mean sea level, datum of 1929. Prior to Aug. 11, 1917, staff gage at same site and datum.

Average discharge.--40 years, 157 cfs (113,700 acre-ft per year).

Extremes.--Maximum discharge during year, 25,500 cfs July 18 (gage height, 23.90 ft); minimum daily, 0.1 cfs at times.

1915-55: Maximum discharge, 230,000 cfs Sept. 17, 1936 (gage height, 46.6 ft, from floodmarks), from rating curve extended above 51,000 cfs on basis of slope-area determinations at gage heights 42.6 and 46.6 ft; no flow at times in 1921, 1952, 1953.

Maximum stage known since 1854, 47.5 ft Aug. 6, 1906, from information by local resident, (discharge, about 246,000 cfs). Other large floods are known to have occurred in August 1882, April 1900.

Remarks.--Records good. Many diversions above station for irrigation and municipal supply. Flow regulated by Lake Nasworthy on South Concho River (see p. 180), and by San Angelo Reservoir on North Concho River (see p. 183).

Revisions (water years).--WSP 568: 1915-22. WSP 588: Drainage area. WSP 1148: 1916-22(M), 1924(M), 1925-26, 1929(M), 1930-32, 1935-37.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.6	0	2.0	165
.7	.4	2.5	330
.8	1.8	3.0	550
.9	4.2	4.0	1,120
1.0	8.0	6.0	2,670
1.2	20	8.0	4,600
1.4	43	11.0	7,800
1.7	93		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	2.7	0.8	0.1	0.3	1.1	0.2	0.3	1.8	0.6	0.8	2.2
2	1.1	*2.7	**1.1	.1	.3	.8	.2	.5	1.6	.4	1.0	1.8
3	.8	2.4	2.0	.2	.4	1.0	.2	.4	1.8	.4	2.6	1.6
4	.8	2.2	1.6	.2	.9	1.4	.2	.4	1.6	57	243	1.6
5	.8	2.2	.8	**.2	.8	1.1	.3	.4	1.2	77	2,590	1.4
6	.8	2.0	.8	.2	.2	1.0	**.3	.4	1.1	*40	536	1.2
7	.8	2.0	1.0	.2	.3	1.0	.2	.3	1.2	26	43	1.2
8	.6	2.0	1.8	.1	.3	.8	.3	.3	1.8	15	20	1.2
9	22	2.2	1.6	.5	.3	**.3	.4	.4	**1.4	.4	4.2	1.2
10	14	2.2	1.6	.2	.3	.2	.3	.4	4.3	.4	4.9	1.2
11	16	7.3	1.4	.2	*.3	.3	.4	.4	2.0	.4	4.2	3.6
12	22	11	1.6	.2	.2	.1	.3	.4	1.4	.6	3.4	3.4
13	15	5.4	1.1	.2	.3	.1	.4	.4	1.0	.4	2.7	2.7
14	8.0	.2	.6	.2	.2	.2	.4	.3	.6	.4	2.4	2.0
15	7.6	.3	.4	.2	.3	.2	.4	.3	.4	.4	2.7	1.6
16	7.1	.4	.4	.3	.3	.2	.2	.3	1.0	.9	2.7	1.6
17	6.6	.6	.4	.6	.4	.1	.2	.3	2.7	.4	2.4	1.6
18	6.6	.4	.3	.2	.4	.1	.3	242	1.4	*7,180	2.4	1.4
19	4.8	.8	.2	.2	.4	.1	.3	83	1.0	*2,450	1,500	*1.4
20	6.6	1.1	.2	.2	.4	*38	.4	8.6	.8	*478	998	1.2
21	14	1.1	.2	.2	.4	7.8	.3	3.7	.6	272	373	1.1
22	7.3	.8	.2	.2	.4	3.0	.3	2.4	9.2	*121	*78	1.1
23	3.2	.4	.2	.2	.6	1.4	.2	2.2	294	7.6	5.7	2.0
24	3.2	.6	.2	.2	.8	.2	.2	2.0	9.9	3.4	4.2	6.5
25	3.2	1.6	.3	.3	1.1	.2	.3	5.4	.4	2.7	3.4	10
26	3.2	1.4	.4	.3	1.1	.2	.3	9.6	.3	2.2	2.7	21
27	3.2	1.1	.4	.3	1.1	.2	.4	3.7	.3	1.4	1.8	14
28	3.0	.6	.4	.3	1.1	.2	.3	2.2	.6	1.0	2.0	10
29	2.7	.6	.3	.2	-	.2	.4	1.4	1.0	.6	2.2	12
30	2.7	.8	.2	.2	------	.2	.3	1.8	.6	.6	6.1	10
31	2.7	------	.1	.2	------	.2	------	2.0	------	.6	3.7	------
Total	192.4	59.1	22.6	7.1	13.9	61.9	8.9	376.2	347.0	10,741.8	6,449.2	122.8
Mean	6.21	1.97	0.73	0.23	0.50	2.00	0.30	12.1	11.6	347	208	4.09
Ac-ft	382	117	45	14	28	123	18	746	688	21,310	12,790	244

Calendar year 1954: Max 3,520 Min 0.1 Mean 65.8 Ac-ft 47,620
Water year 1954-55: Max 7,180 Min 0.1 Mean 50.4 Ac-ft 36,500

* Discharge measurement made on this day.
** Field estimate made on this day.

Concho River near Paint Rock, Tex.

Location.--Lat 31°31', long 99°55', near left bank on downstream side of pier of bridge on U. S. Highway 83, 0.2 mile north of Paint Rock, Concho County, and 2 miles downstream from Kickapoo Creek.

Drainage area.--5,538 sq mi, of which 275 sq mi is probably noncontributing.

Records available.--September 1915 to September 1955.

Gage.--Water-stage recorder with masonry dam as control. Datum of gage is 1,574.43 ft above mean sea level, datum of 1929. Prior to Sept. 16, 1920, staff gage, and Sept. 17, 1920, to Sept. 17, 1936, water-stage recorder, at site 1.4 miles upstream at datum 13.16 ft higher. Oct. 2, 1936, to May 18, 1938, staff gage at site 1,000 ft downstream at same datum. May 19, 1938, to Jan. 14, 1940, wire-weight gage at same site and datum.

Average discharge.--40 years, 213 cfs (154,200 acre-ft per year).

Extremes.--Maximum discharge during year, 24,100 cfs May 17 (gage height, 22.75 ft); no flow at times.

1915-55: Maximum discharge, 301,000 cfs Sept. 17, 1936 (gage height, 43.4 ft, from floodmarks), from rating curve extended above 85,000 cfs on basis of slope-area determinations at gage heights 35.8 and 43.4 ft; no flow at times.

Flood in August 1882 reached a stage of about 39.9 ft and flood in August 1906 reached a stage of 39.5 ft, from information by local resident.

Remarks.--Records good except those for periods when stage was below crest of dam, which are poor. Many diversions above station for irrigation and municipal supply. Flow slightly regulated by Lake Nasworthy on South Concho River (see p. 180), and by San Angelo Reservoir on North Concho River (see p. 183).

Revisions.--WSP 588: Drainage area.

Rating table, water year 1954-55, except periods when stage was below creat of control (gage height, in feet, and discharge, in cubic feet per second)

11.65	0	12.5	140
11.7	.2	13.0	400
11.8	2.0	13.5	826
11.9	6.0	14.0	1,410
12.0	12	15.0	2,910
12.1	22	16.0	4,750
12.2	37	18.0	9,850
12.3	65		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	2.0	49	2.3	0.2
2								0	1.8	20	1.3	.1
3								0	1.0	11	.7	
4								0	48	6.5	.3	
5								0	52	4.0	1,670	
6								*0	8.0	2.6	881	
7				(*)				0	5.0	1.5	187	
8						(*)		0	4.1	.7	52	
9					(*)			0	7.0	7.1	28	
10								0	**4.5	8.5	20	
11							(*)	0	4.5	5.5	24	
12								6.8	3.2	3.2	16	
13								8.5	1.5	2.0	6.2	
14								4.5	.7	13	3.5	
15			(*)					2.3	.2	17	2.0	
16								1.3		23	1.3	e.1
17								4,140		163	.8	
18								4,340		5,010	.8	
19								*2,160		*8,550	1.4	
20								282		1,080	1,800	
21	(*)							80	e.2	256	245	
22								32		262	303	
23								17		164	102	
24		(*)						12		61	*35	
25								8.5		30	20	
26								7.5		*43	11	
27								18		23	6.0	
28								12	1,650	14	3.2	
29					-			7.0	*3,540	9.2	2.0	
30					------			4.5	210	6.5	1.0	
31		------			------		------	3.5	------	4.0	.6	------
Total	0	0	0	0	0	0	0	11,147.7	5,545.9	15,850.3	5,427.4	3.1
Mean	0	0	0	0	0	0	0	360	185	544	175	0.10
Ac-ft	0	0	0	0	0	0	0	22,110	11,000	31,440	10,770	6.1

Calendar year 1954: Max 4,270 Min 0 Mean 102 Ac-ft 73,680
Water year 1954-55: Max 8,550 Min 0 Mean 107 Ac-ft 75,320

Peak discharge (base, 4,600 cfs).--May 17 (9 p.m.) 24,100 cfs (22.75 ft); June 29 (1:30 a.m.) 12,900 cfs (19.00 ft); July 19 (4:30 a.m.) 19,000 cfs (21.05 ft); Aug. 5 (3:30 p.m.) 5,830 cfs (16.48 ft).

* Discharge measurement or observation made on this day.
** Field estimate made on this day.
e Stage below crest of dam; all flow is leakage. Discharge estimated.

Mukewater Creek at Trickham, Tex.

Location.--Lat 31°36', long 99°13', on left bank at Trickham, Coleman County, 750 ft upstream from county road bridge, 2.9 miles upstream from Hay Creek, 6.9 miles upstream from mouth, and 11.8 miles southwest of Santa Anna.

Drainage area.--70.4 sq mi.

Records available.--August 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,394.54 ft above mean sea level (State Highway Department benchmark).

Extremes.--Maximum discharge during year, 4,320 cfs May 10 (gage height, 10.85 ft), from rating curve extended above 2,200 cfs on basis of slope-area determination at gage height 11.40 ft; no flow at times.
1951-55: Maximum discharge, that of May 10, 1955; no flow at times.
Maximum stage known since at least 1919, about 18 ft in 1927, from information by local resident. Flood of May 22, 1951, reached a stage of 11.40 ft (discharge, 4,900 cfs, by slope-area determination of peak flow).

Remarks.--Records good. Station maintained to establish rainfall-runoff relationships and to assist the Soil Conservation Service in evaluating the effect of flood detention structures to be constructed in the basin.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0			0	0		0	0	0	0	0.4
2	0	0			0	0		0	0	0	0	.1
3	0	0			0	0		0	0	0	0	0
4	0	0			39	0		0	68	0	0	0
5	0	0			18	0		0	250	0	0	0
6	0	0			3.4	0		0	16	0	0	0
7	5.7	0			.7	0		0	444	0	0	0
8	2.4	0			.1	0		0	33	0	0	0
9	.7	0			0	0		0	227	0	0	0
10	.2	0			0	0		*1,030	12	0	0	0
11	0	*0			0	0		*606	1.2	0	0	0
12	0	0			0	0		*188	.4	0	0	0
13	0	0	(*)		0	0		1.2	.1	*0	0	0
14	*0	59			0	0		0	*0	0	0	0
15	0	28			0	*0		0	725	0	0	0
16	0	3.9			*0	0		0	24	59	0	0
17	0	1.0			0	0		259	2.4	*464	0	0
18	0	.5		(*)	0	0		1,390	.4	1,080	*0	0
19	0	.1			0	43		347	.1	111	0	0
20	0	0			0	8.0	(*)	*19	0	13	0	0
21	0	0			0	2.4		*2.9	0	1.2	0	*0
22	0	0			0	3.4		.5	0	.5	1.1	0
23	0	0			0	.5		.2	0	.4	.1	825
24	0	0			0	.1		**.1	0	.2	0	53
25	0	0			0	0		0	0	0	0	13
26	0	0			0	0		1.2	0	0	0	2.0
27	0	0			0	0		.2	0	0	0	44
28	0	0			0	0		0	0	0	0	3.4
29	0	0			-	0		0	0	0	0	.5
30	0	0				0		0	0	0	94	.4
31	0					0		0		0	14	
Total	9.0	92.5	0	0	61.2	57.4	0	3,845.3	1,803.6	1,729.3	109.2	941.8
Mean	0.29	3.08	0	0	2.19	1.85	0	124	60.1	55.8	3.52	31.4
Ac-ft	18	183	0	0	121	114	0	7,630	3,580	3,430	217	1,870

Calendar year 1954: Max 270 Min 0 Mean 3.48 Ac-ft 2,520
Water year 1954-55: Max 1,390 Min 0 Mean 23.7 Ac-ft 17,160

Peak discharge (base, 600 cfs).--May 10 (9:15 p.m.) 4,320 cfs (10.85 ft); May 18 (4:45 a.m.) 2,460 cfs (8.52 ft); June 5 (4 a.m.) 727 cfs (4.70 ft); June 7 (2 a.m.) 1,060 cfs (5.62 ft); June 9 (5 a.m.) 671 cfs (4.51 ft); June 15 (10 a.m.) 2,040 cfs (7.54 ft); July 18 (12 m.) 1,680 cfs (7.01 ft); Sept. 23 (9 a.m.) 1,560 cfs (6.71 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Colorado River at Winchell, Tex.

Location.--Lat 31°28'05", long 99°09'45", near left bank on downstream side of pier of bridge on U. S. Highway 377, 0.3 mile south of Winchell, Brown County, 6.2 miles upstream from Home Creek, and at mile 561.
Drainage area.--24,580 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.
Records available.--November 1923 to September 1934 (published as "near Milburn"), January 1939 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 1,264.86 ft above mean sea level, datum of 1929. November 1923 to September 1934 at site 4.2 miles downstream at datum 10.14 ft lower. Jan. 13, 1939, to Mar. 24, 1940, wire-weight gage at present site and datum.
Average discharge.--26 years (1924-34, 1939-55), 688 cfs (498,100 acre-ft per year).
Extremes.--Maximum discharge during year, 64,600 cfs May 19 (gage height, 46.37 ft); no flow at times.
1923-34, 1939-55: Maximum discharge, 76,100 cfs Oct. 15, 1930 (gage height, 51.8 ft, present site and datum); no flow at times.
Maximum stage known, 62.2 ft Sept. 19, 1936, present site and datum, from information by Gulf, Colorado and Santa Fe Railway at railway bridge 1,000 ft upstream.
Remarks.--Records good except those for periods of no gage-height record, which are fair. Diversions above station for irrigation and municipal supply. Flow largely regulated by the following: since July 1952 by Lake J. B. Thomas (see p. 164), since April 1949 by Lake Colorado City (see p. 170), since May 1953 by Oak Creek Reservoir (see p. 173), by Lake Nasworthy (see p. 180), and since February 1952 by San Angelo Reservoir (see p. 183).
Revisions.--WSP 1118: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(*Shifting-control method used May 16 to June 4, June 6 to July 16, July 19 to Sept. 30*)

2.2	0	4.5	390
2.3	2.2	5.0	600
2.4	7.0	7.0	1,800
2.6	22	11.0	5,100
2.8	41	20.0	14,000
3.0	65	30.0	27,000
3.3	112	40.0	45,100
3.6	168	44.0	55,800
4.0	252		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	2.0	2.2	0	0	2.7	0.4	0	a194	666	a51	100
2	0	1.5	2.2	0	0	2.7	.9	0	a130	458	a42	50
3	0	1.5	2.0	0	.4	2.2	.4	0	a89	564	a34	28
4	0	2.0	1.8	0	417	2.0	.2	0	1,790	357	a29	17
5	0	1.8	1.3	0	371	1.5	.4	0	20,500	292	a26	13
6	0	1.3	1.1	0	140	1.3	2.2	0	3,580	234	604	9.1
7	0	.9	1.3	0	248	1.3	.9	0	*19,600	172	1,480	6.5
8	0	.7	1.1	0	170	1.1	.4	0	2,610	130	690	5.6
9	0	.4	.9	0	97	1.1	32	0	11,600	102	303	4.6
10	0	**.2	.9	0	60	.9	6.4	1,930	1,710	79	188	4.1
11	0	.4	.9	0	43	.7	4.6	5,050	726	60	162	3.2
12	0	0	.4	0	33	.9	4.1	6,460	369	48	170	12
13	0	.2	.2	0	41	7.0	1.5	*4,550	226	35	439	20
14	*0	51	0	0	39	*1.8	1.1	3,130	*138	*a17	193	9.8
15	0	140	**0	0	33	.9	.7	1,630	1,110	a21	92	5.6
16	0	58	0	.2	*27	.9	.4	650	235	980	69	3.2
17	0	27	0	**.7	22	.9	.2	2,490	2,460	8,910	*49	2.0
18	0	16	0	.7	20	1.1	0	*32,000	2,390	15,800	362	1.5
19	0	9.1	0	.7	16	30	0	*55,500	749	15,800	1,370	1.5
20	0	6.5	0	.7	14	193	**.2	*23,600	412	7,500	211	1.1
21	0	5.1	0	.4	13	49	.2	*2,940	374	1,940	1,410	*.9
22	0	4.1	0	.2	10	24	.4	1,800	220	1,120	962	.4
23	0	3.2	0	0	8.4	13	0	941	203	750	725	16,400
24	0	2.7	0	0	6.5	7.7	0	564	188	510	500	5,150
25	0	2.2	0	0	5.1	5.6	0	1,280	160	364	270	2,720
26	0	3.2	0	0	4.6	3.2	0	3,680	130	264	205	2,660
27	0	3.2	0	0	4.1	2.7	0	2,080	a102	201	140	*1,610
28	68	3.2	0	0	3.2	2.7	0	1,340	a90	a158	104	702
29	23	3.2	0	0	-	2.0	0	915	1,740	a117	73	370
30	5.6	2.7	0	0	--	1.8	0	510	2,550	a87	371	1,170
31	3.6	------	0	0	------	1.3	------	303	------	a62	193	------
Total	100.2	353.3	16.3	3.6	1,846.3	367.0	57.6	153,343	76,375	57,798	11,517	31,081.1
Mean	3.23	11.8	0.53	0.12	65.9	11.8	1.92	4,947	2,546	1,864	372	1,036
Ac-ft	199	701	32	7.1	3,660	728	114	304,200	151,500	114,600	22,840	61,650

Calendar year 1954: Max 26,500 Min 0 Mean 583 Ac-ft 421,800
Water year 1954-55: Max 55,500 Min 0 Mean 912 Ac-ft 660,200

Peak discharge (base, 9,200 cfs).--May 11 (1:30 a.m.) 11,000 cfs (17.13 ft); May 19 (6:30 a.m.) 64,600 cfs (46.37 ft); June 5 (5 a.m.) 31,400 cfs (32.76 ft); June 7 (9 a.m.) 27,600 cfs (30.35 ft); June 9 (9:30 a.m.) 17,100 cfs (22.65 ft); July 19 (1:30 a.m.) 27,600 cfs (30.35 ft); Sept. 23 (12 m.) 29,800 cfs (31.78 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of record for nearby stations and weather records.

Deep Creek near Mercury, Tex.

Location.--Lat 31°24'10", long 99°07'15", near left bank on downstream side of bridge on State Farm to Market Road 502, 1.5 miles upstream from Dry Prong Deep Creek, 2.3 miles southeast of Mercury, McCulloch County, and 2.5 miles southwest of Millburn.

Drainage area.--43.9 sq mi, of which 19.9 sq mi is above flood detention structures.

Records available.--October 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,325.64 ft above mean sea level, datum of 1929. Prior to Nov. 25, 1953, reference point at same site and datum.

Extremes.--Maximum discharge during year, 5,200 cfs May 17 (gage height, 17.96 ft); no flow most of time.

1953-55: Maximum discharge, 5,500 cfs Oct. 4, 1953 (gage height, 18.27 ft, from floodmarks); no flow most of time.

Maximum stage known since at least 1890, 21.3 ft July 23, 1938 (discharge, 33,600 cfs, by slope-area determination of peak flow). Flood of 1906 reached a stage of about 21.0 ft, from information by local resident.

Remarks.--Records fair. Flow largely regulated by 5 detention reservoirs with a total detention capacity of 5,960 acre-ft and a total usable capacity of 770 acre-ft. Station operated as part of the Deep Creek basin hydrologic cooperative program of the Geological Survey and Soil Conservation Service to evaluate rainfall-runoff relation, soil conservation practices, and the effects of flood-detention structures.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.4	0.1			0		0	0	*43	0	0	0.2
2	.2	0			0		0	0	31	0	0	0
3	.1	6.7			.4		0	0	27	0	0	0
4	0	.5			113		0	0	41	0	0	0
5	*0	.2			12		0	0	*352	0	0	0
6	0	.1			4.1		0	0	*129	0	0	0
7	0	.1			2.0		0	0	112	0	0	0
8	0	0			1.1		0	0	95	0	0	0
9	0	0			.4		2.4	0	*60	0	1.8	0
10	0	*0			0		*5.1	4.2	*17	0	2.7	0
11	0	0			0		2.0	*5.5	6.8	0	28	11
12	0	0			0		.6	1.2	2.7	0	1.9	23
13	0	0			0		0	.1	*.8	*0	0	6.5
14	*0	35			0	(*)	0	0	.4	0	0	2.0
15	0	7.8	(*)		0		0	0	.3	0	*0	.8
16	0	1.8			*0		0	0	5.3	52	0	0
17	0	.4			0		0	641	5.1	*11	0	0
18	0	.2		(*)	0		0	*1,570	1.4	289	0	0
19	0	.1			0		0	1,390	.4	52	0	0
20	0	.1			0		0	151	.3	13	0	0
21	0	0			0		0	*152	0	3.9	0	*0
22	0	0			0		0	147	0	.6	0	0
23	0	0			0		0	143	0	0	0	*674
24	0	0			0		0	141	0	0	0	*129
25	0	0			0		0	137	0	0	0	116
26	0	0			0		0	150	0	0	0	*138
27	162	0			0		0	126	0	0	0	70
28	24	0			0		0	*119	0	0	0	27
29	1.0	0			-		0	*106	0	0	0	14
30	.4	0			- - -		0	*93	0	0	*65	7
31	.2	- - -			- - -		- - -	81	- - -	0	*2.0	- - -
Total	190.3	53.1	0	0	133.0	0	10.1	5,158.0	930.5	421.5	101.4	1,218.5
Mean	6.14	1.77	0	0	4.75	0	0.34	166	31.0	13.6	3.27	40.6
Ac-ft	377	105	0	0	264	0	20	10,230	1,850	836	201	2,420

Calendar year 1954: Max 224 Min 0 Mean 1.98 Ac-ft 1,430
Water year 1954-55: Max 1,570 Min 0 Mean 22.5 Ac-ft 16,300

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

Dry Prong Deep Creek near Mercury, Tex.

Location.--Lat 31°24'10", long 99°08'10", near center of span on downstream side of bridge on State Farm to Market Road 502, 1.3 miles southeast of Mercury, McCulloch County, 1.7 miles downstream from flood detention reservoir, and 1.8 miles upstream from mouth.

Drainage area.--8.31 sq mi, of which 3.99 sq mi is below Dry Prong Deep Creek Reservoir.

Records available.--June 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,339.02 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 2,000 cfs May 17 (gage height, 9.00 ft), from rating curve extended above 1,000 cfs by logarithmic plotting; no flow most of time.
1951-55: Maximum discharge, that of May 17, 1955; no flow most of time.
Maximum stage known since at least 1924, that of May 17, 1955. Flood of July 23, 1938, reached a stage of 8.7 ft, from information by local resident.

Remarks.--Records fair. Flow largely regulated by Dry Prong Deep Creek Reservoir (capacity, 1,394 acre-ft between elevations -1.0 ft, bottom of controlled 8-inch pipe, and 24.0 ft, crest of spillway). Station operated as part of the Deep Creek basin hydrologic cooperative program of the Geological Survey and Soil Conservation Service to evaluate rainfall-runoff relation, soil conservation practices, and the effects of flood-detention structures.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0			0			0	*0.3	0	0	0
2	0	0			0			0	*0	0	0	0
3	0	5.5			1.8			0	0	0	0	0
4	0	.8			14			0	8.9	0	0	0
5	*0	.2			1.5			0	41	0	0	0
6	0	0			.7			0	*33	0	0	0
7	0	0			.2			0	*40	0	0	0
8	0	0			0			0	16	0	*0	0
9	0	0			.1			0	*18	0	0	0
10	0	*0			0			.1	*3.2	0	0	0
11	0	0			0			*1.4	1.0	0	6.6	0
12	0	0			0			.6	.4	0	.8	*0
13	0	0			0			0	*.2	*0	0	0
14	0	2.0			0	(*)		0	0	0	0	0
15	0	.1	(*)		0			0	0	0	0	0
16	0	0			*0			0	0	8.8	0	0
17	0	0			0			*219	0	*.8	*0	0
18	0	0		(*)	0			*137	0	29	0	0
19	0	0			0			175	0	.8	0	0
20	0	0			0			50	0	.1	0	0
21	0	0			0			*50	0	0	0	*0
22	0	0			0			49	0	0	0	0
23	0	0			0			48	0	0	0	*218
24	0	0			0			47	0	0	0	*50
25	0	0			0			46	0	0	0	48
26	0	0			0			52	0	0	0	*37
27	21	0			0			*41	0	0	0	7.4
28	.9	0			0			*16	*0	0	0	2.0
29	.1	0			-			*3.1	0	0	0	.7
30	0	0						*.9	0	0	5.0	.2
31	0							.6		0	*.1	
Total	22.0	8.6	0	0	18.3	0	0	936.7	162.0	39.5	12.5	363.3
Mean	0.71	0.29	0	0	0.65	0	0	30.2	5.40	1.27	0.40	12.1
Ac-ft	44	17	0	0	36	0	0	1,860	321	78	25	721

Calendar year 1954: Max 36 Min 0 Mean 0.30 Ac-ft 215
Water year 1954-55: Max 219 Min 0 Mean 4.28 Ac-ft 3,100

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

Hords Creek Reservoir near Valera, Tex.

Location.--Lat 31°50'00", long 99°33'35", at outlet-works structure near right end of dam on Hords Creek, 5.3 miles northwest of Valera, Coleman County, and 8.8 miles west of Coleman.
Drainage area.--48 sq mi, approximately.
Records available.--April 1948 to September 1955.
Gage.--Water-stage recorder and wire-weight gage. Datum of gage is at mean sea level, datum of 1929.
Extremes.--Maximum contents during year, 6,600 acre-ft July 18 (elevation, 1,895.55 ft); minimum, 4,790 acre-ft May 16 (elevation, 1,890.51 ft).
1948-55: Maximum contents, 7,560 acre-ft June 8, 1954 (elevation, 1,897.78 ft); minimum since first appreciable storage, 1,220 acre-ft Oct. 9, 1948 (elevation, 1,873.38 ft).
Remarks.--Reservoir is formed by a rolled-fill earthen-type dam 6,284 ft long; gates closed Apr. 7, 1948; dam completed June 10, 1948. Reservoir is operated for flood control and part of municipal supply for city of Coleman.
Outlet works consist of 3 concrete conduits, 2 of which are controlled by Pekrul slide gates at elevation 1,856.0 ft. The third conduit, elevation 1,900.0 ft (service spillway) is uncontrolled. In addition, there is a 500-foot emergency earthen spillway (elevation, 1,920.0 ft) located to right of the dam. Capacity, 25,310 acre-ft (top of emergency spillway) and 8,635 acre-ft (top of service spillway). Water can be withdrawn for municipal use down to elevation 1,876.5 ft. Dead storage is negligible.
Cooperation.--Records furnished by Corps of Engineers.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,910	5,680	5,580	5,440	5,360	5,310	5,100	4,890	5,790	6,240	6,420	6,130
2	5,900	5,670	5,580	5,440	5,360	5,310	5,100	4,870	5,780	6,230	6,420	6,120
3	5,890	5,670	5,580	5,450	5,360	5,310	5,090	4,860	5,770	6,210	6,400	6,100
4	5,890	5,660	5,570	5,450	5,410	5,310	5,080	4,860	6,050	6,200	6,390	6,090
5	5,900	5,660	5,560	5,440	5,410	5,300	5,080	4,840	6,060	6,190	6,370	6,070
6	5,890	5,650	5,550	5,430	5,410	5,290	5,080	4,830	6,070	6,170	6,350	6,060
7	5,880	5,640	5,540	5,430	5,410	5,290	5,070	4,820	6,100	6,150	6,340	6,050
8	5,880	5,640	5,540	5,430	5,400	5,280	5,060	4,820	6,460	6,140	6,330	6,040
9	5,870	5,650	5,530	5,440	5,400	5,270	5,060	4,810	6,480	6,120	6,320	6,030
10	5,860	5,640	5,530	5,440	5,380	5,270	5,060	4,820	6,470	6,100	6,310	6,010
11	5,850	5,640	5,530	5,440	5,380	5,260	5,060	4,820	6,460	6,090	6,290	6,010
12	5,840	5,640	5,520	5,430	5,380	5,250	5,060	4,810	6,450	6,080	6,280	6,000
13	5,830	5,630	5,520	5,430	5,370	5,250	5,040	4,810	6,440	6,070	6,270	5,990
14	5,810	5,690	5,510	5,430	5,370	5,250	5,040	4,800	6,420	6,070	6,250	5,980
15	5,800	5,690	5,500	5,430	5,360	5,240	5,020	4,800	6,410	6,060	6,240	5,970
16	5,790	5,680	5,490	5,430	5,360	5,230	5,020	4,800	6,410	6,060	6,230	5,960
17	5,780	5,680	5,490	5,420	5,350	5,220	5,010	4,830	6,400	6,280	6,220	5,940
18	5,760	5,670	5,480	5,420	5,350	5,220	5,000	5,640	6,390	6,600	6,310	5,930
19	5,760	5,670	5,480	5,410	5,350	5,220	5,000	5,860	6,380	6,590	6,300	5,920
20	5,750	5,660	5,470	5,410	5,340	5,220	5,000	5,850	6,370	6,580	6,290	5,910
21	5,740	5,660	5,460	5,410	5,340	5,210	4,990	5,840	6,360	6,570	6,280	5,900
22	5,730	5,650	5,460	5,400	5,330	5,200	4,980	5,830	6,350	6,560	6,270	5,900
23	5,730	5,640	5,460	5,400	5,320	5,190	4,970	5,820	6,330	6,550	6,250	6,380
24	5,720	5,640	5,460	5,390	5,320	5,180	4,960	5,810	6,320	6,540	6,240	6,390
25	5,710	5,630	5,450	5,390	5,320	5,170	4,940	5,800	6,300	6,530	6,220	6,390
26	5,710	5,620	5,450	5,380	5,320	5,150	4,940	5,870	6,290	6,500	6,210	6,380
27	5,720	5,620	5,440	5,380	5,320	5,150	4,930	5,860	6,270	6,500	6,200	6,380
28	5,710	5,600	5,460	5,380	5,320	5,140	4,920	5,850	6,270	6,480	6,190	6,370
29	5,700	5,590	5,450	5,370	-	5,130	4,910	5,840	6,260	6,470	6,170	6,360
30	5,700	5,590	5,450	5,370	-------	5,130	4,900	5,820	6,250	6,460	6,160	6,360
31	5,690	-------	5,440	5,370	-------	5,120	-------	5,810	-------	6,440	6,150	-------

Monthly elevation, contents, and diversions, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)	Diversions for municipal use (acre-feet)
Sept. 30	-	a5,900	-	-
Oct. 31	1,893.18	5,690	-210	78
Nov. 30	1,892.91	5,590	-100	47
Dec. 31	1,892.49	5,440	-150	41
Calendar year 1954	-	-	+110	950
Jan. 31	1,892.27	5,370	-70	47
Feb. 28	1,892.12	5,320	-50	41
Mar. 31	1,891.54	5,120	-200	49
Apr. 30	1,890.85	4,900	-220	66
May 31	1,893.51	5,810	+910	86
June 30	1,894.67	6,250	+440	61
July 31	1,895.17	6,440	+190	112
Aug. 31	1,894.42	6,150	-290	100
Sept. 30	1,894.95	6,360	+210	120
Water year 1954-55	-	-	+460	848

† Elevation at 12 p.m.
a No gage-height record; contents interpolated.

Hords Creek near Valera, Tex.

Location.--Lat 31°50', long 99°33', on left bank about 7,500 ft downstream from Hords Creek Reservoir, 5.5 miles north of Valera, Coleman County, and 7.0 miles west of Coleman.
Drainage area.--53 sq mi, approximately.
Records available.--April 1947 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 1,819.88 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark).
Average discharge.--8 years, 0.63 cfs (456 acre-ft per year).
Extremes.--Maximum and minimum discharges for the water years 1947-55 are contained in the following table:

Water year	Maximum			Minimum	
	Date	Discharge (cfs)	Gage height (feet)	Date	Discharge (cfs)
1947†	June 13, 1947	338	4.48	At times	0
1948	July 31, 1948	1,490	8.60	Do.	0
1949	Aug. 9, 1949	1,320	8.06	Do.	0
1950	Oct. 24, 1949	180	3.78	Do.	0
1951	May 21, 1951	2,440	11.29	Do.	0
1952	Sept.10, 1952	234	4.05	Do.	0
1953	July 15, 1953	326	4.46	Do.	0
1954	Apr. 27, 1954	637	5.72	Do.	0
1955	July 18, 1955	715	5.95	Do.	0

† Period April to September.

1947-55: Maximum discharge, 2,440 cfs May 21, 1951 (gage height, 11.29 ft); no flow at times each year.
Maximum stage known, 23.0 ft July 3, 1932, from information by local residents (discharge not determined). Flood in July or September 1900 reached a stage 3.7 ft higher than that of July 1932 at a site about 12 miles downstream at Coleman, from information by local residents.
Remarks.--Records good. Flow regulated by Hords Creek Reservoir (see p. 191).

Rating table, Apr. 18, 1947, to Sept. 30, 1955 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 9 to Dec. 17, 1948, Nov. 16-28, 1949, Dec. 11-13, 1951, Nov. 19 to Dec. 2, 1953)

1.6	0	2.0	2.5	2.7	25
1.7	.2	2.1	4.0	3.0	48
1.8	.6	2.2	6.1	3.3	86
1.9	1.4	2.4	12	3.8	184

Discharge, in cubic feet per second, April to September 1947

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1							-	0	0	0.2	0.1	0.2
2							-	.1	0	.2	.1	.2
3							-	0	0	.2	.1	.2
4							-	0	0	.2	.1	.2
5							-	0	0	.2	**.1	.2
6							-	0	0	.2	.1	.2
7							-	0	0	.2	.1	.2
8							-	*0	0	**.2	.1	.2
9							-	0	0	**.1	.1	.2
10							-	.1	*0	.2	.1	**.2
11							-	.2	0	**.2	.1	.2
12							-	.1	0	.3	.1	.6
13							-	0	*.9	.2	.1	.2
14							-	0	1.0	.1	.1	.2
15							-	.1	.4	.2	.1	.2
16							-	.1	.3	.2	.1	.2
17							-	.1	*.3	.2	.1	.2
18							0	0	.9	.2	.1	.1
19							0	0	.8	.2	.2	.1
20							0	.1	.3	.2	1.5	.1
21							0	.1	.3	.2	.3	.1
22							*0	0	.2	.2	.2	.1
23							0	0	.8	.2	.2	.2
24							0	.1	.3	.1	.2	.2
25							.1	0	.2	.1	.2	.2
26							.1	0	.2	.1	.2	.2
27							.1	0	.2	.1	.2	.2
28							.1	0	.2	.1	.2	.2
29							.1	0	.2	.1	.2	.2
30					------		0	0	.2	.1	.2	.2
31		------			------		------	0	------	.1	.2	------
Total							0.5	1.1	55.8	5.3	5.8	5.9
Mean							-	0.04	1.86	0.17	0.19	0.20
Ac-ft							-	2.2	111	11	12	12

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

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

Hords Creek near Valera, Tex.--Continued

Discharge, in cubic feet per second, water year October 1947 to September 1948

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	8.8	0.2		0.1	0.1	0	0	0	0	0.8	
2	.2	6.9	.2		.1	.1	.1	.1	0	0	.2	
3	.2	13	1.4		.1	.1	.1	0	0	59	.2	(*)
4	.2	2.8	.3		.1	.1	0	0	0	1.3	.2	
5	.2	2.4	.2		.1	0	0	0	0	.2	.1	
6	.2	1.0	.3		.1	0	0	0	0	.2	.2	
7	.2	.5	.3	a0.1	.1	0	0	0	0	.2	.1	
8	.2	.4	.3		.1	0	0	0	0	.1	.1	
9	.2	.3	12		.1	0	0	0	*0	0	0	
10	.2	.2	1.0		**.1	0	0	0	0	58	0	
11	.2	.2			0	0	0	.1	0	.4	0	
12	.2	.2			0	0	0	.1	0	.2	0	
13	.2	.2		(**)	.1	0	0	.1	0	.2	0	
14	.2	.2		.1	.1	0	0	.1	0	.2	0	
15	**.2	.1		.1	.1	0	*0	0	0	.2	0	
16	.2	.1	a.4	.1	.1	0	0	0	0	.1	0	
17	.2	.1		.1	.1	*0	0	0	0	.1	0	
18	.2	*.1		.1	.1	0	0	*0	0	.1	0	
19	.2	.1		.1	.1	0	0	0	0	.1	0	
20	.2	.1		.1	.1	0	0	0	0	0	0	
21	.2	.1		.1	.1	0	0	0	0	0	0	
22	.2	.2		.1	.1	0	0	0	0	0	0	
23	.2	.2		.1	.1	0	0	0	*0	0	0	
24	.2	.2		.1	.1	0	8.7	0	0	0	0	
25	4.5	.2		.1	.2	0	11	0	0	0	0	
26	3.9	.2	a.2	.1	.2	0	.2	0	.4	*0	0	
27	72	.2		.1	.2	0	.1	0	.1	0	0	
28	15	.2		.1	.1	0	.1	0	0	0	0	
29	11	.2		.1	.1	0	.1	0	0	0	0	
30	12	.2		.1	------	0	0	0	0	0	0	
31	11	------		.1	------	0	------	0	------	83	0	------
Total	134.2	39.6	22.4	3.1	3.0	0.4	20.4	0.5	0.5	203.6	1.9	0
Mean	4.33	1.32	0.72	0.10	0.10	0.01	0.68	0.02	0.02	6.57	0.06	0
Ac-ft	266	79	44	6.1	6.0	0.8	40	1.0	1.0	404	3.8	0

Calendar year 1947: Max - Min - Mean - Ac-ft -
Water year 1947-48: Max 83 Min 0 Mean 1.17 Ac-ft 852

* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage and weather records.

Discharge, in cubic feet per second, water year October 1948 to September 1949

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1	0	0	0.1	0.2	0.1	0.9	0.3		0	0.3
2	0	.2	0	0	.1	**.2	.1	.7	.2		0	.1
3	0	.1	0	0	.2	.2	.1	.7	.2		0	.1
4	*0	.1	0	0	.2	.2	.1	5.9	.2		0	.1
5	0	.1	0	0	.2	.2	**.1	1.4	.2		0	0
6	0	.1	0	0	.1	.2	.1	1.0	.2		0	0
7	0	0	0	0	.1	.2	.1	1.1	.2		0	0
8	0	0	0	0	.1	.2	0	88	.8		0	0
9	18	0	0	0	.1	.1	0	2.2	.4		*90	0
10	.4	*0	0	0	.1	.1	0	*1.5	.2		.6	0
11	.1	0	0	0	.1	.2	0	1.2	.2		.2	0
12	.1	0	0	0	.1	.2	0	1.1	.2	(*)	.2	0
13	0	.1	0	.1	.1	.2	0	1.0	.2		.1	0
14	0	.1	*0	0	.1	.1	0	.9	.1		.1	0
15	0	.1	0	.1	.1	.1	0	.8	0		.1	.1
16	0	.1	0	.1	.1	.1	0	3.0	*0		.1	.2
17	0	.1	.3	0	.1	.1	0	1.5	0		.1	.1
18	0	.1	.2	0	.1	.1	0	1.0	0		.1	.1
19	0	0	.2	0	.1	.1	13	.8	0		0	.1
20	0	0	.1	0	.1	.3	4.4	.7	0		0	.1
21	0	0	.1	0	.1	3.8	.8	.6	0		0	.1
22	0	0	.1	0	.1	.3	.6	.5	.4		0	*0
23	0	0	.1	**.1	1.3	.2	.6	.5	.3		0	0
24	0	0	.1	.6	.5	.2	6.2	.5	.2		*0	0
25	0	0	.1	.2	.7	.2	27	.4	.1		0	0
26	0	0	.1	.2	.5	.2	*3.2	3.5	.1		0	0
27	0	0	.1	.2	.3	.1	1.7	.7	.1		0	0
28	0	0	.1	.4	.2	.1	4.6	.6	0	(*)	0	0
29	0	0	.1	.2	-	.1	1.3	.5	0		0	0
30	0	0	0	.1	------	.1	1.1	.4	0		.1	0
31	0	------	0	.1	------	.1	------	.3	------		.7	------
Total	18.6	1.3	1.7	2.4	6.0	8.7	65.2	123.9	4.8	0	92.4	1.4
Mean	0.60	0.04	0.05	0.08	0.21	0.28	2.17	4.00	0.16	0	2.98	0.05
Ac-ft	37	2.6	3.4	4.8	12	17	129	246	9.5	0	183	2.8

Calendar year 1948: Max 83 Min 0 Mean 0.70 Ac-ft 506
Water year 1948-49: Max 90 Min 0 Mean 0.89 Ac-ft 647

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

Hords Creek near Valera, Tex.--Continued

Discharge, in cubic feet per second, water year October 1949 to September 1950

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2		0.1	0.2	0	0.2	0	0.1	0		0
2	0	.2		.1	.1	.1	.1	.2	.2	0		0
3	0	.3		.1	.1	.1	.1	.1	.1	0		0
4	0	.2		.1	.1	.1	.1	.1	.1	0		0
5	0	.2		**.1	.1	.1	.1	.1	.4	0		3.8
6	0	.2		.1	.1	.1	.1	0	.2	1.2		.4
7	0	.2		.1	.1	.1	0	0	.2	.2		.1
8	0	.2	0	.1	.1	*0	.1	0	.1	0		.1
9	0	.2		.1	**.1	0	.1	0	.1	0		.1
10	0	.1		.1	0	0	.1	0	.1	0		0
11	0	.1		.1	0	0	*0	1.2	0	0		0
12	0	.2		.1	.1	0	0	.2	0	0		0
13	0	.2		.1	.1	0	0	.9	0	2.6		0
14	0	.1		.1	.1	0	0	1.8	0	.5		0
15	0	.1		.1	0	0	0	.2	0	.2		0
16	0	.1		.1	0	0	.2	**.1	0	.1		0
17	0	.1		.1	0	0	.2	0	0	*0		0
18	0	0		.1	0	0	.1	0	0	0		0
19	*0	0		.1	0	0	.1	0	0	0		0
20	0	0		.1	0	0	.1	0	*0	0		0
21	0	0		.1	0	0	.1	0	0	0	(*)	0
22	0	0		.1	.1	0	0	0	0	0		0
23	.3	0		.1	0	0	0	0	0	0		0
24	25	0	.1	.1	0	0	0	0	0	0		0
25	.7	0		.1	0	0	0	0	0	0		*0
26	.4	0		.1	0	0	0	.6	0	0		0
27	.3	0		.1	0	.1	0	.4	0	0		0
28	.3	*0		.1	0	.2	0	.2	0	0		0
29	.2	0		.1	-	.1	0	.1	0	0		0
30	.2	0		.1	------	.2	0	.2	0	0		0
31	.2	------		.1	------	.2	------	.2	------	0		------
Total	27.6	2.9	1.6	3.1	1.4	1.4	1.8	6.6	1.6	4.8	0	4.5
Mean	0.89	0.10	0.05	0.10	0.05	0.05	0.06	0.21	0.05	0.15	0	0.15
Ac-ft	55	5.8	3.2	6.1	2.8	2.8	3.6	13	3.2	9.5	0	8.9

Calendar year 1949: Max 90 Min 0 Mean 0.92 Ac-ft 668
Water year 1949-50: Max 25 Min 0 Mean 0.16 Ac-ft 114

* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
Note.--No gage-height record Nov. 29 to Jan. 4; discharge interpolated or estimated on basis of recorded range in stage.

Discharge, in cubic feet per second, water year October 1950 to September 1951

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1		0	0.1			0	0.1	0		
2	0	.1		0	0			0	.1	.1		
3	0	0		0	0			0	3.4	.1		
4	0	0		0	0			0	.5	0		
5	0	0		0	0			0	.3	0		
6	0	0		0	0			0	.2	0		
7	0	0		0	*0			0	.2	0		
8	0	.1		0	0			0	.1	0		
9	0	.1		0	0			0	.1	0		
10	0	.1		0	0			0	5.6	0		
11	0	0		0	0			0	15	0		
12	0	0	(*)	0	0			0	86	0		
13	0	0		0	0			0	2.2	0		
14	0	0		.1	0			*0	1.1	0		
15	0	0		0	0			0	.7	0		
16	0	*0		0	0		(*)	0	1.3	0		
17	25	0		0	0			0	.6	0		
18	6.6	0		0	0			0	.5	0		
19	4.5	0		0	0	(*)		0	.3	*0		
20	16	0		0	0			0	.3	0		
21	8.4	0		0	*0			*178	.2	0		
22	.9	0		**.1	0			7.5	.2	0		
23	**.4	0		.1	0			.3	.2	0		
24	.2	0		.1	0			10	.1	0		(*)
25	.2	0		.1	0			5.3	.1	0		
26	.2	0		0	0			.4	.1	0		
27	.1	0		0	0			.2	.1	0		
28	.1	0		0	0			.2	.1	0	(*)	
29	.1	0		0	-			.1	0	0		
30	.1	0		0	------			.1	0	0		
31	.1	------		0	------		------	.1	------	0		------
Total	62.9	0.5	0	0.5	0.1	0	0	202.2	119.7	0.2	0	0
Mean	2.03	0.02	0	0.02	0.004	0	0	6.52	3.99	0.01	0	0
Ac-ft	125	1.0	0	1.0	0.2	0	0	401	237	0.4	0	0

Calendar year 1950: Max 25 Min 0 Mean 0.24 Ac-ft 176
Water year 1950-51: Max 178 Min 0 Mean 1.06 Ac-ft 766

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

Hords Creek near Valera, Tex.--Continued

Discharge, in cubic feet per second, water year October 1951 to September 1952

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0.1	0.1		0	0	0.2	0.1			0
2	0	0	.1	.1		0	0	.2	.1			0
3	0	0	.1	.1		0	0	.1	.1			0
4	0	0	.1	.1		0	0	.1	0			0
5	0	0	.1	.1		0	0	.1	0			0
6	0	0	.1	.1		0	0	0	0			0
7	0	0	.1	.1		0	0	0	.1			0
8	0	0	.1	.1		0	0	0	.1			0
9	0	0	.1	.1		0	0	0	.1			0
10	0	0	.1	**.1		0	0	0	0			21
11	0	0	.1	.1		*0	0	0	0			4.4
12	0	0	.1	.1		0	0	0	0			.2
13	0	0	.1	.1		0	0	0	0			0
14	0	.1	.1	.1		0	0	0	0			0
15	0	.1	.1	.1		0	*0	0	0			0
16	0	.1	.1	.1		0	0	0	0			0
17	0	.1	.1	.1		.1	0	16	0			0
18	0	.1	.1	.1	(*)	.2	0	5.4	0			0
19	0	.1	.1	.1		.1	0	.8	0			0
20	0	.1	.1	.1		.1	.2	.3	0			0
21	0	.2	.1	0		.1	.1	.2	0			0
22	4.6	.2	.1	0		0	20	**.1	0			0
23	*1.0	.2	.1	0		0	.5	5.3	*0			0
24	0	.2	.1	0		0	.2	1.7	0			0
25	*0	.2	.1	0		0	.2	.3	0			0
26	0	.2	.1	0		0	.1	.2	0		(*)	0
27	0	.1	.1	0		0	.1	.2	0			0
28	0	.1	.1	0		0	.1	.1	0			0
29	0	**.1	.1	0		0	.1	.1	0	(*)		*0
30	0	.1	.1	0	------	0	.1	.1	0			0
31	0	------	.1	0	------	0	------	.1	------			------
Total	5.6	2.3	3.1	2.0	0	0.6	21.7	31.6	0.6	0	0	25.6
Mean	0.18	0.08	0.10	0.06	0	0.02	0.72	1.02	0.02	0	0	0.85
Ac-ft	11	4.6	6.1	4.0	0	1.2	43	63	1.2	0	0	51

Calendar year 1951: Max 178 Min 0 Mean 0.91 Ac-ft 661
Water year 1951-52: Max 21 Min 0 Mean 0.25 Ac-ft 185

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

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	0			0	0.1	0	0	0.2	0	
2		0	*0			0	0	0	0	0	0	
3		0	0			0	0	0	0	0	0	
4		0	0			0	0	0	0	0	0	
5		0	0	(*)		0	.1	0	0	0	0	
6		0	0			0	.1	0	0	0	0	
7		0	0			0	.1	0	0	*0	0	
8		0	0			.7	*0	0	0	0	0	
9		0	0			17	0	0	0	0	0	
10		0	0			.9	0	0	0	0	0	
11		0	0			.6	0	0	0	0	0	
12		0	0			.5	0	0	0	0	0	
13		0	0			.5	0	0	0	0	0	
14		0	0			.5	0	0	0	0	0	
15		0	0			.3	0	.4	0	32	0	
16		0	0			.3	0	.4	0	.5	0	
17		0	0			.3	0	.2	0	30	*0	
18		0	0		(*)	.3	0	.1	0	.5	8.7	(*)
19		0	.3			.2	0	.1	0	.3	1.8	
20		0	.1			.2	0	0	0	1.2	15	
21		0	.1			.2	0	0	0	.2	.3	
22		0	.1			.2	0	0	0	.1	.1	
23	(*)	0	.1			.1	0	0	0	.1	.1	
24		.2	.1			.1	0	0	0	0	.1	
25		1.4	0			.1	0	0	0	0	0	
26		.2	0			.1	0	*0	0	0	0	
27		.1	0			.1	0	0	0	0	0	
28		.1	0			.1	0	0	0	0	0	
29		0	0		-	.1	0	0	0	0	0	
30		0	0		------	.1	0	0	27	0	0	
31		------	0		------	.1	------	0	------	0	0	------
Total	0	2.0	0.8	0	0	23.6	0.4	1.2	27	65.1	26.1	0
Mean	0	0.07	0.03	0	0	0.76	0.01	0.04	0.9	2.10	0.84	0
Ac-ft	0	4.0	1.6	0	0	47	0.8	2.4	54	129	52	0

Calendar year 1952: Max 21 Min 0 Mean 0.23 Ac-ft 169
Water year 1952-53: Max 32 Min 0 Mean 0.40 Ac-ft 291

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

Hords Creek near Valera, Tex.--Continued

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1					0	0.8	0.1			
2	0	.1					0	.6	.1			
3	0	.1					0	.4	.1			
4	11	.1					.1	.3	.1			
5	.4	.1		(*)			.1	.3	.1			
6	.2	.1					.1	.7	.1			
7	.1	.1					0	5.4	1.0			
8	0	.1					0	.4	*3.0			
9	0	.1					0	.2	.3			
10	0	.1			(*)		0	.2	.2			
11	0	.1					12	25	.2			
12	*0	.1					40	1.3	.1			
13	0	.1					2.4	.6	.1			
14	0	.1					*1.6	.4	.1			
15	0	.1					.4	.3	0			
16	0	.1					.2	.2	0			
17	0	*0					.2	.2	0			
18	0	0					.1	.2	0			
19	0	.1					.1	.2	0			
20	0	0					.1	**.2	0			
21	0	0					.1	.1	0			
22	0	0					.1	.1	0			
23	2.7	0					.2	.2	0		(*)	
24	.2	0					.1	2.7	0			
25	.1	0				(*)	.1	.8	0			
26	.1	0					.1	.4	0	(*)		
27	.1	0					47	2.0	0			
28	.1	0					4.5	.3	0			
29	.1	0					.6	.2	0			
30	.1	0			------		6.8	.2	0			
31	.1	------			------		------	.2	------			------
Total	15.3	1.7	0	0	0	0	117.0	45.1	5.6	0	0	0
Mean	0.49	0.06	0	0	0	0	3.90	1.45	0.19	0	0	0
Ac-ft	30	3.4	0	0	0	0	232	89	11	0	0	0

Calendar year 1953: Max 32 Min 0 Mean 0.44 Ac-ft 319
Water year 1953-54: Max 47 Min 0 Mean 0.51 Ac-ft 365

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

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0			0			0	0	0	0	0
2		0			0			0	0	0	0	0
3		0			0			0	0	0	0	0
4		0			.6			0	19	0	0	0
5		0			.2			0	1.7	0	0	0
6		0			.1			0	2.5	0	0	0
7		0			.1			0	1.6	0	0	0
8		0			.1			0	21	0	0	0
9		0			0			0	*3.4	0	0	0
10		0			0			0	.2	0	0	0
11		*0			0			0	0	0	0	0
12		0			0			0	0	0	0	0
13		0	(*)		0			0	0	*0	0	0
14		4.3			0			0	0	0	0	0
15		.1			0			0	0	0	0	0
16		0			*0			0	0	0	0	0
17		0		(*)	0	(*)		0	0	0	0	0
18		0			0			19	0	68	*7.3	0
19		0			0			12	0	1.0	3.3	0
20		0			0		(*)	.2	0	.2	.1	0
21		0			0			.1	0	.1	0	0
22		0			0			.1	0	0	0	0
23		0			0			0	0	0	0	42
24		0			0			0	0	0	0	1.4
25		0			0			0	0	0	0	.6
26		0			0			3.6	0	0	0	.1
27		0			0			.2	0	0	0	0
28		0			0			.1	0	0	0	*0
29		0			-			0	0	0	0	0
30		0			------			0	0	0	0	0
31		------			------		------	0	------	0	0	------
Total	0	4.4	0	0	1.1	0	0	35.3	49.4	69.3	10.7	44.1
Mean	0	0.15	0	0	0.04	0	0	1.14	1.65	2.24	0.35	1.47
Ac-ft	0	8.7	0	0	2.2	0	0	70	98	137	21	87

Calendar year 1954: Max 47 Min 0 Mean 0.47 Ac-ft 341
Water year 1954-55: Max 68 Min 0 Mean 0.59 Ao-ft 424

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

Hords Creek at Coleman, Tex.

Location.--Lat 31°51', long 99°26', near right bank at downstream side of pier of bridge on U. S. Highways 84 and 283 and State Highway 206, 1 mile north of Coleman, Coleman County, 2.5 miles downstream from Batchelor Creek, and 12 miles downstream from Hords Creek Dam.

Drainage area.--107 sq mi, of which 48 sq mi is above Hords Creek Dam.

Records available.--October 1940 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,676.83 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. Prior to May 23, 1946, staff gage at site 3,700 ft downstream at datum 6.38 ft lower.

Average discharge.--15 years, 7.87 cfs (5,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,890 cfs July 18 (gage height, 7.30 ft); no flow most of year.

1940-55: Maximum discharge, 10,600 cfs June 26, 1941 (gage height, 18.60 ft), from rating curve extended above 4,800 cfs on basis of slope-area determination at gage height 16.67 ft at site then in use; no flow at times each year.

Maximum stage known since at least 1876, 13.8 ft in June or September 1900, present datum, at a point near municipal light and powerplant and about 6,000 ft downstream from gage, from information by local residents.

Remarks.--Records good. Flow largely regulated by Hords Creek Reservoir (see p. 191 from which city of Coleman obtains part of its municipal supply.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0						0	0	0	0	0
2		0						0	0	0	0	0
3		0						0	0	0	0	0
4		0						0	18	0	0	0
5		0						0	41	0	0	0
6		0						0	2.8	0	0	0
7		0						0	17	0	0	0
8		0						0	162	0	0	0
9		0						0	*158	0	0	0
10		0						*0	4.9	0	0	0
11		*0						0	1.0	0	0	0
12		0						0	.3	0	0	0
13		0	(*)					0	.1	*0	0	0
14	(*)	55						0	*0	0	0	0
15		8.4						0	2.1	0	0	0
16		.1			(*)			.4	.2	0	0	0
17		0		(*)		(*)		114	16	0	0	0
18		0						343	2.2	*377	*0	0
19		0						249	.3	17	30	0
20		0					(*)	6.1	.1	2.2	1.5	0
21		0						.6	0	.2	0	0
22		0						.1	0	0	0	0
23		0						0	0	0	0	226
24		0						0	0	0	0	24
25		0						0	0	0	0	18
26		0						18	0	0	0	2.6
27		0						3.1	0	0	0	.6
28		0						.2	0	0	0	*0
29		0			-			0	0	0	0	0
30		0			---			0	0	0	0	0
31		------			------		------	0	------	0	0	------
Total	0	63.5	0	0	0	0	0	734.5	426.0	396.4	31.5	271.2
Mean	0	2.12	0	0	0	0	0	23.7	14.2	12.8	1.02	9.04
Ac-ft	0	126	0	0	0	0	0	1,460	845	786	62	538

Calendar year 1954: Max 532 Min 0 Mean 4.56 Ac-ft 3,300
Water year 1954-55: Max 377 Min 0 Mean 5.27 Ac-ft 3,820

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

Brown County Water Improvement District No. 1 canal near Brownwood, Tex.

Location.--Lat 31°50', long 99°00', on right bank 100 ft upstream from bridge on county road from Brownwood to Brownwood Dam, 6,000 ft downstream from Brownwood Dam and 7 miles north of Brownwood, Brown County.

Records available.--March 1950 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,403.96 ft above mean sea level, datum of 1929.

Average discharge.--5 years (1950-55), 31.1 cfs (22,520 acre-ft per year).

Extremes.--Maximum daily discharge during year, 74 cfs July 9; minimum daily, 0.4 cfs Feb. 10.
1950-55: Maximum daily discharge, that of July 9, 1955; minimum daily, that of Feb. 10, 1955.

Remarks.--Records good. Canal diverts from Brownwood Reservoir on right bank of Pecan Bayou. About 1,900 acre-ft diverted upstream from gage for irrigation. Small amount of water pumped from canal upstream from gage for recreational area. About 4,270 acre-ft of water passing gage during the year was used for municipal and industrial supply. According to records furnished the Texas Board of Water Engineers by the Brown County Water Improvement District No. 1, 4,215 acres were irrigated during 1955.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	47	11	35.1	2,160
November	36	4.6	18.5	1,100
December	43	15	26.3	1,610
Calendar year 1954	73	4.6	38.0	27,520
January	20	3.2	10.6	649
February	23	0.4	10.7	596
March	48	15	32.3	1,990
April	59	20	41.4	2,460
May	60	6.8	25.5	1,570
June	65	9.5	26.1	1,550
July	74	16	43.5	2,670
August	62	24	46.4	2,850
September	65	4.0	33.0	1,960
Water year 1954-55	74	0.4	29.2	21,160

Brownwood Reservoir near Brownwood, Tex.

Location.--Lat 31°50', long 99°00", at outlet structure for irrigation canal just upstream from right end of dam on Pecan Bayou, a quarter of a mile downstream from Jim Ned Creek and 8 miles north of Brownwood, Brown County.

Drainage area.--1,535 sq mi.

Records available.--July 1933 to May 1941, November 1944 to September 1955.

Gage.--Staff-gage read once daily. Datum of gage is 0.50 ft below mean sea level, datum of 1929. July 1933 to May 31, 1941, Nov. 21, 1944, to Sept. 30, 1949, staff gages or water-stage recorder at various sites at dam at same datum.

Extremes.--Maximum contents observed during year, 156,800 acre-ft June 16 (gage height, 1,427.6 ft); minimum observed, 92,600 acre-ft Apr. 8-11 (gage height, 1,418.0 ft).
1933-41, 1944-55: Maximum contents observed, 185,400 acre-ft Sept. 10, 1935 (gage height, 1,429.4 ft); minimum observed, 11,900 acre-ft July 15, 1934 (gage height, 1,389.5 ft).

Remarks.--Reservoir first filled during flood of July 3, 4, 1932. Dam completed in 1933 and operation began July 1933. Total capacity, 137,300 acre-ft (gage height, 1,425.1 ft, crest of emergency spillway). Reservoir is formed by earth-fill dam, 1,580 ft long. Uncontrolled emergency spillway consisting of broad-crested weir 476 ft long, located 800 ft to left of dam. Reservoir can be drained by two 12-foot (horseshoe-shaped) reinforced concrete conduits with bottom of invert at gage height 1,330 ft. Water is withdrawn through a 5-foot circular concrete conduit with bottom at gage height 1,406.0 ft. Water used for irrigation, municipal and industrial supply for city of Brownwood. (See records for Brown County Water Improvement District No. 1 canal near Brownwood.)

Cooperation.--Record of daily gage height furnished by Brown County Water Improvement District No. 1. Capacity table furnished by Corps of Engineers.

Revisions (water years).--WSP 1212: 1948-50.

Contents, in acre-feet, at 6 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104,000	99,940	101,100	97,640	96,520	97,080	93,720	94,840	126,900	136,600	134,500	128,900
2	104,000	99,940	101,100	97,640	96,520	97,080	93,720	94,840	126,900	135,900	133,800	128,900
3	103,400	99,940	100,500	97,640	96,520	97,080	93,720	94,840	126,200	135,900	133,800	128,300
4	103,400	99,940	100,500	97,640	97,080	97,080	93,160	94,280	126,200	135,200	133,100	128,300
5	103,400	99,940	100,500	97,640	98,200	97,080	93,160	94,280	130,300	135,200	133,100	128,300
6	104,000	99,940	99,940	97,640	98,200	97,080	93,160	94,280	130,300	134,500	133,100	128,300
7	104,000	99,360	99,940	97,640	98,200	96,520	93,160	94,280	130,300	134,500	132,400	127,600
8	104,000	99,360	99,940	97,640	98,200	96,520	92,600	93,160	131,000	133,800	132,400	127,600
9	104,000	99,360	99,940	97,640	98,200	96,520	92,600	93,160	138,800	133,800	132,400	127,600
10	103,400	99,360	99,360	97,640	98,200	96,520	92,600	94,280	138,800	133,800	132,400	127,600
11	103,400	99,360	99,360	97,640	98,200	96,520	92,600	96,520	138,800	133,100	132,400	126,900
12	103,400	99,360	99,360	97,640	98,200	96,520	98,200	97,080	138,800	133,100	132,400	126,900
13	103,400	99,360	99,360	97,640	97,640	96,520	98,200	97,080	138,100	132,400	132,400	126,900
14	102,800	99,940	99,360	97,640	97,640	96,520	98,200	97,080	137,300	132,400	132,400	126,200
15	102,800	102,300	99,360	97,640	97,640	96,520	98,200	97,080	153,500	133,100	132,400	126,200
16	102,800	102,800	98,780	97,080	97,640	96,520	97,640	96,520	153,500	134,500	131,700	125,600
17	102,300	102,800	98,780	97,080	97,640	96,520	97,640	99,940	147,900	134,500	131,700	125,600
18	102,300	102,800	98,780	97,080	97,640	96,520	97,640	105,800	144,000	144,000	131,700	124,900
19	102,300	102,300	98,780	97,080	97,640	95,960	97,640	122,200	142,500	144,000	131,700	124,900
20	101,700	102,300	98,200	97,080	97,640	95,960	97,640	127,600	141,000	141,800	131,000	124,900
21	101,700	102,300	98,200	97,080	97,640	95,960	97,080	127,600	140,300	140,300	131,000	124,200
22	101,700	101,700	98,200	97,080	97,640	95,960	97,080	127,600	139,600	138,800	131,000	124,200
23	101,100	101,700	98,200	97,080	97,640	95,960	97,080	127,600	138,800	138,100	130,300	140,300
24	101,100	101,700	98,200	97,080	97,640	95,400	96,520	127,600	138,100	137,300	130,300	140,300
25	100,500	101,700	97,640	97,080	97,080	95,400	96,520	127,600	138,100	136,600	130,300	143,300
26	100,500	101,700	97,640	97,080	97,080	95,400	95,960	127,600	137,300	135,900	129,600	145,600
27	100,500	101,100	97,640	97,080	97,080	94,840	95,960	127,600	137,300	135,900	129,600	143,300
28	100,500	101,100	97,640	97,080	97,080	94,840	95,400	127,600	137,300	135,200	128,900	141,000
29	100,500	101,100	97,640	96,520	-	94,840	95,400	127,600	136,600	135,200	128,900	140,300
30	100,500	101,100	97,640	96,520	-------	94,280	94,840	127,600	136,600	135,200	128,900	139,600
31	99,940	-------	97,640	96,520	-------	94,280	-------	127,600	-------	134,500	128,900	-------

Monthly gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30.....	1,420.0	104,000	-
Oct. 31.....	1,419.3	99,940	-4,060
Nov. 30.....	1,419.5	101,100	+1,160
Dec. 31.....	1,418.9	97,640	-3,460
Calendar year 1954.....	-	-	-29,960
Jan. 31.....	1,418.7	96,520	-1,120
Feb. 28.....	1,418.8	97,080	+560
Mar. 31.....	1,418.3	94,280	-2,800
Apr. 30.....	1,418.4	94,840	+560
May 31.....	1,423.7	127,600	+32,760
June 30.....	1,425.0	136,600	+9,000
July 31.....	1,424.7	134,500	-2,100
Aug. 31.....	1,423.9	128,900	-5,600
Sept.30.....	1,425.4	139,600	+10,700
Water year 1954-55.....	-	-	+35,600

† Gage height at 6 p.m.

Pecan Bayou at Brownwood, Tex.

Location.--Lat 31°44'10", long 98°58'30", on left bank at downstream side of pier of abandoned Gulf, Colorado and Santa Fe Railway bridge, 1 mile north of Brownwood, Brown County, 6 miles downstream from Salt Creek, and 10 miles downstream from Brownwood Reservoir.

Drainage area.--1,614 sq mi.

Records available.--May 1917 to June 1918, October 1923 to September 1955.

Gage.--Water-stage recorder above spillway of city dam. Datum of gage is 1,318.58 ft above mean sea level, datum of 1929. May 25 to June 4, 1917, staff gage at dam 2,000 ft downstream at datum 2.45 ft lower. June 8, 1917, to June 30, 1918, and Oct. 16, 1923, to July 10, 1929, staff gage at site 1,300 ft downstream at different datums.

Average discharge.--30 years (1924-28, 1929-55), 161 cfs (116,600 acre-ft per year).

Extremes.--Maximum discharge during year, 7,240 cfs Sept. 23 (gage height, 7.77 ft); minimum, 0.1 cfs at times.

1917-18, 1923-55: Maximum discharge, 52,700 cfs Oct. 14, 1930 (gage height, 16.92 ft), from rating curve extended above 38,000 cfs; no flow at times.

Maximum stage known, 21.7 ft in September 1900, from information by Gulf, Colorado and Santa Fe Railway Co. Flood of July 3, 1932, probably the greatest known, reached a discharge of about 235,000 cfs as it entered Brownwood Reservoir (computed from rate of change of contents in reservoir; data furnished by engineers of Brown County Water Improvement District No. 1).

Remarks.--Records good. Flow largely regulated by Brownwood Reservoir (see p. 199). Diversion at Brownwood Reservoir, 10 miles upstream (see records for Brown County Water Improvement District No. 1 canal on p. 198).

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0.3	0.2	0.2	0.3	0.3	3.3	0.3	1.1	0.5	6.8
2			.3	.2	.2	.3	.3	1.5	.3	.6	.3	6.0
3			.3	.2	.3	.3	.3	.9	.3	.7	.3	6.6
4			.3	.2	99	1.0	2.0	1.0	65	.5	.2	6.6
5			.2	.3	15	1.3	4.4	2.1	126	.4	.2	6.3
6			.2	.3	5.3	.9	4.2	6.2	8.7	.5	.2	6.8
7		0.1	.2	.3	2.3	.6	2.9	11	4.2	.5	.1	7.3
8			.2	.3	1.2	.4	2.3	10	159	.5	1.1	7.3
9			.2	.3	.8	.4	33	12	251	.3	4.8	7.6
10		(**)	.2	.5	1.1	.3	54	269	225	.3	11	8.4
11			.3	.3	1.0	.3	8.0	172	200	.3	20	14
12			.3	.3	.7	.3	1,300	80	138	.2	9.2	6.8
13	(**)		.2	.3	.5	28	17	9.0	94	1.6	7.6	6.0
14		45	*.4	.3	.4	10	6.0	4.0	*56	*5.4	7.0	7.3
15		38	.3	.3	.3	*3.0	3.4	2.3	*3,800	20	7.0	7.3
16	0.1	104	.3	.3	.4	1.9	2.4	1.5	*5,370	59	*8.0	7.3
17		10	.3	.3	*.3	1.0	2.1	1.3	3,000	17	7.3	7.6
18		4.8	.3	1.0	.4	.7	1.2	1.5	1,590	1,020	6.8	7.6
19		3.1	.2	*1.4	.5	.5	.8	354	970	1,780	6.3	7.6
20		2.4	.2	1.0	.5	.5	.6	16	639	1,230	9.3	7.6
21		1.1	.2	.8	.4	.5	**.6	5.7	424	825	7.6	7.3
22		.7	.3	.7	.3	.5	.7	2.9	264	570	6.8	*7.3
23		.5	.3	.6	.3	.5	1.2	1.7	173	408	6.3	2,260
24		.4	.3	.5	.3	.4	1.1	1.1	119	334	7.0	630
25		.3	.3	.4	.3	.4	.7	.8	76	302	7.3	639
26		.3	.3	.3	.3	.3	.6	1.7	49	207	5.5	1,800
27		.3	.3	.3	.3	.3	1.5	5.0	26	12	1.8	1,360
28		.3	.3	.3	.3	.2	1.7	2.5	13	4.8	1.3	901
29		.2	.3	.3	-	.2	14	1.1	4.4	2.7	5.1	596
30		.3	.3	.3	---	.2	15	.6	2.1	1.3	41	408
31		------	.2	.3	------	.2	-----	.5	------	.8	10	------
Total	3.1	213.0	8.3	13.1	132.9	55.7	1,482.3	982.2	17,847.3	6,806.5	206.9	8,757.4
Mean	0.10	7.10	0.27	0.42	4.75	1.80	49.4	31.7	595	220	6.67	292
Ac-ft	6.1	422	16	26	264	110	2,940	1,950	35,400	13,500	410	17,370

Calendar year 1954: Max 2,190 Min 0 Mean 52.1 Ac-ft 37,740
Water year 1954-55: Max 5,370 Min 0.1 Mean 100 Ac-ft 72,410

* Discharge measurement made on this day.
** Field estimate made on this day.
Note.--Stage below crest of dam Oct. 1 to Nov. 13; all flow is seepage, estimated on basis of discharge measurements.

Noyes Canal at Menard, Tex.

Location.--Lat 30°55', long 99°47', on right bank at intersection of Canal and Gay Streets in Menard, Menard County, 4½ miles downstream from headgates.

Records available.--March 1924 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,878.06 ft above mean sea level, datum of 1929. Prior to July 23, 1940, staff gage at site 2,000 ft upstream at datum 4.99 ft higher.

Average discharge.--31 years, 14.3 cfs (10,350 acre-ft per year).

Extremes.--Maximum daily discharge during year not determined; no flow at times.
1924-55: Maximum daily discharge (exclusive of times canal submerged by waters of San Saba River), 50 cfs Apr. 15, 1925 (probably affected by local runoff between point of diversion and station); no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are poor. Discharge represents flow diverted from San Saba River not including local runoff between point of diversion and station. Canal diverts water from right bank of San Saba River 4 miles upstream from Menard for irrigation near Menard; 10 acres irrigated from canal above station.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	23	1.5	11.4	701
November	14	0	7.57	450
December	15	12	13.2	811
Calendar year 1954	30	0	11.8	8,550
January	20	0	9.49	583
February	26	14	16.6	922
March	15	0	4.78	294
April	16	3.6	7.26	432
May	-	2.5	13.5	829
June	23	6.6	10.6	629
July	26	0	13.4	826
August	28	13	17.0	1,040
September	27	0	13.1	780
Water year 1954-55	-	0	11.5	8,300

Note.--No gage-height record May 17-21; discharge estimated on basis of recorded range in stage and record for San Saba River at Menard.

San Saba River at Menard, Tex.

Location.--Lat 30°55', long 99°48', on right bank at bridge on U. S. Highway 83 in Menard, Menard County, 0.7 mile downstream from Las Moras Creek.

Drainage area.--1,151 sq mi.

Records available.--September 1915 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,863.05 ft above mean sea level, datum of 1929. Sept. 14, 1915, to May 12, 1924, chain gage at site 635 ft downstream at datum 2.60 ft lower. May 13, 1924, to Feb. 21, 1939, staff gage at site 1,000 ft upstream at datum 2.00 ft higher. Feb. 22, 1939, to Jan. 25, 1940, chain gage at same site and datum.

Average discharge.--40 years, 61.7 cfs (44,670 acre-ft per year).

Extremes.--Maximum discharge during year, 8,120 cfs May 19 (gage height, 11.53 ft); no flow at times.

1915-55: Maximum discharge, 117,000 cfs July 23, 1938 (gage height, 22.2 ft, present site and datum, from floodmark), from rating curve extended above 60,000 cfs on basis of slope-area determinations at gage heights 21.0 and 22.2 ft; no flow at times caused by diversions to Noyes Canal.

Maximum stage known 23.3 ft June 5 or 6, 1899, present site and datum, from information by local resident.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Low flow during irrigation season regulated by diversions to Noyes Canal 4 miles upstream and diversions by pumping at several locations upstream. Records of the Texas Board of Water Engineers show permits have been granted to irrigate 3,338 acres above the station. See record of Noyes Canal on preceding page.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0		0	1.6	0.6	1.2	0	1.4	*64	3.4	29
2	0	0		0	.9	.6	1.2	0	1.2	17	1.5	11
3	0	*0		0	.9	.6	1.2	0	.9	5.9	.9	8.2
4	0	1.9		0	1.4	2.2	1.2	0	4.7	2.7	.6	7.1
5	0	5.2		0	1.2	12	1.2	0	13	1.2	.4	6.2
6	0	5.2		0	1.2	13	1.2	0	2.7	.8	.2	5.6
7	0	6.4		0	1.1	*12	1.1	0	1.3	.5	0	4.8
8	0	6.2		0	1.0	9.6	1.1	0	.9	.3	0	4.2
9	0	7.4	(*)	0	1.0	7.8	1.2	0	.7	.1	0	4.0
10	0	7.4		.2	*.9	3.4	1.2	0	1.9	0	0	3.0
11	0	*7.8		.4	.9	1.2	1.0	0	.9	0	0	2.5
12	0	9.6		*.1	.9	.8	*.9	0	.8	0	0	2.5
13	0	3.6		.1	.8	.6	.9	0	.6	0	0	2.5
14	0	1.9		.1	*.8	.6	1.0	0	.5	67	0	1.9
15	0	1.0		.1	.7	5.0	1.1	*22	.3	61	0	1.6
16	0	.6		.1	.7	11	1.1	36	0	3.8	0	1.2
17	0	.6		2.9	.7	12	1.1	6.6	0	9.6	0	1.1
18	0	.5		1.5	.6	12	.9	9.5	0	373	0	1.1
19	0	.6		8.5	.6	15	.9	*2420	0	711	1,020	1.1
20	0	.8		15	.6	15	1.1	177	27	210	*1,300	
21	0	.6		15	.6	15	1.0	62	68	120	123	1.0
22	0	.6		15	.5	13	.7	22	*4.8	83	97	.9
23	0	.5		15	.5	13	.6	10	1.6	61	25	1.0
24	0	.5		15	.5	*12	.6	5.2	1.1	48	*11	133
25	0	.4		15	*.6	9.2	.5	4.0	.6	35	8.2	81
26	0	.4		15	.6	4.6	.4	*3.4	.4	*12	6.8	43
27	.4	.3		15	.6	2.7	.4	3.0	.1	6.2	6.2	31
28	0	.1		15	.6	1.9	.4	2.7	0	5.6	5.6	31
29	0	0		14	-	1.4	.2	2.2	*1,010	5.9	5.4	31
30	0	0		14	-	1.2	0	1.9	*246	5.6	*398	*25
31	0	- - -		12	- - - - -	1.2	- - - - - -	1.8	- - - - - -	5.2	135	- - - - - -
Total	0.4	70.1	0	189.0	23.0	210.2	26.6	2,789.3	1,391.4	1,915.4	3,148.2	477.6
Mean	0.01	2.34	0	6.10	0.82	6.78	0.89	90.0	46.4	61.8	102	15.9
Ac-ft	0.8	139	0	375	46	417	53	5,530	2,760	3,800	6,240	947

Calendar year 1954: Max 384 Min 0 Mean 5.91 Ac-ft 4,280
Water year 1954-55: Max 2,420 Min 0 Mean 28.0 Ac-ft 20,310

Peak discharge (base, 670 cfs).--May 19 (4:30 a.m.) 8,120 cfs (11.53 ft); June 29 (3 a.m.) 5,290 cfs (10.27 ft); July 14 (9 p.m.) 707 cfs (5.88 ft); July 18 (10 p.m.) 1,710 cfs (7.20 ft); Aug. 19 (8 p.m.) 6,110 cfs (10.78 ft); Aug. 30 (10 a.m.) 2,900 cfs (8.33 ft).

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

Note.--No gage-height record Dec. 14 to Feb. 9, May 24-26; discharge estimated on basis of recorded range in stage, occasional gage readings, and record for Noyes Canal.

Brady Creek at Brady, Tex.

Location.--Lat 31°08'15", long 99°19'55", on left bank just upstream from bridge on U. S. Highway 377 on North Bridge Street in Brady, McCulloch County, and 0.4 mile downstream from Live Oak Creek.

Drainage area.--575 sq mi.

Records available.--May 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,646.50 ft above mean sea level, datum of 1929. Prior to July 9, 1940, staff gage at site 3,600 ft upstream at datum 8.24 ft higher.

Average discharge.--16 years, 22.4 cfs (16,220 acre-ft per year).

Extremes.--Maximum discharge during year, 31,300 cfs May 18 (gage height, 22.40 ft); no flow at times.
1939-55: Maximum discharge, 39,100 cfs Sept. 10, 1952 (gage height, 24.80 ft); no flow at times.
Maximum stage known, 29.1 ft July 23, 1938, present site and datum (discharge at site 5 miles downstream, 86,000 cfs by slope-area determination of peak flow).

Remarks.--Records good.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.1			0		0	0	10	37	0.3	11
2	0	.1			0		0	0	7.8	9.0	.2	1.5
3	0	.1			2.7		0	0	*7.0	4.0	.2	.6
4	0	**.1			209		0	0	236	2.2	.2	.3
5	0	.1			41		0	0	550	1.5	**.1	.3
6	0	0			2.0		0	0	90	1.0	.2	**.2
7	0	0			.5		0	49	*1,090	.5	.2	.2
8	0	0			.3	(*)	0	2.5	316	.4	.1	.6
9	0	0			.2		.3	.6	593	.3	.1	.2
10	0	0	(*)		.2		**.3	260	327	.3	.1	.2
11	0	0		(*)	**.1		*.3	590	100	.2	.1	22
12	0	0			.1		.2	*131	40	.2	.1	**2.2
13	0	0			.1		.2	*60	*13	.2	.1	1.0
14	*0	37			.1		.2	24	6.3	.3	.1	.7
15	0	14			.1		.2	139	3.5	2.7	.1	.5
16	0	.5			.1		.2	20	2.8	230	.1	.3
17	0	.2			0		.2	*4,240	20	412	.1	.3
18	0	.2			0		.2	*11,100	18	2,470	79	.2
19	0	.1			0		.2	*13,000	4.6	531	198	.2
20	0	.1			0		.3	*374	2.3	104	13	.2
21	0	.1			0		.4	*177	1.7	48	2.9	.2
22	0	.1			0		.4	136	**1.3	22	.6	.2
23	0	.1			0		.3	102	.6	8.5	.2	97
24	0	.1			0		.2	90	.4	4.9	.1	126
25	0	0			0		.2	82	.4	46	.1	39
26	0	0			0		.2	*78	.3	18	**.1	9.1
27	13	0			0		.1	77	.2	3.3	.1	20
28	51	0			0		.1	*68	**.7	1.1	.1	9.4
29	3.8	0			-		0	*56	249	.8	0	4.6
30	.4	0			--		0	*42	138	.6	47	1.9
31	.2	------			------		------	26	------	.4	*64	------
Total	68.4	53.0	0	0	256.5	0	4.7	30,924.1	3,829.9	3,960.4	407.6	350.1
Mean	2.21	1.77	0	0	9.16	0	0.16	998	128	128	13.1	11.7
Ac-ft	136	105	0	0	509	0	9.3	61,340	7,600	7,860	808	694

Calendar year 1954: Max 508 Min 0 Mean 4.47 Ac-ft 3240
Water year 1954-55: Max 13,000 Min 0 Mean 109 Ac-ft 79,060

Peak discharge (base, 2,400 cfs).--May 11 (3:30 p.m.) 2,830 cfs (10.31 ft); May 17 (11 p.m.) 29,500 cfs (21.85 ft); May 18 (10:30 p.m.) 31,300 cfs (22.40 ft); June 7 (3:30 a.m.) 5,570 cfs (12.08 ft); July 18 (9:30 a.m.) 4,240 cfs (11.30 ft).

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

** Field estimate made on this day.

San Saba River at San Saba, Tex.

Location.--Lat 31°12'50", long 98°42'40", on right bank at downstream side of pier of bridge on State Highway 16, 1.2 miles north of San Saba, San Saba County, 4.8 miles downstream from China Creek, 5.0 miles upstream from Simpson Creek, and 15.5 miles upstream from mouth.

Drainage area.--3,042 sq mi.

Records available.--December 1904 to December 1906, September 1915 to September 1955. Published as "near San Saba" December 1904 to December 1906, September 1915 to August 1930.

Gage.--Water-stage recorder. Datum of gage is 1,162.16 ft above mean sea level, datum of 1929, Fort Worth supplementary adjustment of 1942. December 1904 to December 1906 reference point on bridge at site 2.7 miles upstream at different datum; September 1915 to Aug. 27, 1930, staff gage at site 2.4 miles upstream at datum 5.99 ft higher; Aug. 28, 1930, to Sept. 30, 1952, recording gage at site 1.8 miles downstream at datum 8.80 ft lower; and Oct. 1, 1952 to July 8, 1953, wire-weight gage at present site and datum.

Average discharge.--40 years (1915-55), 246 cfs (178,100 acre-ft per year).

Extremes.--Maximum discharge during year, 41,300 cfs May 19 (gage height, 28.73 ft); no flow May 7-9.

1904-6, 1915-55: Maximum discharge, 203,000 cfs July 23, 1938 (gage height, 45.18 ft, from floodmarks, datum then in use), from rating curve extended above 41,000 cfs on basis of slope-area determination of peak flow; no flow at times in 1918, 1930, 1954, 1955.

Maximum stage known since at least 1899, that of July 23, 1938. Flood of June 6, 1899, reached a stage of 42.6 ft, from information by local resident.

Remarks.--Records excellent. Diversions above station for irrigation and municipal uses affect low flow.

Revisions (water years).--WSP 458: 1915-16. WSP 718: 1922. WSP 1282: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.8	0	6.0	775
2.9	.4	7.0	1,220
3.0	1.6	10	2,130
3.1	4.0	15	4,050
3.2	8.2	20	6,850
3.3	14	26	12,900
3.5	34	27	16,000
3.9	88	28	24,300
4.4	191	28.5	34,300
5.0	365		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*5.3	27	20	11	25	26	10	3.4	98	481	51	407
2	17	22	21	14	25	22	11	3.4	*80	334	47	272
3	17	19	20	14	25	19	8.2	1.4	66	190	48	163
4	a15	*18	20	10	82	19	11	.5	56	117	42	105
5	a14	18	20	13	468	18	8.7	.4	1,500	85	40	80
6	a13	18	20	11	293	19	5.8	.1	*5,080	64	33	61
7	a12	17	18	9.7	142	20	3.7	0	*4,430	47	31	49
8	a20	16	18	9.7	88	*17	1.6	0	2,520	37	37	42
9	40	17	18	11	66	14	98	0	1,280	29	31	35
10	23	19	*17	17	51	11	*504	3.4	965	24	74	32
11	19	19	19	*21	*41	9.7	*59	368	751	25	64	42
12	17	19	20	23	39	11	35	1,040	375	22	86	112
13	14	17	21	20	36	14	39	505	216	25	61	112
14	a10	586	19	18	34	16	28	220	147	23	47	66
15	*4.7	221	17	18	33	9.2	23	174	234	26	64	46
16	*4.4	55	17	19	32	5.5	17	460	1,250	42	64	36
17	7.2	30	17	23	30	6.7	14	235	318	1,230	41	27
18	7.7	23	19	26	28	4.4	13	*17,900	143	1,370	33	24
19	5.0	19	18	22	28	11	9.7	*21,300	98	3,880	30	21
20	2.3	20	19	22	29	18	22	*6,340	82	1,260	656	21
21	.8	18	17	22	29	22	30	*1,270	*82	576	1,100	19
22	1.1	18	17	25	28	17	18	572	79	348	492	19
23	4.0	18	18	25	27	13	24	387	71	230	222	1,290
24	10	21	17	24	28	12	23	*299	64	163	143	1,080
25	11	18	16	24	27	14	18	*244	57	127	*117	622
26	a88	18	18	24	26	17	8.7	211	52	105	86	346
27	a30	19	18	22	27	18	4.0	175	53	88	67	296
28	a35	19	18	19	27	19	3.4	156	43	*91	56	236
29	a40	19	18	18	-	18	4.0	143	39	80	49	129
30	a39	18	18	19	------	10	3.4	*129	33	68	46	96
31	a34	------	14	22	------	8.7	------	115	------	60	51	------
Total	560.5	1,386	567	576.4	1,814	459.2	1,058.2	60,255.6	20,262	11,247	4,009	5,886
Mean	18.1	46.2	18.3	18.6	64.8	14.8	35.3	1,944	675	363	129	196
Ac-ft	1,110	2,750	1,120	1,140	3,600	911	2,100	119,500	40,190	22,310	7,950	11,670

Calendar year 1954: Max 2,010 Min 0 Mean 42.6 Ac-ft 30,810
Water year 1954-55: Max 27,300 Min 0 Mean 296 Ac-ft 214,400

Peak discharge (base, 4,500 cfs).--May 19 (1:30 p.m.) 41,300 cfs (28.73 ft); June 6 (2 a.m.) 11,000 cfs (24.63 ft); July 19 (11:30 a.m.) 5,280 cfs (17.48 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of recorded range in stage, observer's notes, and by interpolation.

Colorado River near San Saba, Tex.

Location.--Lat 31°13'05", long 98°33'50", on left bank at downstream side of pier of bridge on U. S. Highway 190, 5.2 miles downstream from San Saba River, 9.2 miles east of San Saba, San Saba County, and at mile 474.

Drainage area.--30,600 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--October 1915 to October 1922 (published as "near Chadwick"), October 1923 to December 1934 (published as "near Tow"), August 1930 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,096.22 ft above mean sea level, datum of 1929. October 1915 to October 1922, staff gage at site 1.2 miles upstream at datum 1.92 ft higher. October 1923 to December 1934 water-stage recorder at site 44 miles downstream at different datum. Aug. 30, 1930, to Mar. 21, 1940, water-stage recorder and Mar. 21 to May 23, 1940, staff gage, at site 2,230 ft downstream at same datum.

Average discharge.--37 years (1916-19, 1920-22, 1923-55), 1,446 cfs (1,047,000 acre-ft per year).

Extremes.--Maximum discharge during year, 57,200 cfs May 19 (gage height, 34.05 ft); minimum, 0.3 cfs May 9-10.

1915-22, 1923-55: Maximum discharge, 224,000 cfs July 23, 1938 (gage height, 63.2 ft, present site, based on floodmarks at site then in use); no flow Aug. 27-31, 1954. Maximum stage known during period 1878 to July 22, 1938, 58.4 ft Sept. 25, 1900, present site, from floodmarks at former site (discharge, 184,000 cfs).

Remarks.--Records good. Diversions above station for irrigation and municipal use. Flow slightly regulated by 5 reservoirs in the Colorado and Concho Rivers and Oak Creek basins above Winchell, and by 2 reservoirs in the Pecan Bayou basin; combined capacity, 838,300 acre-ft. Records of chemical analyses, water temperatures, and sediment loads, for the water year 1955, are given in WSP 1402.

Revisions (water years).--WSP 858: 1900(M), 1936(M). WSP 1118: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 24-26, 29-31, June 1-4, 12-16, 21-30, July 2-17, 24-31, Aug. 4 to Sept. 23, 30)

1.4	0.2	3.0	375
1.5	.5	3.5	650
1.6	1.2	4.0	1,010
1.7	3.6	7.0	4,180
1.8	11	11.0	9,740
1.9	27	16.0	17,800
2.0	46	21.0	26,800
2.2	89	26.0	37,300
2.5	174	32.0	52,000

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*22	89	38	48	31	38	8.6	1.8	698	3,000	180	815
2	403	67	36	42	33	38	5.6	1.3	513	1,310	170	579
3	121	50	36	38	36	40	4.5	1.4	370	1,340	180	338
4	71	*42	36	40	330	35	6.2	1.1	360	1,010	*155	213
5	56	41	35	38	1,520	29	5.6	.8	5,410	496	196	158
6	48	107	31	33	1,250	23	4.5	.6	24,200	329	152	129
7	282	78	31	29	557	21	3.2	.5	14,400	236	118	107
8	165	65	33	29	329	*23	3.2	.4	20,900	177	1,220	94
9	94	69	31	31	306	21	7.0	.4	13,000	137	874	85
10	87	61	*29	42	251	19	*1,340	47	13,100	123	1,090	76
11	46	59	31	*42	*184	14	*378	2,720	4,260	112	518	76
12	36	54	35	44	140	12	196	8,510	1,770	105	338	74
13	31	46	48	44	123	9.6	927	*7,490	1,110	99	452	135
14	23	4,540	38	42	107	8.6	470	4,670	773	94	276	123
15	18	1,770	31	46	99	11	152	3,240	579	105	458	107
16	13	436	27	54	89	13	89	1,920	7,080	99	264	94
17	11	276	23	54	89	9.6	63	1,630	6,780	1,410	177	71
18	8.6	203	21	63	89	11	48	16,700	6,250	13,100	137	67
19	6.2	146	21	59	85	13	33	*50,200	4,780	18,000	428	61
20	6.2	102	25	50	71	14	56	51,100	2,170	21,200	1,680	56
21	5.6	78	25	42	63	71	112	*44,600	1,420	13,500	1,420	54
22	3.6	67	27	40	63	*190	107	35,900	1,080	3,590	1,690	48
23	2.9	59	27	42	59	174	56	4,940	752	2,120	1,370	10,100
24	2.0	50	25	46	46	94	38	1,920	546	1,520	874	28,300
25	1.8	48	27	44	44	61	33	*1,320	410	1,100	*745	27,700
26	2.0	44	27	40	44	36	23	2,200	306	874	452	6,620
27	38	40	27	38	42	35	13	5,090	239	731	306	5,200
28	1,320	38	29	35	40	42	7.7	2,670	196	491	252	4,060
29	519	36	33	33	-	36	4.5	1,770	187	338	187	2,020
30	190	38	50	29	--	29	2.6	1,370	878	259	353	1,250
31	110	-----	52	29	-----	10	------	938	------	217	1,070	------
Total	3,744.9	8,799	985	1,286	6,120	1,189.8	4,197.2	250,953.3	134,517	87,222	17,762	88,810
Mean	121	293	31.8	41.5	219	38.4	140	8,095	4,484	2,814	573	2,960
Ac-ft	7,430	17,450	1,950	2,550	12,140	2,360	8,330	497,800	266,800	173,000	35,230	176,200

Calendar year 1954 : Max 17,800 Min 0 Mean 715 Ac-ft 517,400
Water year 1954-55 : Max 51,100 Min 0.4 Mean 1,660 Ac-ft 1,201,000

Peak discharge (base, 19,300 cfs).--May 19 (11:30 p.m.) 57,200 cfs (34.05 ft); June 6 (1:30 p.m.) 27,600 cfs (21.43 ft); July 20 (3:30 a.m.) 22,100 cfs (18.50 ft); Sept. 25 (4:30 a.m.) 31,300 cfs (23.25 ft).

* Discharge measurement made on this day.

Buchanan Reservoir near Burnet, Tex.

Location.--Lat 30°45'05", long 98°25'00", in powerhouse at Buchanan Dam on Colorado River, 1 mile upstream from bridge on State Highway 29, 10 miles west of Burnet, Burnet County, and at mile 413.

Drainage area.--31,250 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--May 1937 to September 1955.

Gage.--Indicating gage. Datum of gage is 0.48 ft above mean sea level, datum of 1929 (levels by Lower Colorado River Authority).

Extremes.--Maximum contents observed during year, 1,006,000 acre-ft May 21 (gage height, 1,020.6 ft); minimum observed, 735,000 acre-ft May 8 (gage height, 1,008.0 ft).

1937-55: Maximum contents observed, 1,006,000 acre-ft May 15, 1954, May 21, 1955; minimum after filling of reservoir in July 1938, 340,800 acre-ft Sept. 8-10, 1952 (gage height, 983.4 ft).

Remarks.--Reservoir is formed by 2 reinforced concrete multiple-arch sections, 3 banks of taintor gates, and a 1,088-foot reinforced concrete spillway section. Dam completed and storage began May 20, 1937. Total capacity, 992,000 acre-ft (gage height, 1,020.0 ft, top of spillway section). Usable capacity for power development, 955,000 acre-ft between gage height 937.0 ft (sill of powerhouse penstock) and 1,020.0 ft (top of spillway section). Water below gage height 937.0 ft can be withdrawn through two 5-foot Bunger gates (emergency) down to gage height of 890.0 ft. Figures given herein represent total contents. Water used for power development and irrigation of rice on several districts below Columbus.

Cooperation.--Records of daily gage height and capacity table furnished by Lower Colorado River Authority.

Revisions.--WSP 1118: Drainage area.

Contents, in acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	759,000	745,000	763,000	759,000	749,000	763,000	755,000	743,000	987,400	955,200	962,100	882,200
2	757,000	743,000	763,000	759,000	749,000	763,000	755,000	741,000	985,100	955,200	957,500	882,200
3	757,000	743,000	763,000	759,000	749,000	763,000	755,000	739,000	982,800	952,900	952,900	882,200
4	757,000	743,000	763,000	759,000	751,000	763,000	755,000	739,000	980,500	952,900	950,600	882,200
5	755,000	743,000	763,000	759,000	753,000	763,000	755,000	739,000	982,800	948,300	941,600	880,000
6	753,000	743,000	763,000	759,000	759,000	761,000	755,000	739,000	998,900	943,800	937,200	880,000
7	751,000	743,000	763,000	757,000	759,000	759,000	751,000	737,000	994,300	937,200	937,200	875,600
8	751,000	743,000	763,000	757,000	761,000	757,000	751,000	735,000	1,001,000	932,800	935,000	873,400
9	751,000	745,000	763,000	759,000	761,000	755,000	751,000	737,000	996,600	930,600	930,600	871,200
10	751,000	743,000	763,000	757,000	763,000	757,000	751,000	737,000	998,900	926,200	926,200	873,400
11	751,000	743,000	763,000	755,000	761,000	757,000	753,000	739,000	998,900	919,600	928,400	873,400
12	749,000	743,000	763,000	755,000	759,000	757,000	753,000	755,000	994,300	915,200	926,200	873,400
13	747,000	745,000	763,000	755,000	759,000	757,000	751,000	771,000	989,700	910,800	926,200	873,400
14	747,000	755,000	761,000	755,000	759,000	757,000	751,000	779,000	985,100	908,600	926,200	873,400
15	745,000	765,000	761,000	755,000	759,000	757,000	751,000	789,000	985,100	904,200	924,000	873,400
16	745,000	765,000	761,000	757,000	761,000	757,000	751,000	793,000	989,700	899,800	924,000	873,400
17	745,000	765,000	759,000	759,000	761,000	755,000	751,000	801,300	996,600	902,000	919,600	873,400
18	745,000	765,000	761,000	755,000	759,000	755,000	751,000	824,400	996,600	917,400	915,200	871,200
19	743,000	765,000	761,000	753,000	763,000	755,000	751,000	910,800	998,900	943,800	910,800	871,200
20	743,000	765,000	759,000	751,000	763,000	759,000	751,000	973,600	996,600	978,200	908,600	869,000
21	743,000	767,000	759,000	751,000	763,000	761,000	751,000	1,006,000	989,700	1,001,000	908,600	866,800
22	743,000	765,000	759,000	751,000	763,000	759,000	749,000	1,001,000	985,100	998,900	908,600	866,800
23	743,000	765,000	759,000	751,000	763,000	757,000	751,000	992,000	985,100	996,600	906,400	875,600
24	743,000	765,000	759,000	751,000	763,000	757,000	751,000	989,700	980,500	989,700	904,200	924,000
25	743,000	765,000	759,000	749,000	763,000	759,000	749,000	987,400	975,900	987,400	902,000	962,800
26	743,000	767,000	761,000	749,000	763,000	757,000	749,000	989,700	971,300	985,100	897,600	996,600
27	743,000	765,000	761,000	749,000	763,000	757,000	749,000	992,000	969,000	982,800	893,200	996,600
28	743,000	767,000	759,000	749,000	763,000	757,000	747,000	989,700	966,700	978,200	891,000	998,900
29	745,000	763,000	759,000	749,000	-	755,000	745,000	989,700	962,100	973,600	888,800	994,300
30	745,000	763,000	759,000	749,000	-------	757,000	745,000	992,000	957,500	971,300	886,600	989,700
31	745,000	-------	759,000	747,000	-------	755,000	-------	989,700	-------	966,700	884,400	-------

Monthly gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	1,009.3	761,000	-
Oct. 31	1,008.5	745,000	-16,000
Nov. 30	1,009.4	763,000	+18,000
Dec. 31	1,009.2	759,000	-4,000
Calendar year 1954	-	-	-132,000
Jan. 31	1,008.6	747,000	-12,000
Feb. 28	1,009.4	763,000	+16,000
Mar. 31	1,009.0	755,000	-8,000
Apr. 30	1,008.5	745,000	-10,000
May 31	1,019.9	989,700	+244,700
June 30	1,018.5	957,500	-32,200
July 31	1,018.9	966,700	+9,200
Aug. 31	1,015.2	884,400	-82,300
Sept.30	1,019.9	989,700	+105,300
Water year 1954-55	-	-	+228,700

† Gage height at 12 p.m.

North Llano River near Junction, Tex.

Location.--Lat 30°30', long 99°47', on left bank about 1,000 ft upstream from remains of old Wilson Dam, 3 miles northwest of Junction, Kimble County, and 4 miles upstream from confluence with South Llano River.

Drainage area.--914 sq mi.

Records available.--September 1915 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,699.92 ft above mean sea level, datum of 1929. Prior to Aug. 1, 1925, chain gage at site 550 ft downstream at same datum. Aug. 1, 1925, to Sept. 16, 1936, water-stage recorder at site 520 ft downstream at same datum. Sept. 16, 1936, to June 22, 1940, staff gages at various sites at same datum.

Average discharge.--40 years, 61.4 cfs (44,450 acre-ft per year).

Extremes.--Maximum discharge during year, 4,340 cfs Aug. 19 (gage height, 6.18 ft); no flow for extended periods.

1915-55: Maximum discharge, 94,800 cfs Sept. 16, 1936 (gage height, 29.2 ft, present site, based on gage-height relation curve), from rating curve extended above 68,000 cfs on basis of slope-area determination of peak flow; no flow at times.

Maximum stage known since at least 1875, that of Sept. 16, 1936; maximum stage known during period 1875 to Sept. 15, 1936, about 27.2 ft in 1889, from information by local resident.

Remarks.--Records excellent. Diversions for irrigation materially affect low flow.

Revisions (water years).--WSP 568: 1915, 1918-20, 1922. WSP 763: 1923(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.75	0	1.6	36
.8	.1	1.8	66
.9	.6	2.0	116
1.0	2.0	2.5	280
1.1	3.9	3.0	550
1.2	7.0	3.2	685
1.4	18		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0.4	0.1	0.2	0.4	5.9	20
2						0	.4	0	.2	.4	5.2	16
3		(*)				0	.4	0	.1	.4	7.0	13
4						.2	.4	0	.1	.2	4.9	11
5						.4	.4	0	.2	.3	4.2	10
6						.5	.4	0	.2	.2	3.9	8.4
7						**.5	.4	.1	.1	.1	3.7	7.5
8						.6	.4	.2	.1	0	3.7	6.6
9			(*)			.6	.4	.2	.6	0	5.2	5.2
10					(*)	.6	.5	.2	.6	0	6.7	4.4
11						.6	.5	.2	.1	0	90	12
12				(*)		.5	*.4	.2	.2	0	174	9.8
13						.5	.4	.1	.1	0	91	6.6
14						.5	.4	.1	0	0	22	5.6
15						.5	.4	115	0	2.4	15	4.9
16						.5	.4	6.4	0	2.9	10	4.7
17						.4	.4	2.2	0	3.5	7.9	3.9
18						.6	.4	34	0	*230	6.6	3.7
19						.6	.4	242	0	82	279	3.5
20						.6	.4	14	294	74	*366	3.5
21						*.5	.4	4.9	*56	31	142	3.7
22						.4	.4	3.0	*6.6	18	68	3.7
23						.4	.3	1.6	2.8	13	42	415
24						.4	.2	1.2	1.7	33	*27	620
25						.4	.2	.5	1.3	10	23	175
26						.4	.1	*.4	1.0	13	18	84
27						.4	.2	.4	.7	*17	16	60
28						.4	.2	.4	.6	11	14	51
29						.5	.1	.3	.4	8.8	13	45
30					--- ---	.5	.1	.3	.4	7.0	33	40
31		------			------	.5	------	.2	------	5.9	32	------
Total	0	0	0	0	0	13.5	10.4	428.2	368.3	564.5	1,539.9	1,657.7
Mean	0	0	0	0	0	0.44	0.35	13.8	12.3	18.2	49.7	55.3
Ac-ft	0	0	0	0	0	27	21	849	731	1,120	3,050	3,290

Calendar year 1954: Max 94 Min 0 Mean 0.79 Ac-ft 574
Water year 1954-55: Max 620 Min 0 Mean 12.6 Ac-ft 9,090

Peak discharge (base, 1,200 cfs).--June 20 (6:30 p.m.) 2,860 cfs (5.38 ft); Aug. 12 (8:30 p.m.) 1,300 cfs (4.00 ft); Aug. 19 (10:30 p.m.) 4,340 cfs (6.18 ft); Sept. 23 (5:30 p.m.) 3,080 cfs (5.57 ft).

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

** Field estimate made on this day.

Llano River near Junction, Tex.

Location.--Lat 30°30', long 99°44', on right bank 250 ft north of old Kerrville-Junction road, about half a mile downstream from point where slough diverts floodwater from main channel, 3 miles east of Junction, Kimble County, 4 miles downstream from confluence of North Llano and South Llano Rivers, and 4¾ miles upstream from Johnson Fork.

Drainage area.--1,874 sq mi.

Records available.--September 1915 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,630.32 ft above mean sea level, datum of 1929. Prior to Aug. 14, 1925, staff gage, and Aug. 14, 1925, to May 17, 1940, water-stage recorder, at present site and datum. May 18, 1940, to Aug. 17, 1944, water-stage recorder at site 5,335 ft upstream at datum 6.0 ft higher and since Aug. 18, 1944, used as supplementary gage for stages above 5 ft.

Average discharge.--40 years, 189 cfs (136,800 acre-ft per year).

Extremes.--Maximum discharge during year, 36,800 cfs Sept. 24 (gage height, 19.25 ft); minimum, 7.7 cfs July 13.

1915-55: Maximum discharge, 319,000 cfs June 14, 1935 (gage height, 43.3 ft, present site and datum, from floodmarks; 41.4 ft at auxiliary gage, from floodmarks), from rating curve extended above 54,000 cfs on basis of slope-area determinations at gage heights 32.2 and 43.3 ft; minimum, 7.3 cfs July 12, 13, 1953.

Maximum stage known since at least 1888, that of June 14, 1935.

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

Revisions (water years).--WSP 568: 1915-16, 1918-20, 1922. WSP 1342: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 24-25)

0.65	6.9	2.0	338
.7	8.8	2.5	670
.9	19	3.0	1,150
1.1	32	3.5	1,750
1.3	56	4.0	2,470
1.5	105	4.5	3,250
1.7	192		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	24	31	31	31	31	28	15	19	15	62	52
2	22	23	31	31	31	30	27	16	18	14	50	44
3	24	*23	31	31	31	29	26	15	16	13	53	41
4	23	24	31	31	32	28	26	15	15	13	49	38
5	26	24	30	30	31	28	26	15	16	13	44	36
6	24	25	31	30	32	27	26	16	18	12	40	34
7	23	26	31	31	31	*27	23	19	18	10	39	32
8	23	29	31	31	31	26	13	18	16	9.7	38	31
9	22	30	*30	41	31	25	21	17	15	9.2	33	31
10	23	28	31	37	*31	24	24	17	18	9.2	27	30
11	24	28	31	36	31	24	26	18	18	9.2	37	31
12	23	28	31	*34	31	23	*24	19	18	9.2	152	32
13	22	28	32	32	31	23	23	18	18	8.4	256	31
14	20	28	32	31	31	24	22	17	14	8.4	70	31
15	19	28	32	32	31	24	21	43	12	8.4	55	30
16	19	29	32	40	31	24	20	24	153	9.2	47	29
17	19	29	32	34	31	24	19	26	96	17	43	28
18	19	29	31	34	30	27	21	31	28	*725	41	28
19	20	28	31	32	30	33	21	374	21	679	49	28
20	20	28	31	32	30	38	21	62	253	293	596	27
21	19	29	31	32	31	42	21	44	*225	183	220	28
22	19	30	31	31	31	35	20	41	40	138	125	27
23	19	31	31	31	31	32	20	38	26	113	91	329
24	20	31	31	31	31	31	18	35	22	123	73	10,600
25	24	30	32	31	31	30	18	31	14	99	*62	*4,400
26	23	30	32	31	31	32	18	*26	16	83	53	611
27	23	30	33	31	31	32	18	20	17	*77	49	341
28	24	29	32	31	31	31	18	13	15	70	43	262
29	24	29	32	31	-	31	15	14	16	64	42	229
30	24	30	31	31	------	30	15	18	15	58	44	197
31	23	------	31	31	------	28	------	19	------	67	55	------
Total	677	838	970	1,003	867	893	639	1,094	1,206	2,959.9	2,638	17,688
Mean	21.8	27.9	31.3	32.4	31.0	28.8	21.3	35.3	40.2	95.5	85.1	590
Ac-ft	1,340	1,660	1,920	1,990	1,720	1,770	1,270	2,170	2,390	5,870	5,230	35,080

Calendar year 1954: Max 1,030 Min 12 Mean 31.1 Ac-ft 22,540
Water year 1954-55: Max 10,600 Min 8.4 Mean 86.2 Ac-ft 62,410

Peak discharge (base, 2,100 cfs).--June 20 (9:30 p.m.) 2,620 cfs (4.11 ft); Aug. 20 (1:30 a.m.) 2,700 cfs (4.14 ft); Sept. 24 (4 p.m.) 36,800 cfs (19.25 ft).

* Discharge measurement made on this day.

Llano River at Llano, Tex.

Location.--Lat 30°45', long 98°40', on right bank in Llano, Llano County, 0.4 miles downstream from bridge on State Highway 16 and 7 miles upstream from Little Llano River.

Drainage area.--4,233 sq mi.

Records available.--September 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 970.01 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 261 cfs (189,000 acre-ft per year).

Extremes.--Maximum discharge during year, 72,000 cfs May 19 (gage height, 19.00 ft); no flow May 3-7.

1939-55: Maximum discharge, 232,000 cfs Sept. 10, 1952 (gage height, 32.6 ft), from rating curve extended above 129,000 cfs on basis of slope-area determination of peak flow; no flow at times 1952-55.

Maximum stage known since at least 1899, 41.5 ft June 14, 1935 (discharge, 380,000 cfs), from information by local resident.

Remarks.--Records good. Low flow regulated by powerplant half a mile upstream. No large diversion above station.

Revisions (water years).--WSP 1342: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 24 to Mar. 6, Mar. 19-29, Apr. 9-12, May 8-11, 20-23, June 5-10, 15, 16, July 18-25, Aug. 5-7, 11-16, Aug. 20 to Sept. 30)

1.8	0	3.5	310
1.9	.1	4.0	520
2.0	.5	5.0	1,150
2.1	1.3	6.0	2,050
2.2	3.8	7.0	3,300
2.3	9.6	9.0	7,300
2.4	22	11.0	13,200
2.6	55	13.1	24,300
3.0	140		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	7.9	24	41	32	36	24	0.2	57	24	73	96
2	73	8.4	24	42	31	36	28	.1	55	22	69	122
3	44	*15	24	44	32	37	28	0	41	12	68	84
4	20	17	25	44	143	39	26	0	39	3.8	62	64
5	65	16	24	44	192	39	25	0	90	3.8	374	55
6	158	16	24	42	104	36	24	0	402	5.0	543	51
7	96	17	24	42	104	36	20	0	179	4.4	224	46
8	55	18	22	44	84	*32	17	226	284	3.8	115	41
9	107	22	22	46	64	30	55	224	278	2.4	77	34
10	135	22	*22	50	*51	28	152	217	206	1.0	59	31
11	100	21	22	*48	41	26	*75	1,140	138	1.3	1,540	77
12	73	22	24	48	37	24	59	*1,550	102	1.3	1,400	113
13	59	24	22	53	34	22	36	777	94	1.3	1,320	88
14	41	185	22	59	32	22	21	258	68	1.6	366	62
15	28	204	22	71	31	22	11	152	124	50	434	44
16	22	62	26	75	31	21	6.1	218	*2,750	46	230	39
17	17	42	24	118	30	17	3.3	1,590	*344	111	135	32
18	13	34	24	539	31	17	2.3	*11,400	138	966	100	26
19	11	57	24	161	34	91	2.1	*23,900	190	2,550	104	22
20	8.4	57	25	138	34	102	2.3	*2,600	182	1,880	*2,520	18
21	7.3	42	28	102	32	*212	2.3	*1,010	*122	800	1,000	16
22	6.7	34	28	75	32	*163	2.1	470	90	490	570	13
23	5.5	28	30	62	30	161	3.4	*282	72	326	322	159
24	5.5	26	31	57	31	*96	.5	*185	176	234	227	3,970
25	5.0	22	34	51	32	75	.7	138	118	191	*167	15,500
26	3.8	22	37	44	34	59	.5	*109	86	152	130	3,730
27	9.6	21	39	41	32	51	.4	102	64	122	107	1,900
28	6.7	21	44	37	34	48	.5	98	48	*122	94	801
29	6.1	21	37	37	-	39	.4	65	36	107	79	535
30	6.7	24	37	36	------	34	.4	28	28	90	71	418
31	7.3	------	39	34	------	32	------	53	------	79	68	------
Total	1,232.6	1,128.3	854	2,325	1,429	1,683	628.3	46,792.3	6,601	8,403.7	12,648	28,187
Mean	39.8	37.6	27.5	75.0	51.0	54.3	20.9	1,509	220	271	408	940
Ac-ft	2,440	2,240	1,690	4,610	2,830	3,340	1,250	92,810	13,090	16,670	25,090	55,910

Calendar year 1954: Max 1,150 Min 0 Mean 44.8 Ac-ft 32,410
Water year 1954-55: Max 23,900 Min 0 Mean 307 Ac-ft 222,000

Peak discharge (base, 8,500 cfs).--May 19 (5:30 a.m.) 72,000 cfs (19.00 ft); June 16 (4 a.m.) 8,600 cfs (9.49 ft); Sept. 25 (6:30 a.m.) 37,000 cfs (14.66 ft).

* Discharge measurement made on this day.

Pedernales River near Johnson City, Tex.

Location (revised).--Lat 30°18', long 98°24', near center of span at downstream side of bridge on U. S. Highway 281, 0.2 mile downstream from Flat Creek, 1.2 miles northeast of Johnson City, Blanco County, and 2.0 miles downstream from Buffalo Creek. Prior to Oct. 8, 1954, at site 360 ft downstream.

Drainage area.--947 sq mi.

Records available.--May 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,096.70 ft above mean sea level, datum of 1929, supplementary adjustment of 1942. May 4, to Sept. 13, 1939, wire-weight gage, and Sept. 14, 1939, to Sept. 10, 1952, water-stage recorder, at upstream side of bridge at same datum. Sept. 11, 1952, to June 29, 1953, staff gage, and June 30, 1953, to Oct. 7, 1954, water-stage recorder, at site 360 ft downstream at same datum.

Average discharge.--16 years, 153 cfs (110,800 acre-ft per year).

Extremes.--Maximum discharge during year, 13,600 cfs Sept. 24 (gage height, 10.67 ft); minimum, 0.1 cfs May 6, 7.

1939-55: Maximum discharge, 441,000 cfs Sept. 11, 1952 (gage height, 42.5 ft, from floodmark), from rating curve extended above 42,000 cfs on basis of slope-area determinations at gage heights 27.6 and 42.5 ft; no flow Aug. 8 to Sept. 13, 1951, Aug. 14 to Sept. 9, 1952, July 14 to Sept. 20, 1954.

Maximum stage known since at least July 1869, that of Sept. 11, 1952; flood of July 1869 reached a stage of about 33 ft, from information by local residents.

Remarks.--Records good. Some diversions above station for irrigation.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.7	0.2	2.8	131
1.8	.4	3.0	225
1.9	1.0	3.5	550
2.0	2.3	4.0	1,000
2.1	4.8	4.5	1,540
2.2	9.6	5.0	2,160
2.3	18	5.6	3,000
2.4	30	6.1	3,760
2.6	69		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	15	1.9	3.6	7.7	9.1	4.0	0.4	19	3.0	8.6	34
2	1.6	9.6	1.8	4.0	7.7	9.1	3.6	.3	17	2.6	7.2	22
3	1.4	8.6	*1.9	4.0	332	9.1	3.3	.2	15	2.0	12	14
4	2.5	7.2	1.9	3.6	464	9.1	2.8	.2	13	1.6	9.1	9.6
5	229	6.2	1.8	3.3	332	8.6	3.0	.2	14	1.4	6.7	7.2
6	*227	5.8	1.9	2.8	164	7.7	3.3	.2	*11	1.1	21	5.8
7	85	4.8	2.0	3.6	86	7.2	2.8	57	15	.9	23	4.6
8	*40	4.8	2.0	3.8	51	6.7	2.6	37	16	.8	16	4.0
9	49	8.6	2.2	4.8	35	6.7	3.0	4.3	14	.6	9.6	3.6
10	29	17	2.2	5.8	25	6.7	3.6	25	23	.6	8.2	3.0
11	20	57	2.2	5.8	19	5.8	3.3	226	100	.6	*983	135
12	13	26	2.2	7.2	18	5.3	2.8	128	40	.5	406	47
13	9.1	18	3.0	6.7	16	4.8	2.0	129	25	.4	869	31
14	7.2	13	3.8	*6.2	15	4.8	2.0	49	16	.3	153	29
15	4.6	9.6	3.8	8.2	15	4.6	2.2	28	12	.3	77	19
16	3.8	7.7	3.8	9.1	14	4.6	2.8	18	838	.2	51	13
17	3.3	9.1	3.6	12	13	4.6	2.8	1,820	122	1,560	35	9.1
18	3.0	12	3.0	518	14	6.7	2.0	*1,600	51	586	28	7.7
19	2.8	7.7	2.6	206	15	7.7	1.9	*3750	30	237	24	6.7
20	2.3	6.2	2.3	75	13	7.7	1.9	441	22	104	18	5.3
21	2.0	5.3	2.2	40	*12	6.2	1.9	125	17	*56	16	4.6
22	1.9	4.3	2.2	26	12	6.2	1.6	72	14	35	*15	4.0
23	1.8	3.8	2.0	22	12	*6.7	1.3	51	11	28	12	4.3
24	1.6	3.6	1.9	16	11	6.2	1.1	38	14	30	9.6	3,500
25	1.6	3.3	2.2	15	10	4.8	1.0	30	8.6	18	9.6	384
26	1.6	3.3	2.8	14	10	4.0	.8	24	7.2	16	10	124
27	598	3.0	3.3	11	10	3.8	.8	20	6.2	14	8.6	67
28	264	2.6	2.6	9.6	9.1	4.3	.9	18	4.8	11	7.2	45
29	72	2.0	2.2	8.6	-	4.0	*.7	26	4.6	9.6	20	33
30	33	2.0	1.9	8.2	---	3.8	.6	17	3.6	8.2	18	28
31	22	------	2.3	8.6	------	4.0	------	28	------	7.2	37	------
Total	1,735.1	287.1	75.5	1,072.5	1,742.5	190.6	66.4	8,762.8	1,504.0	2,736.9	2,928.4	4,604.5
Mean	56.0	9.57	2.44	34.6	62.2	6.15	2.21	283	50.1	88.3	94.5	153
Ac-ft	3,440	569	150	2,130	3,460	378	132	17,380	2,980	5,430	5,810	9,130

Calendar year 1954: Max 1,540 Min 0 Mean 17.0 Ac-ft 12,300
Water year 1954-55: Max 3,750 Min 0.2 Mean 70.4 Ac-ft 50,990

Peak discharge (base, 8,300 cfs).--May 19 (7 a.m.) 8,970 cfs (8.90 ft); Sept. 24 (6:30 a.m.) 13,600 cfs (10.67 ft).

*. Discharge measurement made on this day.

Lake Travis near Austin, Tex.

Location.--Lat 30°23'20", long 97°54'35", in powerhouse at Mansfield Dam on Colorado River, 7.3 miles downstream from Sandy Creek, 12 miles northwest of Austin, Travis County, and at mile 318.

Drainage area.--38,130 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--September 1940 to September 1955. Prior to October 1948, published as Marshall Ford Reservoir near Austin.

Gage.--Indicating gage. Datum of gage is 0.12 ft above mean sea level, datum of 1929 (levels by Bureau of Reclamation). Prior to Dec. 26, 1940, staff gages on left bank near dam, datum at mean sea level (unadjusted). Dec. 26, 1940, to February 1942, mercury manometer in powerhouse, with datum at mean sea level (unadjusted).

Extremes.--Maximum contents observed during year, 1,220,000 acre-ft June 20 (gage height, 683.4 ft); minimum observed, 766,600 acre-ft May 16, 17 (gage height, 655.9 ft).
1940-55: Maximum contents observed, 1,377,000 acre-ft Oct. 23, 1942 (gage height, 691.2 ft); minimum observed, 332,600 acre-ft Aug. 13, 14, 1951 (gage height, 614.2 ft).

Remarks.--Reservoir is formed by concrete gravity-type dam. Storage began Sept. 9, 1940; dam completed early in 1942. Total capacity, 1,950,000 acre-ft (gage height, 714.0 ft) top of spillway. Capacity between gage heights 681.0 and 714.0 ft is 778,000 acre-ft and is reserved for flood control. Usable capacity, 1,144,000 acre-ft between gage height 535.8 ft (bottom of twenty-four 8½-foot diameter Paradox gates) and 681.0 ft (maximum power pool). Bottom of penstocks, gage height 552.0 ft. Figures given herein represent total contents. Water used for power development and for irrigation of rice in several districts below Columbus.

Cooperation.--Records of daily gage heights and capacity curve furnished by Lower Colorado River Authority.

Revisions.--WSP 1342: Drainage area.

Contents, in thousands of acre-feet, at 12 p.m., water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	938.2	925.8	908.8	887.7	886.2	884.7	856.2	807.1	1,114	1,170	1,160	1,158
2	936.6	925.8	907.3	887.7	884.7	883.2	854.7	804.2	1,109	1,164	1,160	1,162
3	936.6	924.2	905.8	887.7	886.2	883.2	853.2	799.8	1,111	1,160	1,160	1,160
4	936.6	924.2	905.8	886.2	889.2	883.2	850.2	792.7	1,111	1,156	1,162	1,158
5	939.7	922.6	905.8	886.2	892.2	883.2	848.7	788.5	1,109	1,160	1,162	1,156
6	939.7	921.1	904.3	886.2	893.7	881.7	848.7	785.7	1,120	1,164	1,160	1,156
7	939.7	921.1	902.7	884.7	895.2	881.7	847.2	782.9	1,152	1,162	1,156	1,156
8	939.7	921.1	902.7	884.7	895.2	881.7	845.7	778.8	1,174	1,162	1,162	1,154
9	939.7	921.1	901.2	884.7	893.7	881.7	844.2	774.8	1,200	1,162	1,164	1,152
10	938.2	921.1	899.7	886.2	893.7	881.7	842.7	770.7	1,212	1,156	1,166	1,150
11	936.6	921.1	899.7	886.2	895.2	880.2	841.2	768	1,218	1,162	1,172	1,150
12	936.6	919.6	899.7	886.2	893.7	880.2	841.2	776.1	1,218	1,166	1,172	1,148
13	936.6	919.6	898.2	884.7	893.7	880.2	841.2	777.4	1,218	1,172	1,168	1,145
14	935	921.1	898.2	884.7	893.7	880.2	839.7	774.8	1,216	1,168	1,160	1,141
15	933.5	919.6	896.7	884.7	895.2	880.2	838.2	770.7	1,212	1,166	1,160	1,138
16	932	918	896.7	884.7	898.2	878.7	836.7	766.6	1,208	1,162	1,156	1,139
17	932	918	895.2	886.2	898.2	877.2	836.7	766.6	1,212	1,160	1,158	1,138
18	930.4	916.4	895.2	887.7	901.2	878.7	833.7	817.4	1,216	1,162	1,156	1,136
19	928.8	916.4	893.7	889.2	901.2	878.7	832.2	898.2	1,218	1,164	1,160	1,134
20	928.8	916.4	893.7	890.7	901.2	877.2	829.2	939.7	1,220	1,170	1,162	1,132
21	928.8	914.9	893.7	890.7	898.2	877.2	827.7	988.2	1,218	1,178	1,160	1,132
22	928.8	914.9	892.2	890.7	893.7	875.7	826.2	1,069	1,214	1,182	1,164	1,134
23	928.8	913.4	890.7	890.7	893.7	874.2	824.7	1,107	1,208	1,180	1,166	1,139
24	928.8	913.4	890.7	889.2	890.7	871.2	821.8	1,118	1,202	1,176	1,166	1,156
25	928.8	911.9	890.7	887.7	887.7	871.2	820.3	1,111	1,198	1,172	1,166	1,180
26	928.8	911.9	890.7	887.7	886.2	868.2	815.9	1,114	1,188	1,172	1,168	1,188
27	927.3	910.3	889.2	887.7	886.2	866.7	812.9	1,111	1,178	1,172	1,164	1,194
28	928.8	910.3	889.2	886.2	886.2	863.7	811.5	1,109	1,170	1,174	1,160	1,200
29	928.8	908.8	889.2	886.2	-	862.2	811.5	1,112	1,170	1,172	1,164	1,198
30	928.8	908.8	887.7	884.7	-------	860.7	807.1	1,112	1,170	1,168	1,164	1,194
31	927.3	-------	887.7	884.7	-------	859.2	-------	1,112	-------	1,162	1,162	-------

Monthly gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	667.3	935,000	-
Oct. 31	668.8	927,300	-7,700
Nov. 30	665.6	908,800	-18,500
Dec. 31	664.2	887,700	-21,100
Calendar year 1954	-	-	-144,300
Jan. 31	664.0	884,700	-3,000
Feb. 28	664.1	886,200	+1,500
Mar. 31	662.3	859,200	-27,000
Apr. 30	658.8	807,100	-52,100
May 31	677.8	1,112,000	+304,900
June 30	680.9	1,170,000	+58,000
July 31	680.5	1,162,000	-8,000
Aug. 31	680.5	1,162,000	0
Sept.30	682.1	1,194,000	+32,000
Water year 1954-55	-	-	+259,000

† Gage height at 12 p.m.

Barton Springs at Austin, Tex.

Location.--Lat 30°16, long 97°46'. Springs issue from channel and along banks of Barton Creek for a distance of 1,000 ft in Zilker Park at Austin, Travis County. The main spring is near right bank of creek 500 ft upstream from concrete dam forming swimming pool, 1,800 ft upstream from bridge at entrance to Zilker Park, and 0.6 mile upstream from mouth of Barton Creek.

Records available.--November 1894 to September 1955 (discharge measurements only). Summary of all discharge measurements prior to October 1937 is contained in WSP 850. Daily discharge record of Barton Creek at Austin, published for period April 1917 to September 1918, closely represents the flow of Barton Springs.

Extremes.--Maximum discharge measured during year, 22.0 cfs Nov. 17; minimum measured, 13.8 cfs Aug. 30.

1894-1955: Maximum discharge measured, 166 cfs May 10, 1941; minimum measured, 10.9 cfs Jan. 20, 1952.

Remarks.--Discharge measurements represent total flow of springs including Old Mill Spring which is on right bank and about 1,000 ft downstream from main spring. Springs emerge from Edwards limestone in Balcones fault zone and respond to rainfall on the Edwards Plateau. Water used for recreational purposes. The additional head on springs caused by swimming pool at main spring being full has an appreciable effect on flow of springs.

Discharge measurements, in cubic feet per second, of Barton Creek and determination of discharge of Barton Springs, water year October 1954 to September 1955

Date	Barton Creek below springs	Barton Creek above springs	Barton Springs
Oct. 29, 1954....	21.7	0	21.7
Nov. 17.....	22.0	0	a22.0
Jan. 5, 1955....	21.4	0	21.4
Feb. 7.....	20.5	0	20.5
Mar. 3.....	21.1	0	21.1
Apr. 8.....	14.8	0	a14.8
May 23.....	21.8	0	21.8
July 1.....	17.5	0	a17.5
Aug. 30.....	13.8	0	a13.8
Sept.20.....	17.4	0	a17.4

a Swimming pool above measuring section filled.

Colorado River at Austin, Tex.

Location.--Lat 30°14'40", long 97°41'20", on right bank just upstream from Montopolis Bridge on U. S. Highway 183 at southeast edge of Austin, Travis County, 2.8 miles upstream from Walnut Creek, 3.8 miles downstream from Waller Creek, 5 miles downstream from Barton Creek, and at mile 290.

Drainage area.--38,400 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--February 1898 to September 1955. Gage-height records collected in this vicinity since 1903 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 407.28 ft above mean sea level, datum of 1929. Prior to June 18, 1915, combination staff and chain gages in the vicinity of Congress Avenue Bridge, 4.0 miles upstream at datum 14.6 ft higher. June 18, 1915, to Apr. 21, 1918, water-stage recorder (pressure type) in basement near left end of Congress Avenue Bridge at datum 14.6 ft higher. Apr. 26, 1918, to June 19, 1939, water-stage recorder at Congress Avenue Bridge at datum 14.6 ft higher.

Average discharge.--57 years (1898-1955), 2,470 cfs (1,788,000 acre-ft per year).

Extremes.--Maximum discharge during year, 8,790 cfs June 9 (gage height, 7.99 ft); minimum daily, 232 cfs Jan. 29.

1898-1955: Maximum discharge, 481,000 cfs June 15, 1935 (gage height, 45.0 ft, present site and datum, from floodmark); minimum, 13 cfs Aug. 18, 1918.

Maximum stage known since at least 1843, 46.0 ft July 7, 1869, present site and datum, (adjusted to present site on basis of record for flood of June 15, 1935), determined from information concerning stage at former site furnished by Dean T. U. Taylor.

Remarks.--Records fair. Flow largely regulated by Buchanan Reservoir and Lake Travis (see p. 206, 211), and other smaller reservoirs, having a combined capacity of 3,979,000 acre-ft. About 36,000 acres irrigated above station. During year city of Austin diverted an average of about 42 cfs for municipal use above station and returned about 19 cfs of treated sewage below station. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Revisions (water years).--WSP 528: 1900(M). WSP 1342: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	263	372	277	261	758	*279	720	2,000	2,120	2,270	2,880	1,410
2	265	343	273	272	*1,800	283	724	2,040	2,100	2,530	2,030	1,070
3	282	348	273	317	2,190	288	696	2,160	2,110	2,660	1,750	923
4	*307	316	270	327	2,380	274	752	2,070	2,140	*2,320	2,160	862
5	310	327	292	318	1,010	270	740	2,130	2,180	2,310	*1,880	836
6	296	327	270	315	314	270	742	2,140	1,250	2,210	1,840	1,020
7	292	327	266	*304	*241	274	729	2,240	1,260	2,340	1,810	1,110
8	299	348	259	315	305	279	*753	2,240	2,250	2,310	1,860	1,270
9	289	339	255	319	301	265	750	2,280	*5,760	2,220	1,790	1,140
10	311	327	289	340	296	270	788	2,250	5,130	2,280	*1,860	705
11	317	312	299	315	288	260	506	2,310	6,210	2,230	2,060	820
12	296	323	291	315	279	260	445	1,400	5,180	2,240	3,900	1,080
13	289	312	240	315	279	265	435	1,250	*5,310	2,220	3,900	1,610
14	249	331	246	304	292	289	506	2,100	4,800	2,330	3,900	1,610
15	299	319	261	319	301	334	683	2,250	4,680	*2,280	3,900	1,610
16	284	331	268	323	292	344	838	2,130	5,020	2,260	3,590	*1,240
17	306	304	264	319	284	398	809	2,010	5,020	2,180	3,590	1,110
18	333	292	268	395	274	*423	885	1,140	5,150	2,380	1,900	710
19	276	300	258	264	319	442	959	629	5,280	2,420	1,560	908
20	244	285	264	246	337	428	*1,110	421	5,280	3,270	1,190	1,060
21	235	289	266	254	306	433	1,070	339	5,380	3,900	1,490	864
22	247	277	263	243	293	665	1,140	306	5,250	4,460	1,830	772
23	260	282	274	254	274	781	1,080	1,040	5,250	4,580	1,640	702
24	275	*270	274	243	283	741	1,120	2,280	5,250	4,460	*2,050	548
25	300	289	282	254	283	792	1,320	1,990	5,120	4,460	2,060	1,030
26	266	270	285	243	279	703	*1,600	2,320	4,910	3,380	*1,850	4,580
27	*308	273	294	243	279	727	1,580	*2,160	*5,040	2,880	1,780	5,110
28	282	282	305	239	293	794	1,630	2,100	5,170	2,800	1,620	4,860
29	304	273	258	232	-	769	1,720	2,160	4,000	3,190	1,800	4,990
30	312	282	272	239	------	782	1,960	2,110	2,500	2,910	1,980	5,110
31	335	------	266	239	------	782	------	2,150	------	2,680	1,800	------
Total	8,931	9,270	8,402	8,886	14,830	14,164	28,790	56,145	126,100	86,960	69,250	50,670
Mean	288	309	271	287	530	457	960	1,811	4,203	2,805	2,234	1,689
Ac-ft	17,710	18,390	16,670	17,630	29,410	28,090	57,100	111,400	250,100	172,500	137,400	100,500

Calendar year 1954: Max 3,320 Min 186 Mean 925 Ac-ft 669,400
Water year 1954-55: Max 6,210 Min 232 Mean 1,322 Ac-ft 956,900

* Discharge measurement made on this day.

Colorado River at Smithville, Tex.

Location.--Lat 30°01', long 97°10', on right bank 360 ft below bridge on State Highway 71 in Smithville, Bastrop County, 850 ft downstream from Gazley Creek, 4 miles downstream from Alum Creek, and at mile 212.

Drainage area.--39,880 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--July 1930 to September 1955. Gage-height records collected in this vicinity since 1920 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 270.14 ft above mean sea level, datum of 1929. Prior to Apr. 9, 1931, staff gage at same site and datum.

Average discharge.--25 years, 2,688 cfs (1,946,000 acre-ft per year).

Extremes.--Maximum discharge during year, 7,500 cfs May 19 (gage height, 8.32 ft); minimum, 281 cfs Dec. 22.

1930-55: Maximum discharge, 305,000 cfs June 16, 1935 (gage height, 42.5 ft, from floodmarks), from rating curve extended above 50,000 cfs on basis of slope-area determination of peak flow; minimum, 76 cfs Nov. 2, 1934.

Maximum stage known since at least 1870, about 47.4 ft Dec. 4, 1913, flood of July 8, 1869, was several feet higher, from information by local residents.

Remarks.--Records fair. Many diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin.

Revisions.--WSP 1342: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	367	344	314	317	426	371	1,180	1,850	2,330	2,900	2,900	1,910
2	359	334	311	355	436	383	1,350	2,150	2,330	2,270	2,580	1,700
3	379	324	317	348	734	379	829	2,270	2,210	2,520	2,640	1,400
4	367	334	314	352	1,970	383	801	2,390	2,150	2,780	1,800	1,120
5	355	344	314	363	3,760	375	774	2,450	2,330	*2,520	1,910	985
6	359	348	311	383	5,330	387	780	2,450	4,690	2,390	1,850	940
7	367	324	311	367	3,040	363	760	2,640	3,900	2,330	1,750	895
8	375	327	317	363	843	371	774	2,580	1,800	2,330	1,650	1,120
9	371	334	308	375	*535	355	787	2,640	1,090	2,330	1,650	1,260
10	363	341	302	391	476	375	843	2,640	*2,540	2,210	1,650	1,350
11	363	344	302	391	454	359	1,140	2,710	*5,660	2,210	1,650	1,110
12	359	344	341	400	422	359	978	2,840	5,490	2,210	1,750	872
13	355	334	344	395	408	352	728	2,840	5,490	2,210	2,880	932
14	359	330	344	391	400	348	540	2,030	4,850	2,150	3,620	1,290
15	352	341	317	391	395	344	472	1,600	*4,370	2,210	*3,760	1,850
16	348	344	296	395	387	352	485	2,330	4,050	2,330	3,760	1,750
17	334	341	290	395	400	359	562	2,840	4,370	2,150	3,620	1,750
18	*341	334	296	490	375	*426	754	5,490	4,530	2,150	3,490	1,450
19	348	330	299	525	379	440	*767	6,740	4,690	2,210	2,540	*1,220
20	348	317	296	515	379	515	808	5,490	5,010	2,210	1,970	865
21	359	324	293	454	391	520	895	2,090	5,010	2,900	1,650	1,140
22	348	*324	287	426	436	552	1,020	1,100	5,170	3,490	1,350	1,190
23	338	324	287	400	400	490	1,030	708	5,170	4,690	1,450	970
24	334	320	293	408	387	644	1,060	*510	5,170	5,010	1,800	1,270
25	320	314	296	395	367	872	1,080	395	5,170	5,010	1,600	1,110
26	324	314	308	408	371	843	1,060	1,650	5,170	5,010	1,970	801
27	327	317	*314	400	371	836	1,300	2,270	4,850	4,210	1,970	2,740
28	395	317	341	413	383	843	1,650	2,580	5,010	3,230	1,700	4,690
29	355	308	327	418	-	880	1,750	2,580	5,170	3,040	1,750	4,530
30	352	302	348	436	------	850	1,750	2,450	4,690	3,040	1,600	4,690
31	348	------	348	422	------	895	------	2,450	------	3,040	1,850	------
Total	10,969	9,877	9,686	12,482	24,655	15,821	28,707	77,753	124,460	89,290	68,110	48,900
Mean	354	329	312	403	881	510	957	2,508	4,149	2,880	2,197	1,630
Ac-ft	21,760	19,590	19,210	24,760	48,900	31,380	56,940	154,200	246,900	177,100	135,100	96,990

Calendar year 1954: Max 3,230 Min 248 Mean 922 Ac-ft 667,600
Water year 1954-55: Max 6,740 Min 287 Mean 1,427 Ac-ft 1,033,000

* Discharge measurement made on this day.

Dry Creek at Buescher Lake near Smithville, Tex.

Location.--Lat 30°03', long 97°09', on left bank 225 ft above dam in Bastrop-Buescher State Park, 1.9 miles upstream from mouth, and 2.2 miles north of Smithville, Bastrop County.

Drainage area.--1.48 sq mi (area above dam).

Records available.--October 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 327.86 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 0.37 cfs (268 acre-ft per year).

Extremes.--Maximum inflow during year not determined, maximum gage height, 9.69 ft Oct. 1, no inflow most of time.
1939-55: Maximum inflow, 1,870 cfs June 30, 1940; maximum gage height, 24.96 ft June 30, 1940 (outflow, 1,670 cfs); no inflow most of time.

Remarks.--Records poor. Records given herein represent flow into Buescher Lake. No runoff except during and immediately following precipitation. Discharge below gage height 22.27 ft (spillway crest), determined from change in contents of lake; that above gage height 22.27 ft determined by algebraic summation of flow over spillway and change in contents of lake (reduced to equivalent cfs). There was no flow over spillway during the 1955 water year. No adjustments made for evaporation or seepage losses. Capacity of lake, 248 acre-ft. No diversion above station or from lake.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0			0				
2				0	0			0				
3				0	0			0				
4				0	0			0				
5				0	0			0		(*)		
6				0	0			0				
7				0	.1			0				
8				0	.5			0				
9				0	*0			0				
10				0	0			0				
11				0	0			0				
12				0	0			0				
13				0	0			0				
14				0	0			0				
15				0	0			0			(*)	
16				0	0			0				
17				0	0			0				
18	(*)			0	0	(*)		.8				
19				.2	0			0				(*)
20				0	0			0				
21				0	0			0				
22				0	0			0				
23				0	0			0				
24				0	0			*0				
25				0	0			0				
26				0	0			0				
27			(*)	0	0			0				
28				0	0			0				
29				0	-			0				
30				0	- - -			0				
31		- - - - -		0	- - - - -		- - - - -	0	- - - - -			- - - - -
Total	0	0	0	0.2	0.6	0	0	0.8	0	0	0	0
Mean	0	0	0	0.01	0.02	0	0	0.03	0	0	0	0
Ac-ft	0	0	0	0.4	1.2	0	0	1.6	0	0	0	0

Calendar year 1954: Max 21 Min 0 Mean 0.09 Ac-ft 65
Water year 1954-55: Max 0.8 Min 0 Mean 0.004 Ac-ft 3.2

* Observation of no flow made on this day.

Colorado River at La Grange, Tex.

Location.--Lat 29°53'45", long 96°52'15", near center of span at upstream side of bridge on U.S. Highway 77 in La Grange, Fayette County, 1.2 miles downstream from Buckner Creek and at mile 174.

Drainage area.--40,430 sq mi, approximately, of which 11,900 sq mi is probably non-contributing.

Records available.--July and August 1938 (flood discharge measurements only), November 1938 to September 1955 (discontinued).

Gage.--Wire-weight gage read twice daily. Datum of gage is 211.23 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1939-55), 2,372 cfs (1,717,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,400 cfs May 18 (gage height, 10.00 ft); minimum, 267 cfs Dec. 18.

1938-55: Maximum discharge observed, 200,000 cfs July 27, 1938 (gage height, 42.95 ft); minimum observed, 210 cfs Apr. 9, 1952.

Maximum stage known, about 56.7 ft probably July 9, 1869 (from marble high-water marker in La Grange). Stages of other floods are as follows: Dec. 5, 1913, stage 56.4 ft, from floodmarks; June 17, 1935, stage 50.84 ft, from floodmarks (discharge 255,000 cfs, from rating curve extended as a straight line above 200,000 cfs).

Remarks.--Records good. Diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin.

Revision.--WSP 1342: Drainage area

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	347	305	341	347	391	378	1,310	1,640	2,180	4,540	2,770	1,910
2	385	300	341	310	378	391	1,510	1,780	2,140	2,870	2,670	1,640
3	372	310	335	322	391	378	1,190	2,040	2,140	2,420	2,420	1,470
4	366	296	341	335	462	378	860	2,140	2,090	2,770	2,140	1,270
5	398	305	335	310	1,970	372	796	2,220	2,090	*2,770	1,730	1,110
6	372	291	335	310	4,900	378	733	2,270	5,770	2,570	1,780	988
7	360	300	329	322	4,900	378	747	2,270	5,780	2,420	1,600	950
8	372	300	322	335	2,100	378	726	2,420	3,490	2,370	1,550	988
9	385	286	322	335	*980	353	761	2,370	2,000	2,370	1,550	1,150
10	385	296	310	335	712	353	803	2,420	1,730	2,420	1,470	1,230
11	372	291	300	335	600	360	942	2,470	5,410	2,270	1,470	1,190
12	378	281	310	341	506	353	1,110	2,520	5,640	2,270	1,470	988
13	372	300	310	347	468	341	928	2,670	5,780	2,270	1,640	810
14	360	329	322	341	481	335	712	2,520	5,140	2,220	2,320	1,070
15	347	322	329	347	481	310	565	1,820	5,500	2,220	*3,380	1,310
16	347	322	316	347	455	316	506	1,550	5,260	2,220	3,600	1,350
17	347	322	281	341	442	*329	506	1,910	5,140	2,180	3,490	1,350
18	*347	322	267	468	410	329	532	8,760	5,380	2,180	3,380	1,390
19	335	329	276	468	398	372	*698	9,340	5,500	2,270	3,270	1,430
20	353	329	291	520	404	398	747	8,350	5,380	2,270	2,180	1,350
21	353	322	286	500	391	442	754	4,340	5,780	2,270	1,860	1,270
22	353	*322	286	442	391	442	838	1,430	5,920	3,380	1,600	1,110
23	372	335	286	404	404	462	950	1,110	5,920	3,940	1,510	1,150
24	322	335	291	391	404	442	950	*817	5,780	4,900	1,470	995
25	310	310	291	378	378	462	965	628	5,640	5,020	1,510	1,070
26	305	310	310	391	378	642	995	614	5,640	5,020	1,600	1,150
27	300	329	*316	378	378	712	995	1,350	5,500	5,020	1,640	1,150
28	310	329	322	391	391	719	1,230	2,040	5,380	4,060	1,730	1,550
29	372	341	300	385	-	747	1,510	2,320	5,380	3,170	1,640	2,870
30	341	329	335	391	- - -	761	1,640	2,470	5,500	3,070	1,640	4,420
31	310	- - - - -	347	372	- - - - -	768	- - - - -	2,270	- - - - -	3,170	1,600	- - - - -
Total	10,948	9,398	9,683	11,539	24,944	13,779	27,509	80,869	139,980	92,910	63,680	41,679
Mean	353	313	312	372	891	444	917	2,609	4,666	2,997	2,054	1,389
Ac-ft	21,720	18,640	19,210	22,890	49,480	27,330	54,560	160,400	277,600	184,300	126,300	82,670

Calendar year 1954: Max 4,420 Min 223 Mean 1,010 Ac-ft 731,300
Water year 1954-55: Max 9,340 Min 267 Mean 1,444 Ac-ft 1,045,000

* Discharge measurement made on this day.

Colorado River at Columbus, Tex.

Location.--Lat 29°42'20", long 96°32'05", near right bank at downstream side of pier of bridge on U. S. Highway 90 at eastern edge of Columbus, Colorado County, 340 ft downstream from Texas and New Orleans Railroad bridge, 2.6 miles downstream from Cummins Creek, and at mile 135.

Drainage area.--41,070 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--January to December 1903 (gage heights and discharge measurements only), January 1904 to December 1911, May 1916 to November 1930, May 1939 to September 1955. September 1930 to June 1939 at site near Eagle Lake, 23 miles downstream. Gage-height records collected in this vicinity since 1903 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 155.52 ft above mean sea level, datum of 1929. Prior to May 1, 1919, various nonrecording gages at sites in the immediate vicinity at datum 3.00 ft lower. May 1, 1919, to Nov. 23, 1930, water-stage recorder at site about 300 ft downstream at datum 3.00 ft lower. May 17 to Nov. 14, 1939, wire-weight gage at same site and datum.

Average discharge.--37 years (1904-11, 1916-30, 1939-55), 2,927 cfs (2,119,000 acre-ft per year).

Extremes.--Maximum discharge during year, 12,300 cfs May 19 (gage height, 12.00 ft); minimum, 266 cfs Jan. 28, 30.

1903-11, 1916-30, 1939-55: Maximum discharge, 152,000 cfs July 1, 1940 (gage height, 36.2 ft); minimum observed, about 80 cfs Sept. 9, 10, 1910.

Maximum stage known, 41.6 ft, present datum, in July 1869 and on Dec. 6, 1913, from information by local resident. River divided each time and left Columbus on an island. Data on other floods are as follows: June 18, 1935, observed stage, 38.5 ft, present datum, furnished by U. S. Weather Bureau (discharge, 190,000 cfs, computed on basis of records for station near Eagle Lake, 23 miles downstream); July 29, 1938, observed stage, 38.4 ft, present datum, furnished by U. S. Weather Bureau (discharge, 175,000 cfs, computed on basis of records for station near Eagle Lake.

Remarks.--Records good. Diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin.

Revisions.--WSP 1342: Drainage area.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-7, Jan. 19 to Feb. 4, Aug. 29 to Sept. 28, Sept. 30)

Oct. 1 to Dec. 31		Jan. 1 to Sept. 30			
2.1	299	2.0	230	6.0	3,850
2.2	343	2.4	495	8.0	6,400
2.4	440	3.0	960	11.0	10,700
		4.0	1,780		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	395	339	321	362	310	390	1,110	1,240	*2,000	5,050	2,970	1,870
2	390	334	317	369	*316	390	1,110	1,240	1,920	3,870	2,860	2,000
3	400	*325	317	355	303	376	1,240	*1,360	1,870	2,750	2,650	1,820
4	400	330	325	342	910	*369	1,080	1,520	1,820	2,400	*2,650	1,560
5	415	325	325	*362	1,990	369	864	1,560	1,820	2,650	2,150	1,360
6	*415	321	*325	336	6,820	348	*808	1,690	5,020	*2,650	1,780	1,160
7	395	325	317	336	5,700	342	760	1,640	6,260	2,400	1,920	*1,060
8	385	330	325	342	4,310	342	760	1,740	4,690	2,300	1,780	1,020
9	390	325	317	355	1,770	348	760	1,740	3,300	2,250	1,690	1,040
10	395	312	321	355	1,020	342	824	1,740	2,300	2,250	1,640	1,200
11	390	317	334	348	752	336	824	2,700	2,400	2,250	1,640	1,280
12	385	317	348	348	645	329	939	2,570	4,080	2,150	1,600	1,280
13	376	321	352	362	600	329	1,200	1,960	5,050	2,200	1,690	1,100
14	371	321	339	362	555	316	952	1,870	5,570	2,150	2,100	960
15	362	330	352	383	518	310	760	1,780	5,050	2,100	3,190	1,100
16	357	325	352	376	495	310	645	1,360	5,050	2,100	3,520	1,600
17	357	325	348	376	474	310	578	1,200	4,570	2,250	3,520	1,740
18	362	325	325	483	446	310	548	5,290	4,570	2,150	3,520	1,740
19	352	321	317	362	446	316	578	*10,300	4,810	2,100	3,410	1,520
20	348	317	321	336	418	342	690	7,910	4,930	2,100	3,630	1,320
21	352	321	325	383	425	383	728	5,310	5,050	2,150	2,250	1,160
22	352	317	321	362	411	404	744	3,320	5,310	2,250	1,870	976
23	385	312	325	329	404	418	800	1,690	5,440	3,080	1,520	1,160
24	371	312	321	296	432	439	872	1,320	5,440	3,850	1,480	1,100
25	357	312	321	284	425	418	872	1,070	5,310	4,570	1,640	1,000
26	343	317	334	278	411	453	880	904	5,310	4,810	1,640	1,320
27	330	317	352	284	397	622	880	792	5,310	4,810	1,780	1,020
28	325	317	339	278	390	660	888	1,400	5,050	4,690	1,920	1,110
29	325	312	339	284	-	682	1,030	2,000	4,930	3,520	1,820	3,300
30	343	317	339	278	- - -	698	1,200	3,190	5,050	2,970	1,740	3,970
31	343	- - - - -	352	303	- - - - -	736	- - - - -	2,400	- - - - -	2,860	1,690	- - - - -
Total	11,466	9,639	10,266	10,609	32,093	12,737	25,924	75,806	129,280	89,680	69,260	43,846
Mean	370	321	331	342	1,146	411	864	2,445	4,309	2,893	2,234	1,462
Ac-ft	22,740	19,120	20,360	21,040	63,660	25,260	51,420	150,400	256,400	177,900	137,400	86,970

Calendar year 1954: Max 4,270 Min 260 Mean 976 Ac-ft 706,700
Water year 1954-55: Max 10,300 Min 278 Mean 1,426 Ac-ft 1,033,000

* Discharge measurement made on this day.

Colorado River at Wharton, Tex.

Location.--Lat 29°18'30", long 96°06'15", near center of span at downstream side of bridge on U. S. Highway 59, in Wharton, Wharton County, 1,000 ft downstream from Texas and New Orleans Railroad bridge, 12 miles upstream from Jones Creek, and at mile 67.

Drainage area.--41,380 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--July 1916 to September 1925, July and August 1938 (flood discharge measurements only), October 1938 to September 1955. June to November 1901 and May to September 1902, daily records published in U. S. Department of Agriculture, Office of Experiment Stations, Bulletin Nos. 119 and 133. Gage-height records, collected in this vicinity since 1935, are contained in reports of U. S. Weather Bureau.

Gage.--Wire-weight gage read twice daily. Datum of gage is 65.42 ft above mean sea level, datum of 1929. Prior to Mar. 19, 1919, staff gage and Mar. 19, 1919, to Sept. 30, 1925, water-stage recorder, at site about 700 ft upstream at different datum.

Average discharge.--22 years (1919-21, 1922-25, 1938-55), 2,729 cfs (1,976,000 acre-ft per year).

Extremes.--Maximum discharge during year, 10,100 cfs May 20 (gage height, 10.40 ft, from graph based on gage readings); minimum, 201 cfs May 29.

1919-25, 1938-55: Maximum discharge observed, 100,000 cfs July 3, 1940 (gage height, 35.99 ft); no flow Aug. 6, 1925 (result of pumping).

Maximum stage known, 38.9 ft Dec. 8, 1913, present datum, from information by local residents; below Wharton floodwater combined with floodwater of Brazos River. Flood of about July 12, 1869, reached about same height. Flood of June 20, 1935, reached a stage of 38.2 ft, present datum (discharge, 159,000 cfs, from rating curve extended above 145,000 cfs), furnished by U. S. Weather Bureau. Flood of July 30, 1938, reached a stage of 37.4 ft, present datum, observed by Geological Survey engineers (discharge, 145,000 cfs).

Remarks.--Records good. Diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin. Records of chemical analyses and water temperatures for the water year 1955 published in WSP 1402.

Cooperation.--Gage-height record collected in cooperation with U. S. Weather Bureau.

Revisions (water years).--WSP 878: 1938(M). WSP 1342: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	287	349	323	370	338	440	565	745	*1,780	4,100	2,420	1,300
2	275	377	342	366	335	433	722	722	1,270	4,100	2,340	1,330
3	272	370	329	377	*342	419	820	*565	1,180	3,900	2,420	1,490
4	269	*380	320	370	352	*412	900	560	1,040	2,770	2,260	1,460
5	356	374	317	*363	755	398	982	610	1,040	1,900	*2,100	1,330
6	500	363	*329	360	3,010	384	795	588	1,270	2,100	1,940	1,040
7	419	356	323	363	6,960	391	678	610	3,290	*2,100	1,520	*820
8	*405	349	329	349	7,440	374	*632	700	5,340	1,820	1,420	700
9	377	352	323	370	3,500	377	610	745	4,300	1,630	1,360	655
10	363	356	332	377	2,680	370	678	745	3,500	1,560	1,240	610
11	363	356	342	391	1,460	370	770	820	2,590	1,490	1,120	722
12	377	342	363	370	1,060	363	795	1,560	2,260	1,460	1,090	900
13	370	338	377	363	845	349	820	3,130	3,220	1,390	1,040	1,010
14	370	335	366	370	745	346	982	1,900	4,720	1,390	1,210	1,060
15	352	342	374	370	700	342	1,010	1,600	4,610	1,360	1,390	982
16	349	349	363	388	655	332	900	1,600	4,610	1,330	2,260	872
17	346	*349	370	398	655	329	770	1,210	4,300	1,390	2,770	1,090
18	349	346	374	496	610	314	610	955	3,900	1,490	2,770	1,520
19	352	342	377	588	565	320	500	*3,940	3,700	1,560	2,860	1,780
20	356	338	356	516	565	317	444	*9,180	3,700	1,520	2,950	1,660
21	352	342	332	500	547	302	430	7,920	3,800	1,520	2,950	1,460
22	356	342	332	460	524	269	512	5,140	4,000	1,520	2,100	1,240
23	464	329	323	480	504	284	556	3,660	4,200	1,490	1,600	1,090
24	565	329	338	468	488	305	556	1,860	4,300	1,740	1,300	1,090
25	460	326	342	433	488	323	610	1,210	4,500	2,680	1,090	1,150
26	412	329	356	405	484	329	678	770	4,300	3,500	1,150	1,060
27	384	326	380	391	480	317	655	468	4,300	3,800	1,270	1,060
28	370	329	366	377	468	311	678	260	4,300	3,600	1,180	1,180
29	342	326	377	370	-	380	678	271	4,100	3,900	1,390	1,190
30	335	323	352	352	-	468	700	928	3,900	3,900	1,390	2,180
31	323	------	356	349	------	504	------	1,740	------	3,400	1,240	------
Total	11,470	10,364	10,783	12,500	37,555	11,172	21,036	56,712	103,320	71,410	55,140	35,031
Mean	370	345	348	403	1,341	360	701	1,829	3,444	2,304	1,779	1,168
Ac-ft	22,750	20,560	21,390	24,790	74,490	22,160	41,720	112,500	204,900	141,600	109,400	69,480

Calendar year 1954: Max 3,130 Min 245 Mean 649 Ac-ft 469,600
Water year 1954-55: Max 9,180 Min 260 Mean 1,196 Ac-ft 865,700

* Discharge measurement made on this day.

Colorado River near Bay City, Tex.

Location.--Lat 28°58'26", long 96°00'44", on right bank 6,300 ft downstream from bridge on State Highway 35, 7,100 ft downstream from Texas and New Orleans Railroad bridge, 2.8 miles west of Bay City, Matagorda County, and at mile 32.6.

Drainage area.--41,650 sq mi, approximately, of which 11,900 sq mi is probably noncontributing.

Records available.--July 1940 (in WSP 1046), April 1948 to September 1955. Gage-height records collected in this vicinity since 1946 are contained in reports of U. S. Weather Bureau.

Average discharge.--7 years (1948-55), 1,139 cfs (824,600 acre-ft per year).

Gage.--Water-stage recorder. Datum of gage is at mean sea level, datum of 1929, Houston supplementary adjustment of 1943. July 2-6, 1940, reference point at highway bridge, 6,300 ft upstream at datum 30.60 ft lower.

Extremes.--Maximum discharge during year, 11,900 cfs May 21 (gage height, 25.74 ft); minimum, 0.1 cfs May 8.

1940, 1948-55: Maximum discharge, 83,300 cfs July 4, 1940 (gage height, 48.2 ft, present datum) at bridge on State Highway 35, observed by Corps of Engineers (stage, 46.6 ft, adjusted to present site); no flow June 1-3, 1951, June 23, 24, 27-30, 1952, Apr. 23, 1953.

Maximum stage known, about 56.1 ft Dec. 10, 1913. Flood of July 1869 probably reached about the same stage. Stages of other floods are as follows: May 8, 1922, 55.4 ft; June 1929, 55.0 ft; June 22, 1935, 54.6 ft; Oct. 5, 1936, 53.4 ft; Aug. 2, 1938, 53.4 ft; Nov. 27, 1940, 47.6 ft. All above flood data from information by Texas & New Orleans Railroad and adjusted to present site.

Remarks.--Records good. Diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin.

Revisions.--WSP 1342: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	359	354	338	395	364	508	252	170	1,220	3,080	2,090	1,120
2	338	377	338	390	350	476	368	181	845	3,170	1,930	1,250
3	326	377	350	395	*354	467	550	90	516	2,900	2,010	1,380
4	318	422	338	395	372	449	665	*39	444	2,010	2,010	1,520
5	338	436	330	400	582	426	660	31	386	1,380	*1,890	1,310
6	679	422	318	*395	4,400	418	718	g28	458	1,220	1,850	1,180
7	779	386	*334	390	8,800	404	*580	g1.4	967	*1,340	1,520	990
8	*575	*372	334	395	7,080	*418	508	g1.4	3,980	1,280	1,150	818
9	490	372	334	418	5,330	408	440	69	4,460	960	1,050	610
10	436	377	330	485	3,750	400	655	g128	3,170	900	960	550
11	422	362	346	545	1,970	395	930	209	2,330	768	790	526
12	413	377	354	498	1,440	395	960	691	1,890	718	746	702
13	400	372	368	440	1,120	390	900	2,030	1,810	620	740	*900
14	395	377	390	422	930	382	872	2,010	3,290	600	872	1,050
15	382	382	377	440	872	377	1,020	1,440	3,710	575	1,050	1,020
16	382	390	390	449	818	372	845	1,020	3,980	600	1,380	790
17	372	395	377	467	774	346	686	930	3,620	550	2,170	900
18	364	*400	386	580	768	354	436	845	3,350	660	2,490	1,340
19	364	390	395	1,280	735	346	270	1,470	2,900	872	2,570	1,620
20	368	386	382	746	670	354	118	*7,790	2,810	790	2,730	1,620
21	364	386	364	610	655	266	38	10,400	2,990	779	2,900	1,590
22	400	377	354	530	630	131	60	5,550	2,990	845	2,650	1,380
23	641	372	350	512	595	81	35	4,070	3,260	872	1,780	1,120
24	790	368	354	512	565	81	23	2,380	3,440	1,020	1,380	930
25	665	359	354	490	545	87	46	1,020	3,710	1,700	1,020	1,020
26	585	354	368	467	545	53	60	580	3,530	2,330	872	1,050
27	512	354	386	436	545	82	60	214	3,440	2,900	930	900
28	458	350	404	408	521	70	62	83	3,350	3,080	930	1,080
29	408	346	390	400	-	90	130	52	3,350	3,170	960	960
30	368	342	400	386	--	70	133	50	2,990	2,990	1,220	972
31	359	------	390	368	------	*98	------	*395	------	2,170	1,120	------
Total	14,050	11,354	11,223	15,044	46,080	9,174	13,080	43,967.8	79,186	46,849	47,760	32,198
Mean	453	378	362	485	1,646	296	436	1,418	2,640	1,511	1,541	1,073
Ac-ft	27,870	22,520	22,260	29,840	91,400	18,200	25,940	87,210	157,100	92,920	94,730	63,860

Calendar year 1954: Max 2,810 Min 2.3 Mean 429 Ac-ft 310,500
Water year 1954-55: Max 10,400 Min 1.4 Mean 1,014 Ac-ft 733,800

* Discharge measurement made this day.
g Computed from twice-daily staff gage readings.

Lavaca River at Hallettsville, Tex.

Location.--Lat 29°26', long 96°57', at downstream side of bridge on U. S. Highway 77 in Hallettsville, Lavaca County, 0.4 mile upstream from Texas and New Orleans Railroad bridge.

Drainage area.--101 sq mi.

Records available.--July 1939 to September 1955.

Gage.--Water-stage recorder for high stages, and movable wire-weight gage read twice daily for stages below about 100 cfs. Datum of gage is 186.72 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 39.0 cfs (28,230 acre-ft per year).

Extremes.--Maximum discharge during year, 10,800 cfs May 18 (gage height, 27.18 ft); minimum, 0.2 cfs Oct. 17-21.

1939-55: Maximum discharge, 93,100 cfs June 30, 1940 (gage height, 40.60 ft, from floodmarks), from rating curve extended above 23,000 cfs on basis of slope-area determination of peak flow; no flow Aug. 19, 1953.

Maximum stage known since about 1870, that of June 30, 1940, maximum stage prior to 1940, 32.8 ft July 16, 1938, from information by local resident.

Remarks.--Records fair. No known diversion above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.5	0.4	0.7	2.2	1.6	13	0.6	5.9	0.5	0.5	43
2	.3	.4	.4	.8	2.1	1.6	a7	.5	6.7	.6	.6	1.6
3	.3	.5	.5	.7	2.3	1.6	.6	.5	5.9	.6	.8	1.1
4	9.0	.5	.6	.8	*1,770	1.6	.6	.5	5.2	.6	12	.8
5	5.7	.5	.6	.8	*769	1.5	.6	.5	5.5	.6	1.3	.8
6	3	.5	.5	.8	*989	1.5	.7	.6	334	.6	.8	.9
7	2	a.5	.5	.9	26	1.3	.7	.6	*20	.6	.5	.8
8	1	a.5	.5	1.1	7.8	1.4	.7	.5	3.6	.5	.5	.8
9	.9	a.5	.5	1.4	5.4	1.3	.7	.5	2.1	.5	.6	.8
10	.8	a.5	.5	*1.8	4.3	1.4	1.7	.6	71	.5	.6	.7
11	.7	a.5	.6	1.5	3.0	1.2	a1	260	31	.5	.6	.6
12	.6	a.5	1.0	1.4	2.5	1.2	a1	454	6.6	.5	.6	.6
13	.5	a.5	.9	1.4	2.5	a1	a1	26	1.9	.6	.6	.6
14	.4	.5	.7	1.2	*2.5	a1	a1	10	1.7	.6	.5	.6
15	.3	.4	.6	1.8	2.5	a1	a1	6.9	1.6	.5	.5	.6
16	.3	a.4	.4	1.6	2.5	a1	a1	5.3	1.6	*.5	.5	.6
17	.2	a.4	.4	2.1	2.4	a1	a1	4.7	1.6	.4	.5	.6
18	**.2	a.4	.5	64	2.3	a1	a1	*3,790	65	.4	.6	.6
19	a.2	**.4	.7	9.5	2.1	a1	a1	1,100	33	.5	.6	.6
20	.2	.4	.6	5.0	a2.1	a1	a1	79	3.3	.5	1,070	.6
21	.2	.4	.7	4.0	a2.0	a1	a1	28	1.5	.5	15	.6
22	3.2	.5	.6	3.6	2.0	a1	a1	18	.9	.5	9.5	.7
23	.8	.4	.5	3.0	1.9	a1	.7	14	.7	.5	8.9	.6
24	.5	.4	.6	3.0	1.7	a1	.6	12	.8	.6	7.5	.6
25	.5	.4	.6	2.6	1.8	a1	.6	7.1	.8	.6	6.4	.6
26	.5	.5	1.5	2.6	1.8	a1	*.6	7.8	.7	.6	3.2	.6
27	.5	.5	.7	2.4	1.7	a1	.6	7.1	.5	.5	1.5	.6
28	.5	.4	1.1	2.1	1.7	*.8	.6	6.7	.5	.5	.9	.6
29	.5	.4	.9	2.1	-	.8	.6	35	.5	.5	*.9	.6
30	.5	.4	1.0	2.1	-	.8	.6	42	.5	.5	1.0	.6
31	.5	------	.9	2.2	------	2.5	------	12	------	.5	1.0	------
Total	35.1	13.6	20.5	129.0	3,617.1	37.1	43.2	5,931.0	614.6	16.4	1,149.0	63.4
Mean	1.13	0.45	0.66	4.16	129	1.20	1.44	191	20.5	0.53	37.1	2.11
Ac-ft	70	27	41	256	7,170	74	86	11,760	1,220	33	2,280	126

Calendar year 1954: Max 486 Min 0.2 Mean 5.24 Ac-ft 3,800
Water year 1954-55: Max 3,790 Min 0.2 Mean 32.0 Ac-ft 23,140

Peak discharge (base 3,100 cfs).--Feb. 4 (2 p.m.) 10,200 cfs (26.84 ft); May 18 (8 a.m.) 10,800 cfs (27.18 ft); Aug. 20 (4 a.m.) 5,150 cfs (22.23 ft).

* Discharge measurement made on this day.

** Field estimate made on this day.

a No gage-height record; discharge interpolated or estimated on basis of weather records.

Lavaca River near Edna, Tex.

Location.--Lat 28°57'35", long 96°41'10", near center of span at upstream side of bridge on U. S. Highway 59, 550 ft upstream from Texas and New Orleans Railroad bridge, and 2.8 miles southwest of Edna, Jackson County.

Drainage area.--887 sq mi.

Records available.--August 1938 to September 1955.

Gage.--Wire-weight gage or staff gage read twice daily, oftener during floods. Datum of gage is 13.88 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to June 6, 1939, chain gage (property of Corps of Engineers) at same site and datum.

Average discharge.--17 years, 251 cfs (181,700 acre-feet per year).

Extremes.--Maximum discharge during year, 9,490 cfs May 21 (gage height, 23.30 ft); no flow Nov. 10, 11, 13.

1938-55: Maximum discharge, 73,000 cfs July 1, 1940 (gage height, 32.51 ft); minimum, that of Nov. 10, 11, 13, 1954.

Maximum stage known, 33.8 ft May 25, 1936 (discharge, 83,400 cfs), from information by local resident.

Remarks.--Records good. Diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	0.1	0.2	0.2	6.0	27	205	8.1	91	15	20	128
2	5.6	.1	.2	.2	6.4	25	149	6.4	75	13	11	71
3	2.2	.1	.2	.2	6.0	25	71	*6.4	67	15	5.0	74
4	.7	.4	.2	.8	24	23	51	6.0	63	20	5.0	46
5	.8	.1	.2	2.0	2,670	21	38	4.6	61	21	13	33
6	.8	.1	**.1	*1.8	6,430	21	29	9.0	538	18	6.0	31
7	.2	.1	.2	1.8	*7,100	18	26	6.0	766	15	5.0	34
8	.1	.1	.2	2.2	694	19	20	4.6	*226	15	5.0	29
9	.1	.1	.2	2.8	200	18	20	3.6	116	13	3.4	25
10	.1	0	.2	3.4	130	19	52	2.8	103	12	4.0	23
11	.1	0	.3	5.0	95	19	31	11	182	12	3.4	21
12	.1	.1	2.0	4.2	85	17	29	432	208	11	2.5	18
13	.1	0	.3	4.2	70	17	27	1,320	98	9.8	1.2	40
14	.2	.1	.2	4.0	66	17	20	226	67	8.5	2.2	45
15	.1	.1	.1	4.2	*52	15	18	116	59	8.1	5.3	27
16	.1	.2	.2	5.0	42	15	17	24	46	*8.5	33	343
17	.1	.2	.2	6.9	70	14	15	74	41	8.5	8.5	36
18	.1	.2	.2	18	70	14	15	686	35	6.9	4.0	24
19	**.1	.1	.1	60	51	14	14	3,950	34	5.0	.8	21
20	.1	.1	.1	18	42	14	13	7,720	58	5.0	11	95
21	.1	.1	.1	47	38	14	12	5,370	62	5.0	3,210	23
22	1.8	.1	.1	34	36	12	11	387	40	7.7	639	118
23	9.4	.2	.2	11	34	11	10	226	60	9.8	151	75
24	4.0	.2	.2	13	32	11	10	178	51	9.4	100	48
25	3.0	.2	.2	9.8	31	11	9.4	146	34	7.7	72	29
26	.4	.2	.6	8.5	29	10	9.4	126	29	5.6	54	22
27	.2	.2	.5	7.7	29	9.4	9.4	110	24	11	44	22
28	.2	.2	.5	7.3	29	9.4	9.0	98	21	23	39	22
29	.1	.3	.3	6.4	--	*9.4	9.4	92	20	33	29	14
30	.1	.3	.2	6.4	--	9.4	9.0	86	18	15	*86	12
31	.1	------	.3	5.6	------	9.4	------	97	------	11	108	------
Total	49.1	4.3	8.8	301.6	18,167.4	488.0	958.6	21,532.5	3,293	378.5	4,681.3	1,549
Mean	1.58	0.14	0.28	9.73	649	15.7	32.0	695	110	12.2	151	51.6
Ac-ft	97	8.5	17	598	36,030	968	1,900	42,710	6,530	751	9,290	3,070

Calendar year 1954: Max 1,040 Min 0 Mean 18.2 Ac-ft 13,210
Water year 1954-55: Max 7,720 Min 0 Mean 141 Ac-ft 102,000

Peak discharge (base, 4,100 cfs).--Feb. 7 (4 a.m.) 7,860 cfs (22.20 ft); May 21 (1 a.m.) 9,490 cfs (23.30 ft).

* Discharge measurement made on this day.

** Field estimate made on this day.

Navidad River near Ganado, Tex.

Location.--Lat 29°02', long 96°33', on left bank near upstream side of bridge on U. S. Highway 59, 100 ft upstream from Texas and New Orleans Railroad bridge, a quarter of a mile downstream from Sandy Creek, and 2¼ miles southwest of Ganado, Jackson County.

Drainage area.--1,116 sq mi.

Records available.--May 1939 to September 1955.

Gage.--Staff and wire-weight gages read twice daily, oftener during floods. Datum of gages is 13.62 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--16 years, 441 cfs (319,300 acre-ft per year).

Extremes.--Maximum discharge during year, 7,210 cfs Feb. 8 (gage height, 25.62 ft, from graph based on gage readings); minimum observed, 0.2 cfs Nov. 11-25, Dec. 7, 8.
1939-55: Maximum discharge, 64,500 cfs July 2, Nov. 26, 1940; maximum gage height, 36.54 ft July 2, 1940, from floodmark; minimum discharge observed, 0.2 cfs June 28, 1953, and July 26, 27, 1954, Nov. 11-25, Dec. 7, 8, 1954.
Maximum stage known since at least 1909, 39.8 ft May 27, 1936, from information by Texas and New Orleans Railroad (discharge, 94,000 cfs, from rating curve extended above 60,000 cfs).

Remarks.--Records good. Diversions for irrigation above station. Much of low flow during irrigation season, April to September, is drainage from rice fields irrigated by water diverted from the Colorado River by way of Sandy Creek. Below are discharge measurements of Sandy Creek made at mouth of creek and a quarter of a mile upstream from gaging station during water year.

Oct. 19.....	1.60	May 3.....	0.35
Dec. 6.....	.26	July 16.....	23.6
Jan. 6.....	.40	Aug. 30.....	44.4
Feb. 15.....	†21.8		

† Probably natural runoff.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 2 to Apr. 2, Apr. 8, 9, Apr. 18 to May 11, June 4, 5, June 20-25, June 27 to July 16, Aug. 26-30)

3.4	0	4.4	38	14.0	1,910
3.5	.3	5.0	90	16.0	2,480
3.6	.9	6.0	210	18.0	3,150
3.7	2.3	8.0	550	20.0	4,000
3.8	4.7	10.0	940	22.0	4,900
3.9	8.2	12.0	1,400	24.0	6,000
4.0	13				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	0.5	0.3	0.4	1.1	12	9.5	1.6	118	7.4	48	250
2	7.8	.4	.3	.4	1.1	9.8	19	1.2	45	6.6	68	660
3	26	.3	.3	.4	.9	6.6	247	*.9	30	6.3	95	346
4	22	.4	.3	.4	9.9	4.4	58	.9	21	16	110	190
5	20	.4	.3	.4	1,330	7.8	27	.7	18	29	140	122
6	17	.5	*.3	*.4	4,900	7.0	18	.7	52	21	128	99
7	16	.8	.2	.4	*6,700	6.6	11	.7	909	19	90	112
8	11	1.2	.2	.4	6,560	5.6	8.2	.7	*1,700	14	66	108
9	3.8	.7	.3	.5	1,880	5.6	7.4	.8	694	9.8	53	98
10	1.4	.4	.3	8.3	456	5.3	117	1.6	357	15	40	87
11	1.0	.2	.4	12	210	6.0	127	15	388	12	35	73
12	.8	.2	.4	2.0	134	7.0	58	882	502	12	29	99
13	.5	.2	1.2	.7	88	6.3	33	1,070	176	11	40	958
14	.5	.2	.6	.5	65	5.3	25	682	89	12	50	1,420
15	.3	.2	.4	.4	*50	5.0	21	225	65	13	85	1,050
16	.4	.2	.3	.4	176	5.3	20	96	47	*22	80	660
17	1.1	.2	.3	.4	326	4.7	14	47	40	30	69	478
18	1.6	.2	.3	50	140	4.1	7.8	760	40	27	61	301
19	*1.5	.2	.3	123	59	4.1	6.0	3,150	31	29	48	231
20	1.0	.2	.3	97	38	4.7	3.6	5,250	25	29	63	175
21	.6	.2	.3	51	28	4.7	3.3	4,440	22	34	476	231
22	14	.2	.3	37	19	4.1	2.5	1,250	22	34	689	197
23	222	.2	.3	23	16	4.4	2.5	372	19	35	162	161
24	147	.2	.3	8.8	16	4.4	2.3	190	20	40	134	123
25	101	.2	.3	5.6	14	3.8	2.1	116	23	56	90	95
26	55	.3	.4	3.1	13	3.3	1.9	60	25	40	64	83
27	28	.3	.4	1.8	13	4.4	1.9	35	20	30	46	73
28	15	.3	.5	1.4	16	3.8	2.5	30	17	24	46	66
29	9.4	.3	.4	1.4	-	*3.6	3.8	28	13	31	59	53
30	4.4	.3	.4	1.1	------	3.8	2.3	25	11	25	*49	45
31	1.2	------	.4	1.1	------	3.3	------	469	------	37	106	------
Total	738.7	10.1	11.3	433.7	23,260.0	166.8	862.6	19,201.8	5,539	727.1	3,319	8,644
Mean	23.8	0.34	0.36	14.0	831	5.38	28.8	619	185	23.5	107	288
Ac-ft	1,470	20	22	860	46,140	331	1,710	38,090	10,990	1,440	6,580	17,150

Calendar year 1954: Max 898 Min 0.2 Mean 19.1 Ac-ft 13,790
Water year 1954-55: Max 6,700 Min 0.2 Mean 172 Ac-ft 124,800

Peak discharge (base, 6,600 cfs).--Feb. 8 (1 a.m.) 7,210 cfs (25.62 ft).
* Discharge measurement made on this day.

Guadalupe River at Comfort, Tex.

Location.--Lat 29°58', long 98°54', on left bank at downstream side of pier of bridge on U. S. Highway 87, a quarter of a mile downstream from Cypress Creek, half a mile east of Comfort, Kendall County, and at mile 397.

Drainage area.--836 sq mi.

Records available.--December 1917 to September 1932, May 1939 to September 1955. Published as "near Comfort" December 1917 to September 1932 (records equivalent except during periods of intense local storms).

Gage.--Water-stage recorder. Datum of gage is 1,372.03 ft above mean sea level, datum of 1929. Dec. 16, 1917, to Aug. 10, 1924, and Aug. 11, 1924, to Sept. 30, 1932, staff gages at sites 5 and 4 miles, respectively, upstream at different datum.

Average discharge.--26 years (1922-32, 1939-55), 132 cfs (95,560 acre-ft per year).

Extremes.--Maximum discharge during year, 9,030 cfs July 17 (gage height, 15.58 ft); no flow Oct. 1-8.

1917-32, 1939-55: Maximum discharge, 182,000 cfs July 1, 1932 (gage height, 38.4 ft, present site and datum, from floodmarks, from data furnished by Texas Highway Department), from rating curve extended above 13,000 cfs on basis of slope-area determination of peak flow (flood originated above Cypress Creek); no flow at times 1952-55.

Maximum stage since at least 1848, that of July 1, 1932; flood of July 16, 1900, reached about same stage, from information by local residents.

Remarks.--Records fair. Small diversions above station for irrigation. Slight regulation at low flow by powerplants upstream.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 13, 20, Sept. 24-30)

Oct. 1 to Mar. 28, Apr. 29 to Sept. 30				Mar. 29 to Apr. 28	
1.6	0	3.0	95	4.5	1.4
1.7	0.1	3.5	180	4.6	8.0
1.8	.4	4.0	290	4.7	19
1.9	1.2	5.0	570	4.8	32
2.0	4.0	6.0	870		
2.2	14	8.0	1,550		
2.6	44	10.0	2,450		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	54	36	24	30	38	16	4.4	17	2.0	20	2.0
2	0	42	*26	23	31	55	14	4.4	14	1.1	18	1.8
3	0	35	22	24	107	42	13	4.4	12	1.0	17	1.8
4	0	*32	21	23	150	33	17	6.0	12	1.2	16	2.8
5	0	*30	20	23	67	31	16	5.2	12	.9	18	2.8
6	0	28	20	24	76	29	16	5.2	12	.5	23	2.5
7	*0	26	19	30	63	26	16	480	*10	.3	22	2.0
8	0	24	18	25	53	24	17	288	8.0	.2	20	2.2
9	3.2	35	16	27	48	26	16	70	6.5	.1	17	2.5
10	22	35	16	30	43	22	18	47	6.5	.1	17	2.8
11	24	35	16	31	39	14	21	107	8.5	.1	23	2.8
12	24	41	16	31	34	10	21	63	12	.1	58	6.2
13	21	37	18	*33	33	7.0	21	*513	12	.1	34	6.5
14	17	32	17	33	33	3.6	19	*59	12	2.7	31	4.4
15	15	30	16	32	31	5.2	18	50	10	4.8	31	3.6
16	12	27	17	34	30	14	18	47	7.5	1.4	30	2.8
17	12	26	17	45	30	14	16	55	6.5	*2,140	27	3.2
18	12	24	17	162	30	15	14	72	5.6	*1,330	22	3.6
19	12	22	17	80	31	16	11	828	4.8	171	96	3.2
20	10	21	19	71	31	29	10	*280	61	207	24	2.8
21	9.5	21	18	61	*29	20	9.0	133	37	144	16	2.2
22	9.0	20	17	51	27	42	7.0	92	11	75	15	2.0
23	5.2	20	17	45	27	*32	8.0	72	20	61	*15	20
24	2.5	20	21	40	26	28	7.0	54	16	47	15	280
25	*1.6	20	23	35	26	26	7.0	42	12	37	12	51
26	2.2	20	24	32	26	22	7.0	25	12	33	10	35
27	110	20	24	30	26	22	7.0	18	10	31	9.5	67
28	538	20	24	28	28	20	*6.2	20	8.5	27	8.5	38
29	188	20	23	28	-	17	5.2	20	5.6	26	103	31
30	110	22	23	28	------	17	5.2	30	4.0	24	22	26
31	72	------	23	27	------	16	------	21	------	22	3.2	------
Total	1,232.2	839	621	1,210	1,205	715.8	396.6	3,515.6	386.0	4,391.6	793.2	614.5
Mean	39.7	28.0	20.0	39.0	43.0	23.1	13.2	113	12.9	142	25.6	20.5
Ac-ft	2,440	1,660	1,230	2,400	2,390	1,420	787	6,970	766	8,710	1,570	1,220

Calendar year 1954: Max 1,330 Min 0 Mean 26.5 Ac-ft 19,200
Water year 1954-55: Max 2,140 Min 0 Mean 43.6 Ac-ft 31,560

Peak discharge (base, 3,900 cfs).--July 17 (6:30 a.m.) 9,030 cfs (15.58 ft).
* Discharge measurement or observation of no flow made on this day.
Note.--No recorder Mar. 29 to Apr. 28; discharge computed from once-daily readings of, and rating developed for, reference staff gage 220 ft upstream at different datum.

Guadalupe River near Spring Branch, Tex.

Location.--Lat 29°51'40", long 98°23'00", on right bank at downstream side of pier of bridge on county highway, 4 miles southeast of Spring Branch, Comal County, 6 miles downstream from Curry Creek, and at mile 334.

Drainage area.--1,282 sq mi.

Records available.--June 1922 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 948.13 ft above mean sea level, datum of 1929.

Average discharge.--33 years, 250 cfs (181,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,310 cfs July 18 (gage height, 9.93 ft); no flow at times.

1922-55: Maximum discharge, 121,000 cfs July 3, 1932 (gage height, 42.10 ft), from rating curve extended above 70,000 cfs by logarithmic plotting; no flow at times in 1951-52, 1954-55.

Maximum stage known since at least 1859, about 53 ft in 1869; flood of July 1900 reached a stage of about 49 ft, from information by local resident.

Remarks.--Records good. Small diversions above station for irrigation. Slight regulation by powerplants upstream.

Revisions.--WSP 1342: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Nov. 3 to Dec. 20)

1.1	0	2.2	50
1.3	.3	2.4	88
1.4	.7	2.7	170
1.5	1.7	3.0	275
1.6	3.3	3.5	480
1.7	5.9	4.0	720
1.8	9.8	5.0	1,320
1.9	15	6.0	2,000
2.0	23	7.0	2,770

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	59	17	25	34	32	25	5.6	23	12	21	41
2	0	42	*18	25	34	32	23	5.4	22	9.4	18	23
3	0	32	18	25	33	32	22	5.4	21	5.9	18	15
4	0	26	25	25	272	42	22	5.1	20	4.6	18	12
5	.1	22	23	26	560	47	21	4.4	20	2.7	14	8.2
6	*0	18	20	27	171	39	20	3.2	17	1.5	13	5.9
7	177	17	20	27	111	34	18	2.8	*15	.6	10	4.4
8	146	16	18	27	84	33	16	97	14	.4	7.5	3.2
9	40	16	17	28	70	33	18	287	12	.3	7.5	2.5
10	37	16	17	36	61	34	19	*128	12	.2	12	2.0
11	20	16	19	31	52	34	20	97	10	.2	16	1.7
12	13	18	20	30	48	31	*20	88	8	0	43	1.5
13	7.9	17	18	*30	45	31	19	95	6	.9	419	1.4
14	3.8	18	17	30	44	*26	18	424	5	.3	108	1.7
15	1.6	21	16	31	42	23	18	128	4	0	48	2.2
16	.6	21	17	31	42	22	18	74	123	0	33	2.0
17	.2	21	18	32	*39	18	18	184	102	15	28	3.1
18	0	18	18	45	37	18	18	369	30	*2,190	28	4.6
19	0	15	17	88	37	16	17	347	17	874	26	6.3
20	0	15	17	90	36	20	15	872	13	244	24	4.6
21	0	15	18	70	33	23	14	351	300	180	55	3.2
22	0	15	18	61	33	22	13	184	174	226	34	3.2
23	0	14	18	55	33	27	13	120	59	109	*23	3.0
24	0	14	19	50	33	26	12	86	32	90	19	2.8
25	0	14	20	47	32	34	9.0	72	22	90	15	76
26	0	14	21	45	32	32	*8.2	55	18	59	13	74
27	0	14	21	44	32	30	7.5	45	20	48	12	44
28	0	15	22	37	*32	28	7.5	39	18	37	12	30
29	143	15	22	36	-	*27	7.1	34	15	34	9.8	44
30	164	15	23	36	------	26	6.3	30	12	26	24	37
31	93	------	24	34	------	26	------	25	------	23	44	------
Total	847.2	589	596	1,224	2,112	898	482.6	4,262.9	1,164	4,284.0	1,172.8	463.5
Mean	27.3	19.6	19.2	39.5	75.4	29.0	16.1	138	38.8	138	37.8	15.4
Ac-ft	1,680	1,170	1,180	2,430	4,190	1,780	957	8,460	2,310	8,500	2,330	919

Calendar year 1954: Max 1,260 Min 0 Mean 30.6 Ac-ft 22,170
Water year 1954-55: Max 2,190 Min 0 Mean 49.6 Ac-ft 35,910

Peak discharge (base, 4,000 cfs).--July 18 (2 a.m.) 5,310 cfs (9.93 ft).
* Discharge measurement made on this day.

Guadalupe River above Comal River, at New Braunfels, Tex.

Location.--Lat 29°42'55", long 98°06'40", on right bank at New Braunfels, Comal County, 1.1 miles upstream from Comal River and at mile 281.

Drainage area.--1,516 sq mi.

Records available.--December 1927 to September 1955. March 1898 to December 1899, January 1915 to December 1927, at site 1 mile downstream from Comal River, published as "at New Braunfels"; records not equivalent owing to inflow of Comal River.

Gage.--Water-stage recorder and concrete control. Datum of gage is 586.65 ft above mean sea level, datum of 1929.

Average discharge.--27 years (1928-55), 345 cfs (249,800 acre-ft per year).

Extremes.--Maximum discharge during year, 2,060 cfs July 19 (gage height, 3.95 ft); minimum, 5.3 cfs Oct. 1.
1927-55: Maximum discharge, 101,000 cfs June 15, 1935 (gage height, 32.95 ft); minimum, 2.2 cfs Sept. 27-29, 1954.
Maximum stage known, 38 ft sometime in 1869 and in December 1913, from information by local residents.

Remarks.--Records good. Small diversions above station for irrigation. Some regulation at low flow by small powerplants upstream.

Revisions (water years).--WSP 898: 1935. WSP 1342: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.0	3.0	1.9	94
1.1	6.4	2.1	164
1.2	12	2.5	408
1.4	28	3.0	860
1.7	62	4.0	2,130

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0	6.9	24	21	38	37	30	11	42	19	37	23
2	6.0	61	24	22	36	*37	30	10	38	18	31	16
3	6.0	62	24	23	36	37	27	8.3	32	18	29	13
4	6.0	54	23	24	45	37	27	8.3	29	15	25	15
5	*7.4	45	22	24	142	38	27	7.8	32	14	23	19
6	7.8	40	21	24	423	38	27	7.8	79	13	21	21
7	7.4	37	22	23	196	39	26	7.8	72	11	19	20
8	8.3	35	23	23	117	57	25	7.8	44	11	18	17
9	16	35	24	24	97	52	26	7.4	33	9.4	16	14
10	16	34	24	*29	83	48	27	*7.4	*40	8.8	15	13
11	44	31	24	29	69	46	27	87	47	8.8	14	15
12	33	29	24	26	58	44	26	124	37	8.3	22	25
13	29	27	24	24	52	39	*23	87	30	7.8	56	16
14	26	26	24	25	50	39	21	77	25	11	178	14
15	22	26	23	27	47	*39	21	243	22	161	160	11
16	18	26	23	28	46	38	20	155	20	27	87	8.8
17	16	26	23	29	45	37	20	382	18	14	57	8.3
18	13	26	22	42	*42	36	19	217	16	196	44	7.8
19	12	26	21	45	41	35	18	600	29	1,200	34	7.4
20	12	26	18	36	44	34	18	437	53	*630	29	7.4
21	11	26	19	35	41	36	18	632	39	259	28	6.9
22	10	26	20	79	38	34	18	334	33	160	25	6.4
23	9.4	26	21	69	38	27	17	201	201	206	23	6.0
24	8.8	26	21	61	38	26	16	142	102	142	24	6.4
25	8.3	24	21	53	37	25	15	107	66	102	34	6.0
26	8.3	24	22	49	37	24	13	89	50	97	*27	6.0
27	7.8	24	22	48	37	24	*11	74	38	87	23	6.0
28	7.8	24	22	46	37	25	13	62	30	62	19	6.0
29	7.4	*24	21	44	-	27	12	57	24	57	17	6.0
30	7.4	24	21	41	---	*28	12	65	20	46	17	13
31	6.9	------	21	*40	------	29	------	49	------	40	20	------
Total	405.0	926.9	688	1,113	2,010	1,112	630	4,304.6	1,341	3,659.1	1,172	360.4
Mean	13.1	30.9	22.2	35.9	71.8	35.9	21.0	139	44.7	118	37.8	12.0
Ac-ft	803	1,840	1,360	2,210	3,990	2,210	1,250	8,540	2,660	7,260	2,320	715

Calendar year 1954: Max 613 Min 2.2 Mean 39.9 Ac-ft 28,900
Water year 1954-55: Max 1,200 Min 6.0 Mean 48.6 Ac-ft 35,160

Peak discharge (base, 3,100 cfs).--No peak above base.
* Discharge measurement made on this day.

Comal River at New Braunfels, Tex.

Location.--Lat 29°42'05", long 98°07'10", on right bank 200 ft upstream from San Antonio Street viaduct in New Braunfels, Comal County, and 1.1 miles upstream from mouth.

Drainage area.--117 sq mi. Normal flow of river comes from springs, drainage area of stream not applicable.

Records available.--1882 to September 1955 (1882 to November 1927, discharge measurements only).

Gage.--Water-stage recorder. Datum of gage is 582.80 ft above mean sea level, datum of 1929.

Average discharge.--23 years (1932-55), 300 cfs (217,200 acre-ft per year).

Extremes.--Maximum discharge during year, 590 cfs June 6 (gage height, 3.63 ft); minimum daily, 41 cfs Aug. 30.
1927-55: Maximum discharge, 35,000 cfs Sept. 11, 1952 (gage height, 36.14 ft, from floodmark), from rating curve extended above 1,600 cfs on basis of slope-area determinations at gage heights 14.87 and 36.14 ft; minimum daily, that of Aug. 30, 1955.
Maximum stage known since at least 1869, 37.65 ft Oct. 17, 1870, gage datum, from floodmark about half a mile downstream (probably some backwater from Guadalupe River).

Remarks.--Records good. Diurnal fluctuations from steam powerplant half a mile upstream. Entire flow of river from Comal Springs, about 1 mile upstream, except during periods of local rain. Springs emerge from the Edwards limestone in the Balcones fault zone.

Rating table, water year 1954-55, except period of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 14 to Sept. 15)

1.8	41
1.9	63
2.0	86
2.1	110
2.4	188

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	115	125	135	140	140	125	86	100	*65	65	54
2	93	115	125	135	140	140	122	84	98	65	61	59
3	96	115	128	135	140	140	122	79	96	65	69	56
4	*100	118	125	135	143	138	120	79	93	70	59	59
5	103	118	125	135	153	135	118	77	103	70	61	59
6	108	118	128	135	161	132	118	79	186	65	54	54
7	*110	120	128	135	143	132	118	79	105	63	59	54
8	112	120	128	135	143	132	118	81	98	63	*61	54
9	112	120	128	135	143	132	115	84	98	56	50	54
10	112	120	128	*135	143	132	115	79	*108	61	48	48
11	*115	122	130	135	143	130	115	88	100	63	45	70
12	118	122	130	135	143	130	115	86	103	59	52	59
13	115	125	130	135	145	130	115	93	105	61	54	54
14	115	125	130	135	145	130	112	91	100	77	57	54
15	112	125	130	135	145	130	112	93	96	86	59	*54
16	115	128	130	135	145	128	105	96	91	74	56	52
17	115	128	130	140	145	128	105	112	91	74	55	49
18	115	130	130	138	*143	128	105	128	88	74	56	50
19	115	130	130	138	143	128	100	168	86	72	*61	50
20	112	130	130	138	143	128	98	115	86	*88	59	49
21	112	130	130	140	143	*128	98	110	84	74	63	50
22	110	130	130	140	143	125	98	110	86	70	65	53
23	110	130	130	140	143	125	93	112	84	68	59	*54
24	112	125	130	140	*143	125	93	108	81	70	56	63
25	112	125	132	138	143	122	*93	105	79	68	50	61
26	112	128	132	138	143	122	91	105	77	63	*50	63
27	112	128	132	140	143	122	88	103	74	65	45	63
28	118	128	132	138	143	122	*88	103	68	63	45	*64
29	115	*128	132	138	-	122	86	100	68	63	48	64
30	115	128	132	140	------	125	81	103	68	61	*41	62
31	115	------	132	138	------	125	------	103	------	63	45	------
Total	3,424	3,724	4,012	4,244	4,033	4,006	3,182	3,039	2,800	2,099	1,708	1,689
Mean	110	124	129	137	144	129	106	98.0	93.3	67.7	55.1	56.3
Ac-ft	6,790	7,390	7,960	8,420	8,000	7,950	6,310	6,030	5,550	4,160	3,390	3,350

Calendar year 1954: Max 210 Min 72 Mean 136 Ac-ft 98,360
Water year 1954-55: Max 186 Min 41 Mean 104 Ac-ft 75,300

Peak discharge (base, 1,100 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage-discharge relation indefinite Sept. 16-30; discharge estimated on basis of 3 discharge measurements.

Blanco River at Wimberley, Tex.

Location.--Lat 29°59', long 98°04', on left bank 800 ft downstream from Cypress Creek, 1,200 ft upstream from bridge on State Highway 12, and a quarter of a mile south of Wimberley, Hays County.

Drainage area.--364 sq mi.

Records available.--August 1924 to September 1926, June 1928 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 802.23 ft above mean sea level, datum of 1929. Aug. 6, 1924, to Sept. 30, 1926, inclined and vertical staff gage at site 30 ft upstream at same datum.

Average discharge.--29 years (1924-26, 1928-55), 98.1 cfs (71,020 acre-ft per year).

Extremes.--Maximum discharge during year, 4,800 cfs May 17 (gage height, 5.70 ft); minimum, 5.1 cfs Aug. 10.

1924-26, 1928-55: Maximum discharge, 113,000 cfs May 28, 1929 (gage height, 31.10 ft, from floodmarks), from rating curve extended above 30,000 cfs on basis of slope-area determinations at 30.1 and 31.10 ft; minimum, 2.9 cfs Oct. 5,6, 1940.

Maximum stage known since at least 1869, that of May 28, 1929, from information by local residents.

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

Revisions.--WSP 1282: Drainage area.

Rating table, water year 1954-55 (gage height in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 15-20)

0.26	6.7	0.9	145
.3	11	1.2	250
.4	26	1.5	380
.5	46	2.0	660
.7	90	2.5	1,050

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	6.7	8.6	11	11	a10	14	6.7	18	11	8.6	8.6
2	8.6	6.7	8.6	9.8	11	a10	9.8	6.7	15	9.8	8.6	7.6
3	7.6	6.7	8.6	11	12	a10	7.6	6.7	15	8.6	8.6	7.6
4	7.6	6.7	8.6	11	16	a10	7.6	6.7	15	8.6	8.6	7.6
5	14	6.7	8.6	9.8	28	a10	7.6	6.7	21	8.6	7.6	8.6
6	8.6	6.7	8.6	9.8	25	a10	7.6	6.7	82	8.6	7.6	7.6
7	31	6.7	*9.8	9.8	32	a10	7.6	6.7	23	8.6	6.7	7.6
8	*64	6.7	9.8	9.8	28	a10	8.6	6.7	13	8.6	6.7	7.6
9	18	12	8.6	11	25	9.8	9.8	6.7	18	8.6	6.7	7.6
10	12	12	9.8	14	20	9.8	9.8	6.7	30	8.6	6.7	7.6
11	11	6.7	9.8	11	15	9.8	9.8	11	20	8.6	13	8.6
12	9.8	7.6	11	9.8	14	9.8	9.8	42	16	8.6	21	8.6
13	a9	7.6	9.8	9.8	12	9.8	8.6	14	*15	9.8	20	8.6
14	a8	7.6	9.8	9.8	12	9.8	8.6	11	15	8.6	16	8.6
15	a7	6.7	9.8	11	12	*9.8	7.6	264	15	8.6	11	7.8
16	a7	6.7	9.8	11	12	9.8	7.6	80	14	11	11	7.6
17	a7	6.7	9.8	12	11	9.8	7.6	*1,020	14	15	9.8	6.7
18	a7	7.6	8.6	21	11	9.8	7.6	171	14	14	11	6.7
19	a7	6.7	8.6	15	12	9.8	7.6	639	12	12	11	6.7
20	6.7	7.6	8.6	12	14	11	7.6	186	12	12	11	6.7
21	6.7	8.6	11	11	11	12	7.6	69	12	*11	9.8	6.7
22	6.7	8.6	9.8	11	*11	8.6	7.6	46	14	9.8	*9.8	6.7
23	6.7	8.6	9.8	11	11	7.6	7.6	36	14	9.8	9.8	6.7
24	6.7	8.6	9.8	11	a10	7.6	6.7	30	12	11	8.6	7.6
25	6.7	8.6	11	11	a10	7.6	*7.6	26	11	11	8.6	7.6
26	6.7	8.6	11	11	a10	7.6	7.6	23	11	9.8	8.6	6.7
27	9.8	8.6	11	*11	a10	7.6	8.6	21	11	9.8	7.6	7.6
28	8.6	8.6	11	12	a10	7.6	8.6	16	12	8.6	7.6	7.6
29	6.7	8.6	11	12	-	7.6	8.6	46	11	8.6	8.6	7.6
30	6.7	8.6	9.8	12	- - -	7.6	8.6	21	11	8.6	7.6	6.7
31	6.7	- - - - -	9.8	12	- - - - -	7.6	- - - - -	21	- - - - -	8.6	9.8	- - - - -
Total	337.2	235.1	300.2	354.4	416	287.8	251.5	2,860.0	521	304.4	307.6	225.9
Mean	10.9	7.84	9.68	11.4	14.9	9.28	8.38	92.3	17.4	9.82	9.92	7.53
Ac-ft	669	466	595	703	825	571	499	5,670	1,030	604	610	448

Calendar year 1954: Max 64 Min 5.1 Mean 17.9 Ac-ft 12,940
Water year 1954-55: Max 1,020 Min 6.7 Mean 17.5 Ac-ft 12,690

Peak discharge (base, 1,800 cfs).--May 17 (11:30 a.m.) 4,800 cfs (5.70 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage and weather records.

San Marcos River at Luling Tex.

Location.--Lat 29°39'55", long 97°39'05", on left bank 390 ft downstream from bridge on State Highway 80, 1 mile south of Luling, Caldwell County, and 8 miles upstream from Plum Creek.

Drainage area.--833 sq mi.

Records available.--April 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 322.05 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 299 cfs (216,500 acre-ft per year).

Extremes.--Maximum discharge during year, 4,020 cfs May 19 (gage height, 21.73 ft); minimum daily, 55 cfs Sept 25.
1939-55: Maximum discharge, 57,000 cfs Sept. 12, 1952 (gage height, 34.95 ft); minimum daily, 43 cfs Aug. 12, 1951.
Maximum stage known, 40.4 ft in 1869 or 1870, from information by State Highway Department.

Remarks.--Records good. Regulation by powerplant 800 ft upstream. Base flow is mostly from large springs near San Marcos. No large diversion above station.

Revisions (water years).--WSP 958: 1940.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 8 to Mar 8, May 16 to 21, June 5-7, 9, 10

2.7	55	10.0	950
3.0	88	14.0	1,670
4.0	198	18.0	2,640
6.0	430		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	78	84	86	69	102	100	72	102	84	77	87
2	73	74	82	87	70	100	111	85	90	79	79	72
3	62	70	96	85	70	97	106	*77	90	85	76	73
4	77	76	81	84	88	103	111	79	94	82	77	59
5	75	78	88	84	676	99	116	80	113	88	76	76
6	81	77	88	76	822	95	116	80	*1,400	81	78	72
7	74	73	77	77	217	96	110	75	*325	82	74	74
8	73	73	86	70	135	92	104	77	142	79	74	70
9	73	75	81	72	123	95	101	79	365	76	73	68
10	67	79	90	*85	118	95	101	74	378	86	74	76
11	70	82	81	79	116	102	109	76	187	85	75	60
12	70	78	92	74	114	98	98	81	117	85	85	79
13	72	76	92	81	111	99	94	72	107	77	94	84
14	70	72	88	80	*110	101	87	77	107	90	88	72
15	70	78	80	78	112	97	89	66	99	*79	79	59
16	66	81	80	79	112	103	88	165	102	78	80	80
17	56	77	81	81	110	94	84	864	104	70	72	72
18	*75	79	82	121	109	96	87	754	99	79	82	58
19	70	*79	78	94	110	88	87	2,280	103	80	94	80
20	70	77	77	77	112	92	87	1,150	101	86	79	73
21	72	79	77	73	110	108	79	442	98	98	78	68
22	72	79	79	70	108	97	89	242	107	97	78	67
23	75	80	79	72	104	91	78	176	85	80	79	65
24	64	79	81	72	106	95	78	147	85	80	78	72
25	78	74	74	74	106	91	80	144	90	81	76	55
26	69	74	81	73	106	88	76	124	90	80	76	77
27	70	74	86	75	104	85	80	120	85	73	75	69
28	72	84	76	72	106	*90	79	101	86	80	63	66
29	69	74	77	73	-	85	80	187	80	73	*91	64
30	73	73	73	68	- - -	99	77	113	97	68	78	64
31	60	- - - - -	79	73	- - - - -	94	- - - - -	90	- - - - -	70	80	- - - - -
Total	2,186	2,304	2,546	2,445	4,354	2,967	2,782	8,249	5,128	2,511	2,444	2,111
Mean	70.5	76.8	82.1	78.9	155	95.7	92.7	266	171	81.0	78.8	70.4
Ac-ft	4,340	4,570	5,050	4,850	8,640	5,880	5,520	16,360	10,170	4,980	4,850	4,190

Calendar year 1954: Max 2,620 Min 56 Mean 115 Ac-ft 83,000
Water year 1954-55: Max 2,280 Min 55 Mean 110 Ac-ft 79,400

Peak discharge (base, 2,900 cfs).--May 19 (9:30 p.m.) 4,020 cfs (21.73 ft).
* Discharge measurement made on this day.

Plum Creek near Luling, Tex.

Location.--Lat 29°42', long 97°37', near left bank on downstream side of pier of bridge on country road, 1 mile downstream from West Fork Plum Creek, 2 miles upstream from Texas and New Orleans Railroad bridge, and 3 miles northeast of Luling, Caldwell County.

Drainage area.--356 sq mi.

Records available.--March 1930 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 326.57 ft above mean sea level, datum of 1929.

Average discharge.--25 years, 87.8 cfs (63,560 acre-feet per year).

Extremes.--Maximum discharge during year, 1,360 cfs May 19 (gage height, 11.78 ft); no flow at times.
1930-55: Maximum discharge, 78,500 cfs July 1, 1936 (gage height, 25.7 ft, from floodmarks), from rating curve extended above 54,000 cfs; no flow at times.
Maximum stage known, that of July 1, 1936; flood in December 1913 reached about same stage, from information by local residents.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Slight regulation at low flow by oilfield operation above station. No diversion above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0	0.2	0.7	0.7	2.2	383	0.3	0.6	0	0	0
2	.2	0	.5	.7	.7	2.2	233	.2	.1	0	0	0
3	.2	0	1.1	.7	.8	2.2	26	*.3	0	0	0	0
4	.3	.1	1.0	.7	1.8	2.2	9.7	.3	0	0	0	0
5	1.5	.1	.8	.7	184	2.2	5.9	.4	23	0	0	0
6	3.8	.1	.7	.7	796	2.2	4.2	.4	*465	0	0	0
7	2.0	.1	.7	.7	287	2.0	2.8	.3	*179	0	0	0
8	2.0	.3	.3	.7	18	1.8	2.3	.3	32	0	0	0
9	1.5	.4	.2	.7	7.2	1.7	2.3	.3	164	0	0	0
10	1.2	.5	.3	*.8	4.5	1.7	2.6	.3	107	0	0	0
11	1.0	.5	.6	.8	3.1	1.7	2.8	.2	70	0	0	0
12	.9	.4	.8	.8	2.6	1.8	3.5	.5	12	.1	.3	0
13	.7	.4	.8	.8	2.5	1.8	2.6	1.4	1.5	.1	119	0
14	.7	.5	.8	.8	*2.5	1.8	2.3	1.4	.4	.1	8.4	0
15	.2	.4	.7	.8	2.5	1.7	2.3	1.0	.1	.1	.4	0
16	.1	.3	.5	.9	2.5	1.5	2.2	.7	0	**.1	0	0
17	0	.2	.4	1.0	2.5	1.5	2.2	71	0	.1	0	0
18	*0	.2	.5	3.1	2.5	1.5	2.0	178	0	0	0	0
19	0	**.2	.6	5.2	2.3	1.5	1.8	949	0	0	0	0
20	0	.2	.6	1.8	2.3	1.7	1.8	796	0	.3	2.1	0
21	0	.2	.5	1.2	3.1	2.2	1.7	43	0	.3	7.0	0
22	0	.1	.4	1.0	2.8	2.5	1.5	13	0	.4	.1	0
23	0	.1	.4	.9	2.6	4.2	1.5	4.8	0	.4	0	0
24	0	.1	.4	.8	2.3	2.2	1.2	2.3	0	.2	0	0
25	0	.1	.5	.7	2.2	1.7	1.1	1.0	0	.1	0	18
26	0	.1	.7	.7	2.2	1.1	1.1	.6	0	.6	0	1.5
27	0	.1	.8	.7	2.2	1.0	1.0	.2	0	.5	0	.1
28	0	.1	.8	.6	2.2	*1.0	1.0	.1	0	.2	0	.1
29	0	.1	.7	.6	-	1.0	.6	14	0	.1	*0	0
30	0	.2	.7	.7	-----	1.2	.4	12	0	.1	0	0
31	0	----	.7	.7	------	1.5	----	2.6	------	.1	0	------
Total	16.5	6.1	18.7	31.7	1,345.6	56.5	706.4	2,095.9	1,054.7	3.9	137.3	19.7
Mean	0.53	0.20	0.60	1.02	48.1	1.82	23.5	67.6	35.2	0.13	4.43	0.66
Ac-ft	33	12	37	63	2,670	112	1,400	4,160	2,090	7.7	272	39

Calendar year 1954: Max 648 Min 0 Mean 4.87 Ac-ft 3,530
Water year 1954-55: Max 949 Min 0 Mean 15.0 Ac-ft 10,900

Peak discharge (base, 2,600 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
Note.--No gage-height record June 17 to July 15; discharge estimated on basis of weather records.

Guadalupe River at Victoria, Tex.

Location.--Lat 28°47', long 97°01', on left bank just upstream from pier of bridge on U. S. Highway 59 in Victoria, Victoria County, 1,300 ft upstream from Texas and New Orleans Railroad bridge, 10 miles upstream from Coleto Creek, and at mile 51.

Drainage area.--5,161 sq mi.

Records available.--November 1934 to September 1955. Gage-height records collected in this vicinity since 1904 are contained in reports of U. S. Weather Bureau.

Gage.--Water-stage recorder. Datum of gage is 29.15 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Average discharge.--20 years (1935-55), 1,507 cfs (1,091,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,950 cfs May 22 (gage height, 14.83 ft); minimum daily, 76 cfs Dec. 21.
1934-55: Maximum discharge, 179,000 cfs July 3, 1936 (gage height, 31.22 ft); minimum daily, 68 cfs Aug. 13, 1954.
Maximum stage known, that of July 3, 1936.

Remarks.--Records good. Many small diversions above station do not materially affect flow. Some regulation by powerplants above station. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Revision.--WSP 1342: Drainage area.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 22 to Feb. 5, Apr. 26 to May 18, July 1-20)

Oct. 1 to Dec. 21		Dec. 22 to Sept. 30			
1.7	74	1.7	92	5.0	866
2.0	127	2.0	139	7.0	1,550
2.5	230	2.5	208	11.0	3,130
3.0	345	3.0	293	15.0	5,050
3.6	496	4.0	555		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	146	186	169	274	274	231	145	555	194	168	208
2	127	140	215	303	265	324	827	167	510	181	158	396
3	112	116	207	216	248	324	677	106	357	168	146	334
4	108	116	211	248	265	248	811	*95	256	168	146	231
5	96	150	230	201	3,280	324	596	98	231	168	140	188
6	98	165	207	284	3,090	265	357	106	712	152	231	181
7	105	244	*207	248	3,870	256	313	116	2,190	154	313	168
8	114	211	205	248	3,870	293	256	128	*3,210	160	223	161
9	98	220	248	231	3,450	265	293	106	3,960	160	174	157
10	116	196	196	239	1,430	223	313	111	1,800	126	161	157
11	129	228	228	*284	630	274	231	134	1,370	145	158	150
12	112	288	217	231	534	274	231	158	1,620	148	148	157
13	106	258	217	223	480	265	256	291	1,550	127	248	174
14	112	264	267	256	334	248	223	239	767	144	208	174
15	98	248	288	239	*346	256	256	162	510	*208	174	142
16	96	288	370	162	370	256	248	174	314	181	168	126
17	84	228	483	201	370	274	208	188	324	139	208	127
18	96	203	470	293	370	265	194	632	313	124	174	121
19	*91	159	345	223	382	231	188	1,370	231	144	168	121
20	91	213	144	313	303	248	181	2,960	223	162	412	124
21	112	237	76	409	370	265	239	3,910	274	426	570	128
22	171	178	306	382	346	239	223	4,800	216	430	284	121
23	204	217	239	303	334	832	201	3,020	223	570	181	108
24	108	169	150	265	284	1,160	168	1,300	482	495	158	108
25	98	207	106	239	303	568	168	866	334	357	151	119
26	198	163	284	274	256	346	162	630	540	239	*148	114
27	163	188	201	293	223	313	160	630	278	188	144	113
28	154	154	274	256	324	334	188	464	188	216	142	113
29	138	213	201	303	-	*324	155	284	194	208	164	111
30	142	207	274	256	- - -	231	154	223	188	188	318	108
31	136	- - - - -	256	223	- - - - -	201	- - - - -	284	- - - - -	165	346	- - - - -
Total	3,759	6,014	7,488	8,015	26,601	10,200	8,708	23,897	23,920	6,635	6,532	4,740
Mean	121	200	242	259	950	329	290	771	797	214	211	158
Ac-ft	7,460	11,930	14,850	15,900	52,760	20,230	17,270	47,400	47,440	13,160	12,960	9,400

Calendar year 1954: Max 3,360 Min 68 Mean 321 Ac-ft 232,000
Water year 1954-55: Max 4,800 Min 76 Mean 374 Ac-ft 270,800

Peak discharge (base, 7,600 cfs).--No peak above base.
* Discharge measurement made on this day.

Coleto Creek near Schroeder, Tex.

Location.--Lat 28°50', long 97°11', on downstream side of left abutment of bridge on Farm Road 622, 2½ miles northeast of Schroeder, Goliad County, 4.8 miles downstream from Cottonwood Creek, 8.0 miles upstream from Perdido Creek, and 11.5 miles west of Victoria. Prior to Jan. 18, 1955, at site 0.6 mile downstream.

Drainage area.--365 sq mi.

Records available.--January 1930 to December 1933, October 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 87.59 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Prior to Dec. 31, 1933, staff gage at site 0.7 mile downstream at same datum. Oct. 20, 1952, to Jan. 17, 1955, staff gage at site 0.6 mile downstream at same datum.

Average discharge.--6 years (1930-33, 1952-55), 47.5 cfs (34,390 acre-ft per year).

Extremes.--1952-53: Maximum discharge observed during water year, 17,200 cfs Aug. 30 (gage height, 11.62 ft, site then in use), from rating curve extended above 2,000 cfs on basis of slope-area determination at gage height 14.14 ft; minimum, 0.3 cfs at times.

1953-54: Maximum discharge observed during water year, 905 cfs May 25 (gage height, 4.06 ft, site then in use); minimum, 0.1 cfs at times.

1954-55: Maximum discharge during water year, 2,040 cfs Feb. 6 (gage height, 7.16 ft, present site); minimum, 0.1 cfs at times.

1930-33, 1952-55: Maximum discharge, 28,600 cfs Jan. 4, 1932 (gage height, 18.68 ft, present site); minimum, 0.1 cfs at times.

Maximum stage known since at least 1872, 22.90 ft Oct. 16, 1946. Flood in October 1925 reached a stage of 20.0 ft, at site 0.7 mile downstream, from information by local resident.

Remarks.--Records good. No known diversion above station.

Rating tables, Oct. 1, 1952, to Sept. 30, 1955 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 22 to Nov. 9, 1952, Sept. 9-30, 1953, Jan. 19 to Feb. 3, 1955, Apr. 6 to May 11, 1955 and June 26 to Aug. 12, 1955)

Oct. 1, 1952, to Sept. 30, 1953

1.4	0	2.6	176
1.5	0.7	2.8	243
1.6	2.5	3.0	318
1.7	6.6	3.3	458
1.8	14	3.6	619
1.9	27	4.0	864
2.0	43	6.0	2,860
2.2	78	8.0	6,400
2.4	123		

Oct. 1, 1953, to Jan. 17, 1955

1.1	0	1.6	6.2
1.3	0.9	1.7	10
1.4	2.1	1.9	27
1.5	3.9		

Note.--Same as preceding table above 1.9 ft.

Jan. 18, 1955, to Sept. 30, 1955

2.6	0	3.3	28
2.7	0.1	3.6	88
2.8	.4	4.0	189
2.9	1.0	4.5	357
3.0	2.8	5.0	565
3.1	6.2	6.0	1,110
3.2	14		

Discharge, in cubic feet per second, water year October 1952 to September 1953

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		5.0	128	10	17	5.5	4.6	2.2	25	1.8	0.3	*149
2		5.0	59	9.2	35	6.6	17	1.8	16	1.4	.4	67
3		5.0	329	9.2	14	6.6	9.2	2.2	12	1.4	.4	123
4		4.6	*448	9.2	11	*6.6	5.5	7.2	12	1.6	.4	860
5		4.6	*89	9.2	8.5	6.1	5.5	4.6	*12	1.8	*.4	322
6		4.1	51	9.2	6.6	5.5	5.5	2.5	11	1.8	.4	89
7		5.0	30	9.2	5.5	5.5	4.6	1.8	9.2	1.8	.4	56
8		5.0	27	9.2	5.5	5.0	4.1	1.8	9.2	1.4	.4	40
9		5.0	26	9.2	5.5	5.5	4.1	1.8	8.5	*1.0	.4	38
10		14	20	9.2	7.8	5.5	3.7	1.6	7.8	.9	.3	30
11	a10	6.1	18	9.2	11.0	5.5	3.7	1.4	6.6	.9	.3	25
12		3.0	17	7.8	9.2	5.5	4.6	1.4	6.6	.6	.4	20
13		2.0	14	7.8	6.1	5.5	3.7	10	5.5	.5	.4	14
14		2.0	12	7.8	7.2	5.0	4.1	27	5.5	.5	.4	12
15		2.0	11	7.8	6.6	4.6	*3.7	534	5.0	.4	.4	12
16		2.0	9.2	7.8	6.6	3.7	3.7	123	5.0	.4	.4	11
17		2.0	12	7.2	5.5	4.1	3.3	38	5.0	.8	.4	11
18		2.8	11	8.5	5.5	5.0	3.0	1,330	4.6	2.0	.5	10
19		16	12	7.2	5.5	4.6	2.8	4,220	3.7	.9	.8	10
20		4.6	11	*7.2	5.5	4.6	2.5	176	3.7	.6	.7	9.2
21		2.0	9.2	7.2	5.0	5.0	2.2	105	3.3	.5	.7	7.8
22	*a5.8	2.2	11	7.2	4.6	5.0	2.2	72	3.0	.6	1.2	7.2
23	5.5	678	9.2	7.2	5.0	4.1	2.8	56	3.0	*.6	.6	6.6
24	5.5	428	9.2	6.6	12	4.1	4.6	46	2.5	.6	.9	6.1
25	5.5	282	7.8	6.6	12	3.3	3.3	38	2.5	.6	8.5	6.1
26	5.5	116	8.5	6.6	10	3.3	2.8	32	2.5	.5	11	6.1
27	5.5	48	9.2	6.6	7.2	3.3	2.5	29	2.2	.4	5.0	5.5
28	*5.5	41	9.2	6.6	6.6	3.3	2.5	27	1.8	.4	44	4.6
29	5.0	1,610	10	5.5	-	3.7	3.7	25	2.2	.4	471	4.6
30	5.0	465	14	5.5	-	3.7	2.5	23	2.5	.4	5,360	*4.1
31	5.0	------	10	6.6	------	3.7	------	23	------	.3	1,420	------
Total	263.8	3,772.0	1,441.5	243.3	247.5	149.0	128.0	6,964.3	199.4	27.8	7,331.4	1,966.9
Mean	8.51	126	46.5	7.85	8.84	4.81	4.27	225	6.65	0.90	236	65.6
Ac-ft	523	7,480	2,860	483	491	296	254	13,810	396	55	14,540	3,900

Calendar year 1952: Max - Min - Mean - Ac-ft -
Water year 1952-53: Max 5,360 Min 0.3 Mean 62.3 Ac-ft 45,090

Peak discharge (base, 2,000 cfs).--Nov. 23 (6 p.m.) 2,460 cfs (5.72 ft); Nov. 29 (12:30 p.m.) 3,900 cfs (6.72 ft); May 19 (1 a.m.) 10,500 cfs (9.62 ft; Aug. 30 (8:30 a.m.) 17,200 cfs (11.62 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and record for station at Coleto Creek near Victoria.

Coleto Creek near Schroeder, Tex.--Continued

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	30	3.7	3.3	3.3	2.0	1.3	1.8	2.2	0.4	0.1	0.2
2	3.9	18	4.6	3.1	3.3	2.0	1.1	3.1	1.2	.4	.2	.2
3	4.3	*16	4.1	3.3	3.3	1.7	1.2	1.6	1.3	.4	.1	.1
4	4.6	11	3.7	3.1	3.1	1.7	1.2	*.9	1.1	.4	**.1	.1
5	3.9	10	3.5	3.1	3.1	2.0	1.1	.7	.8	.4	.1	.2
6	3.7	7.2	3.5	3.1	3.3	2.2	1.2	.6	.6	.4	.1	.4
7	3.5	6.2	3.1	3.1	3.3	2.6	1.1	.5	.6	.3	.1	.2
8	3.5	5.5	2.7	2.9	3.3	2.2	2.4	.4	.4	.3	.1	.2
9	3.3	5.0	3.1	2.9	3.1	2.4	5.2	.2	.4	.3	.1	.2
10	3.3	4.8	*2.4	3.1	2.7	2.4	3.9	.3	.4	.4	.1	.3
11	3.3	4.3	2.7	2.7	2.7	2.1	42	.8	.4	.3	.1	.2
12	3.3	4.1	2.7	2.7	2.7	2.1	12	240	.4	.3	.1	.2
13	3.1	3.9	3.9	*4.3	2.7	2.1	5.2	53	.4	.2	.1	.2
14	3.1	3.9	3.1	5.7	2.7	2.0	5.5	8.8	.4	.1	.1	**.2
15	2.9	7.2	2.7	5.2	2.7	1.6	11	3.5	*.3	.2	.1	.1
16	2.7	4.6	3.1	4.8	*2.7	1.6	6.2	2.4	.4	.2	.1	.1
17	2.7	4.1	3.3	4.3	2.7	2.4	2.4	1.8	.3	.2	.1	.2
18	2.6	4.1	4.6	3.9	3.1	2.2	1.8	1.2	.3	.2	.1	.2
19	3.3	4.1	4.3	4.3	2.9	2.2	1.6	.9	.4	.2	.1	.2
20	4.3	4.1	3.9	3.9	2.6	2.0	1.3	.8	.4	.2	.1	.1
21	3.7	4.6	4.1	3.7	2.7	1.8	1.3	.5	.4	.1	.1	.2
22	5.2	4.3	3.7	3.5	2.6	2.0	1.1	.4	.4	.1	.2	.1
23	6.0	3.9	3.5	3.5	2.7	*2.0	1.0	.5	.5	.1	.1	.1
24	207	3.5	3.1	3.5	2.6	2.1	1.1	.5	.6	.1	.2	.1
25	53	3.3	3.1	3.7	2.6	2.1	.9	475	.4	.1	.2	.2
26	229	3.1	3.1	3.9	2.6	1.8	.7	94	1.6	.2	.1	.2
27	143	3.1	3.3	4.1	2.6	2.0	1.6	87	.6	.1	.2	.2
28	52	3.1	3.9	3.7	2.6	1.8	1.8	11	.6	.1	.3	.2
29	27	3.5	3.5	3.7	-	1.7	1.0	5.0	.4	.1	.2	.2
30	16	3.3	3.3	3.7	- - -	1.7	1.8	3.7	.4	.3	.4	.9
31	37	- - - - -	3.3	3.7	- - - - -	1.8	- - - - -	3.3	- - - - -	.2	.2	- - - - -
Total	848.1	193.8	106.6	113.5	80.3	62.3	121.0	1,004.2	18.6	7.3	4.3	6.2
Mean	27.4	6.46	3.44	3.66	2.87	2.01	4.03	32.4	0.62	0.24	0.14	0.21
Ac-ft	1,680	384	211	225	159	124	240	1,990	37	14	8.5	12

Calendar year 1953: Max 5,360 Min 0.3 Mean 50.4 Ac-ft 36,500
Water year 1953-54: Max 475 Min 0.1 Mean 7.03 Ac-ft 5,080

Peak discharge (base, 2,000 cfs).--No peak above base.
* Discharge measurement made on this day.
** Field estimate made on this day.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.3	0.3	0.4	0.2	0.7	2.4	0.3	36	0.2	0.2	88
2	2.7	.4	.3	.2	.2	.6	6.9	.3	20	.2	.2	12
3	3.1	1.1	.3	.3	.2	.7	15	.4	12	.4	.2	2.0
4	.9	.4	.3	.3	3.6	.7	4.8	*.4	8.5	.4	.2	.8
5	1.0	.2	.3	.2	495	.7	2.5	.4	5.2	.3	.2	.6
6	.6	.2	.2	.2	*1,110	.6	1.2	.4	11	.2	.2	.9
7	.6	.2	*.2	.2	*171	.6	.3	.4	4.5	.2	.2	1.4
8	.5	.4	.2	.3	*38	.6	.2	.4	2.5	.2	.1	1.0
9	.4	.2	.3	.2	18	.7	.3	.4	*1.6	.2	.1	.8
10	.4	.4	.3	.2	10	.7	2.0	.4	3.1	.2	.1	.7
11	.4	.2	.4	.2	5.5	.7	1.4	.5	2.8	.2	.1	.6
12	.4	.3	.3	.2	4.5	.6	.6	97	1.2	.1	.1	.7
13	.4	.3	.2	.2	3.5	.6	.5	202	1.0	.1	34	.8
14	.4	.4	.2	.2	2.5	.6	.3	40	1.0	.1	264	51
15	.3	1.7	.2	.2	2.2	.6	.3	17	.9	**.1	50	17
16	.2	.3	.2	.2	*1.8	.6	.2	7.0	.9	.1	11	5.5
17	.2	.2	.2	.2	2.0	.6	.3	3.8	.8	.1	2.8	2.0
18	.3	.3	.1	**.1	2.2	.6	.3	2.8	.6	.1	1.2	.8
19	**.3	.3	.1	.1	1.7	.6	.3	47	.6	.1	2.7	2.4
20	.2	.3	.1	.1	1.2	.8	.3	76	.6	.1	132	4.9
21	.3	.3	.2	.1	1.2	.7	.3	42	.7	.1	24	2.2
22	.4	.3	.2	.1	1.0	.6	.3	12	.5	.1	6.2	1.0
23	.8	.3	.2	.1	.8	.8	.3	5.5	.4	.2	1.7	.8
24	.4	.3	.2	.1	.7	.9	.3	3.1	.4	.2	.8	.6
25	.3	.2	.6	.1	.6	.8	.3	1.6	.4	.2	.6	.5
26	.3	.2	.7	.1	.7	.6	.4	.9	.3	.2	*.5	.5
27	.3	.2	.6	.1	.7	.7	.4	.8	.3	.2	.5	.5
28	.5	.3	.6	.1	.7	.9	.4	.8	.3	.2	.5	.5
29	.3	.3	.3	.1	-	*.9	.4	439	.3	.3	.5	.5
30	.3	.3	.3	.1	- - -	.9	.4	698	.2	.2	.5	.5
31	.2	- - - - -	.4	.2	- - - - -	1.0	- - - - -	78	- - - - -	.2	24	- - - - -
Total	17.9	10.8	9.0	5.4	1,879.7	21.7	43.6	1,778.6	118.6	5.7	559.4	201.5
Mean	0.58	0.36	0.29	0.17	67.1	0.70	1.45	57.4	3.95	0.18	18.0	6.72
Ac-ft	36	21	18	11	3,730	43	86	3,530	235	11	1,110	400

Calendar year 1954: Max 475 Min 0.1 Mean 3.99 Ac-ft 2,880
Water year 1954-55: Max 1,110 Min 0.1 Mean 12.7 Ac-ft 9,230

Peak discharge (base, 2,000 cfs).--Feb. 6 (1 p.m.) 2,040 cfs (7.16 ft).
* Discharge measurement made on this day.
** Field estimate made on this day.

San Antonio River at San Antonio, Tex.

Location.--Lat 29°24'35", long 98°29'40", on right bank at downstream side of South Alamo Street Bridge, in San Antonio, Bexar County, 2.1 miles upstream from San Pedro Creek.

Drainage area.--42 sq mi, approximately. Normal flow of river comes from springs; drainage area of stream not applicable.

Records available.--January 1915 to November 1929, February 1939 to September 1955. Estimated monthly ground-water discharge contained in WSP 773-B and Texas Board of Water Engineers Report for Bexar County dated May 1947.

Gage.--Water-stage recorder. Datum of gage is 612.26 ft above mean sea level, datum of 1929. Jan. 26, 1915, to Feb. 27, 1916, staff gage at site 2.2 miles upstream at different datum. Feb. 28, 1916, to Apr. 7, 1920, staff gage at site 1.9 miles upstream at different datum.

Average discharge.--30 years (1915-29, 1939-55), 59.5 cfs (43,080 acre-ft per year).

Extremes.--Maximum discharge during year, 810 cfs Feb. 4 (gage height, 5.23 ft); minimum daily, 0.6 cfs Mar. 30.

1915-29, 1939-55: Maximum discharge, 15,300 cfs Sept. 10, 1921 (gage height, 20.14 ft, from floodmark), from rating curve extended above 2,000 cfs by slope-area determination of peak flow; no flow at times due to regulation.

Maximum stage known since at least 1819, that of Sept. 10, 1921; flood of July 5, 1819, equaled or exceeded that of Sept. 10, 1921.

Remarks.--Records good. Flood flow regulated by Olmos flood-control reservoir (capacity 15,500 acre-ft) about 8½ miles upstream. Dam completed in 1926. Normal flow of river formerly came from springs located about 8 miles upstream but now comes largely from artesian wells. Springs emerged from Edwards limestone in Balcones fault zone. Diurnal fluctuation caused by industrial pumping from wells (depleting the underground reservoir) above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 11-31)

0.6	0.5	1.3	29
.7	1.5	1.5	48
.8	3.6	2.0	112
.9	6.6	2.5	188
1.1	16		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	45	12	*8.1	7.7	8.1	7.0	6.8	9.3	8.5	13	11	8.9
2	11	8.5	8.4	8.1	8.5	7.3	5.9	12	9.7	7.5	6.2	9.3
3	8.9	8.9	8.3	11	9.3	7.3	4.7	11	8.9	6.0	54	8.5
4	19	12	9.1	10	106	5.8	5.3	11	15	7.3	13	6.2
5	45	5.6	6.6	11	158	6.0	6.8	11	27	10	16	5.0
6	13	4.7	9.5	9.3	41	2.6	5.0	9.7	20	9.3	12	9.7
7	21	6.6	8.6	9.7	14	6.6	6.7	10	9.7	13	8.9	7.7
8	10	7.7	8.9	14	11	5.6	6.2	9.6	9.2	7.4	8.2	8.5
9	9.3	41	11	13	9.1	6.3	12	9.7	*9.3	10	10	8.5
10	8.1	26	8.5	21	8.5	6.6	7.0	25	62	8.9	9.7	9.3
11	*16	17	7.3	*9.3	7.3	5.9	9.6	94	9.3	9.2	11	12
12	12	10	5.9	9.7	7.7	5.9	7.0	42	6.6	56	28	10
13	11	7.3	8.5	8.9	6.2	5.0	7.0	16	6.6	19	10	8.1
14	11	13	8.5	4.0	6.4	5.3	7.9	11	8.5	15	8.5	6.3
15	10	15	8.9	4.4	9.6	8.0	6.6	13	8.9	80	10	5.2
16	18	12	9.3	6.2	8.5	10	9.1	20	8.9	41	9.3	8.1
17	8.5	10	11	18	*8.5	4.1	6.7	28	8.9	14	8.5	8.9
18	8.1	9.4	8.5	57	7.0	5.9	8.1	21	8.1	8.5	48	7.0
19	5.6	8.6	7.3	7.3	8.5	5.6	8.2	183	7.0	*10	15	*7.6
20	9.7	8.9	8.1	7.3	30	28	8.6	48	22	12	9.3	9.3
21	9.7	6.6	9.3	7.3	7.7	*18	8.9	16	8.8	13	9.3	8.9
22	11	9.7	8.5	7.0	8.1	6.3	8.9	8.1	8.5	13	9.7	8.9
23	9.3	8.2	9.1	5.3	7.0	5.5	8.1	9.3	8.5	11	9.3	8.1
24	8.5	8.2	11	5.6	7.0	7.5	5.6	9.7	6.6	11	9.3	7.3
25	10	7.3	8.3	6.6	5.6	3.9	8.1	9.3	8.1	11	*9.3	10
26	10	9.8	6.6	7.0	6.2	4.4	8.7	9.7	7.0	12	9.3	7.0
27	9.7	8.4	11	7.7	5.3	4.1	*8.8	8.9	10	12	13	13
28	13	7.4	9.3	7.7	6.2	17	9.6	8.9	15	14	12	12
29	11	8.2	9.3	7.0	-	4.2	13	8.5	9.7	11	13	14
30	10	9.0	9.7	7.0	---	.6	16	9.8	9.7	13	69	6.2
31	8.5	------	10	7.7	------	4.0	------	8.5	------	12	17	------
Total	410.9	326.0	272.4	322.8	526.3	220.3	240.9	701.0	366.0	490.1	484.8	259.5
Mean	13.3	10.9	8.79	10.4	18.8	7.11	8.03	22.6	12.2	15.8	15.6	8.65
Ac-ft	815	647	540	640	1,040	437	478	1,390	726	972	962	515

Calendar year 1954: Max 163 Min 4.7 Mean 11.8 Ac-ft 8,540
Water year 1954-55: Max 183 Min 0.6 Mean 12.7 Ac-ft 9,160

* Discharge measurement made on this day.

Medina River near Pipe Creek, Tex.

Location.--Lat 29°40', long 98°59', on left bank 600 ft upstream from Bandera Falls, 0.8 mile upstream from Pipe Creek, and 4 miles southwest of town of Pipe Creek, Bandera County.

Drainage area.--457 sq mi.

Records available.--December 1922 to September 1934, December 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,067.37 ft above mean sea level, unadjusted. December 1922 to September 1934 at site 2 miles upstream at different datum.

Average discharge.--13 years (1923-34, 1953-55), 91.5 cfs (66,240 acre-ft per year).

Extremes.--Maximum discharge during year, 4,340 cfs May 19 (gage height, 10.28 ft), from rating curve extended above 100 cfs on basis of slope-area determination of peak flow; minimum, 0.9 cfs at times.
1922-34, 1953-55: Maximum discharge, 64,000 cfs July 1, 1932 (gage height, 33.8 ft, from floodmarks, datum then in use), by slope-area determination of peak flow; minimum, 0.3 cfs Sept. 14, 15, 1934.

Remarks.--Records good. Small diversion above gage.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

3.7	0.9	4.7	175
3.8	4.2	5.0	273
3.9	11	5.5	478
4.0	22	6.0	720
4.2	53	7.0	1,330
4.4	94		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	0.9	1.2	1.2	6.0	10	8.8	6.0	8.0	4.8	7.3	6.0
2	1.5	.9	1.2	.9	6.0	10	8.8	6.0	8.0	4.8	8.0	6.0
3	1.2	.9	1.5	.9	7.3	10	8.8	6.0	7.3	4.2	7.3	6.0
4	1.8	1.2	1.5	*.9	226	10	8.8	5.4	8.0	3.8	6.6	5.4
5	1.8	.9	1.2	.9	50	10	9.6	4.8	7.3	3.4	6.0	4.8
6	1.8	.9	1.2	.9	54	10	10	5.4	6.6	3.0	6.0	4.8
7	1.8	.9	1.5	1.2	22	10	10	400	6.6	3.0	5.4	*4.8
8	1.8	.9	1.5	1.2	15	10	9.6	148	6.0	2.6	5.4	4.8
9	1.8	1.5	1.5	1.5	12	9.6	9.6	25	5.4	2.6	4.8	4.2
10	1.8	2.2	1.5	1.5	9.6	9.6	9.6	33	5.4	2.2	4.6	3.8
11	1.5	1.8	1.8	1.2	9.6	9.6	10	110	*5.4	2.2	5.4	3.8
12	*1.5	1.5	1.5	1.5	9.6	9.6	10	27	4.8	2.2	8.0	3.8
13	1.5	1.5	1.5	1.8	9.6	9.6	9.6	54	4.8	2.2	27	3.8
14	1.5	1.5	1.8	2.2	9.6	9.6	8.8	19	4.2	2.2	13	3.8
15	1.5	1.5	1.8	2.6	10	9.6	8.8	11	4.2	*2.2	8.0	3.8
16	1.8	1.5	1.8	2.6	10	9.6	8.8	9.6	4.2	2.2	*7.3	3.8
17	1.5	1.5	1.5	2.6	10	9.6	8.8	103	4.2	195	6.8	3.8
18	1.5	1.5	1.5	81	*10	9.6	8.0	53	4.2	1,000	6.0	3.8
19	1.5	1.8	1.5	43	10	9.6	8.0	791	3.8	160	293	3.8
20	1.5	1.5	1.5	16	10	39	8.0	92	4.6	138	53	3.8
21	1.2	1.5	1.5	10	10	26	8.0	41	62	50	25	3.8
22	1.2	1.2	1.5	9.6	10	14	8.0	27	13	33	17	3.4
23	1.5	1.2	1.5	8.8	10	10	8.0	20	10	26	13	3.4
24	1.5	1.2	1.5	8.8	10	10	7.3	16	9.6	21	11	3.4
25	1.5	1.2	1.5	8.8	10	9.6	7.3	14	8.8	16	9.6	3.8
26	1.5	1.2	1.5	8.0	10	8.8	7.3	12	8.0	14	8.0	4.2
27	1.2	1.2	1.5	8.0	10	*8.8	6.6	9.6	7.3	12	7.3	4.2
28	1.2	.9	1.2	8.0	10	8.8	6.0	8.8	6.6	10	6.6	4.2
29	1.2	*.9	.9	8.0	-	8.8	*6.0	8.8	6.0	10	6.6	4.2
30	1.2	.9	1.2	7.3	---	8.8	6.0	8.8	5.4	8.8	6.6	4.8
31	1.2	------	1.2	6.6	------	8.8	------	8.8	------	8.0	6.0	------
Total	46.8	38.2	45.0	257.5	586.3	347.0	252.9	2,084.0	249.9	1,749.4	605.6	128.0
Mean	1.51	1.27	1.45	8.31	20.9	11.2	8.43	67.2	8.33	56.4	19.5	4.27
Ac-ft	93	76	89	511	1,160	689	502	4,130	496	3,470	1,200	254

Calendar year 1954: Max 1,250 Min 0.9 Mean 15.6 Ac-ft 11,270
Water year 1954-55: Max 1,000 Min 0.9 Mean 17.5 Ac-ft 12,680

Peak discharge (base, 1,000 cfs).--Feb. 4 (12:30 p.m.) 1,230 cfs (6.85 ft); May 7 (1 a.m.) 3,700 cfs (9.68 ft); May 19 (6 a.m.) 4,340 cfs (10.28 ft); July 18 (3 a.m.) 2,370 cfs (8.28 ft); Aug. 19 (6 a.m.) 1,400 cfs (7.10 ft).
* Discharge measurement made on this day.

Medina Lake near San Antonio, Tex.

Location.--Lat 29°32', long 98°56', at gate operating platform, 576 ft from left end of Medina Dam on Medina River, 4 miles upstream from Medina diversion dam, 13 miles north of Castroville, and about 28 miles west of San Antonio, Bexar County.

Drainage area.--587 sq mi.

Records available.--May 1913 to September 1955.

Gage.--Wire-weight gage read once daily if stage is changing materially, otherwise intermittently. Datum of gage is 7.5 ft below mean sea level (levels by Corps of Engineers). Prior to Sept. 30, 1948, staff gages at same site and datum.

Extremes.--Maximum contents during year, 23,970 acre-ft Oct. 1 (gage height, 994.4 ft, by interpolation); minimum observed, 2,120 acre-ft Jan. 4 (gage height, 955.0 ft).
1913-55: Maximum contents observed, 288,800 acre-ft Sept. 16, 1919 (gage height, 1,078.0 ft); minimum observed since reservoir filled, 780 acre-ft about Apr. 11, 1948 (gage height, 944.0 ft).

Remarks.--Reservoir is formed by gravity-type concrete dam. Dam completed and storage begun May 7, 1913. Spillway section is located near right end of dam and is of natural rock, 880 ft long, with a 3-foot wide cutoff wall. Total capacity, 254,000 acre-ft (gage height, 1,072.0 ft, top of spillway section). Water for irrigation is supplied by three 60-inch pipes equipped with vertical lift gates, at gage height 966.5 ft (capacity, 4,780 acre-ft). Reservoir can be emptied by two 30-inch sluice pipes equipped with vertical lift gates, at gage height 920.0 ft. Water used for irrigation of lands in the Bexar, Medina, Atascosa Counties Water Control and Improvement District No. 1, which has a permit from the Texas Board of Water Engineers to divert 300,000 acre-ft of water to irrigate 150,000 acres. No power developed.

Cooperation.--Gage-height records and capacity table furnished by Bexar, Medina, and Atascosa Counties Water Control and Improvement District No. 1.

Month-end gage height and contents, water year October 1954 to September 1955

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	994.5	24,080	-
Oct. 31	(a)	17,050	-7,030
Nov. 30	979.1	11,640	-5,410
Dec. 31	955.2	2,160	-9,480
Calendar year 1954	-	-	-33,940
Jan. 31	958.2	2,720	+560
Feb. 28	962.7	3,770	+1,050
Mar. 31	964.5	4,250	+480
Apr. 30	964.8	4,330	+80
May 31	(a)	9,100	+4,770
June 30	975.2	9,100	0
July 31	979.0	11,570	+2,470
Aug. 31	(a)	12,280	+710
Sept.30	979.2	11,700	-580
Water year 1954-55	-	-	-12,380

† Gage read at irregular intervals.
a No gage-height record; contents interpolated.

Medina River near Riomedina, Tex.

Location.--Lat 29°30', long 98°54', on left bank 233 ft upstream from bridge at Haby's Crossing, 0.8 mile downstream from Bexar, Medina, Atascosa Counties Water Control and Improvement District No. 1 diversion dam, 4.3 miles northwest of Riomedina, Medina County, 9 miles upstream from San Geronimo Creek, and 10 miles north of Castroville.

Drainage area.--623 sq mi.

Records available.--January 1922 to September 1934 (daily record of flow over dam and monthly or annual record of seepage under or around dam), January 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 857.6 ft above mean sea level, datum of 1929 (river-profile survey). Jan. 21, 1922, to Sept. 30, 1934, water-stage recorder on upstream side of diversion dam 0.8 mile upstream at different datum.

Average discharge.--14 years (1922-34, 1953-55), 21.7 cfs (15,710 acre-ft per year).

Extremes.--Maximum discharge during year, 31 cfs Oct. 7 (gage height, 2.65 ft); no flow at times.
1922-34; 1953-55: Maximum discharge, about 11,800 cfs Apr. 21, 1926; no flow at times.

Remarks.--Records good. Flow regulated by Medina Reservoir, about 5 miles upstream, and diversion reservoir, 0.8 mile upstream. All flow is seepage under and around dam, except for occasional flow over spillway of dam. Diversion for irrigation above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	14	10	18	2.4							
2	17	14	11	16	2.1							
3	16	14	11	14	2.1							
4	16	14	11	13	1.8							
5	16	14	12	12	2.1							
6	14	13	12	10	2.1							
7	*16	12	13	9.6	1.6							
8	14	11	14	8.8	1.3							
9	12	11	14	8.4	*1.1							
10	11	11	14	7.2	.8							
11	11	11	14	*6.4	.6				(*)			
12	11	12	14	6.1	.5							
13	11	13	14	5.3	.4							
14	11	13	14	5.3	.3							
15	13	13	14	5.0	.2					(*)		
16	13	13	14	5.0	.1						(*)	
17	13	13	14	6.4	.1							
18	13	12	14	6.4	0							
19	13	11	14	5.7	0							
20	*13	9.6	13	5.3	0							
21	13	9.6	12	5.3	0							
22	13	9.6	11	5.0	0	(*)						
23	14	11	14	4.7	0							
24	14	12	16	4.3	0							
25	14	13	18	4.0	0							
26	14	13	20	4.0	0							
27	14	12	20	3.7	0							
28	14	11	20	3.4	0							
29	14	11	20	3.0	-		(*)					
30	14	*10	20	2.7	-							
31	14	- - -	19	2.7	- - -		- - - - -		- - - - -			- - - - -
Total	424	360.8	451	216.7	19.6	0	0	0	0	0	0	0
Mean	13.7	12.0	14.5	6.99	0.70	0	0	0	0	0	0	0
Ac-ft	841	716	895	430	39	0	0	0	0	0	0	0

Calendar year 1954: Max 20 Min 0 Mean 4.30 Ac-ft 3,110
Water year 1954-55: Max 20 Min 0 Mean 4.03 Ac-ft 2,920

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

Medina River near San Antonio, Tex.

Location.--Lat 29°15', long 98°28', near left bank on downstream side of pier of bridge on U. S. Highway 281, 5.2 miles upstream from mouth and 9 miles south of San Antonio, Bexar County.

Drainage area.--1,225 sq mi (587 sq mi is above dam forming Medina Lake).

Records available.--October 1929 to December 1930, July 1939 to September 1955. October 1929 to December 1930, records below about 50 cfs in connection with seepage investigation (published as "at Losoya").

Gage.--Water-stage recorder. Datum of gage is 439.0 ft above mean sea level (levels by Corps of Engineers). October 1929 to December 1930, staff gage at Losoya, 1.5 miles downstream, at different datum.

Average discharge.--16 years (1939-55), 93.8 cfs (67,910 acre-ft per year).

Extremes.--Maximum discharge during year, 1,200 cfs Feb. 6 (gage height, 11.35 ft); minimum daily, 4.8 cfs July 19, 20.
1939-55: Maximum discharge, 31,800 cfs Aug. 29, 1946; maximum gage height, 41.57 ft Sept. 27, 1946 (backwater from San Antonio River); minimum daily discharge, 4.3 cfs Sept. 4, 5, 1952.
Maximum stage known, about 55 ft sometime prior to construction of Medina Dam in 1913, from information by State Highway Department.

Remarks.--Records good. Flow slightly regulated by Medina Lake (see p. 235), 60 miles upstream, and diversion dam reservoir (capacity, 4,500 acre-ft). Although the irrigation district has a permit to divert 300,000 acre-ft of water to irrigate 150,000 acres of land, there was little water available for irrigation during current year due to severe drought. A considerable part of the low flow is sewage from San Antonio which is released from Mitchell Lake, and waste water from Kelly Field which enters via Leon Creek.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.6	4.8	4.0	148
1.8	9.2	5.0	238
2.0	15	7.0	478
2.5	35	9.0	785
3.0	65		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	173	9.2	*12	10	11	13	12	8.8	10	7.2	8.8	183
2	121	8.5	13	11	12	13	12	7.0	11	7.2	12	12
3	12	9.5	13	10	11	13	12	7.4	11	7.2	84	11
4	10	10	13	10	100	15	11	8.5	11	6.3	171	9.5
5	112	15	14	11	729	14	10	*7.9	12	5.0	10	8.5
6	94	15	13	11	768	13	9.5	8.5	46	5.5	9.2	7.7
7	22	14	12	11	163	12	9.8	12	20	5.2	8.1	8.3
8	13	12	13	12	18	12	11	14	*13	6.6	5.9	8.8
9	11	9.8	13	12	14	13	12	9.0	12	6.6	5.5	8.3
10	11	31	13	14	13	13	10	10	12	8.3	6.1	8.3
11	*10	18	14	*14	12	12	12	211	20	6.6	7.2	7.2
12	11	12	14	12	12	12	11	597	11	7.0	7.9	7.2
13	12	12	12	11	11	12	12	101	7.7	8.1	11	7.0
14	12	12	13	12	11	11	11	17	8.5	6.1	8.1	7.2
15	12	13	15	12	12	11	11	14	9.5	5.7	7.4	7.4
16	11	12	13	12	12	12	11	12	8.8	13	7.0	7.0
17	10	13	13	11	*12	13	10	12	8.8	7.2	7.4	7.7
18	8.5	13	13	213	12	13	11	14	7.4	5.0	8.6	7.4
19	8.8	13	13	285	12	13	9.0	339	7.2	*4.8	7.2	*5.9
20	9.2	12	12	74	13	167	9.5	123	6.3	4.8	7.4	5.0
21	9.0	11	12	13	18	520	12	19	8.0	6.1	7.9	6.6
22	10	10	13	12	12	140	10	13	11	5.9	7.4	7.2
23	13	9.8	13	11	11	*15	11	10	8.8	6.1	7.0	7.4
24	12	11	13	10	11	14	10	12	8.5	7.7	7.7	7.0
25	9.0	11	13	11	12	13	8.1	11	7.7	7.0	*9.0	7.0
26	8.8	11	12	11	12	12	8.8	11	8.3	7.2	9.2	6.8
27	9.0	10	12	12	12	12	*11	12	7.7	9.2	8.8	6.6
28	9.0	10	11	11	11	11	11	11	6.1	8.1	8.5	8.8
29	9.5	9.5	11	12	-	11	11	12	7.2	7.2	8.3	7.9
30	9.8	8.1	11	11	----	12	11	14	8.3	6.1	73	7.0
31	9.8	------	11	11	------	12	------	9.8	------	14	542	------
Total	792.4	365.4	393	893	2,057	1,179	320.7	1,667.9	334.8	218.0	1,088.6	406.7
Mean	25.6	12.2	12.7	28.8	73.5	38.0	10.7	53.8	11.2	7.03	35.1	13.6
Ac-ft	1,570	725	780	1,770	4,080	2,340	636	3,310	664	432	2,160	807

Calendar year 1954: Max 354 Min 4.6 Mean 15.7 Ac-ft 11,370
Water year 1954-55: Max 768 Min 4.8 Mean 26.6 Ac-ft 19,270

Peak discharge (base, 1,500 cfs).--No peak above base.
* Discharge measurement made on this day.

Calaveras Creek near Elmendorf, Tex.

Location.--Lat 29°15'30", long 98°17'30", near center of span on downstream side of bridge on U. S. Highway 181 from San Antonio to Floresville, 2.5 miles east of Elmendorf, Bexar County, 5 miles upstream from mouth, and 10 miles southeast from city limits of San Antonio.

Drainage area.--77.2 sq mi, of which 14.17 sq mi is above flood-detention structures.

Records available.--August 1954 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 406.45 ft above mean sea level, datum of 1929, supplementary adjustment of 1943.

Extremes.--1954: No flow during period Aug. 20 (beginning of record) to Sept. 30.
1954-55: Maximum discharge during water year, 568 cfs May 16 (gage height, 11.73 ft); no flow most of time.
Maximum stage known since at least 1860, about 35 ft Sept. 29, 1946, from information by local residents.

Remarks.--Records good. Flow partly regulated by four detention reservoirs with a total detention capacity of 5,334 acre-ft and a total usable capacity of 530 acre-ft. Station operated as part of the Calaveras Creek hydrologic program to evaluate rainfall-runoff relation, soil-conservation practices, and the effects of flood-detention structures.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	(*)	0	0	0		0	0	0	0	*16
2	0	0		0	0	0		0	0	0	0	2.2
3	0	0		0	0	0		0	0	0	0	.6
4	0	0		0	0	0		0	0	0	0	0
5	0	0		0	115	0		0	0	0	0	0
6	0	0		0	*160	0		0	0	0	0	0
7	0	0		0	*3.8	0		0	0	0	0	0
8	3.2	0		0	1.2	0		0	63	0	0	0
9	0	.4		0	.3	0		0	*69	0	0	0
10	0	1.6		0	0	0		0	18	0	0	0
11	0	*0		0	0	0		0	.4	0	0	0
12	0	0		*0	0	0		0	0	*0	12	0
13	0	0		0	0	0		0	0	2.4	.6	0
14	0	49	(*)	0	0	0		0	0	.9	0	0
15	0	5.9		0	0	*0		0	0	0	0	0
16	0	.2		0	0	0		*262	0	0	0	0
17	0	0		1.9	0	0		*20	0	0	0	0
18	0	0		71	0	0		18	0	0	0	0
19	0	0		1.2	0	0		299	0	0	61	*0
20	0	0		0	0	74		32	0	*0	15	0
21	0	0		0	0	95		20	*18	0	6.8	0
22	0	0		0	0	1.4		17	1.8	0	3.3	0
23	0	0		0	0	.3		13	.4	0	2.4	0
24	0	0		0	0	0		2.9	0	0	1.4	0
25	0	0		0	0	0		.4	0	0	**.4	0
26	0	0		0	0	0		0	0	0	0	0
27	*0	0		0	0	0	(*)	0	0	0	0	0
28	0	0		0	0	0		0	0	0	0	0
29	0	0		0	-	0		0	0	0	0	0
30	0	0		0	--	0	(*)	0	0	0	0	0
31	0	- - -		0	- ---	0	- -----	0	------	0	41	------
Total	3.2	57.1	0	74.1	280.3	170.7	0	684.3	170.6	3.3	143.9	18.8
Mean	0.10	1.90	0	2.39	10.0	5.51	0	22.1	5.69	0.11	4.64	0.63
Ac-ft	6.3	113	0	147	556	339	0	1,360	338	65	285	37

Calendar year 1954: Max - Min - Mean - Ac-ft -
Water year 1954-55: Max 299 Min 0 Mean 4.40 Ac-ft 3,190

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

San Antonio River near Falls City, Tex.

Location.--Lat 28°57'05", long 98°03'55", on left bank 23 ft downstream from bridge on State Farm to Market Highway 791, 0.9 mile upstream from Scared Dog Creek, and 3.6 miles southwest of Falls City, Karnes County.

Drainage area.--2,071 sq mi.

Records available.--April 1925 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 285.49 ft above mean sea level, datum of 1929.

Average discharge.--30 years, 294 cfs (212,800 acre-ft per year).

Extremes.--Maximum discharge during year, 1,660 cfs Feb. 7 (gage height, 3.68 ft); minimum, 30 cfs July 31.
1925-55: Maximum discharge, 47,400 cfs Sept. 29, 1946 (gage height, 33.80 ft, from floodmark); minimum, 23 cfs June 15, 1954.
Maximum stage known since at least 1875, that of Sept. 29, 1946, from information by local residents.

Remarks.--Records good. Flow slightly regulated by Medina Lake (see p. 235) and Olmos flood-control reservoir (combined capacity, 269,500 acre-ft). Storage began in Medina Reservoir in 1913, and Olmos Dam was completed in 1926. Water diverted above station from Medina River for irrigation in vicinity of Devine and Lytle and some water diverted for irrigation near San Antonio. Water used industrially in San Antonio.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 6-8, May 21, Aug. 31)

0.8	28	2.0	528
.9	52	2.5	850
1.0	82	3.0	1,200
1.2	151	3.5	1,620
1.5	270		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	70	73	a58	70	105	*112	52	82	a55	47	448
2	55	70	73	a61	76	105	82	40	76	a47	76	622
3	238	61	73	a76	79	108	73	40	67	a40	67	239
4	159	70	73	a79	79	98	73	45	58	a33	64	119
5	79	73	79	a79	197	98	79	47	64	a35	110	108
6	95	70	73	a79	*828	92	79	*50	76	a38	199	92
7	221	76	67	a79	1,440	108	76	50	89	a42	98	85
8	198	79	67	a79	1,180	92	79	52	115	a45	89	85
9	112	70	*67	a85	293	92	70	47	202	a47	85	85
10	144	67	73	a92	163	98	67	52	295	a50	76	85
11	108	76	76	a92	140	108	76	64	137	a50	55	85
12	92	163	82	a98	133	102	73	141	*140	*47	52	67
13	89	133	73	*112	126	108	76	383	115	61	58	70
14	89	95	70	105	108	85	76	571	76	73	117	82
15	85	82	64	105	108	85	76	206	58	95	108	82
16	79	105	67	98	112	89	70	133	55	73	82	70
17	82	105	67	82	115	79	67	338	58	122	64	64
18	76	95	73	73	*112	85	55	372	55	119	52	61
19	70	82	73	148	105	92	47	419	61	82	52	58
20	70	79	67	421	89	92	45	603	73	67	370	70
21	76	76	64	317	85	140	50	990	389	73	222	64
22	*70	70	61	154	112	639	55	429	73	82	98	55
23	76	70	64	89	140	520	55	198	70	98	*82	52
24	79	67	67	73	112	190	64	147	61	70	73	55
25	73	70	a79	73	105	108	52	126	a55	55	70	61
26	76	79	a79	79	85	89	50	112	a55	55	58	58
27	73	73	a76	79	102	85	45	95	a52	50	50	52
28	64	73	a73	67	98	76	47	85	a55	50	61	64
29	58	73	a70	64	-	89	50	76	a55	50	58	64
30	61	73	a64	70	--	85	47	76	a64	42	70	64
31	70	------	a61	67	-----	85	------	76	------	38	413	------
Total	2,967	2,445	2,188	3,233	6,392	4,027	1,966	6,115	2,881	1,884	3,176	3,266
Mean	95.7	81.5	70.6	104	228	130	65.5	197	96.0	60.8	102	109
Ac-ft	5,880	4,850	4,340	6,410	12,680	7,990	3,900	12,130	5,710	3,740	6,300	6,480

Calendar year 1954: Max 1,260 Min 27 Mean 93.2 Ac-ft 67,430
Water year 1954-55: Max 1,440 Min 33 Mean 111 Ac-ft 80,410

Peak discharge (base, 1,800 cfs).--No peak above base.
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Cibolo Creek near Falls City.

Cibolo Creek near Bulverde, Tex.

Location.--Lat 29°43'35", long 98°25'40", on left bank at William Classen ranchhouse, 1.8 miles downstream from bridge on U. S. Highway 281, 2 miles southeast of Bulverde, Comal County, and 4.7 miles upstream from Dripping Springs Creek.

Drainage area.--198 sq mi.

Records available.--April 1946 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is about 1,015 ft (from topographic map).

Average discharge.--9 years, 2.89 cfs (2,090 acre-ft per year).

Extremes.--No flow during year.
1946-55: Maximum discharge, 11,700 cfs Sept. 11, 1952 (gage height, 15.16 ft, from floodmark), from rating curve extended above 4,400 cfs on basis of slope-area determination of peak flow; no flow most of time.

Remarks.--No flow since Oct. 26, 1953. The purpose of the station is to determine the streamflow losses during periods of medium and low flow. There are no surface diversions, but much of the surface flow enters sinkholes and caverns in the Glen Rose limestone above station.

Cibolo Creek at Selma, Tex.

Location.--Lat 29°35'35", long 98°18'40", on right bank 0.6 mile downstream from Missouri-Kansas-Texas Railroad bridge and 0.8 mile upstream from bridge on U. S. Highway 81 at Selma, Bexar County.

Drainage area.--280 sq mi.

Records available.--March 1946 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 728.34 ft above mean sea level, datum of 1929.

Average discharge.--9 years, 4.24 cfs (3,070 acre-ft per year).

Extremes.--Maximum discharge during year, 8.2 cfs May 19 (gage height, 3.00 ft); no flow most of time.
1946-55: Maximum discharge, 36,400 cfs Sept. 11, 1952 (gage height, 19.37 ft), from rating curve extended above 7,000 cfs on basis of slope-area determination of peak flow; no flow most of time.
Maximum stage known since at least 1869, about 26 ft in 1889; flood in 1913 was probably about 2 ft lower, from information by local residents.

Remarks.--Records good. There are no surface diversions, but part of flow enters the Edwards limestone in the Blacones fault zone which crosses the basin between this station and station near Bulverde.

Discharge, in cubic feet per second, water year October 1954 to September 1955

May 19..... 0.3

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

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
May 1955.....	0.3	0.3	0	0.01	0.6
Calendar year 1954.....	-	0	0	0	0
Water year 1954-55.....	-	.3	0	.0008	.6

Cibolo Creek near Falls City, Tex.

Location.--Lat 29°01', long 97°56', on right bank at downstream side of pier of bridge on State Highway 123, 5.5 miles northeast of Falls City, Karnes County, and 9 miles upstream from mouth.

Drainage area.--831 sq mi.

Records available.--November 1930 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 264.28 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Nov. 4, 1930, to Aug. 4, 1940, water-stage recorder at site 1,600 ft upstream at datum 0.56 ft higher. Aug. 5 to Sept. 13, 1940, wire-weight gage at same site and datum.

Average discharge.--24 years (1931-55), 110 cfs (79,640 acre-ft per year).

Extremes.--Maximum discharge during year, 3,750 cfs June 21 (gage height, 14.41 ft); minimum, 1.5 cfs Aug. 28 (gage height, 0.79 ft).
1930-55: Maximum discharge, 33,600 cfs July 6, 1942 (gage height, 34.45 ft); minimum, that of Aug. 28, 1955.
Flood in October 1913 reached a stage about half a foot higher than that of July 6, 1942.

Remarks.--Records good. Diversions for irrigation above station. Much of the surface flow of the creek enters sinkholes and caverns in the Glen Rose limestone and in the Edwards limestone in the Balcones fault zone which crosses the basin above station at Selma.

Revisions (water years).--WSP 733: 1931, WSP 1058: 1935.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.7	1.0	2.0	93
.8	3.4	3.0	218
.9	7.2	5.0	550
1.0	12	7.0	1,030
1.5	44	9.0	1,650

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	8.5	8.5	12	12	16	*68	6.0	16	4.4	9.2	273
2	9.8	8.9	7.6	12	12	15	14	4.8	10	4.1	8.9	212
3	8.9	8.5	8.5	10	12	15	12	5.2	8.9	4.1	6.0	46
4	8.9	9.4	9.4	12	12	14	16	5.2	7.2	3.8	4.1	23
5	49	9.8	9.8	12	50	14	20	5.2	7.2	4.1	3.4	15
6	127	8.9	9.4	12	170	14	15	*6.4	8.1	6.4	3.1	12
7	46	8.9	11	12	402	14	12	4.8	7.6	5.6	2.5	12
8	34	8.9	9.8	11	114	14	12	3.8	8.5	4.1	2.5	12
9	11	72	8.9	12	51	14	12	3.8	9.8	5.6	4.8	10
10	6.8	20	*8.9	14	30	14	12	4.8	12	13	5.2	9.4
11	6.4	8.9	9.4	12	21	14	13	7.8	12	*8.9	4.1	7.2
12	8.5	8.9	9.4	12	18	14	14	26	*13	8.9	3.8	7.2
13	8.1	8.5	8.5	*12	16	14	12	8.5	19	33	4.1	8.1
14	7.6	8.5	9.8	12	16	13	11	7.6	14	27	17	7.6
15	6.8	43	9.8	12	15	11	8.9	7.2	12	11	28	5.2
16	6.8	10	9.4	13	15	10	9.4	6.0	9.4	7.6	17	4.1
17	6.0	8.9	9.8	12	15	10	10	7.2	7.2	6.4	8.9	3.8
18	4.8	8.9	9.8	12	*14	10	9.8	6.8	6.8	7.2	5.6	3.8
19	5.2	8.9	8.5	12	14	10	10	140	6.4	7.6	6.8	5.2
20	4.8	8.5	9.4	16	14	11	8.9	51	155	7.2	6.9	5.2
21	4.4	8.9	11	12	15	427	7.2	89	*1,610	5.6	42	7.2
22	*5.6	8.9	10	12	15	618	8.1	34	32	3.8	*20	8.1
23	7.6	8.9	11	12	15	94	8.5	20	8.5	3.1	13	6.4
24	7.6	8.1	11	12	16	49	8.1	14	6.0	3.1	8.1	4.8
25	8.1	8.9	11	12	16	32	8.1	10	7.6	4.1	4.1	4.8
26	8.5	8.1	12	12	16	23	8.5	7.6	6.4	6.0	2.2	6.4
27	7.6	8.1	12	12	16	19	8.5	8.1	4.8	5.2	2.2	8.5
28	6.4	8.1	13	12	16	18	8.1	7.6	6.0	4.4	2.0	8.1
29	7.2	6.4	11	12	-	18	7.6	843	6.8	3.4	3.1	7.2
30	8.1	6.8	11	12	---	16	6.8	79	5.2	2.7	5.6	7.6
31	8.1	------	11	12	------	15	------	36	------	3.4	275	------
Total	470.6	368.0	309.6	376	1,148	1,590	379.5	1,466.4	2,043.4	224.8	529.2	750.9
Mean	15.2	12.3	9.99	12.1	41.0	51.3	12.6	47.3	68.1	7.25	17.1	25.0
Ac-ft	933	730	614	746	2,280	3,150	753	2,910	4,050	446	1,050	1,490

Calendar year 1954: Max 688 Min 2.2 Mean 14.7 Ac-ft 10,650
Water year 1954-55: Max 1,610 Min 2.0 Mean 26.5 Ac-ft 19,150

Peak discharge (base, 4,400 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No gage-height record Jan. 17 to Feb. 6; discharge estimated on basis of recorded range in stage, weather records, and record for San Antonio River near Falls City.

Escondido Creek at Kenedy, Tex.

Location.--Lat 28°49', long 97°52', near center of span on downstream side of bridge on U. S. Highway 181 in northwest edge of Kenedy, Karnes County, 3½ miles upstream from Dry Escondido Creek and 8½ miles upstream from mouth.

Drainage area.--82.2 sq mi.

Records available.--July 1954 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 246.40 ft above mean sea level, datum of 1929.

Extremes.--1954: No flow during period July 26 (beginning of record) to Sept. 30.
1954-55: Maximum discharge during water year, 3,370 cfs Aug. 31 (gage height 19.82 ft); no flow most of time.
Maximum stage known since at least 1887, 22.81 ft Aug. 29, 1946, from information by local residents.

Remarks.--Records fair. Flow partly regulated by four flood-detention structures (as of Oct. 1, 1955), completed above this station. Station maintained to establish rainfall-runoff relationships and to assist the Soil Conservation Service in evaluating the effect of flood-detention structures to be constructed in the basin.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0		0	0			0	a0.2	0	0	*12
2	0	0		0	0			0	a0	0	0	2.6
3	0	0		0	0			0	a0	0	*79	.4
4	0	0		0	0			0	a0	0	*144	0
5	1.2	0		0	31			0	a0	0	*.6	0
6	.1	0		0	*70			*0	a0	0	.2	0
7	.5	0		0	2.8			0	a0	0	0	0
8	.2	0		0	.5			0	a0	0	0	0
9	0	113		0	0			0	a0	0	0	0
10	0	49	(*)	0	.4			0	a0	0	0	0
11	0	*1.0		*0	1.0			0	a0	0	93	0
12	*0	1.0		0	1.0			293	*0	*17	*19	0
13	0	1.0	(*)	0	1.1			2.8	0	1.4	4.7	22
14	0	2.2		0	1.0	(*)		.9	0	0	14	.6
15	0	4.9		0	1.0			.2	0	0	8.2	.2
16	0	1.0		0	.8			0	0	0	.7	0
17	0	1.0		0	.1			0	0	0	.2	0
18	0	.9		.1	*0			1.0	0	0	.1	0
19	0	.1		0	0			12	0	0	0	0
20	0	0		0	0			2.4	0	0	0	0
21	0	0		0	0			.8	*0	0	0	0
22	*0	0		0	0			.2	*0	0	0	0
23	0	0		0	0			0	0	0	*0	0
24	0	0		0	0			0	0	0	0	0
25	0	0		0	0			0	0	0	0	0
26	0	0		0	0			0	0	0	0	0
27	*0	0		0	0			0	0	0	0	0
28	0	0		0	0		(*)	0	0	0	0	0
29	0	0		0	-			*7.0	0	0	0	0
30	0	0		0	------			*1.6	0	0	0	0
31	0	------		0	------		------	.4	------	0	*785	------
Total	2.0	175.1	0	0.1	110.7	0	0	322.3	0.2	18.4	1,148.7	37.8
Mean	0.06	5.84	0	0.003	3.95	0	0	10.4	0.01	0.59	37.1	1.26
Ac-ft	4.0	347	0	0.2	220	0	0	639	0.4	36	2,280	75

Calendar year 1954: Max - Min 0 Mean - Ac-ft -
Water year 1954-55: Max 785 Min 0 Mean 4.97 Ac-ft 3,600

* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage and known point of zero flow.

Dry Escondido Creek near Kenedy, Tex.

Location.--Lat 28°52', long 97°50', near left bank at downstream side of bridge on State Farm Road 792, 3.5 miles north of Kenedy, Karnes County, 4.0 miles upstream from Escondido Creek, and 4.0 miles southeast of Karnes City.

Drainage area.--9.43 sq mi.

Records available.--July 1954 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 276.55 ft above mean sea level, datum of 1929.

Extremes.--1954: No flow during period July 15 (beginning of record) to Sept. 30.
1954-55: Maximum discharge, 290 cfs May 12 (gage height, 7.55 ft); no flow most of time.
Maximum stage known since at least 1906, about 15.9 ft May 18, 1953, from information by local resident.

Remarks.--Records poor. Station maintained to establish rainfall-runoff relationships and to assist the Soil Conservation Service in evaluating the effect of a flood-detention structure to be constructed in the basin.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0			0			0			0	**0.5
2	0	0			0			0			0	0
3	0	0			0			0			.7	0
4	0	0			0			0			*0	0
5	.1	0			1.0			0			0	0
6	0	0			*3.5			*0			0	0
7	0	0			.1			0			0	0
8	0	0			0			0			0	0
9	0	13			0			0			0	0
10	0	3.0	(*)		0			0			0	0
11	0	*0		(*)	0			0.1		(*)	*4.6	0
12	0	0			0			20	(*)	(*)	*1.3	0
13	*0	0	(*)		0			0			0	0
14	0	0			0	(*)		0			0	0
15	0	0			0			0			0	0
16	0	0			0			0			0	0
17	0	0			0			0			0	0
18	0	0			*0			0			0	0
19	0	0			0			0			0	0
20	0	0			0			0			0	0
21	0	0			0			0			0	0
22	*0	0			0			0			*0	0
23	0	0			0			0			0	0
24	0	0			0			0			0	0
25	0	0			0			0			0	0
26	0	0			0			0			0	0
27	*0	0			0			0			0	0
28	0	0			0			0			0	0
29	0	0			-			*21			0	0
30	0	0			------			*.3			0	0
31	0	-----			-----		-----	0	------		*12	------
Total	0.1	16.0	0	0	4.6	0	0	41.4	0	0	18.6	0.5
Mean	0.003	0.53	0	0	0.16	0	0	1.34	0	0	0.60	0.02
Cfsm	0.00032	0.056	0	0	0.017	0	0	0.142	0	0	0.064	0.002
In.	0.0004	0.06	0	0	0.02	0	0	0.16	0	0	0.07	0.002
Ac-ft	0.2	32	0	0	9.1	0	0	82	0	0	37	1.0

Calendar year 1954: Max - Min 0 Mean - Cfsm - In. - Ac-ft -
Water year 1954-55: Max 21 Min 0 Mean 0.22 Cfsm 0.023 In. 0.31 Ac-ft 161

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

San Antonio River at Goliad, Tex.

Location.--Lat 28°39', long 97°22', on right bank at upstream side of pier of bridge on U. S. Highway 183, 1.3 miles southeast of courthouse in Goliad, Goliad County, and 10 miles upstream from Manahuilla Creek.

Drainage area.--3,918 sq mi.

Records available.--June 1924 to March 1929, February 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 91.08 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Prior to Mar. 31, 1929, chain gage at Texas and New Orleans Railroad bridge 0.9 mile upstream at same datum.

Average discharge.--20 years (1924-28, 1939-55), 499 cfs (361,300 acre-ft per year).

Extremes.--Maximum discharge during year, 2,320 cfs Sept. 2 (gage height, 13.83 ft); minimum, 39 cfs July 8, 10.
1924-29, 1939-55: Maximum discharge, 33,800 cfs July 9, 1942 (gage height, 44.9 ft); minimum, 35 cfs June 19, 20, Aug. 15, 1954.
Floods of October 1913 and June 15, 1935, reached about same stage as that of July 9, 1942.

Remarks.--Records good. Diversions and regulation above station (see Remarks for San Antonio River near Falls City).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

2.3	37	6.0	640
2.4	47	8.0	1,000
2.6	76	10.0	1,400
3.0	143	12.0	1,850
3.5	230	14.0	2,350
4.0	310		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	81	66	84	106	103	120	120	57	244	51	47	560
2	81	73	84	100	102	123	116	57	139	52	44	2,120
3	97	76	82	98	105	123	165	56	111	48	47	1,220
4	78	81	82	102	168	125	136	*51	92	50	86	687
5	156	81	84	102	188	125	103	45	82	45	290	310
6	210	79	84	*94	782	118	100	41	73	42	138	191
7	254	79	*82	92	1,500	116	103	40	57	44	74	147
8	390	81	84	92	1,360	113	103	40	60	40	170	127
9	302	81	79	95	1,520	116	100	43	*65	45	106	116
10	270	122	74	92	1,060	113	103	44	89	41	86	110
11	147	910	76	95	382	105	105	59	176	43	81	108
12	145	199	81	100	246	105	92	55	294	47	294	108
13	125	98	84	102	207	115	94	763	157	55	813	113
14	103	143	84	106	184	116	94	394	120	246	169	113
15	98	150	87	127	170	115	97	380	125	*97	315	102
16	95	262	82	129	*150	108	94	504	95	86	286	92
17	95	180	79	132	145	92	94	222	74	89	150	94
18	89	115	79	118	150	94	86	138	62	82	108	94
19	87	122	82	118	148	94	81	330	62	76	84	79
20	*86	113	84	105	143	94	78	382	60	120	73	76
21	79	103	87	123	134	100	62	694	56	95	70	81
22	81	97	86	374	125	100	59	748	630	86	256	78
23	81	90	82	342	116	707	57	874	1,360	68	270	79
24	79	87	86	210	122	892	60	407	267	76	125	73
25	79	82	89	132	159	538	63	215	111	81	97	68
26	84	82	92	111	143	262	63	156	87	76	*81	66
27	82	81	97	108	132	165	71	129	74	59	73	65
28	79	86	100	108	118	138	65	143	63	50	66	68
29	79	87	108	110	-	129	60	144	55	51	56	66
30	76	84	106	106	- - - -	*115	56	1,270	52	50	400	65
31	68	- - - - - -	111	106	- - - - - -	120	- - - - - -	1,260	- - - - - -	48	162	- - - - - -
Total	3,856	3,990	2,681	3,926	9,862	5,496	2,680	9,741	4,992	2,139	5,117	7,276
Mean	124	133	86.5	127	352	177	89.3	314	166	69.0	165	243
Ac-ft	7,650	7,910	5,320	7,790	19,560	10,900	5,320	19,320	9,900	4,240	10,150	14,430

Calendar year 1954: Max 1,780 Min 36 Mean 123 Ac-ft 88,960
Water year 1954-55: Max 2,120 Min 40 Mean 169 Ac-ft 122,500

Peak discharge (base, 2,200 cfs).--Sept. 2 (2 p.m.) 2,320 cfs (13.83 ft).
* Discharge measurement made on this day.

Mission River at Refugio, Tex.

Location.--Lat 28°17', long 97°17', near center of span on downstream side of bridge on U. S. Highway 77, 500 ft upstream from Missouri-Pacific Railroad bridge and a quarter of a mile southwest of Refugio, Refugio County.

Drainage area.--643 sq mi.

Records available.--July 1939 to September 1955.

Gage.--Wire-weight gage read twice daily, oftener during floods. Datum of gage is 1.68 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 72.2 cfs (52,270 acre-ft per year).

Extremes.--Maximum discharge during year, 429 cfs Oct. 24 (gage height, 6.80 ft); minimum, 2.0 cfs May 13, 14, 15.

1939-55: Maximum discharge, 41,700 cfs July 7, 1942 (gage height, 33.3 ft); minimum, observed, 0.7 cfs Oct. 7, 9, 1940, Aug. 18-20, Sept. 5, 1945, Dec. 29, 31, 1949, Jan. 1, 1950.

Maximum stage known since about 1899, that of July 7, 1942. Floods of August 1914 and May 17, 1938, reached a stage of 32.3 ft, from information by local residents.

Remarks.--Records good. No large diversion above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 7 to Aug. 9)

1.1	1.6	3.0	72
1.2	3.6	4.0	133
1.3	6.0	5.0	220
1.6	14	6.0	330
2.0	28		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	3.6	3.8	3.8	4.6	3.8	3.8	3.4	3.2	3.0	4.3	3.8
2	44	3.4	3.4	4.3	4.3	4.1	4.8	3.4	3.6	3.8	3.8	7.5
3	16	3.8	3.4	4.8	4.3	4.1	4.8	3.6	3.6	3.0	3.6	5.3
4	6.5	9.0	3.4	3.8	4.3	4.1	4.3	*3.2	4.1	3.2	3.6	3.6
5	6.5	5.3	3.6	3.8	12	4.3	4.1	3.4	3.6	3.4	3.8	3.6
6	4.6	4.3	3.6	3.8	6.5	4.1	3.8	a3.5	3.6	3.4	4.1	58
7	4.8	a3.5	*3.4	3.8	3.4	4.1	3.8	3.6	3.6	3.4	4.1	106
8	5.5	2.8	3.4	a4.3	3.0	4.1	3.6	3.6	3.4	3.4	4.3	87
9	6.5	3.0	3.4	4.8	3.4	4.1	4.6	3.6	*3.6	4.6	4.6	32
10	8.2	3.2	3.8	4.6	3.4	4.1	4.1	3.6	4.3	3.8	4.6	10
11	7.2	3.4	a4.0	*4.3	3.0	4.1	3.6	3.6	4.1	4.1	4.1	24
12	5.8	3.2	4.1	4.1	3.6	4.1	3.6	2.6	3.6	4.1	4.1	9.0
13	5.5	3.4	4.1	3.8	4.3	3.8	3.6	2.0	3.6	3.6	4.3	a6
14	5.5	3.4	3.8	3.8	4.3	3.8	3.4	2.0	3.6	*3.6	4.1	a6
15	5.5	3.2	3.8	3.6	4.1	3.6	3.4	2.0	3.4	3.6	4.6	27
16	6.2	3.2	4.1	4.6	*4.3	3.6	3.2	2.4	3.4	3.4	4.3	22
17	6.5	3.6	4.1	4.8	3.8	3.4	3.0	2.8	3.4	4.1	4.6	8.2
18	6.5	3.6	4.1	4.8	3.6	a3.8	3.0	3.2	4.8	4.1	4.6	8.8
19	6.0	3.6	3.6	4.6	4.3	4.1	3.6	3.2	4.1	4.1	11	9.0
20	*4.6	a3.6	3.6	4.8	4.1	4.1	3.8	a3.2	3.8	3.4	19	25
21	4.1	3.6	3.4	5.3	4.3	3.8	3.8	3.2	3.4	3.8	a6	42
22	4.6	3.6	3.6	a5.0	4.1	3.6	3.8	3.2	3.4	3.8	3.8	16
23	32	3.6	3.8	4.8	3.8	4.1	3.4	3.2	3.8	3.8	3.8	10
24	244	3.6	3.8	4.6	3.6	4.1	3.8	3.4	3.6	3.8	3.8	9.8
25	167	3.6	4.1	4.6	3.8	3.4	3.4	3.2	4.3	3.8	*3.8	a9
26	36	3.6	4.1	4.3	4.1	3.8	3.2	3.6	3.4	4.1	3.4	a9
27	14	a3.5	4.1	4.1	4.1	4.3	3.6	3.2	3.2	4.1	3.8	a9
28	8.8	3.4	4.6	3.8	3.8	4.1	3.6	3.0	3.2	5.0	3.8	a9
29	7.5	3.8	4.6	4.3	-	4.3	3.4	4.8	3.2	7.0	3.6	a9
30	6.0	3.8	4.3	4.6	--	*4.1	3.2	3.0	3.2	6.2	3.8	a9
31	3.6	-----	3.8	4.8	-----	4.3	-----	2.8	-----	a5.2	4.3	-----
Total	749.5	112.2	118.7	135.2	121.2	123.2	111.1	98.5	109.1	123.7	149.4	593.6
Mean	24.2	3.74	3.83	4.36	4.33	3.97	3.70	3.18	3.64	3.99	4.82	19.8
Ac-ft	1,490	223	235	268	240	244	220	195	216	245	296	1,180

Calendar year 1954: Max 244 Min 2.4 Mean 6.12 Ac-ft 4,430
Water year 1954-55: Max 244 Min 2.0 Mean 6.97 Ac-ft 5,050

Peak discharge (base, 2,500 cfs).--No peak above base.
* Discharge measurement made on this day.
a No gage-height record; discharge interpolated or estimated on basis of weather records.

Nueces River at Laguna, Tex.

Location.--Lat 29°25'45", long 99°59'50", on right bank 0.5 mile downstream from Sycamore Creek, 1 mile northeast of Laguna, Uvalde County, and at mile 395.

Drainage area.--764 sq mi.

Records available.--October 1923 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,119.72 ft above mean sea level, datum of 1929. Prior to Dec. 15, 1924, staff gage at site 2 miles downstream at different datum.

Average discharge.--32 years, 132 cfs (95,560 acre-ft per year).

Extremes.--Maximum discharge during year, 307,000 cfs Sept. 24 (gage height, 29.95 ft, in gage well, 32.7 ft, from floodmarks), from rating curve extended above 40,000 cfs on basis of slope-area determination of peak flow; minimum, 12 cfs July 15, 16.
1923-55: Maximum discharge, that of Sept. 24, 1955; minimum, 4.8 cfs Aug. 16, 17, 1953.
Maximum stage known since at least 1854, that of Sept. 24, 1955. Flood of June 1913, reached a stage of about 29 ft; flood of Sept. 21, 1923, reached a stage of about 26.5 ft; from information by local residents.

Remarks.--Records good. Small diversions above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	26	22	24	29	31	27	22	20	24	50	62
2	27	26	22	24	29	31	25	22	19	19	47	58
3	25	26	*22	25	29	31	25	22	19	17	46	55
4	24	26	22	25	29	31	25	22	20	16	41	48
5	41	25	21	25	33	31	25	22	22	15	40	44
6	48	25	21	25	33	31	25	22	21	14	38	41
7	41	25	21	25	30	30	25	21	20	20	35	40
8	34	25	22	*25	30	30	26	21	20	13	34	38
9	29	25	22	26	29	29	26	21	*18	13	33	37
10	27	26	22	26	29	29	27	26	19	14	31	37
11	27	26	22	26	29	29	26	25	18	13	33	34
12	26	26	21	26	29	29	26	25	19	14	34	34
13	26	25	21	25	29	30	25	22	19	14	35	33
14	25	25	21	25	30	30	25	21	20	*13	35	33
15	*24	24	*21	25	30	30	25	27	20	13	34	33
16	24	24	21	25	*30	30	25	22	19	13	*34	31
17	24	24	20	26	30	30	25	21	18	16	33	30
18	24	24	21	41	30	31	25	20	17	16	31	30
19	24	22	22	31	30	32	25	29	17	*674	31	29
20	24	22	22	29	29	48	25	24	19	222	30	*29
21	25	22	22	29	30	37	25	20	20	*123	30	*30
22	25	22	22	27	31	31	25	20	18	81	29	30
23	25	22	22	27	30	31	25	19	17	66	27	30
24	25	22	22	27	30	30	24	18	16	60	27	*70,300
25	26	22	24	27	30	*30	22	17	16	56	26	4,850
26	26	22	24	27	31	29	*24	16	16	58	26	1,480
27	26	22	25	27	31	29	24	17	16	56	26	*916
28	27	22	25	29	31	29	24	21	15	55	26	665
29	26	21	24	29	-	29	22	30	16	53	26	518
30	26	22	24	29	-	29	22	22	17	52	27	*436
31	26	------	24	29	------	29	------	21	------	50	34	------
Total	864	716	687	836	840	956	745	678	551	1,877	1,029	80,031
Mean	27.9	23.9	22.2	27.0	30.0	30.8	24.8	21.9	18.4	60.5	33.2	2,668
Ac-ft	1,710	1,420	1,360	1,660	1,670	1,900	1,480	1,340	1,090	3,720	2,040	158,700

Calendar year 1954: Max 3,600 Min 15 Mean 81.7 Ac-ft 59,170
Water year 1954-55: Max 70,300 Min 13 Mean 246 Ac-ft 178,100

Peak discharge (base, 1,200 cfs).--Sept. 24 (11 a.m.) 307,000 cfs (32.7 ft).
* Discharge measurement made on this day.

Nueces River below Uvalde, Tex.

Location.--Lat 29°08', long 99°54', on right bank at McDaniel Ranch, 5¾ miles upstream from bridge on U. S. Highway 83, 9 miles southwest of Uvalde, Uvalde County, 15 miles downstream from West Nueces River, and at mile 366.

Drainage area.--1,947 sq mi.

Records available.--April 1939 to September 1955. October 1927 to April 1939, published as "near Uvalde"; records equivalent except during periods of low flow when seepage inflow between sites is a material factor.

Gage.--Water-stage recorder. Datum of gage is 796.12 ft above mean sea level, datum of 1929. Oct. 4, 1927, to Apr. 30, 1939, at site 4.5 miles upstream at different datum.

Average discharge.--16 years (1939-55), 54.1 cfs (39,170 acre-ft per year).

Extremes.--Maximum discharge during year, 189,000 cfs Sept. 24 (gage height, 21.13 ft in gage well, 24.61 ft, from floodmark), from rating curve extended above 34,000 cfs on basis of slope-area determination of peak flow; no flow at times.
1939-55: Maximum discharge, that of Sept. 24, 1955; no flow at times 1951-55.
Maximum stage known since at least 1836, 40.4 ft June 14, 1935, from floodmarks (discharge at former site, 616,000 cfs, by slope-area determination).

Remarks.--Records good except those below 10 cfs, which are fair. Part of flow of Nueces River enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde. At low stages most of headwater flow enters this formation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.4	0.8							0	0.6	0
2	0	.1	.8							0	.4	0
3	0	0	*.8							0	.3	0
4	0	0	.7							0	.2	0
5	a1.2	0	.7							0	.2	0
6	a2.8	0	.6						(*)	0	.1	0
7	a2.1	.2	.6							0	.1	0
8	a2.1	.3	.5							0	.1	0
9	a2.1	.2	.5		(*)					0	0	0
10	a2.1	.3	.5	(*)						0	0	0
11	a2.1	.8	.5							0	0	0
12	a2.1	.4	.5							0	0	0
13	a1.8	.6	.1							*0	0	0
14	a1.8	.8	0							0	0	0
15	*1.8	1.0	0							0	0	0
16	1.8	1.0	0							0	*0	0
17	1.8	1.0	0							0	0	0
18	1.8	1.0	0							7.4	0	0
19	1.8	1.0	0							5.5	0	0
20	1.8	1.0	0							3.5	0	0
21	1.8	1.0	0							3.1	0	*0
22	1.8	1.0	0							2.4	0	0
23	1.8	.8	0							2.1	0	0
24	1.6	.8	0							1.8	0	*33,900
25	1.6	.8	0				(*)			1.6	0	*34,300
26	1.0	.8	0							1.4	0	*3,220
27	.8	.8	0			(*)				1.2	0	*1,130
28	1.0	.8	0							1.0	0	552
29	1.2	.8	0		--					.8	0	353
30	1.2	.8	0							.7	0	*235
31	1.0	----	0		------		------		------	.6	0	------
Total	45.8	18.5	7.6	0	0	0	0	0	0	33.1	2.0	73,690
Mean	1.48	0.62	0.25	0	0	0	0	0	0	1.07	0.06	2,456
Ac-ft	91	37	15	0	0	0	0	0	0	66	4.0	146,200

Calendar year 1954: Max 7,980 Min 0 Mean 75.2 Ac-ft 54,460
Water year 1954-55: Max 34,300 Min 0 Mean 202 Ac-ft 146,400

Peak discharge (base, 1,000 cfs).--Sept. 24 (6:30 p.m.) 189,000 cfs (24.61 ft).
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for stations at Laguna and near Asherton.

Nueces River near Asherton, Tex.

Location.--Lat 28°30', long 99°42', on right bank just downstream from bridge on State Farm to Market Road 190 between Asherton and Brundage, 1.2 miles downstream from El Moro Creek, 5.5 miles northeast of Asherton, Dimmit County, and at mile 288.

Drainage area.--4,082 sq mi.

Records available.--October 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 470.92 ft above mean sea level, datum of 1929. Prior to Feb. 2, 1940, chain gage at same site and datum.

Average discharge.--16 years, 133 cfs (96,290 acre-ft per year).

Extremes.--Maximum discharge during year, 15,100 cfs Sept. 27 (gage height, 29.64 ft); no flow at times.

1939-55: Maximum discharge, 24,000 cfs Sept. 2, 1944 (gage height, 30.40 ft); no flow at times.

Maximum stage known, about 33 ft June 17, 1935, present site and datum (based on relation determined from levels to floodmarks of June 17, 1935, and Sept. 2, 1944, floods at farmhouse on left bank 0.8 mile upstream from gage).

Remarks.--Records good. Part of flow of Nueces River and its headwater tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde. At low stages most of headwater flow enters this formation. Flow slightly regulated by several small reservoirs above station. Diversions above station for irrigation.

Revisions (water years).--WSP 1118: 1944.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 7-17, May 19, 29, 30, Sept. 26, 27, 29, 30)

1.5	0	7.0	436
1.6	.4	10.0	920
1.7	1.2	14.0	1,720
1.8	2.6	20.0	3,300
1.9	5.1	25.0	5,250
2.1	14	27.0	6,800
2.4	28	28.0	8,200
3.0	54	29.0	10,800
4.0	117	30.0	19,600
5.0	202		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0							0	1.6	0	1.3	1,520
2	0							0	.3	0	1.0	2,120
3	0							0	0	0	.9	2,010
4	0							0	0	0	1.1	1,570
5	113							0	0	0	1.0	904
6	492							0	.8	0	.6	371
7	607							0	8.0	0	.1	165
8	504							0	*3.2	0	0	110
9	812							0	.7	0	0	77
10	1,050							0	.2	0	0	50
11	776							0	0	0	0	34
12	371			(*)				0	0	0	0	31
13	*197							0	0	0	0	58
14	120							0	0	0	0	49
15	77							0	0	0	0	38
16	47				(*)			0	0	0	0	21
17	30							0	0	0	38	5.1
18	16							0	0	0	66	1.6
19	6.3							.2	0	*373	30	.6
20	2.2							0	0	*3,000	32	**.2
21	.7					(*)		0	0	*3,840	3.5	0
22	.4							0	0	3,150	1.6	0
23	.4							0	0	1,200	.8	0
24	.4							0	0	224	**.2	0
25	.4							0	0	92	0	682
26	.3						(*)	0	0	54	0	*6,280
27	.1							0	0	34	0	*13,000
28	.1							0	0	20	0	9,690
29	0				-			18	0	8.0	0	5,640
30	0	(*)			--			30	0	4.0	0	2,560
31	0	------			------		------	6.8	------	2.2	322	------
Total	5,223.3	0	0	0	0	0	0	55.0	14.8	12,001.2	500.1	46,987.5
Mean	168	0	0	0	0	0	0	1.77	0.49	387	16.1	1,566
Ac-ft	10,360	0	0	0	0	0	0	109	29	23,800	992	93,200

Calendar year 1954: Max 5,130 Min 0 Mean 137 Ac-ft 99,510
Water year 1954-55: Max 13,000 Min 0 Mean 177 Ac-ft 128,500

Peak discharge (base, 3,000 cfs).--July 21 (3:30 p.m.) 3,940 cfs (22.08 ft); Sept. 27 (2 p.m.) 15,100 cfs (29.64 ft).

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

** Field estimate made on this day.

Nueces River at Cotulla, Tex.

Location.--Lat 28°26', long 99°16', near left bank on downstream side of bridge on U. S. Highway 81, at Cotulla, La Salle County, a third of a mile upstream from International-Great Northern Railroad bridge and at mile 236.
Drainage area.--5,260 sq mi.
Records available.--July 1915 to June 1918, October 1923 to September 1955. Published as "near Cotulla" 1915-18. Gage-height records collected in this vicinity, 1914-17 and since 1922, are contained in reports of U. S. Weather Bureau.
Gage.--Wire-weight gage read once daily. Datum of gage is 368.08 ft above mean sea level, datum of 1929. July 1, 1915, to June 13, 1918, staff gage at Hargus Dam, 4 miles upstream at different datum. Oct. 31, 1923, to Aug. 3, 1924, staff gage at approximate site of present gage at datum 7.28 ft higher. Aug. 4, 1924, to Nov. 19, 1934, staff gage at site 5,000 ft downstream at datum 8.42 ft higher. Nov. 20, 1934, to July 15, 1938, water-stage recorder at present site and datum.
Average discharge.--32 years (1923-55), 273 cfs (197,600 acre-ft per year).
Extremes.--Maximum discharge during year, 10,900 cfs Sept. 30 (gage height, 18.25 ft); no flow at times.
1923-55: Maximum discharge, 82,600 cfs June 18, 1935 (gage height, 32.4 ft, from floodmarks), from rating curve extended above 41,000 cfs on basis of slope-area determination of peak flow; no flow at times.
Maximum stage known since 1899, that of June 18, 1935. Flood of June 19, 1899, reached a stage of 29.7 ft, from information by local residents.
Remarks.--Records good. Part of flow of Nueces River and its headwater tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde. At low stages, most of the headwater flow enters this formation. Low flow slightly regulated by small storage reservoirs above station; most of it is diverted above station by pumping.
Cooperation.--Gage-height record furnished by U. S. Weather Bureau.
Revisions.--WSP 568: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 29, 30)

7.4	0	9.0	325
7.5	.3	9.5	493
7.6	2.0	10.0	713
7.7	7.2	11.0	1,280
7.8	14	12.0	2,000
7.9	24	13.0	2,920
8.0	40	14.0	4,060
8.2	88	15.0	5,500
8.5	173	17.0	9,200

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0							0	0.2	0	14	203
2	0							0	0	0	7.9	293
3	0							0	0	0	4.2	869
4	0							0	0	0	1.7	1,340
5	0							0	0	0	.3	1,640
6	0							0	9.5	0	.2	1,800
7	0							0	.4	0	.2	1,600
8	31							0	**.3	0	0	1,100
9	368							0	0	0	0	455
10	413							0	0	0	0	233
11	619							26	0	0	0	144
12	763			(*)				50	0	0	0	91
13	*713							4.7	0	0	0	57
14	387							.5	0	0	0	44
15	224							.3	0	0	0	88
16	122				(*)			0	0	0	0	110
17	80							0	0	0	0	82
18	48							17	0	0	0	44
19	30							189	0	*0	0	23
20	17							103	0	0	0	*18
21	8.6							16	0	0	0	11
22	3.7					(*)		4.7	0	67	0	6.5
23	2.0							.7	0	1,030	2.8	1.2
24	.6							.3	0	1,920	*2.8	.4
25	.3							0	0	2,180	1.2	.2
26	.3							0	0	1,180	.2	.1
27	.2							0	0	329	0	113
28	.1							24	0	122	0	1,000
29	.1	(*)						114	0	62	0	3,070
30	0							4.7	0	32	0	*8,910
31	0							.4		15	33	
Total	3,830.9	0	0	0	0	0	0	555.3	10.4	6,937	68.5	23,346.4
Mean	124	0	0	0	0	0	0	17.9	0.35	224	2.21	778
Ac-ft	7,600	0	0	0	0	0	0	1,100	21	13,760	136	46,310

Calendar year 1954: Max 4,330 Min 0 Mean 143 Ac-ft 103,300
Water year 1954-55: Max 8,910 Min 0 Mean 95.2 Ac-ft 68,930

Peak discharge (base, 3,200 cfs).--Sept. 30 (12 p.m.) 10,900 cfs (18.25 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Nueces River near Tilden, Tex.

Location.--Lat 28°18', long 98°34', on left bank at downstream side of pier of bridge on State Highway 173, 2 miles upstream from Cow Creek, 10.5 miles south of Tilden, McMullen County, and at mile 141.

Drainage area.--8,192 sq mi.

Records available.--November 1942 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 183.5 ft above mean sea level, datum of 1929 (levels by Topographic Division).

Average discharge.--12 years (1943-55), 366 cfs (265,000 acre-ft per year).

Extremes.--Maximum discharge during year, 1,710 cfs June 3 (gage height, 14.71 ft); no flow at times.
1942-55: Maximum discharge, 57,500 cfs Oct. 11, 1946 (gage height, 26.46 ft), from rating curve extended above 30,000 cfs; no flow at times.

Remarks.--Records good. Part of flow of Nueces River and its headwater tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde. At low stage most of headwater flow enters this formation. Diversions for irrigation above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 19-23, June 4-11)

2.0	0	4.0	49
2.1	.1	5.0	105
2.2	.9	6.5	230
2.3	1.9	8.0	390
2.4	3.4	10.0	676
2.6	7.4	12.0	1,020
3.0	16	15.0	1,830
3.5	29		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	899	0.4	0.1	0	0.3			0	1,160	0	133	0
2	470	.2	.1	0	.3			0	1,370	0	69	0
3	127	.1	.1	0	.3			0	1,630	0	42	0
4	39	7.5	.1	0	.3			0	873	0	52	55
5	40	4.0	.1	0	1.0			*0	87	0	16	262
6	187	.5	.1	0	1.9			0	50	0	8.0	442
7	140	.2	0	0	1.6			0	42	0	4.0	556
8	42	.1	*0	0	.9			0	64	0	1.9	710
9	50	0	0	0	.6			23	116	0	.9	953
10	34	443	0	0	.7			260	*80	0	.5	1,200
11	17	1,060	0	0	.9			83	*48	0	.3	1,340
12	15	860	0	*0	.6			233	32	0	.1	1,420
13	13	260	0	0	.5			661	21	*0	0	1,420
14	261	210	0	0	.4			812	15	0	6.1	500
15	481	77	0	.4	.3			881	8.4	0	10	174
16	571	23	0	.6	.2			718	5.0	0	75	235
17	468	13	0	.7	**.1			220	3.5	0	49	174
18	250	6.4	0	.8	.1			93	1.9	0	16	112
19	145	4.0	0	.6	.1			77	.9	0	5.2	119
20	93	2.3	0	.6	0			58	.4	0	2.2	96
21	*60	1.4	0	.6	0			66	.3	0	1.1	63
22	39	1.0	0	.6	0			226	.1	0	.5	47
23	29	.6	0	.6	0			225	0	.4	.2	134
24	19	.6	0	.7	0			108	0	.1	**.1	90
25	13	.7	0	.8	0			54	0	0	0	39
26	8.4	.7	0	.8	0			25	0	0	0	33
27	5.2	.4	0	.7	0			15	0	354	0	12
28	3.7	.3	0	.6	0			12	0	571	0	6.4
29	2.3	.2	0	.5	-			200	0	727	0	3.7
30	1.2	.2	0	.4	--			444	0	744	0	9.0
31	.7	------	0	.4	------	(*)	------	971	------	371	0	------
Total	4,523.5	2,977.8	0.6	10.4	11.1	0	0	6,465	5,608.5	2,767.5	493.1	10,205.1
Mean	146	99.3	0.02	0.34	0.40	0	0	209	187	89.3	15.9	340
Ac-ft	8,970	5,910	1.2	21	22	0	0	12,820	11,120	5,490	978	20,240

Calendar year 1954: Max 16,000 Min 0 Mean 293 Ac-ft 212,100
Water year 1954-55: Max 1,630 Min 0 Mean 90.6 Ac-ft 65,570

Peak discharge (base, 3,600 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Frio River at Concan, Tex.

Location.--Lat 29°29', long 99°42', on left bank half a mile southeast of Concan Post Office, Uvalde County, and 15 miles upstream from Dry Frio River.

Drainage area.--405 sq mi.

Records available.--October 1923 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,203.71 ft above mean sea level, datum of 1929. Oct. 26, 1923, to July 28, 1924, staff gage at site 86 ft upstream at same datum 5.08 ft lower. July 29, 1924, to Oct. 31, 1930, combination staff and chain gage and Oct. 4, 1930, to May 18, 1939, water-stage recorder, at site 130 ft downstream at same datum.

Average discharge.--30 years (1924-29, 1930-55), 88.8 cfs (64,290 acre-ft per year).

Extremes.--Maximum discharge during year, 2,760 cfs May 19 (gage height, 6.66 ft); minimum observed, 4.0 cfs Oct. 17, 26.
1923-55: Maximum discharge, 162,000 cfs July 1, 1932 (gage height, 34.44 ft, from floodmarks), from rating curve extended above 7,400 cfs on basis of slope-area determinations at gage heights 16.40 and 34.44 ft; minimum, 0.1 cfs Aug. 17, 1953.
Maximum stage known since at least 1869, that of July 1, 1932.

Remarks.--Records good except those for periods of indefinite stage-discharge relation, which are fair. Part of flow of Frio River enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde and below station. Most of low flow enters this formation.

Revisions.--WSP 1342: Drainage area.

Rating table, water year 1954-55, except periods of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

3.4	8.2	4.3	212
3.6	18	4.6	370
3.8	48	5.0	660
4.0	98		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7	5	*5.7	9.8	16	18	13	9.8	15	8.9	18	9.2
2	8	5	6	10	16	18	14	9.8	15	9.5	18	9.2
3	8	5	8.7	11	16	18	16	9.5	14	11	18	8.9
4	9	*5.8	8.7	11	20	18	15	9.5	16	8.7	16	8.9
5	9.5	6	9.8	10	20	18	13	9.5	20	8	16	8.6
6	11	6	9.5	9.8	23	18	13	9.2	18	7	16	8.6
7	9.2	7	9.8	*9.5	20	18	13	8.2	*15	7	16	8.6
8	8.6	8	9.5	10	18	18	12	8.7	14	7	16	8.6
9	8.2	8	9.8	12	18	18	12	8.4	14	6	16	8.6
10	8.2	8.6	9.2	13	18	16	14	215	18	6	18	*8.4
11	7	8.6	9.2	12	18	18	14	117	18	6	20	8.2
12	6	8.6	9.5	12	18	16	13	*37	16	6	18	8.2
13	6	8.6	9.8	12	18	18	11	20	16	*5.5	20	8.2
14	5	8.2	9.8	12	18	16	11	12	15	5	18	8.6
15	4	8.4	9.8	12	*18	15	11	15	15	5	16	8.4
18	4	8.7	9.5	12	18	16	11	15	14	5	*16	8.4
17	*4.0	8.9	9.2	13	18	16	11	15	14	447	14	8.4
18	4	9	9.2	24	18	18	11	15	12	*76	14	8.4
19	4	9	9.8	18	18	20	11	434	12	*228	14	8.2
20	4	8	9.5	14	18	28	11	73	14	70	14	8.7
21	4	8	9.5	14	18	20	10	37	20	34	13	*9.5
22	4	8	9.5	14	16	18	10	28	14	24	13	8.9
23	4	8	9.2	14	16	18	9.8	23	12	20	12	8.7
24	4	8	8.9	14	16	18	9.5	20	14	18	11	510
25	4	7	10	14	16	18	10	20	14	18	10	143
26	*4.0	7	10	15	18	*16	10	18	12	16	9.8	54
27	4	7	9.5	15	18	16	*10	18	11	18	9.8	32
28	4	6	8.9	15	18	16	10	18	11	16	9.8	25
29	4	6	9.2	15	-	14	10	20	9.8	16	9.8	20
30	5	6	9.5	15	------	12	9.8	20	8.9	18	9.5	18
31	5	------	9.8	15	------	14	------	16	------	18	11	------
Total	180.7	221.4	286.0	407.1	501	539	349.1	1,288.6	431.7	1,146.6	450.7	1,000.4
Mean	5.83	7.38	9.23	13.1	17.9	17.4	11.6	41.6	14.4	37.0	14.5	33.3
Ac-ft	358	439	567	807	994	1,070	692	2,560	856	2,270	894	1,980

Calendar year 1954: Max 2,190 Min 4 Mean 32.3 Ac-ft 23,350
Water year 1954-55: Max 510 Min 4 Mean 18.6 Ac-ft 13,490

Peak discharge (base, 750 cfs).--May 10 (6 p.m.) 1,890 cfs (6.10 ft); May 19 (8 a.m.) 2,760 cfs (6.66 ft); July 17 (4:30 a.m.) 2,670 cfs (6.60 ft); Sept. 24 (10:30 a.m.) 2,340 cfs (6.39 ft).
* Discharge measurement made on this day.
Note.--Stage-discharge relation indefinite Oct. 1-4, Oct. 11 to Nov. 9, Nov. 18 to Dec. 2, July 5-16; discharge estimated on basis of discharge measurements.

Dry Frio River near Reagan Wells, Tex.

Location.--Lat 29°30', long 99°47', on right bank about 1,000 ft upstream from Aldine School, 2 miles upstream from Rock Creek, and 4 miles southeast of Reagan Wells, Uvalde County.

Drainage area.--117 sq mi.

Records available.--September 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,335.2 ft above mean sea level, adjustment unknown (levels by Ground Water Branch).

Extremes.--Maximum discharge during year, 23,200 cfs Sept. 24 (gage height, 18.68 ft, from floodmarks), from rating curve extended above 700 cfs on basis of slope-area determination at gage height 14.12 ft and at 26.0 ft stage (made at site 2.6 miles upstream); minimum 0.4 cfs July 12-14.
1952-55: Maximum discharge, that of Sept. 24, 1955; no flow at times.
Flood of June 14, 1935, reached a stage of 26.0 ft, from information by local resident (discharge at site 2.6 miles, revised, upstream, 64,700 cfs, by slope-area determination of peak flow).

Remarks.--Records fair. Part of flow of Dry Frio River enters Edwards Limestone in Balcones fault zone which crosses basin just north of Uvalde and below station. Most of low flow enters this formation.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 12-19, Aug. 19 to Sept. 30)

1.7	0.4	2.6	43
1.8	.6	2.7	64
1.9	1.0	2.8	90
2.0	1.6	3.0	155
2.1	2.4	3.4	340
2.2	4.0	4.0	670
2.3	8.0	5.0	1,260
2.4	16	6.0	1,900
2.5	28	7.0	2,640

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5	2.6	*1.8	2.4	3.6	4.0	3.0	2.2	2.6	a1	6.1	1.6
2	1.4	2.6	1.8	2.4	3.6	4.3	3.0	2.4	2.4	a1	5.6	1.6
3	1.3	2.4	1.8	2.4	3.8	4.3	3.0	2.2	2.2	a1	5.3	1.6
4	1.3	2.4	1.8	2.4	3.8	4.3	3.0	2.2	2.2	a1	5.0	1.6
5	1.7	2.4	1.9	2.4	4.6	4.3	3.0	2.2	2.2	a1	4.6	1.5
6	1.9	2.4	1.9	2.4	7.0	4.3	3.0	2.1	2.2	a.5	4.3	1.5
7	2.0	2.2	1.9	*2.4	6.1	4.3	2.8	2.0	*2.2	a.5	4.0	1.4
8	2.6	2.2	1.9	2.4	5.6	4.3	2.8	2.0	2.2	a.5	3.8	1.3
9	3.6	2.1	1.9	2.4	5.3	4.0	2.8	2.0	2.2	a.5	3.6	*1.2
10	3.8	2.1	1.9	2.4	4.6	4.0	2.8	2.1	2.4	a.5	3.6	1.2
11	3.6	2.0	1.9	2.4	4.6	4.0	2.7	1.9	2.4	a.5	3.6	1.2
12	3.4	2.0	1.9	2.4	4.6	4.0	2.7	1.9	2.2	*.4	3.6	1.2
13	3.4	1.9	1.9	2.6	4.6	4.0	2.6	2.2	2.2	.4	6.1	1.2
14	3.3	1.9	1.9	2.6	4.3	4.0	2.6	2.4	2.1	.4	6.6	1.2
15	3.1	1.9	2.0	2.6	*4.3	4.0	2.6	2.6	2.1	.5	5.0	1.1
16	3.1	1.9	*2.0	2.6	4.3	a4	2.6	2.6	2.0	.5	*4.6	1.0
17	*3.1	1.9	2.0	2.7	4.3	a4	2.4	2.6	2.0	.8	4.0	.9
18	3.1	1.9	2.0	2.7	4.3	a4	2.4	2.6	1.9	1.6	3.8	.9
19	3.0	1.9	2.0	3.8	4.3	a4	2.4	6.3	1.9	62	5.0	.8
20	3.0	1.9	2.0	4.3	4.0	a6	2.4	4.0	1.9	32	2.4	.8
21	2.8	1.8	2.0	4.3	4.0	a5	2.4	3.4	1.9	*22	2.1	*.8
22	2.7	1.9	2.0	4.0	4.0	a5	2.4	3.1	1.8	18	1.9	.8
23	2.7	1.8	2.1	3.8	4.0	4.6	2.4	3.1	1.9	15	1.9	.8
24	2.7	1.8	2.1	3.8	4.0	4.3	2.4	3.0	1.8	14	1.9	2,550
25	2.7	1.7	2.1	3.8	3.8	3.8	2.4	2.8	1.7	12	1.7	*284
28	2.7	1.7	2.1	3.6	3.8	*3.4	2.4	2.4	1.6	10	1.7	91
27	2.7	1.7	2.1	3.6	4.0	3.4	*2.4	2.4	1.4	9.5	1.6	58
28	2.7	1.8	2.2	3.6	4.0	3.3	2.4	2.4	a1	8.8	1.6	43
29	2.7	1.8	2.2	3.6	-	3.3	2.2	2.4	a1	8.0	1.6	37
30	2.6	1.8	2.2	3.6	------	3.3	2.2	2.6	a1	7.0	1.6	31
31	2.6	------	2.4	3.6	------	3.3	------	2.7	------	6.6	1.6	------
Total	82.8	60.4	61.7	94.0	123.2	126.8	78.2	80.8	58.6	237.5	109.8	3,121.2
Mean	2.67	2.01	1.99	3.03	4.40	4.09	2.61	2.61	1.95	7.66	3.54	104
Ac-ft	164	120	122	186	244	252	155	160	116	471	218	6,190

Calendar year 1954: Max 1,640 Min 1.0 Mean 13.0 Ac-ft 9,450
Water year 1954-55: Max 2,550 Min 0.4 Mean 11.6 Ac-ft 8,400

Peak discharge (base, 330 cfs).--Sept. 24 (6 a.m.) 23,200 cfs (18.68 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage.

Frio River below Dry Frio River near Uvalde, Tex.

Location.--Lat 29°14'55", long 99°40'24", on right bank 1 mile upstream from crossing of old Uvalde-Sabinal road, 4.3 miles downstream from Dry Frio River, 5 miles downstream from bridge on U. S. Highway 90, and 7.4 miles northeast of Uvalde, Uvalde County.
Drainage area.--661 sq mi.
Records available.--October 1953 to September 1955. Sum of records published as Frio River at Knippa and Dry Frio River at Knippa for period September 1952 to September 1953 is equivalent to record for this station.
Gage.--Water-stage recorder. Datum of gage is 882.47 ft above mean sea level, datum of 1929.
Extremes.--Maximum discharge during year, 8,680 cfs Sept. 24 (gage height, 11.03 ft, from floodmark), from rating curve explained below; no flow most of time.
1953-55: Maximum discharge, 24,400 cfs May 25, 1954 (gage height, 15.18 ft, from floodmark), from rating curve extended above 4,800 cfs on basis of slope-area determination of peak flow; no flow most of time.
Maximum stage known since at least 1887, about 35 ft in 1894. Flood of July 1, 1932, reached a stage of about 30 ft. A higher flood than that of 1894 occurred prior to 1887. Above information by local residents.
Remarks.--Records fair. Part of flow of Frio River enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde and above station. Most of low flow enters this formation. Diversions for irrigation above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Sept.	24.....	1,870	
	25.....	705	
	26.....	52	
	27.....	1.6	

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

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
September 1955.....	2,628.6	1,870	0	87.6	5,210
Calendar year 1954.....	-	5,910	0	21.6	15,610
Water year 1954-55.....	-	1,870	0	7.20	5,210

Sabinal River near Sabinal, Tex.

Location.--Lat 29°30', long 99°29', on right bank 470 ft upstream from low-water crossing on old Sabinal-Utopia road, 3.5 miles downstream from Onion Creek, and 12 miles north of Sabinal, Uvalde County.
Drainage area.--206 sq mi.
Records available.--October 1942 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 1,131.20 ft above mean sea level, datum of 1929.
Average discharge.--13 years, 18.6 cfs (13,470 acre-ft per year).
Extremes.--Maximum discharge during year, 644 cfs May 19 (gage height, 2.89 ft); no flow most of time.
1942-55: Maximum discharge, 15,800 cfs May 24, 1954 (gage height, 14.18 ft), from rating curve extended above 1,000 cfs on basis of slope-area determination at gage heights 9.61, 11.10, 14.18, and 29.9 ft.
Flood of July 2, 1932, reached a stage of about 29.9 ft, from information by local residents (discharge, 72,000 cfs, by slope-area determination, at Sabinal 12 miles downstream from gage).
Remarks.--Records good. Small diversions above station for irrigation.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.1	0	1.6	60
1.2	1.4	1.8	120
1.3	8.6	1.9	156
1.4	21		

Discharge, in cubic feet per second, water year October 1954 to September 1955

May	19.....	155	July	18.....	49
	20.....	18		19.....	48
	21.....	3.1		20.....	13
June	21.....	4.2		21.....	4.6
	22.....	2.5		22.....	0.4

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

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
May 1955.....	176.1	155	0	5.68	349
June.....	6.7	4.2	0	.22	13
July.....	115	49	0	3.71	228
Calendar year 1954.....	-	2,470	0	10.8	7,790
Water year 1954-55.....	-	155	0	.82	590

Peak discharge (base, 4,000 cfs).--No peak above base.

Sabinal River at Sabinal, Tex.

Location.--Lat 29°19', long 99°29', near center of span at downstream side of bridge on U. S. Highway 90, about 1,000 ft downstream from Southern Pacific Lines Railroad bridge, 0.8 mile west of Sabinal, Uvalde County, and 6.5 miles upstream from Ranchero Creek.

Drainage area.--247 sq mi.

Records available.--September 1952 to September 1955.

Gage.--Wire-weight gage read once daily, oftener during floods. Datum of gage is 882.17 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 51 cfs Oct. 6 (gage height, 4.83 ft); no flow at times.
1952-55: Maximum discharge, 15,900 cfs May 24, 1954 (gage height, 19.56 ft, from floodmark), from rating curve extended above 3,500 cfs on basis of slope-area determination of peak flow; no flow at times.

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

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.1	0.1	0.4	0.3	0.7	0.2	0	0.2	0	0.4
2	.2	.1	*.1	.1	.4	.3	.7	.2	0	.1	0	.4
3	0	.1	0	.1	.4	.3	.7	.2	0	.1	0	.5
4	.1	.1	0	.1	.4	.3	.7	.2	0	.1	0	.4
5	.2	.1	0	.1	.7	.4	.7	.2	0	.1	0	.5
6	24	.1	0	.1	.4	.3	.7	.2	0	.1	0	.5
7	6.4	.1	0	.1	.3	.3	.7	.2	0	.1	0	.5
8	.1	.1	0	.1	.3	.3	.7	.2	0	.1	0	.6
9	.1	.1	.1	.1	.4	.3	.7	.1	**.4	.1	0	.7
10	.1	.1	.1	**.1	*.4	.3	.7	.1	.4	.1	0	.7
11	.1	.1	.1	.1	.4	.3	.6	.1	.5	.1	0	.6
12	.1	.1	.1	.1	.4	.3	.6	.1	.6	*0	.2	.5
13	.1	.1	.1	.1	.4	.3	.6	0	.6	0	0	.5
14	**.1	.1	0	.1	.4	.3	.6	0	.5	0	0	.5
15	.1	.1	0	.1	.4	.3	.6	0	.4	0	0	.4
16	.1	0	.1	.1	.4	.2	.5	0	.4	0	0	.4
17	.1	.1	.1	.1	.4	.2	.5	0	.4	0	0	.4
18	.1	.1	.1	1.1	.4	.2	.5	0	.4	0	0	.4
19	.1	.1	.1	.7	.4	.2	.5	.1	.3	0	**.7	.4
20	.1	.1	.1	.4	.4	.2	.5	0	.3	0	.5	.4
21	.1	.1	.1	.4	.4	*.8	.4	0	.4	0	.4	.4
22	.1	0	.1	.3	.4	.8	.4	0	.4	0	.4	.4
23	0	0	.1	.3	.4	.7	.4	0	.4	0	.4	**.4
24	.1	.1	.1	.3	.4	.7	.3	0	.3	0	.4	.4
25	.1	.1	.1	.3	.3	.7	.4	0	.3	0	.4	.3
26	.1	.1	.1	.3	.3	.7	*.3	0	.3	0	.4	.3
27	.1	0	.1	.3	.3	.7	.3	0	.3	0	.4	.3
28	.1	0	.1	.3	.3	.7	.3	0	.3	0	.4	.2
29	.1	0	.1	.4	-	.7	.3	.1	.2	0	.4	.2
30	.1	.1	.1	.4	------	.7	.2	0	.2	0	.4	.2
31	.1	------	.1	.4	------	.7	------	0	------	0	.4	------
Total	33.3	2.4	2.3	7.6	10.9	13.5	15.8	2.2	8.3	1.2	5.8	12.8
Mean	1.07	0.08	0.07	0.25	0.39	0.44	0.53	0.07	0.28	0.04	0.19	0.43
Ac-ft	66	4.8	4.6	15	22	27	31	4.4	16	2.4	12	25

Calendar year 1954: Max 3,730 Min 0 Mean 11.9 Ac-ft 8,600
Water year 1954-55: Max 24 Min 0 Mean 0.32 Ac-ft 230

Peek discharge (base, 1,500 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Hondo Creek near Tarpley, Tex.

Location.--Lat 29°34', long 99°15', on left bank 460 ft downstream from county low-water crossing, 6.2 miles southeast of Tarpley, Bandera County, and 16.7 miles northwest of Hondo.

Drainage area.--86.2 sq mi.

Records available.--August 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,169.1 ft above mean sea level, adjustment unknown (Magnolia Oil Co. benchmark).

Extremes.--Maximum discharge during year, 1,570 cfs Mar. 20 (gage height, 6.02 ft), from rating curve extended above 290 cfs on basis of slope-area determinations of peak flow of floods of Sept. 4, 1953, and May 24, 1954; no flow at times.
1952-55: Maximum discharge, 18,600 cfs May 24 (gage height, 15.46 ft), from rating curve explained above; no flow at times.
Maximum stage known since at least 1907, 26.0 ft in July 1932, from information by local resident.

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

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9			0	0.1	0.2	0.7	0	0.1	0	0	
2	.9		(*)	0	.1	.2	.7	0	.1	0	0	
3	.3			0	.1	.2	.7	0	.1	0	0	
4	.4			0	2.4	.2	.5	0	.1	0	0	
5	.2			0	6.0	.1	.5	0	0	0	0	
6	.2			0	7.0	.1	.5	0	0	0	0	
7	.1			0	6.6	.1	.6	0	0	0	0	
8	35			0	1.7	.1	.3	0	0	0	0	
9	3.6			0	1.2	.1	.4	0	0	0	0	
10	1.9			0	1.3	.1	.4	.2	*0	0	0	
11	.8			*0	.4	.1	.3	*2.6	0	0	0	
12	*.5			0	.3	.1	.4	1.2	0	0	0	
13	.5			0	.3	.1	.3	.7	0	0	0	
14	.3			0	.3	.1	.2	.4	0	*0	0	
15	.2			0	.3	.1	.2	.3	0	0	0	
16	.2			0	.3	.1	.1	.3	0	0	0	
17	.1			0	**.3	.1	.1	.3	0	23	*0	
18	.1			0	.2	.1	.1	.3	0	33	0	
19	.1			0	.3	.1	.1	52	0	.8	2.7	
20	.1			0	.3	168	.1	2.9	0	.3	0	
21	.1			.8	.3	8.6	.1	1.2	0	.1	0	
22	.1			.6	.3	*2.9	.1	.6	0	0	0	(*)
23	.1			.6	.2	2.5	.1	.5	0	0	0	
24	0			.6	.2	2.1	0	.3	0	0	0	
25	*0			.5	.2	1.9	0	.3	0	0	0	
26	0			.4	.2	1.3	0	.1	0	0	0	
27	0			.3	.2	.8	0	.1	0	.4	0	
28	0			.3	.3	.9	*0	.1	0	0	0	
29	0			.2	-	.8	0	.1	0	0	0	
30	0			.2	- - -	.8	0	.1	0	0	0	
31	0	- - - - -		.1	- - - - -	.7	- - - - -	.1	- - - - -	0	0	- - - - -
Total	48.7	0	0	4.6	31.4	193.6	7.5	64.7	0.4	57.6	2.7	0
Mean	1.57	0	0	0.15	1.12	6.25	0.25	2.09	0.01	1.86	0.09	0
Ac-ft	97	0	0	9.1	62	384	15	128	0.8	114	5.4	0

Calendar year 1954: Max 975 Min 0 Mean 4.89 Ac-ft 3,540
Water year 1954-55: Max 168 Min 0 Mean 1.13 Ac-ft 815

Peak discharge (base, 1,000 cfs).--Mar. 20 (1 a.m.) 1,570 cfs (6.02 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Hondo Creek near Hondo, Tex.

Location.--Lat 29°27', long 99°11', on left bank 43 ft upstream from Schlentz's Crossing, 7.8 miles northwest of Hondo, Medina County, and 13.5 miles upstream from Verde Creek.
Drainage area.--132 sq mi.
Records available.--August 1952 to September 1955.
Gage.--Water-stage recorder and concrete control. Datum of gage is 986.4 ft above mean sea level (Western Geophysical benchmark).
Extremes.--Maximum discharge during year, 1,260 cfs Mar. 20 (gage height, 3.24 ft, from floodmark), from rating curve as explained below; no flow most of time.
1952-55: Maximum discharge, 13,700 cfs May 24, 1954 (gage height, 10.90 ft), from rating curve extended above 450 cfs on basis of slope-area determination at gage height 10.34 ft; no flow most of time.
Remarks.--Records fair. Most of the low flow of Hondo Creek enters Edwards and associated limestones in Balcones fault zone which crosses basin upstream from station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Mar. 20..... 220
21..... 6

Note.--No gage-height record; discharge estimated on basis of floodmarks and records for nearby stations. Flow occurred only on days shown above.

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
March 1955.....	226	220	0	7.29	448
Calendar year 1954.....	-	1,260	0	3.62	2,620
Water year 1954-55.....	-	220	0	.62	448

Peak discharge (base, 1,000 cfs).--Mar. 20 (about 1 a.m.) 1,260 cfs (3.24 ft).

Seco Creek near Utopia, Tex.

Location.--Lat 29°33', long 99°24', on right bank half a mile downstream from county road crossing, 7.6 miles upstream from Bartz Spring Creek, and 9 miles southeast of Utopia, Uvalde County.
Drainage area.--53.2 sq mi.
Records available.--August 1952 to September 1955.
Gage.--Water-stage recorder. Datum of gage is 1,245.8 ft above mean sea level, adjustment unknown (Magnolia Oil Co. benchmark).
Extremes.--Maximum discharge during year, 633 cfs May 19 (gage height, 4.23 ft), from rating curve extended as explained below; no flow most of time.
1952-55: Maximum discharge, 9,040 cfs May 24, 1954 (gage height, 10.3 ft), from rating curve extended above 80 cfs on basis of slope-area determinations of peak flow for floods of Sept. 3, 1953, and May 24, 1954; no flow most of time.
Remarks.--Records good. No known diversion above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	27					0		0		0	0	0
2	.3		(*)			0		0		0	0	0
3	0					0		0		0	0	0
4	1.4					0		0		0	0	0
5	6.6					0		0		0	0	0
6	0					0		0		0	0	0
7	0					0		0		0	0	0
8	19					0		0		0	0	0
9	.4					0		0		0	0	0
10	0					0		0	(*)	0	0	0
11	0			(*)		0		*0		0	0	0
12	0					0		0		0	0	0
13	0					0		0		0	0	0
14	*0					0		0		*0	0	0
15	0					0		0		0	0	0
16	0					0		0		0	0	0
17	0				(*)	0		0		23	*0	0
18	0					0		0		39	0	0
19	0					0		93		1.0	5.5	0
20	0					35		1.6		0	0	12
21	0					3.8		0		0	0	5.1
22	0					*.9		0		0	0	*0
23	0					.1		0		0	0	0
24	0					0		0		0	0	0
25	*0					0		0		0	0	0
26	0					0		0		0	0	0
27	0					0		0		0	0	0
28	0					0	(*)	0		0	0	0
29	0				-	0		0		0	0	0
30	0				------	0		0		0	0	0
31	0	------			------	0	------	0	------	0	0	------
Total	54.7	0	0	0	0	39.8	0	94.6	0	63.0	5.5	17.1
Mean	1.76	0	0	0	0	1.28	0	3.05	0	2.03	0.18	0.57
Ac-ft	108	0	0	0	0	79	0	188	0	125	11	34

Calendar year 1954: Max 717 Min 0 Mean 3.99 Ac-ft 2,890
Water year 1954-55: Max 93 Min 0 Mean 0.75 Ac-ft 545

Peak discharge (base, 220 cfs).--Mar. 20 (12:30 a.m.) 327 cfs (3.58 ft); May 19 (3 a.m.) 633 cfs (4.23 ft); July 17 (11:30 p.m.) 359 cfs (3.66 ft).
* Discharge measurement or observation of no flow made on this day.

Seco Creek near D'Hanis, Tex.

Location.--Lat 29°29', long 99°23', on right bank a quarter of a mile downstream from concrete dam and road crossing at Woodward Ranch headquarters, 2.8 miles upstream from Bartz Spring Creek, and 12.8 miles northwest of D'Hanis, Medina County.

Drainage area.--87.4 sq mi.

Records available.--August 1952 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 1,142.8 ft above mean sea level (levels by Ground Water Branch).

Extremes.--Maximum discharge during year, 1,730 cfs Mar. 20 (gage height, 4.62 ft), from rating curve extended as explained below; no flow most of time.
1952-55: Maximum discharge, 8,110 cfs May 24, 1954 (gage height, 9.30 ft, from floodmark), from rating curve extended above 110 cfs on basis of slope-area determination at gage heights 5.03 and 9.30 ft; no flow most of time.
Maximum stage known since at least 1866, 26.2 ft in May 1935. Flood of Aug. 31, 1894, reached a stage about 10 ft lower than that of May 1935 and was the second highest, from information by local residents.

Remarks.--Records fair. All of low flow of Seco Creek enters Edwards and associated limestones in the Balcones fault zone which crosses basin just north of Uvalde and above this station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Mar.	20	162	May	20	1.2
	21	20		21	.3
	22	.1	July	18	26
	23	.1		19	1.5
May	19	101		20	.2

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

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
March 1955	182.2	162	0	5.88	361
May	102.5	101	0	3.31	203
July	27.7	26	0	.89	55
Calendar year 1954	-	517	0	1.67	1,210
Water year 1954-55	-	162	0	.86	619

Peak discharge (base, 800 cfs).--Mar. 20 (7:30 a.m.) 1,730 cfs (4.62 ft).

Leona River spring flow near Uvalde, Tex.

Location.--Lat 29°09', long 99°44', on right bank at old road crossing on White's ranch, 3½ miles downstream from Cooks Slough and 4.6 miles southeast of Uvalde, Uvalde County.

Records available.--January 1939 to September 1955. Occasional discharge measurements since 1925 in connection with seepage investigations.

Gage.--Water-stage recorder. Datum of gage is 838.39 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 9.34 cfs (6,760 acre-ft per year).

Extremes.--No spring discharge during year; maximum gage height, 2.04 ft May 16.
1939-55: Maximum daily spring discharge, 33 cfs Feb. 15-18, 1942; maximum gage height, 18.42 ft Aug. 31, 1953 (from floodmark, result of surface flow).

Remarks.--No spring discharge since Mar. 5, 1951. Discharge represents flow from several springs that enter river above station and below Uvalde. Surface runoff from precipitation is excluded. A few small diversions by pumping from river channel above station.

Frio River near Derby, Tex.

Location.--Lat 28°44'10", long 99°08'45", near center of span at downstream side of pier of bridge on U. S. Highway 81, 150 ft upstream from International-Great Northern Railroad bridge, 750 ft downstream from Leona River, and 2.4 miles south of Derby, Frio County.

Drainage area.--3,493 sq mi.

Records available.--August 1915 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 449.47 ft above mean sea level, datum of 1929. Aug. 1, 1915, to Apr. 21, 1931, staff gage, and Apr. 22, 1931, to Mar. 6, 1940, water-stage recorder, at railroad bridge 150 ft downstream at same datum.

Average discharge.--40 years, 133 cfs (96,290 acre-ft per year).

Extremes.--Maximum discharge during year, 1,550 cfs May 21 (gage height, 4.95 ft); no flow most of time.
1915-55: Maximum discharge, 230,000 cfs July 4, 1932 (gage height, 29.60 ft, present site, from floodmarks at former site), from rating curve extended above 46,000 cfs on basis of slope-area determination of peak flow; no flow at times.
Maximum stage known since at least 1860, that of July 4, 1932.

Remarks.--Records fair. Part of flow of Frio River and its headwater tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde. At low stages most of headwater flow enters this formation. Diversions for irrigation above station.

Revisions (water year).--WSP 568: 1915-16, 1918-22, drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.1	0	1.0	105
.2	.5	1.3	180
.3	5.4	1.7	302
.4	14	2.0	402
.5	25	4.0	1,140
.7	51		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0			0	0
2								0			0	0
3								0			0	0
4								0			0	16
5								0			0	28
6								0			0	6.2
7								0			0	.8
8								0	(*)		0	.2
9								0			0	0
10								0			0	0
11								0			0	0
12				(*)				753			0	0
13	(*)							426			0	0
14								124			0	0
15								32			0	0
16					(*)			11			10	0
17								1.4			9.4	0
18								270			.8	0
19								218		(*)	.1	0
20								787			0	*0
21								764			0	0
22						(*)		63			0	0
23								17			0	0
24								4.6			*0	0
25								1.0			0	0
26							(*)	.3			0	179
27								0			0	348
28								0			0	90
29					-			0			0	28
30		(*)						0			0	10
31								0			0	
Total	0	0	0	0	0	0	0	3,472.3	0	0	20.3	706.2
Mean	0	0	0	0	0	0	0	112	0	0	0.65	23.5
Ac-ft	0	0	0	0	0	0	0	6,890	0	0	40	1,400

Calendar year 1954: Max 4,580 Min 0 Mean 26.9 Ac-ft 19,450
Water year 1954-55: Max 787 Min 0 Mean 11.5 Ac-ft 8,330

Peak discharge (base, 1,100 cfs).--May 21 (2 a.m.) 1,550 cfs (4.95 ft).
* Observation of no flow made on this day.

Frio River at Calliham, Tex.

Location.--Lat 28°29'30", long 98°20'45", on right bank at upstream side of bridge on Calliham-Whitsett highway, 1 mile north of Calliham McMullen County, and 9.7 miles downstream from San Miguel Creek.

Drainage area.--5,491 sq mi.

Records available.--October 1924 to April 1926, April 1932 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 153.47 ft above mean sea level, datum of 1929. Prior to Mar. 9, 1925, staff gage at same site at datum 0.53 ft higher; Mar. 9, 1925, to Apr. 30, 1926, staff gage at same site and datum.

Average discharge.--24 years (1924-25, 1932-55), 239 cfs (173,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,040 cfs May 14 (gage height, 11.73 ft); no flow at times.
1924-26, 1932-55: Maximum discharge, 109,000 cfs July 6, 1932 (gage height, 39.20 ft, from floodmarks), from rating curve extended above 11,000 cfs on basis of slope-area determination of peak flow; no flow at times.
Maximum stage known since at least 1870, that of July 6, 1932, from information by local resident.

Remarks.--Records good. Part of flow of Frio River and its headwater tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde. At low stages most of headwater flow enters this formation. Diversions above station for irrigation.

Revisions.--WSP 788: Drainage area.

Rating table, water year 1954-55 (gage height in feet, and discharge, in cubic feet per second)

2.3	0	3.6	127
2.4	.8	4.0	232
2.5	3.4	4.5	400
2.6	7.2	5.0	525
2.8	18	7.0	970
3.0	36	9.0	1,420
3.3	74	11.0	1,880

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	0	0.5	0.1	0.7	0.5		0	331	0.4	5.0	*414
2	135	0	.5	.1	.7	.5		0	131	.1	46	87
3	135	0	.4	.2	.4	.5		0	87	0	28	197
4	70	0	.4	.3	.4	.5		0	48	0	15	85
5	36	0	.2	.7	1.0	.4		*0	27	0	43	37
6	21	0	.1	.5	47	.2		0	18	0	29	20
7	12	0	0	.5	430	.2		0	13	0	9.7	14
8	16	0	0	.4	206	.2		0	8.4	0	7.6	8.8
9	51	0	*0	.4	62	.1		0	6.0	0	6.4	6.0
10	37	0	0	.7	28	.1		69	*4.8	0	3.4	5.2
11	24	62	0	.7	14	.1		177	4.4	0	1.7	4.8
12	15	114	.1	*.5	8.0	.1		959	5.6	0	.7	3.7
13	11	44	.1	.8	5.6	.1		1,760	8.0	**22	.5	16
14	7.6	24	.1	.8	4.0	0		1,810	7.6	1.2	107	29
15	5.6	15	.1	1.0	3.0	0		1,170	5.2	0	607	8.8
16	3.7	9.7	.1	1.0	2.4	0		1,170	3.4	0	329	5.6
17	2.8	7.2	.1	1.4	*1.7	0		548	2.4	16	47	3.7
18	2.2	5.2	.1	2.2	1.4	0		133	1.9	14	31	3.0
19	1.7	3.7	.1	1.7	1.2	0		1,090	1.2	10	57	3.7
20	1.2	3.0	.1	1.4	1.0	0		942	.8	7.6	93	3.0
21	*1.0	2.8	.1	1.2	.8	0		1,130	413	95	20	2.2
22	.8	2.4	.1	1.0	.7	0		1,460	153	16	8.8	1.9
23	.7	2.2	.1	1.0	.5	0		684	46	6.0	4.8	1.7
24	.3	1.7	.1	.8	.4	0		772	23	2.8	*2.8	1.4
25	.1	1.2	.1	.7	.3	0		450	14	.8	1.4	1.2
26	.3	.7	.1	.8	.3	0		95	8.0	.2	.4	1.0
27	.2	.3	.2	.8	.4	0		51	4.8	0	.1	.8
28	.1	.4	.2	.8	.4	0		33	3.0	0	0	1.7
29	0	.2	.2	.8	-	0		24	1.7	0	0	3.4
30	0	.2	.1	.8	------	0		18	.8	0	0	1.7
31	0	------	.1	.7	------	*0	------	76	------	0	*443	------
Total	598.9	299.9	4.4	24.8	822.3	3.5	0	14,621	1,382.0	192.1	1,948.3	972.3
Mean	19.3	10.0	0.14	0.80	29.4	0.11	0	472	46.1	6.20	62.8	32.4
Ac-ft	1,190	595	8.7	49	1,630	6.9	0	29,000	2,740	381	3,860	1,930

Calendar year 1954: Max 2,840 Min 0 Mean 51.1 Ac-ft 36,980
Water year 1954-55: Max 1,810 Min 0 Mean 57.2 Ac-ft 41,390

Peak discharge (base, 4,000 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.

Atascosa River near McCoy, Tex.

Location.--Lat 28°50'45", long 98°20'10", on left bank 0.7 mile upstream from Liveoak Creek, 1.3 miles southwest of McCoy, Atascosa County, and 2.2 miles downstream from bridge on county road.

Drainage area.--530 sq mi.

Records available.--July 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 243.1 ft above mean sea level, datum of 1929 (from planetable traverse by Topographic Division).

Extremes.--Maximum discharge during year not determined; no flow at times.
1951-55: Maximum discharge not determined; no flow at times.

Remarks.--Records good. Discharge not computed above 100 cfs.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.8	1.8	2.9	2.9	6.6	*3.5	0.3	9.0	1.5	a0	4.1
2	39	1.3	1.5	3.5	2.9	6.4	a3	1.0	5.6	1.3	4.8	1.7
3	22	1.1	1.8	3.6	3.3	6.4	a3	.3	4.1	1.1	a1	.7
4	5.0	2.6	1.8	3.8	(e)	6.6	a3	.2	3.3	1.1	8.1	1.1
5	2.7	1.5	2.0	3.6	(e)	6.7	a3	1.1	(e)	1.6	3.8	a.5
6	2.6	2.0	2.0	2.7	(e)	7.0	a3	*.4	15	2.7	a2	a.5
7	6.3	2.0	1.8	3.1	(e)	7.0	a3	.3	11	.8	a1	0
8	44	2.0	1.3	2.9	(e)	7.2	a3	.2	6.4	.8	a.5	0
9	18	2.2	*1.3	3.3	21	7.6	a4	.1	8.4	.8	a0	0
10	18	8.7	1.0	4.3	a15	8.1	a4	.1	(e)	.8	a0	0
11	6.7	3.6	1.3	8.9	a10	8.3	a4	(e)	*(e)	.8	a0	0
12	3.9	4.3	1.3	6.2	a8	8.3	a4	(e)	42	*1.0	.8	0
13	a3	5.4	1.5	*5.2	a8	8.3	a4	(e)	9.3	(e)	1.1	2.2
14	a3	2.7	1.7	4.4	a8	8.1	a4	(e)	3.8	(e)	.7	.5
15	a2	1.8	1.3	4.4	a8	7.7	g3.8	18	2.0	11	1.9	0
16	a2	4.5	2.2	4.1	a8	7.6	g3.8	8.9	1.1	2.6	4.2	0
17	a2	3.9	2.2	4.1	*7.4	7.4	g3.3	(e)	.8	1.1	a1	0
18	a2	1.8	2.0	4.4	7.2	7.4	g3.1	(e)	.5	.5	a.5	0
19	a2	1.3	2.0	(e)	7.0	7.2	g2.9	(e)	.3	a0	a0	0
20	a1	1.1	2.0	(e)	6.7	7.4	g2.6	(e)	(e)	a0	a0	0
21	*1.0	1.0	1.8	11	6.9	9.0	g2.4	(e)	(e)	a0	a0	0
22	1.1	.8	2.0	6.7	6.7	6.2	g2.0	(e)	4.6	.8	a0	0
23	2.0	.8	2.2	4.9	6.7	12	g1.7	25	3.5	a.5	a0	0
24	2.0	1.1	2.2	3.9	6.7	8.0	g1.0	16	2.9	a0	*0	0
25	1.3	1.5	2.4	3.5	6.7	4.7	g.7	11	2.6	a0	0	0
26	.8	1.1	2.4	3.3	6.6	3.6	g.7	8.7	2.4	a0	0	0
27	.8	1.3	2.9	3.3	6.6	3.5	.4	7.0	2.4	a0	0	0
28	.8	1.5	2.9	3.3	6.6	3.3	.4	6.2	2.0	a0	0	0
29	1.3	1.7	3.1	3.3	-	3.5	.3	5.5	1.7	a0	0	0
30	1.5	1.8	3.1	3.1	- - -	3.5	.4	9.6	1.7	a0	0	0
31	1.5	------	2.7	2.9	------	3.5	------	(e)	------	a0	17	------
Total	199.3	68.2	61.5	-	-	208.1	78.0	-	-	-	48.4	11.3
Mean	6.43	2.27	1.98	-	-	6.71	2.60	-	-	-	1.56	0.38
Ac-ft	395	135	122	-	-	413	155	-	-	-	96	22

Calendar year 1954: Max - Min 0 Mean - Ac-ft -
Water year 1954-55: Max - Min 0 Mean - Ac-ft -

* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for station at Whitsett.
e Stage exceeded limits for which discharge is computed.
g Computed from once-daily staff-gage readings.

Atascosa River at Whitsett, Tex.

Location.--Lat 28°37'20", long 98°17'05", on right bank 1,600 ft upstream from bridge on Whitsett-Calliham county road, 0.9 mile west of Whitsett, Live Oak County, and 4 miles downstream from LaParita Creek.

Drainage area.--1,171 sq mi.

Records available.--September 1924 to May 1926, May 1932 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 159.04 ft above mean sea level, datum of 1929. Prior to May 8, 1926, chain gage at bridge 1,600 ft downstream at datum 1.38 ft higher.

Average discharge.--24 years (1924-25, 1932-55), 130 cfs (94,120 acre-ft per year).

Extremes.--Maximum discharge during year, 1,570 cfs Feb. 7 (gage height, 16.62 ft); minimum, 0.5 cfs July 11.
1924-26, 1932-55: Maximum discharge, 39,300 cfs July 7, 1942 (gage height, 38.3 ft, from floodmark), from rating curve extended above 12,000 cfs on basis of slope-area determination at gage height 38.0 ft; no flow at times.
Maximum stage known, that of July 7, 1942.

Remarks.--Records good. Records of the Lower Nueces River Water Supply District indicate that during the water year an average of about 10 cfs was discharged into the river from several artesian wells near Campbellton to supplement the supply for the city of Corpus Christi.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 11-13)

3.6	0.8	5.0	77
3.7	1.7	5.5	136
3.8	3.2	6.0	196
3.9	5.3	8.0	391
4.1	12	10.0	580
4.3	22	14.0	1,060
4.6	41	16.0	1,440

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	11	3.5	13	15	18	*14	9.0	46	1.7	8.6	*168
2	25	11	3.5	13	15	18	14	8.6	20	1.6	20	48
3	79	10	3.5	13	15	17	14	8.3	14	1.4	30	18
4	46	19	3.5	13	16	17	14	8.3	11	2.2	38	6.4
5	23	13	3.5	13	178	16	14	*8.3	9.7	1.2	103	3.4
6	18	12	3.2	13	855	16	14	8.3	31	.9	46	1.9
7	14	12	3.2	13	1,370	15	13	8.3	46	1.9	20	1.5
8	15	12	2.8	13	566	15	13	8.3	23	1.2	14	1.6
9	72	137	*2.4	13	100	15	13	8.0	22	.8	11	1.6
10	84	289	2.2	13	51	15	13	7.6	36	.7	9.7	1.4
11	37	172	11	14	37	15	14	9.8	*92	11	9.0	1.2
12	23	26	13	*18	31	15	14	415	48	7.4	23	1.2
13	16	13	13	17	27	15	13	728	40	*9.8	57	5.9
14	13	14	12	17	25	15	13	327	20	72	79	122
15	11	12	12	17	23	15	13	95	14	267	76	83
16	10	7.3	13	16	23	15	13	39	11	49	24	18
17	9.7	7.3	12	16	*21	15	13	22	8.3	22	17	6.4
18	9.7	6.1	12	21	20	15	12	151	7.0	15	11	3.2
19	9.7	4.2	12	16	20	15	12	500	5.8	12	10	2.1
20	9.7	3.2	12	67	19	15	12	660	95	11	9.7	1.9
21	*9.7	2.6	13	64	19	19	11	453	530	10	10	17
22	9.7	2.5	12	29	18	24	11	320	560	9.7	9.7	28
23	12	2.2	12	22	18	17	11	55	74	13	8.6	18
24	13	2.1	12	19	18	23	10	37	22	11	*8.0	7.3
25	14	1.9	12	17	18	22	10	27	11	9.4	8.0	5.1
26	12	2.2	12	17	18	15	9.7	23	7.3	9.0	7.6	2.5
27	11	2.5	12	16	18	14	9.4	19	4.8	9.0	7.6	5.0
28	11	2.2	12	16	18	14	9.4	17	3.7	9.7	7.3	2.4
29	11	2.4	12	15	-	14	9.4	15	3.0	9.0	7.3	1.2
30	10	3.0	12	15	---	14	9.4	14	2.4	8.6	14	.9
31	10	------	13	15	------	14	------	26	------	8.3	*516	------
Total	670.2	814.7	287.3	594	3,572	502	365.3	4,035.8	1,818.0	596.5	1,220.1	584.1
Mean	21.6	27.2	9.27	19.2	128	16.2	12.2	130	60.6	19.2	39.4	19.5
Ac-ft	1,330	1,620	570	1,180	7,080	996	725	8,000	3,610	1,180	2,420	1,160

Calendar year 1954: Max 877 Min 0 Mean 21.2 Ac-ft 15,380
Water year 1954-55: Max 1,370 Min 0.7 Mean 41.3 Ac-ft 29,870

Peak discharge (base, 1,500 cfs).--Feb. 7 (3 p.m.) 1,570 cfs (16.62 ft).
* Discharge measurement made on this day.

Nueces River near Three Rivers, Tex.

Location.--Lat 28°26'10", long 98°11'10", on left bank 100 ft downstream from San Antonio, Uvalde & Gulf (Missouri Pacific) Railroad bridge, half a mile downstream from Frio River, 2 miles south of Three Rivers, Live Oak County, and at mile 103.

Drainage area.--15,600 sq mi.

Records available.--July 1915 to September 1955. U. S. Weather Bureau has collected gage-height records in this vicinity since 1922.

Gage.--Water-stage recorder and concrete control. Datum of gage is 101.13 ft above mean sea level, datum of 1929, Houston supplementary adjustment of 1943. Prior to Apr. 5, 1932, staff gage at railroad bridge 100 ft upstream at same datum.

Average discharge.--38 years (1915-18, 1920-55), 766 cfs (554,600 acre-ft per year).

Extremes.--Maximum discharge during year, 2,890 cfs May 14 (gage height, 14.31 ft); no flow July 7-11.
1915-55: Maximum discharge observed, 85,000 cfs Sept. 18, 1919 (gage height, 46.0 ft), from rating curve extended above 55,000 cfs; no flow at times.
Maximum stage known, that of Sept. 18, 1919.

Remarks.--Records excellent. Part of flow of Nueces and Frio Rivers and their headwater tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde. At low stages most of headwater flow enters this formation. Diversions above station for irrigation. Records of the Lower Nueces River Water Supply District indicate that during the water year an average of about 10 cfs was discharged from several artesian wells into the Atascosa River upstream from this station to supplement the supply for the city of Corpus Christi.

Revisions (water years).--WSP 548: 1920-21.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.1	0	2.6	102
1.2	.5	3.0	172
1.3	2.0	4.0	355
1.4	4.5	6.0	745
1.5	7.0	9.0	1,390
1.7	13	10.0	2,200
2.0	26	16.0	3,420
2.3	55		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	448	10	0.8	10	12	16	11	5.8	1,110	1.6	308	1,460
2	865	9.7	1.0	11	12	15	11	5.5	1,290	.8	133	378
3	585	9.1	1.8	11	13	15	11	5.0	1,290	.4	126	156
4	276	11	3.0	10	13	15	11	4.8	1,470	.3	102	150
5	141	18	3.2	11	30	14	11	5.0	889	.2	138	61
6	112	12	1.6	11	548	14	11	*5.0	147	.1	163	228
7	161	11	1.7	10	965	13	10	4.5	126	0	86	431
8	145	12	*1.6	10	1,470	13	9.7	5.5	66	0	35	545
9	96	333	1.4	10	333	14	10	4.8	92	0	19	685
10	158	1,550	1.4	11	128	14	11	4.5	*140	0	14	885
11	119	671	1.2	10	66	13	11	73	140	0	16	1,090
12	76	1,110	3.4	*11	42	13	11	606	149	2.7	247	1,240
13	48	865	10	15	34	13	10	2,290	86	75	53	1,310
14	37	280	10	14	32	13	10	2,800	64	*34	100	1,360
15	219	210	9.7	14	38	13	9.7	2,320	40	166	435	640
16	450	100	10	14	31	13	9.7	1,950	27	128	680	201
17	507	50	9.7	13	*27	12	9.7	1,460	16	34	176	204
18	384	34	9.4	14	20	13	9.4	478	11	20	105	154
19	195	21	9.7	18	19	13	9.1	780	7.6	24	66	112
20	129	16	10	13	18	13	8.8	1,810	5.2	17	128	110
21	*94	12	9.7	53	17	14	8.5	1,150	501	68	64	99
22	68	8.8	10	39	16	17	7.9	1,810	865	62	28	89
23	55	6.8	10	24	16	19	7.3	1,170	363	21	16	78
24	44	5.8	10	17	16	14	7.0	845	73	15	11	122
25	37	2.8	10	21	16	21	6.0	745	36	11	*8.2	94
26	30	2.0	10	16	16	16	5.8	271	20	7.6	6.0	58
27	21	1.6	10	13	16	12	5.8	131	13	6.0	5.0	38
28	16	1.2	11	13	16	12	6.2	86	8.2	215	4.5	24
29	14	1.2	9.4	13	-	12	6.2	92	5.0	545	4.2	14
30	11	1.1	10	13	---	11	6.0	226	3.2	685	4.0	8.2
31	10	---	10	13	---	*11	---	507	---	745	924	---
Total	5,551	5,376.1	210.7	476	3,980	431	271.8	21,650.4	9,073.2	2,884.7	4,204.9	12,024.2
Mean	179	179	6.80	15.4	142	13.9	9.06	698	302	93.1	136	401
Ac-ft	11,010	10,660	418	944	7,890	855	539	42,940	18,000	5,720	8,340	23,850

Calendar year 1954: Max 12,500 Min 0 Mean 338 Ac-ft 244,600
Water year 1954-55: Max 2,800 Min 0 Mean 181 Ac-ft 131,200

Peak discharge (base, 6,000 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No recorder record Jan. 16 to Feb. 16; discharge computed from once-daily readings of reference gage.

Lake Corpus Christi near Mathis, Tex.

Location.--Lat 28°02'52", long 97°52'16" (revised), near left end of Mathis Dam on Nueces River, three-quarters of a mile upstream from bridge on U. S. Highway 96, 4 miles southwest of Mathis, San Patricio County, and at mile 48.

Drainage area.--16,656 sq mi.

Records available.--September 1948 to September 1955. The Soil Conservation Service, U. S. Department of Agriculture, in cooperation with Texas Board of Water Engineers, has collected fragmentary gage-height records in connection with sedimentation studies since February 1942.

Gage.--Wire-weight gage read once daily. Datum of gage is 0.52 ft above mean sea level, datum of 1929. Prior to Sept. 10, 1948, a painted gage at same datum on left side of first buttress wall of left taintor gate was probably used.

Extremes.--Maximum contents observed during year, 41,440 acre-ft May 22-24, June 3-6, Sept. 13-15; maximum gage height, 74.45 ft June 5, 6; minimum contents observed, 20,160 acre-ft May 10, 12, 13; minimum gage height, 69.15 ft May 12.
1948-55: Maximum contents observed, 57,000 acre-ft Apr. 30, 1949 (gage height, 77.05 ft); minimum observed, 14,740 acre-ft May 5, 1951 (gage height, 67.10 ft).

Remarks.--Reservoir is formed by a rolled-fill earthen-type dam containing an unregulated concrete service spillway 1,048 ft long, and 5 taintor gates, each 35 ft wide. Dam completed and storage began July 24, 1934. Capacity, 39,400 acre-ft at gage height 74 ft (top of taintor gates and service spillway). Dead storage is negligible. Reservoir used for municipal supply for city of Corpus Christi. Water for city is released through sluice gate at gage height 43 ft. Figures given herein represent total storage. A siltation survey made by the Soil Conservation Service, U. S. Department of Agriculture, found the original capacity of the reservoir to have been 54,000 acre-ft, and the capacity as of March 1942 as 43,400 acre-ft at spillway crest. A resurvey by that agency completed Mar. 31, 1948, found the capacity to be 39,400 acre-ft at spillway crest.

Cooperation.--Capacity curve furnished by Soil Conservation Service, U. S. Department of Agriculture. Records of daily gage heights furnished by city of Corpus Christi.

Month-end gage height and contents, water year October 1954 to September 1955

	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	71.30	27,070	-
Oct. 31	73.00	34,300	+7,230
Nov. 30	73.61	37,360	+3,060
Dec. 31	72.58	32,500	-4,860
Calendar year 1954	-	-	-2,310
Jan. 31	71.88	29,410	-3,090
Feb. 28	72.80	33,400	+3,990
Mar. 31	71.56	28,240	-5,160
Apr. 30	70.04	22,400	-5,840
May 31	73.98	39,400	+17,000
June 30	73.69	37,870	-1,530
July 31	72.75	33,400	-4,470
Aug. 31	72.90	33,850	+450
Sept.30	(a)	39,140	+5,290
Water year 1954-55	-	-	+12,070

† Gage height at 8 a.m.
a No gage-height record; contents interpolated.

Nueces River near Mathis, Tex.

Location.--Lat 28°02'17", long 97°51'36" (revised), on left bank 6 ft downstream from pier of bridge of State Highway 359, 200 ft downstream from Texas and New Orleans Railroad bridge, 0.8 mile downstream from Mathis Dam, 4 miles southwest of Mathis, San Patricio County, and at mile 47.

Drainage area.--16,660 sq mi.

Records available.--August 1939 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 27.53 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 814 cfs (589,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,540 cfs May 23 (gage height, 9.25 ft); minimum daily, 39 cfs Feb. 8.
1939-55: Maximum discharge, 49,400 cfs July 12, 1942 (gage height, 37.38 ft); minimum daily, 6.8 cfs Aug. 15, 1940.
Maximum stage known, 39.9 ft in September 1919 (from floodmark) at railroad bridge, 200 ft upstream, from information by Texas and New Orleans Railroad.

Remarks.--Records good. Flow largely regulated by Lake Corpus Christi (see preceding page). Diversions above station for irrigation. Water for municipal and industrial use at Corpus Christi is released from Lake Corpus Christi above gage and is diverted from river at Calallen 36 miles downstream. Records of chemical analyses and water temperatures for the water year 1955 are published in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	64	90	80	43	48	59	44	79	163	97	91	101
2	63	90	80	43	48	59	44	82	540	96	97	99
3	60	80	71	48	48	59	86	85	866	96	97	99
4	62	71	64	68	44	64	77	88	996	96	96	99
5	62	64	89	71	45	107	76	*89	1,160	97	94	101
6	60	63	65	54	42	69	93	88	1,100	96	95	130
7	61	64	62	43	40	68	107	88	486	96	96	557
8	61	64	*58	43	39	68	89	88	232	96	91	816
9	71	64	58	44	40	65	74	84	*159	99	81	744
10	69	64	57	46	65	64	72	79	198	81	83	676
11	68	106	57	*77	91	64	71	76	65	79	86	768
12	68	222	77	44	62	63	73	62	66	78	123	944
13	68	516	52	47	61	64	74	53	56	79	104	1,050
14	70	654	63	47	59	61	74	56	72	*86	111	1,130
15	67	395	63	47	56	72	74	58	105	98	101	1,180
16	69	129	50	47	*57	77	74	72	68	97	93	866
17	70	105	52	47	57	70	75	84	70	97	102	467
18	74	189	56	63	56	65	75	88	121	92	112	312
19	111	93	77	40	53	65	75	153	72	86	111	224
20	*86	68	66	42	56	64	75	327	81	82	107	167
21	86	61	58	41	55	65	64	744	86	79	100	136
22	87	117	51	42	55	61	55	918	87	78	100	115
23	152	56	44	42	55	66	55	1,300	105	85	100	108
24	68	56	42	42	55	77	68	1,210	148	98	102	96
25	63	55	42	46	57	100	98	792	106	97	*105	95
26	68	54	42	47	60	81	78	720	91	99	110	98
27	72	56	43	48	60	80	75	467	87	95	110	114
28	63	60	63	48	59	80	74	256	86	91	101	99
29	64	71	43	48	-	79	74	190	86	85	93	87
30	62	80	41	48	---	*61	79	140	93	83	98	82
31	76	------	43	48	------	49	-----	84	------	84	98	------
Total	2,245	3,857	1,809	1,504	1,523	2,146	2,222	8,700	7,651	2,798	3,088	11,560
Mean	72.4	129	58.4	48.5	54.4	69.2	74.1	281	255	90.3	99.6	385
Ac-ft	4,450	7,650	3,590	2,980	3,020	4,260	4,410	17,260	15,180	5,550	6,120	22,930

Calendar year 1954: Max 10,800 Min 37 Mean 335 Ac-ft 242,700
Water year 1954-55: Max 1,300 Min 39 Mean 135 Ac-ft 97,400

* Discharge measurement made on this day.

Rio Grande at Thirtymile Bridge, near Creede, Colo.

Location.--Lat 37°43'30", long 107°15'20", in sec. 13, T. 40 N., R. 4 W., on right bank 500 ft upstream from Squaw Creek, three-quarters of a mile downstream from Rio Grande Reservoir, and 20 miles southwest of Creede.

Drainage area.--163 sq mi.

Records available.--June 1909 to September 1913, October 1933 to September 1955 in reports of Geological Survey. June 1909 to September 1923, May 1925 to September 1944 in reports of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 9,300 ft (from topographic map). June 18, 1909, to Oct. 4, 1911, chain gage about a quarter of a mile downstream at different datum. Apr. 8, 1912, to Sept. 30, 1923, staff or chain gage 500 ft upstream at different datum. May 16, 1925, to Sept. 30, 1934, water-stage recorder at present site at datum 0.40 ft higher.

Average discharge.--42 years (1910-23, 1926-55), 222 cfs (160,700 acre-ft per year).

Extremes.--Maximum discharge during year, 1,550 cfs June 8 (gage height, 4.12 ft); minimum daily, 1.6 cfs for many days.
1909-23, 1925-55: Maximum discharge, 7,500 cfs June 28, 1927 (gage height, 7.03 ft, present datum); minimum daily, 0.4 cfs Nov. 22, 1951, to Apr. 11, 1952.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Rio Grande Reservoir (capacity, 51,110 acre-ft) since 1912. Transmountain diversions from Colorado River basin to drainage area above station (see p. 281).

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	1.5	1.6	110
.3	3.0	2.0	210
.5	7.0	2.5	395
.7	14	3.0	650
1.0	31	3.5	1,000
1.3	61	4.0	1,480

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	50	1.6	1.6	1.6	1.6	29	223	674	510	106	85
2	99	71	1.6	1.6	1.6	1.6	29	193	354	546	136	81
3	136	59	1.6	1.6	1.6	1.6	31	81	190	258	204	75
4	148	52	1.6	1.6	1.6	1.6	30	108	272	236	145	72
5	165	48	1.6	1.6	1.6	1.6	28	173	495	220	148	69
6	*160	50	1.6	1.6	1.6	1.6	27	204	831	213	181	68
7	163	48	1.6	1.6	1.6	1.6	1.6	303	1,360	201	148	67
8	181	44	1.6	1.6	1.6	1.6	1.6	431	1,440	176	138	67
9	173	37	1.6	1.6	1.6	1.6	1.6	326	1,460	160	116	68
10	178	37	1.6	1.6	1.6	1.6	1.6	245	1,200	160	131	64
11	176	38	1.6	1.6	1.6	1.6	1.6	272	782	187	123	61
12	153	40	1.6	1.6	1.6	1.6	1.6	242	817	184	104	59
13	141	33	1.6	1.6	1.6	1.6	33	303	1,120	155	104	57
14	123	21	1.6	1.6	1.6	1.6	54	422	968	136	110	*55
15	120	*1.6	1.6	1.6	1.6	1.6	57	540	824	127	110	54
16	118	1.6	1.6	1.6	1.6	1.6	65	485	1,160	120	104	49
17	114	1.6	1.6	1.6	1.6	1.6	55	*338	1,100	112	171	56
18	106	1.6	1.6	1.6	1.6	1.6	68	262	614	106	129	60
19	102	1.6	1.6	1.6	1.6	1.6	54	220	716	110	131	60
20	100	1.6	1.6	1.6	1.6	1.6	56	204	817	*112	116	71
21	97	1.6	1.6	1.6	1.6	1.6	60	431	*905	104	112	55
22	93	1.6	1.6	1.6	1.6	1.6	66	584	680	93	116	53
23	91	1.6	1.6	1.6	1.6	1.6	64	540	692	89	*104	50
24	88	1.6	1.6	1.6	1.6	1.6	63	632	742	85	150	49
25	81	1.6	1.6	1.6	1.6	1.6	86	698	546	81	165	56
26	*78	1.6	1.6	1.6	1.6	1.6	120	680	530	91	129	55
27	80	1.6	1.6	1.6	1.6	1.6	160	584	590	138	116	48
28	67	1.6	1.6	1.6	1.6	1.6	216	500	650	114	118	47
29	56	1.6	1.6	1.6	-	22	99	454	590	89	110	46
30	59	1.6	1.6	1.6	- - -	29	150	736	485	93	97	45
31	47	- - -	1.6	1.6	- - -	30	- - -	976	- - -	125	89	- - -
Total	3,588	653.6	49.6	49.6	44.8	125.8	1,709.6	12,390	23,604	5,131	3,961	1,802
Mean	116	21.8	1.60	1.60	1.60	4.06	57.0	400	787	166	128	60.1
Ac-ft	7,120	1,300	98	98	89	250	3,390	24,580	46,820	10,180	7,860	3,570

Calendar year 1954: Max 1,260 Min - Mean 153 Ac-ft 110,600
Water year 1954-55: Max 1,460 Min 1.6 Mean 146 Ac-ft 105,400

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 4-12, Nov. 14 to Apr. 13 (stage-discharge relation affected by ice during most of period), Apr. 21-25, 27; discharge estimated on basis of 1 discharge measurement, weather records, and gate openings at Rio Grande Reservoir.

Clear Creek below Continental Reservoir, Colo.

Location.--Lat 37°53', long 107°12', in sec. 22, T. 42 N., R. 3 W., on left bank 1,000 ft downstream from Continental Reservoir and 15 miles west of Creede.

Drainage area.--51.7 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. May 1929 to September 1944 in reports of State engineer.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 10,500 ft. Prior to Oct. 2, 1951, at site 150 ft upstream at different datum.

Average discharge.--26 years (1929-55), 31.6 cfs (22,880 acre-ft per year).

Extremes.--Maximum discharge during year, 262 cfs July 2 (gage height, 2.25 ft), from rating curve extended above 150 cfs; minimum daily, 0.9 cfs Nov. 18, 19, Nov. 25 to Jan. 31. 1929-55: Maximum discharge, 362 cfs May 8, 1952 (gage height, 3.66 ft), from rating curve extended above 120 cfs; no flow June 22, 23, 1935.

Remarks.--Records good above 20 cfs and fair below. Flow regulated by Continental Reservoir (capacity, 26,700 acre-ft).

Revisions.--WSP 1008: Drainage area.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 14 to May 23)

Oct. 1 to Nov. 27

0.2	0	0.5	6.0
.3	1.0	.6	10
.4	3.0	.7	14

Nov. 28 to Sept. 30

0.3	0.5	1.1	39
.4	2.0	1.4	75
.5	4.0	1.8	150
.6	7.0	2.2	250
.8	16		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	12	0.9	0.9	1.0	1.0	12	33	101	75	15	9.0
2	10	12	.9	.9	1.0	1.0	12	33	99	162	19	8.6
3	11	12	.9	.9	1.0	1.0	12	33	99	238	17	9.0
4	11	12	.9	.9	1.0	1.0	12	33	108	168	17	9.0
5	11	11	.9	.9	1.0	1.0	12	46	104	116	17	8.6
6	*11	12	.9	.9	1.0	1.0	12	59	103	95	25	8.6
7	11	12	.9	.9	1.0	1.0	12	59	103	74	22	9.0
8	10	12	.9	.9	1.0	1.0	12	59	104	56	20	9.8
9	11	12	.9	.9	1.0	1.0	12	59	101	47	18	9.6
10	11	12	.9	.9	1.0	1.0	12	60	94	36	17	9.8
11	11	11	.9	.9	1.0	1.0	12	60	88	29	16	9.4
12	11	11	.9	.9	1.0	1.0	12	60	87	30	14	9.4
13	11	12	.9	.9	1.0	1.0	13	78	87	28	15	9.4
14	11	6.4	.9	.9	1.0	1.0	14	97	87	20	14	*9.4
15	11	*1.0	.9	.9	1.0	1.0	14	94	72	17	14	9.0
16	11	1.0	.9	.9	1.0	1.0	14	94	37	17	14	9.0
17	11	1.0	.9	.9	1.0	1.0	14	*94	28	17	14	9.8
18	12	.9	.9	.9	1.0	1.0	14	94	21	16	16	10
19	12	.9	.9	.9	1.0	1.0	14	92	21	17	16	10
20	12	1.0	.9	.9	1.0	1.0	14	99	31	*20	16	10
21	12	1.0	.9	.9	1.0	1.0	14	103	*37	17	14	9.4
22	12	1.0	.9	.9	1.0	1.0	14	101	53	16	12	9.0
23	12	1.0	.9	.9	1.0	1.0	14	101	67	16	*12	9.0
24	12	.9	.9	.9	1.0	1.0	14	103	67	14	12	10
25	12	.9	.9	.9	1.0	1.0	14	104	67	14	11	10
26	*12	.9	.9	.9	1.0	1.0	14	103	65	16	10	10
27	12	.9	.9	.9	1.0	1.0	14	104	68	22	11	9.8
28	11	.9	.9	.9	1.0	1.0	29	106	72	19	9.8	9.8
29	11	.9	.9	.9	-	5.1	37	101	72	17	9.4	9.8
30	12	.9	.9	.9	---	12	36	101	71	16	9.4	9.8
31	12	---- -	.9	.9	------	12	------	101	------	16	9.4	------
Total	349.6	174.6	27.9	27.9	28.0	57.1	455	2,464	2,214	1,461	456.0	283.2
Mean	11.3	5.82	0.90	0.90	1.00	1.84	15.2	79.5	73.8	47.1	14.7	9.44
Ac-ft	693	346	55	55	56	113	902	4,890	4,390	2,900	904	562

Calendar year 1954: Max 148 Min 0.9 Mean 21.3 Ac-ft 15,430
Water year 1954-55: Max 238 Min 0.9 Mean 21.9 Ac-ft 15,870

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 28 to May 13 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of gate openings at Continental Reservoir.

Willow Creek at Creede, Colo.

Location.--Lat 37°51'20", long 106°55'40", in SE¼ sec. 25, T. 42 N., R. 1 W., on left bank at north city limits of Creede, 8 ft upstream from entrance to paved channel, just downstream from Windy Gulch, half a mile downstream from confluence of East and West Willow Creeks, and 2½ miles upstream from mouth.

Drainage area.--35.3 sq mi.

Records available.--May 1951 to September 1955.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 8,880 ft (from topographic map). Prior to Sept. 2, 1953, at site 17 ft upstream at same datum.

Extremes.--Maximum discharge during year, 153 cfs June 6 (gage height, 3.27 ft); minimum daily, 1.9 cfs Apr. 12.
1951-55: Maximum discharge, 305 cfs June 6, 1952 (gage height, 4.32 ft); minimum daily, that of Apr. 12, 1955.

Remarks.--Records good except those for periods of ice effect or no gage height record, which are fair. Diversions above station for municipal supply of Creede.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.2	1.5	1.5	10
1.3	3.5	2.0	38
1.4	6.0	3.0	117

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	6.4	4.5	3.4	3.1	2.5	3.3	26	*51	21	14	10
2	10	6.8	4.7	3.6	3.1	*2.5	3.1	28	44	20	16	9.6
3	11	6.0	4.8	3.8	3.1	2.5	2.7	20	48	20	22	8.8
4	11	5.8	5.0	3.8	3.1	2.5	3.1	20	47	19	*21	8.8
5	11	5.2	4.8	3.6	3.1	2.5	3.5	22	46	18	18	8.8
6	12	5.5	4.5	3.4	3.2	2.2	2.9	28	74	18	20	8.4
7	*14	5.5	4.5	3.6	3.3	2.2	2.7	47	85	17	33	8.8
8	12	5.2	4.0	3.7	*3.3	2.5	2.5	48	84	16	31	8.4
9	12	*5.2	3.5	3.7	3.3	2.7	2.5	36	65	14	27	8.0
10	14	5.0	4.5	3.7	3.2	2.9	2.3	*33	58	14	35	8.0
11	12	5.0	4.8	*3.7	3.1	2.9	2.1	32	57	16	30	7.6
12	12	5.2	4.5	3.8	3.3	2.9	1.9	35	53	16	28	7.6
13	11	5.8	3.7	3.8	3.1	3.1	2.1	42	48	*14	27	7.6
14	10	5.2	4.2	3.5	3.3	3.1	2.3	53	43	13	28	6.8
15	9.6	5.0	3.8	3.5	2.9	3.3	2.9	55	40	12	27	7.2
16	9.2	5.2	*4.6	3.5	2.9	3.1	5.5	49	*42	12	24	6.4
17	9.2	5.2	4.2	3.5	2.9	2.7	7.6	43	42	12	24	7.2
18	9.2	4.5	4.5	3.1	2.9	2.5	8.0	36	39	11	22	7.6
19	9.2	5.0	4.6	3.8	2.9	2.7	*7.2	33	37	12	22	7.2
20	8.8	4.8	4.6	3.3	2.5	3.1	7.2	34	37	14	20	8.4
21	8.8	4.5	4.5	3.1	2.5	2.9	11	53	36	12	18	7.2
22	8.8	*4.8	4.5	3.0	2.6	2.6	12	57	35	12	18	7.2
23	8.4	5.0	4.5	3.1	2.5	2.7	9.6	62	34	12	*16	6.8
24	8.4	5.0	4.5	3.2	2.4	2.9	10	74	33	11	16	6.4
25	8.0	4.8	4.6	3.3	2.4	3.3	16	68	30	10	15	6.8
26	6.8	4.5	4.6	3.3	2.5	2.8	21	58	27	12	14	6.4
27	7.6	4.5	4.3	3.3	2.3	2.6	21	51	26	18	14	6.4
28	7.6	3.5	3.6	3.1	2.3	2.8	21	49	24	18	14	6.0
29	7.2	4.5	2.8	3.3	-	*3.1	24	65	23	16	12	6.4
30	6.8	4.8	3.1	3.1	--	3.3	25	75	22	14	12	6.4
31	6.0	------	3.2	3.1	------	3.3	------	63	------	16	12	------
Total	301.6	153.4	132.5	106.7	81.1	86.7	246.0	1,395	1,330	460	650	227.6
Mean	9.73	5.11	4.27	3.44	2.90	2.80	8.20	45.0	44.3	14.8	21.0	7.59
Ac-ft	598	304	263	212	161	172	488	2,770	2,640	912	1,290	451

Calendar year 1954: Max 51 Min 2.6 Mean 13.8 Ac-ft 10,040
Water year 1954-55: Max 85 Min 1.9 Mean 14.2 Ac-ft 10,260

Peak discharge (base, 120 cfs).--June 6 (7 p.m.) 153 cfs (3.27 ft).
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 1 to Jan. 11 (no gage-height record Dec. 9-18) Jan. 18, 21-24, Feb. 4-7, 10, 11, 20-25, Mar. 6-9, 21-24, 26-28.

Rio Grande at Wagonwheel Gap, Colo.

Location.--Lat 37°46'00", long 106°49'50", in NE¼ sec. 35, T. 41 N., R. 1 E., on right bank 250 ft upstream from bridge on State Highway 149, 0.2 mile upstream from Goose Creek, and 0.3 mile west of town of Wagonwheel Gap.

Drainage area.--780 sq mi.

Records available.--May 1951 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 8,440 ft (from topographic map).

Extremes.--Maximum discharge during year, 3,290 cfs June 9 (gage height, 4.62 ft); minimum daily, 63 cfs Dec. 9.
1951-55: Maximum discharge, 3,660 cfs June 12,1952 (gage height, 4.85 ft); minimum daily, 60 cfs Mar. 1, 1954.

Remarks.--Records excellent except those for periods of ice effect, which are fair. Flow regulated by three reservoirs (total capacity, 122,900 acre-ft). Diversions above station for irrigation. Transmountain diversions to drainage area above station from Colorado River basin (see p. 281).

Rating table, water year 1954-55, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.1	70	2.5	680
1.2	86	3.0	1,100
1.4	132	4.0	2,350
1.7	230	4.9	3,740
2.0	365		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	250	186	88	82	92	86	124	500	*1,560	896	330	254
2	246	196	78	88	94	*86	135	608	1,170	938	405	246
3	266	190	98	86	94	88	135	410	816	880	464	242
4	306	177	115	88	92	90	122	345	856	712	*518	227
5	325	170	88	88	90	94	122	448	1,010	624	426	223
6	375	167	90	84	88	84	170	506	1,510	572	506	220
7	*380	177	80	92	86	84	145	776	2,640	530	488	213
8	365	164	70	90	*86	90	96	1,010	2,760	470	482	206
9	395	*158	63	90	86	96	90	965	2,830	410	426	210
10	400	145	88	90	86	100	98	*736	2,430	390	426	203
11	405	145	90	*92	78	100	124	720	1,900	390	437	193
12	360	148	82	78	80	100	100	736	1,660	448	385	183
13	330	180	73	85	84	110	94	808	2,040	*426	365	177
14	297	167	76	90	88	115	174	992	2,100	370	360	170
15	279	142	68	86	94	130	254	1,180	1,490	350	380	167
16	270	111	*78	84	96	115	288	1,230	*1,830	330	350	161
17	262	106	70	78	92	105	340	983	2,070	340	390	164
18	250	88	74	74	96	100	288	864	1,630	315	442	109
19	242	98	78	84	86	105	*284	720	1,280	302	410	190
20	234	102	80	82	80	115	220	640	1,570	302	410	210
21	227	96	80	70	78	100	266	920	1,570	302	380	203
22	223	*100	78	72	78	92	310	1,370	1,480	284	380	177
23	223	100	78	78	80	95	279	1,220	1,290	266	*365	170
24	220	100	78	82	82	105	270	1,430	1,370	250	370	164
25	220	100	78	82	82	110	325	1,540	1,240	238	385	174
26	203	92	78	82	86	100	437	1,510	1,010	242	370	186
27	206	81	75	80	86	90	459	1,450	1,060	320	330	177
28	196	83	65	80	86	94	454	1,220	1,060	385	325	164
29	199	80	65	80	-	*98	506	1,290	1,070	335	310	158
30	196	95	70	82	- - -	106	476	1,630	896	302	288	154
31	186	- - - - -	75	86	- - - - -	142	- - - - -	2,040	- - - - -	345	270	- - - - -
Total	8,536	3,944	2,447	2,585	2,426	3,125	7,185	30,797	47,198	13,264	12,173	5,785
Mean	275	131	78.9	83.4	86.6	101	240	993	1,573	428	393	193
Ac-ft	16,930	7,820	4,850	5,130	4,810	6,200	14,250	61,080	93,620	26,310	24,140	11,470

Calendar year 1954 : Max 2,290 Min 60 Mean 386 Ac-ft 279,300
Water year 1954-55 : Max 2,830 Min 63 Mean 382 Ac-ft 276,600

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 29 to Mar. 28.

Goose Creek at Wagonwheel Gap, Colo.

Location.--Lat 37°45'00", long 106°49'40", in NE¼ sec. 2, T. 40 N., R. 1 E., on left bank about 500 ft downstream from Pierce Creek, 1 mile upstream from mouth, 1 mile south of Wagonwheel Gap, and 8 miles southeast of Creede.

Drainage area.--90 sq mi, approximately.

Records available.--June 1954 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 8,480 ft (from topographic map).

Extremes.--Maximum discharge during year, 349 cfs June 8 (gage height, 3.84 ft); minimum daily, 13 cfs Feb. 24-26.
1954-55: Maximum and minimum discharges, those of 1955.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Several small diversions above station for irrigation. Lake Humphreys (capacity, 842 acre-ft) above station with a fixed spillway and no gates has slight effect on flow.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 8-17)

Oct. 1 to July 5				July 6 to Sept. 30	
2.4	11	2.9	60	2.7	14
2.5	16	3.3	156	2.8	21
2.7	32	3.7	292	3.0	46
				3.2	88

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	23	17	17	18	15	20	55	131	78	51	38
2	24	23	21	16	18	*16	24	64	106	72	60	33
3	28	22	18	17	18	17	16	47	96	66	53	29
4	31	20	21	17	17	17	15	49	103	60	*55	29
5	*39	19	16	16	16	17	17	55	96	58	53	29
6	37	19	16	16	15	17	20	62	136	55	50	27
7	*31	20	17	17	15	17	18	89	220	51	59	28
8	32	*18	15	17	*14	17	16	113	259	45	64	26
9	36	18	14	17	14	17	17	89	262	40	55	24
10	39	17	20	17	14	17	20	*82	220	38	53	23
11	37	18	20	*16	14	17	21	72	200	43	60	22
12	33	20	17	17	14	17	19	78	204	46	51	23
13	30	22	*17	*16	14	19	21	92	204	*74	51	*23
14	28	21	17	17	14	20	27	103	194	50	48	22
15	28	17	17	17	14	19	31	118	148	48	51	21
16	28	20	*16	18	14	17	42	123	*162	45	48	20
17	28	20	15	18	14	16	47	*96	165	45	*50	21
18	27	16	16	17	14	16	37	87	178	39	50	22
19	27	20	15	17	15	16	*29	74	165	39	59	24
20	26	18	14	17	14	17	32	76	172	*46	58	26
21	25	18	15	17	14	14	46	94	*172	43	54	22
22	26	*18	16	17	14	14	52	120	165	38	53	22
23	26	19	16	16	14	15	40	120	162	36	*50	22
24	26	*20	16	17	13	17	34	134	153	35	49	20
25	27	19	16	17	13	17	47	150	136	36	46	22
26	23	18	16	17	13	15	68	148	120	38	45	23
27	22	17	16	17	14	14	64	142	113	46	44	23
28	22	14	15	17	15	15	58	120	103	51	44	21
29	24	14	16	16	-	*20	68	148	94	42	42	22
30	23	18	17	16	------	21	62	175	80	39	38	22
31	21	------	18	17	------	20	-----	172	------	59	36	------
Total	877	566	516	521	410	523	1,028	3,147	4,719	1,501	1,582	729
Mean	28.3	18.9	16.6	16.8	14.6	16.9	34.3	102	157	48.4	51.0	24.3
Ac-ft	1,740	1,120	1,020	1,030	813	1,040	2,040	6,240	9,360	2,980	3,140	1,450

Calendar year 1954: Max - Min - Mean - Ac-ft -
Water year 1954-55: Max 262 Min 13 Mean 44.2 Ac-ft 31,970

Peak discharge (base, 200 cfs).--May 30 (11:30 p.m.) 230 cfs (3.54 ft); June 8 (10 p.m.) 349 cfs (3.84 ft); June 20 (11:30 p.m.) 230 cfs (3.56 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Jan. 23 to Feb. 7, Feb. 20 to Mar. 1, Aug. 20-22, Aug. 24 to Sept. 7, Sept. 18-30; discharge estimated on basis of recorded range in stage, weather records, and records for nearby stations.

South Fork Rio Grande at South Fork, Colo.

Location.--Lat 37°39'40", long 106°38'50", in sec. 4, T. 39 N., R. 3 E., on left bank near U. S. Highway 160, a quarter of a mile downstream from Church Creek, 1¼ miles upstream from mouth, and 1½ miles southwest of village of South Fork.

Drainage area.--216 sq mi.

Records available.--August 1910 to September 1913 and May 1936 to September 1955 in reports of Geological Survey. August 1910 to September 1922 and May 1936 to September 1944 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 8,221.79 ft above mean sea level, datum of 1929. Prior to 1936, staff or chain gage at bridges about 1 mile downstream at different datums.

Average discharge.--31 years (1910-22, 1936-55), 220 cfs (159,300 acre-ft per year).

Extremes.--Maximum discharge during year, 954 cfs June 8 (gage height, 4.19 ft); minimum daily, 16 cfs Nov. 18, Feb. 20, 21.
1910-22, 1936-55: Maximum discharge, 8,000 cfs Oct. 5, 1911 (gage height, 9.7 ft, from floodmarks, present site and datum), from rating curve extended above 1,500 cfs; minimum daily, that of Nov. 18, 1954, Feb. 20, 21, 1955.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Transmountain diversions to drainage area above station from Colorado River basin (see p. 281). A few small diversions and several storage reservoirs above station for irrigation.

Revisions (water years).--WSP 898: 1911(M).

Rating table, water year 1954-55, except period of ice effect (gage height, in feet, and discharge in cubic feet per second)
(Shifting-control method used Apr. 21-25, Aug. 5 to Sept. 3)

0.9	13	2.5	277
1.2	41	3.0	425
1.5	79	4.0	850
2.0	168		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	37	33	27	19	18	26	206	481	192	98	50
2	42	41	42	28	20	18	27	246	418	178	90	48
3	43	39	37	27	20	19	29	253	408	164	127	43
4	57	38	39	28	20	18	28	235	425	148	98	42
5	*56	31	32	27	19	17	26	232	397	*135	*101	40
6	53	36	35	25	18	18	27	248	478	124	103	40
7	48	36	34	28	18	19	25	311	619	118	137	39
8	51	33	31	28	18	21	21	404	725	105	142	38
9	65	33	b29	28	18	21	19	348	*755	135	122	38
10	73	33	b33	28	18	21	21	306	664	158	118	39
11	62	34	b34	24	17	22	27	258	594	174	152	37
12	55	38	b31	20	17	23	26	255	594	170	113	35
13	51	43	*29	*21	18	24	30	290	582	190	108	33
14	46	39	30	23	19	26	44	333	637	160	105	32
15	44	30	28	22	20	26	66	375	542	152	113	31
16	44	21	29	21	20	25	90	363	538	149	116	30
17	43	22	28	20	19	24	130	325	523	147	106	35
18	43	16	29	19	19	23	120	*295	502	145	93	49
19	42	27	30	20	18	24	108	265	470	142	116	41
20	42	22	31	19	16	25	88	260	464	140	131	60
21	41	26	30	17	16	23	*115	311	464	138	138	45
22	40	*24	30	18	17	20	138	375	436	135	111	37
23	40	23	29	19	17	20	120	414	418	129	95	*36
24	40	22	29	19	17	21	108	470	394	125	85	35
25	44	22	29	19	17	23	142	506	351	*125	89	73
26	37	19	28	19	18	22	176	498	311	127	*75	69
27	37	24	27	18	18	19	188	484	285	144	68	56
28	36	19	24	18	19	20	180	456	253	152	87	46
29	*38	22	24	18	-	20	200	509	230	124	71	42
30	38	34	25	18	--	22	212	558	212	109	61	39
31	33	------	26	19	------	25	------	558	------	116	55	------
Total	1,430	884	945	685	510	667	2,557	10,947	14,170	4,450	3,224	1,320
Mean	46.1	29.5	30.5	22.1	18.2	21.5	85.2	353	472	144	104	42.6
Ac-ft	2,840	1,750	1,870	1,360	1,010	1,320	5,070	21,710	28,110	8,830	6,390	2,530

Calendar year 1954: Max 578 Min 16 Mean 110 Ac-ft 79,420
Water year 1954-55: Max 755 Min 16 Mean 114 Ac-ft 82,790

Peak discharge (base, 900 cfs).--June 8 (9 p.m.) 954 cfs (4.19 ft).
* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 13 to Apr. 21 (stage-discharge relation affected by ice during most of period), July 15-22; discharge estimated on basis of 3 discharge measurements, weather records, recorded range in stage, and records for nearby stations.

Rio Grande near Del Norte, Colo.

Location.--Lat 37°41'20", long 106°27'30", in NW¼ sec. 29, T. 40 N., R. 5 E., on right bank 20 ft downstream from county highway bridge, 5 miles upstream from Pinos Creek, and 6 miles west of Del Norte.

Drainage area.--1,320 sq mi, approximately.

Records available.--July 1889 to November 1906, April 1908 to September 1913, and October 1933 to September 1955 in reports of Geological Survey. July 1889 to September 1906 and April 1908 to September 1944 in reports of State engineer. May to September 1907 in files of State engineer.

Gage.--Water-stage recorder. Datum of gage is 7,982.21 ft above mean sea level, datum of 1929. Prior to May 16, 1908, staff gage at site 4 miles downstream at different datum. May 16, 1908, to Nov. 8, 1910, staff or chain gage on bridge at present site and datum.

Average discharge.--66 years (1889-1955), 934 cfs (676,200 acre-ft per year).

Extremes.--Maximum discharge during year, 4,320 cfs June 9 (gage height, 4.07 ft); minimum daily, 100 cfs Nov. 29.
1889-1955: Maximum discharge, 18,000 cfs Oct. 5, 1911 (gage height, 6.80 ft), from rating curve extended above 6,000 cfs; minimum daily, 69 cfs Aug. 21, 1902.

Remarks.--Records excellent except those for periods of ice effect or no gage-height record, which are fair. Small diversions above station for irrigation. Flow regulated by three main reservoirs (total capacity, 122,900 acre-ft) and several smaller ones. Transmountain diversions to drainage area above station from Colorado River basin (see p. 281).

Revisions.--WSP 763: Drainage area.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.5	84	2.0	1,010
.8	180	2.5	1,570
1.1	335	3.0	2,320
1.5	588	4.0	4,240

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*330	248	135	130	160	178	217	745	2,240	1,060	443	*318
2	313	258	*143	136	160	182	237	919	1,760	1,050	468	302
3	324	*269	165	139	158	180	242	762	1,340	1,060	547	291
4	377	253	203	137	143	172	258	641	1,330	874	634	280
5	401	231	162	127	130	160	217	696	1,350	*796	*554	269
6	468	226	143	*120	130	178	*296	804	1,800	721	581	258
7	468	242	145	122	135	188	237	1,070	3,060	672	672	253
8	468	237	135	128	160	198	180	1,450	3,600	611	656	248
9	514	226	125	135	158	192	150	1,400	*3,840	561	596	242
10	527	217	140	120	140	188	150	1,140	3,360	554	554	237
11	*547	217	145	122	145	*198	185	1,000	2,770	574	611	221
12	500	*217	135	120	150	188	162	*1,010	2,410	634	534	212
13	462	264	125	125	160	180	136	1,110	2,700	641	488	212
14	419	269	115	135	174	170	189	1,300	2,930	547	468	208
15	383	237	115	142	188	162	335	1,560	2,160	514	494	203
16	377	203	120	140	180	165	443	1,640	2,300	481	468	*198
17	371	185	115	135	180	170	520	1,400	2,660	474	468	198
18	353	165	*118	120	165	160	481	1,230	2,290	455	534	242
19	341	154	125	128	140	150	443	1,050	1,780	425	514	242
20	330	169	130	133	120	160	377	955	2,080	425	540	242
21	*324	158	138	128	125	130	*413	1,160	2,030	419	520	264
22	318	*154	130	120	135	140	507	1,700	2,000	*389	488	221
23	308	158	138	135	143	147	481	1,670	1,700	371	*462	203
24	302	165	142	150	140	154	425	1,840	1,770	353	431	203
25	308	162	140	155	155	176	468	2,080	1,660	*341	462	237
26	286	154	138	150	170	169	649	2,050	1,340	341	462	253
27	269	136	125	148	180	185	737	2,000	1,330	413	431	242
28	269	110	113	148	170	158	664	1,700	1,320	540	425	221
29	269	100	103	150	-	*165	779	1,800	1,300	474	401	212
30	275	114	105	160	---	189	770	2,130	1,120	401	371	208
31	264	-----	120	155	-----	221	-----	2,640	-----	425	335	-----
Total	11,465	5,898	4,131	4,193	4,294	5,353	11,348	42,652	63,330	17,596	15,612	7,140
Mean	370	197	133	135	153	173	378	1,376	2,111	568	504	238
Ac-ft	22,740	11,700	8,190	8,320	8,520	10,620	22,510	84,600	125,600	34,900	30,970	14,160

Calendar year 1954: Max 3,100 Min 100 Mean 527 Ac-ft 381,300
Water year 1954-55: Max 3,840 Min 100 Mean 529 Ac-ft 382,800

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 29 to Dec. 1, Dec. 7 to Jan. 19. No gage-height record Jan. 20 to Mar. 22 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby stations.

Pinos Creek near Del Norte, Colo.

Location.--Lat 37°35'20", long 106°26'50", in sec. 29, T. 39 N., R. 5 E., on right bank just downstream from Bennett Creek, 8 miles southwest of Del Norte.

Drainage area.--53 sq mi, approximately.

Records available.--May 1936 to September 1955 in reports of Geological Survey. May 1919 to September 1924 and May 1936 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,350 ft (from topographic map). May 1, 1919, to Sept. 30, 1924, staff gages near present site at different datums.

Average discharge.--11 years (1940-41, 1943-47, 1949-55), 23.4 cfs (16,940 acre-ft per year).

Extremes.--Maximum discharge during year, 57 cfs June 8 (gage height, 0.97 ft); minimum not determined.
1919-24, 1936-55: Maximum daily discharge, 2,400 cfs June 3, 1922; minimum daily recorded, 1.8 cfs Sept. 26-28, 1951.

Remarks.--Records good except those for period of no gage-height record, which are poor. One small diversion above station.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 31		Apr. 1 to Sept. 30	
0.1	2.2	0.2	5.0
.2	5.6	.3	9.0
.3	10	.6	26
		.9	51

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	4.6					7.8	28	33	14	7.8	11
2	2.9	5.6					7.9	24	30	12	8.6	10
3	3.2	5.3					8.2	15	29	11	10	10
4	4.6	4.6					8.0	16	34	12	10	10
5	4.9	6.0					7.8	19	30	11	10	10
6	*5.3	6.5					7.6	22	33	11	10	12
7	6.0	4.9					7.4	26	44	11	18	12
8	4.9	3.9					7.0	31	46	10	12	11
9	4.2	4.6					6.6	22	45	9.0	10	12
10	3.9	3.2					8.6	20	37	10	14	12
11	2.5	4.9					7.8	18	36	12	15	8.2
12	2.2	4.6					7.0	21	38	11	10	6.6
13	2.2	3.6	(*)				8.6	25	40	11	11	*6.2
14	2.5	3.9					9.5	28	39	9.5	13	6.2
15	3.6	4.6					9.0	31	36	9.0	14	5.8
16	3.9		5.0	4.5	5.0	6.4	11	29	36	8.6	14	5.4
17	3.6						13	24	35	8.6	*14	6.2
18	3.9						12	*21	33	7.4	12	7.0
19	5.6						9.0	22	32	7.8	21	6.2
20	6.0						12	24	31	*8.2	18	7.4
21	5.6						12	33	31	10	13	6.2
22	5.6	(*)					15	40	*28	9.5	12	5.8
23	5.3	4.2					14	41	28	9.5	10	5.4
24	5.6						11	40	22	10	11	5.8
25	4.9						16	39	21	10	14	10
26	4.2						22	36	19	10	12	8.6
27	4.2						22	38	16	15	18	7.0
28	4.2						19	32	16	12	19	6.6
29	*4.6				-		25	39	15	10	14	6.6
30	4.6				------		27	44	15	8.2	12	6.2
31	4.2	------			------		------	40	------	8.2	11	------
Total	131.4	133.8	155.0	139.5	140.0	198.4	358.8	886	928	316.5	398.4	243.4
Mean	4.24	4.46	5.0	4.5	5.0	6.4	12.0	28.6	30.9	10.2	12.9	8.11
Ac-ft	261	265	307	277	278	394	712	1,760	1,840	628	790	483

Calendar year 1954: Max 41 Min - Mean 9.33 Ac-ft 6,750
Water year 1954-55: Max 46 Min - Mean 11.0 Ac-ft 8,000

Peak discharge (base, 120 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No gage-height record Nov. 6 to Apr. 8 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

Rio Grande near Monte Vista, Colo.

Location.--Lat 37°36'30", long 106°08'50", at west line of sec. 19, T. 39 N., R. 8 E., on left bank 25 ft downstream from bridge on U. S. Highway 285 and 2 miles north of Monte Vista.

Drainage area.--1,590 sq mi, approximately.

Records available.--October 1933 to September 1955 in reports of Geological Survey. May 1926 to September 1944 in reports of State engineer (no winter records in earlier years).

Gage.--Water-stage recorder. Datum of gage is 7,654.54 ft above mean sea level, datum of 1929. Prior to July 23, 1927, staff gage, and July 23, 1927, to Feb. 22, 1934, water-stage recorder, near present site at datum 0.50 ft higher. Feb. 23, 1934, to Aug. 19, 1936, water-stage recorder at present site and datum. Aug. 20 to Dec. 30, 1936, water-stage recorder at site 75 ft downstream at present datum. Dec. 31, 1936, to Apr. 2, 1937, water-stage recorder at present site and datum. Apr. 3, 1937, to June 14, 1938 water-stage recorder at site 75 ft downstream at present datum.

Average discharge.--22 years (1933-55), 336 cfs (243,300 acre-ft per year).

Extremes.--Maximum discharge during year, 1,800 cfs June 8 (gage height, 4.42 ft); minimum daily, 12 cfs Mar. 22, 25-27.
1926-55: Maximum discharge, 18,500 cfs June 30, 1927 (gage height, 8.35 ft, present datum); minimum daily, 3.0 cfs Mar. 26, 1954.

Remarks.--Records good except those for periods of ice effect, 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.--WSP 928: Drainage area.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	12	2.0	282
.8	20	2.5	482
1.0	42	3.0	690
1.2	72	4.0	1,330
1.5	134		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	50	18	135	175	185	53	120	844	122	158	96
2	98	42	18	140	170	190	67	167	715	170	113	96
3	113	45	21	145	165	185	76	153	582	173	134	88
4	116	45	23	145	155	180	77	111	595	139	132	83
5	105	*32	22	138	145	170	118	127	600	187	*105	81
6	100	19	18	130	140	180	139	178	725	142	111	81
7	94	18	18	130	150	175	129	241	1,100	*181	199	83
8	94	17	18	135	160	167	34	590	1,330	173	134	79
9	88	16	40	140	165	116	16	665	1,170	148	116	79
10	105	15	107	135	150	69	14	523	*1,110	118	109	81
11	*103	15	139	130	160	52	14	*326	868	178	137	81
12	85	15	150	130	165	46	14	302	886	193	116	81
13	77	15	153	*130	175	42	31	318	1,040	190	120	90
14	81	15	139	140	185	45	45	484	1,120	134	132	70
15	85	15	148	150	200	28	96	725	710	139	139	74
16	86	14	134	145	190	22	100	844	680	150	129	74
17	81	14	134	140	185	16	86	730	910	142	129	76
18	69	16	*145	135	170	14	111	572	768	145	148	85
19	53	17	149	140	160	13	94	426	505	125	125	100
20	66	14	154	145	135	13	94	308	645	118	145	81
21	69	14	155	140	138	13	107	360	650	103	132	90
22	62	14	156	135	145	12	111	715	715	83	116	81
23	61	14	149	150	150	14	103	778	528	100	*105	*79
24	59	*14	150	160	155	13	92	768	660	105	86	86
25	67	14	150	165	165	12	96	844	618	107	96	100
26	59	14	147	160	180	12	127	828	510	105	94	100
27	50	14	145	155	190	12	129	778	446	142	88	92
28	45	14	139	155	180	13	125	631	368	187	94	92
29	43	22	115	165	-	23	129	650	329	181	90	103
30	46	22	120	175	- - -	40	116	746	238	142	92	98
31	52	- - - -	130	170	- - - -	53	- - - -	1,010	- - - -	156	90	- - - -
Total	2,402	605	3,304	4,488	4,603	2,125	2,543	16,018	21,965	4,478	3,714	2,580
Mean	77.5	20.2	107	145	164	68.5	84.8	517	732	144	120	86.0
Ac-ft	4,760	1,200	6,550	8,900	9,130	4,210	5,040	31,770	43,570	8,880	7,370	5,120

Calendar year 1954: Max 1,010 Min 3.0 Mean 164 Ac-ft 118,900
Water year 1954-55: Max 1,330 Min 12 Mean 189 Ac-ft 136,500

* Diecharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 19-21, 23-27, Dec. 29 to Mar 7.

Rio Grande at Alamosa, Colo.

Location.--Lat 37°29', long 105°53', in SE¼ sec. 4, T. 37 N., R. 10 E., on right bank a quarter of a mile northwest of city limits of Alamosa and 7 miles upstream from Alamosa Creek.

Drainage area.--1,710 sq mi, approximately.

Records available.--May 1912 to September 1913 and October 1933 to September 1955 in reports of Geological Survey. May 1912 to September 1944 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 7,532.66 ft above mean sea level, datum of 1929. Prior to Apr. 7, 1915, staff or chain gage, and Apr. 7, 1915, to Nov. 5, 1935, water-stage recorder, at railroad and highway bridges in Alamosa half a mile to 2 miles downstream at different datums. Nov. 6, 1935, to June 30, 1942, water-stage recorder at present site at datum 1.00 ft higher.

Average discharge.--43 years (1912-55), 290 cfs (210,000 acre-ft per year).

Extremes.--Maximum daily discharge during year, 205 cfs Feb. 28; maximum gage height, 4.65 ft Feb. 28 (backwater from ice); minimum daily discharge, 10 cfs Nov. 17-19.
1912-55: Maximum discharge, 14,000 cfs July 1, 1927; maximum gage height, 10.62 ft June 20, 1949; minimum daily discharge, 1.0 cfs May 19, 1950.

Remarks.--Records good except those for periods of ice effect or no gage-height record, 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.--WSP 928: Drainage area.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Nov. 30		Dec. 1 to Sept. 30			
3.0	9.5	2.7	8.0	3.6	129
3.2	27	2.9	25	4.1	222
3.4	52	3.2	63		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	14	50	140	175	195	a30	39	77	28	33	20
2	34	15	53	145	180	195	a26	39	41	27	37	19
3	34	15	56	150	170	182	a23	41	40	29	*40	18
4	32	15	59	150	165	186	21	*42	37	49	39	17
5	34	15	59	150	158	186	20	40	42	49	39	16
6	34	15	60	140	152	186	23	41	42	53	36	15
7	27	14	*62	134	145	186	45	46	68	*46	33	15
8	17	13	69	*134	155	184	68	46	93	42	41	14
9	12	13	71	134	165	158	39	34	*124	55	49	14
10	12	*12	62	145	170	122	24	37	a66	50	42	14
11	13	12	82	140	160	114	20	25	a63	42	37	14
12	14	12	95	135	160	102	19	22	45	42	36	14
13	15	12	131	135	170	92	19	24	57	62	39	14
14	15	12	151	136	175	85	19	53	126	65	33	14
15	*15	12	145	142	185	77	18	68	133	56	32	14
16	17	11	150	155	180	65	18	*74	65	44	34	14
17	17	10	140	150	180	53	18	85	69	42	35	14
18	24	10	140	142	175	48	17	68	92	41	35	16
19	17	10	140	140	a165	44	19	68	46	39	37	17
20	16	24	145	150	a135	39	*20	59	34	36	37	19
21	16	25	150	155	a150	44	18	55	37	34	27	24
22	16	16	145	145	a148	52	18	62	46	34	27	25
23	15	14	140	140	a155	30	19	92	71	39	28	25
24	16	14	140	150	a160	30	19	76	42	35	32	24
25	17	12	145	160	a170	28	19	56	41	29	32	24
26	25	12	140	170	a185	29	19	76	37	28	*27	*24
27	29	11	140	162	a195	32	20	69	35	28	26	28
28	25	17	135	160	a205	22	29	82	29	28	24	25
29	16	28	130	160	-	a21	34	63	28	34	22	23
30	15	44	130	168	------	a23	36	66	32	37	21	23
31	14	------	135	170	------	a27	------	56	------	35	20	------
Total	639	459	3,450	4,587	4,688	2,837	737	1,704	1,758	1,258	1,030	557
Mean	20.6	15.3	111	148	167	91.5	24.6	55.0	58.6	40.6	33.2	18.6
Ac-ft	1,270	910	6,840	9,100	9,300	5,630	1,460	3,380	3,490	2,500	2,040	1,100

Calendar year 1954: Max 215 Min 10 Mean 64.2 Ac-ft 46,480
Water year 1954-55: Max 205 Min 10 Mean 64.9 Ac-ft 47,020

* Discharge measurements made on this day.
a No gage-height record (stage-discharge relation affected by ice during part of periods); discharge estimated on basis of weather records, recorded range in stage, and records for nearby stations.

Note.--Stage-discharge relation affected by ice Dec. 15 to Feb. 18, Mar. 1.

Rock Creek near Monte Vista, Colo.

Location.--Lat 37°29'30", long 106°15'40", in SE¼ sec. 36, T. 38 N., R. 6 E., on left bank 3 miles downstream from North Fork, and 9 miles southwest of Monte Vista.

Drainage area.--33.6 sq mi.

Records available.--May 1935 to September 1955 in reports of Geological Survey (discontinued). April 1919 to September 1924 and May 1935 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,280 ft (from topographic map). Apr. 1, 1919, to Apr. 4, 1922, staff gage, and Apr. 5, 1922, to Sept. 30, 1924, water-stage recorder, at site 1½ miles downstream at different datum.

Average discharge.--6 years (1949-55), 7.16 cfs (5,180 acre-ft per year).

Extremes.--Maximum discharge during year, 20 cfs July 12 (gage height, 1.08 ft); minimum daily not determined.
1919-24, 1935-55: Maximum discharge, 190 cfs Aug. 19, 1952 (gage height, 3.01 ft); minimum daily determined, 1.0 cfs Nov. 2, 1951.

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

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 15		Apr. 16 to Sept. 30	
0.6	1.6	0.5	1.0
.7	4.0	.6	2.8
.8	7.0	.7	5.0
		.9	11

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	2.3						7.1	8.6	3.7	3.7	3.7
2	1.8	2.6						7.4	8.3	3.2	3.7	3.7
3	1.8	2.3						5.9	8.0	3.2	4.1	3.7
4	1.8	2.1						6.2	7.7	3.0	5.0	3.5
5	1.8	*1.6						6.8	7.7	3.0	4.1	3.5
6	2.1	1.8						6.8	7.1	3.0	4.1	3.5
7	2.1	1.8						7.7	7.4	2.8	5.3	3.5
8	*2.1	1.8					a5.0	8.0	7.4	2.6	5.3	3.5
9	2.1	1.8						7.7	7.4	2.6	3.9	3.2
10	2.1	1.8						7.4	7.1	2.6	3.9	3.0
11	2.1	1.8						*6.2	7.1	3.2	3.7	3.0
12	2.1	1.8						6.5	7.1	4.0	3.2	2.8
13	2.1	2.3	(*)					6.5	7.1	3.0	3.2	*2.6
14	2.3	2.3						7.4	7.1	2.8	3.9	2.4
15	2.3	2.1						7.4	7.1	2.8	4.1	2.4
16	2.3	2.1	a2.5	a2.2	a2.4	a3.5	a7.1	7.4	6.8	2.8	3.7	2.4
17	2.3	2.1					6.2	6.8	6.5	2.8	*4.1	2.4
18	2.3	2.3					5.9	7.1	6.5	2.8	4.1	2.6
19	2.3	2.8					5.9	7.4	5.9	2.6	5.6	2.6
20	2.3	2.3					5.6	8.0	5.6	*2.1	5.3	2.6
21	2.6	2.3					6.2	9.5	5.0	2.3	5.3	2.4
22	2.6	2.3					a6.5	10	*5.0	2.1	5.0	2.4
23	2.6	2.3					a5.0	10	5.0	2.3	4.8	2.4
24	2.6	*2.3					4.8	10	4.8	2.4	4.6	2.4
25	2.6	2.1					4.8	10	4.6	2.6	4.6	3.0
26	2.6	2.1					6.2	9.2	4.1	3.5	4.6	2.8
27	2.6	b2.1					6.5	9.5	3.9	4.8	4.6	2.4
28	2.3	b2.1					5.9	8.9	3.7	4.6	4.6	2.4
29	2.6	b2.1			-		6.8	8.9	3.7	4.3	4.3	2.4
30	2.6	2.1			------		7.1	8.9	3.7	3.9	4.1	2.4
31	2.3	------			------		------	8.9	------	3.9	3.9	------
Total	69.9	63.6	77.5	68.2	67.2	108.5	165.5	245.5	187.0	95.3	134.4	85.6
Mean	2.25	2.12	2.5	2.2	2.4	3.5	5.52	7.92	6.23	3.07	4.34	2.85
Ac-ft	139	126	154	135	133	215	328	487	371	189	267	170

Calendar year 1954: Max 9.4 Min 1.1 Mean 3.69 Ac-ft 2,680
Water year 1954-55: Max 10 Min - Mean 3.75 Ac-ft 2,710

Peak discharge (base, 40 cfs).--No peaks above base.
* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during part of periods); discharge estimated on basis of 1 discharge measurement, weather records, recorded range in stage, and records for nearby stations.
b Stage-discharge relation affected by ice.

Closed basin in San Luis Valley, Colo.

Kerber Creek at Ashley Ranch, near Villa Grove, Colo.

Location.--Lat 38°15', long 106°08', in sec. 7, T. 46 N., R. 8 E., on left bank at Ashley Ranch, 10 miles west of Villa Grove.

Drainage area.--38 sq mi, approximately.

Records available.--May 1936 to September 1955 in reports of Geological Survey. June 1923 to September 1926 (published as near Villa Grove), and May 1936 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder.

Average discharge.--9 years (1940-41, 1947-55), 12.2 cfs (8,830 acre-ft per year).

Extremes.--Maximum discharge during year, 60 cfs Aug. 5 (gage height, 2.42 ft); minimum daily not determined.
1923-26, 1936-55: Maximum discharge, 407 cfs May 14, 1941, from rating curve extended above 160 cfs; maximum gage height, 5.04 ft May 11, 1947; minimum daily discharge recorded, 0.2 cfs Sept. 3, 1950.

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

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge in cubic feet per second)

Oct. 1 to Aug. 5		Aug. 5 to Sept. 30	
1.6	1.0	1.4	0.5
1.7	3.5	1.5	2.0
1.9	13	1.6	4.5
2.2	36	1.8	11

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.2	3.2						a13	30	7.6	2.8	3.8
2	3.5	3.2						a13	29	6.6	*6.6	3.2
3	4.0	3.5						a13	28	6.2	8.0	2.8
4	4.0	4.0						a14	26	6.2	7.1	2.2
5	4.0	3.5						*14	24	5.8	11	2.2
6	5.3	4.0	(*)					14	24	6.2	7.8	2.2
7	6.2	4.0						18	27	4.8	9.6	2.2
8	4.4	*3.2						22	30	*4.0	8.9	2.8
9	3.5	3.5						15	32	3.2	7.8	3.5
10	4.4	4.0						12	*28	3.0	7.8	2.0
11	4.0	5.3						9.5	26	3.0	7.8	1.6
12	3.2	b4.0						9.5	25	3.5	6.3	1.6
13	3.0	3.2						11	25	2.5	6.0	1.6
14	2.5	4.8						14	24	2.0	5.1	1.7
15	*2.8	3.5						21	23	2.2	6.3	1.7
16	3.0	4.8	a2.5	a2.4	a2.4	a3.2	a 11	22	21	3.2	7.2	1.4
17	3.2	3.2						22	20	3.5	7.2	2.0
18	3.5	3.5						23	19	2.2	8.6	2.5
19	3.2	5.8						25	18	2.2	8.6	2.2
20	3.5	4.4						26	17	3.2	6.6	2.5
21	3.5	5.8						29	16	2.5	6.6	1.7
22	3.2	3.5						30	16	2.2	7.5	1.7
23	3.2	3.5						33	14	2.2	5.7	1.6
24	3.2	3.0						33	14	2.2	5.1	1.8
25	3.2	3.5						33	12	1.5	4.2	3.8
26	2.8	5.3						33	11	4.4	4.2	*2.2
27	3.2	5.3						31	10	7.6	11	1.8
28	2.5	a3.0						27	9.5	5.3	6.6	1.8
29	2.5	a1.2			-			26	7.6	2.8	4.5	1.7
30	2.5	a3.0			------			28	7.6	2.5	*4.0	1.8
31	2.5	------			------		------	28	------	2.8	3.8	------
Total	106.7	115.7	77.5	74.4	67.2	99.2	330	662.0	613.7	117.1	210.3	65.6
Mean	3.44	3.86	2.5	2.4	2.4	3.2	11	21.4	20.5	3.78	6.78	2.19
Ac-ft	212	229	154	148	133	197	655	1,310	1,220	232	417	130

Calendar year 1954: Max 24 Min 1.1 Mean 5.53 Ac-ft 4,000
Water year 1954-55: Max 33 Min - Mean 6.96 Ac-ft 5,040

Peak discharge (base, 70 cfs).--No peak above base.
* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 1 discharge measurement, 2 observed gage heights, weather records, and records for nearby stations.
b Stage-discharge relation affected by ice.

Closed basin in San Luis Valley, Colo.

Saguache Creek near Saguache, Colo.

Location.--Lat 38°09', long 106°19', in sec. 11, T. 45 N., R. 6 E., on left bank just upstream from Ford Creek, 10 miles northwest of Saguache.

Drainage area.--595 sq mi.

Records available.--August 1910 to September 1912, and October 1933 to September 1955 in reports of Geological Survey. August 1910 to September 1912, and June 1914 to September 1944 in reports of State engineer. (No winter records some years.)

Gage.--Water-stage recorder. Altitude of gage is 8,000 ft. Prior to Apr. 9, 1934, at site three-quarters of a mile downstream at different datum.

Average discharge.--38 years (1910-12, 1914-36, 1940-42, 1943-55), 75.3 cfs (54,510 acre-ft per year).

Extremes.--Maximum discharge during year, 116 cfs Aug. 27 (gage height, 0.75 ft); maximum gage height, 1.20 ft Feb. 13 (backwater from ice); minimum daily discharge, 15 cfs Dec. 10.
1910-12, 1914-15: Maximum discharge, 746 cfs June 15, 1921 (gage height, 3.45 ft, site and datum then in use), from rating curve extended above 500 cfs; minimum daily recorded, 8.2 cfs Dec. 22, 1950, Aug. 17, 1951.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Revisions (water years).--WSP 1242: 1948-49.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.0	15
.1	19
.3	34
.5	56
.7	94

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	31	20	21	20	20	29	49	55	31	39	36
2	33	35	21	21	21	20	29	50	50	29	40	35
3	33	35	21	21	20	21	24	41	45	28	55	33
4	35	33	24	21	20	22	25	36	46	28	58	33
5	35	32	21	19	19	23	28	39	48	28	59	32
6	36	32	20	19	19	22	30	40	49	28	58	32
7	37	33	*21	20	19	22	32	44	58	27	70	32
8	38	*35	21	*20	19	23	29	52	68	25	90	30
9	36	32	20	20	19	25	29	55	75	23	83	31
10	37	31	15	20	19	26	30	50	71	23	56	30
11	38	30	16	19	18	27	33	46	66	25	81	28
12	37	36	16	18	19	28	33	41	70	29	61	28
13	35	41	17	18	20	30	28	41	66	29	51	28
14	34	33	18	19	21	32	34	43	64	26	51	28
15	*33	34	17	19	22	33	40	45	55	24	64	27
16	33	32	17	18	22	32	46	45	48	24	63	*26
17	32	36	17	18	21	32	55	42	50	24	63	26
18	33	31	17	17	20	33	50	*51	50	22	71	29
19	32	32	20	18	20	32	45	50	52	*22	68	29
20	33	34	20	17	19	34	34	43	*48	26	56	30
21	33	32	20	17	19	28	38	48	49	28	52	30
22	33	32	20	17	20	25	43	54	45	28	*50	27
23	33	32	20	17	19	27	40	58	44	31	51	26
24	33	33	20	17	19	36	35	58	49	33	48	26
25	33	32	20	17	19	34	39	55	43	30	46	29
26	33	32	19	17	20	32	50	54	39	30	45	30
27	33	28	18	17	21	33	52	54	35	44	52	31
28	32	28	17	17	21	34	42	49	32	64	56	29
29	34	32	18	17	-	28	44	48	32	55	46	28
30	33	28	19	18	------	27	45	51	32	40	41	27
31	32	------	20	19	------	26	------	58	------	34	38	------
Total	1,055	977	590	573	555	867	1,111	1,490	1,534	938	1,740	886
Mean	34.0	32.6	19.0	18.5	19.8	28.0	37.0	48.1	51.1	30.3	56.1	29.5
Ac-ft	2,090	1,940	1,170	1,140	1,100	1,720	2,200	2,960	3,040	1,860	3,450	1,760

Calendar year 1954: Max 116 Min 15 Mean 35.4 Ac-ft 25,670
Water year 1954-55: Max 90 Min 15 Mean 33.7 Ac-ft 24,430

Peak discharge (base, 140 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 1 to Mar. 15 (no gage-height record Feb. 25 to Mar. 1) Mar. 21-23.

Closed basin in San Luis Valley, Colo.

North Crestone Creek near Crestone, Colo.

Location.--Lat 38°01', long 105°41', in sec. 5, T. 43 N., R. 12 E., on right bank 1½ miles northeast of Crestone and 3 miles upstream from South Crestone Creek.

Drainage area.--10.7 sq mi.

Records available.--May 1936 to September 1955 (no winter records prior to 1948).

Gage.--Water-stage recorder. Altitude of gage is 8,300 ft.

Average discharge.--8 years (1947-55), 9.99 cfs (7,230 acre-ft per year).

Extremes.--Maximum discharge during year, 76 cfs June 8 (gage height, 1.81 ft); minimum not determined.
1936-55: Maximum discharge, 735 cfs Aug. 6, 1936 (gage height, 4.33 ft), from rating curve extended above 180 cfs on basis of slope-area determination of peak flow; minimum daily recorded, 0.4 cfs Apr. 3, 1945.

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

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.5	1.0	1.1	15
.6	1.8	1.3	26
.7	2.8	1.5	45
.8	4.5	1.7	71
.9	7.0		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	4.5	2.8				1.0	8.2	28	22	21	12
2	9.4	4.5	2.5				1.0	7.4	24	21	*21	11
3	9.0	4.5	2.4				1.0	4.5	22	19	23	9.8
4	8.2	4.5	2.3				1.0	6.2	21	18	24	9.0
5	8.2	4.3	2.2				1.0	*11	18	16	26	8.6
6	8.2	4.3	(*)				1.0	12	21	16	29	8.6
7	8.6	4.3					1.1	16	37	15	30	8.6
8	8.2	*4.0					1.2	18	55	*14	33	7.8
9	7.8	4.0					1.2	15	52	13	28	7.4
10	8.2	3.8	2.0				1.5	13	*44	12	25	6.8
11	8.0	3.8					1.7	12	43	12	22	6.5
12	7.5	3.8					1.4	15	50	11	21	6.0
13	7.0	3.8					1.6	18	50	11	19	5.8
14	6.5	3.8					2.7	20	47	11	18	5.5
15	*6.2	3.6		1.8	1.8	2.0	3.5	20	38	11	22	5.5
16	6.0	3.5					4.3	18	44	13	20	5.2
17	6.0	3.5					4.3	15	44	13	23	5.2
18	5.8	3.1					2.5	13	44	11	29	5.2
19	5.5	3.3					2.0	13	41	10	41	5.0
20	5.2	3.3	1.9				2.0	15	45	9.4	58	4.8
21	5.0	3.3					3.5	20	47	9.8	49	4.5
22	5.0	3.1					3.6	27	47	9.8	38	4.3
23	5.0	2.8					2.6	37	46	10	32	4.3
24	5.0	2.8					2.5	45	40	9.8	28	4.3
25	5.0	2.7					4.8	41	36	9.0	23	6.2
26	4.8	2.7					7.4	32	31	9.8	20	*5.8
27	5.0	2.7					5.8	26	30	13	19	5.0
28	4.8	2.3	1.8				5.5	21	28	15	17	4.8
29	4.8	3.1			-		7.0	24	27	13	16	4.5
30	4.8	3.1					7.8	30	24	13	*14	4.3
31	4.5							31		12	13	
Total	203.0	106.8	62.0	55.8	50.4	62.0	87.5	604.3	1,124	402.6	802	192.3
Mean	6.55	3.56	2.00	1.8	1.8	2.0	2.92	19.5	37.5	13.0	25.9	6.41
Ac-ft	403	212	123	111	100	123	174	1,200	2,230	799	1,590	381

Calendar year 1954: Max 45 Min - Mean 8.25 Ac-ft 5,970
Water year 1954-55: Max 58 Min - Mean 10.3 Ac-ft 7,450

Peak discharge (base, 60 cfs).--June 8 (8 a.m.) 76 cfs (1.81 ft); June 22 (6 p.m.) 64 cfs (1.72 ft); Aug. 19 (6:30 p.m.) 71 cfs (1.72 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Oct. 10-15, Dec. 6 to Apr. 7 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

Closed basin in San Luis Valley, Colo.

Carnero Creek near La Garita, Colo.

Location.--Lat 37°51', long 106°18', in sec. 26, T. 42 N., R. 6 E., on left bank 3 miles northwest of La Garita.

Drainage area.--117 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. April 1919 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder. Altitude of gage is 8,200 ft (from topographic map). Prior to 1931, staff gage or water-stage recorder at same site and datum.

Average discharge.--10 years (1925-26, 1940-41, 1947-55), 11.2 cfs (8,110 acre-ft per year).

Extremes.--Maximum discharge during year, 42 cfs Aug. 2 (gage height, 1.08 ft); no flow July 20-23.
1919-55: Maximum discharge, 1,600 cfs July 21, 1945 (gage height, 5.75 ft), from rating curve extended above 160 cfs; no flow July 12-18, Aug. 14-19, Sept. 14-17, 1951, July 20-23, 1955.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.0	0	0.4	4.0
.1	.5	.5	6.0
.2	1.5	.6	8.5
.3	2.5	.7	12

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	2.1					2.9	9.2	6.5	1.3	2.5	2.0
2	2.5	2.6					2.8	9.6	6.8	1.2	5.7	1.7
3	2.5	3.0					2.7	7.5	6.6	1.1	4.6	1.5
4	2.8	3.1					2.7	6.8	5.8	1.0	3.4	1.3
5	3.1	*2.8					2.6	6.5	5.6	1.1	2.8	1.2
6	3.1	3.2					2.6	6.8	5.4	.9	3.8	1.1
7	3.7	3.4	(*)				2.5	6.5	5.2	.8	5.2	1.3
8	*3.2	3.4					2.5	8.2	4.6	.7	5.6	1.1
9	3.2	3.4					2.6	11	4.2	.5	3.6	1.5
10	3.1	3.2					2.8	8.5	4.2	.4	3.2	1.3
11	3.2	3.6					3.0	8.0	4.2	.4	5.0	1.0
12	3.1	4.0					4.0	7.2	4.2	.5	3.8	.8
13	3.1	4.4					5.0	6.8	3.8	.9	3.1	1.1
14	3.0	4.4					6.0	7.5	3.8	1.5	4.0	.9
15	2.8	4.2					7.0	7.0	3.8	1.2	4.6	.9
16	2.6	3.8	2.4	2.0	2.5	3.0	8.0	6.5	3.8	1.0	5.0	*.8
17	2.8	3.6					9.0	6.0	3.2	.7	4.2	.7
18	2.8	3.6					10	*6.8	3.2	.4	4.2	1.0
19	3.0	3.4					*11	7.5	3.2	*.2	5.7	1.2
20	3.1	3.1					8.0	10	*3.4	0	4.0	1.6
21	3.1	3.2					7.8	12	3.0	0	4.0	1.6
22	3.1	3.6					9.2	10	2.8	0	*3.6	1.2
23	3.1	3.1					10	9.6	2.3	0	3.2	.8
24	3.2	*3.2					7.5	9.9	2.3	.5	2.6	.9
25	3.4	3.6					8.8	8.2	2.1	.4	2.4	2.3
26	2.6	3.2					11	7.5	2.1	.8	2.4	2.2
27	4.0	3.0					11	7.5	1.9	2.4	2.4	1.9
28	3.1	2.9					8.0	7.2	1.6	5.2	7.5	1.6
29	2.8	2.8			-		7.8	6.5	1.5	4.2	4.6	1.6
30	2.5	3.6			-		8.5	6.5	1.4	3.2	3.0	1.3
31	1.9	------			------		------	6.5	------	2.1	2.3	------
Total	92.3	100.5	74.4	62.0	70.0	93.0	187.3	245.3	111.9	34.6	122.0	39.4
Mean	2.98	3.35	2.4	2.0	2.5	3.0	6.24	7.91	3.73	1.12	3.94	1.31
Ac-ft	183	199	148	123	139	184	372	487	222	69	242	78

Calendar year 1954: Max 55 Min 0.1 Mean 4.31 Ac-ft 3,120
Water year 1954-55: Max 12 Min 0 Mean 3.38 Ac-ft 2,450

Peak discharge (base, 110 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 27 to Dec. 7. No gage-height record Oct. 26, 27, Dec. 8 to Apr. 19 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby stations.

Closed basin in San Luis Valley, Colo.

La Garita Creek near La Garita, Colo.

Location.--Lat 37°49', long 106°18', in sec. 10, T. 41 N., R. 6 E., on right bank 4 miles southwest of La Garita.

Drainage area.--61 sq mi, approximately.

Records available.--October 1933 to September 1955 in roports of Geological Survey. April 1919 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder. Altitude of gage is 7,970 ft (from topographic map). Apr. 1, 1919, to Apr. 8, 1928, staff gage, and Apr. 9, 1928, to Nov. 13, 1935, water-stage recorder, at site a quarter of a mile downstream at different datum.

Average discharge.--10 years (1925-26, 1940-41, 1947-55), 14.0 cfs (10,140 acre-ft per year).

Extremes.--Maximum discharge during year, 36 cfs Aug. 2 (gage height, 0.90 ft); minimum not determined.
1919-55: Maximum discharge, 457 cfs May 16, 1941 (gage height, 5.11 ft), from rating curve extended above 220 cfs; minimum daily recorded, 0.6 cfs Aug. 17, 1951.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	0
.3	2.0
.4	5.0
.5	9.0
.7	20

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.9	3.5						10	13	3.5	3.2	2.9
2	2.9	4.4						12	12	3.2	5.8	2.6
3	3.5	4.1						7.0	12	2.9	5.8	2.3
4	3.5	4.1						8.2	12	2.9	9.5	2.3
5	3.8	*3.2						9.0	12	3.2	5.0	2.3
6	4.4	3.2					5.0	9.0	11	2.9	4.4	2.3
7	4.1	3.8	(*)					12	11	2.6	12	2.3
8	*4.1	3.8						18	11	2.6	8.2	2.3
9	4.4	3.2						14	11	2.0	6.2	3.2
10	4.4	2.9						12	9.5	2.0	5.0	2.9
11	4.4	2.9						11	9.5	2.6	5.8	2.9
12	4.7	3.2					5.4	8.6	9.5	4.4	4.4	2.9
13	3.8	5.0					3.5	8.6	8.6	4.4	4.1	2.9
14	3.8	4.1					6.2	9.0	10	2.9	5.4	2.3
15	3.8	2.9					8.6	10	9.0	2.0	6.6	1.8
16	4.1	3.5	3.5	3.0	3.0	3.5	9.0	9.0	8.2	2.3	6.6	*2.0
17	3.8	3.8					10	7.8	7.0	2.3	8.2	2.3
18	3.8	2.0					9.5	*10	7.0	1.8	6.6	2.6
19	3.8	2.0					*9.0	10	7.0	*2.0	8.6	2.9
20	3.8	3.8					7.4	11	*7.0	2.9	9.0	2.0
21	4.1	2.6					15	19	6.6	3.5	6.6	2.9
22	3.2	2.3					18	18	5.8	3.2	*5.0	2.6
23	3.5	2.9					14	16	5.8	2.9	4.7	2.3
24	3.5	*3.5					10	14	5.8	2.6	4.1	2.6
25	3.5	3.2					15	14	5.4	2.0	3.5	5.8
26	3.2	2.3					16	12	5.0	3.2	3.5	4.7
27	3.5	1.8					15	14	4.7	7.0	4.1	3.8
28	4.1	1.8					8.6	12	4.4	8.6	8.2	2.9
29	4.1	1.6			-		8.6	13	4.1	6.2	4.7	2.3
30	4.1	2.5					9.5	14	3.8	4.1	3.5	2.3
31	3.2							14		3.2	3.2	
Total	117.8	93.9	108.5	93.0	84.0	108.5	253.3	366.2	248.7	101.9	181.5	82.2
Mean	3.80	3.13	3.5	3.0	3.0	3.5	8.44	11.8	8.29	3.29	5.85	2.74
Ac-ft	234	186	215	184	167	215	502	726	493	202	360	163

Calendar year 1954: Max 66 Min - Mean 5.58 Ac-ft 4,040
Water year 1954-55: Max 19 Min - Mean 5.04 Ac-ft 3,650

Peak discharge (base, 80 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Nov. 27 to Dec. 6. No gage-height record Dec. 7 to Apr. 11 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 1 discharge measurement, weather records, and records for nearby stations.

Transmountain diversions from Colorado River basin to Rio Grande basin

The following 7 ditches, 6 of which are equipped with water-stage recorders, divert water from tributaries of Colorado River to tributaries of Rio Grande in Colorado. Records furnished by State engineer.

Raber-Lohr ditch diverts water from Rincon la Vaca Creek (tributary of Los Pinos River) through Weminuche Pass to Weminuche Creek (tributary of Rio Grande) in sec. 33, T. 40 N., R. 4 W.

Fuchs ditch diverts water from North Fork Los Pinos River through Weminuche Pass to Weminuche Creek (tributary of Rio Grande) in sec. 33, T. 40 N., R. 4 W.

Squaw Pass ditch diverts water from tributaries of Williams Creek through Squaw Pass to tributary of Rio Grande in sec. 10, T. 39 N., R. 3 W.

Tabor ditch diverts water from Cebolla Creek through Spring Creek Pass to tributary of Clear Creek in sec. 2, T. 42 N., R. 3 W.

Piedra Pass ditch diverts water from tributaries of Piedra River to South River (tributary of Rio Grande) in sec. 4, T. 38 N., R. 1 W.

Treasure Pass ditch diverts water from Wolf Creek through Wolf Creek Pass to tributary of South Fork Rio Grande in sec. 31, T. 38 N., R. 2 E.

Tarbell ditch diverts water from tributary of Cochetopa Creek to tributary of Saguache Creek in about sec. 17, T. 43 N., R. 2 E. Records are not available for this diversion.

Revisions (water years).--WSP 1242: 1948-51.

Inflow from transmountain diversions, in acre-feet, water year October 1954 to September 1955

Month	Raber-Lohr ditch	Fuchs ditch	Squaw Pass ditch	Tabor ditch	Piedra Pass ditch	Treasure Pass ditch	Tarbell ditch†	Total
October	241	76	0	0	0	0		317
November	0	0	0	0	0	0		0
December	0	0	0	0	0	0		0
January	0	0	0	0	0	0		0
February	0	0	0	0	0	0		0
March	0	0	0	0	0	0		0
April	0	0	0	0	0	0		0
May	60	19	0	0	0	0		79
June	1,170	335	37	31	0	75		1,650
July	6e2	101	34	0	0	15		832
August	784	101	0	0	0	0		885
September	554	64	0	0	0	0		618
Water year 1954-55	3,490	696	71	31	.0	90		4,380

† No record.

Alamosa Creek above Terrace Reservoir, Colo.

Location.--Lat 37°23', long 106°21', in sec. 8, T. 36 N., R. 6 E., on left bank 3 miles upstream from Terrace Reservoir Dam and 15 miles northwest of Capulin.

Drainage area.--107 sq mi.

Records available.--September 1911 to June 1912 (published as Rio Alamosa near Monte Vista) and October 1934 to September 1955 in reports of Geological Survey. April 1915 to October 1919, October 1923 to September 1927, and October 1934 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder. Altitude of gage is 8,600 ft (from topographic map). Sept. 29, 1911, to June 4, 1912, staff gage at ranger station 1½ miles upstream at different datum. Apr. 1 to May 6, 1915, staff gage, and May 7, 1915, to Sept. 30, 1927, water-stage recorder near present site at different datum.

Average discharge.--14 years (1923-24, 1940-41, 1943-55), 114 cfs (82,530 acre-ft per year).

Extremes.--Maximum discharge during year, 588 cfs June 7 (gage height, 2.84 ft); minimum not determined.
1911-12, 1915-19, 1923-27, 1934-55: Maximum discharge, 5,200 cfs Oct. 5, 1911 (gage height, 11.0 ft, site and datum then in use, from floodmark), from rating curve extended above 1,000 cfs on basis of computation of peak flow over dam about 8 miles upstream; minimum not determined.

Remarks.--Records good above 20 cfs and fair below except those for periods of ice effect or no gage-height record, which are poor. No diversion above station.

Revisions (water years).--WSP 898: 1911(M).

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 31		Apr. 1 to Sept. 30			
0.7	5.0	0.8	7.0	1.9	161
.9	16	1.0	18	2.3	300
1.1	32	1.2	35	2.7	500
		1.5	75		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	14					12	120	238	105	43	40
2	22	15					17	136	191	99	42	37
3	22	15					14	89	217	89	60	33
4	30	15					18	82	242	84	*63	30
5	*27	14					19	97	180	79	62	29
			12	10	9.0	8.5						
6	26	14	(*)				15	136	238	77	69	28
7	26	14					17	201	405	70	97	27
8	25	12		(*)			14	245	465	63	95	28
9	27	12					12	*169	430	56	88	26
10	28	12					11	134	375	56	79	25
11	27	12					13	111	330	64	79	24
12	25	14					10	127	345	63	64	22
13	23	16					12	146	340	69	60	20
14	22	14					18	201	325	60	59	19
15	21	13					24	252	256	54	72	19
			8.0		8.0	10						
16	21	*14					34	252	256	59	86	17
17	21	15					46	214	282	57	84	19
18	21	13					40	158	274	47	80	29
19	21	16					26	122	245	43	89	24
20	20	15					25	124	220	43	86	28
21	20	15		9.0			33	201	207	41	99	*25
22	20	15					45	269	*194	*37	77	21
23	20	14					36	265	214	36	69	20
24	20	13					30	305	207	34	66	20
25	21	12			7.0		40	320	174	37	*60	27
26	17	12	9.0			11	64	296	151	37	57	34
27	17	14					77	269	144	50	57	30
28	*15	12					68	224	134	57	70	24
29	14	15			-		91	305	124	43	62	22
30	14	15			------		111	380	111	39	51	20
31	14	------			------		------	370	------	55	45	------
Total	669	416	299.0	289.0	226.0	306.0	992	6,320	7,514	1,803	2,170	767
Mean	21.6	13.9	9.65	9.32	8.07	9.87	33.1	204	250	58.2	70.0	25.6
Ac-ft	1,330	825	593	573	448	607	1,970	12,540	14,900	3,580	4,300	1,520

Calendar year 1954: Max 335 Min - Mean 61.0 Ac-ft 44,160
Water year 1954-55: Max 465 Min - Mean 59.6 Ac-ft 43,190

Peak discharge (base, 670 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 1-5. No gage-height record Dec. 6 to Mar. 31 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

Alamosa Creek below Terrace Reservoir, Colo.

Location.--Lat 37°21', long 106°17', in sec. 23, T. 36 N., R. 6 E., on left bank half a mile downstream from Terrace Reservoir and 11 miles northwest of Capulin.

Drainage area.--116 sq mi.

Records available.--April 1909 to October 1912 (published as Rio Alamosa nea La Jara), and October 1933 to September 1955 in reports of Geological Survey (discontinued). April 1909 to October 1912, April to October 1915, February 1917 to October 1920, and April 1922 to September 1944 in reports of State engineer. (No winter records 1911, 1912.) November 1915 to January 1917 collected by Terrace Reservoir Co., available in files of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 8,400 ft (from topographic map). Prior to May 7, 1915, staff gage at sites within half a mile upstream at different datum. May 7, 1915, to Nov. 16, 1934, water-stage recorder at site 100 ft downstream at same datum.

Average discharge.--37 years (1909-10, 1915-18, 1922-55), 116 cfs (83,980 acre-ft per year).

Extremes.--Maximum discharge during year, 498 cfs June 9 (gage height, 3.88 ft); minimum daily, 10 cfs Mar. 1 to Apr. 3.
1909-12, 1915, 1917-20, 1922-55: Maximum discharge, 1,590 cfs June 11, 1952 (gage height, 5.76 ft); no flow Oct. 12-15, 1911.

Remarks.--Records excellent above 20 cfs and good below. Flow regulated by Terrace Reservoir (capacity, 17,700 acre-ft). No diversion above station.

Revisions.--WSP 788: Drainage area.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.8	10	3.0	188
2.0	22	3.5	350
2.2	41	4.0	550
2.6	100		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	14	11	11	11	10	10	120	426	118	57	54
2	41	14	11	11	11	10	10	128	287	109	57	40
3	31	14	11	11	11	10	10	138	165	109	39	38
4	18	14	11	11	11	10	15	87	170	100	*39	30
5	*18	14	11	11	11	10	20	*89	183	79	46	29
6	18	14	*11	11	11	10	20	113	205	71	70	29
7	19	14	11	11	11	10	20	180	253	71	73	29
8	19	14	11	*11	11	10	20	249	426	71	81	27
9	19	14	11	11	11	10	20	*256	494	68	98	21
10	26	14	11	11	11	10	20	140	478	61	105	21
11	44	12	11	11	11	10	20	90	438	60	105	21
12	44	11	11	11	11	10	20	105	390	62	105	21
13	42	11	11	11	11	10	20	162	329	62	95	21
14	27	11	11	11	11	10	20	183	336	62	65	21
15	18	11	11	11	11	10	20	260	315	62	65	21
16	18	11	11	11	11	10	20	318	216	62	67	21
17	18	*11	11	11	11	10	27	260	237	62	70	21
18	18	11	11	11	11	10	*42	148	284	61	81	21
19	18	11	11	11	11	10	42	134	270	51	87	21
20	18	11	11	11	11	10	42	102	225	44	92	21
21	16	11	11	11	11	10	42	124	240	44	111	*21
22	15	11	11	11	11	10	42	216	*237	*42	102	21
23	15	11	11	11	11	10	42	273	216	38	86	21
24	15	11	11	11	11	10	*42	284	216	38	79	21
25	15	11	11	11	11	10	42	340	213	38	*61	21
26	15	11	11	11	11	10	48	350	194	39	58	24
27	15	11	11	11	11	10	73	270	150	41	51	32
28	*15	11	11	11	11	10	104	277	134	39	51	32
29	15	11	11	11	-	10	104	191	138	44	55	27
30	14	11	11	11	------	10	107	266	132	58	62	18
31	14	------	11	11	------	10	------	382	------	58	62	------
Total	680	361	341	341	308	310	1,084	6,235	7,997	1,924	2,275	766
Mean	21.9	12.0	11.0	11.0	11.0	10.0	36.1	201	267	62.1	73.4	25.5
Ac-ft	1,350	716	676	676	611	615	2,150	12,370	15,860	3,820	4,510	1,520

Calendar year 1954: Max 354 Min 11 Mean 60.0 Ac-ft 43,460
Water year 1954-55: Max 494 Min 10 Mean 62.0 Ac-ft 44,870

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 6 to Mar. 31 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 2 discharge measurements and gate openings at Terrace Reservoir.

La Jara Creek at Gallegos Ranch, near Capulin, Colo.

Location.--Lat 37°12'10", long 106°12'00", in sec. 10, T. 34 N., R. 7 E., on left bank 2¼ miles downstream from Canyon Del Rancho, 7½ miles southwest of Capulin, and 16 miles downstream from La Jara Reservoir.

Drainage area.--98 sq mi, approximately.

Records available.--May 1936 to September 1955 in reports of Geological Survey. April 1916 to November 1917, April 1919 to November 1923, and May 1936 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder. Altitude of gage is 8,100 ft (from topographic map). Apr. 1, 1916, to Nov. 30, 1917, and Apr. 1, 1919, to Nov. 30, 1923, near present site at different datums.

Average discharge.--7 years (1943-44, 1949-55), 16.5 cfs (11,950 acre-ft per year).

Extremes.--Maximum discharge during year, 142 cfs Aug. 20 (gage height, 4.71 ft); minimum not determined.
1916-17, 1919-23, 1936-55: Maximum discharge, 653 cfs Apr. 22, 1919, Apr. 15, 1937 (gage height, 5.94 ft, present site and datum); minimum daily recorded, 2.2 cfs Nov. 6, 1951.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Small diversions above station for irrigation. Flow regulated by La Jara Reservoir (capacity, 14,040 acre-ft).

Revisions.--WSP 1242: Drainage area.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second) (Shifting-control method used Oct. 17 to Nov. 5, Apr. 21 to May 26, Sept. 20-30)

Oct. 1 to Dec. 31		Jan. 1 to Sept. 30			
3.1	2.3	2.9	3.0	3.6	21
3.2	3.9	3.0	4.0	3.8	34
3.3	6.4	3.2	6.5	4.0	51
3.4	10	3.4	12		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	4.2						42	9.6	4.8	5.9	4.9
2	4.2	5.2						47	9.6	4.4	5.4	4.8
3	4.4	5.2						45	9.0	4.4	5.3	4.8
4	4.4	5.4						34	8.0	4.4	*8.0	4.7
5	*4.6	5.4					5.8	22	8.0	4.5	7.8	4.6
6	4.6	5.6	(*)					19	8.0	4.3	7.5	4.7
7	5.2	5.7						18	7.8	4.3	11	4.6
8	5.9	5.8						19	7.5	4.2	12	4.7
9	5.2	5.8						*29	7.2	4.1	13	4.6
10	6.2	5.9						27	7.2	4.2	12	4.6
11	6.8	6.4						26	7.2	5.2	8.0	4.6
12	6.8	7.5						23	7.2	5.2	6.2	4.3
13	6.2	9.6						18	7.2	4.8	5.9	4.3
14	6.2	8.6						15	7.2	4.8	6.0	4.2
15	6.2	6.8	2.5	3.0	3.5	5.5	5.6	14	7.2	4.8	6.0	4.1
16	6.2	6.8						12	7.0	4.8	6.0	4.1
17	5.9	*7.5						11	7.0	4.9	6.4	4.1
18	5.9	5.9						13	6.8	4.5	10	4.2
19	5.6	6.8						15	6.8	4.4	18	4.2
20	5.4	7.8						21	6.8	4.4	30	4.2
21	5.4	7.5					5.0	30	6.8	*4.2	14	*3.9
22	5.2	7.8					5.3	23	*6.4	4.1	8.5	3.8
23	4.6	8.9					6.2	19	6.2	4.6	9.3	3.8
24	4.9	9.3					8.8	15	5.9	4.5	8.0	3.9
25	5.2	8.9					8.5	13	5.4	4.4	*6.2	4.1
26	4.6	7.1					8.2	11	5.2	4.6	6.2	3.2
27	4.4	5.6					9.3	11	5.0	6.2	6.0	3.7
28	*3.4	4.2					17	11	4.8	16	5.8	3.8
29	3.6	4.0			-		20	10	4.8	7.0	5.6	3.8
30	3.7	4.5			------		43	10	4.8	6.4	5.4	3.7
31	3.9	------			------		------	10	------	6.5	5.2	------
Total	158.7	195.7	77.5	93.0	98.0	170.5	245.3	633	207.6	159.9	270.6	127.0
Mean	5.12	6.52	2.5	3.0	3.5	5.5	8.18	20.4	6.92	5.16	8.73	4.23
Ac-ft	315	388	154	184	194	338	487	1,260	412	317	537	252

Calendar year 1954: Max 76 Min - Mean 9.24 Ac-ft 6,680
Water year 1954-55: Max 47 Min - Mean 6.68 Ac-ft 4,840

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 7-9, Nov. 29 to Apr. 20 (stage-discharge relation affected by ice during most of period), May 10; discharge estimated on basis of 1 discharge measurement, weather records, recorded range in stage, and records for nearby stations.

Rio Grande above mouth of Trinchera Creek, near La Sauses, Colo.

Location.--Lat 37°19', long 105°45', in sec. 35, T. 36 N., R. 11 E., on right bank a quarter of a mile upstream from Trinchera Creek, 4 miles north of La Sauses, and 11 miles southeast of Alamosa.

Drainage area.--5,740 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--May 1936 to September 1955.

Gage.--Water-stage recorder.

Average discharge.--19 years, 276 cfs (199,800 acre-ft per year).

Extremes.--Maximum discharge during year, 250 cfs Aug. 17 (gage height, 2.47 ft); minimum daily, 1.2 cfs Sept. 29.
1936-55: Maximum discharge, 5,470 cfs June 21, 1949 (gage height, 9.50 ft), from rating curve extended above 3,500 cfs; minimum daily, 0.4 cfs July 4, 1940.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Natural flow of stream affected by transmountain diversions, storage reservoirs, groundwater withdrawals and diversions for irrigation, and return flow from irrigated areas.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 16-31)

0.5	0	1.4	64
.6	3.0	1.7	103
.8	13	2.1	172
1.1	35		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	26	65	100	130	148	33	6.5	24	12	30	110
2	38	28	60	110	138	160	33	4.5	46	12	46	47
3	36	29	65	120	140	155	33	3.5	50	12	16	39
4	36	30	70	125	135	150	43	2.7	40	11	8.0	34
5	36	30	70	120	132	155	36	2.4	36	9.5	8.0	32
6	39	30	70	120	128	157	41	2.4	38	9.0	8.5	29
7	40	30	65	120	134	160	52	3.0	33	8.0	12	29
8	36	30	65	125	140	165	70	2.7	27	6.0	16	26
9	29	31	65	123	135	172	80	3.0	21	6.0	12	25
10	26	31	70	120	129	170	60	6.0	22	5.5	8.0	24
11	26	33	65	120	130	155	48	6.0	29	7.0	6.0	24
12	26	34	70	*125	134	145	44	5.5	31	6.0	3.5	*23
13	26	35	80	120	138	135	41	5.5	29	5.0	2.4	21
14	26	37	80	124	139	115	40	5.5	28	4.5	2.1	14
15	25	35	85	130	140	105	34	6.5	35	4.5	2.1	9.0
16	26	35	90	130	142	90	19	9.5	40	4.5	4.5	7.0
17	26	*35	*105	125	142	80	16	16	33	4.5	68	6.5
18	27	35	105	128	140	72	16	33	25	4.5	57	6.5
19	29	35	105	130	130	63	15	*35	20	5.0	22	5.0
20	27	40	110	130	110	58	14	26	23	4.5	18	4.5
21	26	45	110	125	130	53	14	19	21	*4.0	25	4.0
22	*26	45	115	120	140	46	12	16	20	4.5	*20	4.0
23	26	50	115	125	130	54	13	16	20	4.0	15	5.0
24	25	50	120	120	130	56	12	14	*21	4.0	12	14
25	26	55	115	120	130	53	16	13	21	4.5	12	9.0
26	26	60	100	125	135	45	12	12	21	5.0	17	8.5
27	30	60	90	125	138	44	10	12	16	6.5	18	6.5
28	33	60	60	127	140	41	10	10	13	5.5	18	2.4
29	32	50	65	130	-	37	7.0	10	12	5.0	18	1.2
30	29	55	85	132	------	*34	6.5	11	12	5.5	16	1.5
31	26	------	95	130	------	33	------	11	------	4.0	28	------
Total	925	1,179	2,630	3,824	3,759	3,106	880.5	329.2	807	193.5	549.1	571.6
Mean	29.8	39.3	84.8	123	134	100	29.4	10.6	26.9	6.24	17.7	19.1
Ac-ft	1,830	2,340	5,220	7,580	7,460	6,160	1,750	653	1,600	384	1,090	1,130

Calendar year 1954: Max 255 Min 3.0 Mean 58.5 Ac-ft 42,370
Water year 1954-55: Max 172 Min 1.2 Mean 51.4 Ac-ft 37,200

* Discharge measurement made on this day.
Note.--No gage-height record Nov. 20 to Apr. 1 (stage-discharge relation affected by ice during most of period), Aug. 20, 21; discharge estimated on basis of 3 discharge measurements, weather records, recorded range in stage, and records for nearby stations.

Trinchera Creek above Turners Ranch, near Fort Garland, Colo.

Location.--Lat 37°22', long 105°19', in sec. 2, T. 31 S., R. 71 W., on right bank just downstream from confluence of North and South Forks, 1 mile upstream from Turners Ranch, and 7 miles southeast of Fort Garland.

Drainage area.--45 sq mi, approximately.

Records available.--October 1933 to September 1955 in reports of Geological Survey. April 1923 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder.

Average discharge.--9 years (1927-28, 1947-55), 21.3 cfs (15,420 acre-ft per year).

Extremes.--Maximum discharge during year, 174 cfs June 1 (gage height, 3.09 ft); minimum not determined.
1923-55: Maximum discharge, 689 cfs May 27, 1942, from rating curve extended above 240 cfs; maximum gage height, 3.73 ft May 10, 1947; minimum daily discharge recorded, 3.0 cfs Oct. 3, 1942.

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

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to June 2				June 3 to Sept. 30	
1.8	5.0	2.3	34	1.9	16
1.9	8.5	2.6	75	2.2	37
2.1	18	3.1	174	2.5	70
				3.0	166

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	7.4	b7.8				10	28	159	67	37	42
2	7.4	7.4	b7.8				10	28	159	64	36	39
3	7.8	7.8	b7.5				10	23	159	61	37	38
4	7.8	8.5	9.0				10	21	151	58	36	37
5	9.4	8.5	b7.0				10	22	140	55	35	36
6	9.8	8.5	b6.0				11	22	127	54	36	36
7	11	9.0	b6.0				11	25	129	49	36	35
8	9.0	8.5	b5.4				11	30	144	46	39	*35
9	8.5	8.5	(*)				11	30	164	43	36	31
10	8.5	8.5					11	31	159	42	37	30
11	8.2	9.0					12	29	148	45	35	28
12	8.2	*9.4					12	27	144	44	31	27
13	8.2	9.4					12	28	146	42	32	26
14	8.2	9.0					12	30	144	39	34	26
15	8.2	9.0	5.2				12	31	146	36	38	24
16	8.2	9.0		5.2	7.0	9.0	13	32	142	35	35	24
17	8.2	9.0					13	32	131	37	39	23
18	*9.0	9.2					13	31	125	34	40	24
19	8.5	9.4					13	24	119	34	*41	22
20	8.2	9.4					*13	*43	114	33	45	22
21	9.0	9.4					13	52	114	*31	47	21
22	8.5	9.8					14	61	114	29	50	21
23	8.2	9.8					16	87	*112	30	48	21
24	9.0	9.8					16	117	100	32	47	21
25	9.0	9.4					21	127	97	32	46	24
26	8.5	9.4	5.4				25	113	95	38	39	21
27	8.5	9.4					24	105	90	44	44	20
28	7.8	b8.2					20	107	86	50	46	20
29	7.8	b8.0			-		23	115	83	40	47	18
30	7.8	9.4			------		27	131	75	40	47	18
31	7.8	------			------		------	146	------	38	46	------
Total	261.6	266.0	178.3	161.2	196.0	279.0	429	1,728	3,816	1,322	1,242	810
Mean	8.44	8.87	5.75	5.20	7.00	9.00	14.3	55.7	127	42.6	40.1	27.0
Ac-ft	519	528	354	320	389	553	851	3,430	7,570	2,620	2,460	1,610

Calendar year 1954: Max 55 Min - Mean 14.6 Ac-ft 10,560
Water year 1954-55: Max 164 Min - Mean 29.3 Ac-ft 21,200

Peak discharge (base, 50 cfs).--June 1 (7 p.m.) 174 cfs (3.09 ft); June 8 (11 p.m.) 168 cfs (3.01 ft); July 11 (8 p.m.) 54 cfs (2.37 ft); July 28 (12:30 a.m.) 72 cfs (2.51 ft); Aug. 6 (11 a.m.) 50 cfs (2.34 ft); Aug. 17 (10 p.m.) 54 cfs (2.37 ft); Aug. 20 (12:30 a.m.) 53 cfs (2.36 ft); Aug. 27 (6 p.m.) 75 cfs (2.53 ft).

* Discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.--No gage-height record Dec. 9 to Apr. 20 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

Trinchera Creek above Mountain Home Reservoir, near Fort Garland, Colo.

Location.--Lat 37°24', long 105°22', in sec. 31, T. 30 S., R. 71 W., on right bank 1½ miles upstream from Mountain Home Reservoir Dam and 4 miles southeast of Fort Garland.

Drainage area.--61 sq mi, approximately.

Records available.--October 1933 to September 1955 in reports of Geological Survey (discontinued). May 1923 to September 1944 in reports of State engineer. (No winter records 1923-40, 1942-43.)

Gage.--Water-stage recorder and wooden control. Prior to Mar. 29, 1939, at site 500 ft downstream at different datum.

Average discharge.--13 years (1940-41, 1943-55), 17.5 cfs (12,670 acre-ft per year).

Extremes.--Maximum discharge during year, 114 cfs June 1 (gage height, 1.94 ft); minimum daily, 1.0 cfs Nov. 29.
1923-55: Maximum discharge, 421 cfs May 11, 1947 (gage height, 3.02 ft), from rating curve extended above 140 cfs; minimum daily, 0.1 cfs for many days during 1950-51.

Remarks.--Records fair except those for period of no gage-height record, which are poor. Diversions above station for irrigation.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to May 31				June 1 to Sept. 30	
0.5	1.0	1.1	27	0.9	3.5
.6	3.2	1.5	59	1.0	10
.8	10	1.9	108	1.5	59
				2.0	122

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.8	3.9	1.4					12	107	52	32	37
2	2.5	3.2	1.4					14	103	47	30	36
3	2.8	3.0	1.4					10	100	44	28	32
4	2.8	3.0	1.7					8.0	96	42	28	30
5	3.9	3.0	1.9					7.6	89	38	28	27
							3.0					
6	4.9	3.0	1.9					7.6	79	35	28	26
7	4.6	2.5	1.9					8.6	76	33	27	25
8	4.6	2.8	1.9					9.3	81	28	31	*24
9	3.5	2.8	*1.4					9.7	87	27	29	24
10	3.5	2.5	1.7					10	85	25	26	21
11	3.5	2.8	2.3					10	83	26	27	19
12	2.8	*3.2	1.7	(*)				9.7	84	27	24	17
13	3.0	3.0	1.2					9.3	88	24	24	14
14	1.9	3.0	1.4					9.0	93	22	23	13
15	2.5	4.2	1.4					10	96	18	26	11
16	2.3	3.5	1.4	2.8	3.2	3.3	2.5	12	96	16	24	10
17	2.5	2.8	(*)					12	95	17	24	10
18	*3.0	2.8						16	102	17	31	11
19	3.0	2.8						33	104	15	*31	11
20	3.2	3.0					(*)	*49	100	14	38	9.4
21	3.5	3.0					2.8	52	99	*14	38	12
22	3.5	3.0					3.5	48	90	14	41	16
23	3.5	3.2					3.5	54	*89	14	41	14
24	3.5	3.5	2.4				3.5	70	85	15	39	14
25	4.2	3.0					3.9	79	82	14	37	19
26	3.9	3.0					4.9	75	76	13	37	18
27	3.9	2.1					4.9	72	69	23	37	16
28	3.9	1.9			-		4.9	71	64	39	37	16
29	3.0	1.0					3.5	72	58	32	38	15
30	3.0	1.4					5.9	83	54	32	38	14
31	3.0							98		34	38	
Total	102.5	85.9	62.0	86.8	89.6	102.3	96.3	1,040.8	2,610	811	980	561.4
Mean	3.31	2.86	2.00	2.8	3.2	3.3	3.21	33.6	87.0	26.2	31.6	18.7
Ac-ft	203	170	123	172	178	203	191	2,060	5,180	1,610	1,940	1,110

Calendar year 1954: Max 33 Min 1.0 Mean 6.7 Ac-ft 4,840
Water year 1954-55: Max 107 Min 1.0 Mean 18.2 Ac-ft 13,140

Peak discharge (base, 40 cfs).--May 19 (7 p.m.) 60 cfs (1.48 ft); June 1 (12:45 p.m.) 114 cfs (1.94 ft); June 19 (8 a.m.) 109 cfs (1.91 ft); July 28 (5:30 a.m.) 45 cfs (1.39 ft); Aug. 22 (5:30 p.m.) 44 cfs (1.36 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Dec. 17 to Apr. 20 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

Sangre de Cristo Creek near Fort Garland, Colo.

Location.--Lat 37°26', long 105°24', in sec. 23, T. 30 S., R. 72 W., on right bank 15 ft downstream from bridge on county road, 1½ miles east of Fort Garland, and 6 miles upstream from Ute Creek.

Drainage area.--187 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. February to October 1916 and May 1923 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder. Feb. 16 to Oct. 31, 1916, staff gage and Cippoletti weir near present site at different datum.

Average discharge.--11 years (1940-41, 1945-55), 22.9 cfs (16,580 acre-ft per year).

Extremes.--Maximum discharge during year, 420 cfs May 25 (gage height, 7.50 ft); no flow Oct. 1 to Nov. 5, Sept. 15-24.
1916, 1923-55: Maximum discharge, 1,520 cfs Aug. 31, 1936, from rating curve extended above 70 cfs on basis of slope-area determinations at gage heights 3.53 and 6.10 ft; maximum gage height, 7.65 ft May 10, 1942, from floodmarks; no flow at times during many years.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. A few diversions above station for irrigation.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 15		Feb. 16 to Sept. 30			
4.7	0	4.7	0	5.5	27
4.8	.4	4.8	1.0	5.7	46
4.9	1.4	4.9	3.0	6.0	93
5.0	2.9	5.1	8.5	7.0	297
5.1	4.9	5.3	16	7.4	394
5.2	7.7				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		0	3.7					14	322	16	7.0	5.0
2		0	4.3					16	318	16	6.1	4.0
3		0	4.5					16	286	14	5.5	3.5
4		0	4.1					13	263	14	7.3	2.6
5		0	2.9					11	252	13	5.5	2.0
6		.1	2.3					10	210	12	7.3	1.6
7		.1	2.8					9.2	189	11	35	1.6
8		.2	3.3					12	173	9.9	26	*1.6
9		.3	(*)					19	171	9.2	25	1.4
10		.2				(*)	12	18	163	8.8	15	1.2
11		.2						20	147	8.8	14	1.0
12		*.6		(*)				16	130	10	12	.8
13		1.2						13	115	8.8	9.6	.5
14		1.7						12	106	8.8	9.9	.2
15		2.1		2.0	3.0	4.0		9.9	93	9.9	20	0
16		1.3						9.2	86	11	15	0
17		.3						8.2	78	13	12	0
18	(*)	.1						17	70	9.9	21	0
19		.1					28	33	62	8.5	*43	0
20		.2	2.7				*20	*43	57	7.9	38	0
21		.4					18	70	53	*7.3	20	0
22		.3					19	107	45	7.0	15	0
23		.4					20	183	*40	8.2	12	0
24		.6					17	311	36	8.2	9.9	0
25		1.3					16	389	32	7.6	8.2	1.6
26		2.1					16	354	28	11	6.4	3.0
27		1.8					16	354	25	22	6.1	1.8
28		1.2					14	334	22	23	6.1	1.2
29		3.9			-		13	315	20	14	8.8	.8
30		5.7					13	308	18	11	7.0	.6
31								318		9.2	5.8	
Total	0	26.4	90.0	62.0	84.0	124.0	426	3,362.5	3,610	349.0	439.5	36.0
Mean	0	0.88	2.90	2.0	3.0	4.0	14.2	108	120	11.3	14.2	1.20
Ac-ft	0	52	179	123	167	246	845	6,670	7,160	692	872	71

Calendar year 1954: Max 46 Min 0 Mean 6.54 Ac-ft 4,730
Water year 1954-55: Max 389 Min 0 Mean 23.6 Ac-ft 17,080

Peak discharge (base, 75 cfs).--May 25 (2 a.m.) 420 cfs (7.50 ft); Aug. 7 (7:30 p.m.) 126 cfs (6.11 ft); Aug. 19 (11:30 p.m.) 382 cfs (7.35 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Dec. 9 to Apr. 18 (stage-discharge relation affected by ice during most of period), Sept. 9-14; discharge estimated on basis of 3 discharge measurements, weather records, and records for nearby stations.

Ute Creek near Fort Garland, Colo.

Location.--Lat 37°28', long 105°24', in sec. 2, T. 30 S., R. 72 W., on left bank 2½ miles north of Fort Garland and 6 miles upstream from mouth.

Drainage area.--32 sq mi, approximately.

Records available.--October 1933 to September 1955 in reports of Geological Survey. March to October 1916 and May 1923 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder. Altitude of gage is 8,800 ft. Mar. 18 to Oct. 9, 1916, staff gage and Cippoletti weir at different datum.

Average discharge.--9 years (1940-41, 1947-55), 19.3 cfs (13,970 acre-ft per year).

Extremes.--Maximum discharge during year, 101 cfs Aug. 19 (gage height, 2.00 ft); minimum not determined.
1916, 1923-55: Maximum daily discharge, 630 cfs May 15, 1941; minimum daily, 0.1 cfs Oct. 17, 18, 21, 22, 1951.

Remarks.--Records fair except those for period of no gage-height record, which are poor. A few diversions above station for irrigation.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 27				July 28 to Sept. 30			
0.6	1.0	1.0	14	0.6	2.5	0.9	11
.7	2.5	1.3	36	.7	4.0	1.2	31
.8	5.0	1.7	70	.8	7.0	1.6	62
.9	8.5						

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.2	4.0	5.7					8.2	40	20	11	14
2	4.0	4.0	6.0					11	37	21	9.0	11
3	4.0	5.0	5.0					8.2	34	20	8.6	9.4
4	4.0	7.1	5.7					7.1	38	20	8.2	9.0
5	4.2	6.4	4.0					6.4	36	19	7.8	8.2
							4.0					
6	5.7	7.1	4.8					6.4	30	17	15	7.8
7	8.2	7.1	4.5					6.4	36	19	20	7.4
8	7.1	6.8	2.5					20	52	15	30	6.7
9	6.4	7.1	(*)					21	62	12	19	6.4
10	6.4	6.4						26	44	11	13	6.1
11	6.8	6.8						24	40	11	12	5.5
12	6.4	*7.4						20	44	9.6	10	*5.2
13	6.0	7.1						18	45	8.2	9.0	5.2
14	6.0	7.1						20	44	7.8	8.6	4.9
15	6.4	6.8						17	38	7.8	22	4.0
				2.8	3.2	3.6	4.5					
16	6.4	6.8						15	42	8.2	18	3.4
17	6.0	7.1						18	43	13	16	3.6
18	*6.0	5.4						42	44	9.6	20	3.6
19	6.0	6.8						59	46	8.2	*60	3.7
20	6.0	6.4	2.4				(*)	*35	50	7.8	56	4.0
21	6.0	6.4					4.5	38	53	*6.8	43	3.7
22	6.0	6.4					4.8	46	54	6.0	36	3.2
23	6.0	6.4					5.4	50	*51	6.0	32	2.8
24	4.8	6.4					4.8	57	44	5.4	28	3.7
25	4.0	6.0					5.0	60	42	5.4	25	6.1
26	4.2	6.0					6.0	52	35	12	20	5.5
27	4.8	5.4					6.8	46	33	26	19	5.5
28	4.5	4.5					6.4	39	29	18	24	6.1
29	4.5	4.5			-		6.0	38	27	20	20	6.1
30	4.2	6.8					6.0	39	23	16	18	6.1
31	4.2							40		15	15	
Total	169.4	187.5	93.4	86.8	89.6	111.6	140.7	893.7	1,236	401.8	653.2	177.9
Mean	5.46	6.25	3.01	2.8	3.2	3.6	4.69	28.8	41.2	13.0	21.1	5.93
Ac-ft	336	372	185	172	178	221	279	1,770	2,450	797	1,300	353

Calendar year 1954: Max 56 Min - Mean 11.4 Ac-ft 8,220
Water year 1954-55: Max 62 Min - Mean 11.6 Ac-ft 8,410

Peak discharge (base, 80 cfs).--May 19 (3 p.m.) 83 cfs (1.83 ft); Aug. 19 (9 p.m.) 101 cfs (2.00 ft).

* Discharge measurement made on this day.

Note.--No gage-height record Dec. 9 to Apr. 20 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of 2 discharge measurements, weather records, and records for nearby stations.

Trinchera Creek below Smith Reservoir, near Blanca, Colo.

Location.--Lat 37°23', long 105°35', in sec. 5, T. 31 S., R. 73 W., on right bank 1 mile downstream from Smith Reservoir and 5 miles southwest of Blanca.

Drainage area.--396 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. October 1929 to September 1944 in reports of State engineer. (No winter records several years.)

Gage.--Water-stage recorder. Prior to Apr. 19, 1943, at datum 1.00 ft higher.

Average discharge.--17 years (1930-31, 1933-36, 1937-38, 1943-55), 12.1 cfs (8,760 acre-ft per year).

Extremes.--Maximum discharge during year, 54 cfs June 4 (gage height, 1.30 ft); minimum daily, 0.1 cfs for many days in November and December.
1929-55: Maximum daily discharge, 1,340 cfs May 11, 1942; minimum daily recorded, 0.1 cfs at times in 1937-38, 1945, 1947, 1954.

Remarks.--Records good except those for period of no gage-height record, which are fair. Diversions above station for irrigation. Flow regulated by Smith Reservoir (capacity, 5,335 acre-ft).

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.1	0	0.5	7.1
.2	.2	.8	24
.3	.8	1.3	59
.4	3.2		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	0.3	0.2	0.2			2.5	10	51	15	2.7	2.0
2	1.3	.2	.2	.2			2.2	10	48	15	2.5	2.0
3	1.3	.2	.1	.2			2.2	9.6	47	15	2.5	2.0
4	1.3	.2	.1	.2			2.5	9.1	53	15	2.5	2.0
5	1.3	.2	.1	.2			2.5	6.7	53	15	2.7	2.0
6	1.3	.2	.1	.2		0.4	2.2	7.1	52	9.1	3.0	2.0
7	1.3	.2	.2	.2			2.2	7.1	51	5.5	2.7	2.0
8	1.3	.2	.2	.2			2.2	7.1	53	5.5	2.7	2.0
9	1.0	*.2	*.1	.2			2.2	7.1	53	5.5	2.5	2.0
10	1.0	.2	.2	.2			2.5	4.8	47	5.5	2.2	2.0
11	.8	.2	.1	.2			2.5	4.4	42	5.5	2.2	2.0
12	*1.8	.2	.1	*.2			2.7	3.2	41	5.5	3.0	*2.0
13	2.5	.2	.1	.2			2.0	4.4	40	5.5	3.6	2.0
14	2.5	.2	.1	.2			2.2	5.5	40	5.5	3.6	2.0
15	2.2	.2	.1	.2			2.5	5.5	35	5.5	3.6	2.0
16	1.8	.2	.1	.2	0.3	.5	2.5	5.2	21	5.5	3.6	2.0
17	1.5	.2	*.1	.2			2.2	4.8	21	5.5	3.6	2.0
18	1.3	.2	.1	.2			4.8	4.4	19	5.5	3.6	2.0
19	.6	.1	.1	.2			11	3.2	16	4.8	*3.6	2.0
20	.6	.1	.1	.2			*8.6	*16	16	3.6	3.6	2.0
21	.6	.2	.1	.2			9.1	28	16	*4.0	3.6	1.8
22	.5	.2	.1	.2			9.6	25	16	3.6	3.6	1.8
23	.4	.2	.1	.2		1.0	9.6	30	*16	2.7	3.6	1.8
24	.4	.2	.1	.2			9.6	35	16	2.7	3.6	1.8
25	.4	.1	.1	.2			9.6	36	16	2.7	3.6	1.8
26	.4	.1	.1	.2			9.6	37	16	2.7	3.6	1.8
27	.4	.2	.1	.2			10	35	16	2.7	3.6	1.8
28	.4	.2	.1	.2		1.5	10	42	16	2.7	3.6	2.2
29	.3	.2	.1	.2	-		10	43	15	2.7	3.6	2.5
30	.3	.2	.1	.2	- -		10	46	15	2.7	2.0	2.5
31	.3	-----	.1	.2	-----		-----	50	-----	2.7	2.0	-----
Total	32.1	5.7	3.6	6.2	8.4	23.0	161.3	542.2	957	190.4	96.4	59.8
Mean	1.04	0.19	0.12	0.20	0.3	0.74	5.38	17.5	31.9	6.14	3.11	1.99
Ac-ft	64	11	7.1	12	17	46	320	1,080	1,900	378	191	119

Calendar year 1954: Max 17 Min 0.1 Mean 3.59 Ac-ft 2,600
Water year 1954-55: Max 53 Min 0.1 Mean 5.72 Ac-ft 4,150

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 13 to Mar. 31 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 2 discharge measurements and gate openings at Smith Reservoir.

Platoro Reservoir at Platoro, Colo.

Location.--Lat 37°21'00", long 106°32'35", in SW¼SW¼ sec. 22, T. 36 N., R. 4 E., on right bank in gate chamber at Platoro Dam on Conejos River, half a mile west of Platoro, 3½ miles downstream from Adams Fork, and 7 miles southwest of Jasper. Prior to June 9, 1955, at site 400 ft downstream.

Drainage area.--40 sq mi, approximately.

Records available.--November 1951 to September 1955.

Gage.--Water-stage recorder for elevations above 9,921.0 ft and inclined gage read once daily for those below. Datum of gage is 9,911.5 ft above mean sea level (Bureau of Reclamation benchmark). Gage readings have been reduced to elevations above mean sea level. Prior to June 9, 1955, mercury manometer in valve house 400 ft downstream at same datum.

Extremes.--Maximum contents during year, 1,300 acre-ft July 13, 14, Aug. 9 (elevation, 9,934.4 ft); no storage Oct. 1 to June 6.
1951-55: Maximum contents observed, 36,910 acre-ft July 1-3, 1952 (elevation, 10,007.5 ft); no storage for long periods in each year.

Remarks.--Reservoir is formed by an earth- and rock-fill dam and dikes. Dam completed Dec. 9, 1951; storage began Nov. 7, 1951. Capacity of reservoir, 60,000 acre-ft between elevations 9,911.5 ft (sill of trashrack at outlet) and 10,034.0 ft (crest of spillway). No dead storage. Reservoir is used for irrigation and flood control. Figures given herein represent usable contents.

Cooperation.--Records furnished by Bureau of Reclamation.

Contents, in acre-feet, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									0	1,200	1,210	1,190
2									0	1,190	1,230	1,190
3									0	1,180	1,240	1,180
4									0	1,180	1,240	1,180
5									0	1,160	1,240	1,150
6									0	1,180	1,270	1,150
7									199	1,180	1,290	1,160
8									498	1,180	1,290	1,160
9									833	1,180	1,300	1,160
10									998	1,160	1,290	1,150
11									970	1,200	1,240	1,160
12									960	1,270	1,230	1,160
13									984	1,300	1,210	1,180
14									1,100	1,300	1,200	1,180
15									998	1,270	1,190	1,180
16									998	1,270	1,190	1,180
17									1,110	1,240	1,210	1,180
18									1,150	1,230	1,210	1,190
19									1,140	1,210	1,230	1,200
20									1,100	1,210	1,230	1,200
21									1,110	1,210	1,230	1,210
22									1,110	1,210	1,210	1,210
23									1,110	1,210	1,210	1,210
24									1,140	1,230	1,200	1,200
25									1,100	1,210	1,190	1,200
26									998	1,210	1,180	1,210
27									970	1,200	1,180	1,210
28									1,100	1,230	1,190	1,210
29									1,140	1,240	1,200	1,210
30					-------				1,150	1,260	1,190	1,210
31		-------			-------		-------		-------	1,210	1,190	-------

Note.--No storage Oct. 1 to June 6.

Monthly elevation and contents, water year October 1954 to September 1955

Date	Elevation (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept.30	-	0	-
Oct. 31	-	0	0
Nov. 30	-	0	0
Dec. 31	-	0	0
Calendar year 1954	-	-	0
Jan. 31	-	0	0
Feb. 28	-	0	0
Mar. 31	-	0	0
Apr. 30	-	0	0
May 31	-	0	0
June 30	9,933.3	1,150	+1,150
July 31	9,933.8	1,210	+60
Aug. 31	9,933.6	1,190	-20
Sept.30	9,933.8	1,210	+20
Water year 1954-55	-	-	+1,210

† Elevations are mean for the day.

Conejos River below Platoro Reservoir, Colo.

Location.--Lat 37°21'20", long 106°32'35", in NW¼NW¼ sec. 22, T. 36 N., R. 4 E., on left bank 1,500 ft downstream from valve house for Platoro Reservoir and half a mile northwest of Platoro.

Drainage area.--40 sq mi, approximately.

Records available.--May 1952 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 9,866.60 ft above mean sea level (levels by Bureau of Reclamation).

Extremes.--Maximum discharge during year, 513 cfs June 9, 10 (gage height, 3.17 ft); minimum not determined.
1952-55: Maximum discharge, 700 cfs June 23, 1952 (gage height, 4.00 ft); minimum daily, 0.3 cfs Sept. 23, 1953.

Remarks.--Records good except those for period of no gage-height record, which are poor. No diversion above station. Flow completely regulated by Platoro Reservoir (see preceding page).

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 24-30, June 7-10, 26-29)

0.7	7.0	1.6	89
.8	10	2.1	186
.9	15	2.6	335
1.2	40	3.1	525

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20							113	274	163	46	37
2	18							91	198	147	43	27
3	24							69	206	111	43	18
4	*34							69	244	99	*50	12
5	28							*88	161	99	58	9.4
							30					
6	*28							126	224	99	67	10
7	27							163	425	*99	83	*13
8	29							201	*384	89	*89	*14
9	31							128	433	66	103	14
10	32							106	*505	52	115	14
11	27							94	497	50	99	14
12	23							104	461	62	76	14
13	21							119	417	*77	74	12
14	18							157	437	89	62	8.8
15	16							196	421	88	51	8.8
		9.0	8.5	8.7	9.2	12	40					
16	15	(*)						196	360	76	49	8.8
17	14							179	409	73	51	8.8
18	13							141	453	62	61	8.8
19	12							117	441	49	62	9.7
20	12							119	405	45	67	14
21	12							179	363	40	74	14
22	10							247	349	38	69	14
23	10						75	252	318	37	63	14
24	10							307	352	37	56	14
25	*10							324	342	36	47	14
26	8.5						105	304	250	*31	*39	14
27	9.7						99	247	*172	35	34	14
28	9.7						99	208	139	44	32	14
29	9.4						103	328	165	44	40	14
30	*9.4						111	*449	165	45	44	14
31	9.1							457		45	38	
Total	549.8	270.0	263.5	269.7	257.6	372	1,592	5,878	9,970	2,127	1,885	416.1
Mean	17.7	9.0	8.5	8.7	9.2	12	53.1	190	332	68.6	60.8	13.9
Ac-ft	1,090	536	523	535	511	738	3,160	11,660	19,780	4,220	3,740	825

Calendar year 1954: Max 453 Min - Mean 62.8 Ac-ft 45,490
Water year 1954-55: Max 505 Min - Mean 65.3 Ac-ft 47,320

* Discharge measurement made on this day.

Note.--No gage-height record Nov. 1 to Apr. 26 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 1 discharge measurement, weather records, and records for station near Mogote.

Conejos River near Mogote, Colo.

Location.--Lat 37°03'20", long 106°11'20", in SE¼ sec. 34, T. 33 N., R. 7 E., on right bank 20 ft downstream from bridge on State Highway 174, three-quarters of a mile downstream from Fox Creek, 5½ miles west of Mogote, and 9½ miles west of Antonito.

Drainage area.--282 sq mi.

Records available.--September 1899 to March 1900, April 1903 to September 1913, and October 1933 to September 1955 in reports of Geological Survey. September 1899 to March 1900 and April 1903 to September 1944 in reports of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 8,300 ft (from topographic map). Sept. 1, 1899, to Mar. 31, 1900, and Apr. 17, 1903, to Oct. 31, 1905, staff gage near present site at different datum. May 4, 1905, to Mar. 20, 1907, staff gage, and Mar. 21, 1907, to Oct. 5, 1911, chain gage, at site about 9 miles upstream at different datum. Jan. 1, 1912, to early 1915, chain gage at present site and datum.

Average discharge.--53 years (1902-55), 358 cfs (259,200 acre-ft per year).

Extremes.--Maximum discharge during year, 1,600 cfs June 8 (gage height, 3.55 ft); minimum daily, 17 cfs Dec. 17, 28.
1899-1900, 1903-55: Maximum discharge, 9,000 cfs Oct. 5, 1911 (gage height, 8.50 ft, site and datum then in use), from rating curve extended above 3,500 cfs; minimum daily, that of Dec. 17, 28, 1954.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. No diversion above station. Some regulation by Platoro Reservoir (see p. 291).

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Dec. 30 to Jan. 11, Jan. 14-21, May 2-11, May 17 to June 2)

0.7	17	1.5	229
.9	47	2.0	494
1.1	88	3.0	1,190
1.3	146	3.5	1,630

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	*44	*41	47	49	45	76	386	857	344	118	104
2	*72	45	46	47	48	47	88	464	655	338	110	*99
3	72	47	47	44	48	48	74	318	630	287	127	91
4	76	47	43	*39	49	43	*61	292	767	248	*146	81
5	86	45	47	37	47	44	*72	344	636	229	140	72
6	79	44	45	31	45	44	70	430	667	220	154	67
7	76	45	43	36	46	45	63	598	*1,160	*211	198	65
8	74	44	40	41	47	46	60	746	1,430	203	216	67
9	74	44	38	44	46	46	52	667	1,440	181	234	63
10	76	*44	40	42	44	*47	52	*605	1,290	166	220	61
11	74	44	44	45	43	49	63	524	1,170	169	234	61
12	72	42	42	41	44	47	58	494	1,170	177	185	60
13	*70	47	44	45	45	46	60	488	1,050	177	166	58
14	67	47	44	49	46	50	96	549	1,010	189	154	54
15	65	44	34	52	47	54	112	605	920	189	154	51
16	63	42	*34	51	48	54	130	605	913	189	150	47
17	63	45	17	52	47	52	169	537	878	185	150	47
18	61	44	21	44	46	50	*162	464	906	162	162	60
19	60	*51	25	45	44	51	146	*386	871	143	154	*56
20	58	47	27	49	40	54	115	364	843	134	166	58
21	*58	44	28	47	41	50	162	430	760	134	166	58
22	58	42	27	44	43	46	211	598	720	121	169	54
23	56	45	30	45	43	56	158	630	661	124	162	52
24	56	42	34	49	42	62	154	739	*674	121	*143	52
25	54	41	33	52	41	73	181	808	648	124	140	60
26	52	42	33	51	42	78	248	787	574	115	121	61
27	49	41	33	50	43	81	302	739	482	130	112	58
28	47	39	17	50	44	86	272	617	408	166	158	56
29	45	34	21	50	-	76	344	733	380	150	121	54
30	44	44	31	51	- - -	86	391	970	375	146	121	54
31	44	- - -	45	50	- - -	74	- - -	1,110	- - -	134	115	- - -
Total	1,975	1,316	1,094	1,420	1,258	1,730	4,202	18,027	24,945	5,606	4,866	1,881
Mean	63.7	43.9	35.3	45.8	44.9	55.8	140	582	832	181	157	62.7
Ac-ft	3,920	2,610	2,170	2,820	2,500	3,430	8,330	35,760	49,480	11,120	9,650	3,730

Calendar year 1954: Max 1,160 Min 17 Mean 187 Ac-ft 135,600
Water year 1954-55: Max 1,440 Min 17 Mean 187 Ac-ft 135,500

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 2 to Mar. 26 (no gage-height record Feb. 27 to Mar. 10; discharge estimated on basis of 1 discharge measurement and weather records).

San Antonio River at Ortiz, Colo.

Location.--Lat 37°00', long 106°02', in New Mexico, in sec. 19, T. 32 N., R. 9 E., on left bank a quarter of a mile south of New Mexico-Colorado State line, half a mile south of Ortiz, and half a mile upstream from Los Pinos River.

Drainage area.--110 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. January to October 1915, May 1919 to October 1920, and October 1924 to September 1944 in reports of State engineer. (No winter records prior to 1941.)

Gage.--Water-stage recorder. Prior to Apr. 7, 1926, staff gage at various locations near present site at different datums. Apr. 7, 1926, to June 24, 1954, water-stage recorder at site 200 ft downstream at present datum.

Average discharge.--15 years (1940-55), 26.3 cfs (19,040 acre-ft per year).

Extremes.--Maximum discharge during year, 857 cfs Aug. 10 (gage height, 4.30 ft); no flow for many days.
1915, 1919-20, 1924-55: Maximum discharge, 1,750 cfs Apr. 15, 1937 (gage height, 5.38 ft), from rating curve extended above 1,100 cfs; no flow at times in most years.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. A few small diversions above station for irrigation.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Mar. 31				Apr. 1 to Sept. 30			
0.6	0	0.9	4.0	0.8	0	1.5	40
.7	.2	1.0	7.2	.9	1.5	2.0	98
.8	1.6	1.1	12	1.0	5.0	2.5	193
				1.2	16		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0	*1.8	(*)				*20	68	22		0	2.9
2	0	2.1					25	100	18		0	*1.8
3	0	2.6					22	65	15		*0	1.2
4	0	2.8		(*)			14	58	10		0	1.0
5	0	2.1					*16	61	9.5		0	.9
6	0	2.8	2.2				17	77	9	(*)	18	.4
7	0	2.6					14	109	*8.0		19	.4
8	0	2.3					13	142	7.5		29	.6
9	0	2.6					11	121	6.5		11	1.2
10	0	*2.6					13	103	5.5		60	.9
11	*0	2.8					15	97	5.0		11	.4
12	0	3.5					20	*104	4.0		8.5	0
13	0	2.8					*27	87	3.6		4.0	0
14	0	3.5					25	85	3.2		2.6	0
15	0	3.3					38	72	2.9		11	0
16	0	3.0	2.0 (*)	1.1	2.0	10	42	62	2.6		27	0
17	0	2.8					47	51	2.2		7.5	0
18	0	3.5					43	52	1.8		4.0	0
19	0	*2.8					36	57	1.2		3.6	0
20	0	3.3					25	80	1.0		5.0	*0
21	*0	4.0					35	101	1.0		6.5	0
22	.9	4.0					45	104	1.0		19	0
23	2.3	4.3					30	87	.9		10	0
24	2.3	4.6					29	70	.8		4.3	0
25	2.3	4.6					35	58	0		*2.9	0
26	2.6	4.0	1.6				39	50	0		2.6	0
27	2.6	3.5					43	42	0		8.0	0
28	2.6	3.0					37	34	0		23	0
29	2.3	2.6			-		51	29	0		8.5	0
30	2.6	3.0			------		68	25	0		5.5	0
31	2.3	------			------		------	22	------		4.3	------
Total	22.8	93.2	59.6	34.1	56.0	310	895	2,273	142.2	0	315.8	11.7
Mean	0.74	3.11	1.92	1.1	2.0	10	29.8	73.3	4.74	0	10.2	0.39
Ac-ft	45	185	118	68	111	615	1,780	4,510	282	0	626	23

Calendar year 1954: Max 163 Min 0 Mean 10.4 Ac-ft 7,540
Water year 1954-55: Max 142 Min 0 Mean 11.5 Ac-ft 8,360

Peak discharge (base, 330 cfs).--Aug. 10 (7 p.m.) 857 cfs (4.30 ft).
* Discharge measurement or observation of no flow made on this day.
Note.--Stage-discharge relation affected by ice Nov. 26-28, Dec. 1-13. No gage-height record Dec. 14 to Apr. 1 (stage-discharge relation affected by ice during most of period), Apr. 3-5, 10-13; discharge estimated on basis of 5 discharge measurements, weather records, and records for nearby stations.

Los Pinos River near Ortiz, Colo.

Location.--Lat 36°58', long 106°03', in New Mexico, in N½ sec. 34, T. 32 N., R. 8 E., on left bank 1 mile south of New Mexico-Colorado State line, 2 miles southwest of Ortiz, and 2½ miles upstream from mouth. Prior to Apr. 15, 1955, at site 350 ft upstream.

Drainage area.--167 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. January 1914 to November 1920 and October 1924 to September 1944 in reports of State engineer. (No winter records most years.)

Gage.--Water-stage recorder. Altitude of gage is 8,100 ft (from topographic map). Prior to Apr. 15, 1955, at site 350 ft upstream at datum 2.52 ft higher.

Average discharge.--16 years (1927-28, 1940-55), 118 cfs (85,430 acre-ft per year).

Extremes.--Maximum discharge during year, 700 cfs May 15 (gage height, 4.49 ft); minimum not determined.
1914-20, 1924-55: Maximum discharge, 3,160 cfs May 12, 1941 (gage height, 5.77 ft, site and datum then in use), from rating curve extended above 1,600 cfs; minimum observed, 4.0 cfs Dec. 17, 1945 (discharge measurement), but may have been less during period of no gage-height record.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Apr. 14		Apr. 15 to Sept. 30			
1.1	7.0	2.0	5.0	3.0	145
1.2	13	2.1	10	3.5	200
1.3	22	2.3	27	4.0	480
1.5	46	2.5	53	4.5	705

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*12	*11	(*)				33	259	316	53	24	18
2	12	13					37	328	248	46	22	*16
3	12	16	18				35	188	233	42	*25	16
4	12	15		(*)			*34	161	245	39	34	15
5	13	12					*33	215	212	38	39	13
						19						
6	14	11					35	340	242	*32	45	13
7	15	13					32	464	*316	32	59	13
8	15	12					27	561	368	27	47	16
9	15	11					22	448	380	25	61	14
10	14	*11					20	360	312	25	35	12
			12									
11	*14	11					21	304	242	25	42	12
12	12	13					20	*348	239	34	28	12
13	11	19					*22	384	224	28	22	11
14	11	15					34	476	224	27	23	10
15	11	12					45	516	198	26	24	9.5
				9.0	10	22						
16	12	12	(*)				56	456	192	26	25	9.5
17	12	16					*71	372	180	27	25	9.5
18	12	12					76	312	165	24	21	15
19	12	*13					80	276	155	22	32	12
20	12	13					71	344	145	22	27	*12
21	*12	12					99	388	137	22	42	12
22	12	15					125	444	135	19	23	9.5
23	12	12					91	440	121	19	22	9.0
24	12	13	11				81	468	*113	22	22	9.5
25	12	13					93	444	103	20	*28	12
						28						
26	12	11					115	388	91	19	26	11
27	11	14					137	360	80	37	21	9.5
28	11	11					135	324	72	42	32	9.5
29	11	8.2			-		195	336	66	43	22	9.0
30	11	8.8			---		239	364	59	32	29	9.0
31	11	------			------		------	380	------	37	21	------
Total	380	378.0	386	279.0	280	718	2,114	11,448	5,813	932	948	358.5
Mean	12.3	12.6	12.5	9.0	10	23.2	70.5	369	194	30.1	30.6	12.0
Ac-ft	754	750	766	553	555	1,420	4,190	22,710	11,530	1,850	1,880	711

Calendar year 1954: Max 569 Min - Mean 64.6 Ac-ft 46,740
Water year 1954-55: Max 561 Min - Mean 65.8 Ac-ft 47,670

Peak discharge (base, 900 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage discharge relation affected by ice Dec. 1 to Feb. 23, Apr. 5-13. No gage-height record Feb. 24 to Apr. 4, Apr. 14, 15 (stage-discharge relation affected by ice during most of periods); discharge estimated on the basis of 1 discharge measurement, weather records, and records for nearby stations.

San Antonio River at mouth, near Manassa, Colo.

Location.--Lat 37°11', long 105°53', in sec. 21, T. 34 N., R. 10 E., on right bank a quarter of a mile downstream from bridge on State Highway 142, 1 mile upstream from mouth, and 2½ miles east of Manassa.

Drainage area.--348 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. April 1923 to September 1944 in reports of State engineer.

Gage.--Water-stage recorder. Prior to Apr. 23, 1936, at former bridge site 200 ft upstream at same datum.

Average discharge.--32 years (1923-55), 89.4 cfs (64,720 acre-ft per year).

Extremes.--Maximum discharge during year, 358 cfs May 10 (gage height, 3.35 ft); no flow for many days.
1923-55: Maximum discharge, 2,620 cfs May 14, 1941, from rating curve extended above 2,200 cfs; maximum gage height, 6.42 ft May 6, 1952; no flow at times in most years.

Remarks.--Records fair above 10 cfs and poor below. Diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1						0	0.4	63	136	3.9	0.2	
2	(*)					0	.4	128	111	2.2	.1	
3						0	.4	111	92	2.0	*.2	
4						0	.4	72	82	2.0	.3	
5						0	.4	66	88	2.0	.2	
6						0	.4	120	92	*2.0	.2	
7						0	.4	204	*102	2.2	.1	
8						0	.4	291	125	3.2	0	
9						0	.4	291	94	3.2	0	
10						0	.4	222	99	2.4	0	
11				(*)		0	.4	202	93	3.0	0	
12						0	.4	198	98	3.4	0	
13						0	.4	192	91	3.2	0	
14						0	.4	208	77	2.0	0	
15						0	.4	245	70	1.0	0	
16						0	.4	258	104	.6	0	
17		(*)	(*)			0	.5	190	102	.6	0	
18						0	*.4	204	93	.6	0	
19						0	.4	*222	82	.2	0	(*)
20						0	.4	188	72	0	0	
21						0	.6	210	64	0	0	
22	(*)					0	1.6	258	52	0	*.1	
23						0	2.8	254	43	0	.8	
24						0	3.6	250	37	0	2.8	
25						.1	3.4	256	29	0	1.8	
26						.2	3.6	220	22	0	.8	
27						.2	4.6	180	19	0	.1	
28						.3	5.5	143	12	0	0	
29						.3	5.5	120	7.2	0	0	
30						.4	24	120	5.1	0	0	
31						.4		131		8.9	0	
Total	0	0	0	0	0	1.9	63.3	5,817	2,193.3	48.6	7.7	0
Mean	0	0	0	0	0	0.06	2.11	188	73.1	1.57	0.25	0
Ac-ft	0	0	0	0	0	3.8	126	11,540	4,350	96	15	0

Calendar year 1954: Max 191 Min 0 Mean 18.5 Ac-ft 13,370
Water year 1954-55: Max 291 Min 0 Mean 22.3 Ac-ft 16,130

Peak discharge (base, 500 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
Note.--No gage-height record Feb. 26 to Apr. 4 (stage-discharge relation affected by ice during part of period); discharge estimated on basis of weather records and records for nearby stations.

Conejos River near La Sauses, Colo.

Location.--Lat 37°23', long 105°45', in secs. 2 and 11 (two channels), T. 35 N., R. 11 E., on left bank of main channel 100 ft downstream from bridge on State Highway 158 and on right bank of secondary channel 130 ft downstream from bridge on State Highway 158, half a mile upstream from mouth, 2 miles north of La Sauses, and 13 miles southeast of Alamosa.

Drainage area.--887 sq mi.

Records available.--October 1933 to September 1955 in reports of Geological Survey. March 1921 to September 1944 in reports of State engineer.

Gage.--Two water-stage recorders. Datum of gage on main (north) channel is 7,495.02 ft, and on secondary (south) channel is 7,495.89 ft, above mean sea level (levels by Bureau of Reclamation). Main channel: Prior to Oct. 23, 1934, at bridge 100 ft upstream, Oct. 23, 1934, to Apr. 10, 1937, at site 50 ft upstream, and Apr. 11, 1937, to Aug. 5, 1938, at present site at datum 1 ft higher. South channel: Prior to Oct. 23, 1934, at bridge 130 ft upstream at datum 0.44 ft higher, and Oct. 23, 1934, to May 3, 1936, at site 30 ft upstream at present datum.

Average discharge.--34 years (1921-55), 209 cfs (151,300 acre-ft per year).

Extremes.--Maximum discharge during year, 348 cfs Oct. 19; no flow Aug. 17-22, 24, Sept. 7-11.
1921-55: Maximum discharge, 3,890 cfs May 15, 1941; no flow at times in 1934, 1948, 1950-51, 1953-55.

Remarks.--Records fair. Many diversions above station for irrigation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	12	21	34	36	39	30	0.7	25	3.6	0.5	*0.4
2	3.3	4.6	*22	37	36	39	30	.7	25	3.6	.9	1.1
3	3.2	*6.4	23	37	37	40	30	.9	17	3.7	*1.0	.4
4	*2.8	9.8	22	37	47	38	32	.8	12	2.9	.6	.1
5	2.7	19	22	37	42	34	*34	.7	11	2.4	1.3	.1
6	4.8	25	24	*36	43	38	38	.7	10	*2.4	1.9	.1
7	5.1	25	24	36	41	38	41	.8	6.2	2.1	5.8	0
8	5.5	24	22	36	40	40	42	18	*57	1.9	5.4	0
9	5.3	24	22	37	37	40	43	64	100	1.3	5.1	0
10	5.3	26	23	36	36	*41	43	53	64	.7	4.0	0
11	7.1	25	26	37	33	45	42	*52	39	.9	3.7	0
12	7.0	*14	26	37	35	42	40	26	26	1.2	3.2	1.6
13	18	13	28	35	35	39	31	19	22	1.4	2.1	1.1
14	*2.3	16	28	38	35	36	23	24	20	1.5	4.1	1.7
15	3.5	22	28	37	35	34	14	29	15	1.5	2.0	2.1
16	5.8	25	28	37	35	36	10	48	8.8	2.0	1.0	1.7
17	6.5	14	*30	37	33	36	8.2	55	4.2	1.6	0	1.6
18	6.8	12	31	37	36	33	*8.0	56	4.8	1.0	0	2.0
19	30	14	31	36	34	29	5.8	67	5.4	1.0	0	*1.8
20	5.2	17	30	35	32	26	4.5	58	5.4	1.1	0	1.6
21	3.3	18	30	33	33	23	4.0	58	5.0	1.6	0	1.6
22	*3.3	*16	30	30	33	26	3.3	76	4.8	1.1	*0	1.6
23	6.3	15	30	31	32	36	2.8	140	4.4	.7	.3	2.5
24	7.0	15	31	35	31	32	2.4	121	4.0	.8	0	2.1
25	7.8	15	32	40	31	34	1.5	143	4.0	.8	.3	2.3
26	8.8	12	32	36	33	34	1.7	150	3.7	.9	.7	2.2
27	4.8	6.3	32	36	33	31	1.1	114	3.7	2.4	1.5	1.7
28	9.6	6.3	29	36	35	31	.8	67	3.6	3.0	1.1	1.6
29	21	7.4	31	37	-	31	.7	43	3.9	1.6	1.1	1.4
30	12	13	32	37	------	*31	.7	31	3.9	.4	1.1	1.8
31	12	------	34	37	------	29	------	24	------	.2	.6	------
Total	229.5	471.8	854	1,117	999	1,081	568.5	1,541.3	518.8	51.3	49.3	36.2
Mean	7.40	15.7	27.5	36.0	35.7	34.9	19.0	49.7	17.3	1.65	1.59	1.21
Ac-ft	455	936	1,690	2,220	1,980	2,140	1,130	3,060	1,030	102	98	72

Calendar year 1954: Max 63 Min 0 Mean 17.7 Ac-ft 12,790
Water year 1954-55: Max 150 Min 0 Mean 20.6 Ac-ft 14,910

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

Note.--Stage-discharge relation affected by ice on main channel Dec. 28 to Jan. 1, Jan. 12, 21-24, Feb. 7, 11, 19, 20, and on secondary channel Nov. 28, Dec. 17, 18, Dec. 27 to Jan. 2, Jan. 12, 18-25, Feb. 7. No gage-height record on main channel Nov. 5-10, Sept. 11-17, and on secondary channel Oct. 2, 3, Dec. 6-8, 12-16, Feb. 11 to Mar. 30 (stage-discharge relation affected by ice during part of periods); discharge estimated on basis of 2 discharge measurements, recorded range in stage, weather records, and records for nearby stations.

Culebra Creek at San Luis, Colo.

Location.--Lat 37°11', long 105°26', in sec. 35, T. 3 N., R. 72 W., Beaubien Grant survey, on left bank 1 mile southeast of San Luis and 1½ miles upstream from Rito Secco.

Drainage area.--220 sq mi.

Records available.--January 1910 to December 1911 and October 1933 to September 1955 in reports of Geological Survey. May 1909 to September 1919 and April 1927 to September 1944 in reports of State engineer. Published as "Culebra River" 1910-11.

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,000 ft. May 1, 1909, to September 1919, nonrecording gage on highway bridge in San Luis at different datum. Apr. 1, 1927, to May 22, 1931, water-stage recorder at present site at different datum.

Average discharge.--38 years (1909-19, 1927-55), 59.9 cfs (43,370 acre-ft per year).

Extremes.--Maximum discharge during year, 418 cfs July 26 (gage height, 3.81 ft), from rating curve extended above 300 cfs; minimum daily, 6.8 cfs Dec. 8.
1909-19, 1927-55: Maximum discharge, 654 cfs July 1, 1947 (gage height, 5.09 ft), from rating curve extended above 300 cfs; minimum daily, 4.6 cfs Oct. 31, 1950.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Diversions above station for irrigation. Flow regulated by Sanchez Reservoir on Ventero Creek (capacity, 103,000 acre-ft).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.1	4.0	1.0	59
.2	8.0	2.0	165
.5	24	3.0	296

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	10	8.5	9.0	10	14	12	9.5	10	121	47	88
2	10	10	9.0	9.5	10	14	12	11	10	20	59	69
3	10	11	8.5	10	9.0	14	11	10	10	17	77	74
4	10	11	7.6	10	a8.5	14	12	9.5	11	24	63	71
5	11	10	7.6	10	a10	14	11	9.0	12	120	87	70
6	14	9.5	8.0	10	11	14	11	9.0	12	169	106	72
7	18	9.5	7.6	10	11	15	12	9.0	13	158	99	71
8	21	9.5	6.8	10	11	16	12	10	51	126	70	*70
9	26	*9.5	*7.2	10	11	16	12	9.5	54	122	76	65
10	28	9.5	8.0	10	10	16	13	10	71	103	82	50
11	27	9.5	7.2	10	10	*16	14	*10	86	124	66	50
12	*24	9.0	8.0	*10	10	16	14	9.0	85	118	44	49
13	18	9.0	8.0	10	11	16	16	8.5	114	110	40	50
14	13	9.0	7.6	10	12	15	18	8.5	116	127	40	48
15	12	9.0	8.0	10	12	15	14	8.0	127	114	69	38
16	12	9.0	7.2	10	12	14	12	9.0	134	94	67	27
17	13	9.0	7.6	10	12	14	12	10	128	63	98	25
18	13	9.0	7.6	9.5	11	14	12	23	100	108	117	24
19	12	9.0	8.5	9.5	10	14	12	21	121	133	*95	24
20	12	9.0	8.0	9.5	10	13	12	16	158	136	223	35
21	12	9.0	8.0	9.0	a10	12	11	14	159	*131	260	25
22	12	9.0	8.0	9.5	a 11	14	12	14	139	115	242	23
23	12	8.5	8.5	9.5	a 11	14	12	16	*140	115	212	22
24	11	8.5	8.0	9.5	a10	12	11	14	136	97	182	21
25	11	8.5	8.5	9.5	a10	12	10	13	134	98	157	21
26	12	8.0	9.0	9.5	a12	12	9.5	14	111	191	135	21
27	12	7.2	8.5	9.5	14	12	9.5	12	146	134	129	21
28	12	7.6	8.5	9.5	14	12	9.5	12	147	108	72	21
29	12	9.0	8.5	9.5	-	12	9.5	12	146	119	46	21
30	10	8.0	8.5	10	- - - -	12	9.5	12	137	108	55	21
31	10	- - -	8.5	10	- - -	12	-----	11	------	63	97	------
Total	440	273.3	249.0	302.0	303.5	430	357.5	363.5	2,818	3,386	3,212	1,287
Mean	14.2	9.11	8.03	9.74	10.8	13.9	11.9	11.7	93.9	109	104	42.9
Ac-ft	873	542	494	599	602	853	709	721	5,590	6,720	6,370	2,550

Calendar year 1954: Max 167 Min 6.8 Mean 27.7 Ac-ft 20,040
Water year 1954-55: Max 260 Min 6.8 Mean 36.8 Ac-ft 26,620

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of weather records, recorded range in stage, and records for nearby stations.

Culebra Creek below San Luis, Colo.

Location.--Lat 37°12', long 105°26', in sec. 27, T. 3 N., R. 72 W., Beaubien Grant Survey, on left bank 500 ft downstream from bridge on State Highway 159, 600 ft downstream from Rito Seco, and a quarter of a mile southwest of San Luis.

Drainage area.--255 sq mi.

Records available.--August 1938 to September 1955 (no winter records prior to 1941), discontinued.

Gage.--Water-stage recorder.

Average discharge.--15 years (1940-55), 62.0 cfs (44,890 acre-ft per year).

Extremes.--Maximum discharge during year, 513 cfs July 26 (gage height, 3.37 ft); minimum daily, 13 cfs June 6.
1938-55: Maximum discharge, 866 cfs May 30, 1942 (gage height, 4.54 ft), from rating curve extended above 400 cfs; minimum daily, 9.8 cfs May 2, 1953.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Diversions above station for irrigation. Flow regulated by Sanchez Reservoir on Ventero Creek (capacity, 103,000 acre-ft).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.3	9.0	2.0	103
1.5	26	2.5	224
1.7	50	3.0	380

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	22	25	22	22	25	24	15	17	118	58	95
2	21	22	25	22	22	25	23	18	17	23	69	78
3	21	22	25	22	21	25	22	15	17	15	87	82
4	21	22	26	22	20	25	22	14	15	24	70	78
5	22	22	24	22	21	25	22	14	15	129	95	78
6	29	22	24	22	23	25	22	14	13	176	129	78
7	34	22	23	22	23	27	22	14	15	164	149	80
8	34	22	22	22	23	28	23	16	45	132	112	*76
9	36	*22	*22	22	23	28	26	15	53	125	99	76
10	41	21	23	22	21	28	26	18	65	107	101	64
11	37	22	22	22	21	28	28	*18	85	147	89	62
12	*35	22	22	*22	21	28	25	16	85	125	67	62
13	27	21	21	22	23	28	29	15	114	110	56	64
14	24	23	21	22	25	26	28	15	116	125	50	60
15	24	25	21	22	25	25	24	15	129	112	76	52
16	24	25	21	22	25	25	22	14	134	99	72	42
17	24	26	21	22	25	25	23	16	132	62	79	40
18	23	26	22	21	23	25	21	36	101	103	112	37
19	23	26	22	21	22	25	18	37	123	129	*95	36
20	22	26	22	21	22	24	18	26	154	132	224	46
21	21	25	22	20	22	22	18	19	152	*143	268	36
22	21	26	22	21	24	23	19	18	134	127	280	35
23	21	26	22	21	24	23	22	22	*134	129	247	35
24	20	26	22	21	22	23	20	28	134	110	219	33
25	20	26	22	21	23	22	17	29	132	110	171	35
26	21	25	22	21	25	22	15	23	105	221	152	32
27	22	25	21	21	25	22	15	22	140	181	140	30
28	22	24	21	21	25	23	15	21	140	143	120	30
29	22	25	21	21	-	23	15	22	140	143	56	30
30	22	24	21	22	- - -	23	15	19	134	123	54	29
31	22	- - -	21	22	- - -	23	- - -	17	- - -	78	110	- - -
Total	777	713	691	669	641	769	639	601	2,790	3,665	3,706	1,611
Mean	25.1	23.8	22.3	21.6	22.9	24.8	21.3	19.4	93.0	118	120	53.7
Ac-ft	1,540	1,410	1,370	1,330	1,270	1,530	1,270	1,190	5,530	7,270	7,350	3,200

Calendar year 1954: Max 161 Min 12 Mean 35.0 Ac-ft 25,320
Water year 1954-55: Max 280 Min 13 Mean 47.3 Ac-ft 34,260

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 23-25, Dec. 29 to Mar. 22, Aug. 28, 29, Aug. 31 to Sept. 7; discharge estimated on basis of 1 discharge measurement, weather records, and records for station at San Luis.

Rio Grande near Lobatos, Colo.

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

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

Records available.--June 1899 to September 1913 and October 1933 to September 1955 in reports of Geological Survey. June 1899 to September 1944 in reports of State engineer Prior to Jan. 1, 1904, published as "at Cenicero" and "near Cenicero."

Gage.--Water-stage recorder. Datum of gage is 7,426.79 ft above mean sea level, datum of 1929. Prior to Nov. 8, 1910, staff or chain gage at same site and datum.

Average discharge.--56 years (1899-1955), 673 cfs (487,200 acre-ft per year).

Extremes.--Maximum daily discharge during year, 280 cfs Mar. 11; maximum gage height, 2.43 ft Mar. 7 (backwater from ice); minimum daily discharge, 2.5 cfs July 20.
1899-1955: Maximum daily discharge, 13,100 cfs June 8, 1905, from rating curve extended above 8,000 cfs; no flow July 16 to Aug. 6, 1950, July 10 to Aug. 3, Aug. 9-17, 1951.

Remarks.--Records good except those for periods of ice effect or no gage-height record, 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. Records of chemical analyses for the water year 1955 are given in WSP 1392.

Revisions.--WSP 210: Drainage area.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.3	2.0	0.8	58
.4	7.0	1.1	134
.5	15	1.5	284
.6	26		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	*44	*a95	160	188	212	71	17	71	20	13	23
2	*53	44	90	168	190	220	71	18	78	19	15	*78
3	51	42	98	172	193	218	108	18	92	19	*42	44
4	49	45	105	*175	193	220	88	18	80	20	22	34
5	45	49	108	168	190	230	*65	22	71	18	14	27
6	51	58	108	160	184	225	69	18	71	*16	14	24
7	54	62	105	160	185	230	82	15	71	16	13	23
8	56	60	96	165	197	240	98	16	*60	15	25	23
9	56	*58	100	168	197	264	128	44	111	12	26	19
10	49	60	110	165	185	*275	120	102	134	9.4	23	19
11	44	60	88	160	185	280	102	*92	108	12	20	22
12	*44	62	92	165	190	200	88	98	102	13	14	22
13	45	54	120	162	195	192	80	73	95	13	11	22
14	44	53	115	170	205	181	73	78	85	11	13	19
15	42	58	125	188	210	166	65	76	76	10	13	15
16	39	62	*125	185	210	153	*53	82	73	10	9.4	11
17	40	67	128	182	215	147	40	108	65	12	9.4	7.8
18	45	56	135	*180	220	128	40	128	56	10	32	7.8
19	47	*51	138	185	205	111	39	153	45	7.0	47	7.8
20	60	56	145	190	170	100	34	181	47	2.5	26	*8.6
21	47	58	150	180	190	105	32	184	54	7.0	23	7.0
22	*44	71	160	170	200	92	32	147	47	7.0	36	7.0
23	40	71	168	180	195	110	30	181	44	3.5	25	7.0
24	42	69	170	172	195	108	25	203	39	7.0	*19	11
25	45	67	173	175	205	100	26	177	39	6.5	17	15
26	44	a70	165	180	208	90	30	199	37	4.5	15	16
27	45	a76	128	180	212	100	27	196	33	11	18	15
28	45	a70	80	180	210	*95	23	140	29	15	24	14
29	51	a62	90	185	-	82	20	102	25	12	19	13
30	56	a72	110	190	------	82	19	78	22	10	17	9.4
31	45	------	150	188	------	73	------	71	------	13	16	------
Total	1,474	1,787	3,770	5,408	5,522	5,029	1,778	3,035	1,960	361.4	630.8	571.4
Mean	47.5	59.6	122	174	197	162	59.3	97.9	65.3	11.7	20.3	19.0
Ac-ft	2,920	3,540	7,480	10,730	10,950	9,970	3,530	6,020	3,890	717	1,250	1,130

Calendar year 1954: Max 360 Min 3.0 Mean 82.3 Ac-ft 59,570
Water year 1954-55: Max 280 Min 2.5 Mean 85.8 Ac-ft 62,130

* Discharge measurement made on this day.
a No gage-height record (stage-discharge relation affected by ice during part of period); discharge estimated on basis of 1 discharge measurement, weather records, recorded range in stage, and records for station near Cerro, N. Mex.
Note.--Stage-discharge relation affected by ice Dec. 7-10, Dec. 13 to Mar. 12, Mar. 22, 23.

Rio Grande at Colorado-New Mexico State line

Location.--Lat 37°00', long 105°43', in SE¼ sec. 36, T. 1 N., R. 75 W., Beaubien Grant Survey, on left bank a quarter of a mile upstream from Colorado-New Mexico State line, 1½ miles upstream from Costilla Creek, and 5¼ miles west of Jarosa.

Records available.--October 1953 to September 1955.

Gage.--Water-stage recorder.

Extremes.--Maximum discharge during year, 357 cfs Mar. 12 (gage height, 2.31 ft), from rating curve extended above 240 cfs; maximum gage height, 2.81 ft Dec. 29 (backwater from ice); minimum daily discharge, 2.4 cfs July 21.
1953-55: Maximum discharge, 438 cfs Mar. 18, 1954 (gage height, 2.46 ft), from rating curve extended above 240 cfs; maximum gage height recorded, 3.42 ft Feb. 9, 1954 (backwater from ice); minimum daily discharge, 2.1 cfs Aug. 29, 1954.

Remarks.--Records good except those for periods of ice effect or no gage-height record, 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.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	0	1.3	67
.8	3.0	1.5	115
.9	9.5	2.0	267
1.1	32	2.5	454

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	*48	*98	150	192	225	63	16	72	19	13	16
2	*52	45	83	160	190	230	58	16	88	19	9.5	61
3	50	46	92	170	192	235	48	17	105	18	*32	54
4	46	46	108	*178	195	237	58	17	102	18	31	40
5	46	50	123	180	192	235	67	18	90	18	18	32
6	50	56	108	174	188	240	74	19	85	*17	15	28
7	54	59	128	170	185	250	67	16	88	14	17	26
8	56	61	120	175	190	265	102	15	*78	13	16	25
9	59	*59	90	180	195	275	131	19	92	12	30	25
10	52	58	90	175	190	288	148	102	163	8.2	24	24
11	45	59	74	170	190	300	118	105	157	8.2	24	25
12	*42	59	58	170	195	306	108	102	115	12	17	25
13	46	56	151	172	205	260	90	81	112	12	12	25
14	42	52	110	170	208	215	83	67	98	12	8.8	24
15	48	54	123	185	210	187	69	67	90	8.8	12	21
16	40	56	*130	190	212	166	*59	74	83	8.8	11	17
17	40	63	135	185	215	154	43	105	78	12	7.6	12
18	42	58	140	*175	216	134	40	134	65	11	8.2	12
19	43	*52	145	180	215	112	35	*151	54	8.8	67	12
20	50	54	145	190	185	95	34	178	52	7.6	35	*11
21	50	58	150	190	180	81	30	215	58	2.4	26	9.5
22	*42	61	160	180	195	72	27	148	56	5.0	28	9.5
23	38	69	170	175	202	96	28	175	50	7.6	38	8.2
24	38	67	175	172	205	98	26	218	42	3.0	*24	9.5
25	38	67	175	175	210	85	22	181	38	5.6	19	15
26	43	65	170	178	215	82	22	212	40	5.0	17	20
27	46	59	155	180	218	84	22	208	35	5.0	15	18
28	46	45	80	182	219	*88	21	172	31	13	24	16
29	52	52	130	180	-	81	17	120	26	13	26	15
30	59	42	105	185	------	74	17	92	20	11	19	13
31	58	------	130	195	------	72	------	76	------	11	18	------
Total	1,471	1,676	3,851	5,491	5,604	5,324	1,727	3,136	2,243	339.0	662.1	648.7
Mean	47.5	55.9	124	177	200	172	57.6	101	74.8	10.9	21.4	21.6
Ac-ft	2,920	3,320	7,640	10,890	11,120	10,560	3,430	6,220	4,450	672	1,310	1,290

Calendar year 1954: Max 380 Min 2.1 Mean 85.5 Ac-ft 61,910
Water year 1954-55: Max 306 Min 2.4 Mean 88.1 Ac-ft 63,820

* Discharge measurement made on this day.
Note.--Stage-discharge relation affected by ice Dec. 16 to Jan. 28, Mar. 11. No gage-height record Jan. 29 to Mar. 10 (stage-discharge relation affected by ice during period), Mar. 26, 27; discharge estimated on basis of weather records and records for stations near Lobatos and near Cerro.

Costilla Creek above Costilla Dam, N. Mex.

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

Drainage area.--26 sq mi, approximately.

Records available.--April 1937 to September 1955 (no winter records). Published as "above reservoir, near Costilla" 1937-51.

Gage.--Water-stage recorder. Altitude of gage is 9,280 ft (from topographic map). Prior to July 9, 1940, at wooden control 460 ft downstream at datum 12.06 ft lower. July 9, 1940, to July 22, 1954, at concrete control 400 ft downstream at datum 10.28 ft lower.

Extremes.--Maximum discharge during year, 181 cfs May 24 (gage height, 3.03 ft); minimum daily recorded, 2.0 cfs Oct. 1.
1937-55: Maximum discharge, 3,870 cfs July 22, 1954 (gage height, 4.8 ft, from floodmarks, at site and datum then in use; 7.3 ft, from floodmarks, at present site and datum), on basis of slope-area determination of peak flow; minimum daily recorded, 1.2 cfs Nov. 7, 1944.

Remarks.--Records good.

Revisions (water years).--WSP 878: 1937. WSP 1282: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-7		May 12 to Sept. 30			
1.65	2.1	1.65	2.2	2.1	16
1.7	2.6	1.7	2.8	2.4	46
1.8	4.5	1.9	6.8	2.7	98
1.9	7.0				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0							-	41	5.1	5.4	5.6
2	2.2							-	36	4.9	4.6	5.4
3	2.3							-	34	5.1	8.9	4.9
4	2.2							-	33	4.6	*7.8	4.6
5	3.1							-	30	4.2	14	4.2
6	5.7							-	25	4.1	10	4.2
7	*4.9							-	28	*3.9	12	4.1
8	-							-	*36	3.9	15	4.2
9	-							-	36	3.8	7.8	3.9
10	-							-	30	4.9	6.6	3.8
11	-							-	28	5.6	10	3.6
12	-							*10	29	6.1	6.3	3.4
13	-							10	30	5.1	5.6	3.3
14	-							11	27	5.1	6.3	*2.8
15	-							12	20	4.9	7.2	2.8
16	-							11	18	4.6	5.8	2.7
17	-							11	17	5.1	6.3	3.0
18	-							6.8	15	4.2	10	3.3
19	-							35	14	6.1	13	3.0
20	-							66	14	6.1	19	3.0
21	-							36	13	6.3	16	2.6
22	-							40	12	7.8	17	2.6
23	-							68	11	8.2	11	2.6
24	-							88	10	*6.3	*8.9	2.7
25	-							70	8.6	4.9	7.2	4.1
26	-							61	7.8	6.6	7.2	3.0
27	-							49	7.2	8.6	11	2.6
28	-							52	6.6	7.5	11	2.6
29	-				-			40	6.3	6.6	9.2	2.4
30	-							41	5.8	8.2	7.8	2.3
31	-							40		6.6	6.3	
Total	-	-	-	-	-	-	-	-	629.3	175.0	294.2	103.3
Mean	-	-	-	-	-	-	-	-	21.0	5.65	9.49	3.44
Ac-ft	-	-	-	-	-	-	-	-	1,250	347	584	205

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

Peak discharge (base, 20 cfs):--May 24 (2 p.m.) 181 cfs (3.03 ft); July 26 (7:30 p.m.) 36 cfs (2.32 ft); Aug. 5 (3 p.m.) 45 cfs (2.39 ft); Aug. 7 (9:30 p.m.) 86 cfs (2.64 ft); Aug. 11 (1 a.m.) 22 cfs (2.17 ft); Aug. 19 (11 p.m.) 111 cfs (2.75 ft); Aug. 22 (3 p.m.) 66 cfs (2.51 ft); Aug. 27 (5:30 p.m.) 52 cfs (2.42 ft).

* Discharge measurement made on this day.

Casias Creek near Costilla, N. Mex.

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

Drainage area.--19 sq mi, approximately.

Records available.--April 1937 to September 1955 (no winter records). Nov. 1-7, 1947, and Nov. 1-16, 1948, gage heights only, discharge records unreliable and should not be used.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 9,270 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.--Maximum discharge during year, about 110 cfs May 20 (gage height, 1.68 ft); minimum daily recorded, 2.3 cfs Oct. 4.
1937-55: Maximum discharge, 121 cfs Aug. 10, 1943 (gage height, 1.60 ft); maximum gage height recorded, 1.90 ft June 14, 1938 (backwater from Costilla Reservoir); minimum daily discharge recorded, 1.3 cfs Sept. 11-15, 26-28, 1951.

Remarks.--Records good except those for periods of no gage-height record, which are poor. Diversions for irrigation of about 1,300 acres above station.

Revisions (water years).--WSP 1282: 1948-51, drainage area. See also Records available.

Rating table, water year 1954-55, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.6	2.0	1.2	37
.7	5.9	1.4	61
.8	10.1	1.6	96
1.0	22		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4							a5	17	22	5.1	11
2	3.0							a5	19	21	5.1	10
3	2.6							a5	22	19	8.0	9.7
4	2.3							a5	22	18	*7.6	9.3
5	3.4							a5	20	16	15	8.8
6	5.9							a5	17	15	9.7	8.4
7	*6.7							a5	22	*14	12	6.7
8	-							a5	*36	12	13	6.3
9	-							a5	43	9.3	13	6.3
10	-							a5	36	8.8	13	6.7
11	-							a5	35	9.3	13	6.7
12	-							*5.1	35	9.3	12	6.7
13	-							5.1	36	8.8	11	6.3
14	-							5.1	41	8.4	11	*5.1
15	-							5.5	44	8.4	11	5.5
16	-							4.6	44	7.6	10	4.6
17	-							4.2	44	7.2	11	5.1
18	-							b15	42	6.7	13	5.1
19	-							b60	41	8.0	17	4.6
20	-							b80	39	*8.0	15	4.6
21	-							36	38	7.2	17	4.6
22	-							28	39	8.0	15	4.2
23	-							38	38	8.8	14	4.6
24	-							39	36	8.8	*12	5.1
25	-							24	34	8.4	11	6.3
26	-							21	30	8.8	11	4.6
27	-							18	29	9.3	13	4.2
28	-							15	27	11	13	4.2
29	-							14	25	8.0	13	3.8
30	-							14	24	8.4	12	3.8
31	-							15		6.3	11	
Total	-	-	-	-	-	-	-	501.6	975	329.8	367.5	182.9
Mean	-	-	-	-	-	-	-	16.2	32.5	10.6	11.9	6.10
Ac-ft	-	-	-	-	-	-	-	995	1,930	654	729	363

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

Peak discharge (base, 50 cfs).--May 20 (4 a.m.) about 110 cfs (1.68 ft); June 8 (5:30 p.m.) 54 cfs (1.35 ft); Aug. 5 (1:30 p.m.) 53 cfs (1.36 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of discharge measurement and weather records.
b Stage-discharge relation affected by ice.

Santistevan Creek near Costilla, N. Mex.

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

Drainage area.--2.5 sq mi, approximately.

Records available.--April 1937 to September 1955 (no winter records).

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 9,300 ft (from topographic map). Prior to June 27, 1940, water-stage recorder and wooden control at same site at datum 0.99 ft lower.

Extremes.--Maximum discharge recorded during year, 6.8 cfs Sept. 7 (gage height, 0.87 ft); minimum daily recorded, 0.5 cfs May 18.
1937-55: Maximum discharge recorded, 18 cfs Aug. 11, 1941 (gage height, 1.73 ft); minimum daily recorded, 0.1 cfs Nov. 13-17, 1948.

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

Revisions.--WSP 1282: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.15	0.5	0.5	2.9
.2	.7	.6	3.8
.3	1.4	.7	4.8
.4	2.1		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6							0.7	3.4	3.6	1.4	1.6
2	.6							.7	3.5	3.5	1.4	1.6
3	.6							.7	3.5	3.5	1.4	1.6
4	.6							.7	3.5	3.4	*1.5	1.6
5	.9							*.7	3.6	3.3	1.5	1.6
6	1.0							.8	3.6	3.2	1.5	1.6
7	*.8							.9	3.8	*2.9	1.8	1.7
8	-							1.0	*4.1	2.7	1.6	1.5
9	-							.9	4.3	2.6	1.5	1.4
10	-							1.0	4.3	2.6	1.6	1.4
11	-							1.0	4.2	2.6	1.6	1.4
12	-							1.0	4.3	2.5	1.5	1.4
13	-							1.0	4.4	2.6	1.5	1.4
14	-							1.1	4.6	2.6	1.5	*1.3
15	-							1.2	*4.5	2.3	1.6	1.3
16	-							1.2	4.6	2.2	1.6	1.2
17	-							1.2	4.7	2.1	1.6	1.4
18	-							.5	4.7	2.1	1.9	1.3
19	-							.6	4.7	2.1	1.8	1.2
20	-							1.0	4.7	*1.9	1.8	1.2
21	-							1.5	4.6	1.9	1.7	1.2
22	-							1.8	4.6	2.0	1.7	1.2
23	-							2.1	4.6	2.0	1.6	1.1
24	-							2.4	4.5	1.9	*1.5	1.2
25	-							2.3	4.4	1.7	1.6	1.3
26	-							2.5	4.4	1.9	1.5	1.1
27	-							2.4	4.2	1.8	1.8	1.1
28	-							2.6	4.0	1.7	1.8	1.2
29	-							2.7	3.8	1.6	1.7	1.0
30	-							2.9	3.7	1.6	1.7	1.0
31	-							3.3		1.5	1.6	
Total	-	-	-	-	-	-	-	44.4	125.8	73.9	49.8	40.1
Mean	-	-	-	-	-	-	-	1.43	4.19	2.38	1.61	1.34
Ac-ft	-	-	-	-	-	-	-	88	250	147	99	80

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

Peak discharge (base, 5.0 cfs).--Sept. 7 (2 a.m.) 6.8 cfs (0.87 ft).
* Discharge measurement made on this day.

Costilla Creek below Costilla Dam, N. Mex.

Location.--Lat 36°52'35", long 105°16'45", in Sangre de Cristo Grant, on left bank 125 ft downstream from outlet of reservoir and 16 miles (revised) southeast of Costilla, Taos County.

Drainage area.--55 sq mi, approximately.

Records available.--April 1937 to September 1955 (no winter records except 1945-47, 1950-55). Prior to October 1951, published as "below reservoir, near Costilla".

Gage.--Water-stage recorder and concrete control. Altitude of gage is 9,180 ft (from topographic map).

Average discharge.--9 years (1944-47, 1949-55), 15.5 cfs (11,220 acre-ft per year).

Extremes.--Maximum discharge during year, 127 cfs July 13 (gage height, 1.35 ft); minimum daily not determined.
1937-55: Maximum discharge, 286 cfs May 9, 10, 1942 (gage height, 2.65 ft); no flow at times.

Remarks.--Records good except those for period of no gage-height record, which are poor. Flow regulated by Costilla Reservoir (capacity, 15,700 acre-ft, original survey). Diversions for irrigation of about 1,300 acre above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

-0.05	0	0.6	39
0.0	.8	.8	60
.1	3.3	1.0	83
.2	7.6	1.4	131
.4	20		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	0.6	0.3					0.3	0.3	58	70	41
2	5.6	.6	.3					.3	.3	23	70	20
3	5.6	.6	.3					.3	.3	23	70	9.8
4	5.6	.6	.3					.3	.3	41	*70	9.8
5	5.2	.6	.3					*.3	.4	107	23	23
6	5.2	.6	.3					.3	.4	111	6.6	60
7	*5.2	.6	.3					.4	.4	*95	6.6	55
8	5.2	.6	.3					.4	*.4	41	22	29
9	5.2	.6	.3					.4	.4	23	66	13
10	4.8	.6	.3					.4	.4	41	59	9.8
11	4.4	.6	.2					.4	.4	119	47	9.8
12	4.4	*.6	.2					.4	.4	125	21	12
13	4.4	.4	.2					.4	.4	125	8.2	18
14	4.4	.4	.2					.4	.4	100	8.2	*18
15	4.4	.4	*.2	0.2	0.2	0.2	0.3	.4	3.6	50	16	18
16	4.4	.3	.2					.4	28	11	50	6.8
17	4.0	.3	.2					.4	28	28	66	.4
18	3.6	.3	.2					.4	28	85	66	.4
19	3.6	.3	.2					.4	28	85	31	9.6
20	3.6	.3	.2					.4	28	90	10	38
21	3.6	.3	.2					.3	30	103	10	38
22	3.6	*.3	.2					.3	52	42	23	38
23	3.6	.3	.2					.3	69	12	62	19
24	3.6	.3	.2					.3	57	22	*63	4.4
25	3.6	.3	.2					.3	26	94	50	4.4
26	*3.6	.3	.2					.3	36	94	11	9.8
27	3.6	.3	.2					.3	92	83	11	23
28	3.6	.3	.2					.3	126	68	11	23
29	3.6	.3	.2		-			.3	126	31	17	23
30	3.6	.3	.2		------			.3	126	10	41	7.0
31	2.4	------	.2		------		------	.3	------	22	41	------
Total	132.8	12.9	7.2	6.2	5.6	6.2	9.0	10.7	888.8	1,962	1,126.6	591.0
Mean	4.28	0.43	0.23	0.2	0.2	0.2	0.3	0.35	29.6	63.3	36.3	19.7
Ac-ft	263	26	14	12	11	12	18	21	1,760	3,890	2,230	1,170

Calendar year 1954: Max 120 Min - Mean 16.5 Ac-ft 11,950
Water year 1954-55: Max 126 Min - Mean 13.0 Ac-ft 9,430

* Discharge measurement made on this day.
Note.--No gage-height record Dec. 11 to May 4 (stage-discharge relation affected by ice during most of period); discharge estimated on basis at available recorder trace, 2 discharge measurements, and record of reservoir operation.

Costilla Creek near Amalia, N. Mex.

Location.--Lat 36°52'15", long 105°23'10", in Sangre de Cristo Grant, on left abutment at downstream side of third bridge upstream from Amalia, 1.5 miles downstream from Latir Creek, 6¼ miles southeast of Amalia, and 12 miles southeast of Costilla.

Drainage area.--140 sq mi, approximately.

Records available.--May 1949 to September 1955 (no winter records).

Gage.--Water-stage recorder. Altitude of gage is 8,500 ft (from topographic map).

Extremes.--Maximum discharge during year, 200 cfs May 23 (gage height, 2.78 ft); minimum daily recorded, 9.4 cfs Sept. 19.
1949-55: Maximum discharge recorded, 259 cfs July 23, 1949 (gage height, 3.15 ft); minimum daily recorded, 6.8 cfs Sept. 3, 1950.

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

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.2	9	2.0	72
1.3	13	2.4	130
1.5	24	2.7	184
1.7	39		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11							a25	102	*94	43	53
2	11							a25	95	44	39	38
3	10							a25	89	43	*76	22
4	10							a25	86	44	86	22
5	13							*26	81	116	54	26
6	14							27	71	122	25	68
7	*17							29	67	110	29	70
8	-							44	70	66	35	42
9	-							40	78	36	82	28
10	-							42	*75	44	81	20
11	-							38	66	120	66	20
12	-							35	61	130	42	20
13	-							34	60	130	21	26
14	-							33	59	114	20	26
15	-							34	56	76	25	26
16	-							33	75	30	60	19
17	-							32	76	29	76	10
18	-							28	73	92	81	9.8
19	-							36	71	96	53	9.4
20	-							60	68	*99	36	42
21	-							72	67	114	54	*46
22	-							104	84	73	46	45
23	-							147	100	29	82	30
24	-							169	96	27	*81	14
25	-							161	58	96	71	17
26	-							135	57	111	28	14
27	-							125	110	104	35	29
28	-							112	140	84	30	29
29	-				-			104	140	54	29	28
30	-				------			100	138	24	57	20
31	-	------			------		------	99	------	22	54	------
Total	-	-	-	-	-	-	-	1,999	2,469	2,373	1,597	869.2
Mean	-	-	-	-	-	-	-	64.5	82.3	76.5	51.5	29.0
Ac-ft	-	-	-	-	-	-	-	3,960	4,900	4,710	3,170	1,720

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

* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for nearby stations.

Ute Creek near Amalia, N. Mex.

Location.--Lat 36°57'10", long 105°24'35", in Sangre de Cristo Grant, on right bank 100 ft downstream from road crossing, 2.6 miles northeast of Amalia, Taos County, and 3 miles upstream from mouth.

Drainage area.--12 sq mi, approximately.

Records available.--April 1949 to September 1955 (no winter records).

Gage.--Water-stage recorder and concrete control. Altitude of gage is 8,500 ft (from topographic map).

Extremes.--Maximum discharge during year, 69 cfs June 8 (gage height, 2.30 ft), from rating curve extended above 18 cfs by logarithmic plotting; minimum daily recorded, 0.8 cfs Oct. 4.
1949-55: Maximum discharge, that of June 8, 1955; minimum daily recorded, 0.5 cfs at times in 1950-51.

Remarks.--Records good. Diversions for irrigation of about 100 acres above station.

Revisions (water years).--WSP 1282: 1949(P), 1951(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.2	0.8	0.8	9.8
.3	1.7	1.1	17
.4	2.9	1.4	26
.6	5.9	1.8	42

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0							a5	20	*5.2	2.4	3.8
2	1.0							a5	*19	4.6	2.1	3.7
3	1.0							a5	19	4.4	*2.2	3.4
4	.8							a5	16	4.0	2.5	3.2
5	*1.0							*4.9	12	3.8	2.5	2.8
6	-							5.7	14	3.8	2.4	3.2
7	-							8.5	33	3.7	2.8	*3.0
8	-							9.0	41	3.4	3.4	2.8
9	-							5.7	29	3.3	2.6	2.6
10	-							5.1	*23	3.3	2.9	2.6
11	-							4.6	25	3.4	3.0	2.5
12	-							4.7	23	3.3	2.5	2.5
13	-							5.7	20	3.2	2.4	2.4
14	-							8.3	17	3.0	2.4	2.3
15	-							10	17	3.0	2.6	2.2
16	-							8.8	17	3.0	2.3	2.2
17	-							6.4	15	3.0	2.8	2.3
18	-							4.3	13	2.6	*3.0	2.3
19	-							4.6	13	2.6	2.8	2.2
20	-							5.2	12	*2.5	3.0	2.1
21	-							7.2	11	2.5	3.0	2.0
22	-							11	11	2.6	3.8	2.0
23	-							15	10	2.6	3.6	1.8
24	-							19	9.4	2.4	3.3	2.0
25	-							19	8.1	2.3	3.3	2.3
26	-							17	7.4	2.8	3.2	2.0
27	-							14	6.8	3.0	4.6	1.8
28	-							12	6.2	2.5	5.1	1.8
29	-				-			11	5.9	2.3	5.1	1.7
30	-				---			13	5.7	2.1	4.7	1.7
31	-	------			------		------	17	------	2.1	4.4	------
Total	-	-	-	-	-	-	-	276.7	479.5	96.3	96.7	73.2
Mean	-	-	-	-	-	-	-	8.93	16.0	3.11	3.12	2.44
Ac-ft	-	-	-	- -	-	-	-	549	951	191	192	145

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

Peak discharge (base, 35 cfs).--June 8 (5 p.m.) 69 cfs (2.30 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of discharge measurement, weather records, and records for associated stations.

Costilla Creek near Costilla, N. Mex.

Location.--Lat 36°57'55", long 105°30'10", in Sangre de Cristo Grant, on left bank 1 mile upstream from diversion dam and 2 miles southeast of Costilla, Taos County.

Drainage area.--195 sq mi, approximately.

Records available.--March 1936 to September 1955 (no winter records 1936-43).

Gage.--Water-stage recorder. Concrete control since Oct. 13, 1952. Altitude of gage is 7,810 ft (from topographic map). Prior to June 18, 1944, at site half a mile downstream at different datum.

Average discharge.--12 years (1943-55), 42.2 cfs (30,550 acre-ft per year).

Extremes.--Maximum discharge during year, 256 cfs May 25 (gage height, 3.23 ft); minimum daily, 2.6 cfs Dec. 29.
1936-55: Maximum discharge, 1,150 cfs May 11, 1942 (gage height, 5.37 ft, site and datum then in use); minimum daily recorded, 2 cfs Dec. 30, 1946.

Remarks.--Records good except those for periods of ice effect, which are poor. Discharge measurements generally made twice a month. Regulation by Costilla Reservoir 20 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions for irrigation of about 2,000 acres above station.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.0	1.4	1.8	34
1.1	2.9	2.0	52
1.2	5.0	2.3	86
1.3	7.8	2.7	147
1.4	11	3.1	228
1.6	21		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	9.6	6.3	3.0	4.2	6.5	12	35	133	117	73	61
2	10	7.6	6.9	3.0	4.2	6.5	14	40	125	55	86	52
3	10	8.2	6.6	4.0	4.2	7.0	13	32	120	50	87	30
4	10	7.5	8.9	4.5	4.2	7.0	11	28	116	49	92	29
5	12	6.6	4.5	4.0	4.2	8.0	11	31	108	97	78	28
6	13	6.3	4.8	3.5	4.0	8.0	11	29	96	117	38	67
7	17	6.9	5.0	4.2	4.0	8.9	10	31	106	113	39	75
8	13	6.3	4.0	4.8	4.0	10	11	41	132	79	52	54
9	12	5.8	4.2	5.0	4.0	11	8.2	41	122	44	85	38
10	11	5.5	6.6	4.5	4.0	12	11	42	111	41	94	26
11	11	5.5	5.0	4.5	4.0	11	12	42	107	100	84	24
12	10	6.3	4.5	4.0	4.2	11	9.2	37	100	130	67	22
13	8.9	7.5	4.2	4.0	4.2	12	11	36	94	133	36	27
14	9.2	6.9	5.0	4.5	4.5	12	17	37	87	127	32	27
15	8.9	5.8	4.0	4.5	5.0	12	22	38	80	93	32	26
16	9.2	6.0	4.5	4.8	5.0	13	29	39	87	49	58	25
17	9.2	6.9	3.5	5.0	5.0	11	48	36	92	39	77	17
18	9.6	4.2	4.0	4.5	5.0	11	56	44	87	84	87	14
19	8.9	5.0	4.5	4.8	4 0	11	38	51	84	99	77	13
20	9.2	5.5	4.5	4.8	5.0	11	27	76	80	99	50	31
21	9.2	5.0	4.0	4.8	6.0	8.0	29	87	76	114	60	43
22	10	5.2	3.5	4.5	6.5	7.0	30	114	82	94	57	44
23	10	5.8	4.0	4.5	6.0	8.0	28	169	99	43	84	42
24	10	6.6	4.0	4.5	6.0	9.6	24	221	104	39	86	17
25	10	6.9	4.8	4.5	6.0	9.6	29	221	70	79	84	21
26	9.6	6.6	5.2	4.5	6.0	10	32	185	62	110	55	17
27	10	5.8	5.0	4.5	6.0	7.0	32	163	92	117	48	25
28	9.2	4.8	3.2	4.5	6.0	8.0	27	142	130	93	52	30
29	10	4.5	2.6	4.2	-	11	29	132	138	76	43	30
30	9.6	6.9	3.0	4.2	- - -	13	34	128	140	38	60	26
31	9.2	- - - - -	2.8	4.2	- - - - -	14	- - - - -	130	- - - - -	34	63	- - - - -
Total	319.9	188.2	143.6	134.8	135.4	305.1	675.4	2,478	3,060	2,552	2,016	981
Mean	10.3	6.27	4.63	4.35	4.84	9.84	22.5	79.9	102	82.3	65.0	32.7
Ac-ft	635	373	285	267	268	605	1,340	4,920	6,070	5,060	4,000	1,950

Calendar year 1954: Max 119 Min 2.6 Mean 28.5 Ac-ft 20,600
Water year 1954-55: Max 221 Min 2.6 Mean 35.6 Ac-ft 25,770

Peak discharge (base, 250 cfs).--May 25 (2 a.m.) 256 cfs (3.23 ft).
Note.--Stage-discharge relation affected by ice Nov. 18-23, 27-29, Dec. 5-8, Dec. 11 to Mar. 6, Mar. 21-23, 27, 28.

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

Location.--Lat 36°58'00", long 105°30'55", in Sangre De Cristo Grant, on right bank 650 ft downstream from diversion dam and 1.5 miles southeast of Costilla, Taos County.

Drainage area.--197 sq mi, approximately.

Records available.--April 1952 to September 1955 (no winter records).

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,790 ft (from topographic map).

Extremes.--Maximum discharge recorded during year, 226 cfs May 25 (gage height, 2.68 ft); minimum daily recorded, 0.2 cfs Sept. 13.
1952-55: Maximum discharge recorded, 525 cfs July 22, 1954 (gage height, 4.03 ft); minimum daily recorded, 0.1 cfs Sept. 28-30, 1953.

Remarks.--Records good between 2 and 20 cfs, others fair. Discharge measurements generally made twice a month during irrigation season. Flow partly regulated by Costilla Reservoir about 21 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions above station for irrigation of about 5,000 acres, 3,000 of which are below station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.58	0.2	1.2	21
.6	.3	1.4	36
.7	1.1	1.6	55
.8	2.8	2.0	105
.9	5.8	2.5	190
1.0	10		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.5							6.0	76	13	1.7	0.5
2	1.4							7.0	70	14	2.0	.9
3	1.4							8.0	65	13	1.8	1.5
4	1.4							4.0	63	12	5.6	1.1
5	2.0							4.5	58	7.5	11	1.0
6	2.8							2.8	40	6.2	4.4	1.2
7	7.5							3.1	35	12	3.3	1.2
8	3.6							4.2	60	6.2	8.2	2.0
9	-							5.4	48	7.1	3.9	.9
10	-							4.5	27	5.1	1.8	.8
11	-							6.2	22	5.4	7.0	.9
12	-							7.9	17	6.6	6.6	.9
13	-							7.1	15	10	4.5	.2
14	-							7.1	13	11	4.5	.5
15	-							5.8	13	46	3.4	.9
16	-							4.5	14	7.4	2.0	.5
17	-							4.5	12	1.8	2.0	5.1
18	-							7.9	11	2.6	7.4	1.4
19	-							12	10	1.8	6.9	.6
20	-							28	8.7	3.4	4.9	.6
21	-							39	8.7	4.2	11	1.4
22	-							60	14	6.1	9.2	1.5
23	-							120	15	5.8	5.4	2.0
24	-							173	14	5.4	5.1	1.5
25	-							177	12	3.6	3.6	1.5
26	-							133	11	3.6	11	1.4
27	-							110	11	5.1	7.9	1.4
28	-							84	15	1.8	8.3	1.1
29	-				-			76	12	1.5	2.6	1.1
30	-				------			72	9.6	2.2	1.5	3.0
31	-	------			------		------	73	------	2.8	1.2	------
Total	-	-	-	-	-	-	-	1,257.5	800.0	234.2	159.7	38.6
Mean	-	-	-	-	-	-	-	40.6	26.7	7.55	5.15	1.29
Ac-ft	-	-	-	-	-	-	-	2,490	1,590	465	317	77

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

Peak discharge (base, 300 cfs).--No peak above base.

Costilla Creek at Garcia, Colo.

Location.--Lat 36°59'30", long 105°32'00", in Sangre de Cristo Grant, on left bank 200 ft downstream from old highway bridge, a quarter of a mile upstream from New Mexico-Colorado State line, and 0.6 mile south of Garcia.

Drainage area.--200 sq mi, approximately.

Records available.--June 1944 to September 1955 (no winter records).

Gage.--Water-stage recorder. Altitude of gage is 7,750 ft (based on estimated relation to former station). Prior to Apr. 20, 1950, at site 1,000 ft downstream at datum 7,747.43 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 245 cfs May 25 (gage height, 3.23 ft); no flow at times.
1944-55: Maximum discharge, 328 cfs July 22, 1954 (gage height, 3.27 ft); no flow at times in most years.
Flood of May 11, 1942, probably reached a discharge of 1,000 cfs.

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

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-6		May 6 to Sept. 30			
1.1	0.2	0.9	0	1.5	7.9
1.2	1.0	1.0	.1	2.0	36
		1.1	.4	2.5	92
		1.3	2.6	3.1	211

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6							a1	77	6.0	0.2	0.1
2	1.0							a1	70	6.9	*.3	.4
3	.8							a1	66	6.0	.2	.4
4	.4							a1	63	5.3	2.0	.2
5	.5							a1	60	4.2	6.1	.2
6	*.8							*.8	41	1.5	.6	.3
7	-							.9	32	4.5	.3	.3
8	-							1.3	56	2.6	2.6	*.6
9	-							2.4	48	3.0	.4	.2
10	-							1.9	29	2.2	.2	.2
11	-							2.8	19	1.1	.9	.1
12	-							3.6	15	1.9	.9	.2
13	-							3.6	9.8	*4.2	.3	.1
14	-							2.6	6.9	5.3	.3	0
15	-							1.7	6.6	38	.2	.3
16	-							1.1	6.0	2.6	.1	.2
17	-							.8	5.7	.4	*.1	2.7
18	-							2.8	4.0	.4	2.0	.2
19	-							3.8	3.6	.1	2.7	.2
20	-							15	3.2	.5	.6	.2
21	-							27	3.0	.4	5.5	.3
22	-							47	5.0	1.2	5.0	.3
23	-							106	7.3	.5	.9	.4
24	-							185	*6.9	.4	.6	.4
25	-							197	6.0	.3	.4	.3
26	-							137	5.7	.2	6.4	.2
27	-							*114	5.3	.7	.3	0
28	-							86	9.0	.4	3.8	0
29	-							75	6.6	.2	.9	*0
30	-							70	4.5	.3	.2	.3
31	-	------			------		------	72	------	.6	.2	------
Total	-	-	-	-	-	-	-	1,166.1	681.1	101.9	45.2	9.3
Mean	-	-	-	-	-	-	-	37.6	22.7	3.29	1.46	0.31
Ac-ft	-	-	-	-	-	-	-	2,310	1,350	202	90	18

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

Peak discharge (base, 200 cfs).--May 25 (3 a.m.) 245 cfs (3.23 ft).
* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of records for nearby stations.

Costilla Creek near Jaroso, Colo.

Location.--Lat 36°59'00", long 105°42'05", in SW¼ sec. 30, T. 32 N., R. 12 E. (projected), in Sangre de Cristo Grant, on left bank 1 mile upstream from mouth, 1 mile downstream from Colorado-New Mexico State line, and 5 miles southwest of Jaroso, Costilla County.

Drainage area.--290 sq mi, approximately.

Records available.--April 1912 to September 1913 (published as "near mouth, N. Mex."), May to November 1936 (published as "near mouth, near Jaroso, Colo."), April 1948 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 7,500 ft (from topographic map). April 1912 to September 1913 staff gage at same site at different datum. May to November 1936 water-stage recorder at site 1 mile upstream at different datum.

Average discharge.--7 years (1948-55), 0.09 cfs (65 acre-ft per year).

Extremes.--Maximum discharge during year, 5.6 cfs Aug. 28 (gage height, 1.67 ft); no flow most of year.
1912-13 (prior to completion of Costilla Reservoir): Maximum daily discharge, 344 cfs May 23, 24, June 7, 1912; no flow at times.
1936, 1948-55 (subsequent to completion of Costilla Reservoir): Maximum discharge, 96 cfs June 7, 1948 (gage height, 2.77 ft); no flow for long periods each year.

Remarks.--Records poor. Flow partly regulated by Costilla Reservoir, completed in 1920, about 35 miles upstream (capacity, 15,700 acre-ft, original survey). Diversions for irrigation of about 6,000 acres above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Aug. 28.....0.1

Note.--Flow ocurred only on day shown above.

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
August 1955.....	0.1	0.1	0	0.003	0.2
Calendar year 1954.....	2.2	1.2	0	.006	4.4
Water year 1954-55.....	.1	.1	0	.0003	.2

Principal diversions from Costilla Creek, N. Mex.-Colo.

Records of discharge are collected at 11 gaging stations on 4 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. Records are collected during irrigation seasons only. Discharge measurements generally made twice a month except during winter period.

Acequia Madre at Costilla, N. Mex.--Lat 36°58'00", long 105°30'50", 275 ft downstream from diversion dam. Records available, May 1944 to September 1955. Acequia diverts from right bank of Costilla Creek.

Mesa ditch near Garcia, Colo.--Lat 36°59'50", long 105°30'45", 429 ft north of milepost No. 136+54 on New Mexico-Colorado State line. Records available, June 1944 to September 1955. Ditch diverts from right bank of Acequia Madre for irrigation in Colorado.

Middle ditch at Garcia, Colo.--Lat 36°59'50", long 105°31'25", 300 ft north of New Mexico-Colorado State line. Records available, July 1944 to September 1955. Ditch diverts from Acequia Madre for irrigation in Colorado.

Cordillera ditch at Garcia, Colo.--Lat 36°59'40", long 105°31'40", 570 ft south of New Mexico-Colorado State line. Records available, June 1944 to September 1955. Ditch diverts from Acequia Madre for irrigation in Colorado.

Cerro Canal at Costilla, N. Mex.--Lat 36°57'50", long 105°31'10", 1,400 ft downstream from diversion dam. Records available, April 1944 to September 1955. Canal diverts from left bank of Costilla Creek.

Association ditch at Costilla, N. Mex.--Lat 36°57'45", long 105°32'10", 100 ft downstream from diversion from Cerro Canal. Records available, May to September 1955. Ditch diverts from left bank of Cerro Canal.

Cerro Canal near Jaroso, Colo.--Lat 36°59'35", long 105°34'35". Records available, June 1944 to September 1955. Flow measured is delivered to Colorado and to New Mexico branch of Cerro Canal.

New Mexico Branch Cerro Canal near Jaroso, Colo.--Lat 36°59'35", long 105°34'45", 225 ft downstream from headgate. Records available, June 1944 to September 1955. Canal diverts from left bank of Cerro Canal for irrigation in New Mexico.

Penasquito ditch at Costilla, N. Mex.--Lat 36°57'50", long 105°31'10", 1,200 ft downstream from point of diversion which is 100 ft below Costilla diversion dam. Records available, May to September 1955. Ditch diverts from left bank of Costilla Creek.

Alire ditch at Garcia, Colo.--Lat 36°59'45", long 105°32'05", 430 ft southeast of milepost No. 137+64 on New Mexico-Colorado State line. Records available, June 1944 to September 1955. Ditch diverts from left bank of Costilla Creek for irrigation in Colorado.

Eastdale No. 1 intake canal near Jaroso, Colo.--Lat 37°02'40", long 105°37'00", 1,100 ft downstream from headgate. Records available, June 1944 to September 1955. Canal diverts from right bank of Costilla Creek to Eastdale Reservoir No. 1 for irrigation in Colorado.

Diversions, in acre-feet, water year October 1954 to September 1955

Month	Acequia Madre	Mesa ditch	Middle ditch	Cordillera ditch	Cerro Canal at Costilla	Association ditch at Costilla	Cerro Canal near Jaroso, Colo.	New Mexico Branch Cerro Canal	Penasquito ditch at Costilla	Alire ditch	Eastdale No. 1 intake canal
October.....	-	-	-	-	-	-	-	-	-	-	0
November....	-	-	-	-	-	-	-	-	-	-	0
December....	-	-	-	-	-	-	-	-	-	-	0
January.....	-	-	-	-	-	-	-	-	-	-	0
February....	-	-	-	-	-	-	-	-	-	-	0
March.....	-	-	-	-	-	-	-	-	-	-	0
April.....	-	-	-	-	-	-	-	-	-	-	513
May.....	350	1.8	0	74	1,970	62	1,640	21	94	10	2,150
June.....	1,190	135	1.0	103	3,050	635	1,900	189	244	0	591
July.....	1,180	252	0	65	3,230	1,110	1,570	165	176	0	9.5
August.....	1,210	234	.4	20	2,280	624	1,210	126	173	0	162
September...	672	89	0	19	1,130	263	595	47	54	0	0
Water year 1954-55..	-	-	-	-	-	-	-	-	-	-	3,430

Latir Creek near Cerro, N. Mex.

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

Drainage area.--10 sq mi, approximately.

Records available.--April 1937 to September 1955 (irrigation seasons only prior to 1946).

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 8,250 ft (from topographic map).

Average discharge.--10 years (1945-55), 5.87 cfs (4,250 acre-ft per year).

Extremes.--Maximum discharge during year, 111 cfs Aug. 21 (gage height, 2.85 ft); minimum daily, 1.0 cfs Dec. 29.
1937-55: Maximum discharge determined, 121 cfs June 3, 1942, from rating curve extended above 56 cfs by logarithmic plotting; maximum gage height recorded, 4.2 ft July 19, 1945 (logjam); minimum daily discharge, 0.5 cfs Dec. 14, 1949.

Remarks.--Records fair.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 10 to June 25)

0.1	0.5	0.7	12
.2	1.6	1.0	22
.4	4.7	1.3	34

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.4	3.0	2.5	a1.3	2.5	2.4	2.5	8.4	16	12	8.0	9.0
2	3.4	3.0	2.5	a1.4	*2.5	2.4	2.6	5.9	16	12	7.7	8.2
3	3.4	3.0	2.5	a1.5	2.5	2.5	b2.2	4.5	16	11	7.3	7.5
4	3.4	3.3	2.5	1.6	2.5	2.5	b2.5	5.5	14	11	8.2	7.3
5	4.9	3.0	2.4	1.4	2.5	2.5	b2.5	6.6	12	10	*8.2	6.4
6	5.1	3.1	3.0	1.6	2.5	2.4	2.4	8.0	16	9.7	7.0	*6.1
7	5.9	3.1	3.0	1.7	2.5	2.4	2.4	9.0	24	9.5	7.3	5.9
8	4.9	3.0	*2.4	1.6	2.5	2.4	2.4	9.2	30	8.7	8.0	5.7
9	4.5	3.1	3.3	1.7	2.5	*2.5	2.4	7.0	28	8.2	7.5	5.7
10	4.5	3.0	3.6	*1.7	2.5	2.4	2.5	6.6	23	8.0	7.7	5.7
11	*4.1	*3.1	b2.5	1.7	2.5	2.4	2.4	6.1	24	8.2	*7.7	5.5
12	3.8	3.3	b2.2	1.8	2.5	2.4	2.1	6.8	25	8.2	6.8	5.1
13	3.8	3.1	b2.2	1.8	2.5	2.5	2.6	7.3	25	7.5	6.4	5.1
14	3.6	3.0	b2.4	1.8	2.5	2.5	3.1	8.7	26	7.3	6.1	4.7
15	3.6	3.0	*b2.5	1.7	2.5	2.4	3.8	10	26	7.0	6.8	4.5
16	3.4	3.0	2.4	1.8	2.4	*2.4	4.9	9.0	26	7.3	6.8	4.3
17	3.4	2.6	2.4	1.8	2.4	2.4	5.1	7.5	25	7.3	6.4	4.5
18	3.3	2.6	2.4	1.9	2.4	2.4	4.9	4.3	23	*7.0	6.1	4.3
19	3.3	2.8	2.4	1.9	2.5	2.2	4.1	5.5	23	7.0	5.9	4.3
20	3.4	2.6	2.4	2.1	2.4	2.4	*4.1	6.6	23	6.6	6.4	4.1
21	3.4	2.4	2.4	b2.0	2.4	2.4	5.1	8.0	23	6.4	17	4.0
22	3.3	2.4	2.2	b1.8	2.4	b2.3	5.3	11	23	6.1	11	4.0
23	3.3	*2.5	1.9	b1.8	2.4	2.4	3.4	16	23	6.4	9.7	3.8
24	3.3	2.5	1.9	b2.1	2.4	2.2	3.6	*22	*22	6.4	8.2	4.0
25	3.1	2.4	1.8	b2.3	*2.4	*2.2	5.3	19	20	6.1	7.7	6.1
26	3.0	2.5	1.8	*2.4	2.4	2.2	7.7	16	18	6.4	16	4.9
27	*3.1	2.5	1.7	2.4	2.4	b2.2	6.4	13	17	7.3	16	4.3
28	2.8	2.2	a1.2	2.4	2.4	b2.3	6.4	12	16	6.6	16	4.1
29	3.0	2.8	a1.0	2.4	-	2.4	*8.3	12	14	5.9	13	4.1
30	3.0	2.5	a1.1	2.5	------	2.5	9.0	15	13	6.1	11	4.0
31	3.0	------	a1.2	2.5	------	2.4	------	16	------	5.7	10	------
Total	113.4	84.4	69.7	58.4	68.8	73.9	122.0	302.5	630	242.9	277.9	157.2
Mean	3.66	2.81	2.25	1.88	2.46	2.38	4.07	9.76	21.0	7.84	8.96	5.24
Ac-ft	225	167	138	116	136	147	242	600	1,250	482	551	312

Calendar year 1954: Max 22 Min 1.0 Mean 5.63 Ac-ft 4,080
Water year 1954-55: Max 30 Min 1.0 Mean 6.03 Ac-ft 4,370

Peak discharge (base, 30 cfs).--May 24 (4:30 p.m.) 32 cfs (1.32 ft); June 8 (5 p.m.) 40 cfs (1.46 ft); Aug. 21 (12:30 p.m.) 111 cfs (2.85 ft); Aug. 26 (5 p.m.) 59 cfs (1.79 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of adjoining good record, weather records, and records for nearby stations.

b Stage-discharge relation affected by ice.

Rio Grande near Cerro, N. Mex.

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

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

Records available.--May 1948 to September 1955.

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

Average discharge.--7 years, 343 cfs (248,300 acre-ft per year).

Extremes.--Maximum discharge during year, 401 cfs Aug. 26 (gage height, 3.81 ft); minimum daily, 51 cfs July 24.
1948-55: Maximum discharge, 9,740 cfs June 22, 1949 (gage height, 15.78 ft); minimum daily, 48 cfs July 17, Aug. 15, 17-19, 1951.

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

Rating table, water year 1954-55, (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Feb. 21-24)

1.2	49	3.0	259
1.5	73	4.0	437
2.0	120		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	95	77	176	197	227	121	69	114	66	*57	62
2	96	87	104	180	*197	243	114	70	110	64	57	60
3	94	86	119	183	204	243	107	69	121	63	59	89
4	93	86	130	197	204	259	98	67	135	62	67	95
5	93	86	143	197	204	275	116	67	132	62	82	82
6	91	89	137	204	197	267	121	67	121	62	69	76
7	93	94	122	212	197	275	126	70	118	61	66	71
8	94	99	*112	212	197	292	130	70	119	59	63	67
9	96	101	102	212	204	*309	152	67	111	57	59	67
10	97	99	133	*204	197	326	176	66	145	57	71	67
11	91	98	124	197	197	326	169	143	176	57	71	65
12	*86	99	106	190	197	318	138	143	152	56	70	65
13	84	100	86	197	204	284	130	142	141	56	65	66
14	85	97	156	197	212	259	*130	122	139	57	59	65
15	84	*94	132	197	212	227	122	a120	128	57	59	*66
16	89	95	146	204	212	212	113	a130	120	57	57	65
17	84	99	148	212	220	197	105	a140	115	57	58	63
18	83	102	164	204	227	183	94	a160	111	57	57	62
19	84	98	169	204	227	169	88	a190	102	58	57	59
20	87	94	173	204	159	156	86	a220	93	58	96	59
21	94	95	180	204	185	143	83	a230	93	56	84	57
22	96	97	183	183	220	131	82	a200	94	55	79	57
23	86	103	190	190	210	129	81	a220	95	52	71	55
24	85	110	197	183	215	146	81	a240	92	51	82	55
25	83	108	197	176	227	144	79	a250	85	54	69	57
26	83	107	197	182	227	137	75	*220	82	52	125	57
27	*85	105	197	183	220	130	73	243	83	53	75	60
28	86	98	141	183	227	117	74	227	79	54	73	63
29	88	82	82	190	-	137	72	183	76	52	66	60
30	91	89	190	197	------	131	71	151	*70	59	67	59
31	96	------	183	197	------	123	------	126	------	58	65	------
Total	2,777	2,892	4,520	6,051	5,796	6,515	3,207	4,482	3,352	1,779	2,155	1,951
Mean	89.6	96.4	146	195	207	210	107	145	112	57.4	69.5	65.0
Ac-ft	5,510	5,740	8,970	12,000	11,500	12,920	6,360	8,890	6,650	3,530	4,270	3,870

Calendar year 1954: Max 390 Min 49 Mean 123 Ac-ft 89,120
Water year 1954-55: Max 326 Min 51 Mean 125 Ac-ft 90,210

Peak discharge (base, 1,000 cfs).--No peak above base.
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of records for associated stations.

Red River near Red River, N. Mex.

Location.--Lat 36°37'20", long 105°23'20", in NE¼ sec. 36, T. 28 N., R. 14 E. (projected), on right bank 100 ft downstream from confluence of Middle and East Forks and 6 miles south of Red River.

Drainage area.--19.2 sq mi.

Records available.--July 1940 to October 1955, discontinued (no winter records prior to 1944). Prior to October 1947, published as Rio Colorado near Red River.

Gage.--Water-stage recorder. Datum of gage is 9,394.2 ft above mean sea level (plane-table levels by Divison of Water and Power).

Average discharge.--12 years (1943-55), 16.5 cfs (11,950 acre-ft per year).

Extremes.--Maximum discharge during year, 102 cfs June 9 (gage height, 2.61 ft); maximum gage height recorded, 3.08 ft Feb. 19 (ice jam); minimum daily discharge, 2.0 cfs Mar. 6-9.

1940-55: Maximum discharge recorded, 264 cfs June 12, 1952 (gage height, 3.16 ft); maximum gage height recorded, 4.07 ft Jan. 2, 1952 (ice jam); minimum daily discharge, that of Mar. 6-9, 1955.

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

Rating table, Oct. 1, 1954, to Oct. 4, 1955, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.59	2.0	2.1	27
1.7	4.4	2.3	49
1.8	7.7	2.5	80
1.9	12	2.6	100

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.4	4.7	3.9	3.1	3.2	2.3	2.8	14	55	48	*17	35
2	5.4	4.7	3.9	3.0	3.0	2.4	3.0	16	55	42	17	33
3	5.4	4.7	3.9	2.8	2.8	2.6	2.8	12	55	41	17	31
4	5.4	*4.4	4.2	2.8	2.6	2.3	2.8	11	55	37	19	29
5	6.0	4.4	4.0	2.8	2.6	2.1	2.8	11	50	36	20	26
6	8.6	4.4	4.2	2.8	3.0	2.0	2.8	14	52	36	20	25
7	9.1	4.4	4.2	2.8	3.7	2.0	2.8	17	66	34	21	23
8	9.6	4.4	3.8	2.8	3.7	2.0	2.8	25	90	32	32	21
9	8.6	4.4	*3.5	2.8	*3.5	2.0	2.6	20	98	28	33	20
10	7.7	4.2	4.2	2.8	2.8	2.1	2.8	19	80	27	28	19
11	*7.0	4.2	4.2	2.8	2.8	2.1	2.8	17	75	27	*25	17
12	6.7	4.2	3.5	2.8	2.8	2.1	2.6	17	80	26	24	17
13	6.4	4.4	3.7	2.8	2.8	2.3	2.8	19	86	25	22	*16
14	6.0	4.2	3.7	2.8	2.8	2.3	3.2	20	92	25	24	15
15	6.0	3.9	3.0	2.8	2.6	2.6	3.5	25	88	24	23	14
16	6.0	4.2	3.2	2.8	2.3	2.3	3.9	27	92	24	20	14
17	6.0	4.2	2.6	2.6	2.1	2.3	4.7	25	92	24	20	14
18	6.0	3.9	2.8	2.5	2.1	2.3	5.4	19	86	21	25	14
19	5.7	3.9	2.5	2.5	2.1	2.3	5.1	17	84	*20	25	14
20	6.0	3.9	2.5	2.5	2.1	2.6	5.4	20	86	20	24	14
21	5.7	3.9	2.5	2.5	2.1	2.3	5.7	24	84	18	32	12
22	5.7	3.9	2.5	2.5	2.1	2.3	6.0	29	82	17	37	12
23	5.7	*4.2	2.5	2.5	2.1	2.3	5.7	*36	*78	17	36	12
24	5.7	4.2	2.5	2.5	2.1	2.3	6.0	45	73	17	33	13
25	5.7	4.2	2.5	2.6	2.1	2.1	6.7	48	70	16	32	17
26	5.4	4.2	2.5	2.8	2.2	2.1	8.6	45	68	22	30	13
27	5.4	3.9	2.5	3.0	2.2	2.2	*9.6	44	63	22	35	12
28	*5.1	3.5	2.5	3.1	2.2	2.3	9.6	37	60	19	41	11
29	5.4	3.7	2.8	3.3	-	2.3	11	39	57	20	42	11
30	5.1	3.9	3.0	3.5	------	2.8	12	42	53	19	44	11
31	5.1	------	3.1	3.2	------	2.8	------	48	------	17	37	------
Total	193.0	125.3	100.4	86.9	72.5	70.8	148.3	802	2,203	801	855	535
Mean	6.23	4.18	3.24	2.80	2.59	2.28	4.94	25.9	73.4	25.8	27.6	17.8
Ac-ft	383	249	199	172	144	140	294	1,590	4,370	1,590	1,700	1,060

Calendar year 1954: Max 55 Min 2.2 Mean 11.8 Ac-ft 8,550
Water year 1954-55: Max 96 Min 2.0 Mean 16.4 Ac-ft 11,890

Peak discharge (base, 50 cfs).--June 9 (1 a.m.) 102 cfs (2.61 ft); Aug. 27 (6 p.m.) 59 cfs (2.37 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 5, 8, 9, 12-22, Feb. 4-6, 10, 11, 18-20, Feb. 4-6, 10, 11, 18-20, Mar. 22, 27, Apr. 4. No gage-height record Dec. 23 to Jan. 29, Feb. 21 to Mar. 2 (stage-discharge relation affected by ice during most of period); discharge estimated on basis of weather records and records for downstream stations.

Discharge, in cubic feet per second, 1955

Oct. 1..... 11
2..... 11
3..... 11
4..... 11

Red River near Questa, N. Mex.

Location.--Lat 36°42'10", long 105°34'00", in SW¼ sec. 33, T. 29 N., R. 13 E. (projected), on left bank 1¼ miles (revised) upstream from Cabresto Creek and 1½ miles (revised) east of Questa.

Drainage area.--112 sq mi.

Records available.--October 1912 to August 1915 (fragmentary) and October 1930 to September 1955 in reports of Geological Survey. October 1912 to December 1931 in reports of State engineer. Prior to October 1947, published as Rio Colorado near Questa. January 1926 to December 1931 published as "above Questa", in State reports only.

Gage (revised).--Water-stage recorder and concrete control. Datum of gage is 7,451.72 ft above mean sea level, datum of 1929. Prior to Aug. 22, 1920, chain gage at site 200 ft upstream at various datums. Aug. 22, 1920, to June 16, 1921, staff gage at present site at datum 2.29 ft lower. June 17, 1921, to Apr. 30, 1934, water-stage recorder at present site at datum 2.55 ft lower and May 1, 1934, to Oct. 3, 1938, at datum 1.41 ft lower.

Average discharge.--39 years (1915-25, 1926-55), 61.3 cfs (44,380 acre-ft per year).

Extremes.--Maximum discharge during year, 301 cfs May 24 (gage height, 1.94 ft); minimum daily, 10 cfs Jan. 21-25, Feb. 5-12, 21-25.

1930-55: Maximum discharge, 886 cfs May 25, 1942 (gage height, 2.32 ft), from rating curve extended above 450 cfs by logarithmic plotting; minimum daily, 6.3 cfs Nov. 24, 25, 1931.

Revisions.--Figures of maximum discharge for the water years 1932 and 1941 have been revised to 632 cfs May 24, 1932 (gage height, 4.37 ft) and 702 cfs May 14, 1941 (gage height, 2.12 ft), superseding those published in WSP 733 and 928, respectively.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions for irrigation of a few hundred acres above station.

Revisions (water years).--WSP 808: 1935. Revised figures of discharge, in cubic feet per second, for the water years 1913, 1932, 1941, and 1947-48, superseding those published in WSP 358, 733, 928, 1088, and 1118, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1912		1913-Con.		1932-Con.		1941-Con.		1948-Con.	
Oct. 7	36	Apr. 22	78	June 28	180	June 9	475	Aug. 6	64
8	36	23	76			10	401	7	54
9	36	24	65	1940		11	335	8	50
10	36			Dec. 28	23	12	287	9	46
11	36	1932		29	24	13	256	10	43
12	35	Jan. 5		30	24	14	261	11	40
13	33	6		31	24	15	299	12	40
14	32	7				16	266	13	40
15	31	8		1941		17	271	14	38
16	30	9		Jan. 1	23	18	354	15	35
17	29	10		2	17	19	408	24	32
18	28	11		May 11	361	20	422	26	28
19		12	23	12	381	21	415	27	26
20		13		13	482	22	388	28	24
21		14		14	580	23	374	29	24
22	27	15		15	490	24	361	30	24
23		16		16	490			31	24
24		17		17	535	1947		Sept. 1	23
25		18		18	517	July 28	37	2	23
26		19		19	490	29	36	3	23
27	30	May 23	560	20	452	30	35	4	23
28	30	24	544	21	381	31	34	5	23
29	30	June 10	240	22	408	Aug. 1	33	6	23
30	28	11	230	23	401	2	33	7	23
31	25	12	220	24	395	3	32	8	23
		13	210	25	490	4	31	9	23
1913		14	200	26	517	5	30	10	23
Apr. 9	30	15	190	27	526	6	31	11	23
10	27	16	180	28	526	7	32	12	23
11	25	17	170	29	490	8	32	18	20
12	25	18	165	30	482	9	31	19	19
13	25	19	160	31	475	10	30	20	18
14	30	20	160	June 1	490	11	29	21	18
15	35	21	160	2	460	12	30	22	18
16	45	22	180	3	354			23	18
17	60	23	200	4	335	1948		24	18
18	58	24	180	5	361	Aug. 1	42	25	19
19	70	25	160	6	381	2	39	26	20
20	70	26	180	7	395	3	38	29	20
21	78	27	200	8	438	4	38	30	19
						5	55		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1912	-	-	25	32.7	2,010
November	-	-	-	†20	1,190
April 1913	-	78	23	45.3	2,700
Calendar year 1913	-	156	-	40.2	29,050
January 1932	-	30	12	22.5	1,380
May	-	560	121	289	17,760
June	-	312	160	210	12,500
Water year year 1931-32	-	560	63	82.3	59,740
Calendar year 1932	-	560	12	80.2	58,250

† Only monthly figures revised; revised daily figures not available.

Red River near Questa, N. Mex.--Continued

Revised figures of discharge, in cubic feet per second, water years 1913, 1932, 1941, 1947-48--Continued

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in inches
December 1940	571	24	11	18.4	1,130
Calendar year 1940	13,349	244	11	36.5	26,490
January 1941	494	23	12	15.9	980
May	11,446	580	76	369	22,700
June	10,944	490	303	365	21,710
Water year 1940-41	35,912	580	11	98.4	71,220
Calendar year 1941	37,490	580	12	103	74,350
July 1947	1,541	70	34	49.7	3,060
August	1,057	43	29	34.1	2,100
Water year 1946-47	20,145	516	13	55.2	39,970
Calendar year 1947	19,404	516	13	53.2	38,500
August 1948	1,129	64	24	36.4	2,240
September	639	23	18	21.3	1,270
Water year 1947-48	21,943	400	13	60.0	43,520
Calendar year 1948	21,946	400	14	60.0	43,530

Rating table, water year 1954-55, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.7	7.8	1.2	49
.8	12	1.4	83
.9	19	1.6	137
1.0	27	1.9	275

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	*14	12	17	*14	14	14	48	159	90	*41	68
2	18	14	14	14	14	14	14	62	152	85	39	62
3	18	15	14	12	14	*15	12	55	152	81	38	58
4	18	16	15	14	12	14	12	52	152	75	44	56
5	20	15	14	13	10	14	12	52	141	72	44	54
6	21	15	*13	13	10	14	13	50	128	70	44	52
7	25	16	14	14	10	14	13	60	*137	64	52	50
8	23	15	12	14	10	14	13	75	156	61	75	48
9	21	15	11	14	10	14	12	77	183	58	72	47
10	21	14	14	14	10	14	12	*75	167	58	*66	44
11	*20	14	16	14	10	15	13	68	148	58	61	43
12	20	14	12	*14	10	15	12	70	148	*54	58	42
13	18	14	12	14	12	15	12	70	152	52	54	41
14	18	14	14	14	13	15	14	72	159	54	54	39
15	18	*14	12	15	13	15	16	70	152	50	60	38
16	18	15	14	15	13	15	16	74	152	52	60	37
17	18	15	12	15	13	*15	18	72	156	52	66	35
18	*18	14	15	12	13	14	26	72	148	48	62	35
19	17	14	14	12	12	14	24	70	144	47	66	35
20	15	14	12	12	11	15	*22	77	144	45	68	34
21	15	14	12	10	10	14	23	100	144	44	70	33
22	16	14	12	10	10	14	26	134	141	43	83	32
23	16	14	12	10	10	14	26	192	141	43	79	*30
24	17	14	12	10	10	14	25	247	137	44	68	30
25	16	14	12	10	10	*14	25	253	134	42	61	39
26	16	13	11	11	11	14	27	210	122	45	55	34
27	16	13	12	11	12	14	29	196	116	54	96	31
28	15	12	12	12	13	14	31	159	105	48	88	31
29	14	12	13	12	-	14	36	144	100	47	88	29
30	13	12	14	13	------	14	44	144	93	47	88	29
31	13	------	16	13	------	15	------	152	------	43	75	------
Total	550	423	404	398	320	444	592	3,252	4,263	1,726	1,975	1,236
Mean	17.7	14.1	13.0	12.8	11.4	14.3	19.7	105	142	55.7	63.7	41.2
Ac-ft	1,090	839	801	789	635	881	1,170	6,450	8,460	3,420	3,920	2,450

Calendar year 1954: Max 128 Min 11 Mean 32.9 Ac-ft 23,800
Water year 1954-55: Max 253 Min 10 Mean 42.7 Ac-ft 30,900

Peak discharge (base, 160 cfs).--May 24 (8 p.m.) 301 cfs (1.94 ft); June 9 (5 p.m.) 196 cfs (1.78 ft); Aug. 27 (8 p.m.) 241 cfs (1.84 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 28-30, Jan. 6-13, 18, 19, Jan. 21 to Mar. 2 (no gage-height record Jan. 22-31, Feb. 6-16, 22-27; discharge estimated on basis of recorder trace, weather records, and records for station at mouth).

Llano ditch near Questa, N. Mex.

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

Records available.--September 1943 to September 1955 (irrigation seasons only).

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

Extremes.--1943-55: Maximum daily discharge recorded, 33 cfs June 4, 1955; no flow at times.

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

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	0.8	0	0.06	3.8
November	-	-	-	-
December	-	-	-	-
Calendar year 1954	-	-	-	-
January	-	-	-	-
February	-	-	-	-
March	-	-	-	-
April	-	-	-	-
May	19	4	8.68	534
June	33	11	19.1	1,140
July	15	0	4.54	279
August	3.2	0	.20	12
September	2.4	0	.25	15
Water year 1954-55	-	-	-	-

Cabresto Creek near Questa, N. Mex.

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

Drainage area.--36.3 sq mi.

Records available.--September 1943 to September 1955.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 7,845 ft above mean sea level (river-profile survey).

Average discharge.--12 years, 10.2 cfs (7,380 acre-ft per year).

Extremes.--Maximum discharge during year, 97 cfs May 23 (gage height, 3.47 ft); minimum daily, 1.8 cfs Oct. 2, 3.
1943-55: Maximum discharge, 135 cfs May 13, 1945, May 7, 1952; maximum gage height, 4.03 ft May 7, 1952; minimum daily discharge, 1.6 cfs Nov. 17, 1951.
The high water of May 25, 1942, reached a stage of 4.18 ft (discharge probably exceeded 200 cfs).

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Llano ditch (the only diversion above station) diverts from right bank a quarter of a mile above gage for irrigation of about 800 acres below. Flow regulated by Cabresto Reservoir (capacity, 732 acre-ft) on Lake Fork 1 mile above its mouth.

Rating table, water year 1954-55, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.2	1.7	1.5	25
.4	4.1	2.0	38
.6	7.0	2.5	52
1.0	14	2.9	66

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.9	*3.8	3.5	2.7	3	3.7	4.1	24	33	13	*12	13
2	1.8	3.8	3.5	2.5	3	3.7	4.4	23	38	13	11	13
3	1.8	4.0	3.5	2.5	*3	3.7	4.1	16	22	14	11	13
4	*2.2	3.7	3.6	2.5	3	3.7	4.0	12	16	14	11	13
5	2.8	3.7	3.4	2.5	3	3.7	4.5	14	14	14	11	12
6	2.8	3.8	*3.4	2.5	3	3.6	4.5	16	15	13	10	12
7	2.8	4.0	3.6	2.5	3	3.7	4.5	16	15	13	10	12
8	2.2	4.0	3.2	2.5	3	3.8	4.5	20	15	14	12	12
9	2.0	3.7	2.4	2.5	3	4.0	4.5	16	16	14	13	13
10	2.8	3.5	3.5	2.5	3	4.0	4.8	15	14	14	*14	13
11	3.4	3.6	3	2.5	3	3.8	4.7	*15	12	14	12	12
12	3.4	3.7	2.8	*2.5	3	3.8	*4.7	16	13	15	11	12
13	3.2	3.7	3.1	2.5	3.5	3.8	4.8	15	12	13	11	12
14	3.4	3.7	3.2	2.5	3.5	3.8	5.2	15	*13	*14	11	11
15	3.4	*3.6	3.1	2.5	3.5	4.0	5.4	15	13	15	11	11
16	3.4	3.6	3.2	2.4	3.5	4.1	6.0	15	12	15	12	10
17	3.2	3.6	2.4	2.3	3.5	*4.0	7.3	15	13	15	12	10
18	*3.2	3.5	2.6	2.3	3.5	3.6	8.6	14	13	14	12	10
19	3.8	3.5	2.7	2.2	b3.3	3.6	8.6	14	13	14	13	10
20	3.7	3.4	2.8	2.2	b3.2	3.7	8.1	18	15	14	14	9.6
21	3.5	3.4	2.8	2.2	3.5	3.7	8.9	*21	15	14	14	9.3
22	3.5	3.5	2.7	2.2	3.6	3.0	10	28	15	15	14	8.9
23	3.5	3.5	2.6	2.3	3.7	3.7	9.6	50	14	14	13	8.9
24	3.5	3.5	2.5	2.5	3.6	3.8	8.8	63	14	14	12	8.9
25	3.4	3.5	2.4	2.5	*3.6	*3.8	10	61	14	13	11	10
26	3.5	3.5	2.3	2.6	3.5	3.8	13	56	14	12	11	9.3
27	3.7	3.5	2.3	*2.8	3.6	3.2	16	50	14	14	16	8.8
28	3.5	3.4	2.3	3	3.7	3.6	16	42	14	13	21	*8.3
29	3.2	3.5	2.3	3	---	4.0	21	39	14	14	22	8.1
30	3.6	3.5	2.5	3	---	4.0	24	40	*14	12	19	8.0
31	3.7	---	2.7	*3	---	4.2	---	51	---	11	*15	---
Total	95.8	108.7	89.9	78.2	92.3	116.6	244.6	825	469	425	402	322.1
Mean	3.09	3.62	2.90	2.52	3.30	3.76	8.15	26.6	15.6	13.7	13.0	10.7
Ac-ft	190	216	178	155	183	231	485	1,640	930	843	797	639

Calendar year 1954: Max 22 Min 1.8 Mean 7.23 Ac-ft 5,230
Water year 1954-55: Max 63 Min 1.8 Mean 8.96 Ac-ft 6,490

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.
Note.--No gage-height record Dec. 11, Dec. 23 to Feb. 18; discharge estimated on basis of discharge measurements, weather records, and records for nearby stations.

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

Location.--Lat 36°39'00", long 105°41'30", in NW¼ sec. 20, T. 28 N., R. 12 E., on left bank 800 ft upstream from Rio Grande and 6.5 miles southwest of Questa.

Drainage area.--190 sq mi.

Records available.--December 1950 to September 1955.

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

Extremes.--Maximum discharge during year, 331 cfs May 25 (gage height, 4.37 ft); minimum daily, 38 cfs Jan. 6, 23, Feb. 20, 22.
1950-55: Maximum discharge, 647 cfs Jan. 18, 1952 (gage height, 5.72 ft); minimum daily, 38 cfs Feb. 2, 1951, Jan. 6, 23, Feb. 20, 22, 1955.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions for irrigation of about 3,000 acres above station.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 1		Dec. 2 to Sept. 30			
1.8	50	1.6	32	3.1	165
2.0	65	1.9	54	3.5	212
		2.2	78	3.9	265
		2.5	104	4.3	325
		2.8	133		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	51	50	47	49	48	52	82	210	124	80	100
2	52	53	50	47	*48	49	51	92	201	120	80	90
3	53	*54	50	46	48	51	49	84	195	116	79	84
4	53	52	50	46	44	52	47	73	190	113	80	82
5	55	53	50	45	42	51	48	79	181	109	*81	80
6	56	53	*49	38	42	50	49	73	167	101	80	78
7	60	54	49	40	44	50	*49	89	173	99	87	77
8	58	54	46	42	46	51	49	105	189	97	121	75
9	58	53	45	44	46	52	49	121	208	93	117	73
10	56	53	49	44	46	*52	49	121	*199	94	111	72
11	55	52	50	46	42	52	49	117	184	95	106	71
12	55	52	45	44	44	52	49	112	183	92	100	70
13	53	53	44	44	47	52	49	110	183	*87	93	68
14	52	53	46	47	48	52	50	106	190	84	87	67
15	53	53	44	46	49	52	50	102	183	88	91	66
16	54	53	49	47	49	52	51	115	178	88	94	65
17	54	*53	42	48	49	52	52	113	182	87	93	64
18	*54	52	45	42	50	52	59	121	177	84	94	64
19	55	52	46	43	48	52	59	118	175	81	97	64
20	55	52	45	*49	38	52	56	135	176	83	94	63
21	54	52	44	42	40	52	57	157	178	80	100	63
22	55	52	43	40	38	48	60	192	*168	80	111	*62
23	55	52	44	38	46	50	60	248	168	82	107	62
24	53	52	45	43	44	52	59	312	165	83	98	60
25	55	52	44	45	46	52	60	*311	163	82	93	67
26	54	52	46	45	52	52	61	278	154	80	90	64
27	54	52	42	45	50	49	63	254	148	91	118	67
28	54	51	39	46	50	50	64	229	144	84	131	69
29	54	51	39	45	-	52	68	211	140	84	124	68
30	52	50	40	46	------	52	76	196	133	84	123	68
31	50	------	42	47	------	52	------	206	------	82	112	------
Total	1,683	1,571	1,412	1,377	1,285	1,587	1,644	4,662	5,285	2,847	3,072	2,123
Mean	54.3	52.4	45.5	44.4	45.9	51.2	54.8	150	176	91.8	99.1	70.8
Ac-ft	3,340	3,120	2,800	2,730	2,550	3,150	3,260	9,250	10,480	5,650	6,090	4,210

Calendar year 1954: Max 181 Min 39 Mean 71.4 Ac-ft 51,680
Water year 1954-55: Max 312 Min 38 Mean 78.2 Ac-ft 56,630

Peak discharge (base, 220 cfs).--May 25 (1:30 a.m.) 331 cfs (4.37 ft); Aug. 8 (5 p.m.) 242 cfs (3.73 ft); Aug. 27 (9 p.m.) 323 cfs (4.29 ft).
* Discharge measurement made on this day.
Note.--No gage-height record Aug. 26, Sept. 1-21; discharge estimated on basis of weather records and records for station near Questa. Stage-discharge relation affected by ice Dec. 8, 12-15, 17-25, 27-31, Jan. 5-13, 18, 19, 21-31, Feb. 4-14, 19-25, Mar. 1, 2, 22, 23, 27, 28.

Rio Hondo near Valdez, N. Mex.

Location.--Lat 36°32'30", long 105°33'20", in S½ sec. 28, T. 27 N., R. 13 E. (projected), on left bank 500 ft upstream from first diversion, a quarter of a mile upstream from Forest Service gate, 1½ miles east of Valdez, 4 miles downstream from South Fork, and 9 miles upstream from mouth.

Drainage area.--38 sq mi, approximately.

Records available.--August 1934 to September 1955.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,700 ft (from topographic map). Prior to Oct. 28, 1938, at datum 1.92 ft lower.

Average discharge.--21 years (1934-55), 39.0 cfs (28,230 acre-ft per year).

Extremes.--Maximum discharge during year, 124 cfs May 25 (gage height, 1.80 ft); maximum gage height, 3.06 ft Dec. 23 (backwater from ice); minimum daily discharge, 7.5 cfs Dec. 29.

1934-55: Maximum discharge, 541 cfs May 13, 1941, from rating curve extended above 300 cfs by logarithmic plotting; maximum gage height, 4.05 ft Dec. 15, 1953 (ice jam); minimum daily discharge, 3 cfs Jan. 21, 1935.

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

Revisions (water years).--WSP 1342: 1935.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Apr. 22 to May 25)

0.6	7.0	1.0	34
.7	12	1.3	66
.8	18	1.7	124

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	15	13	b11	11	*b10	12	31	99	76	*26	64
2	15	15	13	11	11	b11	12	38	98	72	25	64
3	15	*17	13	12	11	b12	13	33	98	70	28	64
4	15	17	13	12	b11	12	19	30	96	67	30	61
5	15	16	13	b11	b9.0	a 11	14	31	92	64	31	59
6	16	16	12	b10	b9.5	a 11	12	35	92	61	33	58
7	17	15	*13	12	b10	a 11	12	40	*99	59	37	55
8	19	15	b11	12	b11	a 11	12	65	104	55	74	51
9	19	15	b8.5	12	b11	a 11	12	72	106	53	56	47
10	18	15	14	b10	b11	a 11	12	71	102	53	50	44
11	17	15	12	b11	b9.5	a 11	12	66	100	52	43	42
12	17	15	b12	b10	b10	a10	12	61	104	*47	40	40
13	17	15	b11	*b10	b10	a10	*12	61	105	44	39	39
14	16	15	b10	11	b10	a10	12	64	105	42	40	38
15	16	15	b11	11	b10	*10	14	70	105	39	41	38
16	16	15	b12	10	b11	10	16	71	105	38	41	37
17	16	*15	b8.0	10	b11	10	18	67	105	37	41	38
18	*16	14	b11	b8.0	b11	10	19	64	104	35	41	36
19	16	14	b11	*b11	b10	10	17	62	104	36	40	34
20	16	14	b11	11	b9.5	10	17	64	105	34	39	*33
21	15	14	b10	b10	b8.0	b9.0	17	*74	105	33	45	31
22	15	14	b9.5	b9.0	b8.5	*b8.5	18	94	104	32	43	30
23	15	14	b11	b8.0	b9.5	b10	17	105	104	31	41	29
24	16	14	b11	b10	b10	11	17	119	102	31	39	30
25	17	14	b11	b10	b11	11	20	118	100	30	*38	34
26	17	14	13	b10	12	11	*23	105	96	31	38	29
27	16	14	b12	b10	12	b10	26	98	92	32	46	27
28	15	12	b9.0	b10	12	b11	26	93	90	29	65	26
29	15	13	b7.5	b10	-	11	27	90	85	29	80	25
30	15	13	b9.0	10	-----	12	30	92	82	29	74	24
31	15	-----	b10	*b10	-----	12	-----	94	-----	27	67	-----
Total	498	439	345.5	323.0	290.5	328.5	500	2,178	2,988	1,368	1,371	1,227
Mean	16.1	14.6	11.1	10.4	10.4	10.6	16.7	70.3	99.6	44.1	44.2	40.9
Ac-ft	988	871	685	641	576	652	992	4,320	5,930	2,710	2,720	2,430

Calendar year 1954: Max 130 Min 5.6 Mean 29.1 Ac-ft 21,090
Water year 1954-55: Max 119 Min 7.5 Mean 32.5 Ac-ft 23,520

Peak discharge (base, 100 cfs).--May 25 (1 a.m.) 124 cfs (1.80 ft); Aug. 8 (2 a.m.) 111 cfs (1.70 ft); Aug. 28 (6:30 p.m.) 104 cfs (1.63 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for downstream station.

b Stage-discharge relation affected by ice.

Rio Hondo at Arroyo Hondo, N. Mex.

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

Drainage area.--70 sq mi, approximately.

Records available.--April 1910 to June 1912 (gage heights and discharge measurements only), July 1912 to August 1915, and January 1932 to September 1955 in reports of Geological Survey. Published as "near Arroyo Hondo" April 1910 to August 1915. April 1910 to December 1928 in reports of State engineer.

Gage.--Water-stage recorder. Concrete control since Aug. 12, 1938. Altitude of gage is 6,670 ft (from topographic map). Prior to Feb. 29, 1928, staff gage at site 1.1 miles downstream at different datum. Feb. 29 to Dec. 31, 1928, and Jan. 21, 1932, to Aug. 13, 1934, staff gage at present site at datum 0.4 ft lower. Aug. 13, 1934, to Aug. 11, 1938, water-stage recorder at site half a mile downstream at different datum.

Average discharge.--23 years (1932-55), 27.8 cfs (20,130 acre-ft per year).

Extremes.--Maximum discharge during year, 176 cfs Aug. 29 (gage height, 2.30 ft); minimum daily, 4.8 cfs Apr. 15, 16.
1932-55: Maximum discharge occurred Aug. 23, 1935 (discharge uncertain); minimum daily, 4.0 cfs July 13-16, 1934.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation of about 2,500 acres, most of which is outside of basin.

Revisions (water years).--WSP 1342: 1915, 1932(M), 1934-38(M).

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.69	4.8	1.4	33
.8	6.9	1.6	51
1.0	12	1.9	96
1.2	20	2.1	140

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.8	11	11	18	16	b14	6.0	9.9	74	27	*12	27
2	8.6	11	11	20	16	*16	5.4	15	68	25	13	26
3	8.3	*12	13	19	15	17	b5.5	11	55	24	12	25
4	8.3	12	15	18	b12	17	b8.0	8.6	53	21	12	24
5	*8.6	13	15	15	b11	16	b8.5	8.6	49	19	12	22
6	10	12	15	b11	b13	16	7.9	8.3	46	17	11	15
7	8.8	12	15	16	b14	16	7.4	9.6	45	13	12	12
8	9.3	10	*15	15	b16	15	7.9	21	51	13	28	10
9	9.3	8.3	13	14	b16	13	7.9	38	52	12	25	a10
10	8.3	8.6	20	b13	b15	14	6.1	32	68	11	19	a10
11	8.6	9.6	19	15	b11	13	5.8	30	66	12	18	a10
12	8.8	9.9	18	*11	b15	13	5.8	27	52	12	18	a10
13	8.6	10	b16	14	b15	14	*5.8	25	51	10	15	a10
14	8.6	11	18	16	b15	13	5.0	27	52	*9.6	14	a10
15	8.6	11	b17	14	15	13	4.8	35	49	8.8	13	a10
16	9.6	12	18	15	16	12	4.8	33	49	8.8	12	a9.5
17	10	*13	b12	16	15	*11	5.6	25	50	8.8	10	a10
18	10	14	b15	b10	17	9.6	5.2	38	48	11	12	a10
19	*10	14	b18	b13	14	9.3	5.4	58	46	10	14	a10
20	11	14	18	16	b10	9.1	5.6	*55	47	9.9	15	*a9.3
21	11	14	17	a15	b12	b8.5	5.4	59	47	10	15	10
22	11	13	16	a15	b14	b7.5	6.1	76	45	11	14	10
23	11	14	18	a13	b15	*b9.5	7.4	100	*45	10	12	10
24	11	14	20	a15	b12	9.6	7.1	131	39	11	10	11
25	11	14	20	a16	b14	8.8	8.6	126	36	14	*11	19
26	11	14	21	a16	17	8.8	11	119	35	13	11	20
27	11	14	19	a16	18	b8.0	14	94	34	15	12	18
28	11	15	b10	a16	17	b8.5	10	102	32	13	14	18
29	11	15	b11	a16	-	7.9	7.9	115	30	12	31	18
30	11	14	*b12	a16	------	7.4	8.1	109	29	13	33	17
31	11	------	13	*a16	------	6.1	------	87	------	13	30	------
Total	303.1	369.4	489	469	406	361.6	210.0	1,633.0	1,443	417.9	490	430.8
Mean	9.78	12.3	15.1	15.1	14.5	11.7	7.00	52.7	48.1	13.5	15.8	14.4
Ac-ft	601	733	970	930	805	717	417	3,240	2,860	829	972	854

Calendar year 1954: Max 87 Min 5.0 Mean 18.9 Ac-ft 13,720
Water year 1954-55: Max 131 Min 4.8 Mean 19.2 Ac-ft 13,930

Peak discharge (base, 100 cfs).--May 28 (3 p.m.) 135 cfs (2.05 ft); Aug 29 (4 p.m.) 176 cfs (2.30 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of discharge measurements, recorded range in in stage, and records for associated stations.

b Stage discharge relation affected by ice.

Rio Grande del Rancho near Ranchos de Taos, N. Mex.

Location.--Lat 36°17'55", long 105°34'55", in Rancho del Rio Grande Grant, on right bank 1¼ miles downstream from Pot Creek, 3 miles upstream from Rio Chiquito, and 4.5 miles south of Ranchos de Taos.

Drainage area.--83 sq mi, approximately.

Records available.--October 1952 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 7,250 ft (from topographic map). Prior to Nov. 11, 1952, staff gage at site 35 ft downstream at datum 0.39 ft lower.

Extremes.--Maximum discharge during year, 169 cfs May 25 (gage height, 3.33 ft); minimum daily, 0.6 cfs Jan. 5.
1952-55: Maximum discharge, that of May 25, 1955; minimum daily, that of Jan. 5, 1955.

Remarks.--Records fair except those for periods of ice effect, which are poor. Discharge measurements generally made twice a month. Minor diversions upstream for operation of sawmill and for irrigation.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.4	0.3	2.1	24
1.5	1.3	2.5	56
1.6	3.1	3.0	115
1.7	5.7	3.3	164
1.9	13		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.1	3.9	4.0	2.5	3.0	3.0	5.4	24	118	21	16	14
2	2.9	4.1	4.4	2.8	3.0	4.0	5.7	26	111	20	19	13
3	2.7	4.4	4.4	2.2	2.9	4.4	6.0	24	100	18	16	12
4	2.7	4.4	4.4	1.0	2.5	4.8	5.4	23	93	17	15	11
5	2.7	3.8	3.8	.6	2.5	4.7	6.4	23	86	16	15	11
6	3.9	4.4	3.6	1.1	2.8	4.1	6.7	24	79	15	13	10
7	5.7	4.4	3.8	1.5	3.2	4.1	6.7	26	75	14	13	11
8	5.7	4.4	3.0	1.5	3.6	4.1	6.7	29	79	13	16	10
9	5.4	4.2	3.0	1.5	3.8	4.1	6.4	30	87	12	15	9.4
10	6.0	3.8	3.6	1.5	3.5	3.9	6.0	31	87	11	13	9.0
11	6.0	3.6	3.4	1.5	3.5	3.9	6.0	31	79	11	11	8.7
12	5.4	3.6	3.6	1.5	3.5	4.1	6.0	31	70	11	12	8.3
13	4.7	4.1	3.6	2.0	3.5	4.4	5.4	32	66	10	12	8.3
14	4.1	4.1	3.6	2.0	3.5	4.7	5.7	34	66	10	12	8.0
15	3.9	3.6	3.6	2.0	3.2	4.7	6.4	34	65	9.0	16	7.4
16	4.1	4.4	3.6	2.0	2.7	4.9	7.7	35	62	9.0	13	7.4
17	4.1	4.4	3.6	2.0	2.6	4.9	10	35	59	11	12	7.4
18	4.1	4.0	3.6	2.0	2.5	5.2	13	30	56	9.4	13	7.7
19	4.1	3.8	3.8	2.0	2.2	5.2	15	36	53	11	13	7.0
20	4.1	3.8	3.8	2.0	2.0	5.4	14	50	50	9.4	16	7.4
21	3.9	3.8	3.8	2.0	1.8	4.2	15	60	47	9.8	15	7.0
22	3.9	3.8	3.8	2.0	1.5	4.2	17	72	45	10	20	7.0
23	3.9	3.8	3.8	2.0	1.5	4.8	16	91	44	9.4	18	6.7
24	3.9	3.8	3.8	2.0	1.5	5.7	13	144	40	9.8	19	7.0
25	3.1	3.8	3.6	2.2	1.5	6.0	14	159	38	12	21	9.0
26	3.9	3.8	3.6	2.5	1.8	5.4	17	140	34	13	18	8.7
27	3.6	3.8	3.2	2.8	2.2	4.4	19	130	32	21	17	7.7
28	3.9	3.6	2.5	3.0	2.5	4.9	19	126	30	16	17	7.0
29	3.9	3.8	2.0	3.2	-	5.4	19	120	27	13	18	6.7
30	3.9	4.4	1.5	3.5	------	5.2	23	122	24	13	18	6.4
31	3.9	------	2.0	3.5	------	5.4	------	118	------	19	15	------
Total	127.2	119.6	107.8	63.9	74.3	144.2	322.6	1,890	1,902	403.8	477	261.2
Mean	4.10	3.99	3.48	2.06	2.65	4.65	10.8	61.0	63.4	13.0	15.4	8.71
Ac-ft	252	237	214	127	147	286	640	3,750	3,770	801	948	518

Calendar year 1954: Max 55 Min 1.5 Mean 11.0 Ac-ft 7,980
Water year 1954-55: Max 159 Min 0.6 Mean 16.1 Ac-ft 11,690

Peak discharge (base, 75 cfs).--May 25 (2:30 a.m.) 169 cfs (3.33 ft).
Note.--Stage-discharge relation affected by ice Nov. 5-12, 15, 18-29, Dec. 1-3, 5-9, 11-30, Jan. 1, 2, 8, 10-31, Feb. 1, 5-28, Mar. 1-4, 21-23, 27, 28 (no gage-height record Dec. 26-30).

Rio Taos at Los Cordovas, N. Mex.

Location.--Lat 36°23'20", long 105°38'00", in N½ sec. 23, T. 25 N., R. 12 E. (projected), in Martinez Grant, on right bank at mouth of Rio Ranchos de Taos, 0.2 mile downstream from Arroyo Seco, half a mile northeast of Los Cordovas, and 3½ miles west of Taos.

Drainage area.--359 sq mi.

Records available.--April 1910 to August 1915 and October 1930 to September 1955 in reports of Geological Survey. Published as Rio Pueblo de Taos near Los Cordovas, April 1910 to December 1911. April 1910 to December 1931 in reports of State engineer. All records include flow of Rio Ranchos de Taos.

Gage.--Water-stage recorder. Datum of inside gage is 6,710.59 ft above mean sea level, datum of 1929. Prior to Oct. 4, 1921, staff gages at nearby sites at different datums. Oct. 4, 1921, to Sept. 30, 1934, water-stage recorder at same site at datum about 0.26 ft higher.

Average discharge.--44 years (1910-25, 1926-55), 59.6 cfs (43,150 acre-ft per year).

Extremes.--Maximum discharge during year, 620 cfs May 25 (gage height, 3.90 ft); minimum daily, 1.9 cfs Oct. 2, 3.

1930-55: Maximum discharge, 1,830 cfs May 14, 1941 (gage height, 5.81 ft), from rating curve extended above 1,300 cfs by logarithmic plotting; minimum daily, 1.3 cfs July 17, Aug. 18, 1951.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 12,000 acres above station.

Revisions (water years).--WSP 1342: 1910-12, 1915, 1940.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1 to Apr. 10)

Oct. 1 to May 18		May 19 to Sept. 30			
1.25	1.0	1.0	3.8	2.2	101
1.3	2.5	1.1	7.2	2.5	152
1.4	9.5	1.2	12	2.8	220
1.5	20	1.4	24	3.1	300
1.7	48	1.6	39	3.4	400
		1.8	57	3.7	520
		2.0	77	3.9	620

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.5	12	16	14	21	21	21	13	215	7.2	8.1	32
2	1.9	*14	18	17	21	*24	21	12	182	6.8	7.7	28
3	1.9	13	18	18	*20	38	19	9.5	*146	6.8	8.1	25
4	3.2	12	17	a18	b18	34	18	7.4	130	7.2	*8.6	20
5	*6.0	12	16	a15	b12	28	18	7.4	113	6.8	8.6	16
6	8.1	14	16	a11	b14	26	20	6.7	93	6.1	8.1	14
7	7.4	14	*16	a15	b13	25	19	6.7	74	5.8	8.6	13
8	6.7	14	16	a16	b16	25	20	14	66	5.8	9.0	12
9	6.0	14	16	a14	b16	28	23	24	76	5.0	9.0	11
10	6.0	14	17	a13	*b15	28	25	18	*79	4.4	8.6	10
11	5.3	14	b16	*16	b13	26	23	19	77	5.4	10	10
12	5.3	16	b15	b12	b15	25	20	21	73	*5.8	10	10
13	6.0	16	b15	b15	b16	24	20	21	61	6.1	10	10
14	6.7	16	b15	16	b18	24	19	23	48	6.4	9.5	10
15	8.1	16	15	16	20	*21	*19	24	45	6.1	9.5	9.0
16	8.1	*16	b15	17	19	21	18	24	41	5.8	13	*8.6
17	8.8	15	b13	16	17	21	15	21	37	5.8	11	9.5
18	11	15	b15	b9.5	20	21	13	34	31	6.4	11	10
19	*9.5	16	b14	a12	b24	21	9.5	121	28	6.1	13	10
20	9.5	16	b14	a15	b14	21	8.8	152	25	6.1	16	10
21	8.8	16	b14	b12	b9.5	21	8.8	142	21	6.1	19	9.5
22	8.8	16	b13	a10	b10	b21	11	*240	*18	6.1	21	9.5
23	8.8	17	b14	a9.5	b14	*23	15	330	15	6.4	22	9.5
24	8.8	17	b14	a11	b12	23	13	540	11	6.8	22	10
25	8.1	16	14	*b15	b14	21	*13	585	10	7.2	19	16
26	8.1	15	b12	b15	20	20	11	476	9.0	7.7	*19	11
27	8.8	15	b10	b15	20	19	12	386	8.1	12	21	11
28	9.5	15	b9.5	b16	20	20	12	327	7.7	11	29	11
29	11	15	b9.5	b17	-	21	11	282	7.2	10	34	11
30	11	16	b11	b18	-----	21	9.5	252	8.1	9.5	38	11
31	12	------	b14	b19	------	20	------	238	------	9.5	35	------
Total	231.7	447	448.0	453.0	461.5	732	485.6	4,376.7	1,755.1	214.2	476.4	387.6
Mean	7.47	14.9	14.5	14.6	16.5	23.6	16.2	141	58.5	6.91	15.4	12.9
Ac-ft	460	887	889	899	915	1,450	963	8,680	3,480	425	945	769

Calendar year 1954: Max 93 Min 1.9 Mean 20.8 Ac-ft 15,050
Water year 1954-55: Max 585 Min 1.9 Mean 28.7 Ac-ft 20,760

Peak discharge (base, 200 cfs).--May 25 (10 a.m.) 620 cfs (3.90 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

b Stage-discharge relation affected by ice.

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

Location.--Lat 36°19'00", long 105°45'30", in N½ sec. 15, T. 24 N., R. 11 E., on left bank 2 miles downstream from Rio Taos and bridge on State Highway 96 and 12 miles southwest of Taos.
Drainage area.--9,730 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).
Records available.--October 1930 to September 1955 in reports of Geological Survey. July 1925 to December 1931 in reports of State engineer.
Gage.--Water-stage recorder. Altitude of gage is 6,080 ft (from topographic map). Prior to Apr. 14, 1934, at bridge 2 miles upstream at different datum.
Average discharge.--30 years (1925-55), 795 cfs (575,600 acre-ft per year).
Extremes.--Maximum discharge during year, 1,380 cfs May 25 (gage height, 5.02 ft); minimum daily, 216 cfs Sept. 24.
1930-55: Maximum discharge, 9,730 cfs June 7, 1948, June 22, 1949; maximum gage height, 9.41 ft May 17, 1941; minimum daily discharge, 170 cfs July 9, 10, 1951.
Remarks.--Records good. Diversions for irrigation of about 650,000 acres above station.
Revisions (water years).--WSP 788: 1934(M). Revised figures of discharge, in cubic feet per second, for the water years 1931-32, 1935, 1937, 1945, 1950, superseding those published in WSP 733, 788, 828, 1038, and 1178, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge	Date	Discharge
1930		1931-Con.		1935-Con.		1937-Con.		1950-Con.	
Oct. 1	344	Aug. 8-10	†230	May 26	2,380	June 18	1,350	Feb. 14	602
2	344	11-15	†220	27	2,460	19	1,250	15	668
3	344	16-18	†210	28	2,600	20	1,190	16	698
4	344	19-21	†200	29	2,600	21	1,110	17	729
5	348	22-26	†190	30	2,530	26	1,200	18	721
6	364			31	2,460	27	1,650	19	737
7	372	1932		July 1	2,600	28	2,100	20	737
8	372	Sept. 5	470	2	2,310	29	2,040	21	761
9	368	6	430	3	2,100	30	1,880	22	737
10	372	7	400	4	1,880			23	675
11	384	8	380	5	1,700	1944		24	690
12	392	9	360	6	1,590	Dec. 9	581	25	682
13	384	10	350	7	1,460	10	567	26	668
14	380	11	330	8	1,340	11	518	27	690
15	376	12	325	9	1,280	12	500	28	682
16	368	13	320	10	1,150	13	510	Mar. 1	705
17	368	14	310	11	1,050	14	510	2	737
18	364	15	310	12	987	15	510	3	713
19	376	24	320	13	942	16	500	4	698
20	380	25	340	14	906	17	504	5	682
21	380	26	360	15	924	18	497	6	675
22	364	27	350			20	499	7	630
23	360	28	340	1937		21	504	8	609
24	368	29	330	June 1	3,600	22	511	9	588
25	384			2	3,810	23	532	10	560
26	384	1935		3	3,960	24	581	11	553
27	384	May 13	897	5	3,870	25	581	12	532
28	372	14	1,060	6	3,600	26	574	13	497
29	376	15	1,040	7	3,170	27	574	14	497
30	364	16	996	8	2,840	28	567	15	490
31	364	17	1,030	9	2,600	29	567	16	484
		18	1,260	10	2,380	30	546	17	484
1931		19	1,420	11	2,310	31	525	18	470
Aug. 2	250	20	1,970	12	2,100			19	458
3	240	21	1,930	13	2,040	1950			
4	260	22	1,930	14	1,890	Feb. 10	698		
5	280	23	1,810	15	1,800	11	705		
6	260	24	1,920	16	1,660	12	737		
7	240	25	2,100	17	1,490	13	721		

† Average for period indicated.

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1930	-	392	344	369	22,700
Calendar year 1930	-	1,770	204	614	444,500
August 1931	-	280	190	216	13,300
Water year 1930-31	-	950	187	408	295,800
Calendar year 1931	-	950	187	401	290,700
September 1932	-	686	300	374	22,200
Water year 1931-32	-	6,650	250	1,148	833,900
Calendar year 1932	-	6,650	300	1,164	845,200
May 1935	38,832	2,600	275	1,253	77,020
July	33,798	2,600	438	1,090	67,040
Water year 1934-35	269,592	4,990	220	739	534,800
Calendar year 1935	285,684	4,990	220	783	566,700
June 1937	65,670	4,220	1,110	2,189	130,300
Water year 1936-37	415,394	5,860	242	1,138	823,900
Calendar year 1937	397,253	5,860	242	1,088	787,900
December 1944	16,472	616	425	531	32,670
Calendar year 1944	447,785	7,860	251	1,223	888,100
Water year 1944-45	293,282	4,440	251	804	581,700
February 1950	19,502	769	602	696	38,680
March	15,769	824	251	509	31,280
Water year 1949-50	161,454	1,260	192	442	320,200
Calendar year 1950	149,133	1,260	192	409	295,800

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

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Dec. 30, Feb. 22)

3.4	175	4.2	640
3.6	270	4.5	875
3.8	375	5.0	1,360
4.0	500		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	240	245	245	353	370	411	290	255	670	315	240	320
2	250	245	230	358	370	423	290	265	633	300	250	305
3	250	245	280	358	370	435	275	270	598	300	250	290
4	250	*240	300	370	370	448	270	245	584	290	240	320
5	255	240	300	375	370	454	265	240	577	285	255	295
6	255	240	310	364	370	454	285	235	528	270	265	275
7	265	245	300	381	370	448	290	250	*494	270	255	270
8	265	250	280	381	375	*461	300	275	494	260	285	260
9	265	255	260	381	381	494	320	331	514	250	315	255
10	260	250	270	375	381	500	331	326	528	250	290	255
11	255	245	300	375	370	514	348	348	584	255	290	250
12	240	250	285	358	370	507	331	411	570	265	290	250
13	*235	250	245	*358	370	468	320	387	528	245	275	235
14	220	245	240	375	381	435	305	387	507	240	265	235
15	225	240	310	370	381	405	300	353	494	240	270	230
16	230	235	315	370	*375	387	285	370	474	240	265	225
17	235	240	315	375	381	375	270	361	468	245	275	220
18	225	250	310	370	411	358	270	417	454	245	280	225
19	225	255	336	370	405	348	260	591	435	245	270	220
20	230	245	320	375	375	331	250	662	423	245	280	220
21	230	245	326	364	290	326	250	678	429	245	375	220
22	250	250	331	353	380	315	250	827	399	285	320	220
23	245	*255	342	348	448	300	265	926	405	240	310	220
24	230	260	348	348	399	*300	250	1,150	399	235	300	216
25	225	265	353	348	387	326	250	1,300	381	240	290	235
26	230	265	358	353	399	315	*240	1,190	375	*240	340	235
27	230	265	358	353	393	305	240	1,060	370	*280	342	230
28	240	260	331	358	411	295	235	987	358	255	353	*240
29	240	255	255	358	-	290	235	875	348	240	353	240
30	235	235	240	370	------	310	245	771	336	240	358	235
31	235	------	348	370	------	300	------	731	------	250	*336	------
Total	7,465	7,465	9,341	11,315	10,653	12,038	8,315	17,474	14,357	8,005	9,082	7,446
Mean	241	249	301	365	380	388	277	564	479	258	293	248
Ac-ft	14,810	14,810	18,530	22,440	21,130	23,880	16,490	34,660	28,480	15,880	18,010	14,770

Calendar year 1954: Max 584 Min 193 Mean 318 Ac-ft 230,600
Water year 1954-55: Max 1,300 Min 216 Mean 337 Ac-ft 243,900

Peak discharge (base, 1,600 cfs).--No peak above base.
* Discharge measurement made on this day.

Rio Santa Barbara near Llano, N. Mex.

Location.--Lat 36°06'40", long 105°37'55", in E½ sec. 26, T. 22 N., R. 12 E. (projected), in Santa Barbara Grant, on right bank 3.5 miles southeast of Llano Rodarte and 5.3 miles southeast of Penasco.

Drainage area.--38 sq mi, approximately.

Records available.--October 1952 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 8,300 ft (from topographic map).

Extremes.--Maximum discharge during year, 174 cfs Aug. 21 (gage height, 2.87 ft); minimum daily, 4.5 cfs Dec. 28-30, Jan. 23, 24.
1952-55: Maximum discharge, 312 cfs May 28, 1953 (gage height, 3.35 ft), from rating curve extended above 140 cfs; minimum daily not determined.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation of 20 or 30 acres of small fields and meadows.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

1.3	4.0	2.0	41
1.4	7	2.3	73
1.6	15	2.6	121
1.8	26	2.8	160

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	11	8	6	7	7	9.8	68	125	33	34	56
2	11	11	8	7	7	7	11	67	125	31	35	50
3	11	*12	8	7	6	7	11	60	*125	30	33	47
4	11	11	8	7	5	8	10	65	119	29	*35	46
5	18	11	7	6	5	8	10	67	114	27	33	44
6	27	11	6	5	5	7	9.4	68	114	27	30	41
7	24	11	7	6	5	7	9.0	74	123	27	37	30
8	19	11	6	6	*6	*7	8.6	74	132	24	43	39
9	18	10	5	6	6	7	9	68	*136	22	46	*35
10	18	9.8	6	6	6	7	9	68	129	21	39	32
11	17	9.8	8	6	5	7	9.0	63	116	22	37	32
12	16	10	7	6	5	7	8.6	65	108	*26	37	29
13	16	11	7	6	6	7	9	63	103	24	35	28
14	*16	11	7	7	7	7	11	66	95	27	33	25
15	16	9.8	7	7	7	8	*13	74	87	26	44	25
16	16	10	7	7	7	8	19	77	83	22	48	24
17	16	9.8	7	6	7	8	23	73	76	22	48	24
18	15	8	6	5	7	8	24	67	71	22	45	23
19	15	9.8	5	5	6	8	27	62	68	26	59	22
20	15	9.4	5	6	5	8	27	*66	63	24	73	22
21	15	8.5	5	6	5	7	32	81	61	23	103	20
22	15	8.5	5	5	5	7	34	105	57	20	117	18
23	15	9.0	5	4.5	5	8	27	130	*53	21	103	19
24	14	9.0	6	4.5	6	*8	26	148	49	20	98	19
25	13	9.0	6	5	6	7.0	32	140	47	24	89	39
26	13	*8.6	6	5	6	6.7	44	125	45	37	*87	25
27	13	7.5	5	5	6	6	48	114	43	38	83	21
28	12	7	4.5	*5	6	7	*48	110	41	37	80	19
29	12	7	*4.5	6	-	8.2	54	108	39	33	72	18
30	12	7.8	4.5	7	------	9.0	65	116	35	38	67	18
31	11	------	5	7	------	9.8	------	125	------	38	61	------
Total	471	289.3	191.5	183.0	165	231.7	677.4	2,657	2,582	841	1,784	900
Mean	15.2	9.64	6.18	5.90	5.9	7.47	22.6	85.7	86.1	27.1	57.5	30.0
Ac-ft	934	574	380	363	327	460	1,340	5,270	5,120	1,670	3,540	1,790

Calendar year 1954: Max 98 Min - Mean 21.8 Ac-ft 15,770
Water year 1954-55: Max 148 Min 4.5 Mean 30.1 Ac-ft 21,770

Peak discharge (base, 300 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--Stage discharge relation affected by ice Nov. 12, 18, 21, 22, 27-29, Dec. 1 to Mar. 24, Mar. 27, 28, Apr. 4, 5, 9, 10, 13 (no gage-height record Dec. 1-5, 18-23, Dec. 27 to Mar. 8; discharge estimated on basis of 4 discharge measurements, recorder trace, weather records, and records for nearby stations).

Embudo Creek at Dixon, N. Mex.

Location.--Lat 36°12'40", long 105°54'55", in NW¼SE¼ sec. 19, T. 23 N., R. 10 E., at downstream end of bridge pier on U. S. Highway 64, 0.5 mile upstream from mouth, three-quarters of a mile east of Embudo Post Office, and 1.6 miles northwest of Dixon.

Drainage area.--305 sq mi.

Records available.--October 1930 to September 1955 (discontinued) in reports of Geological Survey. October 1923 to December 1931 in reports of State engineer.

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

Average discharge.--32 years (1923-55), 83.5 cfs (60,450 acre-ft per year).

Extremes.--Maximum discharge during year, 1,590 cfs Aug. 21 (gage height, 7.10 ft); minimum daily, 5.5 cfs July 8.
1930-55: Maximum discharge determined, 2,180 cfs Aug. 22, 1946 (gage height, 7.00 ft); minimum daily, 0.2 cfs June 27, 1950, July 8, 22, Aug. 17, 1951.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation of about 6,500 acres, a small part of which is below gage.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 29 to June 15, July 30 to Aug. 7)

Oct. 1 to Aug. 21				Aug. 22 to Sept. 30	
2.4	3.2	3.3	72	2.4	12
2.5	6.1	3.6	121	2.5	18
2.6	9.7	4.0	207	2.7	34
2.8	20	4.5	343	3.0	71
3.0	36	5.0	520	3.4	139
				3.9	249

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.7	18	20	19	24	21	24	117	295	7.2	31	97
2	8.3	19	21	21	23	23	24	127	280	6.8	38	86
3	8.3	20	*21	24	*23	*27	22	*105	259	7.2	*38	77
4	8.3	21	22	27	18	28	14	92	224	7.5	40	68
5	9.0	*21	19	25	15	30	17	*90	205	7.5	41	51
6	13	20	15	17	15	26	25	80	182	6.8	40	40
7	26	19	13	20	16	26	22	86	154	5.8	111	34
8	24	19	13	20	17	27	25	103	169	5.5	a125	*32
9	23	19	11	20	17	32	24	110	*184	5.8	a135	31
10	30	18	14	23	16	34	23	112	191	6.1	a125	29
11	24	15	20	21	15	31	24	108	169	*30	a100	29
12	22	15	17	19	16	30	18	107	156	27	a110	26
13	20	16	16	20	20	31	15	107	154	15	a95	24
14	*19	16	16	*24	23	32	16	107	143	15	a70	23
15	19	15	16	21	26	32	15	108	121	14	a60	21
16	19	15	16	22	26	31	18	110	101	14	a45	21
17	18	15	16	22	*24	29	28	101	90	13	a40	18
18	18	15	15	16	27	27	36	131	78	16	a45	18
19	18	16	13	20	18	26	*43	191	74	23	a70	18
20	18	16	13	22	13	28	45	*238	65	19	a110	18
21	18	16	13	20	12	26	42	248	*52	19	*a170	*19
22	18	16	13	14	12	20	57	340	40	21	a240	18
23	16	19	17	13	15	25	64	407	37	18	*237	17
24	17	20	18	15	14	*28	57	488	34	18	225	16
25	16	19	18	16	20	26	54	473	29	19	200	24
26	16	19	15	17	24	24	66	393	24	26	157	30
27	18	19	13	17	24	20	81	353	19	77	166	24
28	18	18	12	18	24	21	82	331	15	59	151	22
29	18	19	*12	20	-	26	81	306	11	41	156	20
30	17	21	13	21	------	24	100	292	7.5	32	141	21
31	18	------	17	23	------	25	------	289	------	34	116	------
Total	544.6	534	488	617	537	836	1,162	6,250	3,562.5	616.2	3,428	972
Mean	17.6	17.8	15.7	19.9	19.2	27.0	38.7	202	119	19.9	111	32.4
Ac-ft	1,080	1,060	968	1,220	1,070	1,660	2,300	12,400	7,070	1,220	6,800	1,930

Calendar year 1954: Max 149 Min 3.7 Mean 27.4 Ac-ft 19,820
Water year 1954-55: Max 488 Min 5.5 Mean 53.6 Ac-ft 38,780

Peak discharge (base, 800 cfs).--Aug. 7 (4 p.m.) 820 cfs (5.67 ft); Aug. 21 (4 p.m.) 1,590 cfs (7.10 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of discharge measurements, weather records, and records for nearby stations.
Note.--Stage-discharge relation affected by ice Dec. 5-31, Jan. 6-9, 18-30, Feb. 4-14, 19-25, Apr. 4-5.

Rio Grande at Embudo, N. Mex.

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

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

Records available.--January 1889 to December 1903, September 1912 to September 1916, and October 1930 to September 1955 in reports of Geological Survey. January 1889 to December 1903 and September 1912 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 5,789.14 ft above mean sea level, datum of 1929. Jan. 1 to Feb. 28, 1889, staff gage 1¼ miles upstream and March 1889 to December 1903, staff gage 1,300 ft (revised) upstream at different datums. September 1912 to June 1914 on downstream end of bridge pier 200 ft upstream at present datum.

Average discharge.--55 years (1889-93, 1894-1903, 1912-16, 1917-55), 1,011 cfs (731,000 acre-ft per year).

Extremes.--Maximum discharge during year, 2,200 cfs Aug. 21 (gage height, 5.21 ft); minimum daily, 238 cfs Sept. 21, 23, 24.
1889-1903, 1912-55: Maximum discharge, 15,900 cfs June 19, 1903 (gage height, 15.8 ft); minimum daily, 35 cfs Dec. 31, 1903.

Remarks.--Records good except those for period of ice effect, which are fair. Diversions for irrigation of about 660,000 acres above station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Revisions (water years).--WSP 878: 1915-16.

Rating table, water year 1954-55, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.3	235	3.5	790
2.5	300	4.0	1,130
2.7	375	4.5	1,550
3.0	515	5.0	2,000

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	247	259	262	367	402	420	293	339	980	314	256	406
2	259	262	256	371	402	442	290	363	810	304	259	380
3	256	262	*279	375	406	465	276	363	850	296	*276	351
4	253	259	304	393	393	490	262	332	790	290	262	371
5	259	262	318	398	388	495	256	*318	784	286	268	351
6	265	262	328	380	388	490	279	310	724	279	286	314
7	290	262	324	402	388	490	293	314	670	268	375	300
8	282	268	307	406	398	470	304	351	670	256	339	*286
9	282	276	282	406	402	500	310	442	*702	253	380	290
10	290	276	290	398	402	530	332	447	760	244	351	282
11	276	272	328	384	371	540	351	452	778	*282	339	276
12	265	268	314	*375	384	540	343	530	766	290	332	279
13	*256	276	290	375	402	500	324	510	719	256	314	265
14	250	279	268	402	402	465	307	505	675	247	290	259
15	250	272	335	393	406	442	296	470	658	244	358	256
16	250	265	328	402	406	411	290	480	614	247	359	253
17	256	265	328	406	*402	398	282	465	592	244	355	253
18	250	272	324	398	452	371	286	560	565	247	367	253
19	250	282	355	388	429	359	*272	760	540	262	421	253
20	253	276	359	411	402	347	262	910	510	250	406	247
21	256	272	363	393	339	343	256	945	485	250	634	238
22	259	272	367	b380	380	318	268	1,170	456	296	631	241
23	262	276	371	b360	470	314	296	1,370	452	253	545	238
24	253	290	380	b360	438	*307	282	1,780	442	250	515	238
25	247	290	388	b365	411	324	276	1,860	416	250	490	262
26	250	290	384	375	434	318	282	1,780	388	279	429	286
27	253	290	393	375	429	296	296	1,500	375	335	560	262
28	256	290	383	371	429	293	296	1,370	359	371	500	262
29	256	282	296	380	-	286	293	1,210	339	286	495	265
30	256	265	262	388	------	296	314	1,090	328	262	495	262
31	256	------	384	398	------	296	------	1,020	------	265	452	------
Total	8,043	8,192	10,130	11,975	11,355	12,556	8,767	24,316	18,297	8,456	12,339	8,479
Mean	259	273	327	386	406	405	292	784	610	273	398	283
Ac-ft	15,950	16,250	20,090	23,750	22,520	24,900	17,390	48,230	36,290	16,770	24,470	16,820

Calendar year 1954: Max 702 Min 202 Mean 353 Ac-ft 255,300
Water year 1954-55: Max 1,860 Min 238 Mean 392 Ac-ft 283,400

Peak discharge (base, 2,000 cfs).--May 25 (11:30 a.m.) 2,040 cfs (5.04 ft); Aug. 21 (4:30 p.m.) 2,200 cfs (5.21 ft).

* Discharge measurement made on this day.
b Stage-discharge relation affected by ice.

Rio Chama at Park View, N. Mex.

Location.--Lat 36°44'15", long 106°34'40", in Tierra Amarilla Grant, at downstream end of bridge pier nearest right bank on State Highway 51, just below mouth of Rio Brazos and half a mile northwest of Park View.

Drainage area.--405 sq mi.

Records available.--November 1912 to September 1916 and October 1930 to September 1955 (discontinued) in reports of Geological Survey. November 1912 to September 1916 and April 1925 to December 1931 in reports of State engineer. All records include flow in Rio Brazos.

Gage.--Water-stage recorder. Altitude of gage is 7,280 ft (from river-profile map). Prior to July 21, 1945, intermittently at present or either of two other sites within 150 ft of present gage at different datums.

Average discharge.--32 years (1913-15, 1925-55), 351 cfs (254,100 acre-ft per year).

Extremes.--Maximum discharge during year, 2,230 cfs May 8 (gage height, 5.64 ft); minimum daily, 6 cfs July 22-25.
1930-55: Maximum discharge, 8,530 cfs Apr. 16, 1937, from rating curve extended above 3,800 cfs; maximum gage height, 8.12 ft May 26, 1941, site and datum then in use; minimum daily discharge, 1.3 cfs Aug. 15, 16, Oct. 27, 1951.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 7,000 acres above station.

Revisions (water years).--WSP 1342: 1914-15, 1931(M), 1946-47(M).

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	19	19	20	26	30	57	936	600	41	19	50
2	23	21	23	20	26	30	74	988	500	37	*19	45
3	25	23	23	20	24	30	66	*670	450	29	18	41
4	27	23	30	*20	24	30	52	650	500	24	22	33
5	25	19	24	20	24	30	57	876	450	24	36	26
6	*20	19	22	18	24	30	60	1,230	450	21	27	23
7	19	20	25	20	24	30	54	1,600	*498	17	47	22
8	20	19	*20	20	24	*34	55	2,100	530	14	38	22
9	23	19	15	20	*24	40	47	1,690	530	12	70	17
10	24	19	17	20	22	42	54	1,310	434	11	65	11
11	24	18	20	20	20	40	73	1,210	384	13	235	10
12	20	20	18	14	22	40	60	1,300	372	16	86	9
13	16	25	14	18	24	42	*60	1,370	336	14	55	*8
14	16	23	16	18	24	48	89	1,520	*354	12	44	8
15	18	22	10	18	26	55	131	1,690	285	*10	32	7
16	18	22	18	18	28	51	191	1,440	270	10	32	7
17	17	*24	10	18	30	51	240	*1,200	255	11	50	7
18	14	20	15	14	30	52	212	960	235	9	77	15
19	14	19	18	18	24	54	230	840	210	9	50	16
20	19	21	20	18	26	55	225	1,030	*200	8	111	14
21	23	21	20	10	28	54	308	1,200	176	8	164	14
22	23	20	20	10	30	*40	432	1,240	151	6	*109	13
23	23	21	20	12	30	43	404	1,180	125	6	70	11
24	21	23	20	12	28	44	336	1,180	120	6	87	11
25	21	23	20	16	28	43	384	1,070	95	6	*121	12
26	*21	22	20	20	30	39	567	912	82	8	60	12
27	19	20	16	*24	30	36	603	800	73	21	48	12
28	19	18	10	24	*30	38	558	850	60	30	141	12
29	17	14	10	24	-	42	741	900	53	16	98	*11
30	19	21	12	24	------	*52	888	800	*47	11	81	11
31	19	------	12	26	------	62	------	700	------	14	*66	------
Total	628	618	557	574	730	1,307	7,308	35,442	8,825	474	2,178	510
Mean	20.3	20.6	18.0	18.5	26.1	42.2	244	1,140	294	15.3	70.3	17.0
Ac-ft	1,250	1,230	1,100	1,140	1,450	2,590	14,500	70,300	17,500	940	4,320	1,010

Calendar year 1954: Max 1,320 Min 10 Mean 167 Ac-ft 121,200
Water year 1954-55: Max 2,100 Min 6 Mean 162 Ac-ft 117,300

Peak discharge (base, 2,700 cfs).--No peak above base.
* Discharge measurement made on this day.
Note.--No gage-height record Dec. 9 to Jan. 3, Jan. 14 to Mar. 14, May 27 to June 6, Sept. 22-28; discharge estimated on basis of 5 discharge measurements, weather records, and records for nearby stations. Stage-discharge relation affected by ice Jan. 4-13.

Willow Creek near Park View, N. Mex.

Location.--Lat 36°40'20", long 106°42'10", in Tierra Amarilla Grant, on right bank 400 ft upstream from Willow Creek dam site, 0.3 mile downstream from Horse Lake Creek, and 8½ miles southwest of Park View, Rio Arriba County.

Drainage area.--193 sq mi.

Records available.--May 1936 to September 1955 (no winter records prior to 1943).

Gage.--Water-stage recorder. Altitude of gage is 6,950 ft (from river-profile map). Prior to Oct. 1, 1937, at datum 0.79 ft higher.

Average discharge.--16 years (1939-55), 20.5 cfs (14,840 acre-ft per year).

Extremes.--Maximum discharge during year, 218 cfs Aug. 5 (gage height, 2.56 ft); no flow for long periods.
1936-55: Maximum discharge, 4,500 cfs Apr. 23, 1942 (gage height, 10.45 ft), from rating curve extended above 1,400 cfs on basis of slope-area determination of peak flow; no flow at times.

Remarks.--Records fair except those for periods of no gage-height record, which are poor. Diversions for irrigation of about 300 acres (revised) above station.

Revisions (water years).--WSP 858: 1936.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 17-28, Apr. 10 to June 3, June 31 to Sept. 30)

0.44	0	0.8	2.9
.5	.1	1.0	8.3
.6	.5	1.2	18
.7	1.4	1.5	40

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	0					2	1	0	0	27	4
2	0	0					1	1	0	0	21	3
3	0	0					1	*1	0	0	13	2
4	0	0					1	1	0	1	10	1
5	0	0					1	1	2	2	27	0
6	*0	0					1	0	2	2	33	3
7	0	1				(*)	1	0	2	2	14	3
8	0	1	(*)			1	3	0	1	3	15	1
9	1	1			(*)		2	12	1	3	15	0
10	1	0					6	17	2	2	39	1
11	0	0					11	39	2	15	15	1
12	0	0					5	19	2	5	14	1
13	0	0					*3	10	2	5	13	*1
14	0	0					7	6	*3	5	12	1
15	0	0					7	4	3	*4	11	0
16	1	0				3	6	3	3	4	12	0
17	1	*0				4	5	*2	2	4	12	0
18	1	0				4	4	2	2	4	12	1
19	0	0				4	4	5	2	4	11	1
20	1	0				3	3	6	2	4	11	0
21	1	0				3	2	4	2	4	11	0
22	0	0				*2	2	3	2	4	*11	0
23	0	0				1	6	4	1	4	13	0
24	0	0				0	13	4	1	4	7	0
25	0	0				0	7	4	1	4	5	0
26	0	0				2	5	4	1	5	5	0
27	*0	0				2	3	3	1	11	5	0
28	0	0				1	2	1	0	15	5	0
29	0	0			-	0	2	0	0	11	6	*0
30	0	0			------	*1	1	0	0	8	5	0
31	0	------			------	2	------	0	------	13	5	------
Total	8	3	0	0	0	47	117	157	42	152	415	24
Mean	0.3	0.1	0	0	0	1.5	3.9	5.1	1.4	4.9	13.4	0.8
Ac-ft	16	6.0	0	0	0	93	232	311	83	301	823	48

Calendar year 1954: Max 171 Min 0 Mean 5.8 Ac-ft 4,220
Water year 1954-55: Max 39 Min 0 Mean 2.6 Ac-ft 1,910

Peak discharge (base, 800 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
Note.--No gage-height record Dec. 23 to Mar. 15, Aug. 11-21; discharge estimated on basis of observations of no flow, weather records, and records for nearby stations.

Rio Chama below El Vado Dam, N. Mex.

Location.--Lat 36°34'50", long 106°43'30", in Tierra Amarilla Grant, on left bank 1.5 miles downstream from El Vado Dam, 2.7 miles upstream from Rio Nutrias, and 13 miles southwest of Tierra Amarilla.

Drainage area.--877 sq mi.

Records available.--October 1913 to November 1916 (published as Chama River near Tierra Amarilla October 1913 to September 1914 and as Chama River near El Vado October 1914 to November 1916) and October 1935 to September 1955 (published as Rio Chama near Tierra Amarilla October 1935 to September 1946) in reports of Geological Survey. October 1913 to September 1916 and February 1920 to December 1924 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 6,696.12 ft above mean sea level, datum of 1929. Prior to October 1935, at site 1.5 miles upstream at different datum. October 1935 to September 1938 at site 1.1 miles upstream at datum 30.34 ft higher.

Average discharge.--19 years (1936-55), 386 cfs (279,450 acre-ft per year), subsequent to completion of El Vado Dam.

Extremes.--Maximum discharge during year, 1,170 cfs Aug. 27 (gage height, 3.64 ft); no flow Mar. 25, 26, 31.

1935-55: Maximum discharge, 6,010 cfs May 17, 1941 (gage height, 6.89 ft); maximum gage height, 9.63 ft May 30, 1937, site and datum then in use; no flow Mar. 25, 26, 31, 1955.

Remarks.--Records good except those for periods of ice effect and doubtful or no gage-height record, which are poor. Flow regulated since 1935 by El Vado Reservoir (see p. 417). Diversions for irrigation of about 8,000 acres above station.

Revisions.--Revised figures of discharge, in cubic feet per second, for the water year 1949, superseding those published in WSP 1148, are given herewith:

Feb. 14, 1949..... 588

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
February 1949.....	21,259	1,480	10	759	42,170
Water year 1948-49...	154,036.4	2,270	6.2	422	305,500
Calendar year 1949...	158,163.4	2,270	6.2	433	313,700

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

0.9	0.2	2.0	195
1.1	6.3	2.5	410
1.3	24	3.0	700
1.5	58	3.7	1,230
1.7	105		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	35	34	*b34			30	**0.3	4.2	855	413	85	1,010
2	35	34	35			30	.3	*5.2	855	829	*85	975
3	35	35	b36	(*)		50	.2	248	781	502	85	960
4	38	35	40			50	.2	490	728	496	90	938
5	41	35	b35			50	.2	496	728	496	90	915
6	*38	32	b25			50	1.7	502	311	490	85	892
7	34	32	b25			60	197	514	20	490	85	862
8	32	30	b20			*60	466	526	14	490	85	826
9	34	32	*15			60	161	544	9.2	490	85	798
10	36	30	20		(*)	50	85	562	9.2	490	90	756
11	34	32	15			40	88	562	9.2	490	85	700
12	32	36	10			30	95	568	9.9	484	85	584
13	28	36	10			25	*43	580	9.9	478	90	92
14	24	38	10			20	60	592	*11	224	85	*32
15	26	38	10			25	183	598	11	*82	85	24
16	28	38	15	20	30	250	180	610	155	76	85	21
17	28	34	15			400	186	*616	223	76	90	21
18	28	*b36	15			189	189	622	223	76	95	16
19	22	b34	15			111	111	622	223	73	120	20
20	24	b32	10			92	.8	622	223	36	108	26
21	30	b34	10			51	1.2	628	223	11	92	26
22	30	b34	15			**5.8	2.6	628	220	11	*88	26
23	30	b30	15			2	2.6	714	216	21	85	23
24	29	b26	15			1	2.6	892	216	12	88	22
25	15	32	10			0	2.3	904	216	13	207	21
26	2.3	52	10	(*)		0	3.4	1,150	216	11	1,030	21
27	**65	b31	10			250	3.8	1,150	216	12	1,070	21
28	*35	b38	10		-	100	3.4	744	180	12	1,050	20
29	34	b35	10			34	3.8	286	135	60	1,050	18
30	32	32	10		------	**1	4.2	254	*126	82	1,040	*5.8
31	34	------	10		------	0	------	*622	------	85	*1,020	------
Total	968.3	1,027	535	620	840	2,116.8	2,077.6	17,855.4	7,372.4	7,611	8,613	10,671.8
Mean	31.2	34.2	17.3	20	30	68.3	69.3	576	246	246	278	356
Ac-ft	1,920	2,040	1,060	1,230	1,670	4,200	4,120	35,420	14,620	15,100	17,080	21,170

Calendar year 1954: Max 1,210 Min 1 Mean 211 Ac-ft 152,700
Water year 1954-55: Max 1,150 Min 0 Mean 165 Ac-ft 119,600

* Discharge measurement made on this day.
** Field estimate made on this day.
b Stage-discharge relation affected by ice.

Note.--Doubtful or no gage-height record Dec. 9 to Mar. 17 (stage-discharge relation affected by ice most of period), Mar. 23-28, 30, 31, Aug. 11-18; discharge estimated on basis of 5 discharge measurements, 3 field estimates, recorder trace, knowledge of local regulation, weather records and records for associated stations upstream and downstream.

Rio Chama near Abiquiu, N. Mex.

Location.--Lat 36°13'00", long 106°15'00", in Juan Jose Lobato Grant, at downstream end of bridge pier on State Highway 96, 1¾ miles upstream from El Rito Creek, 5 miles downstream from Abiquiu, Rio Arriba County, and 13.5 miles downstream from Abiquiu dam site.

Drainage area.--2,170 sq mi, approximately.

Records available.--January 1942 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 5,873.17 ft above mean sea level, datum of 1929.

Average discharge.--13 years, 351 cfs (254,100 acre-ft per year).

Extremes.--Maximum discharge during year, 4,390 cfs Aug. 27 (gage height, 5.47 ft); minimum daily, 5.9 cfs Apr. 29, 30.
1942-55: Maximum discharge, 7,870 cfs July 28, 1952 (gage height, 6.18 ft, from floodmark), from rating curve extended above 2,900 cfs; minimum daily, 1 cfs June 11, 1947.

Remarks.--Records fair except those for periods of ice effect and no gage-height record, which are poor. Flow regulated by El Vado Reservoir (see p. 417). Diversions for irrigation of about 18,500 acres above station. Records of sediment loads for the water year 1955 are given in WSP 1402.

Rating tables, water year 1954-55, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 18 to July 1, Aug. 19 to Sept. 30)

Oct. 1 to Aug. 18				Aug. 19 to Sept. 30	
1.6	5.5	2.8	168	1.8	18
1.7	9.3	3.0	235	2.0	42
1.8	14	3.3	360	2.2	79
2.0	28	3.6	525	2.5	167
2.2	50	3.9	730	2.8	308
2.4	80	4.2	1,000	3.1	507
2.6	118	4.4	1,200	3.5	910
				4.0	1,660

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	38	38	44	30	60	*38	31	7.0	714	104	65	1,070
2	35	37	43	38	45	72	22	6.3	810	495	80	1,070
3	36	37	44	46	40	69	19	7.0	828	653	120	1,040
4	37	37	44	43	35	63	15	187	723	489	140	1,030
5	53	38	45	*70	30	100	15	477	716	465	375	988
6	197	43	46	50	25	123	*15	489	709	454	170	949
7	*60	43	49	50	25	*112	13	501	245	448	410	910
8	51	40	38	50	30	*130	98	544	63	432	315	898
9	45	39	33	50	30	129	448	604	39	432	140	850
10	46	*40	*40	50	*25	176	165	660	32	438	140	802
11	42	42	53	50	35	152	96	730	19	632	225	758
12	40	38	53	50	45	108	80	674	14	618	140	705
13	38	43	40	50	50	74	85	*688	11	544	170	*477
14	35	44	30	50	55	57	*84	688	12	*686	200	146
15	34	44	25	50	60	50	46	695	*9.3	246	170	77
16	33	44	25	50	60	38	97	688	8.5	85	70	54
17	34	42	30	40	60	239	157	681	19	105	180	42
18	35	44	40	25	60	400	168	716	187	85	200	41
19	35	44	44	30	60	171	163	702	199	80	*227	41
20	34	43	56	40	50	114	152	688	*210	85	898	35
21	30	44	49	30	40	94	58	695	210	50	1,380	35
22	30	44	50	20	30	84	31	723	210	20	*355	31
23	36	44	60	20	30	*60	32	723	203	15	192	26
24	39	*44	55	30	40	34	32	882	199	20	156	34
25	37	44	50	40	50	25	34	1,000	193	20	232	47
26	36	39	45	*50	60	19	18	1,130	193	45	580	31
27	34	37	35	50	70	19	13	1,200	190	80	1,600	23
28	22	48	30	*50	58	172	*10	1,200	184	125	1,140	22
29	38	42	20	50	-	127	5.9	475	171	*75	1,270	*24
30	40	40	20	50	-- --	78	5.9	267	187	50	1,100	18
31	39	------	25	50	------	*54	------	228	------	60	*1,080	------
Total	1,339	1,246	1,261	1,352	1,258	3,181	2,208.8	18,955.3	7,507.8	8,136	13,520	12,274
Mean	43.2	41.5	40.7	43.6	44.9	103	73.6	611	250	262	436	409
Ac-ft	2,660	2,470	2,500	2,680	2,500	6,310	4,380	37,600	14,890	16,140	26,820	24,350

Calendar year 1954: Max 1,280 Min 6.0 Mean 235 Ac-ft 169,900
Water year 1954-55: Max 1,600 Min 5.9 Mean 198 Ac-ft 143,300

* Discharge measurement made on this day.
Note.--No gage-height record July 16 to Aug. 18; discharge estimated on basis of 1 discharge measurement, fragments of recorder trace, staff readings and notes by sediment sampler and records for associated stations. Stage-discharge relation affected by ice Dec. 13-18, Dec. 23 to Jan. 1, Jan. 5 to Feb. 27.

Rio Ojo Caliente at La Madera, N. Mex.

Location.--Lat 36°20'45", long 106°02'35", in NE¼ sec. 1, T. 24 N., R. 8 E., on right bank 2.5 miles south of La Madera, 3 miles downstream from confluence of Rio Vallecitos and Rio Tusas, and 3 miles north of Ojo Caliente.

Drainage area.--419 sq mi.

Records available.--April 1932 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 6,345.0 ft above mean sea level, datum of 1929. Prior to Apr. 23, 1934, at site about 3 miles upstream at two different datums. Apr. 23, 1934, to June 22, 1936, at present site at datum 1.26 ft higher.

Average discharge.--23 years, 74.6 cfs (54,010 acre-ft per year).

Extremes.--Maximum discharge during year, 1,220 cfs Aug. 20 (gage height, 3.77 ft); minimum daily, 1.0 cfs Aug. 4.
1932-55: Maximum discharge, 2,980 cfs Apr. 23, 1942, from rating curve extended above 1,300 cfs by logarithmic plotting; maximum gage height, 7.60 ft July 15, 1933, site and datum then in use; minimum daily discharge, 1 cfs at times.

Remarks.--Records fair except those for periods of ice effect or no gage-height record and for July 29 to Aug. 28, which are poor. Diversions at and above station for irrigation of about 8,800 acres, a few hundred of which are below station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.2	9.7	13	12	16	12	21	118	*33	2.6	1.3	16
2	7.8	9.7	13	12	*16	12	21	167	28	2.2	1.2	12
3	8.6	10	13	13	15	*14	21	90	25	1.6	1.2	8.6
4	9.3	10	15	14	14	15	18	68	23	2.0	1.0	6.6
5	9.3	10	15	13	15	15	17	81	23	2.0	1.7	6.1
6	10	10	14	12	14	14	*20	90	19	1.9	1.3	5.4
7	11	9.7	14	*14	b13	14	20	141	*17	2.2	1.5	5.1
8	*11	9.7	13	13	12	14	19	227	15	2.2	1.6	*4.8
9	12	10	12	13	12	15	20	206	10	2.2	1.2	4.0
10	11	*9.7	14	11	11	17	17	163	7.8	2.1	1.1	3.8
11	10	10	15	12	b10	16	18	154	6.6	*2.4	2.0	3.7
12	9.7	10	14	12	11	16	19	167	6.1	2.5	1.4	4.0
13	8.9	11	13	11	11	17	17	*126	5.8	2.4	1.4	3.7
14	9.3	11	13	12	*10	*19	*17	126	4.6	2.4	1.2	3.5
15	9.3	12	12	11	11	21	25	114	3.7	2.2	1.2	3.4
16	9.7	11	13	12	11	23	35	103	4.1	2.2	1.4	3.3
17	9.7	11	11	12	11	20	51	74	5.4	2.2	2.3	3.3
18	10	11	12	11	13	19	54	84	5.6	2.3	1.4	3.4
19	9.3	11	13	12	11	19	51	97	5.4	2.1	11	3.0
20	9.7	11	12	12	b10	19	44	176	5.6	2.0	64	2.6
21	9.3	11	12	11	b10	19	56	243	*5.4	2.2	70	*2.4
22	9.3	11	12	b10	11	14	87	211	4.8	2.2	196	2.4
23	10	11	12	a10	11	17	58	159	5.1	2.2	87	2.6
24	10	11	12	a10	11	19	48	118	3.8	2.5	51	3.0
25	9.7	12	12	a12	11	18	58	90	3.5	2.6	39	4.0
26	9.7	12	12	a15	12	17	71	64	3.4	9.4	26	4.0
27	9.7	12	b12	a15	12	14	90	54	3.1	*7.0	22	5.1
28	10	12	b11	a15	12	*14	*84	40	2.7	4.1	114	5.1
29	10	*12	b10	a15	-	17	114	35	2.1	3.8	133	4.8
30	10	12	a10	a15	-	18	145	35	2.2	2.2	46	4.8
31	9.7	-	a10	16	-	21	-	37	-	1.6	26	-
Total	301.2	323.5	389	388	337	519	1,336	3,658	289.8	83.5	910.4	144.5
Mean	9.72	10.8	12.5	12.5	12.0	16.7	44.5	118	9.66	2.69	29.4	4.82
Ac-ft	597	642	772	770	668	1,030	2,650	7,260	575	166	1,810	287

Calendar year 1954: Max 388 Min 2.7 Mean 32.2 Ac-ft 23,310
Water year 1954-55: Max 243 Min 1.0 Mean 23.8 Ac-ft 17,230

Peak discharge (base, 600 cfs).--Aug. 20 (6:20 p.m.) 1,220 cfs (3.77 ft); Aug. 21 (11:30 p.m.) 612 cfs (2.71 ft).

* Discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of available recorder trace, weather records, and records for nearby stations.

b Stage-discharge relation affected by ice.

Rio Chama near Chamita, N. Mex.

Location (revised).--Lat 36°04'25", long 106°06'39", in NE¼NE¼ sec. 8, T. 21 N., R. 8 E., on left bank 200 ft downstream from bridge on U. S. Highway 285, half a mile west of Chamita, 2½ miles northwest of San Juan Pueblo, and 3 miles upstream from mouth.

Drainage area.--3,200 sq mi, approximately.

Records available.--October 1912 to June 1915 and October 1930 to September 1955 in reports of Geological Survey. October 1912 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 5,653 ft (from river-profile map). Prior to Oct. 4, 1933, at railroad bridge 2 miles downstream at different datum. Oct. 4, 1933, to Mar. 1, 1942, at site 150 ft upstream at datum 0.22 ft higher.

Average discharge.--41 years (1913-17, 1918-55), 618 cfs (447,400 acre-ft per year).

Extremes.--Maximum discharge during year, 5,970 cfs Aug. 20 (gage height, 5.78 ft); no flow June 16, 17.

1930-55: Maximum discharge, 9,910 cfs May 14, 1941; maximum gage height, 8.33 ft May 16, 1941, present datum; no flow at times.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation of about 30,000 acres, a few hundred of which are below station. Flow partly regulated by El Vado Reservoir 77 miles upstream (see p. 417). Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 15-20, Mar. 2, 4-13, Mar. 25 to May 11, June 8, 9, June 18 to July 2, July 16 to Aug. 25, Sept. 14-30)

1.07	0	1.8	102
1.1	.9	2.0	170
1.2	4.4	2.5	430
1.4	21	3.0	840
1.6	53	3.4	1,280

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	18	37	35	60	a60	*51	148	*606	*51	*68	*973
2	25	17	44	50	70	*99	32	166	795	205	83	930
3	24	19	40	60	50	100	31	148	768	588	94	890
4	22	20	42	60	40	128	18	122	678	418	97	840
5	51	17	51	80	35	145	6.4	382	660	406	139	831
6	218	18	53	70	30	159	2.3	400	644	382	145	831
7	91	21	49	60	30	156	2.0	479	376	370	186	813
8	68	20	48	60	*35	163	2.6	604	*68	*364	420	804
9	57	20	40	60	35	156	314	696	24	358	235	*804
10	71	22	40	60	30	*182	206	714	a15	370	178	759
11	42	22	57	*60	30	174	*105	*822	9.0	492	*225	750
12	a40	22	57	60	45	163	99	813	7.7	548	194	696
13	a35	24	45	60	45	145	73	813	9.0	479	194	500
14	a30	22	35	60	50	118	60	804	9.7	546	194	206
15	a25	22	30	60	*62	105	48	804	3.7	398	170	115
16	18	24	30	60	71	105	20	786	*0	118	198	*62
17	18	21	30	50	73	179	105	759	0	94	*202	49
18	19	22	35	40	78	*451	*145	813	46	*83	239	42
19	20	31	45	30	68	a320	156	*795	124	60	210	32
20	20	29	60	45	57	a200	156	786	141	55	1,030	24
21	22	29	60	45	50	a140	94	860	145	62	a885	18
22	*19	29	55	30	40	a120	71	880	159	28	a668	19
23	19	28	60	25	35	a100	91	860	163	13	a235	19
24	21	*31	60	25	35	a80	60	910	*145	10	*170	19
25	32	34	55	35	45	*60	*53	1,060	145	*14	295	53
26	40	31	50	*40	55	57	42	1,120	152	27	377	22
27	40	27	45	50	a65	62	46	*1,280	138	62	1,190	*8.4
28	24	25	35	60	a75	115	48	1,240	124	128	1,150	7.0
29	17	39	30	60	-	170	*55	800	118	112	1,170	7.0
30	22	29	25	60	--	121	119	437	75	51	1,030	*5.7
31	18	------	25	60	------	71	------	322	------	75	995	------
Total	1,196	733	1,368	1,610	1,394	4,404	2,311.3	21,623	6,348.1	6,967	12,666	11,129.1
Mean	38.6	24.4	44.1	51.9	49.8	142	77.0	698	212	225	409	371
Ac-ft	2,370	1,450	2,710	3,190	2,760	8,740	4,580	42,890	12,590	13,820	25,120	22,070

Calendar year 1954: Max 1,420 Min 1.0 Mean 242 Ac-ft 175,400
Water year 1954-55: Max 1,280 Min 0 Mean 197 Ac-ft 142,300

* Discharge measurement or observation of no flow made on this day.
a No gage-height record; discharge estimated on basis of weather records and records for nearby and associated stations.
Note.--Stage-discharge relation affected by ice Dec. 9, Dec. 13 to Feb. 14, Feb. 21-26, Mar. 3 (no gage-height record Jan. 15-17).

Santa Cruz River at Cundiyo, N. Mex.

Location.--Lat 35°57'40", long 105°54'10", in SE¼NW¼ sec. 17, T. 20 N., R. 10 E., on left bank 135 ft downstream from highway bridge at confluence of Rio Medio and Rio Frijoles and 0.6 mile (revised) northwest of Cundiyo.
Drainage area.--86 sq mi, approximately.
Records available.--September 1931 to September 1955 in reports of Geological Survey. September 1915 to December 1931 (published as Rio Medio at Cundiyo prior to 1930 and Rio Santa Cruz above Chimayo 1930-31) in reports of State engineer.
Gage.--Water-stage recorder, concrete control since Jan. 3, 1954. Altitude of gage is 6,460 ft (from topographic map). Prior to January 1930, staff gage at approximately same site at different datum. 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.--39 years (1915-29, 1930-55), 32.2 cfs (23,310 acre-ft per year).
Extremes.--Maximum discharge during year, 341 cfs Aug. 12 (gage height, 3.07 ft); minimum daily, 2.6 cfs Dec. 9.
1931-55: Maximum discharge 2,420 cfs (revised) Sept. 24, 1931 (gage height, 7.8 ft), from rating curve extended above 170 cfs by logarithmic plotting; minimum daily, 1.1 cfs Dec. 3, 1950.
Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
733	1931	Sept.24, 1931	2,420	7.8
-	1932	Aug. 18, 1932	†600	3.20
748	1933	Aug. 24, 1933	850	3.80
763	1934	Sept.23, 1934	179	2.27
788	1935	Aug. 20, 1935	692	3.67
808	1936	Aug. 20, 1936	1,070	4.22
828	1937	May 30, 1937	209	2.57
858	1938	July 15, 1938	374	3.02
878	1939	Aug. 25, 1939	325	2.90
978	1943	Aug. 18, 1943	176	2.45

† Not previously published.

The minimum daily discharge for the water year 1932 has been revised to 7 cfs Feb. 4, 1932, superseding figure published in WSP 733.
Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions for irrigation of about 1,000 acres above station.
Revisions.--Revised figures of discharge, in cubic feet per second, for the water years 1932-33, 1942, and revised figures of peak discharge for the water years 1938-39, superseding those published in WSP 733, 748, 858, 878, and 958, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge
1931		1931-Con.		1933-Con.	
Nov. 16	17	Nov. 30	12	June 24	103
17	16			25	87
18	12	1932		26	80
19	14	Feb. 4	7	27	73
20	12	5	7	28	63
21	15				
22	15	1933		1942	
23	12	June 21	65	Sept.13	54
28	18	22	79	14	40
29	15	23	124		

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
November 1931	-	24	10	15.8	942
December	-	-	-	*12	738
January 1932	-	-	-	*12	738
February	-	47	7	15.7	904
Water year 1931-32	-	257	7	49.9	36,220
Calendar year 1932	-	257	-	47.7	34,620
June 1933	-	124	23	52.9	3,150
Water year 1932-33	-	124	-	20.9	15,160
Calendar year 1933	-	124	-	20.2	14,610
September 1942	891	98	18	29.7	1,770
Water year 1941-42	27,014	570	13	74.0	53,580
Calendar year 1942	24,274	570	5.7	66.5	48,140

* Only monthly figures revised; revised daily figures not available.
Revised peak discharge.--1937-38: July 15 (1 a.m.) 374 cfs; July 15 (8 p.m.) 204 cfs; Sept. 10 (5 p.m.) 231 cfs.
1938-39: Oct. 8 (11 a.m.) 317 cfs; Aug. 25 (6 p.m.) 325 cfs.

Santa Cruz River at Cundiyo, N. Mex.--Continued

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 9-20)

1.4	2.6	1.9	30
1.5	5.4	2.1	54
1.7	15	2.4	105

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.4	8.1	8.5	7	12	9	8.1	37	*65	17	27	56
2	7.4	8.5	8.9	8	11	10	9.8	42	62	17	38	54
3	7.7	8.5	8.5	8	10	*10	9.8	34	61	17	37	50
4	7.7	8.5	8.9	8	8	10	6.2	35	59	16	36	46
5	8.5	7.7	6.6	7	7	10	8.9	36	56	*17	43	45
6	10	8.1	4.3	6	8	9	8.9	35	54	17	39	44
7	12	8.1	*8.5	7	9	*7	8.5	38	54	20	38	42
8	*10	7.4	4.8	7	9	6	8.9	48	52	17	54	40
9	10	*7.0	2.6	7	10	7	7.4	50	52	15	58	36
10	9.3	6.6	7.4	7	9	8.5	8.1	48	50	13	50	34
11	9.3	7.4	10	7	8	7.7	8.1	46	46	14	49	32
12	9.3	7.7	8.1	7	9	7.7	6.6	46	45	21	*52	*29
13	8.9	9.3	8.1	7	9	7.7	5.8	46	43	20	40	29
14	8.5	8.5	7.7	8	*10	*8.5	9.8	45	42	27	36	27
15	*8.9	7.4	7.7	8	11	8.5	*14	45	*39	22	42	24
16	8.9	8.1	7.7	8	11	8.5	17	*44	37	17	43	24
17	8.5	8.9	8.1	7	10	8.5	18	43	35	17	*34	23
18	8.5	4.8	6.6	6	11	8.1	16	43	34	23	39	23
19	8.5	8.1	6	6	12	8.1	19	45	33	26	45	23
20	8.5	8.1	6	7	10	8.1	17	45	30	25	46	23
21	8.5	7.4	6	7	7	6.2	19	56	29	25	64	21
22	8.1	7.7	6	6	7	5.8	21	77	27	23	67	20
23	8.5	8.5	6	6	8	8.5	18	88	26	20	59	20
24	8.5	8.5	7	6	8	7.7	16	96	23	22	70	20
25	8.1	8.1	8	*7	8	7.4	20	90	23	28	84	30
26	8.1	7.7	8	8	9	7.0	25	81	23	40	72	21
27	8.1	7.0	6	8	9	5.1	27	75	23	50	72	19
28	8.1	4.6	5	8	9	*7.4	27	73	22	39	72	17
29	8.1	4.6	5	9	-	8.5	*30	70	19	*37	68	17
30	8.1	11	5	11	------	8.5	40	67	18	35	67	17
31	8.1	------	6	12	------	9.3	------	65	------	33	58	------
Total	268.1	231.9	213.0	231	259	249.3	458.9	1,689	1,182	730	1,599	906
Mean	8.65	7.73	6.87	7.5	9.2	8.04	15.3	54.5	39.4	23.5	51.6	30.2
Ac-ft	532	460	422	458	514	494	910	3,350	2,340	1,450	3,170	1,800

Calendar year 1954: Max 72 Min 2.6 Mean 16.5 Ac-ft 11,930
Water year 1954-55: Max 96 Min 2.6 Mean 22.0 Ac-ft 15,900

Peak discharge (base, 200 cfs).--July 31 (1:30 p.m.) 206 cfs (2.74 ft); Aug. 12 (4:30 p.m.) 341 cfs (3.07 ft); Aug. 19 (4:30 p.m.) 258 cfs (2.86 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Dec. 19 to Mar. 9 (no gage-height record Dec. 28 to Mar. 3; discharge estimated on basis of 4 discharge measurements, recorder trace, weather records, and records for nearby stations).

Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.

Location.--Lat 35°52'25", long 106°08'35", near right bank on downstream side of pier of former railway bridge, 400 ft downstream from bridge on State Highway 4, 1¾ miles southwest of San Ildefonso Pueblo, 2½ miles downstream from Pojoaque River (formerly known as Rio Pojoaque), and 7 miles west of Pojoaque.

Drainage area.--14,300 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--February 1895 to December 1905, June 1909 to December 1914, and October 1930 to September 1955 in reports of Geological Survey. February 1895 to December 1905 and June 1909 to December 1931 in reports of State engineer. In early reports this record was published as Rio Grande at Water Tank, as "at Rio Grande," and "near Buckman."

Gage.--Water-stage recorder. Datum of gage is 5,488.48 ft above mean sea level, datum of 1929. Prior to May 19, 1904, and July 25 to Oct. 1, 1904, staff gage at site 180 ft upstream at datum 2.02 ft lower. May 19 to July 24, 1904, Oct. 2, 1904, to Dec. 31, 1905, and June 23, 1909, to May 31, 1910, staff or chain gage at same site and datum.

Average discharge.--52 years (1895-1905, 1909-14, 1915-16, 1919-55), 1,627 cfs (1,178,000 acre-ft per year).

Extremes.--Maximum discharge during year, 5,140 cfs Aug. 21 (gage height, 6.28 ft); minimum daily, 220 cfs Sept. 23.

1930-55: Maximum discharge, 22,500 cfs May 16, 1941; maximum gage height, 13.70 ft May 14, 1941; minimum daily discharge, 128 cfs June 21, 1934.

A daily discharge of 28,800 cfs (gage height, 13.60 ft) was published in reports of State engineer for May 23, 1920.

Remarks.--Records good except those for periods of ice effect or no gage-height record, which are poor. Discharge measurements generally made four times a month. Flow partly regulated by El Vado Reservoir (see p. 417) on Rio Chama which contributes about 40 percent of total flow. Diversions above station for irrigation of about 600,000 acres in Colorado and 75,000 acres in New Mexico. Records of chemical analyses, water temperatures, and sediment loads for the water year 1955 are given in WSP 1402.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 1-14, Sept. 15-29)

Oct. 1 to Feb. 22		Feb. 23 to Sept. 30			
2.3	254	1.9	220	4.0	1,250
2.5	333	2.2	298	5.0	2,650
2.7	424	2.5	391	5.2	2,970
3.0	581	3.0	600		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	288	308	325	469	510	546	339	408	1,410	346	381	1,330
2	273	300	329	454	510	555	315	449	1,650	336	423	1,250
3	284	325	312	464	510	580	301	464	1,600	965	402	1,200
4	284	325	364	495	b460	600	301	394	1,490	673	394	1,200
5	312	304	391	474	b420	622	284	660	1,470	673	398	1,140
6	430	308	386	454	b440	633	287	801	1,410	655	538	1,090
7	396	312	415	439	b430	633	307	836	1,180	667	984	1,070
8	377	317	391	479	b460	622	330	972	748	628	967	1,040
9	368	329	342	484	500	661	583	1,200	715	595	850	1,010
10	364	321	342	459	490	715	616	1,240	728	595	661	958
11	337	312	410	454	424	748	460	1,350	728	606	650	899
12	346	304	405	449	439	715	419	1,290	760	935	644	843
13	329	312	382	434	464	650	394	1,250	748	741	606	760
14	300	317	355	464	516	570	355	1,220	691	715	565	501
15	292	325	a370	474	521	536	333	1,220	644	878	661	368
16	292	333	a350	469	510	493	292	1,180	595	a365	a570	301
17	292	325	a350	521	510	480	352	1,160	555	a330	548	270
18	292	312	a390	490	542	836	416	1,270	550	321	709	257
19	288	325	434	434	548	667	416	1,540	650	312	935	260
20	292	333	424	495	b460	541	430	1,720	628	278	1,160	252
21	292	333	424	464	b440	493	371	1,880	595	292	2,020	242
22	288	333	444	400	b400	468	318	2,020	585	276	1,620	225
23	304	333	449	b390	b550	453	381	2,250	570	276	801	220
24	292	329	454	b400	b520	416	355	2,540	560	262	780	222
25	288	337	459	479	523	394	342	2,910	523	265	794	249
26	288	342	410	484	541	384	324	2,760	497	295	703	267
27	296	329	a400	474	580	361	324	2,700	493	339	1,570	252
28	288	325	a350	464	585	378	336	2,520	460	505	1,880	239
29	284	337	a310	469	-	493	330	1,970	456	460	1,600	242
30	288	333	a275	479	------	416	371	1,390	a415	371	1,470	249
31	296	------	329	500	------	374	------	a1,180	------	624	1,400	------
Total	9,640	9,678	11,771	14,358	13,803	17,033	10,982	44,744	24,104	15,579	27,684	18,406
Mean	311	323	380	463	493	549	366	1,443	803	503	893	614
Ac-ft	19,120	19,200	23,350	28,480	27,380	33,780	21,780	88,750	47,810	30,900	54,910	36,510

Calendar year 1954: Max 2,030 Min 165 Mean 601 Ac-ft 435,400
Water year 1954-55: Max 2,910 Min 220 Mean 597 Ac-ft 432,000

Peak discharge (base, 5,200 cfs).--No peak above base.

a No gage-height record; discharge estimated on basis of available recorder trace, weather records, and records for main-stem and tributary stations upstream and downstream.

b Stage-discharge relation affected by ice.

Cochiti east side main canal near Cochiti, N. Mex.

Location.--Lat 35°36'40", long 106°19'35", in SW¼SE¼ sec. 17, T. 16 N., R. 6 E., on right bank 285 ft downstream from roadway, 0.5 mile downstream from Cochiti east side acequia, 0.8 mile downstream from wasteway, 2.2 miles downstream from point of diversion from Rio Grande, and 1 mile east of Cochiti Pueblo, Sandoval County.
Records available.--April 1936 to May 1937, August 1954 to September 1955 (monthly discharge only). Published as "Cochiti main canal at Cochiti" 1936-37.
Gage.--Water-stage recorder. Datum of gage is 5,231.72 ft above mean sea level, datum of 1929. April 1936 to May 1937 at site half a mile upstream at datum 0.58 ft lower.
Extremes.--1936-37, 1954-55: Maximum daily discharge, 156 cfs July 27, 1936; no flow at times.
Remarks.--Records fair. Discharge measurements made four times a month during irrigation season. One small diversion for irrigation about 0.5 mile above gage.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	86	0	52.7	3,240
November	70	0	6.0	355
December	0	0	0	0
Calendar year 1954	-	-	-	-
January	0	0	0	0
February	0	0	0	0
March	76	33	66.7	4,100
April	84	0	69.3	4,120
May	92	0	68.7	4,220
June	97	0	73.7	4,380
July	96	0	52.0	3,200
August	108	0	54.5	3,350
September	110	0	49.3	2,930
Water year 1954-55	110	0	41.3	29,860

Sili main canal near Cochiti, N. Mex.

Location.--Lat 35°37'15", long 106°19'00", in SW¼NW¼ sec. 16, T. 16 N., R. 6 E., on right bank 90 ft downstream from wasteway, 0.2 mile upstream from highway, 0.9 miles downstream from heading at Cochiti diversion dam, and 1¾ miles northeast of Cochiti Pueblo, Sandoval County.
Records available.--May 1937 to November 1939, August 1954 to September 1955 (monthly discharge only). Published as "at head at Cochiti" 1937-39.
Gage.--Water-stage recorder. Datum of gage is 5,240.64 ft above mean sea level, datum of 1929. May 1937 to November 1939 at site 0.2 mile downstream at different datum.
Extremes.--1937-39, 1954-55: Maximum daily discharge, 93 cfs Aug. 13, 1937; no flow at times.
Remarks.--Records fair. Discharge measurements generally made four times a month. One small diversion just above station irrigates approximately 5 acres.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	49	0	26.2	1,610
November	38	0	3.3	198
December	0	0	0	0
Calendar year 1954	-	-	-	-
January	0	0	0	0
February	0	0	0	0
March	45	0	38.2	2,350
April	45	0	36.6	2,180
May	45	0	33.7	2,070
June	44	0	32.2	1,910
July	46	0	23.5	1,440
August	37	0	21.2	1,310
September	35	0	15.8	942
Water year 1954-55	49	0	19.4	14,010

Rio Grande at Cochiti, N. Mex.

Location.--Lat 35°37'10", long 106°19'20", in SE¼NE¼ sec. 17, T. 16 N., R. 6 E., on downstream end of concrete pier near left end of highway bridge, 1½ miles northeast of Cochiti, 3¾ miles north of Pena Blanca, and 8 miles upstream from Galisteo Creek.

Drainage area.--14,600 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--October 1930 to September 1955 in reports of Geological Survey. January 1925 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 5,224.70 ft above mean sea level, datum of 1929. Prior to July 16, 1925, staff gage at site 1 mile upstream at different datum. July 16, 1925, to Jan. 28, 1947, water-stage recorder at present site and datum. Jan. 28 to May 15, 1947, water-stage recorder at site 600 ft (revised) upstream at present datum.

Average discharge.--30 years, 1,419 cfs (1,027,000 acre-ft per year).

Extremes.--Maximum discharge during year, 4,150 cfs Aug. 21 (gage height, 5.76 ft); minimum daily, 138 cfs Sept. 22.
1930-55: Maximum discharge, 23,400 cfs May 15, 1941 (gage height, 10.93 ft); minimum daily, 1 cfs Aug. 10-12, 1934.

Remarks.--Records good except those for periods of ice effect, which are poor. Discharge measurements generally made four times a month. Diversions above station for irrigation of about 700,000 acres, of which about 6,000 acres are below station. Records for water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second) (Shifting-control method used Dec. 11 to Mar. 18, May 1 to 26, Sept. 11 to 17)

2.8	138	4.0	1,040
3.0	220	4.5	1,710
3.3	400	5.0	2,560
3.6	650	5.5	3,550

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	180	198	330	432	506	497	255	337	1,180	245	362	1,160
2	193	202	330	480	514	424	260	306	1,590	312	220	1,170
3	276	245	330	464	506	456	318	358	1,550	688	377	1,220
4	276	318	358	497	480	488	228	312	1,480	644	250	1,160
5	202	312	379	506	448	506	180	397	1,380	514	245	1,100
6	193	300	386	472	448	522	164	686	1,340	480	402	974
7	306	312	393	456	456	522	188	776	1,140	506	862	930
8	255	318	379	464	456	522	211	930	695	540	872	910
9	306	324	358	480	480	548	326	1,090	565	624	929	952
10	344	330	337	480	488	574	565	1,160	582	514	590	963
11	324	324	365	464	440	633	379	1,250	616	448	565	920
12	250	312	400	456	424	633	330	1,110	659	711	556	794
13	211	306	379	448	448	582	294	1,120	590	650	548	686
14	193	312	358	456	497	522	250	1,160	531	565	531	480
15	184	318	330	480	506	464	225	1,170	480	847	424	282
16	206	330	365	464	522	408	202	1,090	448	514	644	241
17	288	337	b350	506	514	400	193	1,050	432	308	424	270
18	306	318	b350	506	522	630	276	1,080	531	202	616	255
19	250	324	b380	448	548	668	294	1,480	522	193	724	216
20	184	330	b420	464	506	506	300	1,620	480	168	1,030	160
21	184	324	b450	488	480	432	282	1,800	448	164	1,900	149
22	184	324	b430	440	440	400	245	1,920	432	201	1,590	138
23	220	324	b440	408	488	344	342	2,040	416	330	850	162
24	294	318	b440	393	540	306	330	2,280	432	240	704	230
25	260	318	b450	456	514	276	235	2,750	480	188	659	250
26	175	330	440	497	480	270	225	2,750	400	309	616	245
27	175	324	432	506	548	260	211	2,660	330	324	1,610	184
28	171	324	b410	472	531	245	220	2,410	300	418	1,820	156
29	168	318	b330	464	-	332	225	2,160	294	522	1,490	156
30	175	330	b290	472	------	294	260	1,420	270	440	1,390	203
31	198	------	270	488	------	282	------	1,140	------	418	1,240	------
Total	7,131	9,304	11,659	14,507	13,730	13,946	8,013	41,812	20,593	13,227	25,040	16,716
Mean	230	310	376	468	490	450	267	1,349	686	427	807	557
Ac-ft	14,140	18,450	23,130	28,770	27,230	27,660	15,890	82,930	40,850	26,240	49,670	33,160

Calendar year 1954: Max 1,920 Min 47 Mean 524 Ac-ft 379,700
Water year 1954-55: Max 2,750 Min 138 Mean 536 Ac-ft 388,100

Peak discharge (base, 4,500 cfs).--No peak above base.
b Stage-discharge relation affected by ice.

Santa Fe River near Santa Fe, N. Mex.

Location.--Lat 35°41'10", long 105°50'35", in NE¼SE¼ sec. 23, T. 17 N., R. 10 E., on left bank 0.4 mile downstream from McClure Dam and 5½ miles east of Santa Fe.

Drainage area.--20 sq mi, approximately.

Records available.--April 1913 to December 1914 and October 1930 to September 1955 in reports of Geological Survey. January 1913 to December 1931 in reports of State engineer. Prior to October 1953, published as Santa Fe Creek near Santa Fe.

Gage.--Water-stage recorder and concrete control. Datum of gage is 7,718 ft above mean sea level, datum of 1929. Prior to Nov. 4, 1930, at site 1.5 miles (revised) downstream and Apr. 11, 1931, to September 1947 at site 0.3 mile upstream, each at different datum.

Average discharge.--40 years (1913-18, 1919-27, 1928-55), 8.48 cfs (6,140 acre-ft per year).

Extremes.--Maximum daily discharge during year, 16 cfs July 7-12; minimum daily, 0.4 cfs Jan. 31, Feb. 1-3.

1930-55: Maximum discharge, 418 cfs Apr. 23, 1942 (gage height, 3.51 ft, site and datum then in use), from rating curve extended above 150 cfs; minimum daily, 0.1 cfs Aug. 1-4, 1951.

A daily discharge of 655 cfs was published for Aug. 15, 1921 (revised), prior to regulation by McClure Reservoir.

Remarks.--Records good. Flow regulated by McClure Reservoir (see p.417), completed in 1926, raised in 1935 and again in 1947.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Stage-discharge relation affected by ice Feb. 5, 6, 11-13, 20, 22-24)

1.4	0.3	1.8	5.2
1.5	.8	2.0	12
1.6	1.7	2.2	21
1.7	3.1		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*1.6	0.9	0.9	1.1	0.4	0.7	0.5	0.5	0.7	4.4	10	5.2
2	1.6	.9	1.0	1.1	.4	.7	.5	.5	.7	8.7	6	5.2
3	1.6	.9	1.0	1.1	.4	.7	.5	.5	.7	8.7	4	5.2
4	1.6	.9	1.0	1.1	*.5	*.7	*.5	.5	.7	8.7	5	5.2
5	1.6	.9	1.0	1.1	.5	.7	.5	.5	.6	*8.7	5	5.2
6	1.7	.9	1.0	*1.1	.5	.7	.5	.5	*.7	13	5	5.2
7	1.7	.9	.9	1.1	.5	.6	.5	.5	.7	16	5	5.2
8	1.7	*.9	.9	1.1	.5	.6	.5	.5	.7	16	5	5.5
9	1.7	.9	.9	1.1	.5	.6	.5	*.5	.7	16	5	6.3
10	1.7	.9	*.9	1.1	.5	.6	.5	.5	.7	16	5	7.2
11	1.6	.9	.9	1.1	.5	.6	.5	.5	.7	16	5	7.2
12	1.6	.9	.9	1.1	.6	.6	.5	.5	.7	16	6.3	7.2
13	1.6	.9	.9	1.1	.6	.6	.5	.5	.7	14	6.3	7.2
14	1.5	.9	.9	1.1	.6	.6	.5	.5	.7	11	6.3	7.2
15	1.5	.9	.9	1.1	.6	.6	.5	.5	.7	11	7.4	6.6
16	1.5	.9	.9	1.1	.5	.5	.5	.5	.7	11	9.0	6.6
17	1.5	1.0	1.0	1.1	.5	.5	.5	.5	.7	11	10	6.6
18	1.5	1.0	1.0	1.1	.5	*.5	.5	.5	.7	10	10	6.6
19	1.5	1.0	1.0	1.1	.5	.5	*.5	.5	.7	10	10	6.6
20	*1.5	1.0	1.0	1.1	.5	.5	.5	.5	.7	10	10	6.6
21	1.4	1.0	1.0	.6	*.6	.5	.5	.5	.7	10	10	6.0
22	1.2	1.0	1.0	.6	.5	.5	.5	.5	.7	10	7.4	6.0
23	.9	1.0	1.0	.6	.5	.5	.5	.6	.7	10	5.2	6.0
24	.9	*1.0	.9	.6	.5	.5	.5	.6	.7	10	5.2	6.0
25	.9	1.0	.9	*.5	.6	.5	.5	.6	.7	10	5.2	6.0
26	.9	1.0	.9	.5	.6	.5	.5	.6	.7	10	5.2	*6.3
27	.9	1.0	.9	.5	.7	.5	.5	.6	.7	10	5.5	6.3
28	.9	.9	.9	.5	.6	.5	.5	.6	.7	10	5.5	6.3
29	.9	.9	.9	.5	-	.5	.6	.6	.7	10	5.2	6.3
30	.9	.9	1.0	.5	--	.5	.5	.6	.7	10	5.2	6.6
31	.9	------	1.1	.4	------	.5	------	.6	------	10	5.2	------
Total	42.5	28.1	29.4	27.8	14.7	17.6	15.1	16.3	20.9	346.2	200.1	185.6
Mean	1.37	0.94	0.95	0.90	0.52	0.57	0.50	0.53	0.70	11.2	6.45	6.19
Ac-ft	84	56	58	55	29	35	30	32	41	687	397	368

Calendar year 1954: Max 9.0 Min 0.5 Mean 3.11 Ac-ft 2,250
Water year 1954-55: Max 16 Min 0.4 Mean 2.59 Ac-ft 1,870

* Discharge measurement made on this day.

Note.--No gage-height record Jan. 6-24, July 25 to Aug. 11, discharge estimated on basis of 1 discharge measurement, recorded range in stage, and record of releases from McClure Reservoir.

Galisteo Creek at Domingo, N. Mex.

Location.--Lat 35°30'45", long 106°18'55", in SW¼ sec. 21, T. 15 N., R. 6 E., in Santo Domingo Pueblo Grant, at highway bridge 0.3 mile northeast of Domingo, 2¾ miles east of Santo Domingo Pueblo, and 4 miles upstream from mouth.

Drainage area.--640 sq mi, approximately.

Records available.--October 1941 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 5,255.5 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Average discharge.--14 years, 9.59 cfs (6,940 acre-ft per year).

Extremes.--Maximum discharge during year, 19,600 cfs Sept. 25 (gage height, 12.1 ft, from floodmark), from rating curve extended above 11,000 cfs on basis of slope-area determination of peak flow; no flow at times.
1941-55: Maximum discharge, that of Sept. 25, 1955; no flow at times.

Remarks.--Records poor. Discharge measurements generally made four times a month. Diversions for irrigation of about 50 acres above station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Revisions (water years).--WSP 1148: 1942, 1943(M), 1944, 1945(M), 1946-47.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.8		0				0	1		0	11	a0
2	.6		0				0	.5		0	1	a0
3	.3		0				0	.3		0	.1	a0
4	.2		0				0	.2		0	28	a0
5	550		0				0	.1		0	96	a0
6	340		0				0	.1		0	14	a0
7	74		0				0	.1		2	220	a0
8	25		0				0	.1		0	36	a0
9	a5		0				0	.1		0	2	a0
10	a1		0				0	0		0	.8	a0
11	a.1		0				0	0		96	380	a0
12	0		0				0	0		440	216	a0
13	0		0				0	0		102	170	a0
14	0		0				0	0		a10	a10	a0
15	0		0				0	0		3	a5	0
16	0		0				0	0		1	a1	0
17	0		0				0	0		.5	a.5	0
18	0		.3				0	0		71	21	0
19	0		.1				0	0		128	133	0
20	0		.1				0	0		a10	62	0
21	0		0				0	0		a4	82	0
22	0		0				0	0		14	170	0
23	0		0				0	.2		.8	a30	0
24	0		0				0	0		26	150	53
25	0		0				0	0		88	45	4,100
26	0		0				0	0		390	2	116
27	0		0				0	0		400	510	25
28	0		0				0	0		120	a10	a5
29	0		a0		-		16	0		300	a2	a2
30	0		a0		------		21	0		116	a1	a1
31	0	------	a0		------		------	0	------	a5	a0	------
Total	997.0	0	0.5	0	0	0	37	2.7	0	2,327.3	2,409.4	4,302
Mean	32.2	0	0.02	0	0	0	1.23	0.09	0	75.1	77.7	143
Ac-ft	1,980	0	1.0	0	0	0	73	5.4	0	4,620	4,780	8,530

Calendar year 1954: Max 860 Min 0 Mean 12.9 Ac-ft 9,330
Water year 1954-55: Max 4,100 Min 0 Mean 27.6 Ac-ft 19,990

Peak discharge (base, 3,000 cfs).--Oct. 5 (9 p.m.) 11,000 cfs (8.9 ft); July 12 (8:30 p.m.) 4,430 cfs (5.30 ft); July 29 (7:30 p.m.) 4,770 cfs (5.90 ft); Aug. 27 (4 p.m.) 8,130 cfs (7.70 ft); Sept. 25 (2 a.m.) 19,600 cfs (12.1 ft).

a No gage-height record; discharge estimated.

Rio Grande at San Felipe, N. Mex.

Location.--Lat 35°26'30", long 106°26'30", in NW¼SW¼ sec. 17, T. 14 N., R. 5 E., on downstream end of bridge pier near left bank, 2,000 ft downstream from Tonque Arroyo, half a mile upstream from San Felipe Pueblo, and 11 miles (revised) northeast of Bernalillo.

Drainage area.--16,100 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--October 1930 to September 1955 in reports of Geological Survey. January 1926 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 5,110.38 ft above mean sea level, datum of 1929. May 16, 1945, to Sept. 30, 1946, at datum 0.59 ft lower.

Average discharge.--29 years, 1,499 cfs (1,085,000 acre-ft per year).

Extremes.--Maximum discharge during year, 17,400 cfs Sept. 25 (gage height, 8.76 ft); minimum daily, 190 cfs Sept. 23.
1930-55: Maximum discharge, 27,300 cfs (revised) June 26, 1937 (gage height, 11.13 ft), from rating curve extended above 15,000 cfs by logarithmic plotting; minimum daily, 34 cfs July 7, 1934.

Remarks.--Records fair except those for periods of ice effect or no gage-height record, which are poor. Discharge measurements generally made four times a month. Diversions for irrigation of about 705,000 acres above station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	272	250	335	b400	515	500	330	385	a1,150	278	a500	1,240
2	265	a260	332	a450	520	490	312	400	1,600	302	305	1,220
3	292	a280	332	a470	520	485	318	430	1,600	480	343	1,220
4	292	322	340	a470	495	500	288	427	1,520	810	308	1,190
5	484	310	365	500	470	495	262	406	1,460	550	350	1,170
6	644	305	385	490	446	550	270	654	1,400	520	380	1,080
7	390	310	395	470	450	592	308	710	a1,200	520	630	980
8	340	315	412	475	454	604	325	890	890	515	1,070	960
9	358	318	395	495	470	622	362	1,090	726	610	930	940
10	360	322	370	490	500	647	528	1,190	675	538	a700	950
11	352	320	375	470	485	689	470	1,340	696	540	2,320	900
12	332	318	400	466	470	682	421	1,100	718	830	1,360	844
13	305	315	390	458	475	640	395	1,160	654	870	a600	742
14	300	312	375	458	510	604	368	1,170	610	640	a560	580
15	295	320	360	470	520	538	316	1,210	544	750	a500	418
16	290	328	370	462	520	490	246	1,160	510	538	a620	335
17	305	335	372	485	515	458	244	1,130	470	403	a560	285
18	302	325	365	495	526	535	311	1,130	550	365	799	260
19	300	320	385	466	550	710	375	1,470	568	416	970	255
20	275	332	415	470	510	568	365	1,650	538	350	1,590	a250
21	278	328	442	495	490	515	355	1,810	520	312	2,320	a220
22	275	325	434	470	458	470	328	1,940	490	358	1,650	a200
23	275	322	430	430	462	430	335	2,100	470	388	920	a190
24	300	330	438	421	520	400	348	2,150	462	377	790	1,380
25	298	338	446	438	526	370	315	2,890	500	365	766	8,680
26	244	338	438	454	500	355	310	2,720	470	580	718	375
27	242	338	446	470	544	350	300	2,750	385	460	2,400	a250
28	242	330	424	475	532	335	305	2,500	340	a400	2,120	a230
29	242	330	406	490	-	348	312	2,200	320	590	1,490	a220
30	244	342	362	480	------	382	350	a1,600	310	a500	1,440	a230
31	258	------	b300	510	------	350	------	a1,200	------	a450	1,320	------
Total	9,651	9,538	12,034	14,543	13,953	15,704	10,072	42,962	22,346	15,605	31,329	27,794
Mean	311	318	388	469	498	507	336	1,386	745	503	1,010	926
Ac-ft	19,140	18,920	23,870	28,850	27,680	31,150	19,980	85,210	44,320	30,950	62,140	55,130

Calendar year 1954: Max 2,020 Min 105 Mean 572 Ac-ft 413,880
Water year 1954-55: Max 8,680 Min 190 Mean 618 Ac-ft 447,340

Peak discharge (base, (5,000 cfs).--July 12 (11:10 p.m.) 5,660 cfs (5.19 ft); Aug. 11 (4:50 a.m.) 10,600 cfs (6.70 ft); Aug. 21 (10:30 a.m.) 5,350 cfs (5.30 ft); Aug. 27 (2 p.m.) 9,160 cfs (6.33 ft); Sept. 25 (6 a.m.) 17,400 cfs (8.76 ft).

a No gage-height record; discharge estimated on basis of other main-stem records.
b Stage-discharge relation affected by ice.

Jemez River below East Fork, near Jemez Springs, N. Mex.

Location.--Lat 35°49'39", long 106°38'51", in NW¼ sec. 5, T. 18 N., R. 3 E., on left bank 0.6 mile downstream from East Fork and boundary of Santa Fe National Forest and 5.3 miles northeast of Jemez Springs.

Drainage area.--194 sq mi.

Records available.--May 1951 to September 1955 (irrigation season only).

Gage.--Water-stage recorder. Datum of gage is 6,702.7 ft above mean sea level (from plane-table survey).

Extremes.--Maximum discharge during season, 502 cfs Aug. 19 (gage height, 3.61 ft), from rating curve extended above 100 cfs by logarithmic plotting; minimum daily, 8.6 cfs July 9.
1951-55: Maximum discharge determined, that of Aug. 19, 1955; minimum daily determined, 8.0 cfs July 11, 12, 1951.

Remarks.--Records good except those above 100 cfs, which are fair. Discharge measurements generally made twice a month. No known diversion above station.

Revisions.--WSP 1242: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13							-	10	9.3	14	20
2	13							-	10	9.3	14	19
3	13							-	10	9.3	20	18
4	15							-	10	9.3	21	17
5	17							-	10	9.6	27	16
6	16							-	9.9	9.3	26	16
7	15							-	9.9	9.6	30	16
8	-							-	9.6	9.0	30	17
9	-							-	9.6	8.6	33	16
10	-							-	9.6	8.8	18	15
11	-							-	9.6	9.0	36	15
12	-							-	9.6	17	28	14
13	-							-	9.9	27	20	13
14	-							-	10	15	18	13
15	-							-	9.6	12	24	13
16	-							-	9.3	13	32	12
17	-							-	9.0	14	53	13
18	-							-	9.0	12	20	13
19	-							-	8.8	12	89	13
20	-							-	9.0	12	114	13
21	-							-	9.3	14	125	13
22	-							-	9.3	14	155	12
23	-							-	9.3	13	65	12
24	-							-	9.3	15	53	12
25	-							-	9.0	20	58	17
26	-							11	9.0	28	29	15
27	-							11	9.0	32	46	13
28	-							10	9.3	20	73	12
29	-				-			10	9.3	21	32	12
30	-				------			10	9.3	21	25	12
31	-	------			------		------	10	------	21	21	------
Total	-	-	-	-	-	-	-	-	284.5	454.1	1,349	432
Mean	-	-	-	-	-	-	-	-	9.48	14.6	43.5	14.4
Ac-ft	-	-	-	-	-	-	-	-	564	901	2,680	857

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

Rio Guadalupe at Box Canyon, near Jemez, N. Mex.

Location.--Lat 35°43'55", long 106°45'45", in E½ sec. 6, T. 17 N., R. 2 E. (projected), in Canyon 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.--226 sq mi.

Records available.--May 1951 to September 1955 (irrigation season only).

Gage.--Water-stage recorder. Datum of gage is 6,015.5 ft above mean sea level, datum of 1929 (planetable survey).

Extremes.--Maximum discharge during season, 256 cfs Aug. 15 (gage height, 4.51 ft); minimum daily, 3.5 cfs July 2, 3.
1951-55: Maximum discharge determined, that of Aug. 15, 1955; minimum daily determined, 3.1 cfs Aug. 20, 1951.

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

Revisions.--WSP 1282: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.9	2.9	2.5	20
2.0	4.3	2.7	34
2.1	6.0	3.1	72
2.3	11.0		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.0							-	12	3.6	20	21
2	6.0							-	11	3.5	13	14
3	10							-	11	3.5	18	12
4	6.2							-	11	3.6	29	11
5	7.8							-	11	5.2	22	10
6	8.3							-	10	4.3	48	10
7	8.1							-	9.9	4.2	70	10
8	-							-	9.1	3.9	64	11
9	-							-	8.3	3.6	48	10
10	-							-	7.6	4.2	34	9.6
11	-							-	7.4	3.9	55	9.1
12	-							-	7.4	5.5	51	9.1
13	-							-	7.4	7.4	47	9.9
14	-							-	7.4	7.2	45	8.6
15	-							-	7.4	7.4	48	7.8
16	-							-	7.2	6.7	35	7.8
17	-							-	6.7	6.9	36	8.3
18	-							-	6.0	7.8	31	8.8
19	-							-	5.5	7.6	21	8.6
20	-							-	5.2	8.1	67	8.6
21	-							-	5.2	6.7	66	8.1
22	-							-	5.0	12	52	7.6
23	-							-	4.8	10	40	7.4
24	-							-	4.8	6.9	31	9.4
25	-							-	4.3	17	35	11
26	-							25	4.0	24	26	8.8
27	-							23	3.9	18	45	7.8
28	-							17	3.9	30	47	7.6
29	-				—			13	3.7	19	46	7.2
30	-							12	3.6	21	36	6.7
31	-							12		32	27	
Total	-	-	-	-	-	-	-	-	211.7	304.7	1,253	286.8
Mean	-	-	-	-	-	-	-	-	7.06	9.83	40.4	9.56
Ac-ft	-	-	-	-	-	-	-	-	420	604	2,490	569

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

Jemez River near Jemez, N. Mex.

Location.--Lat 35°39'45", long 106°44'30", in NW¼ sec. 33, T. 17 N., R. 2 E. (projected), in Canyon de San Diego Grant, on left bank 0.7 mile downstream from Rio Guadalupe and 3½ miles north of Jemez, Sandoval County.

Drainage area.--492 sq mi.

Records available.--June 1936 to May 1941, August 1949 to October 1950, May to September 1951, May to September 1952, March 1953 to October 1954, June to September 1955.

Gage.--Water-stage recorder. Datum of gage is 5,622.3 ft above mean sea level, datum of 1929. June 1936 to March 1937, at site 60 ft upstream at datum 0.70 ft higher. March 1937 to July 1938, at present site at datum 0.90 ft higher.

Average discharge.--6 years (1936-40, 1949-50, 1953-54), 63.9 cfs (46,260 acre-ft per year).

Extremes.--Maximum discharge during season, 2,780 cfs Aug. 19 (gage height, 7.7 ft); minimum daily, 9.4 cfs July 9, 10.
1936-41, 1949-55: Maximum discharge recorded, 3,590 cfs May 6, 1941 (gage height, 8.60 ft, present datum); minimum daily recorded, 5.8 cfs July 11, 12, 1951.

Remarks.--Records fair. Discharge measurements generally made twice a month. Diversions for irrigation of about 300 acres above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22								16	10	42	47
2	22								15	10	31	38
3	44								15	11	41	33
4	78								14	15	77	29
5	31								13	11	54	27
6	26								12	10	115	26
7	26								11	10	116	25
8	-								11	9.8	157	28
9	-								12	9.4	101	28
10	-								12	9.4	62	26
11	-								12	11	140	23
12	-								14	9.8	140	23
13	-								13	37	74	24
14	-								12	20	66	21
15	-								12	61	98	18
16	-								12	20	70	17
17	-								12	21	92	18
18	-								11	20	62	20
19	-								11	18	185	31
20	-								11	20	245	21
21	-								12	21	174	19
22	-								12	24	208	17
23	-								12	23	118	16
24	-								10	20	94	17
25	-								11	36	96	31
26	-								10	42	62	29
27	-								10	64	78	21
28	-								10	59	123	19
29	-								10	78	81	18
30	-								10	59	69	18
31	-									61	53	
Total	-	-	-	-	-	-	-	-	358	830.4	3,124	728
Mean	-	-	-	-	-	-	-	-	11.9	26.8	101	24.3
Ac-ft	-	-	-	-	-	-	-	-	710	1,650	6,200	1,440

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

Jemez River above Jemez Canyon Dam, N. Mex.

Location.--Lat 35°25'30", long 106°37'00", in SW¼ sec. 22, T. 14 N., R. 3 E., on left bank 1,000 ft below bridge at Santa Anna Pueblo, 1 mile north of State Highway 44, 4½ miles upstream from Jemez Canyon Dam, and 10 miles northwest of Bernalillo, Sandoval County. Prior to Oct. 14, 1954, at site 1,000 ft upstream.

Drainage area.--961 sq mi.

Records available.--October 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 5,223.04 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark). Prior to Oct. 14, 1954, at site 1,000 ft upstream at datum 1.50 ft higher.

Extremes.--Maximum discharge during year, 9,800 cfs July 26 (gage height, 3.1 ft); no flow at times.
1953-55: Maximum discharge, 11,000 cfs Sept. 26, 1954 (gage height, 5.30 ft site and datum then in use), from rating curve extended above 2,400 cfs by logarithmic plotting; no flow at times.

Remarks.--Records poor. Discharge measurements generally made eight times a month. Diversions for irrigation of about 3,000 acres above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	5	23	5	27	34	18	31		0	18	14
2	12	5	19	20	22	22	15	24		0	21	13
3	8	8	29	50	15	24	8	37		0	10	5
4	138	6	24	45	10	27	10	31		0	4	.2
5	120	6	27	20	5	25	16	29		0	96	0
6	20	5	23	10	10	27	13	34		0	208	0
7	15	6	20	40	45	23	15	31		0	186	0
8	280	6	25	35	30	29	22	57		0	250	0
9	282	13	9	30	20	27	15	93		0	220	0
10	86	20	18	25	8	43	23	65		0	93	0
11	20	19	31	25	10	57	27	57		120	610	0
12	10	27	29	20	25	40	14	110		534	50	0
13	5	22	22	30	22	46	9	61		40	63	0
14	1	19	16	25	25	61	5	46		19	34	0
15	3	18	27	21	22	70	4	29		5	25	0
16	10	20	15	30	19	120	5	46		4	61	0
17	8	18	6	15	18	75	40	40		42	46	.8
18	8	19	2	5	19	70	32	37		8	57	0
19	7	18	6	20	5	25	24	40		4	60	0
20	5	15	16	27	3	24	29	43		16	114	0
21	1	19	22	5	5	30	24	31		6	500	0
22	.4	25	14	3	25	25	29	27		204	170	0
23	.9	19	8	2	30	20	31	15		150	80	0
24	2	15	19	8	22	18	34	18		20	57	0
25	2	22	25	40	18	5	27	15		10	40	6
26	.4	27	19	35	25	8	16	14		150	53	11
27	0	24	10	35	20	40	43	6		720	160	2
28	0	22	3	30	25	37	43	.2		215	160	0
29	.4	23	1	30	-	29	25	0		46	130	0
30	3	20	1	20	------	19	40	0		440	195	0
31	5	------	2	37	------	10	------	0	------	127	57	------
Total	1,061.1	491	511	743	530	1,110	656	1,067.2	0	2,880	3,828	52.0
Mean	34.2	16.4	16.5	24.0	18.9	35.8	21.9	34.4	0	92.9	123	1.73
Ac-ft	2,100	974	1,010	1,470	1,050	2,200	1,300	2,120	0	5,710	7,590	103

Calendar year 1954: Max 950 Min 0 Mean 36.7 Ac-ft 26,550
Water year 1954-55: Max 720 Min 0 Mean 35.4 Ac-ft 25,630

Peak discharge (base, 2,000 cfs).--Oct. 8 (6 p.m.) 6,100 cfs (4.20 ft); Oct. 9 (5 p.m.) 2,200 cfs (3.75 ft); July 12 (1 a.m.) 5,100 cfs (2.80 ft); July 26 (11:40 p.m.) 9,800 cfs (3.1 ft); July 30 (1:20 a.m.) 5,800 cfs (2.85 ft); July 31 (7 a.m.) 2,500 cfs (2.57 ft); Aug. 6 (12:30 a.m.) 2,180 cfs (2.45 ft); Aug. 11 (4:40 a.m.) 3,900 cfs (2.60 ft); Aug. 21 (1 a.m.) 4,500 cfs (2.75 ft).
Note.--No gage-height record Oct. 3, 6, 7, 11-13, Nov. 16, 17, July 15, 18, 19, 24, 25, Sept. 18; discharge estimated on basis of records for nearby stations. Stage-discharge affected by ice Dec. 17-20, 23, 25, Dec. 27 to Jan. 30, Feb. 3-14, 19-25, Mar. 21, 26, 27.

Jemez River below Jemez Canyon Dam, N. Mex.

Location.--Lat 35°23'10", long 106°31'45", in NE¼ sec. 5, T. 13 N., R. 4 E., on right bank three-quarters of a mile downstream from Jemez Canyon Dam, 1½ miles upstream from mouth, and 6 miles north of Bernalillo.

Drainage area.--1,040 sq mi, approximately.

Records available.--March 1936 to January 1938, March 1943 to September 1955. Prior to October 1953, published as "near Bernalillo."

Gage.--Water-stage recorder. Datum of gage is 5,100.00 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark). Prior to Apr. 24, 1951, at site three-quarters of a mile upstream at datum 20.11 ft higher. Supplementary water-stage recorder at gates of Jemez Canyon Dam at datum 5,125.00 ft above mean sea level, datum of 1929 (Corps of Engineers benchmark) used at times since January 1953.

Average discharge.--13 years (1936-37, 1943-55), 46.1 cfs (33,380 acre-ft per year).

Extremes.--Maximum discharge during year, 1,020 cfs July 29; maximum gage height, 9.70 ft July 22; no flow at times.
1936-38, 1943-55: Maximum discharge, 15,300 cfs Oct. 18, 1944, from rating curve extended above 3,000 cfs by logarithmic plotting; maximum gage height, 5.62 ft Aug. 29, 1943, site and datum then in use; no flow at times.

Remarks.--Records fair prior to Mar. 14, poor thereafter. Discharge measurements generally made eight times a month. Subsequent to October 1953, flow of this station can be completely regulated by Jemez Canyon Reservoir (see p. 417). However, reservoir is designed essentially for desilting and flood control rather than storage. Diversions for irrigation of about 3,000 acres above station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Revisions (water years).--WSP 1178: 1949. WSP 1212: 1950.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	0	16	0.1	27	12	10	22		0	125	12
2	3.6	0	13	15	23	15	14	22		0	27	8
3	a2	1.0	14	32	21	17	4	22		0	31	3
4	128	.5	14	45	13	18	11	22		0	3	.4
5	149	.7	16	32	b6	21	8	14		0	50	0
6	a15	.1	16	a9	b4	21	9	12		0	164	0
7	a10	.2	15	16	19	17	10	15		0	155	.4
8	186	0	14	46	44	18	16	12		0	165	.2
9	270	5.0	6.8	31	29	21	12	22		0	173	0
10	107	14	17	26	9.0	21	14	26		0	111	0
11	15	14	25	23	6.5	30	14	72		4	176	0
12	11	15	19	24	23	34	8	108		155	360	0
13	12	15	12	21	24	25	5	102		108	182	0
14	a3	15	14	30	19	35	2	91		44	48	0
15	.5	15	15	25	23	29	1	45		3	28	0
16	8.1	17	15	23	20	53	0	29		20	43	0
17	8.1	14	a5	29	16	45	10	32		18	36	0
18	6.0	12	a0	2.5	19	58	42	35		38	39	0
19	a3	16	7.2	8.3	5	53	15	32		10	40	0
20	1.8	15	23	34	3.0	29	12	32		32	50	0
21	.9	15	22	6.0	1.5	26	16	29		a2	67	0
22	a0	17	18	.1	2.5	10	22	16		16	250	0
23	a0	15	14	.6	34	7	22	9		158	418	0
24	a0	a14	19	2.2	27	5	26	10		113	164	0
25	a0	a15	17	15	16	2	32	12		4	49	0
26	0	17	20	40	25	0	19	5		3	60	0
27	0	14	14	33	21	32	14	1		2	48	0
28	0	13	b1	34	14	32	13	0		0	a5	0
29	0	14	a0	30	-	16	19	0		235	306	0
30	0	9.8	0	25	------	13	16	0		310	88	0
31	0	------	a0	31	------	.8	------	0	------	340	a30	------
Total	944.0	313.3	402.0	688.8	494.5	715.8	416	849	0	1,615	3,491	24.0
Mean	30.5	10.4	13.0	22.2	17.7	23.1	13.9	27.4	0	52.1	113	0.80
Ac-ft	1,870	621	797	1,370	981	1,420	825	1,680	0	3,200	6,920	47.6

Calendar year 1954: Max 1,110 Min 0 Mean 30.7 Ac-ft 22,150
Water year 1954-55: Max 418 Min 0 Mean 27.3 Ac-ft 19,730

a No gage-height record; discharge estimated on basis of records for nearby stations.
b Stage-discharge relation affected by ice.

Rio Grande near Bernalillo, N. Mex.

Location.--Lat 35°17'05", long 106°35'45", in Alameda Grant, on right bank 2 miles northwest of Sandia Pueblo, 3 miles southwest of Bernalillo, 3.5 miles downstream from State Highway 44, and 8.5 miles downstream from Jemez River.

Drainage area.--17,300 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--May 1941 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 5,030.57 ft above mean sea level, datum of 1929, adjustment of 1951. Supplementary water-stage recorder at site 1,900 ft downstream at same datum.

Average discharge.--14 years, 1,166 cfs (844,150 acre-ft per year).

Extremes.--Maximum discharge during year, 13,300 cfs Sept. 25 (gage height, 5.35 ft); minimum daily, 20 cfs Apr. 29.
1941-55: Maximum discharge, 25,400 cfs May 16, 1941; maximum gage height, 6.83 ft Sept. 20, 1941; minimum daily discharge, 1 cfs Sept. 25, 1953.

Remarks.--Records fair. Discharge measurements generally made once a week. Diversions for irrigation of about 710,000 acres above station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	42	25	320	b250	486	360	83	325	840	29	880	932
2	33	34	325	b450	498	345	86	360	1,150	24	534	880
3	194	49	325	b650	498	340	302	355	1,210	247	536	984
4	324	100	320	b600	498	395	219	144	1,150	686	325	1,100
5	184	170	350	b500	474	432	83	117	1,420	450	287	1,060
6	510	275	380	480	438	510	51	323	1,030	207	440	761
7	162	298	380	468	480	415	56	570	960	195	660	752
8	112	298	390	474	492	360	96	840	680	181	1,150	770
9	324	284	370	480	510	345	68	952	370	247	960	770
10	380	293	360	480	498	410	400	1,000	311	504	765	836
11	325	306	360	480	474	438	370	1,050	340	456	1,840	880
12	215	302	380	474	420	426	247	1,100	660	690	1,200	847
13	150	293	370	462	405	570	181	1,080	325	1,060	760	a600
14	134	302	360	462	444	370	128	1,000	325	375	a500	a350
15	123	316	365	462	480	243	80	1,130	267	400	a400	a200
16	99	320	370	468	492	223	57	1,080	235	440	a400	109
17	263	320	365	498	498	231	227	920	195	340	a350	89
18	267	320	365	504	498	207	73	912	239	263	a200	83
19	70	320	360	480	510	474	88	1,150	480	320	540	74
20	43	325	380	462	444	540	74	1,270	462	96	1,030	56
21	51	320	410	492	420	327	87	1,460	438	53	1,690	52
22	42	306	415	492	405	211	67	1,680	178	30	1,880	42
23	51	316	420	432	380	125	56	1,760	167	400	1,510	48
24	235	311	432	b350	468	94	320	1,820	174	480	1,180	54
25	235	311	444	b550	510	78	288	2,350	211	370	a700	6,820
26	46	a320	450	b500	480	76	72	2,580	456	390	530	467
27	33	a320	450	b470	474	275	37	2,500	385	710	1,850	280
28	29	a320	438	444	486	106	24	2,300	350	590	1,860	123
29	22	a320	b370	462	-	90	20	2,200	42	600	1,640	102
30	28	311	b250	468	-	117	42	1,340	38	1,080	1,410	96
31	31		b200	474	----	123	------	920	------	800	1,100	------
Total	4,757	8,105	11,474	14,718	13,160	9,256	3,982	36,588	15,088	12,713	29,107	20,217
Mean	153	270	370	475	470	299	133	1,180	503	410	939	674
Ac-ft	9,440	16,080	22,760	29,190	26,100	18,360	7,900	72,570	29,930	25,220	57,730	40,100

Calendar year 1954: Max 1,920 Min 2 Mean 444 Ac-ft 321,600
Water year 1954-55: Max 6,820 Min 20 Mean 491 Ac-ft 355,400

Peak discharge (base, 5,000 cfs).--Aug. 11 (8:30 a.m.) 8,200 cfs (3.85 ft); Aug. 27 (9:30 p.m.) 7,900 cfs (4.75 ft); Sept. 25 (11 a.m.) 13,300 cfs (5.35 ft).
a No gage-height record; discharge estimated on basis of other main-stem records.
b Stage-discharge relation affected by ice.

Rio Grande at Albuquerque, N. Mex.

Location.--Lat 35°05'20", long 106°40'45", in SE¼ sec. 13, T. 10 N., R. 2 E. (projected), at downstream side of bridge on U. S. Highway 66, at Albuquerque.

Drainage area.--17,440 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--January 1942 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,946.16 ft above mean sea level, datum of 1951. Prior to Sept. 18, 1947, at datum about 2.00 ft higher.

Average discharge.--13 years, 955 cfs (691,400 acre-ft per year).

Extremes.--Maximum discharge during year, 7,960 cfs Sept. 25 (gage height, 6.84 ft); minimum daily, 1 cfs Oct. 1-2.
1942-55: Maximum discharge, 25,000 cfs Apr. 24, 1942, from rating curve extended above 13,900 cfs by logarithmic plotting; maximum gage height, 7.0 ft July 18, 1953; minimum daily discharge, 0.3 cfs Sept. 1, 1954.

Remarks.--Records fair. Discharge measurements made 8 to 10 times a month. Diversions above station for irrigation of about 718,000 acres, several hundred of which are below station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1	4	278	251	441	378	49	82	544	43	820	904
2	1	20	240	378	448	372	49	258	672	38	510	865
3	24	19	278	600	455	320	134	265	917	42	400	945
4	136	16	278	670	455	345	129	130	930	126	270	1,080
5	180	42	283	517	427	390	55	56	1,080	390	120	930
6	595	99	320	508	390	483	28	33	776	178	206	776
7	88	170	340	455	378	420	25	108	716	70	500	660
8	110	108	340	434	434	355	20	406	490	97	1,020	680
9	286	116	350	427	455	265	18	553	278	102	780	670
10	300	143	340	441	490	265	30	740	170	112	580	630
11	140	116	330	462	469	355	170	930	138	145	1,560	434
12	162	110	335	455	469	355	200	1,000	307	400	870	490
13	116	110	345	455	462	490	124	945	291	1,070	810	320
14	10	194	350	434	462	350	55	839	179	146	400	200
15	7	248	350	441	490	230	25	1,160	134	102	251	116
16	6	248	360	462	508	188	24	990	87	326	300	70
17	41	248	360	469	517	150	21	813	78	230	310	60
18	104	262	360	448	508	131	34	740	76	155	124	57
19	94	254	350	448	499	203	19	700	121	288	418	56
20	52	254	372	420	544	580	30	960	220	246	790	50
21	2	258	390	390	455	535	21	1,080	366	102	1,670	45
22	2	251	402	384	448	320	27	1,390	216	70	1,630	42
23	2	254	390	320	414	145	21	1,550	57	216	1,410	37
24	16	251	402	301	544	60	65	1,850	52	360	1,000	38
25	60	248	408	396	562	42	106	2,390	50	234	455	4,790
26	26	258	402	476	508	32	37	2,330	55	194	462	588
27	2	265	402	508	490	95	32	2,120	73	760	940	200
28	2	265	372	476	508	93	34	2,060	168	490	2,470	120
29	2	270	237	448	-	46	30	2,240	128	420	1,430	80
30	2	270	209	427	------	42	28	1,520	56	1,120	1,350	64
31	3	------	170	434	------	135	------	813	------	680	865	------
Total	2,572	5,371	10,343	13,735	13,230	8,170	1,640	31,051	9,425	8,952	24,721	15,997
Mean	83.0	179	334	443	472	264	54.7	1,000	314	289	797	533
Ac-ft	5,100	10,650	20,520	27,240	26,240	16,200	3,250	61,590	18,690	17,760	49,030	31,730

Calendar year 1954: Max 2,260 Min 0.3 Mean 364 Ac-ft 263,400
Water year 1954-55: Max 4,790 Min 1 Mean 398 Ac-ft 288,000

Peak discharge (base, 4,000 cfs).--July 13 (7:30 a.m.) 4,280 cfs (5.86 ft); Aug. 11 (11:40 a.m.) 6,520 cfs (6.45 ft); Aug. 28 (2 a.m.) 5,790 cfs (6.34 ft); Sept. 25 (4 p.m.) 7,960 cfs (6.84 ft).

Rio Grande near Belen, N. Mex.

Location.--Lat 34°39'10", long 106°44'10", in Tome Claim, on left bank 300 ft downstream from bridge on State Highway 6 and 2 miles east of Belen.

Drainage area.--18,230 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--January 1942 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,797.32 ft above mean sea level, datum of 1929. Prior to Apr. 9, 1953, at bridge 300 ft upstream at same datum.

Average discharge.--13 years, 853 cfs (617,500 acre-ft per year).

Extremes.--Maximum discharge during year, 6,030 cfs Sept. 26 (gage height, 3.88 ft); minimum daily, 34 cfs Oct. 31, Nov. 1-3.
1942-55: Maximum discharge, 23,100 cfs Apr. 24, 1942 (gage height, 5.05 ft), from rating curve extended above 12,500 cfs by logarithmic plotting; minimum daily, 15 cfs Oct. 21, 1951.

Remarks.--Records fair. Discharge measurements generally made four times a month. Diversions for irrigation of about 725,000 acres above station. Station is by-passed by 1 canal, 3 ditches, and 1 riverside drain. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	77	34	250	275	462	492	128	43	540	41	310	650
2	82	34	255	295	462	450	71	43	400	43	400	498
3	80	34	234	370	462	350	75	39	640	43	210	570
4	87	36	265	564	450	275	89	43	745	43	140	640
5	112	39	270	605	456	234	84	45	766	43	97	675
6	163	45	275	540	440	250	66	41	796	41	84	619
7	273	84	275	534	410	315	75	41	546	43	242	570
8	100	75	290	510	415	275	80	43	395	41	430	425
9	175	71	300	510	456	192	62	45	300	36	494	480
10	328	71	310	516	456	150	87	66	128	37	500	486
11	251	92	330	522	480	158	69	102	80	41	620	420
12	131	102	320	528	474	172	84	175	70	37	975	285
13	134	77	320	522	474	131	137	314	87	59	667	300
14	92	80	350	522	474	172	80	415	89	100	672	192
15	75	122	365	492	468	208	60	450	80	45	300	150
16	71	150	360	498	462	137	64	626	77	45	200	110
17	71	154	335	498	474	144	64	480	77	56	147	97
18	75	172	350	498	486	94	62	400	73	56	144	89
19	92	189	380	504	480	119	54	430	73	54	107	87
20	87	178	375	498	498	97	54	450	73	64	410	82
21	60	186	380	492	558	325	56	647	69	82	1,000	77
22	45	196	385	468	480	290	54	1,000	66	77	1,700	73
23	40	203	400	440	456	189	71	1,420	64	116	1,360	82
24	38	206	400	375	390	140	56	1,390	62	147	980	73
25	37	210	395	325	522	119	54	1,470	60	125	550	1,230
26	39	210	400	365	510	100	52	1,860	58	110	330	2,570
27	37	214	415	415	492	97	52	1,470	56	322	295	303
28	36	230	430	468	474	107	49	1,550	52	560	1,220	186
29	36	238	420	486	-	87	45	2,000	49	350	1,180	175
30	36	250	360	480	-	100	45	1,880	47	690	1,210	164
31	34		320	468	- - -	102	- - - - - -	1,080	- - - - - -	474	950	- - - - - -
Total	2,994	3,982	10,514	14,583	13,121	6,071	2,079	20,058	6,618	4,021	17,924	12,358
Mean	96.6	133	339	470	469	196	69.3	647	221	130	578	412
Ac-ft	5,940	7,900	20,850	28,930	26,030	12,040	4,120	39,780	13,130	7,980	35,550	24,510

Calendar year 1954: Max 1,770 Min 32 Mean 290 Ac-ft 210,310
Water year 1954-55: Max 2,570 Min 34 Mean 313 Ac-ft 226,800

Peak discharge (base, 4,000 cfs).--Sept. 26 (5 a.m.) 6,030 cfs (3.88 ft).

Rio Grande near Bernardo, N. Mex.

Location.--Lat 34°25'00", long 106°48'06", in NE¼ sec. 11, T. 2 N., R. 1 E., at bridge on U. S. Highway 60, 2 miles east of Bernardo and 3½ miles upstream from Rio Puerco. Gage is on a conveyance channel, 5 miles downstream from heading, formerly San Francisco riverside drain.

Drainage area.--19,230 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--June 1936 to January 1939, October 1941 to September 1955. Prior to October 1951, flow of Bernardo interior drain was included only when it carried river overflow; since that date entire flow is included.

Gage.--Water-stage recorder. Datum of conveyance channel gage is 4,719.23 ft above mean sea level, adjustment of 1951. Prior to October 1952, main gage was on river channel (now floodway, and being operated as a supplementary recording) at datum 4,722.55 ft above mean sea level, adjustment of 1951. Datum of Bernardo interior drain supplementary recording gage is 4,713.99 ft above mean sea level, adjustment of 1951.

Average discharge.--15 years (1936-38, 1941-42, 1943-55), 1,162 cfs (841,250 acre-ft per year).

Extremes.--Maximum daily discharge during year, 2,330 cfs Sept. 26; minimum daily, 9 cfs Nov. 15.
1936-39, 1941-55: Maximum discharge not determined, probably occurred Apr. 25, 1942; maximum daily, 19,600 cfs Apr. 25, 1942; no flow at times in 1951.

Remarks.--Records fair. Records represent total discharge of the river and are a summation of discharge in river channel (now called the floodway), conveyance channel, and Bernardo interior drain, but do not include flow in a drain and small canal on left side of floodway. Discharge measurements generally made once a week. Diversions for irrigation of about 740,000 acres above station. Records of sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	88	36	241	307	465	515	73	38	625	23	395	589
2	86	32	233	292	458	499	82	40	370	21	392	516
3	91	33	245	327	458	384	65	37	438	21	334	517
4	98	32	233	444	465	365	82	35	732	19	187	542
5	106	32	272	597	480	307	85	34	692	20	133	564
6	135	31	286	536	451	308	75	33	833	19	151	494
7	313	35	291	520	423	307	66	31	656	19	207	451
8	176	62	305	529	451	332	66	32	476	16	354	376
9	194	68	301	512	464	250	62	32	306	15	520	357
10	269	47	311	503	471	205	53	30	247	20	375	407
11	371	47	331	505	487	159	49	32	140	14	500	322
12	208	48	321	529	520	145	48	36	121	13	1,120	247
13	137	67	316	529	520	210	65	50	132	19	754	176
14	104	40	341	513	512	169	86	150	149	27	596	194
15	114	9	348	505	520	252	54	291	130	23	400	107
16	93	54	354	504	512	186	45	524	110	18	277	89
17	72	112	347	504	512	198	44	469	83	23	155	76
18	63	134	341	512	506	216	42	444	64	30	154	65
19	49	165	341	504	505	128	44	440	57	27	208	61
20	51	178	360	520	552	145	44	451	50	23	387	49
21	56	171	371	512	600	228	42	650	47	27	762	48
22	58	182	395	488	536	391	45	701	48	31	1,600	43
23	43	190	401	472	502	243	46	1,460	46	94	1,400	36
24	42	201	395	424	463	172	46	1,320	42	104	920	37
25	48	206	396	384	495	118	42	1,260	36	137	599	77
26	46	213	402	390	566	85	42	1,680	35	126	369	2,330
27	42	217	416	416	541	90	42	1,620	31	159	346	316
28	42	225	430	444	521	102	42	1,510	28	628	1,200	210
29	41	237	423	451	-	117	39	1,750	27	378	1,280	167
30	40	241	402	458	-	91	39	2,140	25	471	1,070	136
31	38		322	466	--	75	------	1,300	------	570	885	------
Total	3,314	3,345	10,471	14,597	13,956	6,992	1,655	18,620	6,776	3,140	18,030	9,599
Mean	107	112	338	471	498	226	55.2	601	226	101	582	320
Ac-ft	6,570	6,630	20,770	28,950	27,680	13,870	3,280	36,930	13,440	6,230	35,760	19,040

Calendar year 1954: Max 1,700 Min 9 Mean 281 Ac-ft 203,100
Water year 1954-55: Max 2,330 Min 9 Mean 303 Ac-ft 219,200

Rio Puerco above Chico Arroyo, near Guadalupe, N. Mex.

Location.--Lat 35°36'05", long 107°09'55", in SW¼ sec. 21, T. 16 N., R. 3 W., on right bank 1.6 miles upstream from Chico Arroyo and 5½ miles northeast of the village of Guadalupe, Sandoval County.

Drainage area.--420 sq mi, approximately.

Records available.--July 1951 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 5,925 ft (by barometer).

Extremes.--Maximum discharge during year, 3,650 cfs July 27 (gage height, 10.8 ft, from high-water marks), from rating curve extended above 1,700 cfs on basis of slope-area determination of peak flow at gage height 13.2 ft; no flow at times.
1951-55: Maximum discharge, 4,000 cfs Aug. 12, 1952 (gage height, 13.2 ft), from rating curve extended above 1,300 cfs on basis of slope-area determination of peak flow; no flow at times.

Remarks.--Records good above 200 cfs, fair between 10 and 200 cfs, and poor below 10 cfs. Discharge measurements generally made 4 times a month. Diversions for irrigation of about 3,700 acres above station. Records of water temperatures and sediment load for the water year 1955 are given in WSP 1402.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 9 to Apr. 5, Apr. 23, Apr. 25 to May 3, May 10-13, 15, June 9 to July 12, July 24, Aug. 10, 13, 18-20)

0.9	0	1.8	36
1.0	.5	2.0	55
1.1	1.5	2.5	115
1.2	3.5	3.0	200
1.3	6.2	3.5	310
1.4	10	4.0	450
1.6	21	5.3	940

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	0.1	0		0.1	0	0	1		0	167	2
2	.5	.1	0		.1	0	0	4		0	12	.2
3	.2	0	0		0	3	.2	5		0	141	.2
4	11	.1	0		0	2	.2	2		.2	18	0
5	163	.1	0		0	1	.1	1		.2	15	0
6	39	0	0		0	.5	0	1		0	62	0
7	9	0	0		0	.5	0	1		0	263	0
8	87	0	0		0	.5	0	1		0	370	0
9	17	0	0		0	.4	0	2		0	40	0
10	3	0	0		0	.8	0	10		0	6	.1
11	1	0	.1		0	2	0	22		0	293	.1
12	.2	0	0		0	2	0	19		0	219	.2
13	.1	.2	0		0	1	0	17		140	111	.1
14	.1	.1	0		0	.3	0	10		19	21	.1
15	.1	.1	0		0	.1	0	3		1	8	.1
16	.1	0	0		0	0	0	2		.5	287	.2
17	.1	0	0		0	0	0	1		1	176	.2
18	.1	0	0		0	0	0	.5		3	38	.2
19	.1	0	0		0	0	0	.4		19	2	.2
20	.1	0	0		0	0	0	.3		0	13	0
21	.1	0	.1		0	.2	0	.2		370	16	0
22	.1	0	0		0	.2	.2	.1		46	46	0
23	.1	0	0		.2	0	1	.1		27	19	0
24	.1	0	0		.2	0	.5	0		1	8	1
25	.1	0	0		0	0	.1	0		68	9	2
26	.1	0	0		0	0	0	0		298	7	0
27	.1	0	0		0	.1	0	0		926	51	0
28	.1	0	0		0	0	0	0		460	249	0
29	.1	0	0		---	0	0	0		32	120	0
30	.1	0	0		---	0	0	0		14	18	0
31	.1	---	0		---	0	---	0	---	6	6	---
Total	334.8	0.8	0.2	0	0.6	14.6	2.3	103.6	0	2,431.9	2,811	6.9
Mean	10.8	0.03	0.01	0	0.02	0.47	0.08	3.34	0	78.4	90.7	0.23
Ac-ft	664	1.6	0.4	0	1.2	29	4.6	205	0	4,820	5,580	14

Calendar year 1954: Max 492 Min 0 Mean 11.1 Ac-ft 8,010
Water year 1954-55: Max 926 Min 0 Mean 15.6 Ac-ft 11,320

Peak discharge (base, 1,000 cfs).--Oct. 8 (3:45 p.m.) 1,500 cfs (6.50 ft); July 13 (4:45 a.m.) 1,510 cfs (6.52 ft); July 21 (6:20 a.m.) 2,500 cfs (8.50 ft); July 26 (8:50 p.m.) 2,150 (7.80 ft); July 27 (4:30 a.m.) 2,280 cfs (8.05 ft); July 27 (8 p.m.) 3,650 cfs (10.8 ft); Aug. 1 (2 a.m.) 1,040 cfs (5.55 ft); Aug. 7 (9:30 p.m.) 2,780 cfs (9.05 ft); Aug. 8 (9 a.m.) 1,380 cfs (6.25 ft); Aug. 11 (3:15 a.m.) 1,650 cfs (6.80 ft); Aug. 16 (2:20 a.m.) 1,600 cfs (6.70 ft).
Note.--No gage-height record Oct. 2, Oct. 12 to Nov. 2, Dec. 23 to Jan. 6, Jan 11 to Feb. 1, Mar. 4-8, Apr. 6-22, 24, May 4-9, 14, May 16 to June 8; discharge estimated. Stage-discharge relation affected by ice Dec. 17-21, Jan. 7-10, Feb. 2-15, 19-22.

Chico Arroyo near Guadalupe, N. Mex.

Location.--Lat 35°35'40", long 107°11'20", in NE¼ sec. 30, T. 16 N., R. 3 W., on left bank a quarter of a mile upstream from mouth, 4½ miles northwest of Guadalupe, and 5½ miles southwest of Cabezon.

Drainage area.--1,390 sq mi, approximately.

Records available.--November 1943 to September 1955.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,895 ft (by barometer).

Average discharge.--12 years, 25.2 cfs (18,240 acre-ft per year).

Extremes.--Maximum discharge during year, 5,590 cfs July 25 (gage height, 8.49 ft), no flow at times.
1943-55: Maximum discharge, 12,200 cfs July 17, 1953 (gage height, 15.1 ft), from rating curve extended above 2,900 cfs on basis of slope-area determinations at gage heights 9.6 and 12.8 ft; no flow at times.

Remarks.--Records fair. Discharge measurements generally made three times a month, but more frequently during high flow than low flow periods. Diversions for irrigation of about 100 acres above station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Revisions (water years).--WSP 1282: 1944-50.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1			0	b0	b0		0		0	78	5
2	1			0	b0	b.1		0		0	10	2
3	1			0	b0	b.1		0		0	191	.4
4	363			0	b0	0		0		4	60	.1
5	820			0	b0	0		0		2	460	0
6	440			.1	b0	0		0		1	204	0
7	27			0	b.1	0		0		1	520	0
8	170			.1	b0	0		.1		0	745	0
9	566			0	b.1	0		0		0	84	0
10	45			0	b0	0		42		5	437	0
11	6			0	b0	0		38		30	916	0
12	3			0	b0	0		.6		127	246	0
13	2			b0	b0	0		a.1		84	712	0
14	a1			b0	b.1	0		a0		28	294	0
15	a.5			b0	b0	0		a0		7	453	0
16	a.2			b0	b0	0		a0		60	560	0
17	a.1			b0	b0	0		a0		42	184	0
18	a.1			b.1	b0	0		a0		23	77	0
19	a.1			b0	b.2	0		a0		28	109	.7
20	a.1			b0	b.2	0		a0		4	190	.7
21	a.1			b0	b0	0		a0		15	429	.4
22	a.1			b0	b0	0		a0		27	444	0
23	a.1			b0	b0	0		a0		144	324	0
24	a.1			b0	b0	0		a0		358	288	0
25	a.1			b0	b0	0		a0		716	142	0
26	a0			b0	b0	0		a0		960	19	0
27	a0			b0	b.1	0		a0		2,040	900	0
28	a0			b0	b.1	0		a0		856	707	0
29	a0			b0	-	0		a0		440	112	0
30	a0			b0	------	0		a0		186	19	0
31	a0	------		b0	------	0	------	a0	------	30	8	------
Total	2,447.6	0	0	0.3	0.9	0.2	0	80.8	0	6,218	9,922	9.3
Mean	79.0	0	0	0.01	0.03	0.01	0	2.61	0	201	320	0.31
Ac-ft	4,850	0	0	0.6	1.8	0.4	0	160	0	12,330	19,680	18

Calendar year 1954: Max 1,950 Min 0 Mean 57.8 Ac-ft 41,830
Water year 1954-55: Max 2,040 Min 0 Mean 51.2 Ac-ft 37,040

Peak discharge (base, 2,300 cfs).--Oct. 4 (9:30 p.m.) 3,260 cfs (6.30 ft); Oct. 5 (10:15 p.m.) 3,800 cfs (6.75 ft); July 24 (5 p.m.) 2,950 cfs (6.04 ft); July 25 (11 p.m.) 5,590 cfs (8.49 ft); July 26 (11:15 p.m.) 4,300 cfs (7.20 ft); July 29 (9:15 p.m.) 3,000 cfs (6.08 ft); Aug. 10 (8:15 p.m.) 4,580 cfs (7.48 ft); Aug. 13 (12:15 p.m.) 4,500 cfs (7.40 ft); Aug. 15 (7:30 p.m.) 3,280 cfs (6.32 ft); Aug. 24 (7:45 p.m.) 2,660 cfs (5.80 ft); Aug. 27 (4:30 p.m.) 4,800 cfs (7.70 ft).

a No gage-height record; discharge estimated.
b Stage-discharge relation affected by ice.

Bluewater Creek below Bluewater Dam, N. Mex.

Location.--Lat 35°17'35", long 108°06'35", in SE¼ sec. 4, T. 12 N., R. 12 W., on left bank 350 ft downstream from Bluewater Dam and 9.3 miles west of Bluewater.

Drainage area.--215 sq mi.

Records available.--March 1951 to September 1955.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 7,320 ft (by barometer).

Extremes.--Maximum discharge during year, 0.3 cfs Feb. 27 (gage height, 1.53 ft); no flow June 21 to July 5, July 7-18, 20, 27.
1951-55: Maximum discharge, 58 cfs July 1-3, 1952 (gage height, 2.75 ft); no flow June 21 to July 5, July 7-18, 20, 27, 1955.

Remarks.--Records fair. Discharge measurements generally made twice a month. Flow regulated by operation of Bluewater-Toltec Reservoir (capacity, 46,000 acre-ft).

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0	0.1	0.1
2	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
3	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
4	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
5	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
6	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
7	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
8	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
9	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
10	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
11	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
12	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
13	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
14	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
15	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
16	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
17	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
18	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1
19	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
20	.1	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.2
21	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2
22	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2
23	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2
24	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2
25	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2
26	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.1	.2
27	.1	.1	.1	.1	.1	.1	.1	.1	0	0	.1	.2
28	.1	.1	.1	.1	.1	.1	.1	.1	0	.1	.2	.2
29	.1	.1	.1	.1	-	.1	.1	.1	0	.1	.2	.2
30	.1	.1	.1	.1	------	.1	.1	.1	0	.1	.1	.2
31	.1	------	.1	.1	------	.1	------	.1	------	.1	.1	------
Total	3.1	3.0	3.1	3.1	2.8	3.1	3.0	3.1	2.0	1.2	3.3	4.1
Mean	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.07	0.04	0.11	0.14
Ac-ft	6.2	6.0	6.2	6.2	5.6	6.2	6.0	6.2	4.0	2.4	6.6	8.1

Calendar year 1954: Max 0.3 Min 0.1 Mean 0.13 Ac-ft 93.0
Water year 1954-55: Max 0.2 Min 0 Mean 0.10 Ac-ft 69.2

Bluewater Creek near Bluewater, N. Mex.

Location.--Lat 35°17'50", long 108°01'40", in W½SW¼ sec. 5, T. 12 N., R. 11 W., on left bank 2½ miles northwest of Bluewater Village and 8 miles downstream from Bluewater Dam.

Drainage area.--235 sq mi.

Records available.--May 1912 to December 1914 and October 1930 to September 1955 in reports of the Geological Survey. May 1912 to June 1919 and April 1921 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 6,720 ft (by barometer). Prior to Aug. 20, 1919, at site 83 ft upstream at datum 3.49 ft higher. Aug. 20, 1919, to Mar. 18, 1939, at original site at datum 1.57 ft higher than present datum.

Average discharge.--25 years (1930-55), 11.3 cfs (8,180 acre ft per year).

Extremes.--Maximum discharge during year, 371 cfs Aug. 17 (gage height, 4.97 ft); no flow for several days in June and July.
1930-55: Maximum discharge, 1,210 cfs July 23, 1954 (gage height, 7.28 ft); no flow at times.

Remarks.--Records fair except those for periods of ice effect, which are poor. Discharge measurements generally made twice a month. Flow regulated by Bluewater-Toltec Reservoir (capacity, 46,000 acre-ft).

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

2.6	0	2.9	5.5
2.7	.37	3.0	12
2.8	1.8	3.1	20

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.8	0.8	0.7	b1.2	b0.4	0.3	0.2	0.2	0	0.2	0.4
2	.6	.8	.8	.7	b1.5	.4	.3	.2	.1	0	.2	.3
3	.7	.8	.8	.7	b1.2	.4	.2	.2	.1	0	1.9	.3
4	.7	.8	.7	.7	b1.0	.4	.2	.2	.1	0	.6	.3
5	1.0	.8	.7	.7	b.8	.4	.2	.2	.1	.3	15	.3
6	11	.8	.7	b1.0	b.8	.3	.3	.2	.1	.1	6.6	.3
7	1.4	.8	.8	1.0	b.8	.3	.3	.1	0	.1	3.2	.3
8	1.2	.8	.7	.8	b1.0	.3	.3	.2	0	.1	1.8	.3
9	1.6	.8	.7	1.0	b1.2	.3	.3	.3	0	0	.7	.4
10	1.0	.8	.8	b.8	b1.0	.3	.3	.2	0	0	.5	.4
11	.8	.8	.8	b.8	b1.0	.3	.2	.3	0	0	.4	.4
12	.8	.8	.8	b.8	b1.1	.3	.2	.3	0	.2	.4	.4
13	.8	.8	.8	b.8	b1.2	.3	.3	.3	0	.1	.4	.4
14	.7	.8	.8	b1.0	b1.5	.3	.2	.3	.2	.1	5.7	.3
15	.7	.8	.7	b1.2	b1.2	.3	.2	.2	.1	.1	1.8	.4
16	.6	.8	.7	b1.0	b1.5	.3	.2	.2	0	2.9	1.2	.4
17	.6	.8	b.6	b.9	b1.5	.4	.2	.2	0	.4	19	.4
18	.6	.7	.7	b.6	b1.2	.3	.3	.2	0	.2	2.0	.4
19	.6	.7	.7	b.8	b1.0	.4	.2	.2	0	.2	1.4	.4
20	.6	.7	.7	b1.0	b.4	.4	.2	.2	0	.2	5.7	.3
21	.6	.8	.6	b.8	b.2	.4	.2	.2	.1	.4	4.4	.3
22	.6	.8	.7	b.6	b.4	.4	.3	.2	.1	.3	1.0	.3
23	.6	.8	.8	b.4	b.5	.3	.3	.2	.1	.2	.6	.3
24	.6	.8	.7	b.5	b.6	.3	.3	.2	.1	.3	.5	.3
25	.7	.8	.7	b.6	b.7	.3	.3	.2	.1	.4	.8	.3
26	.7	.8	.7	b.7	b.8	.3	.2	.2	0	.4	.5	.3
27	.7	.8	.6	b.8	b.6	b.3	.2	.2	.1	.4	.5	.4
28	.7	.7	b.5	b.9	b.5	.3	.2	.1	0	.3	.6	.4
29	.7	.8	b.5	b1.0	-	.3	.2	.2	0	.3	.4	.3
30	.7	.8	.5	b1.2	------	.3	.2	.2	0	.3	.4	.3
31	.7	------	.3	b1.4	------	.2	------	.2	------	.3	.4	------
Total	33.9	23.6	21.4	25.9	26.4	10.2	7.3	6.5	1.6	8.6	78.8	10.3
Mean	1.09	0.79	0.69	0.84	0.94	0.33	0.24	0.21	0.05	0.28	2.54	0.34
Ac-ft	67	47	42	51	52	20	14	13	3.2	17	156	20

Calendar year 1954: Max 79 Min 0 Mean 0.94 Ac-ft 684
Water year 1954-55: Max 19 Min 0 Mean 0.70 Ac-ft 502

b Stage-discharge relation affected by ice.

Bluewater Creek at Grants, N. Mex.

Location.--Lat 35°09'20", long 107°52'10", in SW¼NW¼ sec. 26, T. 11 N., R. 10 W., on right bank at bridge on State Highway 53 at Grants, 0.2 mile south of U. S. Highway 66.

Drainage area.--1,000 sq mi, approximately.

Records available.--October to December 1912 (fragmentary), January to September 1913, and April 1949 to September 1955 in reports of Geological Survey. October 1912 to December 1926 (monthly figures only for calendar year 1925) in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 6,468.34 ft above mean sea level (levels by Corps of Engineers). October 1912 to December 1914 staff gage, January 1915 to Dec. 5, 1917, chain gage, and Dec. 6, 1917, to December 1926, staff gage, at same site at different datums.

Average discharge.--17 years (1914-25, 1949-55), 6.81 cfs (4,930 acre-ft per year).

Extremes.--Maximum discharge during year, 224 cfs Aug. 11 (gage height, 3.20 ft); no flow for long periods.
1912-26, 1949-55: 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.

Remarks.--Records good except those above 200 cfs, and those below 1 cfs, which are fair. Discharge measurements generally made twice a month. Flow regulated by Bluewater-Toltec Reservoir (capacity, 46,000 acre-ft). Diversions and ground-water withdrawals for irrigation of about 4,500 acres above station.

Revisions.--WSP 1212: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 10 to Nov. 19, Aug. 11, 13, 18)

1.15	0	1.7	6.8
1.2	.1	1.9	15
1.3	.4	2.1	29
1.4	1.0	2.4	62
1.5	2.2	2.7	118
1.6	4.0	3.0	200

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	1.9					0	0	0	1.6	0	a2.5
2	2.0	1.9					0	.7	.4	1.2	0	a2.0
3	2.0	1.9					0	.3	.4	.4	.6	a1.8
4	2.0	a1.8					0	.3	1.1	.7	50	a1.6
5	2.0	a1.6					0	.1	.5	.7	19	a1.5
6	2.0	1.4					0	0	.6	.2	23	a1.5
7	1.9	1.4					0	0	.3	.4	17	a1.5
8	1.9	1.4					0	.2	0	.2	3.9	a1.5
9	1.9	1.3					0	.3	0	.1	5.0	a1.5
10	1.9	1.3					0	.5	.4	0	5.0	a1.5
11	1.9	1.1					0	.2	1.3	0	110	a1.5
12	1.9	1.1					0	.2	.4	0	67	a1.5
13	1.9	1.1					0	.1	.9	.8	25	a1.5
14	1.9	1.1					0	.1	.5	.5	84	1.5
15	2.0	1.1					0	.1	0	1.7	13	1.5
16	1.9	1.1					0	.1	.7	1.9	3.4	1.8
17	1.9	1.0					0	.1	.6	1.8	17	2.0
18	1.9	.9					0	.3	.5	1.6	67	1.3
19	1.9	.9					0	0	2.1	36	39	1.2
20	1.9	.7					0	0	1.6	6.5	61	1.2
21	1.9	0					0	.2	.1	1.3	85	1.2
22	1.9	0					0	1.4	.2	16	55	1.2
23	1.9	0					0	1.0	.3	17	15	1.2
24	1.9	0					0	.2	2.2	10	8.0	1.2
25	1.9	0					0	1.0	1.6	1.2	3.4	1.2
26	1.9	0					.5	.9	2.2	4.9	45	1.2
27	1.9	0					1.0	1.4	.7	32	9.7	1.2
28	1.9	0					.2	1.1	.7	53	76	1.2
29	1.9	0					0	.7	.1	5.3	170	1.2
30	1.9	0			------		0	.2	1.3	1.1	70	1.2
31	1.9	------			------		------	.1	------	.5	8.4	------
Total	59.6	26.0	0	0	0	0	1.7	11.8	21.7	198.6	1,155.4	43.9
Mean	1.92	0.87	0	0	0	0	0.06	0.38	0.72	6.41	37.3	1.46
Ac-ft	118	52	0	0	0	0	3.4	23	43	394	2,290	87

Calendar year 1954: Max 330 Min 0 Mean 3.37 Ac-ft 2,440
Water year 1954-55: Max 170 Min 0 Mean 4.16 Ac-ft 3,010

Peak discharge (base, 200 cfs).--Aug. 11 (10 a.m.) 224 cfs (3.20 ft); Aug. 21 (4 a.m.) 200 cfs (3.00 ft).
a No gage-height record; discharge estimated.

San Jose River near Grants, N. Mex.

Location.--Lat 35°04', long 107°44', in SE¼SE¼ sec. 23, T. 10 N., R. 9 W., on right bank at west boundary of Acoma Pueblo Grant, 8½ miles southeast of Grants.

Drainage area.--1,070 sq mi, approximately.

Records available.--June 1936 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 6,269.47 ft above mean sea level, datum of 1929.

Average discharge.--19 years, 7.03 cfs (5,080 acre-ft per year).

Extremes.--Maximum discharge during year, 510 cfs Aug. 6 (gage height, 3.08 ft); minimum daily, 4.4 cfs for many days.
1936-55: Maximum discharge, 1,330 cfs about Aub. 21, 1947 (gage height, 4.15 ft, from floodmarks), from rating curve extended above 500 cfs by logarithmic plotting; minimum daily, 2.5 cfs May 7-10, 1943.

Remarks.--Records good except those for periods of no gage-height record, which are fair. Discharge measurements generally made twice a month. Flow partly regulated by Bluewater-Toltec Reservoir (capacity, 46,000 acre-ft) and three small reservoirs. Diversions and ground-water withdrawal for irrigation of about 5,100 acres above station.

Revisions (water years).--WSP 898: 1936-39(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.3	3.3	0.9	26
.4	5.7	1.1	40
.5	8.8	1.4	67
.6	13	1.7	104
.7	17	2.0	158

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.3	6.6	5.1	5.1	4.6	4.9	4.6	4.6	4.6	4.4	6.9	20
2	6.3	6.3	5.1	5.1	4.6	4.6	4.6	4.6	4.6	4.4	5.4	10
3	6.6	6.6	5.1	5.1	4.6	4.9	4.6	4.6	4.6	4.4	5.4	9
4	6.6	6.6	5.1	5.1	4.6	4.9	4.6	4.6	4.6	4.4	6.8	8
5	6.9	6.6	5.1	5.1	4.6	4.9	4.6	4.6	4.6	4.4	35	8
6	8.4	6.6	5.1	5.1	4.6	4.6	4.6	4.6	4.6	4.4	57	7
7	9.2	6.6	5.1	5.1	4.6	4.6	4.6	4.6	4.6	4.4	76	7
8	6.6	6.9	4.9	5.1	4.6	4.6	4.6	4.6	4.6	4.4	22	7
9	6.3	6.6	4.9	4.9	4.6	4.9	4.6	4.6	4.9	4.4	26	7
10	6.3	6.9	4.9	4.9	4.6	4.9	4.6	4.6	4.6	4.4	58	7
11	6.3	6.9	4.9	4.6	4.6	4.9	4.6	4.6	4.6	4.4	34	7
12	6.3	6.9	4.9	4.6	4.6	4.6	4.6	4.6	4.6	4.4	106	7
13	6.3	6.9	4.9	4.6	4.6	4.6	4.6	4.6	4.6	4.4	84	7
14	6.3	6.9	4.9	4.6	4.6	4.9	4.6	4.6	4.6	4.4	78	6.9
15	6.3	6.9	4.9	4.6	4.9	4.9	4.6	4.6	4.6	4.4	62	6.9
16	6.3	6.6	4.9	4.6	4.9	4.6	4.6	4.6	4.4	4.4	23	6.9
17	6.6	6.6	4.9	4.6	4.9	4.6	4.6	4.6	4.4	4.4	37	6.9
18	6.6	6.3	4.9	4.6	4.9	4.6	4.6	4.6	4.4	4.4	56	7.2
19	6.6	6.3	5.1	4.6	4.6	4.6	4.6	4.6	4.4	4.4	61	7.2
20	6.6	6.3	5.1	4.6	4.6	4.6	4.6	4.6	4.4	8.8	68	6.6
21	6.6	6.3	5.1	4.6	4.6	4.6	4.6	4.6	4.4	10	82	6.6
22	6.3	6.0	5.1	4.6	4.6	4.6	4.6	4.6	4.4	6.6	72	6.6
23	6.3	6.0	5.1	4.6	4.6	4.6	4.9	4.6	4.4	11	34	6.3
24	6.6	5.7	5.1	4.6	4.6	4.6	4.6	4.6	4.4	18	23	6.6
25	6.6	5.4	5.1	4.6	4.6	4.6	4.6	4.6	4.4	16	15	6.6
26	6.3	5.4	5.1	4.6	4.6	4.6	4.6	4.6	4.4	14	22	6.3
27	6.3	5.4	5.1	4.6	4.6	4.4	4.6	4.6	4.4	80	36	6.3
28	6.6	5.4	5.1	4.6	4.9	4.6	4.6	4.6	4.4	122	20	6.3
29	6.6	5.1	5.1	4.6	-	4.6	4.6	4.6	4.4	35	98	6.6
30	6.6	5.1	5.1	4.6	------	4.6	4.6	4.6	4.4	18	117	6.6
31	6.9	------	5.1	4.6	------	4.6	------	4.6	------	9.5	40	------
Total	205.4	188.7	155.9	147.2	130.3	145.1	138.3	142.6	135.3	432.5	1,466.5	224.4
Mean	6.63	6.29	5.03	4.75	4.65	4.68	4.61	4.60	4.51	14.0	47.3	7.48
Ac-ft	407	374	309	292	258	288	274	283	268	858	2,910	445

Calendar year 1954: Max 244 Min 4.6 Mean 7.54 Ac-ft 5,460
Water year 1954-55: Max 122 Min 4.4 Mean 9.62 Ac-ft 6,970

Peak discharge (base, 100 cfs).--July 27 (5 p.m.) 388 cfs (2.80 ft); Aug. 6 (11:15 p.m.) 510 cfs (3.08 ft); Aug. 10 (6 p.m.) 416 cfs (2.85 ft); Aug. 13 (1:15 p.m.) 436 cfs (2.90 ft); Aug. 18 (5 p.m.) 112 cfs (1.70 ft); Aug. 21 (6:30 p.m.) 106 cfs (1.64 ft); Aug. 29 (6 p.m.) to Aug. 30 (10 a.m.) 133 cfs (1.80 ft).

Note.--No gage-height record Dec. 29 to Jan. 5, Aug. 25, Sept. 1-13; discharge estimated.

San Jose River at Correo, N. Mex.

Location.--Lat 34°58'00", long 107°10'10", in NE¼ sec. 32, T. 9 N., R. 3 W., on left bank 0.6 mile upstream from U. S. Highway 66, 0.7 mile northeast of Correo, and 13 miles upstream from mouth.

Drainage area.--2,610 sq mi, approximately.

Records available.--April 1943 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 5,474.88 ft above mean sea level, unadjusted.

Average discharge.--12 years, 11.9 cfs (8,620 acre-ft per year).

Extremes.--Maximum discharge during year, 7,150 cfs Aug. 11 (gage height, 11.1 ft); no flow for much of year.
1943-55: Maximum discharge, 8,010 cfs May 26, 1944; from rating curve extended above 1,700 cfs by logarithmic plotting; maximum gage height, 11.1 ft Aug. 11, 1955; no flow for long periods.
A stage of 15.4 ft (based on drift marks found near gage in 1950) probably occurred in flood of August 1929.

Remarks.--Records good. Discharge measurements generally made three times a month. Flow partly regulated by Bluewater Reservoir (capacity, 46,000 acre-ft) and three small reservoirs below. Diversion for irrigation of about 8,600 acres above station (includes about 4,500 acres irrigated wholly or partly from ground-water sources). Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 21 to Sept. 1; stage-discharge relation affected by ice Dec. 16, 31, Jan. 6-9, 11)

0.35	0.0	2.0	240
.4	.4	2.5	405
.5	2.2	3.0	600
.7	8.0	4.0	1,020
.9	18	5.0	1,520
1.1	34	6.0	2,060
1.4	83	7.0	2,710
1.7	155	9.0	4,500

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	0.3	3	0				0	0	0	2	64
2	14	.4	3	0				0	0	0	0	18
3	14	.8	3	2				0	0	0	0	10
4	10	.9	4	4				0	0	0	0	6
5	25	.9	4	5				0	0	0	0	5
6	69	1	3	4				0	0	0	.1	4
7	17	1	3	3				0	0	0	115	3
8	12	5	3	2				0	0	0	346	a2
9	43	5	2	1				0	0	0	137	2
10	121	5	4	0				0	0	0	584	.2
11	26	5	3	.1				78	0	94	4,100	0
12	8	5	4	0				7	0	96	337	0
13	4	7	3	0				.1	0	2	112	0
14	1	6	4	0				0	21	.1	163	0
15	.8	6	2	1				0	a.2	0	158	0
16	.3	7	4	.2				0	a0	0	285	0
17	.2	5	1	4				0	a0	0	156	0
18	.2	3	.4	.8				0	a0	7	65	0
19	.2	3	1	0				0	a0	5	207	.1
20	.2	3	.8	0				0	a0	0	985	.1
21	.3	3	.3	0				0	a0	14	1,760	0
22	.2	3	.9	0				0	a0	5	581	0
23	.3	3	1	0				0	a0	53	204	0
24	.3	4	.9	0				0	0	40	142	0
25	.1	4	1	0				0	0	67	202	0
26	.2	3	2	0				0	0	82	125	0
27	0	3	3	0				0	0	186	77	0
28	0	2	a.2	0				0	0	690	122	0
29	0	2	0	0				0	0	181	156	0
30	.1	2	2	0	------			0	0	61	48	0
31	.2	------	.2	0	------		------	0	------	a10	94	------
Total	383.6	99.3	66.7	27.1	0	0	0	85.1	21.2	1,593.1	11,263.1	114.4
Mean	12.4	3.31	2.15	0.87	0	0	0	2.75	0.71	51.4	363	3.81
Ac-ft	761	197	132	54	0	0	0	169	42	3,160	22,340	227

Calendar year 1954: Max 1,140 Min 0 Mean 28.7 Ac-ft 20,760
Water year 1954-55: Max 4,100 Min 0 Mean 37.4 Ac-ft 27,080

Peak discharge (base, 800 cfs).--May 11 (1 a.m.) 900 cfs (3.90 ft); July 28 (3 p.m.) 970 cfs (3.90 ft); Aug. 7 (9:15 p.m.) 1,040 cfs (4.05 ft); Aug. 11 (11 a.m.) 7,150 cfs (11.1 ft); Aug. 20 (11:30 p.m.) 4,400 cfs (8.90 ft); Aug. 21 (1 p.m.) 2,570 cfs (6.80 ft).
a No gage-height record; discharge estimated.

Rio Puerco at Rio Puerco, N. Mex.

Location.--Lat 34°47'35", long 106°59'15", in NW¼ sec. 31, T. 7 N., R. 1 W. (projected), in San Clemente Grant, on downstream end of pier nearest left abutment of Atchison, Topeka and Santa Fe Railway bridge, 7 miles downstream from San Jose River.

Drainage area.--5,160 sq mi, approximately.

Records available.--September 1910 to December 1914 (records fragmentary, gage heights only prior to March 1913) and March 1934 to September 1955 in reports of Geological Survey. January 1913 to December 1925 and September 1926 to December 1927 in reports of State engineer.

Gage.--Water-stage recorder and concrete control. Datum of gage is 5,008.49 ft above mean sea level, datum of 1929. Prior to Mar. 19, 1934, at datum 0.47 ft higher.

Average discharge.--30 years (1913-17, 1919-20, 1921-24, 1926-27, 1934-55), 83.4 cfs (60,380 acre-ft per year).

Extremes.--Maximum discharge during year, 7,850 cfs Aug. 11 (gage height, 4.60 ft); no flow flow at times.
1934-55: Maximum discharge, 28,000 cfs Aug. 21, 1935 (gage height, 7.24 ft), by computation of peak flow over dam; no flow at times.

Remarks.--Records fair. Discharge measurements generally made four times a month, more often during high flow. Diversions for irrigation of about 12,300 acres above station (includes 4,500 acres irrigated wholly or partly from wells). Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.23	0	1.1	165
.3	.2	1.2	225
.4	1	1.4	380
.5	3	1.8	850
.6	6	2.1	1,420
.7	13	2.5	2,400
.8	28	3.0	4,000
.9	60	4.0	7,500
1.0	110		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	0	0.4					0	0	0	24	95
2	12	0	.8					0	0	0	106	36
3	9	0	.8					0	0	0	24	20
4	8	0	1					0	0	0	140	a10
5	705	0	.6					0	0	0	70	a5
6	896	0	.7					0	0	0	460	a2
7	315	0	2					0	0	0	650	a1
8	a80	0	.6					0	0	0	1,380	a0
9	200	0	.1					0	0	0	1,480	0
10	800	0	.6					0	0	0	312	0
11	136	0	.6					196	0	0	5,800	0
12	30	0	1					55	0	151	1,130	0
13	13	1	.6					15	0	57	615	0
14	3	3	1					a4	16	95	880	0
15	.5	4	.6					a1	4	60	410	0
16	.1	3	1					a0	.4	17	1,010	0
17	0	3	0					0	0	3	682	0
18	0	3	0					0	0	118	450	0
19	0	2	0					0	0	44	195	0
20	0	1	0					0	0	15	1,710	0
21	0	1	0					0	0	21	3,460	0
22	0	1	0					0	0	153	1,180	0
23	0	1	0					0	0	386	a480	0
24	0	1	0					0	0	270	a350	160
25	0	1	0					0	0	300	361	10
26	0	1	0					0	0	1,060	233	.2
27	0	1	0					0	0	2,200	148	0
28	0	1	0					0	0	3,240	1,380	0
29	0	.4	0		-			0	0	973	930	0
30	0	.7	0		------			0	0	832	287	0
31	0	------	0		------		------	7	------	203	126	------
Total	3,225.6	29.1	12.4	0	0	0	0	278	20.4	10,198	26,463	339.2
Mean	104	0.97	0.40	0	0	0	0	8.97	0.68	329	854	11.3
Ac-ft	6,400	58	25	0	0	0	0	551	40	20,230	52,490	673

Calendar year 1954: Max 4,400 Min 0 Mean 118 Ac-ft 85,380
Water year 1954-55: Max 5,800 Min 0 Mean 111 Ac-ft 80,470

Peak discharge (base, 6,000 cfs).--Aug. 11 (4 p.m.) 7,850 cfs (4.60 ft); Aug. 21 (7 a.m.) 6,800 cfs (4.30 ft).
a No gage-height record; discharge estimated.

Rio Puerco near Bernardo, N. Mex.

Location.--Lat 34°24'30", long 106°51'10", in SE¼ sec. 8, T. 2 N., R. 1 E., at bridge on U. S. Highway 85, 1.2 miles southwest of Bernardo, 3 miles upstream from mouth, and 16 miles south of Belen.

Drainage area.--5,860 sq mi, approximately.

Records available.--September 1910 to August 1914 (fragmentary gage heights only), November 1939 to September 1955. Published as "near La Joya" 1910-14.

Gage.--Water-stage recorder. Datum of gage is 4,725.44 ft above mean sea level, datum of 1929. September 1910 to August 1914, at site 1½ miles downstream at different datum.

Average discharge.--15 years (1940-55), 60.6 cfs (43,870 acre-ft per year).

Extremes.--Maximum discharge during year, 8,000 cfs Aug. 12 (gage height, 13.8 ft); no flow for extended periods.
1939-55: Maximum discharge, 18,800 cfs Sept. 23, 1941, from rating curve extended above 7,800 cfs by logarithmic plotting; maximum gage height, that of Aug. 12, 1955; no flow for extended periods.

Remarks.--Records fair. Discharge measurements made 2 to 5 times a week during periods of flow. Diversions for irrigation of about 12,300 acres above station, of which about 4,500 acres are irrigated from ground-water sources. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25							0		0	96	122
2	16							0		0	24	63
3	12							0		0	80	16
4	352							0		0	31	3
5	818							0		0	101	.7
6	840							0		0	145	0
7	640							0		.8	510	0
8	160							0		.3	845	0
9	116							0		260	1,690	0
10	750							0		268	490	0
11	340							0		2	2,870	0
12	71							71		.2	4,100	0
13	28							38		78	605	0
14	7							3		74	398	0
15	2							1		64	616	0
16	.4							.1		36	285	0
17	0							0		10	1,050	0
18	0							0		6	500	0
19	0							0		115	606	0
20	0							0		72	1,040	0
21	0							0		19	3,260	0
22	0							0		107	2,100	0
23	0							0		512	612	0
24	0							0		445	460	0
25	0							0		120	271	847
26	0							0		368	250	27
27	0							0		1,760	590	3
28	0							0		4,050	940	.8
29	0				-			0		1,840	1,110	0
30	0				------			0		450	510	0
31	0	------			------		------	0	------	578	200	------
Total	4,177.4	0	0	0	0	0	0	113.1	0	11,235.3	26,385	1,082.5
Mean	135	0	0	0	0	0	0	3.65	0	362	851	36.1
Ac-ft	8,290	0	0	0	0	0	0	224	0	22,280	52,330	2,150

Calendar year 1954: Max 4,400 Min 0 Mean 119 Ac-ft 86,040
Water year 1954-55: Max 4,100 Min 0 Mean 118 Ac-ft 85,270

Peak discharge (base, 3,000 cfs).--Oct. 5 (12:45 a.m.) 4,400 cfs (10.25 ft); July 9 (11:30 p.m.) 4,400 cfs (10.30 ft); July 27 (2:40 a.m.) 4,800 cfs (10.7 ft); July 28 (7:30 a.m.) 5,300 cfs (11.2 ft); Aug. 9 (1:30 p.m.) 3,420 cfs (9.30 ft); Aug. 12 (8 a.m.) 8,000 cfs (13.8 ft); Aug. 21 (7 p.m.) 6,130 cfs (12.08 ft); Aug. 28 (9 p.m.) 3,020 cfs (9.30 ft); Sept. 25 (12:50 a.m.) 3,560 cfs (9.80 ft).

Rio Salado near San Acacia, N. Mex.

Location.--Lat 34°16'40", long 106°52'55", in E½ sec. 30, T. 1 N., R. 1 E., near right bank 1 mile upstream from mouth, 2 miles northeast of San Acacia, 1.7 miles downstream from bridge on U. S. Highway 85, and 15 miles north of Socorro.

Drainage area.--1,380 sq mi, approximately.

Records available.--October 1947 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,710.68 ft above mean sea level, datum of 1929.

Average discharge.--8 years, 13.9 cfs (10,060 acre-ft per year).

Extremes.--Maximum discharge during year, 11,000 cfs Aug. 20 (gage height, 12.4 ft), from rating curve extended above 2,000 cfs by logarithmic plotting; no flow for long periods.
1947-55: Maximum discharge, 16,600 cfs Sept. 25, 1954 (gage height, 12.80 ft), from rating curve extended above 2,000 cfs by logarithmic plotting; no flow for long periods.

Remarks.--Records very poor. Discharge measurements made frequently during known periods of flow. Diversions for irrigation of about 100 acres above station. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0								0	0	a0	a1
2	21								0	0	a0	a0
3	9								0	0	0	0
4	23								0	0	0	0
5	400								0	0	0	0
6	35								0	0	3	0
7	12								0	2	350	0
8	600								0	0	313	0
9	91								0	0	a35	0
10	210								0	.7	60	0
11	15								0	127	534	0
12	0								0	147	570	0
13	0								0	a0	260	0
14	0								8	0	a10	0
15	0								2	0	a50	0
16	0								0	0	220	0
17	0								0	.5	20	0
18	0								0	0	32	0
19	0								0	0	130	0
20	0								0	0	1,650	0
21	0								0	.4	1,600	0
22	0								0	3	37	0
23	0								0	a0	50	0
24	0								0	130	134	0
25	0								0	344	140	a10
26	0								0	16	70	a1
27	0								0	620	90	0
28	0								0	640	710	0
29	0								0	30	a30	0
30	0								0	134	a2	0
31	0									a2	a.2	
Total	1,416	0	0	0	0	0	0	0	10	2,196.6	7,100.2	12
Mean	45.7	0	0	0	0	0	0	0	0.3	70.9	229	0.4
Ac-ft	2,810	0	0	0	0	0	0	0	20	4,360	14,080	24

Calendar year 1954: Max 1,500 Min 0 Mean 31.6 Ac-ft 22,870
Water year 1954-55: Max 1,650 Min 0 Mean 29.4 Ac-ft 21,290

Peak discharge (base, revised, 3,000 cfs).--Oct. 8 (7:30 p.m.) 6,200 cfs (11.35 ft); July 25 (12:15 a.m.) 3,380 cfs (10.75 ft); July 28 (12:15 a.m.) 3,750 cfs (11.0 ft); Aug. 7 (6 p.m.) 3,100 cfs (10.85 ft); Aug. 11 (11 p.m.) 4,000 cfs (11.1 ft); Aug. 20 (2:30 a.m.) 11,000 cfs (12.4 ft); Aug. 20 (8:15 p.m.) 6,200 cfs (10.9 ft); Aug. 21 (8 a.m.) 5,300 cfs (11.0 ft).

a No gage-height record; discharge estimated.

Socorro main canal north at San Acacia, N. Mex.

Location.--Lat 34°15'15", long 106°53'50", in SE¼NW¼ sec. 1, T. 1 S., R. 1 W., on left bank at San Acacia, half a mile downstream from point of diversion.

Records available.--April 1936 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,659.74 ft above mean sea level, datum of 1929.

Extremes.--1936-55: Maximum daily discharge, 234 cfs Aug. 26, 1938; no flow at times.

Remarks.--Records fair. Discharge measurements generally made once a week during periods of flow. Canal diverts water from right bank of Rio Grande for irrigation of about 8,000 acres. Three acequias, together irrigating about 300 acres, divert water from canal above station.

Revisions (water years).--WSP 1242: 1951.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	81	0	36.0	2,210
November	26	0	1.42	84
December	.3	.1	.11	6.9
Calendar year 1954	169	0	53.6	38,780
January	.3	0	.09	5.8
February	39	1	6.20	344
March	125	38	94.3	5,800
April	123	42	86.5	5,150
May	146	43	90.0	5,530
June	147	35	94.3	5,610
July	89	2	48.6	2,990
August	130	3	93.1	5,720
September	154	11	88.0	5,230
Water year 1954-55	154	0	53.4	38,680

Rio Grande at San Acacia, N. Mex.

Location.--Lat 34°15'13", long 106°53'45", in NE¼SW¼ sec. 1, T. 1 S., R. 1 W., on right bank an eighth of a mile southeast of San Acacia, 0.7 mile downstream from San Acacia diversion dam, and 2½ miles downstream from Rio Salado.

Drainage area.--26,770 sq mi, approximately (includes 2,940 sq mi in northern part of San Luis Valley, Colo.).

Records available.--April 1936 to September 1955 in reports of Geological Survey. February 1925 to September 1927 (gage heights and discharge measurements only) in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 4,658.10 ft above mean sea level, datum of 1929. February 1925 to September 1927, staff gage on old highway bridge half a mile upstream at different datum. Apr. 17, 1936, to Mar. 19, 1953, water-stage recorders on both banks at site half a mile upstream at various datums.

Average discharge.--19 years, 1,190 cfs (861,500 acre-ft per year).

Extremes.--Maximum discharge during year, 12,800 cfs Aug. 12 (gage height, 7.57 ft); no flow Sept. 21-24.
1936-55: Maximum discharge, 27,400 cfs Aug. 5, 1936 (gage height, 10.75 ft, former site, at datum 2.06 ft higher); no flow at times in 1946, 1950-55.

Remarks.--Records fair. Discharge measurements made about 24 times a month. Diversions above station for irrigation of about 760,000 acres; this includes Socorro main canal north (see preceding page), which bypasses station and irrigates about 8,000 acres. Records of chemical analyses, water temperatures, and sediment loads for the water year 1955 are given in WSP 1402.

Revisions (water years).--WSP 1242: 1951.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	53	6	255	340	498	498	25	2	600	0.6	595	726
2	43	19	234	330	510	510	40	2	360	.5	310	552
3	49	35	241	350	498	438	30	2	360	.5	370	460
4	49	39	227	450	510	370	40	1	642	.4	214	400
5	1,490	37	262	630	510	360	42	1	679	.4	128	450
6	990	40	290	570	474	266	29	2	736	.4	110	362
7	1,080	44	299	540	450	282	21	1	660	.5	790	353
8	930	58	308	555	474	290	20	1	426	.5	1,490	335
9	963	72	344	540	486	218	24	1	274	.6	1,950	326
10	1,120	68	335	525	498	156	13	1	204	332	1,140	440
11	820	60	362	525	510	118	9	1	99	22	2,230	410
12	371	78	353	525	540	96	6	6	24	12	7,480	335
13	190	65	326	540	540	128	9	3	11	6	1,730	196
14	145	75	380	540	525	128	7	13	31	15	870	178
15	130	46	362	525	540	162	7	80	41	11	1,140	63
16	75	44	380	510	525	162	6	234	13	9	852	16
17	46	61	371	498	525	128	5	450	9	6	1,160	10
18	39	115	380	510	510	132	5	462	7	3	621	8
19	55	135	400	525	525	93	3	350	6	84	830	11
20	56	172	380	540	540	86	3	402	6	74	2,250	7
21	36	178	390	510	630	90	3	486	5	3	4,350	0
22	9	172	400	498	570	258	2	615	2	137	4,420	0
23	8	184	410	486	510	266	2	1,400	3	440	1,950	0
24	7	190	420	450	450	162	3	1,050	3	880	1,500	0
25	6	202	400	414	426	96	3	1,220	3	725	1,010	656
26	6	184	410	414	570	64	3	1,480	1	324	628	1,960
27	7	172	420	426	540	51	2	1,560	1	2,190	609	390
28	6	172	438	450	510	60	2	1,440	1	4,610	1,910	172
29	6	196	438	498	-	72	2	1,640	1	2,660	2,460	92
30	6	208	426	570	-	45	2	1,950	.9	1,000	1,620	75
31	6	-	360	510	- - -	32	------	1,400	------	1,330	1,140	------
Total	8,797	3,127	11,001	15,294	14,394	5,817	368	16,256	5,208.9	14,877.4	47,857	8,983
Mean	284	104	355	493	514	188	12.3	524	174	480	1,544	299
Ac-ft	17,450	6,200	21,820	30,340	28,550	11,540	730	32,240	10,330	29,510	94,920	17,820

Calendar year 1954: Max 5,770 Min 0 Mean 381 Ac-ft 275,800
Water year 1954-55: Max 7,480 Min 0 Mean 416 Ac-ft 301,400

Peak discharge (base, 5,800 cfs).--July 27 (6:15 a.m.) 8,400 cfs (6.94 ft); July 28 (2:15 a.m.) 6,500 cfs (6.75 ft); Aug. 12 (2:15 p.m.) 12,800 cfs (7.57 ft); Aug. 20 (3:30 a.m.) 6,800 cfs (6.50 ft); Sept. 25 (5:45 a.m.) 5,800 cfs (6.72 ft).

Rio Grande at San Antonio, N. Mex.

Location.--Lat 33°55'10", long 106°51'00", in W½ sec. 33, T. 4 S., R. 1 E., on downstream end of pier near left end of bridge on U. S. Highway 380, about 0.9 mile east of San Antonio.

Drainage area.--27,400 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--June 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,541.73 ft above mean sea level, adjustment of 1951.

Extremes.--Maximum discharge during year, 9,500 cfs Aug. 13 (gage height, 6.10 ft); no flow for many days.
1951-55: Maximum discharge, that of Aug. 13, 1955; no flow at times.
Maximum flood known, about 50,000 cfs Oct. 10 or 11, 1904 (based on records at San Marcial).

Remarks.--Records fair. Discharge measurements generally made 10 times a month. Diversions above station for irrigation of about 770,000 acres. Station is bypassed by San Antonio riverside drain (see p. 367), Socorro main canal south (see following page), and one other small canal. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	97	0	181	270	450	415	59	0	660	0	546	675
2	68	12	165	256	420	425	21	0	380	0	434	450
3	66	12	160	211	435	400	39	0	235	0	330	370
4	55	7	165	238	430	306	27	0	274	0	242	375
5	1,030	15	158	342	440	290	22	0	528	0	155	365
6	592	17	178	522	450	256	23	0	468	0	158	375
7	1,010	17	190	430	450	252	7	0	605	0	500	270
8	672	18	202	420	440	282	2	0	290	0	1,120	252
9	1,320	19	211	405	450	270	5	0	175	0	1,900	205
10	629	25	249	400	435	202	.1	0	94	3	1,290	208
11	800	27	263	400	410	150	.9	0	68	8	1,110	229
12	322	25	260	415	420	129	0	0	19	.1	5,640	208
13	172	35	266	420	440	142	1	0	4	0	3,130	155
14	116	45	278	420	450	150	1	0	14	0	1,020	84
15	97	50	274	430	425	146	3	0	4	0	1,190	67
16	76	30	298	420	410	150	.4	4	10	0	890	10
17	61	22	278	405	385	120	.1	38	0	0	970	0
18	47	28	290	420	450	110	3	162	0	0	1,120	0
19	43	66	294	435	462	99	.5	187	0	0	1,080	0
20	41	87	282	460	480	80	.9	199	0	36	1,520	0
21	28	112	274	420	468	74	.7	214	0	48	3,440	0
22	54	121	286	410	552	72	.4	378	0	93	4,600	0
23	39	131	310	400	468	245	0	663	0	390	2,070	0
24	16	140	322	390	425	208	0	1,050	0	508	1,400	0
25	14	146	326	360	380	125	0	1,080	0	840	1,040	232
26	12	150	318	310	410	70	0	1,150	0	354	626	1,560
27	5	152	330	330	435	51	0	1,650	0	1,110	435	1,030
28	0	150	338	380	420	50	0	1,420	0	3,470	1,120	235
29	0	155	322	440	-	94	0	1,470	0	3,180	2,930	146
30	0	172	310	474	-	88	0	1,660	0	1,480	1,580	102
31	0	- -	298	462	- -	77	- - - - -	1,420	- - - - -	1,310	1,080	- - - - -
Total	7,484	1,986	8,076	12,075	12,290	5,528	217.0	12,745	3,828	12,830.1	44,666	7,603
Mean	241	66.2	261	390	439	178	7.23	411	128	414	1,441	253
Ac-ft	14,840	3,940	16,020	23,950	24,380	10,960	430	25,280	7,590	25,450	88,590	15,080

Calendar year 1954: Max 4,700 Min 0 Mean 312 Ac-ft 225,900
Water year 1954-55: Max 5,640 Min 0 Mean 354 Ac-ft 256,500

Peak discharge (base, 4,000 cfs).--July 28 (10 p.m.) 6,260 cfs (5.65 ft); Aug. 13 (12:30 a.m.) 9,500 cfs (6.10 ft); Aug. 18 (11 p.m.) 5,500 cfs (4.90 ft); Aug. 20 (10 a.m.) 5,900 cfs (4.95 ft); Aug. 22 (6:30 a.m.) 6,420 cfs (5.38 ft); Aug. 29 (6 a.m.) 4,900 cfs (4.82 ft); Sept. 27 (12:30 a.m.) 4,150 cfs (4.65 ft).

Socorro main canal south near San Antonio, N. Mex.

Location.--Lat 33°53'30", long 106°52'00", in NW¼ sec. 8, T. 5 S., R. 1 E., on right bank 1½ miles upstream from Bosque del Apache Grant and 1¼ miles south of San Antonio.

Records available.--April 1937 to July 1938 (published as "at end near San Antonio"), March 1948 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,526.41 ft above mean sea level, datum of 1929. April 1937 to July 1938 at two different sites 1½ miles downstream at different datums. March 1948 to November 1951 at site 30 ft upstream at datum 7.29 ft higher.

Extremes.- 1937-38, 1948-55: Maximum daily discharge, 42 cfs Aug. 7, 1955; no flow at times.

Remarks.--Records fair. Discharge measurements generally made three times a month. Canal diverts water from San Antonio riverside drain for irrigation above and below station. Some diversion occurs between gage and north boundary of U. S. Fish and Wildlife Refuge (Bosque del Apache Grant). This is one of three stations gaging flow into refuge.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	28	0	5.71	351
November	3	0	0.10	6.0
December	10	0	3.35	206
Calendar year 1954	30	0	5.55	4,020
January	6	1	4.00	246
February	25	0	10.4	577
March	28	.2	15.6	958
April	19	0	5.50	327
May	29	5	14.7	906
June	25	.2	10.9	647
July	26	.6	11.7	717
August	42	5	15.6	960
September	29	3	14.4	855
Water year 1954-55	42	0	9.33	6,760

San Antonio Riverside drain near San Antonio, N. Mex.

Location.--Lat 33°53'00", long 106°51'05", in SW¼SW¼ sec. 9, T. 5 S., R. 1 E., on left bank 1 mile east of U. S. Highway 85, 1.2 miles upstream from boundary of Bosque del Apache Grant (wildlife refuge), and 2 miles southeast of San Antonio.

Records available.--March 1948 to September 1955. May 1936 to February 1938, at site 50 ft below Elmendorf interior drain; records not equivalent.

Gage.--Water-stage recorder. Datum of gage is 4,524.33 ft above mean sea level (levels by Bureau of Reclamation). Mar. 15, 1948, to Mar. 31, 1949, at site 1.2 miles downstream at datum 1.14 ft lower.

Extremes.--1948-55: Maximum daily discharge, 130 cfs Aug. 7, 1955; minimum daily, 1.6 cfs Nov. 29, 1951.

Remarks.--Records fair. Discharge measurements generally made three times a month. Diversions from drain above station, canal wasteways and interior drains entering channel above station. Flow represents 1 of 3 channels entering north boundary of Bosque del Apache Grant. Average pickup per mile between station and Grant boundary is about 5 percent (as determined from comparative discharge measurements).

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	31	10	19.5	1,200
November	30	23	26.1	1,550
December	50	30	38.5	2,360
Calendar year 1954	79	3.5	34.5	25,000
January	61	46	55.5	3,420
February	71	50	59.7	3,310
March	59	18	48.8	3,000
April	56	10	41.1	2,440
May	54	7	27.9	1,720
June	60	9	39.5	2,350
July	58	5	19.3	1,190
August	130	38	58.4	3,590
September	52	12	21.9	1,300
Water year 1954-55	130	5	37.9	27,430

Elmendorf interior drain near San Antonio, N. Mex.

Location.--Lat 33°52'10", long 106°51'50", in SW¼ sec. 17, T. 5 S., R. 1 E., on left bank 15 ft north of north boundary of Bosque del Apache Grant (wildlife refuge), 0.7 mile east of railroad, and 3.3 miles south of junction of U. S. Highways 85 and 380.

Records available.--July 1936 to January 1938, March 1948 to September 1955.

Gage.--Water-stage recorder and modified Cippoletti weir type control. Datum of gage is 4,518.64 ft above mean sea level, datum of 1929. July 1936 to January 1938 staff gage at site 535 ft upstream at datum 0.60 ft higher. Mar. 11, 1948, to Nov. 10, 1949, water-stage recorder at site 535 ft upstream at different datum.

Extremes.--1948-55: Maximum daily discharge, 40 cfs Apr. 15, 1954; minimum daily, 0.2 cfs Aug. 29 to Sept. 2, 1948.

Remarks.--Records good. Discharge measurements generally made four times a month. Flow past station represents part of inflow to wildlife refuge.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	19	2.2	10.0	617
November	10	4.0	4.53	269
December	11	4.0	8.13	500
Calendar year 1954	40	1.1	9.62	6,965
January	9.6	7.2	8.13	500
February	13	4.2	5.99	333
March	37	5.5	15.1	926
April	38	8.2	18.0	1,070
May	35	12	23.8	1,460
June	38	10	24.3	1,440
July	32	6.0	15.7	963
August	26	6.0	15.2	933
September	28	4.0	16.8	998
Water year 1954-55	38	2.2	13.8	10,009

San Antonio Riverside drain near San Marcial, N. Mex.

Location.--Lat 33°44'50", long 106°55'30", in Bosque del Apache Grant (wildlife refuge), on right bank 1 mile upstream from outlet to Rio Grande conveyance channel, 5 miles northeast of San Marcial, and 12 miles south of San Antonio.

Records available.--March 1948 to September 1955.

Gage.--Water-stage recorder and wooden control. Datum of gage is 4,489.12 ft above sea level, datum of 1929.

Extremes.--1948-55: Maximum daily discharge, 180 cfs May 11, 1950; minimum daily, 1.0 cfs Nov. 12, 1953.

Remarks.--Records fair. Discharge measurements generally made four times a month. Flow represents seepage from river and waste from wildlife refuge. Diversions for irrigation of a few hundred acres above station.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	34	8	23.7	1,460
November	35	24	29.5	1,750
December	49	26	40.5	2,490
Calendar year 1954	148	2.8	40.8	29,510
January	129	46	85.0	5,230
February	101	48	83.6	4,640
March	134	44	100	6,160
April	96	37	66.3	3,940
May	94	40	67.2	4,130
June	94	17	54.8	3,260
July	85	7	18.5	1,140
August	154	16	94.4	5,800
September	63	10	29.1	1,730
Water year 1954-55	154	7	57.6	41,730

Rio Grande conveyance channel below heading near San Marcial, N. Mex.

Location.--Lat 33°44', long 106°55', in sec. 36, T. 6 S., R. 1 W., on left bank 1,250 ft downstream from heading structure, 6 miles upstream from San Marcial, and 13.4 miles southwest of San Antonio, Socorro County.

Records available.--November 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,475.42 ft above mean sea level (Bureau of Reclamation benchmark).

Extremes.--Maximum daily discharge during year, 1,500 cfs July 29; no flow for several days.
1953-55: Maximum discharge, 1,670 cfs Sept. 28, 1954 (gage height, 5.42 ft); no flow at times.

Remarks.--Records fair. Discharge measurements are generally made twice a week depending on rate of flow. Records of water temperatures and sediment loads for the water year 1955 are given in WSP 1402. Discharge in the conveyance channel represents entire flow of Rio Grande below about 2,000 cfs, plus one small drain (1 to 2 cfs). Flows above 2,000 cfs will bypass or breach earthen plug to main river channel (now called "floodway"). Conveyance channel is gated and was designed as a water salvage and ground-water intercept canal through the wide wooded valley; it is also gaged at the mouth of Nogal Canyon (see p. 370). Daily discharge for water year 1955 computed by subtracting daily mean discharge of San Antonio reverside drain near San Marcial from that of a supplementary gage on conveyance channel at Tiffany, 3.3 miles downstream. Records at another supplementary gage below San Marcial Lake are included in the total flow of Rio Grande at San Marcial (see following page).

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	33	0	127	224	371	387	39	1	285	0	419	378
2	12	1	125	374	345	383	31	2	275	0	222	227
3	6	4	139	359	351	399	8	3	174	4	152	152
4	5	6	149	277	354	325	18	3	157	2	125	112
5	270	6	137	273	361	274	6	3	253	2	103	90
6	246	9	146	500	385	232	4	3	192	1	76	107
7	324	9	155	449	391	182	9	4	203	2	171	168
8	328	9	159	416	379	203	4	1	147	2	428	189
9	497	11	166	407	374	229	2	2	67	2	680	192
10	245	12	221	363	378	179	1	3	30	2	799	154
11	436	16	220	341	387	117	1	3	13	1	392	211
12	209	17	225	363	398	95	0	2	10	1	862	176
13	92	17	237	369	424	80	0	2	5	2	1,080	150
14	46	28	238	383	440	88	2	1	4	1	857	62
15	24	34	237	384	432	88	1	3	2	1	470	30
16	13	33	274	375	382	80	1	2	1	2	416	33
17	10	18	250	353	349	102	3	0	1	0	336	4
18	7	13	233	354	359	98	2	20	1	0	412	2
19	6	27	237	362	370	84	1	100	3	0	585	3
20	4	59	272	384	375	62	1	129	2	1	535	1
21	4	87	252	398	405	57	2	134	4	3	936	2
22	5	94	25	373	477	51	3	174	9	9	1,200	1
23	4	98	109	250	470	127	2	312	3	128	1,210	3
24	4	98	254	346	371	167	1	695	0	229	897	2
25	3	101	294	409	377	94	2	773	2	445	575	3
26	3	108	305	294	331	46	3	893	4	474	386	554
27	3	102	455	242	438	28	4	1,020	4	351	257	1,400
28	2	107	405	293	430	33	4	940	2	1,140	438	411
29	0	104	216	339	-	46	2	116	2	1,500	782	150
30	0	123	156	411	------	64	2	96	2	1,110	798	80
31	0	------	126	419	------	60	------	177	------	609	500	------
Total	2,841	1,351	6,544	11,084	10,904	4,460	159	5,617	1,857	6,024	17,099	5,047
Mean	91.6	45.0	211	358	389	144	5.3	181	61.9	194	552	168
Ac-ft	5,640	2,680	12,980	21,980	21,630	8,850	315	11,140	3,680	11,950	33,920	10,010

Calendar year 1954: Max 1,380 Min 0 Mean 123 Ac-ft 88,957
Water year 1954-55: Max 1,500 Min 0 Mean 200 Ac-ft 144,775

Rio Grande at San Marcial, N. Mex.

Location.--Lat 33°40'50", long 106°59'15", in Pedro Armendaris Grant 33, on pier of Atchison, Topeka and Santa Fe Railway bridge, 1.1 miles downstream from former site of San Marcial, Socorro County, and 18½ miles southwest of San Antonio.

Drainage area.--27,700 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--January 1895 to September 1955 in reports of Geological Survey. January 1931 to September 1949 in Water Bulletins of International Boundary Commission.

Gage.--Water-stage recorder at present site and datum since June 25, 1943. Datum of gage is 4,455.38 ft above mean sea level, 1929 adjustment (levels by International Boundary Commission) and 4,455.19 ft by 1952 adjustment. Prior to June 15, 1920, and July 23, 1920, to Feb. 10, 1922, inclined staff, wire-weight, or inverted rod gages at site 0.3 mile upstream at datum 10.6 ft lower. June 15 to July 22, 1920, and March to June 1922 inverted rod gage, Dec. 29, 1923, to Mar. 13, 1932, and Feb. 17 to June 24, 1943, water-stage recorder, at highway bridge 1.8 miles upstream at different datums. Mar. 13, 1932, to Feb. 17, 1943, water-stage recorder alternately at 2 sites on present bridge, 1 at present datum, 1 at datum 3.70 ft higher. To measure bypass flow, supplementary recorder on Tiffany Channel 4 miles upstream Apr. 14, 1950, to Feb. 28, 1954, and on conveyance channel opposite river gage Mar. 1, 1954, to Sept. 30, 1955.

Average discharge.--59 years (1896-1955) 1,406 cfs (1,018,000 acre-ft per year).

Extremes.--Maximum daily discharge during year, 3,540 cfs Aug. 23; minimum daily, 3 cfs July 13.
1895-1955: Maximum discharge, about 50,000 cfs Oct. 11, 1904; no flow at times.

Remarks.--Records fair. Record is composite of main stem and conveyance channel. Discharge measurements generally made 2 to 4 times a week on each channel, less during low flow periods. Diversions for irrigation of about 775,000 acres above station. Records of chemical analyses, water temperatures, and sediment loads for the water year 1955 are given in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	181	33	172	227	510	499	90	38	1,300	15	1,050	973
2	128	33	156	314	460	482	48	48	567	44	504	605
3	94	32	161	420	455	497	51	58	373	58	315	426
4	99	35	163	396	473	484	58	52	256	31	323	339
5	285	36	172	347	468	420	61	50	456	22	265	283
6	698	36	168	479	488	396	70	45	481	21	199	321
7	736	39	185	554	477	328	70	42	556	19	377	241
8	849	40	195	517	497	302	74	33	488	13	902	237
9	873	41	198	497	479	328	66	39	292	10	1,430	266
10	829	38	224	475	466	306	70	45	183	7	1,880	155
11	938	40	266	444	427	225	68	42	124	5	1,030	200
12	646	41	258	451	449	193	85	43	76	4	1,740	190
13	312	48	272	453	477	171	88	40	40	3	2,840	164
14	189	46	284	468	488	171	84	36	37	19	3,470	75
15	137	52	278	475	493	179	83	37	31	14	1,310	43
16	108	57	300	457	466	168	80	47	36	10	1,020	42
17	93	58	294	453	444	182	69	50	45	8	705	18
18	78	47	268	446	405	210	65	68	48	11	950	13
19	69	44	288	449	484	174	76	128	52	21	1,260	14
20	66	59	314	497	453	158	72	180	51	21	1,060	16
21	62	90	306	517	424	166	63	212	50	15	1,900	38
22	61	112	203	468	545	158	49	225	46	12	2,870	49
23	64	121	104	367	603	177	60	376	23	35	3,540	48
24	44	128	256	398	510	288	63	592	16	163	2,450	45
25	35	131	336	464	479	236	61	818	24	284	1,470	45
26	39	134	343	497	433	160	52	922	24	578	910	323
27	33	132	443	376	488	129	64	1,070	21	354	527	1,300
28	28	136	495	387	528	118	51	1,360	18	862	917	635
29	32	116	286	427	-	125	43	1,280	15	1,760	1,690	206
30	30	163	230	493	-	116	38	1,220	14	3,030	2,510	121
31	28	----	176	508	----	122	----	1,520	----	1,200	1,550	----
Total	7,864	2,118	7,794	13,721	13,369	7,668	1,972	10,716	5,743	8,649	42,964	7,431
Mean	254	70.6	251	443	477	247	65.7	346	191	279	1,386	248
Ac-ft	15,600	4,200	15,460	27,220	26,520	15,210	3,910	21,250	11,390	17,160	85,220	14,740

Calendar year 1954: Max 3,550 Min 1 Mean 298 Ac-ft 215,600
Water year 1954-55: Max 3,540 Min 3 Mean 356 Ac-ft 257,900

Rio Grande conveyance channel at mouth of Nogal Canyon, near Truth or Consequences, N. Mex.

Location.--Lat 33°29', long 107°07', on downstream side of bridge about opposite mouth of Nogal Canyon and 25 miles northeast of Truth or Consequences (formerly Hot Springs) Sierra County.

Records available.--November 1953 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,405.20 ft above mean sea level, datum of 1929 (levels by Bureau of Reclamation).

Extremes.--Maximum discharge during year, 1,770 cfs July 29 (gage height, 6.50 ft); minimum daily, 14 cfs July 14.
1954-55: Maximum discharge, that of July 29 1955; minimum daily, 11 cfs July 15-21, 1954.

Remarks.--Records good. Discharge measurements generally made 5 to 10 times a month. Discharge in the conveyance channel represents flow of Rio Grande below about 2,000 cfs. The main river channel (now called "floodway") carries flow when gate-controlled intake to conveyance channel is exceeded or when earthen plug is breached or bypassed; it may also carry spring flow, leakage through continuous levee, or runoff from left bank caused by infrequent local storms. Records are studied to assist in substantiating the objective of reducing losses caused by dispersed and meandering passage through several miles of bottom-land vegetation in the main channel.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	40	179	191	528	518	117	57	319	28	694	495
2	85	46	162	275	478	492	88	62	435	32	345	327
3	74	39	161	385	462	495	66	72	370	77	255	223
4	73	42	164	408	475	505	60	70	273	57	265	172
5	76	44	173	342	470	435	74	67	305	40	236	133
6	373	44	168	418	488	405	78	64	365	32	217	142
7	278	44	179	556	473	349	82	58	329	36	246	173
8	358	47	191	520	510	307	88	52	319	44	460	253
9	318	49	195	488	485	331	82	50	233	44	690	297
10	580	50	217	475	480	325	84	56	163	24	1,060	192
11	362	49	270	442	425	259	86	67	127	18	835	232
12	360	51	258	442	455	212	90	54	100	16	838	228
13	188	52	272	448	480	183	104	54	58	15	1,160	190
14	111	55	290	462	492	178	103	51	123	14	1,280	121
15	71	56	285	475	498	183	100	48	67	34	723	70
16	59	65	298	470	482	187	94	51	60	22	608	58
17	52	62	292	462	460	173	92	60	63	20	480	44
18	49	58	268	450	415	222	85	69	68	18	562	32
19	47	52	270	448	485	192	80	108	67	23	600	27
20	46	59	315	496	456	178	90	194	69	207	532	27
21	45	83	310	517	430	166	81	238	67	35	980	39
22	43	116	242	485	491	163	73	252	64	37	1,220	58
23	40	127	111	380	620	167	66	347	50	97	1,380	63
24	39	137	205	380	542	272	74	512	32	147	1,160	57
25	33	137	320	432	492	263	75	816	30	246	760	56
26	39	138	340	511	455	197	74	885	35	575	535	247
27	41	140	377	398	478	145	70	1,010	34	564	372	1,000
28	33	140	535	375	530	133	73	1,170	32	700	391	908
29	37	135	327	410	-	138	62	679	29	1,320	652	259
30	37	136	240	472	-	145	57	223	27	1,600	979	160
31	41	--	173	505	-----	123	-----	190	-----	744	635	-----
Total	4,109	2,293	7,787	13,518	13,535	8,041	2,448	7,686	4,313	6,866	21,150	6,283
Mean	133	76.4	251	436	483	259	81.6	248	144	221	682	209
Ac-ft	8,150	4,550	15,450	26,810	26,850	15,950	4,860	15,250	8,550	13,620	41,950	12,460

Calendar year 1954: Max 1,140 Min 11 Mean 174 Ac-ft 126,200
Water year 1954-55: Max 1,600 Min 14 Mean 269 Ac-ft 194,400

Rio Grande at the narrows, in Elephant Butte Reservoir, N. Mex.

Location.--Lat 33°23'10", long 107°09'45", in NE¼ sec. 5, T. 11 S., R. 3 W., on right bank 19 miles northeast of Truth or Consequences (formerly Hot Springs), Sierra County.

Drainage area.--28,500 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.).

Records available.--May 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,363.63 ft above mean sea level (levels by Bureau of Reclamation). Prior to Aug. 25, 1953, at site 300 ft upstream at datum 13.70 ft higher.

Extremes.--Maximum discharge during year, 3,340 cfs Aug. 24 (gage height, 12.28 ft, present datum); minimum daily, 19 cfs July 14.
1951-55: Maximum discharge, 7,150 cfs June 6, 1952; maximum gage height, 8.28 ft May 13, 1952 (site and datum then in use); minimum daily discharge, 4.2 cfs July 28-31, 1951.
Maximum flood known occurred in October 1904 (discharge, about 50,000 cfs).

Remarks.--Records fair. Discharge measurements generally made eight times a month. Diversions for irrigation of about 775,000 acres above station. Zero of gage is 86.7 ft below crest of spillway at Elephant Butte dam.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	298	50	200	208	532	522	120	60	1,640	32	1,430	1,190
2	202	54	174	295	498	500	100	60	1,140	32	750	725
3	151	48	169	412	468	496	83	71	a500	82	450	512
4	131	50	169	440	490	506	66	77	310	67	390	430
5	129	52	176	357	490	444	74	73	a350	54	a300	a330
6	767	52	174	419	501	410	84	70	550	40	a250	360
7	730	53	182	582	480	358	88	64	500	44	a240	340
8	902	54	200	540	522	318	92	61	600	48	a900	a280
9	762	54	204	508	501	326	91	55	440	50	a1,500	304
10	1,100	55	221	498	487	322	88	59	a300	31	a1,900	201
11	813	54	292	452	433	268	89	72	190	24	a1,400	240
12	907	56	281	452	440	222	90	64	127	21	a1,200	248
13	530	57	287	464	480	198	108	62	a80	20	a2,500	201
14	295	63	304	480	498	194	109	58	135	19	a3,100	142
15	166	64	295	490	515	195	104	54	88	36	a1,800	84
16	144	72	307	480	498	198	100	55	70	27	1,150	66
17	119	73	310	460	468	187	97	66	70	25	936	55
18	104	69	275	440	430	236	91	73	74	24	1,010	39
19	91	61	275	430	484	198	82	96	75	26	1,080	34
20	81	62	333	498	452	185	96	166	80	221	a1,050	33
21	83	86	325	522	446	176	88	216	76	a50	1,820	38
22	76	121	267	501	508	172	80	240	a72	a40	2,150	62
23	79	137	128	397	629	a170	72	307	60	103	2,800	65
24	79	147	161	373	575	258	80	460	a45	148	3,240	62
25	59	148	329	440	515	271	81	760	38	260	a2,000	60
26	57	151	365	522	472	212	80	900	43	558	a1,200	255
27	58	155	377	415	472	163	76	1,000	39	580	a700	810
28	50	152	575	377	532	149	79	1,380	36	732	a800	940
29	50	146	345	405	-	a145	70	1,300	33	1,280	1,290	410
30	50	138	240	476	- -	a150	63	1,240	32	2,150	1,940	a200
31	51	------	194	518	-----	a140	------	1,400	------	1,940	1,840	------
Total	9,114	2,534	8,134	13,851	13,816	8,289	2,621	10,619	7,793	8,764	43,116	8,716
Mean	294	84.5	262	447	493	267	87.4	343	260	283	1,391	291
Ac-ft	18,080	5,030	16,130	27,470	27,400	16,440	5,200	21,060	15,460	17,380	85,520	17,290

Calendar year 1954: Max 3,440 Min 13 Mean 318 Ac-ft 229,900
Water year 1954-55: Max 3,240 Min 19 Mean 376 Ac-ft 272,500

Peak discharge (base, 4,000 cfs).--No peak above base.
a No gage-height record; discharge estimated on basis of records for upstream stations.

Rio Grande below Elephant Butte Dam, N. Mex.

Location.--Lat 33°08'45", long 107°12'20", in SW¼ sec. 25, T. 13 S., R. 4 W. (projected), in Pedro Armendaris Grant on left bank 1.0 mile downstream from dam and 1½ miles upstream from Cuchillo Negro River.

Drainage area.--28,900 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--October 1916 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,242.09 ft above mean sea level, datum of 1929. Prior to Oct. 1, 1926, at site 0.1 mile upstream at different datum. Oct. 1, 1926, to Jan. 17, 1939, at site 400 ft downstream from dam at datum 23.01 ft higher than present datum. Jan. 17 to Mar. 29, 1939, at site 0.8 mile upstream at datum 0.15 ft higher and Mar. 29, 1939, to Apr. 23, 1942, at site 0.8 mile upstream at datum 1.15 ft lower than present datum.

Average discharge.--39 years, 1,102 cfs (797,800 acre-ft per year).

Extremes.--Maximum daily discharge during year, 1,280 cfs Sept. 10, 11; minimum daily, 1.8 cfs Jan. 26, Feb. 24, 28.
1916-55: Maximum daily discharge, 8,220 cfs May 22, 1942; no flow at times prior to 1929.

Remarks.--Records good except those for periods of doubtful or no gage-height record, which are poor. Discharge measurements generally made once a week. Flow regulated by Elephant Butte Reservoir (see p. 418). Diversions for irrigation of about 800,000 acres above station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9	4	2.8	3.1	3.5	2.8	962	263	558	1,140	214	1,200
2	5	7	2.8	3.1	3.9	2.8	658	202	565	1,150	238	1,130
3	4	3	2.8	3.1	3.9	2.8	575	341	573	1,140	215	957
4	14	2	2.8	3.1	3.9	3.1	613	213	573	1,140	218	742
5	5	2	2.8	3.1	3.9	2.8	614	206	569	1,120	285	748
6	4	2	2.8	2.8	3.9	2.8	610	7	573	1,150	222	993
7	3	2	2.8	2.8	3.5	2.8	510	7	573	1,150	228	1,240
8	3	4	3.1	27	3.5	70	402	7	565	1,100	223	1,240
9	3	5	2.8	45	3.5	7.7	398	7.7	774	1,170	217	1,260
10	4	6	2.8	2.8	2.1	6.1	398	18	1,090	1,160	220	1,280
11	4	3	2.8	2.8	2.5	4.3	418	4.3	1,140	1,170	241	1,280
12	4	3	3.1	2.8	2.8	4.3	402	3.9	1,140	804	276	543
13	4	3	3.1	64	2.8	4.7	394	3.9	1,150	492	220	8.2
14	4	3	3.1	3.1	3.1	6.1	393	7.5	1,180	494	282	5.2
15	4	5	2.8	2.8	3.9	56	564	4.3	1,110	500	200	4.7
16	4	3	2.8	2.8	2.8	59	400	3.9	551	502	334	5.2
17	4	3	2.8	3.5	3.1	66	392	4.3	547	504	594	4.3
18	4	3	2.8	2.8	5.6	115	350	3.5	555	526	600	4.7
19	4	3	2.8	2.8	4	12	298	3.1	555	538	943	6.1
20	4	3	2.8	3.5	3	950	280	3.1	526	538	900	9.4
21	13	3	3.1	3.1	7.7	1,050	244	3.5	508	540	999	4.7
22	4	3	2.8	2.8	3.5	1,130	273	3.9	512	553	1,200	4.3
23	3	3	2.8	2.8	2.8	1,120	226	3.9	516	552	1,190	4.3
24	3	3	2.8	2.8	1.8	1,130	242	3.5	870	548	1,200	3.9
25	2	3	3.1	2.8	2.5	1,120	244	4.3	1,140	259	1,210	3.5
26	2	3	3.1	1.8	2.8	1,150	240	3.5	1,140	237	1,200	3.9
27	2	3	3.5	2.5	2.5	1,140	243	2.8	1,140	256	1,200	4.7
28	2	3	3.1	3	1.8	1,090	252	2.5	1,140	216	1,200	4.7
29	3	3	3.1	3	-	1,130	253	2.8	1,140	222	1,180	11
30	3	3	2.8	3	--	1,110	254	528	1,130	210	1,210	5.2
31	3	--	2.8	3.9	-----	1,100	------	555	------	204	1,200	------
Total	134	99	90.2	218.3	94.6	13,651.1	12,102	2,427.2	24,103	21,285	19,859	12,711.0
Mean	4.3	3.3	2.91	7.04	3.38	440	403	78.3	803	687	641	424
Ac-ft	266	196	179	433	188	27,080	24,000	4,810	47,810	42,220	39,390	25,210

Calendar year 1954: Max 1,550 Min 1 Mean 338 Ac-ft 244,900
Water year 1954-55: Max 1,280 Min 1.8 Mean 293 Ac-ft 211,800

Note.--Doubtful or no gage-height record Oct. 1, 2, 4-11, 21, 22, Oct. 27 to Nov. 17, Jan. 28-31, Feb. 19, 20, May 6-8; discharge estimated on basis of available recorder trace, release records, and weather records.

Rio Grande below Caballo Dam, N. Mex.

Location.--Lat 32°53'05", long 107°17'30", in NE¼SW¼ sec. 30, T. 16 S., R. 4 W., on left bank 600 ft upstream from Bojarquez Bridge, 4,200 ft downstream from Caballo Dam, 1¼ miles downstream from Apache Canyon, 1 1/3 miles upstream from Percha diversion dam, 3 miles northeast of Arrey, and 5 miles south of Caballo.

Drainage area.--30,200 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.).

Records available.--January 1938 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 4,140.9 ft above mean sea level, datum of 1929. Prior to Oct. 7, 1938, at datum 7.0 ft higher, Oct. 7-12, 1938, at datum 6.0 ft higher, and Oct. 13, 1938, to Dec. 31, 1945, at datum 5.0 ft higher than present datum.

Average discharge.--17 years, 1,006 cfs (728,300 acre-ft per year).

Extremes.--Maximum daily discharge during year, 2,240 cfs Sept. 9; minimum daily, 0.1 cfs Oct. 31 to Nov. 14.
1938-55: Maximum daily discharge, 7,650 cfs May 20, 1942; minimum daily, that of Oct. 31 to Nov. 14, 1954.

Remarks.--Records good. Flow regulated by Caballo Reservoir (capacity when constructed, 340,900 acre-ft) and Elephant Butte Reservoir (capacity, 2,185,400 acre-ft). Diversions for irrigation of about 800,000 acres above station.

Cooperation.--Records furnished by Bureau of Reclamation.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4	0.1	0.3	0.4	0.3	0.2	899	501	0.2	1,040	254	1,230
2	.4	.1	.4	.4	.3	.2	778	502	.2	932	473	1,330
3	.4	.1	.4	.3	.3	.2	611	519	.2	832	548	1,540
4	.4	.1	.4	.3	.3	.2	610	625	.2	673	534	1,580
5	.4	.1	.4	.3	.3	.2	589	480	.2	630	634	1,640
6	.4	.1	.5	.3	.2	.2	536	5.0	555	547	786	1,850
7	.3	.1	.5	.3	.2	.2	601	4.0	970	572	762	2,060
8	.3	.1	.5	.3	.2	.2	685	3.0	974	705	681	2,120
9	.3	.1	.4	.3	.2	.2	705	2.0	1,110	818	630	2,240
10	.3	.1	.4	.3	.2	.2	651	1.3	1,210	855	650	2,090
11	.3	.1	.4	.3	.2	.2	607	1.1	1,040	732	691	1,820
12	.2	.1	.4	.3	.2	.2	594	1.0	1,010	254	676	840
13	.2	.1	.4	.4	.2	.2	594	.9	1,010	7.0	504	138
14	.2	.1	.4	.4	.3	.2	671	.8	964	137	452	40
15	.2	.2	.4	.4	.3	.2	839	.7	846	540	379	3.2
16	.2	.2	.4	.4	.3	.2	690	.6	578	844	587	2.3
17	.2	.2	.4	.3	.3	.2	542	.6	451	888	865	2.3
18	.2	.2	.4	.3	.3	.2	490	.5	453	780	981	2.1
19	.2	.2	.3	.3	.3	.2	438	.5	454	648	1,040	1.9
20	.2	.2	.3	.3	.2	815	394	.4	483	511	987	1.3
21	.2	.2	.3	.3	.2	1,470	361	.4	515	308	921	1.1
22	.2	.2	.3	.3	.2	1,430	244	.4	584	225	915	1.0
23	.2	.2	.3	.3	.2	1,250	184	.3	588	183	930	.9
24	.2	.2	.3	.3	.2	1,350	153	.3	478	9.0	923	.8
25	.2	.2	.3	.3	.2	1,480	119	.3	440	111	923	.8
26	.2	.2	.3	.3	.2	1,450	120	.3	461	193	1,060	.7
27	.2	.2	.3	.3	.2	1,360	108	.3	697	17	1,140	.7
28	.2	.2	.3	.3	.2	1,210	124	.3	859	7.0	1,200	.6
29	.2	.2	.3	.3	-	1,060	318	.2	932	4.0	1,190	.6
30	.2	.3	.4	.3	------	1,050	500	.2	1,000	67	1,190	.6
31	.1	----	.4	.3	-------	1,010	-------	.2	-------	134	1,200	----
Total	7.8	4.7	11.5	9.9	6.7	14,938.8	14,755	2,652.6	18,663.0	14,203.0	24,706	20,538.9
Mean	0.25	0.16	0.37	0.32	0.24	482	492	85.6	622	458	797	685
Ac-ft	15	9.3	23	20	13	29,630	29,270	5,260	37,020	28,170	49,000	40,740
(†)	0	0	0	0	0	107	173	90	244	215	143	204

Calendar year 1954: Max 1,840 Min 0.1 Mean 337 Ac-ft 244,200
Water year 1954-55: Max 2,240 Min 0.1 Mean 303 Ac-ft 219,200

† Diversion by Bonita ditch, in acre-feet. Bonita ditch diverts directly from Caballo Dam and this diversion is not included in the river records.
Note.--Backwater from Percha Dam Sept. 13-30.

Pecos River near Pecos, N. Mex.

Location.--Lat 35°42'25", long 105°41'00", in NE¼NE¼ sec. 17, T. 17 N., R. 12 E., on left bank at downstream side of bridge on private road, 600 ft upstream from Indian Creek, 2 miles downstream from Holy Ghost Creek, and 11 miles north of Pecos.

Drainage area.--189 sq mi (contributing area).

Records available.--October 1930 to September 1955 in reports of Geological Survey. August 1919 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 7,502.94 ft above mean sea level, datum of 1929.

Average discharge.--25 years (1930-55), 98.3 cfs (71,170 acre-ft per year).

Extremes.--Maximum discharge during year, 582 cfs Aug. 19 (gage height, 3.36 ft); minimum daily, 10 cfs Jan. 23.
1930-55: Maximum discharge, 1,960 cfs May 14, 1941 (gage height, 4.57 ft); minimum daily, 6.1 cfs Jan. 16, 1934.

Remarks.--Records good except those for periods of ice effect, which are poor. Discharge measurements generally made twice a month. Diversions for irrigation of about 75 acres above station.

Rating tables, water-year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 31		Jan. 1 to Sept. 30			
1.4	12	1.5	16	2.3	126
1.5	16	1.7	30	2.7	241
1.7	30	2.0	66	3.2	470
2.0	66				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	21	23	16	16	18	20	26	144	319	58	117	215
2	21	22	18	17	20	20	26	146	294	55	110	196
3	21	23	21	18	20	22	25	121	278	53	105	178
4	20	21	23	20	18	22	20	126	260	53	117	164
5	22	20	18	18	18	22	22	136	238	55	119	151
6	46	20	16	15	16	22	24	134	224	51	124	144
7	57	20	16	16	20	22	26	154	221	55	135	141
8	40	20	16	18	22	22	27	181	228	50	156	141
9	36	19	14	22	24	22	20	181	231	46	187	131
10	32	19	24	25	24	24	24	181	231	45	187	119
11	29	19	24	23	20	23	31	167	211	54	175	110
12	27	19	20	21	20	22	28	178	193	97	184	103
13	26	21	20	22	22	24	28	178	181	69	167	95
14	26	23	18	22	25	26	34	173	170	62	159	87
15	27	20	18	18	25	27	45	184	156	68	184	83
16	26	19	18	18	24	28	56	199	146	59	208	78
17	26	18	17	17	25	25	66	181	141	65	199	76
18	26	18	17	16	24	25	59	173	128	68	287	74
19	25	16	17	14	20	25	65	173	119	83	390	73
20	25	16	18	12	18	25	62	175	114	76	448	71
21	24	16	18	12	16	22	69	218	108	76	426	66
22	24	17	18	12	14	20	76	303	97	65	442	63
23	24	18	18	10	14	22	59	365	89	68	437	60
24	24	18	19	12	14	22	51	415	87	62	365	65
25	24	18	19	12	16	22	62	420	85	68	319	141
26	24	17	18	14	16	20	80	360	80	93	279	87
27	23	15	18	14	18	21	89	328	73	134	324	71
28	21	15	16	14	20	26	85	319	68	134	311	65
29	23	15	15	15	-	26	103	311	63	138	290	63
30	23	15	15	15	------	28	136	319	60	156	274	60
31	21	------	16	16	------	28	------	328	------	138	241	------
Total	834	558	559	514	551	725	1,524	6,971	4,893	2,354	7,466	3,171
Mean	26.9	18.6	18.0	16.6	19.7	23.4	50.8	225	163	75.9	241	106
Ac-ft	1,650	1,110	1,110	1,020	1,090	1,440	3,020	13,830	9,710	4,670	14,810	6,290

Calendar year 1954: Max 192 Min 14 Mean 44.8 Ac-ft 32,420
Water year 1954-55: Max 448 Min 10 Mean 82.5 Ac-ft 59,750

Peak discharge (base, 310 cfs).--May 24 (9:30 p.m.) 470 cfs (3.24 ft); Aug. 19 (6:30 p.m.) 582 cfs (3.36 ft); Aug. 26 (11 p.m.) 448 cfs (3.17 ft).
Note.--Stage-discharge relation affected by ice Nov. 11-13, Nov. 16 to Dec. 2, Dec. 6-9, Dec. 12 to Feb. 17, Feb. 19 to Mar. 9, Mar. 19 to Apr. 6, Apr. 9-10.

Pecos River near Anton Chico, N. Mex.

Location.--Lat 35°10'50", long 105°06'20", in Anton Chico Grant, on right bank 2 miles upstream from Canyon Blanco, 2½ miles southeast of Anton Chico, and 10 miles downstream from Tecolote Creek.

Drainage area.--1,050 sq mi, approximately (contributing area).

Records available.--April 1910 to December 1914 and October 1930 to September 1955 in reports of Geological Survey. April 1910 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 5,130 ft (from river-profile map). Prior to July 2, 1937, at five different sites from one-sixth of a mile to 5 miles upstream at various datums. July 2, 1937, to June 21, 1951, at site 345 ft upstream at datum 2.42 ft higher.

Average discharge.--42 years (1912-25, 1926-55), 141 cfs (102,100 acre-ft per year).

Extremes.--Maximum discharge during year, about 8,900 cfs Sept. 25; minimum daily, 0.1 cfs Mar. 11-12.
1912-55: Maximum discharge, 40,300 cfs June 1, 1937 (gage height, 20.34 ft, site and datum then in use), by slope-area method; no flow at times.

Remarks.--Records fair. Discharge measurements made two or more times a month. Diversions above station for irrigation of about 6,200 acres above and below station.

Revisions (water years).--WSP 1342: 1951(M), 1952-53.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	22	12	8.6	12	14	15	62	322	1.6	181	298
2	36	22	9.8	7.6	11	12	16	104	316	1.3	149	262
3	32	22	12	15	8.6	9.8	14	101	298	1.7	143	208
4	29	23	10	19	8.5	6.6	9.4	92	295	1.4	139	185
5	740	23	12	19	5	4.1	13	78	290	48	204	166
6	4,070	23	16	8.1	3.5	4.5	12	88	246	5.6	724	140
7	812	23	16	8.1	3.2	3.8	10	80	216	4.3	649	130
8	164	20	12	8	4.2	1.3	20	94	214	6.3	645	116
9	84	18	9.8	7	5.2	.5	23	128	210	5.6	809	116
10	67	18	9.8	6	5	.2	19	155	221	41	552	98
11	57	17	12	5	5	.1	13	166	218	6.6	1,170	134
12	46	16	12	3.2	6.7	.1	9.4	155	210	21	492	103
13	39	16	10	3	8.6	2.0	9.8	164	183	54	364	83
14	36	17	11	6.6	9.8	2.5	9.4	159	164	50	277	72
15	35	18	9.8	7.6	7.9	2.5	7.2	153	146	41	587	61
16	35	20	7	7.0	5.0	1.7	7.2	150	125	98	654	53
17	35	20	7.5	6.2	4.8	.7	6.0	159	105	121	475	43
18	32	18	7	16	5.3	8.3	15	157	93	42	910	30
19	31	19	6	5.9	5.3	3.4	32	211	89	53	635	26
20	31	20	7	4.8	4	2.9	34	200	118	206	645	42
21	29	16	7	2.8	4	9.4	30	177	141	327	829	24
22	28	18	6.5	2.8	4.8	15	26	206	91	79	698	27
23	28	17	6.5	1.1	5.0	15	40	313	78	49	650	25
24	27	16	6.5	2	1.8	13	53	367	65	216	601	25
25	23	16	7.5	3	1.3	15	41	443	42	374	538	2,160
26	21	17	7.5	4	1.3	15	34	430	31	136	443	299
27	21	16	7	5.1	2.0	15	30	380	21	463	403	172
28	21	14	6	7	6.1	15	36	346	14	339	431	132
29	19	13	5	9	-	14	36	337	15	571	450	113
30	21	13	5	12	------	12	40	331	1.8	408	378	104
31	21	------	6	15	------	9.4	------	325	------	218	358	------
Total	6,711	551	279.2	235.5	154.9	228.8	660.4	6,311	4,578.8	3,989.4	16,183	5,447
Mean	216	18.4	9.01	7.60	5.53	7.38	22.0	204	153	129	522	182
Ac-ft	13,310	1,090	554	467	307	454	1,310	12,520	9,080	7,910	32,100	10,800

Calendar year 1954: Max 4,070 Min 0 Mean 67.0 Ac-ft 48,480
Water year 1954-55: Max 4,070 Min 0.1 Mean 124 Ac-ft 89,900

Peak discharge (base, 3,000 cfs).--Oct. 5 (10 p.m.) 4,730 cfs (8.88 ft); Oct. 6 (5 p.m.) 8,470 cfs (11.24 ft); Aug. 9 (7:30 p.m.) 3,540 cfs (7.98 ft); Aug. 11 (3 p.m.) 8,570 cfs (11.20 ft); Aug. 15 (9:30 p.m.) 3,630 cfs (8.04 ft); Sept. 25 (7 a.m.) about 8,900 cfs.
Note.--Stage-discharge relation affected by ice, Dec. 16-31, Jan. 8-11, 13, 24-26, 28-29, Feb. 4-6, 10-11, 20-21.

Gallinas River near Montezuma, N. Mex.

Location.--Lat 35°39'00", long 105°19'10", in Las Vegas Grant, on left bank 2 miles west of Montezuma, San Miguel County, and 6 miles northwest of Las Vegas.

Drainage area.--84 sq mi, approximately.

Records available.--October 1930 to September 1955 in reports of Geological Survey. March 1915 to December 1931 (no winter records 1915-26) in reports of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 6,950 ft (from topographic map).

Average discharge.--29 years (1926-55), 18.6 cfs (13,470 acre-ft per year).

Extremes.--Maximum discharge during year, 378 cfs Sept. 24 (gage height, 3.40 ft); minimum daily, 0.9 cfs Dec. 29.
1930-55: Maximum discharge, 3,310 cfs Sept. 23, 1941 (gage height, 7.78 ft), from rating curve extended above 350 cfs by logarithmic plotting; minimum daily, 0.6 cfs July 3-6 and 8-11, 1951.

Remarks.--Records good except those for periods of ice effect, which are poor. Diversions for irrigation of about 10 acres above station.

Rating tables, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Dec. 31

0.3	1.2	0.6	6.0
.4	2.1	.7	9.3
.5	3.7	.9	18

Jan. 1 to Sept. 30

0.3	1.6	1.2	30
.4	3.0	1.6	57
.6	7.3	2.0	99
.8	13	2.4	157

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.2	2.0	1.6	1.7	4.0	2.2	1.6	10	33	2.6	*14	23
2	1.2	2.1	1.5	2.4	3.8	1.8	1.9	*12	30	2.5	12	20
3	1.2	2.1	1.4	*2.7	3.5	1.8	2.6	11	26	2.3	10	17
4	1.2	2.1	1.4	2.8	*3.0	*1.9	2.7	9.5	23	2.6	9.5	16
5	1.4	2.1	1.3	2.8	2.6	1.9	3.0	9.3	22	*2.6	13	14
6	7.0	2.1	1.4	2.3	2.5	1.9	3.6	9.0	*18	2.2	28	13
7	15	2.0	1.5	2.0	2.4	1.9	3.2	9.3	16	2.3	46	13
8	*5.6	2.1	1.7	2.1	2.4	1.9	3.2	11	14	2.2	59	13
9	3.9	2.0	*1.8	2.2	2.4	2.2	3.2	10	14	2.1	44	11
10	3.1	1.9	1.3	2.2	2.4	2.3	3.2	12	16	2.1	60	10
11	2.8	2.0	2.0	2.2	2.4	2.3	3.6	15	16	2.4	*76	10
12	2.6	1.9	1.2	2.4	2.4	2.3	4.0	18	14	5.1	99	10
13	2.3	2.1	1.1	2.4	2.4	2.3	4.0	21	11	5.2	80	8.4
14	2.4	2.4	1.1	2.7	2.4	2.5	5.4	19	8.4	3.4	59	7.1
15	2.8	2.3	1.1	2.6	2.4	2.5	*6.8	19	8.1	2.9	69	6.3
16	2.6	1.9	1.0	2.6	2.4	1.6	6.8	18	7.3	17	103	6.1
17	2.6	2.0	1.0	2.6	2.5	1.6	7.3	16	6.8	4.7	82	5.9
18	2.6	*2.1	1.1	2.0	2.8	1.8	7.3	23	6.1	3.8	103	5.6
19	*2.4	1.9	1.2	1.8	2.4	3.2	6.8	58	5.6	3.6	122	5.9
20	2.3	1.9	1.4	1.7	1.8	3.4	6.3	69	6.9	25	152	*6.1
21	2.4	1.8	1.6	1.7	1.6	2.8	5.1	85	9.3	8.7	122	5.4
22	2.4	1.8	1.6	1.5	1.4	2.8	6.3	123	8.1	5.6	111	4.9
23	2.4	1.8	*1.6	1.1	1.4	3.2	6.6	129	7.6	5.4	129	4.9
24	2.4	1.8	1.8	1.2	1.4	3.2	6.3	128	6.6	4.9	89	27
25	2.4	1.8	1.7	1.8	1.4	3.2	*6.3	*112	5.4	4.5	68	46
26	2.1	1.8	1.5	2.2	1.8	2.8	6.8	84	4.7	4.5	52	13
27	2.0	1.7	1.3	*2.6	2.0	2.8	8.1	66	4.1	13	43	10
28	1.9	1.7	1.0	2.7	2.3	3.0	7.6	55	3.4	11	38	8.7
29	2.1	1.4	.9	3.2	-	3.0	7.1	44	3.0	13	37	7.6
30	2.1	1.6	1.0	3.6	------	1.6	9.0	39	2.9	18	31	7.1
31	2.1	------	1.1	4.0	------	1.6	------	35	------	16	27	------
Total	90.5	58.2	42.2	71.8	66.2	73.3	155.7	1,279.1	357.3	201.2	1,987.5	356.0
Mean	2.92	1.94	1.36	2.32	2.36	2.36	5.19	41.3	11.9	6.49	64.1	11.9
Ac-ft	180	115	84	142	131	145	309	2,540	709	399	3,940	706

Calendar year 1954: Max 18 Min 0.9 Mean 3.04 Ac-ft 2,200
Water year 1954-55: Max 152 Min 0.9 Mean 13.0 Ac-ft 9,400

Peak discharge (base, 150 cfs).--July 16 (2:30 p.m.) 322 cfs (3.18 ft); July 20 (4:30 p.m.) 200 cfs (2.63 ft); Aug. 7 (3:30 p.m.) 174 cfs (2.49 ft); Aug. 8 (3 p.m.) 178 cfs (2.53 ft); Aug. 20 (3:30 p.m.) 270 cfs (2.99 ft); Aug. 22 (7 p.m.) 183 cfs (2.58 ft); Sept. 24 (10 p.m.) 378 cfs (3.40 ft).

* Discharge measurement made on this day.

Note.--Stage-discharge relation affected by ice Nov. 29 to Dec. 1, Dec. 5-6, 8, Dec. 11 to Feb. 17, 20-27, Mar. 21-22, 26-29.

Gallinas River at Montezuma, N. Mex.

Location.--Lat 35°39'15", long 105°16'30", in Las Vegas Grant, near center of span on downstream side of highway bridge, half a mile downstream from Montezuma, San Miguel County, and 5 miles northwest of Las Vegas.

Drainage area.--87 sq mi, approximately.

Records available.--August 1903 to December 1914 (prior to October 1904, gage heights only) and October 1930 to September 1955 in reports of Geological Survey. October 1904 to December 1931 in reports of State engineer (prior to 1930, published as "near Las Vegas").

Gage.--Water-stage recorder. Altitude of gage is 6,675 ft (from topographic map). Prior to Mar. 24, 1926, staff gage at same site and datum.

Average discharge.--48 years (1905-11, 1913-55), 19.5 cfs (14,120 acre-ft per year).

Extremes.--Maximum discharge during year, 217 cfs Aug. 20 (gage height, 4.29 ft); minimum daily, 0.3 cfs Apr. 12.
1930-55: Maximum discharge, 6,020 cfs Sept. 3, 1942 (gage height, 7.75 ft), from rating curve extended above 1,000 cfs by logarithmic plotting; no flow Oct. 4-9, 1934. A very destructive flood, probably the greatest known, occurred Sept. 29-30, 1904.

Remarks.--Records good above 1 cfs and fair below. Flow partly regulated at low flows by small reservoirs owned by Public Service Co. of New Mexico. Diversions for irrigation of about 15 acres above station and for Las Vegas city water supply.

Revisions (water years).--WSP 1178: 1942.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Feb. 17				Feb. 18 to Sept. 30			
2.5	0.1	2.8	5.0	2.3	0.0	3.2	31
2.6	1.1	2.9	8.4	2.5	.6	3.5	59
2.7	2.6	3.0	13	2.6	2.2	3.9	123
				2.7	4.9	4.1	167
				2.9	12		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	1.8	0.7	1.2	0.7	0.8	0.5	2.0	30	0.9	*8.6	20
2	.9	5.8	.9	1.4	.9	.8	.4	*8.9	28	.6	7.9	16
3	.9	3.4	.6	*1.4	.9	.8	.5	9.5	24	.9	6.6	14
4	.9	2.0	.6	1.2	*.7	*.7	.6	7.9	20	1.2	5.2	12
5	3.3	1.2	.5	1.4	.7	.6	.7	7.9	20	*1.4	4.9	9.5
6	9.4	1.0	.5	1.4	.7	.6	1.2	7.9	*16	1.2	23	*9.9
7	8.1	.9	.5	1.5	.9	.5	1.6	7.9	13	1.2	44	14
8	*5.3	.6	.5	1.1	.9	.5	1.1	11	12	1.1	61	14
9	3.8	.5	*.4	1.0	1.0	.6	.8	14	10	1.1	43	9.9
10	3.1	.6	.5	.9	.9	.6	.7	7.9	15	1.1	59	5.6
11	2.3	.4	.6	1.0	.9	.6	.5	16	15	1.9	74	5.6
12	1.6	.4	.6	1.2	1.0	.5	.3	19	12	3.0	101	5.6
13	1.4	.5	.6	1.2	1.1	.5	.5	22	9.5	2.2	81	4.3
14	1.0	.5	.6	1.4	1.0	.5	.6	22	6.9	2.0	59	3.2
15	.9	.5	.6	1.4	1.0	.6	*2.1	22	5.9	1.8	*66	3.0
16	.9	.5	.7	1.4	.9	.6	.7	19	4.6	10	110	3.0
17	.7	.4	.6	1.2	.9	.5	.5	18	2.5	3.9	82	3.8
18	.7	*.4	.7	.9	*.8	.4	.4	25	3.8	2.4	104	3.5
19	*.9	.4	.9	.7	.9	.5	.6	63	3.8	1.6	127	3.0
20	1.0	.5	.7	.7	.8	.5	.6	72	4.0	23	162	*2.7
21	1.0	.5	.5	.7	.9	.6	.6	84	7.2	8.5	129	2.5
22	1.0	.5	.5	.7	.8	*.6	.5	121	5.9	2.7	107	2.2
23	1.0	.5	*.5	.7	.8	.5	.6	123	4.3	1.8	131	1.8
24	1.1	.6	.6	.7	.8	.5	.6	123	5.2	1.6	90	4.4
25	1.0	.6	.7	.7	.9	.4	*.6	*106	2.5	1.6	66	64
26	1.0	.6	.9	.7	.8	.4	8.6	76	2.0	1.8	46	13
27	.9	.7	1.0	*.7	.8	.4	15	60	1.6	4.1	39	5.2
28	.9	.6	1.0	.7	.9	.4	5.5	47	1.6	9.2	34	4.6
29	.9	.9	1.2	.7	-	.5	1.5	39	1.4	7.4	34	3.8
30	1.0	1.0	1.2	.7	------	.5	.4	33	1.2	14	28	3.8
31	1.1	------	1.2	.7	------	.5	------	32	------	10	24	------
Total	58.9	28.8	21.6	31.3	24.3	17.0	48.8	1,226.9	288.9	125.2	1,957.2	267.9
Mean	1.90	0.96	0.70	1.01	0.87	0.55	1.63	39.6	9.63	4.04	63.1	8.93
Ac-ft	117	57	43	62	48	34	97	2,430	573	248	3,880	531

Calendar year 1954: Max 9.4 Min 0.2 Mean 1.14 Ac-ft 825
Water year 1954-55: Max 162 Min 0.3 Mean 11.2 Ac-ft 8,120

Peak discharge (base, 100 cfs).--May 24 (5 a.m.) 136 cfs (3.97 ft); July 20 (7 p.m.) 115 cfs (3.86 ft); Aug. 8 (5 p.m.) 117 cfs (3.87 ft); Aug. 11 (10 p.m.) 140 cfs (3.98 ft); Aug. 16 (3 a.m.) 125 cfs (3.91 ft); Aug. 20 (5 p.m.) 217 cfs (4.29 ft); Aug. 23 (12:30 a.m.) 180 cfs (4.15 ft); Sept. 25 (12:30 a.m.) 203 cfs (4.26 ft).
* Discharge measurement made on this day.

Gallinas River near Lourdes, N. Mex.

Location.--Lat 35°28'15", long 105°09'35", in Las Vegas Grant, on right bank 0.8 mile upstream from ford on Lourdes-Romeroville road, 1.2 miles northwest of Lourdes, 2.8 miles downstream from Pagosa Canyon, and 9 miles south of Las Vegas.

Drainage area.--313 sq mi.

Records available.--June 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 5,928 ft above mean sea level (levels from planetable benchmark).

Extremes.--Maximum discharge during year, 3,440 cfs Oct. 6 (gage height, 7.35 ft); minimum daily, 0.2 cfs July 1-3.
1951-55: Maximum discharge, that of Oct. 6, 1954; minimum daily, 0.1 cfs June 12, 13, 18, 19, 1954.
Major floods occurred in 1904 and on June 1, 1937.

Remarks.--Records good except those for periods of ice effect, which are poor. Discharge measurements generally made twice a month. Diversions for irrigation of about 8,500 acres above station.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used June 12 to July 20)

1.2	0.2	2.1	31
1.3	.6	2.5	69
1.4	1.6	3.0	147
1.5	3.2	3.5	255
1.6	5.8	4.0	405
1.7	9.3	4.5	615
1.9	19	5.3	1,130

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	1.4	1.8	1.5	1.4	1.3	1.4	1.4	1.2	0.2	2.8	2.9
2	1.2	1.5	1.8	2.0	1.3	1.2	1.4	1.4	1.1	.2	2.6	3.2
3	1.1	1.6	1.6	2.5	1.2	1.2	1.3	1.0	.8	.2	2.1	3.2
4	1.0	2.0	1.6	2.8	1.1	1.2	1.3	1.0	.7	.3	33	2.8
5	39	2.0	1.6	2.5	1.1	1.2	1.4	1.1	.9	.5	48	2.8
6	1,100	2.0	1.3	1.9	1.0	1.4	1.5	1.1	.8	.9	11	2.8
7	200	1.8	1.5	1.9	1.2	1.4	1.8	1.1	.8	.8	5.8	3.1
8	18	1.8	1.6	1.7	1.3	1.2	2.0	1.2	.7	.6	22	3.5
9	6.6	1.6	1.5	1.5	1.3	1.3	2.0	1.3	1.0	.4	133	3.8
10	3.2	1.6	1.6	1.4	1.0	1.2	1.6	6.7	1.1	.4	51	3.2
11	2.0	1.6	1.6	1.4	1.0	1.4	1.4	4.3	1.3	.5	29	3.2
12	1.5	1.8	1.6	1.4	1.0	1.5	1.2	2.0	1.4	40	20	3.2
13	1.2	2.0	1.5	1.4	1.0	1.6	1.4	1.5	1.4	6.6	6.6	3.1
14	1.0	2.4	1.5	1.5	1.0	1.5	1.4	1.4	1.3	2.6	3.5	2.9
15	1.2	2.0	1.4	1.4	1.0	1.5	1.0	1.4	1.0	5.1	3.8	2.8
16	.9	1.8	1.2	1.4	1.1	1.8	1.0	1.3	1.3	35	4.0	2.4
17	.9	1.8	1.1	1.4	1.1	2.0	1.0	1.4	1.3	6.3	4.3	2.8
18	.9	2.0	1.2	1.1	1.3	1.6	1.1	2.6	.9	2.8	84	3.1
19	1.0	1.8	1.2	.9	1.3	1.6	1.2	159	.6	2.3	24	3.1
20	1.0	2.0	1.3	.9	1.0	1.8	1.1	56	.5	176	89	4.5
21	1.0	2.0	1.4	.8	.9	2.1	1.2	7.2	1.0	62	86	3.5
22	1.0	1.8	1.4	.7	.9	2.3	1.2	6.2	5.5	11	14	3.1
23	1.3	1.8	1.3	.7	.8	2.0	1.3	8.9	2.3	4.8	5.8	3.1
24	1.5	1.8	1.3	.8	.8	2.0	1.3	4.5	1.8	51	4.2	14
25	1.3	1.8	1.3	1.0	1.0	1.6	1.2	2.4	1.5	11	3.8	495
26	1.4	1.4	1.2	1.2	1.2	1.6	1.1	2.0	1.1	6.2	2.9	29
27	1.5	1.4	1.2	1.2	1.4	1.6	1.1	1.6	.9	4.5	2.8	11
28	1.5	1.4	1.0	1.3	1.4	1.6	1.1	1.4	.8	6.1	3.8	6.8
29	1.5	1.6	.9	1.4	-	1.5	1.3	1.3	.6	8.3	3.8	4.8
30	1.5	1.8	.9	1.5	------	1.4	1.3	1.2	.3	14	5.3	4.5
31	1.5	------	1.0	1.5	------	1.3	------	1.2	------	4.8	3.2	------
Total	1,398.0	53.3	42.4	44.6	31.1	48.0	39.6	286.1	35.9	465.4	715.1	637.2
Mean	45.1	1.78	1.37	1.44	1.11	1.55	1.32	9.23	1.20	15.0	23.1	21.2
Ac-ft	2,770	106	84	88	62	95	79	567	71	923	1,420	1,260

Calendar year 1954: Max 1,100 Min 0.1 Mean 8.32 Ac-ft 6,020
Water year 1954-55: Max 1,100 Min 0.2 Mean 10.4 Ac-ft 7,520

Peak discharge (base, 600 cfs).--Oct. 6 (6 p.m.) 3,440 cfs (7.35 ft); July 20 (5 p.m.) 2,030 cfs (6.28 ft); July 24 (5:30 p.m.) 718 cfs (4.68 ft); Aug. 9 (3:30 p.m.) 1,790 cfs (6.02 ft); Aug. 18 (4:30 p.m.) 1,070 cfs (5.18 ft); Aug. 20 (8:30 p.m.) 1,070 cfs (5.18 ft); Sept. 25 (2:30 a.m.) 2,140 cfs (6.38 ft).

Note.--Stage-discharge relation affected by ice Dec. 6, Dec. 11 to Feb. 17, Feb. 19-27.

Gallinas River near Colonias, N. Mex.

Location.--Lat 35°11'10", long 104°54'40", on right bank 1½ miles upstream from mouth, 2 miles south of San Miguel-Guadalupe County line, and 6¼ miles northwest of Colonias.

Drainage area.--610 sq mi, approximately.

Records available.--January 1951 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 4,940 ft (from river-profile map).

Extremes.--Maximum discharge during year, 2,800 cfs Oct. 7 (gage height, 10.60 ft); no flow for long periods.
1951-55: Maximum discharge, 3,720 cfs Sept. 26, 1954 (gage height, 12.10 ft); no flow for long periods.
Maximum flood known occurred about June 1, 1937, when a stage of about 27 ft was reached, discharge determined as 23,000 cfs, by slope-area measurement made in 1951. A flood of about the same magnitude occurred in 1904.

Remarks.--Records poor. Diversions for irrigation of about 9,600 acres above station.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-2, 5)

Oct. 1 to July 14				July 15 to Sept. 30			
1.7	0	3.0	111	1.2	0	2.5	53
1.8	1	4.0	270	1.3	1	3.0	97
1.9	4	5.0	485	1.4	2	3.5	158
2.0	8	7.0	1,140	1.5	4	4.0	240
2.2	21	7.8	1,450	1.7	10	5.0	470
2.5	48			2.1	27	5.5	620

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0							0		0	7	0
2	0							0		0	1	0
3	0							0		0	0	0
4	0							0		0	0	0
5	16							0		0	0	0
6	484							0		0	319	0
7	1,440							0		0	328	0
8	*131							0		0	315	0
9	23							0		0	15	0
10	3							0		0	*213	0
11	0							0		0	185	0
12	0							0		0	146	0
13	0							0		0	23	0
14	0							0		0	26	0
15	0							0		10	30	0
16	0							0		0	1	0
17	0							0		18	0	0
18	0							0		7	*0	0
19	0							2		*136	74	0
20	0							77		29	103	0
21	0							28		92	600	0
22	0							1		47	221	0
23	0							0		12	37	0
24	0							0		41	11	88
25	0							0		110	21	229
26	0							0		*28	5	*133
27	0							0		12	1	36
28	0							0		10	0	16
29	0				—			0		128	0	9
30	0				------			0		179	0	6
31	0	------			------		-----	0	------	25	0	------
Total	2,097	0	0	0	0	0	0	108	0	884	2,680	517
Mean	67.6	0	0	0	0	0	0	3.5	0	28.5	86.5	17.2
Ac-ft	4,160	0	0	0	0	0	0	214	0	1,750	5,320	1,030

Calendar year 1954: Max 1,440 Min 0 Mean 12.5 Ac-ft 9,010
Water year 1954-55: Max 1,440 Min 0 Mean 17.2 Ac-ft 12,470

Peak discharge (base, 700 cfs).--Oct. 6 (6 p.m.) 1,140 cfs (6.95 ft); Oct. 7 (6 a.m.) 2,800 cfs (10.60 ft); July 19 (6:30 p.m.) 1,310 cfs (7.46 ft); July 29 (7 p.m.) 1,040 cfs (6.73 ft); Aug. 6 (8 a.m.) 953 cfs (6.48 ft); Aug. 6 (8:30 p.m.) 880 cfs (6.27 ft); Aug. 7 (11:30 p.m.) 2,260 cfs (9.58 ft); Aug. 20 (12 p.m.) 1,920 cfs (8.90 ft); Aug. 21 (10 p.m.) 1,320 cfs (7.48 ft); Sept. 24 (5:30 a.m.) 1,140 cfs (7.00 ft); Sept. 25 (2:30 p.m.) 880 cfs (6.27 ft).
* Discharge measurement or observation of no flow made on this day.

Pecos River at Santa Rosa, N. Mex.

Location.--Lat 34°56'05", long 104°41'25", in SW¼SW¼ sec. 2, T. 8 N., R. 21 E., near center of span on downstream side of bridge pier on U. S. Highway 66 at Santa Rosa, 1 mile upstream from Rio Agua Negra Chiquita.

Drainage area.--2,650 sq mi, approximately (contributing area).

Records available.--May 1903 to December 1906 (gage heights only), February 1910 to July 1911, September 1912 to December 1914, and October 1930 to September 1955 in reports of Geological Survey. February 1910 to July 1911 and September 1912 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder and concrete control. Datum of gage is 4,529.77 ft above mean sea level, datum of 1929. Prior to May 5, 1922, chain gage within a quarter of a mile of present site at different datum. May 5, 1922, to June 24, 1937, water-stage recorder at several sites within a quarter of a mile of present site at various datums.

Average discharge.--36 years (1912-14, 1916-23, 1928-55), 154 cfs (111,500 acre-ft per year).

Extremes.--Maximum discharge during year, 17,800 cfs Oct. 7 (gage height, 14.58 ft); minimum daily, 5.2 cfs June 30, July 1.
1930-55: Maximum discharge, 55,200 cfs June 2, 1937 (gage height, 25.7 ft), from rating curve extended above 32,000 cfs by logarithmic plotting; minimum daily, 2.7 cfs June 25, 1937.

Remarks.--Records good except those for Oct. 1-25, which are fair. Discharge measurements generally made two or more times a month. Diversions for irrigation of about 16,000 acres above station.

Rating tables, water year 1954-55, except Oct. 1-4 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 6-14, Aug. 26 to Sept. 8)

Oct. 1 to July 16

1.2	3.2	2.5	293
1.3	6.1	3.0	558
1.4	10	4.0	1,290
1.5	18	5.0	2,250
1.6	29	8.0	6,510
1.8	63	10.4	10,500
2.1	143		

July 17 to Sept. 30

1.7	44	2.6	445
1.9	90	3.0	775
2.2	204	4.2	2,100

Note.--Same as previous table below 1.7 ft.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	e20	12	13	10	9.9	7.8	6.9	7.8	108	5.2	229	149
2	e15	13	12	11	9.5	9.0	6.9	7.4	61	5.5	85	106
3	e12	13	12	13	9.5	9.0	6.1	6.9	48	5.5	35	64
4	e10	13	10	9.5	9.5	9.0	5.8	6.5	65	5.8	14	36
5	77	13	10	9.5	8.6	8.6	5.8	6.9	55	5.5	8.2	28
6	10,500	13	10	8.2	8.6	8.6	5.8	6.9	55	7.8	299	22
7	6,240	13	9.9	8.2	8.2	8.2	6.1	6.9	54	25	810	17
8	609	13	9.9	8.2	9.9	8.6	6.9	7.4	54	11	2,000	15
9	206	13	9.0	9.0	8.2	8.2	7.4	8.2	38	6.9	413	13
10	77	13	9.9	8.2	9.0	8.2	6.9	13	42	6.1	1,030	10
11	32	13	10	8.6	8.2	8.2	6.1	12	46	6.1	802	8.6
12	19	13	10	9.0	9.0	8.6	5.8	21	46	6.5	1,660	12
13	19	13	10	9.0	9.5	7.8	6.1	36	44	6.1	296	13
14	18	15	9.5	9.9	9.0	7.8	6.5	35	34	6.1	139	11
15	19	13	9.5	9.5	8.6	7.8	6.1	40	23	5.8	60	10
16	19	12	9.5	9.5	9.0	8.2	6.1	41	13	22	645	10
17	19	12	9.0	11	9.5	8.6	6.1	38	8.6	128	318	9.9
18	15	13	9.0	10	9.5	9.0	6.5	40	7.4	82	620	10
19	15	13	9.9	9.5	9.5	9.0	6.1	48	7.4	28	692	9.9
20	14	12	9.9	8.6	8.6	8.6	6.1	68	7.8	124	613	12
21	14	12	9.5	8.6	9.5	9.5	6.1	113	8.2	437	1,190	14
22	15	12	9.0	8.2	9.0	8.2	6.5	89	35	260	1,050	15
23	15	12	9.5	7.4	9.5	8.2	6.9	77	25	113	660	12
24	15	12	9.5	8.6	9.5	7.8	6.9	113	12	41	512	345
25	15	13	9.9	8.6	9.9	8.2	6.9	156	8.6	495	434	1,540
26	15	13	9.5	10	9.5	7.8	6.5	198	7.4	271	369	866
27	13	12	9.5	8.6	9.0	8.6	6.1	201	6.9	219	224	242
28	13	12	8.2	9.0	8.6	9.0	6.5	187	6.5	249	191	103
29	13	12	8.2	9.0	-	8.2	6.9	176	6.1	344	233	54
30	13	12	8.6	9.0	------	7.8	7.8	166	5.2	1,550	186	33
31	13	------	8.2	9.5	------	6.5	------	153	------	318	152	------
Total	18,109	380	301.6	285.9	255.8	258.6	193.2	2,085.9	938.1	4,795.9	15,969.2	3,790.4
Mean	584	12.7	9.73	9.22	9.14	8.34	6.44	67.3	31.3	155	515	126
Ac-ft	35,920	754	598	567	507	513	383	4,140	1,860	9,510	31,670	7,520

Calendar year 1954: Max 10,500 Min 3.8 Mean 104 Ac-ft 75,110
Water year 1954-55: Max 10,500 Min 5.2 Mean 130 Ac-ft 93,940

Peak discharge (base, 4,000 cfs).--Oct. 7 (1 a.m.) 17,800 cfs (14.58 ft); July 30 (2:30 a.m.) 4,360 cfs (5.89 ft); Aug. 8 (6 a.m.) 4,460 cfs (5.96 ft); Aug. 12 (1 a.m.) 5,240 cfs (6.52 ft); Sept. 25 (4:30 p.m.) 6,240 cfs (7.25 ft).
e Stage-discharge relation indefinite; discharge estimated on basis of records for stations near Anton Chico and Puerto de Luna.

Pecos River near Puerto de Luna, N. Mex.

Location.--Lat 34°44'00", long 104°31'30", in SE¼NW¼ sec. 20, T. 6 N., R. 23 E., on left bank 9 miles southeast of Puerto de Luna and 17½ miles upstream from Alamogordo Dam.

Drainage area.--3,970 sq mi, approximately (contributing area).

Records available.--April 1938 to September 1955.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 4,315 ft (from river-profile map). Prior to Apr. 15, 1954, at datum 1 ft higher.

Average discharge.--17 years, 241 cfs (174,500 acre-ft per year).

Extremes.--Maximum discharge during year, 19,100 cfs Oct. 7 (gage height, 9.69 ft); minimum daily, 55 cfs June 30 to July 2.
1938-55: 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 daily, 34 cfs July 9, 1951.

Remarks.--Records good except those above 5,000 cfs, which are fair. Discharge measurements generally made two or more times a month. Diversion for irrigation of about 17,500 acres above station. Discharge represents inflow to Alamogordo Reservoir (capacity, 122,100 acre-ft). Records of chemical analyses, water temperatures, and sediment loads for the water year 1955 are given in WSP 1402.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

1.1	45	3.0	1,180
1.4	100	4.0	2,760
1.7	184	5.0	4,690
2.1	365	7.5	11,200
2.5	665		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	98	96	92	90	92	77	79	242	55	229	221
2	130	98	96	92	83	92	77	72	229	55	290	181
3	119	98	96	96	85	92	74	72	214	56	102	162
4	112	98	96	96	87	87	77	72	199	59	83	132
5	142	100	96	96	87	87	74	70	181	59	75	114
6	10,900	98	98	92	85	90	75	70	165	59	66	98
7	11,200	96	96	92	87	92	75	70	146	72	904	87
8	1,140	98	94	90	87	90	77	74	127	111	2,260	81
9	444	98	92	92	81	90	85	101	110	81	543	74
10	282	100	83	94	83	83	81	163	102	68	875	74
11	206	98	98	87	87	83	70	118	100	65	868	72
12	152	98	98	87	85	77	72	94	102	65	1,700	74
13	132	100	98	92	85	83	75	96	102	63	494	68
14	122	102	98	92	83	81	74	105	100	63	310	66
15	124	102	98	92	81	77	74	102	87	63	238	65
16	124	98	90	92	81	77	77	107	79	124	485	65
17	122	92	90	94	83	83	70	105	68	222	445	65
18	119	98	92	96	85	85	66	102	65	242	515	66
19	119	100	92	94	90	83	75	102	66	174	1,090	66
20	112	96	94	94	92	81	75	107	65	102	564	100
21	112	98	94	96	92	81	74	151	70	428	1,270	72
22	110	94	96	90	94	85	70	202	65	2,760	1,100	70
23	110	92	94	98	92	85	75	149	90	301	822	72
24	110	98	94	90	90	85	72	155	81	314	698	474
25	110	94	96	92	92	79	74	225	72	493	606	926
26	107	92	92	92	94	79	72	277	65	494	437	1,930
27	100	90	92	92	92	85	68	316	68	277	343	398
28	105	96	96	92	90	85	70	277	65	1,690	277	238
29	100	98	107	90	-	81	72	250	59	636	301	165
30	100	96	105	90	------	77	75	285	55	1,710	291	124
31	96	------	94	90	------	75	-----	242	------	640	246	------
Total	27,105	2,914	2,951	2,864	2,443	2,602	2,222	4,410	3,239	11,601	18,527	6,400
Mean	874	97.1	95.2	92.4	87.2	83.9	74.1	142	108	374	598	213
Ac-ft	53,760	5,780	5,850	5,680	4,850	5,160	4,410	8,750	6,420	23,010	36,750	12,690

Calendar year 1954: Max 11,200 Min 47 Mean 209 Ac-ft 151,200
Water year 1954-55: Max 11,200 Min 55 Mean 239 Ac-ft 173,100

Peak discharge (base, 3,500 cfs).--Oct. 7 (7:30 a.m.) 19,100 cfs (9.69 ft); July 22 (6:30 a.m.) 8,120 cfs (6.44 ft); July 28 (2 a.m.) 6,890 cfs (5.97 ft); July 30 (8:30 a.m.) 4,040 cfs (4.67 ft); Aug. 8 (11:30 p.m.) 4,730 cfs (5.02 ft); Aug. 12 (6:30 a.m.) 4,260 cfs (4.79 ft); Aug 19 (2 a.m.) 3,610 cfs (4.46 ft); Sept. 25 (10 p.m.) 4,880 cfs (5.11 ft).

Pecos River below Alamogordo Dam, N. Mex.

Location.--Lat 34°36'20", long 104°23'10", in lot 1, sec. 2, T. 4 N., R. 24 E., on left bank 1,200 ft downstream from Alamogordo Dam, 1½ miles downstream from Alamogordo Creek, and 4½ miles northeast of Guadalupe.

Drainage area.--4,390 sq mi, approximately (contributing area).

Records available.--October 1912 to December 1914 and October 1930 to September 1955 in reports of Geological Survey. October 1912 to December 1931 in reports of State engineer. 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 1½ miles upstream at different datum.

Average discharge.--21 years (1913-16, 1918-25, 1926-37), 264 cfs (prior to completion of Alamogordo Dam). 18 years (1937-55), 230 cfs (166,500 acre-ft per year).

Extremes.--Maximum daily discharge during year, 1,490 cfs Sept. 27, 28 (gage height, 3.38 ft); minimum daily, 1.2 cfs Feb. 17, 24-26, Mar. 2.
1930-55: Maximum discharge, 42,800 cfs Sept. 1, 1942, by computation of flow over spillway and through outlet gates of Alamogordo Dam by Bureau of Reclamation; maximum gage height, 13.58 ft Sept. 22, 1941, from floodmark; no flow at times.

Remarks.--Records good. Discharge measurements made two or more times a month. Diversion for irrigation of about 17,500 acres above station. Flow regulated by Alamogordo Reservoir (see p. 418). Records of chemical analyses for the water year 1955 are published in WSP 1402.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.1	0.3	2.0	155
.2	2.8	2.3	253
.3	6.0	2.6	415
.5	14	2.9	730
.9	38	3.4	1,550
1.5	90		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	62	44	4.0	2.0	88	1.5	57	79	88	705	70	92
2	96	2.8	3.6	2.0	86	1.2	56	79	88	668	101	94
3	96	2.5	3.3	2.5	86	1.5	54	80	106	692	104	93
4	96	2.5	3.0	7.9	86	1.7	101	80	104	304	100	91
5	96	2.8	2.5	2.8	50	1.7	101	78	102	88	99	328
6	44	3.0	3.0	3.0	2.5	1.5	84	77	102	76	99	963
7	8.8	3.0	3.0	3.6	2.0	1.7	73	80	100	76	100	932
8	8.0	3.0	3.0	3.6	2.2	25	76	80	96	76	103	932
9	7.2	3.3	3.3	3.6	1.7	103	84	80	94	100	102	932
10	4.6	3.6	3.3	3.6	1.5	102	80	79	94	117	98	916
11	41	4.0	2.5	4.0	1.7	101	76	80	93	91	97	916
12	1.7	4.0	1.7	3.6	2.0	101	76	82	93	74	101	932
13	1.5	4.0	2.0	3.6	2.0	102	74	80	93	73	102	916
14	1.5	2.8	2.0	3.6	2.0	102	74	78	93	75	101	1,010
15	1.5	3.0	2.2	3.6	1.5	102	74	78	801	582	99	1,040
16	1.5	2.8	2.0	3.0	1.7	79	73	78	1,090	1,010	98	1,010
17	1.7	2.8	1.7	2.8	1.2	67	73	79	1,120	1,010	99	963
18	11	3.0	2.2	3.0	1.5	66	73	86	1,120	994	105	948
19	71	3.3	2.2	3.6	1.5	66	73	86	1,090	978	105	948
20	91	3.6	2.2	149	1.5	66	72	87	1,090	978	102	948
21	77	3.6	2.2	100	1.5	65	78	88	1,060	963	99	948
22	70	3.6	2.2	99	1.5	62	80	88	1,070	690	100	948
23	66	4.0	2.2	99	1.5	61	80	87	1,040	46	102	948
24	62	4.0	2.2	99	1.2	61	80	87	901	66	101	932
25	67	4.6	2.2	97	1.2	60	80	87	814	70	97	948
26	73	4.3	2.5	94	1.2	60	80	86	758	71	93	1,300
27	68	4.0	2.5	93	1.5	60	80	86	744	71	96	1,490
28	71	3.3	2.2	92	1.5	60	80	87	786	97	96	1,490
29	65	3.6	2.2	92	-	59	78	87	828	87	93	1,140
30	64	3.6	2.5	92	------	58	78	88	730	62	89	132
31	61	------	2.2	91	------	58	------	89	------	64	89	------
Total	1,486.0	142.4	77.8	1,262.4	433.6	1,756.8	2,298	2,566	16,388	11,054	3,040	25,280
Mean	47.9	4.75	2.51	40.7	15.5	56.7	76.6	82.8	546	357	98.1	843
Ac-ft	2,950	282	154	2,500	860	3,480	4,560	5,090	32,510	21,930	6,030	50,140

Calendar year 1954: Max 1,280 Min 0.1 Mean 90.8 Ac-ft 65,760
Water year 1954-55: Max 1,490 Min 1.2 Mean 180 Ac-ft 130,500

Fort Sumner main canal near Fort Sumner, N. Mex.

Location.--Lat 34°30', long 104°16', in S½ sec. 12, T. 3 N., R. 25 E., on right bank about 160 ft downstream from bridge, 1¼ miles downstream from diversion dam on Pecos River, and 2 miles northwest of Fort Sumner.

Records available.--July 1939 to December 1940 (published as "Fort Sumner Irrigation District Canal at Fort Sumner"), April 1954 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 4,033 ft (from Bureau of Reclamation profile map of canal).

Extremes.--Maximum daily discharge during year, 121 cfs June 18, Sept. 10-12; no flow for many days.
1939-40, 1954-55: Maximum daily discharge, that of June 18, Sept. 10-12, 1955; no flow at times.

Remarks.--Records fair. Discharge measurements made two or more times a month during periods of flow. Diverts water from Pecos River for irrigation of Fort Sumner Irrigation District.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October 1954	101	0	32.3	1,990
November	0	0	0	0
December	0	0	0	0
January 1955	94	0	34.1	2,090
February	90	0	16.2	900
March	95	0	51.7	3,180
April	115	58	75.8	4,510
May	95	63	80.0	4,920
June	121	86	105	6,240
July	117	55	92.3	5,680
August	113	76	99.9	6,140
September	121	62	101	6,040
Water year 1954-55	121	0	57.6	41,690

Pecos River near Acme, N. Mex.

Location.--Lat 33°32'10", long 104°22'40", in NW¼ sec. 14, T. 9 S., R. 25 E., on right bank 1 mile southeast of Melena railroad station, 3½ miles downstream from Salt Creek, 5 miles southwest of Acme, and 13 miles northeast of Roswell.

Drainage area.--11,380 sq mi, approximately (contributing area).

Records available.--July 1937 to September 1955 in report of Geological Survey. August 1921 to July 1923 in reports of State engineer.

Gage.--Water-stage recorder. Altituge of gage is 3,500 ft (from river-profile map). Prior to Nov. 1, 1938, at site on highway bridge 2 miles upstream at various datums.

Average discharge.--18 years (1937-55), 233 cfs (168,700 acre-ft per year).

Extremes.--Maximum discharge during year, 29,000 cfs Oct. 7 (gage height, 14.89 ft); no flow Oct. 4, 5, Sept. 3-7.

1937-55: Maximum discharge, 45,000 cfs Sept. 23, 1941 (gage height, 13.71 ft), from rating curve extended above 26,000 cfs by logarithmic plotting; no flow at times.

Maximum discharge during flood of May 28, 1937, 53,000 cfs (gage height, 14.82 ft, from floodmarks, site and datum then in use), by slope-area method.

Remarks.--Records fair except those for Feb. 23 to Mar. 2 and Aug. 23-30, which are poor. Discharge measurements made two or more times a month. Flow regulated by Alamogordo Reservoir (see p. 418). Diversions for irrigation of about 23,000 acres above station. Records of chemical analyses and water temperatures for the water year 1955 published in WSP 1402.

Rating tables, water year 1954-55, except period of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 7-9, 11-25, Apr. 5-10, 25-26, May 11-29, June 21 to July 22, Sept. 11-26, 29-30)

Oct. 1-6				Oct. 7 to June 30				July 1 to Sept. 30			
2.7	0	3.3	37	1.0	3	2.5	532	1.4	0	2.3	48
2.8	1	3.5	81	1.1	8	3.0	990	1.5	1	2.6	122
2.9	3	3.7	153	1.2	15	3.5	1,620	1.6	1	2.9	260
3.0	6	4.0	330	1.3	27	4.0	2,430	1.7	2	3.3	550
3.1	12	4.2	490	1.5	61	5.0	4,600	1.8	3	4.0	1,390
3.2	22			1.8	146	7.0	11,000	1.9	6	5.0	3,090
				2.1	276	10.0	23,900	2.0	12	7.4	7,960
								2.1	21		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	78	28	32	32	19	34	50	14	499	160	1
2	11	80	28	30	32	17	23	36	10	524	110	1
3	5	80	27	33	30	17	17	36	12	589	77	0
4	0	88	27	34	30	19	15	26	8	1,070	52	0
5	0	93	26	32	32	19	15	22	6	869	38	0
6	479	83	26	32	44	19	14	21	6	490	28	0
7	20,600	73	30	32	52	16	14	20	4	442	29	0
8	8,320	66	32	30	55	16	14	19	4	152	27	256
9	1,450	66	30	30	55	15	14	19	3	84	17	524
10	1,150	66	30	28	40	15	14	393	3	59	15	533
11	905	61	30	27	33	16	14	1,090	3	61	168	607
12	388	59	30	27	33	16	15	272	3	65	119	598
13	276	57	32	26	30	16	15	113	3	84	34	626
14	210	57	32	25	27	17	14	63	4	56	33	656
15	188	55	33	25	26	22	14	46	3	48	34	666
16	176	52	33	25	26	25	14	36	3	360	20	838
17	180	48	32	25	23	23	15	33	109	192	8	772
18	165	48	32	23	23	22	15	26	610	1,140	5	827
19	143	46	32	23	21	23	16	25	733	968	4	750
20	136	44	32	23	21	23	17	25	800	2,160	5	761
21	136	42	32	25	21	26	17	23	910	1,670	2	750
22	133	39	32	22	21	23	17	21	990	872	2	729
23	169	38	32	21	20	21	15	16	860	2,160	2	1,890
24	165	36	30	20	19	20	15	15	870	588	2	1,450
25	139	38	30	33	19	19	15	14	733	1,000	2	6,070
26	120	34	30	40	19	22	15	14	636	398	2	7,910
27	116	34	32	46	17	22	14	14	579	390	2	2,980
28	116	32	30	40	17	19	14	13	540	319	1	1,690
29	113	32	26	36	-	27	14	13	532	446	1	1,710
30	105	30	26	34	------	32	20	15	540	192	1	1,540
31	88	------	23	33	------	34	------	26	------	249	8	------
Total	36,202	1,655	925	912	818	640	479	2,555	9,531	18,196	1,008	35,135
Mean	1,168	55.2	29.8	29.4	29.2	20.6	16.0	82.4	318	587	32.5	1,171
Ac-ft	71,810	3,280	1,830	1,810	1,620	1,270	950	5,070	18,900	36,090	2,000	69,690

Calendar year 1954 : Max 20,600 Min 0 Mean 176 Ac-ft 127,200
Water year 1954-55 : Max 20,600 Min 0 Mean 296 Ac-ft 214,300

Peak discharge (base, 1,400 cfs).--Oct. 7 (7:30 p.m.) 29,000 cfs (14.89 ft); Oct. 10 (10:30 p.m.) 2,200 cfs (3.82 ft); May 10 (10:30 p.m.) 4,760 cfs (5.06 ft); July 4 (9 a.m.) 3,620 cfs (5.03 ft); July 18 (7:30 a.m.) 1,740 cfs (3.80 ft); July 20 (11 p.m.) 7,040 cfs (6.76 ft); July 23 (1:30 p.m.) 5,400 cfs (6.18 ft); July 25 (10 a.m.) 3,170 cfs (5.01 ft); July 29 (12:30 a.m.) 1,790 cfs (4.29 ft); Sept. 23 (4 a.m.) 4,640 cfs (5.96 ft); Sept. 25 (5:30 a.m.) 10,200 cfs (8.60 ft); Sept. 26 (10 a.m.) 12,600 cfs (9.54 ft).

Note.--Fragmentary gage-height record Feb. 23 to Mar. 3, Aug. 4, 23-30; gage heights estimated on basis of adjoining good record, engineers' notes, and weather records.

Rio Ruidoso at Hollywood, N. Mex.

Location.--Lat 33°19', long 105°37', in NE¼ sec. 30, T. 11 S., R. 14 E., on right end of a road bridge, 0.9 mile east of Hollywood, 2 miles downstream from Carrizo Creek, and 2½ miles east of Ruidoso.

Drainage area.--120 sq mi, approximately.

Records available.--March 1953 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 6,365.72 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 287 cfs July 22 (gage height, 3.86 ft); minimum daily, 1.0 ft July 3.
1953-55: Maximum discharge, that of July 22, 1955; minimum daily, 0.5 cfs June 20, 1954.

Remarks.--Records good. Measurements made twice a month or oftener. Diversion above station for irrigation of about 75 acres below station.

Rating table, water year 1954-55, except periods of ice effect (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 23 to Aug. 4)

1.2	0.5	1.6	9.7
1.3	1.2	1.7	15
1.4	2.7	2.0	43
1.5	5.6	2.4	88

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	5.3	3.6	3.9	b3.3	3.0	23	15	5.6	1.1	29	37
2	15	5.3	3.6	3.9	3.0	3.3	24	18	6.0	1.5	23	34
3	13	5.6	3.6	5.0	b2.7	3.6	25	16	5.6	1.0	19	31
4	14	5.6	3.6	5.3	b3.0	4.3	24	14	5.3	1.2	17	27
5	11	5.6	3.6	3.9	b3.3	5.0	22	14	5.3	2.1	14	24
6	17	5.6	b3.0	b3.3	b3.9	5.6	20	14	5.0	2.7	18	20
7	16	5.3	3.0	b3.9	b3.9	5.6	19	13	4.7	3.3	69	17
8	15	4.7	2.6	b3.6	b3.9	5.0	19	13	3.3	2.7	44	14
9	14	4.7	b2.4	b3.3	b3.0	5.6	19	14	2.7	2.6	38	13
10	15	4.7	2.7	b3.6	b3.3	5.6	19	13	3.0	2.6	32	11
11	15	4.7	3.3	b4.2	b3.6	6.0	20	13	2.6	3.0	33	11
12	15	4.7	b2.6	b3.6	b3.9	6.0	19	12	2.6	4.6	32	13
13	15	4.7	b2.2	b3.9	b3.6	6.0	17	11	2.7	3.9	30	11
14	15	5.0	b2.2	4.2	b3.3	6.0	16	10	2.7	12	30	11
15	14	5.0	b2.7	4.4	3.3	6.0	17	8.5	2.1	12	26	9.7
16	14	4.7	3.6	4.2	3.3	7.2	18	8.1	2.1	22	24	9.3
17	13	4.4	b3.0	5.0	3.6	13	20	8.1	2.0	24	21	8.1
18	12	4.2	b2.6	b4.4	6.8	11	20	8.1	1.6	11	20	7.6
19	11	4.2	b3.3	b3.9	4.4	12	19	8.5	1.6	8.5	27	7.2
20	11	4.2	b2.7	b4.4	b4.2	12	19	8.1	1.6	10	49	6.8
21	9.7	4.2	b3.3	b4.7	b3.3	10	15	7.2	1.8	15	81	6.4
22	8.9	4.2	b3.3	b5.0	b4.7	9.3	14	6.8	1.8	29	72	6.0
23	8.9	4.4	b3.3	b4.7	b4.7	9.7	13	6.8	1.8	9.7	54	6.0
24	8.5	4.4	b3.6	b4.2	b4.7	11	12	6.8	1.5	40	44	13
25	8.1	4.4	3.9	b4.7	2.7	12	12	6.4	1.5	88	37	14
26	7.6	4.2	b3.6	4.2	2.1	15	13	6.4	1.8	63	34	9.7
27	8.1	3.9	3.3	b4.7	2.7	15	13	6.4	2.1	42	28	8.5
28	7.2	4.2	b3.0	b4.2	3.3	14	13	6.0	1.6	48	28	7.6
29	6.8	4.2	b4.2	b3.6	-	14	14	5.6	1.4	62	31	7.2
30	6.4	3.9	b4.2	b3.9	------	16	15	6.0	1.1	50	36	6.8
31	6.0	------	b3.6	3.9	------	22	------	5.3	------	38	38	------
Total	367.2	140.2	99.2	129.7	101.5	279.8	533	309.1	84.5	616.5	1,078	407.9
Mean	11.8	4.67	3.20	4.18	3.62	9.03	17.8	9.97	2.82	19.9	34.8	13.6
Ac-ft	728	278	197	257	201	555	1,060	613	168	1,220	2,140	809

Calendar year 1954: Max 31 Min 0.5 Mean 5.27 Ac-ft 3,820
Water year 1954-55: Max 88 Min 1.0 Mean 11.4 Ac-ft 8,230

Peak discharge (base, 100 cfs).--July 22 (3:30 p.m.) 287 cfs (3.86 ft); July 24 (2 p.m.) 134 cfs (2.88 ft); July 25 (11 p.m.) 110 cfs (2.74 ft); July 28 (3 p.m.) 121 cfs (2.94 ft); July 29 (3 p.m.) 161 cfs (3.28 ft); Aug. 7 (4 p.m.) 198 cfs (3.23 ft).
b Stage-discharge relation affected by ice.

Rio Ruidoso at Hondo, N. Mex.

Location.--Lat 33°23'00", long 105°16'30", in NE¼SW¼ sec. 4, T. 11 S., R. 17 E., on right bank a quarter of a mile upstream from confluence with Rio Bonito and half a mile southwest of Hondo.

Drainage area.--290 sq mi (revised).

Records available.--October 1930 to September 1955 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 5,181.38 ft above mean sea level, datum of 1929.

Average discharge.--25 years, 19.0 cfs (13,760 acre-ft per year).

Extremes.--Maximum discharge during year, 3,640 cfs July 28 (gage height, 9.85 ft); minimum daily, 0.1 cfs July 16.
1930-55: Maximum discharge, 12,400 cfs Sept. 29, 1941 (gage height, 21.13 ft, from floodmark), from rating curve extended above 3,700 cfs on basis of velocity-area studies; no flow Aug. 15, 16, 1935, June 2-7, 1950.

Remarks.--Records good below 50 cfs and fair above. Measurements made two or more times a month. Diversions for irrigation of about 1,700 acres above station.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used July 27 to Aug. 8)

Oct. 1 to July 26				July 26 to Sept. 30			
2.5	0.1	3.0	14	2.4	3.5	3.4	99
2.6	.5	3.1	21	2.5	7.3	4.0	213
2.7	1.7	3.3	44	2.7	18	4.8	433
2.8	4.0	3.6	97	3.0	44		
2.9	7.8	4.1	215				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.5	0.8	1.0	0.5	3.3	1.0	0.7	0.8	1.3	0.8	41	32
2	7.0	.9	1.0	.4	.9	1.0	.7	.9	1.0	.8	35	27
3	12	1.0	.8	.5	1.3	.9	.7	1.0	1.0	.7	30	28
4	9.8	1.0	.7	1.0	1.1	.9	.8	.9	1.0	.8	26	26
5	17	1.0	1.4	1.3	.7	.8	.9	1.0	1.0	.8	25	23
6	32	.9	1.3	2.3	.7	.8	1.3	1.0	.9	.8	23	17
7	25	.6	.9	2.1	.9	.8	.9	1.1	.8	76	41	15
8	58	.6	1.0	1.4	1.0	.7	.9	1.6	.8	6.9	49	13
9	21	.6	1.0	1.3	1.1	.7	1.3	1.4	.8	.4	39	11
10	20	.5	1.4	1.0	1.0	.8	1.7	.9	.8	.5	34	8.2
11	20	.6	1.9	1.0	.9	.7	1.4	.9	.9	.5	30	11
12	18	.6	1.9	1.4	1.0	.7	1.3	.9	.8	1.0	33	8.7
13	17	.7	1.9	1.1	1.3	.7	.9	.8	.9	.2	32	7.3
14	16	.7	1.9	1.6	.8	.6	.8	.8	1.0	.2	25	6.9
15	16	.8	1.9	2.1	.8	.7	.7	.9	1.0	.2	20	6.2
16	16	.8	1.9	3.0	.8	.8	.7	1.0	1.0	.1	17	5.8
17	15	.7	1.9	2.5	.8	.7	.7	.9	1.0	4.8	16	4.6
18	15	.7	2.1	1.9	.8	.7	.8	.9	1.0	.4	40	4.3
19	15	.7	2.1	2.1	.8	.7	.7	.9	1.0	.4	34	4.3
20	9.2	.6	2.1	2.1	.8	.7	.7	.9	1.0	1.6	39	4.3
21	5.0	.6	1.9	1.9	.8	.8	.7	1.0	1.0	80	61	3.9
22	4.7	.6	1.9	2.3	.8	.7	.7	1.1	1.0	66	93	3.5
23	4.7	.5	1.9	2.7	.8	.7	.7	1.0	1.0	52	72	3.5
24	4.0	.5	2.1	3.7	.9	.7	.9	1.0	.9	15	56	62
25	3.2	.5	2.1	4.0	1.0	.6	.9	1.0	.9	26	50	23
26	2.7	.7	1.9	4.0	1.1	.6	.8	1.0	.9	189	43	16
27	1.9	1.1	1.7	4.0	1.1	.6	.8	1.1	.9	54	36	14
28	1.1	1.3	1.3	3.5	1.0	.6	.8	1.1	.9	410	34	13
29	.8	1.3	.5	3.0	-	.6	.8	1.3	.8	139	33	12
30	.8	.9	.5	3.2	------	.7	.8	1.1	.8	70	33	10
31	.8	------	.4	3.5	------	.7	------	1.1	------	49	34	------
Total	392.2	22.8	46.3	66.4	28.3	22.7	26.5	31.3	28.1	1,247.9	1,174	424.5
Mean	12.7	0.76	1.49	2.14	1.01	0.73	0.88	1.01	0.94	40.3	37.9	14.2
Ac-ft	778	45	92	132	56	45	53	62	56	2,480	2,330	842

Calendar year 1954: Max 58 Min 0.4 Mean 3.83 Ac-ft 2,770
Water year 1954-55: Max 410 Min 0.1 Mean 9.62 Ac-ft 6,970

Peak discharge (base, 200 cfs).--Oct. 8 (5 p.m.) 765 cfs (5.63 ft); July 7 (4:30 p.m.) 446 cfs (4.84 ft); July 7 (9 p.m.) 600 cfs (5.25 ft); July 21 (5 p.m.) 596 cfs (5.24 ft); July 22 (1 p.m.) 556 cfs (5.14 ft); July 23 (6:30 a.m.) 572 cfs (5.18 ft); July 26 (3 p.m.) 2,580 cfs (8.52 ft); July 27 (12 p.m.) 789 cfs (5.87 ft); July 28 (2 p.m.) 3,640 cfs (9.85 ft); July 29 (3:30 p.m.) 551 cfs (5.28 ft); Aug. 18 (9 p.m.) 242 cfs (4.15 ft); Aug. 22 (7:30 p.m.) 355 cfs (4.54 ft); Sept. 24 (6:30 p.m.) 863 cfs (5.83 ft).

Rio Bonito at Hondo, N. Mex.

Location.--Lat 33°23'20", long 105°16'30", in NE¼NW¼ sec. 4, T. 11 S., R. 17 E., near center of span on downstream side of bridge on U. S. Highway 70 at Hondo, half a mile upstream from confluence with Rio Ruidoso.

Drainage area.--295 sq mi, revised (contributing area).

Records available.--October 1930 to September 1955 (discontinued).

Gage.--Water-stage recorder and concrete control. Datum of gage is 5,205.17 ft above mean sea level, datum of 1929. Prior to Feb. 4, 1933, at site a quarter mile upstream at different datum. (Datum lowered 0.23 ft Oct. 10, 1931.)

Average discharge.--25 years, 10.3 cfs (7,460 acre-ft per year).

Extremes.--Maximum discharge during year, 5,380 cfs Sept. 25 (gage height, 15.60 ft); no flow at times.
1930-55: Maximum discharge, 11,000 cfs Sept. 28 or 29, 1941 (gage height, 20.92 ft, from floodmark), from rating curve extended above 220 cfs on basis of slope-area determination at gage height 19.0 ft; no flow at times.

Remarks.--Records poor. Low flow regulated by Bonito reservoir. Diversions for irrigation of about 1,700 acres above station.

Revisions (water years).--WSP 1212: 1950.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to Sept. 25				Sept. 25-30	
0.27	0	0.8	8.0	0.3	0
.3	.1	.9	15	.4	.9
.4	.2	1.0	28	.5	3.3
.5	.7	1.2	71	.6	7.8
.6	1.8	2.0	282	.7	15
.7	3.8	3.0	559	.8	26

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.0	2.6		0		0	0	3.0	0	0	16	14
2	11	2.6		.1		0	0	.4	0	0	7.6	12
3	1.2	2.4		0		0	0	0	0	0	5.5	10
4	.9	2.4		0		0	0	0	0	0	4.2	8.7
5	2.6	*2.2		0		0	0	0	0	0	3.4	7.6
6	*14	2.2		0		0	0	0	0	0	2.6	6.7
7	11	2.2		0		0	0	0	0	115	9.0	6.3
8	12	2.0		0		0	0	0	0	*37	10	6.3
9	10	2.0		0		.1	0	0	0	1.8	8.0	6.3
10	7.6	2.0		0		.2	0	0	0	.1	5.5	5.9
11	4.2	2.0		0		.2	0	0	.1	0	26	5.9
12	3.0	2.0		0		0	0	0	0	12	*5.5	5.1
13	2.4	2.0		0		0	0	0	.1	*17	3.4	*4.2
14	2.4	.8		0		0	0	0	0	5.9	2.4	3.6
15	2.4	1.1		0		0	0	0	0	6.0	2.0	3.4
16	2.4	1.8		0		0	0	0	0	27	1.8	3.4
17	*2.0	1.8		0		0	0	0	0	52	1.8	3.8
18	2.0	*1.8		0		0	0	0	0	8.0	16	3.8
19	2.2	2.4		0		0	0	0	0	1.7	138	3.8
20	2.0	2.4		0		0	0	0	0	.3	65	4.2
21	2.0	2.4		0		0	0	0	0	21	27	3.6
22	2.2	2.2		0		0	0	0	0	163	20	3.6
23	2.2	2.2		0		0	0	0	0	*35	a19	3.6
24	2.4	2.0		0		0	0	0	0	26	a18	530
25	2.6	2.0		0		0	0	0	0	72	a17	554
26	2.4	2.0		0		0	0	0	0	*131	a16	21
27	2.4	1.6		0		0	0	0	0	*76	a15	*4.5
28	2.6	1.8		0		0	0	0	0	249	14	.9
29	2.6	1.0		0	-	0	79	0	0	112	14	.9
30	2.6	0		0	------	0	18	0	0	*18	14	.7
31	2.2	------		0	------	0	-----	0	------	11	*39	------
Total	123.5	57.9	0	0.1	0	0.5	97	3.4	0.2	1,197.8	546.7	1,247.8
Mean	3.98	1.93	0	0.003	0	0.02	3.2	0.11	0.01	38.6	17.6	41.6
Ac-ft	245	115	0	0.2	0	1.0	192	6.7	0.4	2,380	1,080	2,470

Calendar year 1954: Max 354 Min 0 Mean 4.15 Ac-ft 3,000
Water year 1954-55: Max 554 Min 0 Mean 8.97 Ac-ft 6,490

Peak discharge (base, 1,000 cfs).--July 22 (3 p.m.) 1,200 cfs (5.35 ft); Aug. 19 (7 p.m.) 2,100 cfs (8.20 ft); Sept. 24 (6 a.m.) 4,370 cfs (13.90 ft); Sept. 25 (1 a.m.) 5,380 cfs (15.60 ft).
* Discharge measurement made on this day.
a No gage-height record; discharge estimated on basis of adjoining good record.

Rio Hondo at Diamond A Ranch, near Roswell, N. Mex.

Location.--Lat 33°20'40", long 104°51'10", in NE¼ sec. 20, T. 11 S., R. 21 E., on left bank on downstream side of road bridge at Diamond A Ranch, 8 miles upstream from Rocky Arroyo and 18 miles west of Roswell.

Drainage area.--947 sq mi, revised (contributing area).

Records available.--May 1939 to September 1955 in reports of Geological Survey. May 1908 to August 1909 in reports of State engineer.

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

Average discharge.--16 years, 35.5 cfs (25,700 acre-ft per year).

Extremes.--Maximum discharge during year, 23,000 cfs Oct. 6 (gage height, 27.12 ft), from rating curve extended above 2,500 cfs on basis of slope-area determination of 24,400 cfs made at site 1.3 miles upstream; no flow at times.
1939-55: Maximum discharge, 27,000 cfs Sept. 22, 1941 (gage height, 28.78 ft), by slope-area method; no flow at times.

Remarks.--Records poor. Diversions for irrigation of about 5,500 acres above station. Records of water temperatures and sediment loads for the water year 1955 are published in WSP 1402.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6			0			0	9		0	23	37
2	1			0			0	0		0	32	17
3	34			0			0	0		0	48	17
4	4			0			0	0		0	*20	17
5	0			0			0	0		3	5	10
6	*2,740			0			0	0		89	2	*5
7	*1,440			0			0	0		*42	3	1
8	104			0			0	0		*264	43	0
9	14			0			0	0		77	35	0
10	*33			0			0	0		31	27	0
11	11			0			0	0		0	*83	0
12	7			0			0	0		0	*43	0
13	1			0			0	0		0	33	0
14	0			0			0	12		0	39	0
15	0			0			0	0		0	31	0
16	0			0			0	0		0	26	0
17	0			0			0	0		35	16	0
18	0			2			0	0		10	8	0
19	0			*0			0	0		2	92	0
20	0			0			0	0		0	222	0
21	0			0			0	0		0	69	0
22	0			0			0	0		*303	69	0
23	0			0			0	0		*341	72	0
24	0			0			0	0		*77	72	155
25	0			0			0	0		48	69	605
26	0			0			0	0		*212	60	98
27	0			0			0	0		*772	30	*46
28	0			0			0	0		1,220	14	27
29	0			2	—		0	0		885	8	21
30	0			0	------		30	0		*578	7	4
31	0	------		0	------		------	0	------	59	*20	------
Total	4,395	0	0	4	0	0	30	21	0	5,048	1,321	1,060
Mean	142	0	0	0.1	0	0	1.0	0.7	0	163	42.6	35.3
Ac-ft	8,720	0	0	7.9	0	0	60	42	0	10,010	2,620	2,100

Calendar year 1954: Max 2,740 Min 0 Mean 21.8 Ac-ft 15,790
Water year 1954-55: Max 2,740 Min 0 Mean 32.5 Ac-ft 23,560

Peak discharge (base, 600 cfs).--Oct. 6 (10 a.m.) 1,800 cfs (15.53 ft); Oct. 6 (9 p.m.) 23,000 cfs (27.12 ft); July 6 (8:30 p.m.) 1,050 cfs (11.5 ft); July 8 (4 a.m.) 1,110 cfs (12.4 ft); July 22 (2:30 a.m.) 785 cfs (10.55 ft); July 22 (10 p.m.) 1,450 cfs (14.37 ft); July 23 (3:30 p.m.) 768 cfs (10.21 ft); July 27 (2:30 a.m.) 2,480 cfs (18.43 ft); July 28 (8 a.m.) 2,250 cfs (17.66 ft); July 28 (9 p.m.) 6,080 cfs (24.55 ft); July 29 (9 p.m.) 3,420 cfs (20.90 ft); Aug. 20 (3:30 p.m.) 768 cfs (10.17 ft); Sept. 25 (7:30 a.m.) 3,300 cfs (20.65 ft).
* Discharge measurement or observation of no flow made on this day.

Rio Felix at old highway bridge, near Hagerman, N. Mex.

Location.--Lat 33°07'30", long 104°20'40", in SW¼ sec. 4, T. 14 S., R. 26 E., near left bank on downstream side of bridge, 1¼ miles northwest of Hagerman and 2½ miles upstream from mouth.

Drainage area.--932 sq mi (contributing area).

Records available.--April 1939 to September 1955. March 1932 to April 1939 at site 1 mile downstream; records for periods of low flow not equivalent.

Gage.--Water-stage recorder. Datum of gage is 3,403.40 ft above mean sea level, datum of 1929.

Average discharge.--16 years (1939-55), 21.2 cfs (15,350 acre-ft per year).

Extremes.--Maximum discharge during year, 74,000 cfs Oct. 7 (gage height, 27.5 ft, from floodmarks), from rating curve extended above 11,300 cfs on basis of slope-area determination at point 5½ miles upstream from gage (corrected for channel storage); no flow for many periods.
1939-55: Maximum discharge, that of Oct. 7, 1954; no flow for many periods in 1953-55.

Remarks.--Records good below 2,000 cfs and poor above. Discharge measurement generally made two or more times a month during periods of flow. Diversions for irrigation of about 350 acres above station.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Sept. 26, 30)

Oct. 1-6		Oct. 7 to July 7				July 8 to Sept. 30			
1.4	0	3.05	0	5.0	231	3.1	0	4.0	45
10.2	3,100	3.1	.1	6.0	465	3.2	.1	4.3	84
10.5	3,400	3.2	.9	7.0	835	3.3	1.0	4.6	142
		3.3	2.6	8.0	1,350	3.4	3.1	5.0	250
		3.4	5.7	10.0	2,910	3.5	6.6	7.0	975
		3.5	10	14.0	7,170	3.7	18	9.0	1,950
		3.7	27	19.0	15,600				
		4.0	66	20.0	17,800				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.2	0		0					0	14	0
2	0	.2	0		0					0	.1	0
3	0	.2	0		0					0	0	0
4	0	.2	0		0					0	0	0
5	0	.2	0		0					0	.1	0
6	3,310	.2	0		0					0	.1	0
7	17,000	.2	0		0					0	.1	0
8	723	.2	0		0					16	.1	0
9	190	.2	0		0					20	.1	0
10	56	.2	0		0					0	.1	0
11	9.5	.2	0		.2					0	.1	0
12	2.6	.2	0		0					0	.1	0
13	2.0	.2	0		0					0	.1	0
14	.5	.2	0		0					0	.1	0
15	.3	.2	0		0					0	0	0
16	.3	.2	0		0					0	0	0
17	.3	.1	0		0					0	0	0
18	.3	.1	0		0					0	0	0
19	.3	.1	0		0					0	0	0
20	.3	.1	0		0					0	0	0
21	.3	.1	0		0					0	0	0
22	.3	.1	0		0					0	0	0
23	.3	.1	0		0					0	0	0
24	.3	.1	0		0					0	0	0
25	.2	.1	0		0					.5	0	0
26	.2	.1	0		0					42	0	1,220
27	.2	.1	0		0					488	0	144
28	.2	.1	0		0					276	0	171
29	.2	0	.3		-					1,020	0	1,930
30	.2	0	.2		------					258	0	134
31	.2	------	0		------		------		------	34	0	------
Total	21,298.0	4.4	0.5	0	0.2	0	0	0	0	2,154.5	15.1	3,599
Mean	687	0.15	0.02	0	0.007	0	0	0	0	69.5	0.49	120
Ac-ft	42,240	8.7	1.0	0	0.4	0	0	0	0	4,270	30	7,140

Calendar year 1954: Max 17,000 Min 0 Mean 72.0 Ac-ft 52,140
Water year 1954-55: Max 17,000 Min 0 Mean 74.2 Ac-ft 53,690

Peak discharge (base, 500 cfs).--Oct. 6 (6:30 p.m.) 13,700 cfs (18.07 ft); Oct. 7 (3:30 a.m.) 74,000 cfs (27.5 ft); July 27 (3:30 p.m.) 2,640 cfs (10.09 ft); July 28 (7 p.m.) 711 cfs (6.34 ft); July 29 (6:30 a.m.) 3,340 cfs (10.88 ft); July 30 (11 a.m.) 667 cfs (6.21 ft); Sept. 26 (4 p.m.) 3,950 cfs (11.36 ft); Sept. 28 (12 p.m.) 5,780 cfs (13.0 ft).

Pecos River near Lake Arthur, N. Mex.

Location (revised).--Lat 32°59'18", long 104°19'20", in SW¼NE¼ sec. 27, T. 15 S., R. 26 E., on left bank 850 ft upstream from county bridge, 2½ miles east of Lake Arthur, 10 miles upstream from Cottonwood Creek, and 11 miles northeast of Artesia.

Drainage area.--14,760 sq mi, approximately (contributing area).

Records available.--August 1938 to September 1955.

Gage.--Water-stage recorder and rock control. Datum of gage is 3,327.07 ft above mean sea level, datum of 1929.

Average discharge.--17 years, 331 cfs (239,600 acre-ft per year).

Extremes.--Maximum discharge during year, 26,700 cfs Oct. 7 (gage height, 20.60 ft); minimum daily, 1.8 cfs Sept. 2.

1938-55: 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 determinations at gage height 21.77 ft and logarithmic plotting; no flow Aug. 21, 22, 1947, July 17, 1953, July 29 to Aug. 1, Aug. 6, 7, 1954.

Flood of May 30, 1937, reached a stage of 21.77 ft (discharge, 51,500 cfs, by slope-area determination of peak flow), but may have been exceeded by floods of 1904 and 1919.

Remarks.--Records good except those for Oct. 7-11, Apr. 24 to May 8, and Sept. 26-30, which are fair. Discharge measurements made two or more times a month. Flow partly regulated by Alamogordo Reservoir 150 miles above station (see p. 418). Diversions and ground-water withdrawals for irrigation of about 98,500 acres above station.

Rating tables, water year 1954-55, except Oct. 7-12 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-6		Oct. 13 to May 11		May 11 to Sept. 30			
2.0	13	2.0	15	1.4	1.4	2.6	114
2.1	18	2.2	32	1.5	2.5	3.0	240
2.3	35	2.5	75	1.6	4.2	3.5	460
		2.8	154	1.7	6.7	4.0	760
		3.4	420	1.9	14	6.0	2,440
		4.0	750	2.1	30	8.0	4,760
		4.2	870	2.3	55	10.0	7,910

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	258	144	105	100	81	50	d47	58	488	324	2.4
2	21	240	141	108	98	79	48	d47	47	588	260	1.8
3	22	240	138	113	100	85	54	d47	48	450	177	2.0
4	30	240	138	113	98	83	54	d52	33	543	127	3.0
5	32	235	141	116	95	77	39	d55	38	1,220	117	15
6	567	227	138	111	95	61	37	d58	48	723	103	12
7	e18,000	223	141	105	98	70	31	d58	22	542	94	11
8	e25,000	214	144	103	98	66	28	d58	18	466	84	7.7
9	e16,000	206	144	103	103	65	18	58	21	240	69	7.4
10	e12,000	202	141	100	105	63	20	42	27	152	65	366
11	e3,000	194	147	103	108	60	30	539	31	117	55	455
12	e1,200	194	138	103	105	61	15	850	31	114	60	526
13	852	190	138	103	98	61	26	356	41	112	140	515
14	630	190	141	100	91	60	37	194	28	99	84	559
15	542	190	134	103	93	51	54	149	25	103	62	588
16	460	190	121	103	93	51	43	127	26	103	44	618
17	430	186	116	108	93	55	43	105	28	208	34	753
18	400	182	121	105	95	54	50	92	21	208	34	711
19	370	178	113	93	91	58	42	88	271	779	41	725
20	343	178	113	91	91	58	44	88	588	606	24	690
21	334	178	113	87	89	68	47	84	642	2,290	20	704
22	316	174	113	87	85	60	44	72	725	989	17	704
23	302	170	108	87	85	51	43	70	774	935	23	1,260
24	289	166	108	85	85	50	d44	55	654	2,010	13	1,220
25	294	166	111	83	81	45	d45	47	725	624	8.1	3,400
26	294	162	113	87	81	47	d45	39	684	985	5.2	f7,010
27	284	158	111	93	83	50	d45	40	606	628	3.4	f7,340
28	280	154	116	108	85	58	d45	49	570	1,020	2.4	f2,500
29	276	151	116	108	-	51	d45	58	504	1,440	2.7	f3,070
30	266	144	113	111	------	52	d48	64	493	807	2.5	f1,730
31	262	------	108	105	------	52	------	42	------	425	2.1	------
Total	83,110	5,780	3,922	3,130	2,622	1,883	1,214	3,730	7,827	20,014	2,097.4	35,506.3
Mean	2,681	193	127	101	93.6	60.7	40.5	120	261	646	67.7	1,184
Ac-ft	164,800	11,460	7,780	6,210	5,200	3,730	2,410	7,400	15,520	39,700	4,160	70,430

Calendar year 1954: Max 25,000 Min 0 Mean 350 Ac-ft 253,000
Water year 1954-55: Max 25,000 Min 1.8 Mean 468 Ac-ft 338,800

Peak discharge (base, 1,500 cfs).--Oct. 7 (about 12 m.) 26,700 cfs (20.60 ft); May 11 (10 p.m.) 1,550 cfs (5.03 ft); July 5 (2:30 a.m.) 1,760 cfs (5.24 ft); July 21 (2:30 p.m.) 3,840 cfs (7.22 ft); July 24 (5 a.m.) 3,280 cfs (6.76 ft); July 28 (1 a.m.) 1,530 cfs (5.00 ft); July 29 (4 p.m.) 2,640 cfs (6.20 ft); Sept. 23 (9 p.m.) 2,580 cfs (6.09 ft); Sept. 27 (6 a.m.) 9,460 cfs (12.16 ft); Sept. 29 (5 a.m.) 4,160 cfs (7.60 ft).

d Doubtful gage-height record; intake action sluggish, discharge computed from recorded gage-heights.

e Stage-discharge relation indefinite; discharge computed on basis of records for nearby stations.

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

Cottonwood Creek near Lake Arthur, N. Mex.

Location.--Lat 32°55'00", long 104°22'00", in SW¼SE¼ sec. 15, T. 16 S., R. 26 E., on right bank 1½ miles upstream from mouth and 6 miles south of town of Lake Arthur.

Drainage area.--199 sq mi (contributing area).

Records available.--March 1932 to September 1955.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,316.3 ft above mean sea level (river-profile survey). Prior to Aug. 30, 1938, at site 75 ft downstream at datum 2.1 ft lower. Aug. 30, 1938, to May 16, 1948, at present site at datum 1.54 ft lower than present datum.

Average discharge.--23 years, 7.87 cfs (5,700 acre-ft per year).

Extremes.--Maximum discharge during year, 185 cfs Oct. 7; maximum gage height, 11.04 ft Oct. 7, from high-water marks (backwater from Pecos River); minimum daily, 0.1 cfs Sept. 2.

1932-55: Maximum discharge, 1,100 cfs June 13, 1935, from rating curve extended above 15 cfs by logarithmic plotting; maximum gage height, 12.0 ft May 30, 1937, present datum, from floodmarks (backwater from Pecos River); no flow at times.

Remarks.--Records good except those for Oct. 7-12, which are poor. Discharge measurements generally made twice a month. Diversions above station for irrigation of about 4,500 acres.

Rating table, water year 1954-55, except periods of backwater from Pecos River
(gage height, in feet, and discharge, in cubic feet per second)

0.5	0.1	1.2	8.4
.6	.3	1.6	18
.7	.8	2.0	23
.8	1.6	3.0	33
.9	2.8	3.8	47
1.0	4.4		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	2.3	1.9	2.5	2.8	2.8	1.4	1.6	0.7	0.2	0.8	0.2
2	.2	2.3	1.9	2.5	2.7	2.8	1.4	1.2	1.1	.3	.6	.1
3	.2	2.3	1.9	2.5	2.7	2.6	1.8	1.2	1.6	.2	.5	.4
4	.2	2.2	1.8	2.5	2.7	2.6	1.9	1.3	1.1	.3	.4	.3
5	.2	2.2	1.8	2.5	2.6	2.6	2.8	1.4	.8	24	.4	.2
6	4.6	2.1	1.6	2.2	3.0	2.5	2.2	13	.8	47	.7	.2
7	120	2.1	1.6	2.2	2.6	2.6	1.8	2.5	.9	9.7	.3	.6
8	150	2.0	1.6	2.2	2.7	2.5	1.8	1.2	1.2	4.2	.3	.5
9	60	2.0	1.6	2.2	2.7	2.8	2.0	1.1	.9	1.5	.4	.2
10	35	2.0	1.6	2.2	2.8	2.6	1.6	1.2	.9	.9	.5	.2
11	28	2.0	2.4	2.3	2.5	2.5	1.6	1.3	1.1	.8	.5	.2
12	23	2.0	1.6	2.5	2.6	2.3	1.9	1.5	.7	.8	.6	.2
13	18	2.1	1.6	2.5	2.8	2.6	1.6	1.4	.7	.6	.7	.3
14	11	2.2	1.6	3.4	2.7	2.3	1.6	1.2	.7	.5	.6	.3
15	6.9	2.1	1.9	3.6	2.7	2.1	1.5	1.1	.7	.6	.6	.3
16	5.9	2.1	3.0	3.7	2.7	2.1	1.6	1.0	.8	.7	.5	.3
17	5.3	2.2	1.8	3.6	2.7	2.3	1.6	1.1	.9	.6	.4	.7
18	4.7	2.0	1.9	3.4	3.0	2.5	2.0	1.8	1.0	.6	.5	1.3
19	4.7	2.0	1.9	3.1	3.3	2.5	1.8	1.0	.8	.7	.5	.7
20	4.5	2.1	2.0	3.0	2.6	2.2	1.5	1.0	.7	1.1	.4	1.2
21	4.2	2.1	2.0	2.7	2.6	2.6	1.5	.9	1.2	3.9	.3	.7
22	3.9	2.0	2.0	2.7	2.8	2.6	1.5	1.1	.5	.8	.3	.6
23	3.4	2.0	2.1	3.0	3.0	2.7	1.5	1.0	.4	.7	.5	.6
24	3.3	2.1	2.7	3.4	2.7	3.2	1.8	1.0	.5	.7	.5	.5
25	3.1	2.0	2.1	3.1	2.6	3.1	2.0	1.2	.6	.6	.3	.5
26	3.3	2.0	2.2	3.1	2.7	3.4	1.4	1.2	.4	.6	.2	.5
27	3.0	2.1	2.3	2.8	2.7	3.0	1.8	1.0	.4	1.2	.2	.5
28	3.0	2.1	2.5	3.0	3.3	2.0	1.5	.9	.3	.7	.2	.6
29	3.0	2.1	2.5	2.7	-	2.0	1.4	.8	.3	.7	.2	.6
30	2.8	2.1	2.5	2.8	------	1.8	1.5	.8	.2	1.1	.4	.6
31	2.3	------	2.5	2.8	------	2.9	------	.8	------	1.4	.2	------
Total	517.9	62.9	62.4	86.7	77.3	79.1	51.3	48.8	22.9	107.7	13.5	14.1
Mean	16.7	2.10	2.01	2.80	2.76	2.55	1.71	1.57	0.76	3.47	0.44	0.47
Ac-ft	1,030	125	124	172	153	157	102	97	45	214	27	28

Calendar year 1954 : Max 150 Min 0.1 Mean 3.24 Ac-ft 2,350
Water year 1954-55 : Max 150 Min 0.1 Mean 3.14 Ac-ft 2,270

Peak discharge (base, 40 cfs).--Oct. 7 (11 p.m.) 185 cfs; July 5 (12 p.m.) 76 cfs (4.68 ft).
Note.--Backwater from Pecos River Oct. 7-12, Sept. 26-30.

Pecos River near Artesia, N. Mex.

Location.--Lat 32°50'05", long 104°19'25", in W½NW¼ sec. 18, T. 17 S., R. 27 E., near left bank on downstream end of bridge pier on State Highway 83, 4.3 miles east of Artesia, 7.0 miles north of mouth of Rio Penasco, and 17 miles north of McMillan Dam.
Drainage area.--15,300 sq mi, approximately (contributing area).
Records available.--March 1905 to September 1925, October 1931 to February 1936 (published as "near Dayton"), and February 1936 to September 1955 in reports of Geological Survey. March 1905 to December 1931 in reports of State engineer.
Gage.--Water-stage recorder. Datum of gage is 3,291.05 ft (Bureau of Reclamation benchmark). Prior to Aug. 27, 1914, staff gage, and Aug. 27, 1914, to Feb. 21, 1936, water-stage recorder, at site 6½ miles downstream at different datum. Feb. 21, 1936, to Apr. 4, 1941, water-stage recorder at site 600 ft downstream from present site at different datum.
Average discharge.--19 years (1936-55), 363 cfs (262,800 acre-ft per year).
Extremes.--Maximum discharge during year, 25,200 cfs Oct. 8 (gage height, 13.76 ft); minimum daily, 3.6 cfs Sept. 1, 3.
1905-55: Maximum gage height, 15.9 ft Sept. 18, 1919, site and datum then in use (discharge not determined). Flood of May 30, 1937, reached a gage height of 14.7 ft (discharge, 51,500 cfs, by slope-area method); no flow Aug. 17-24, 1934, Aug. 14-25, 1946, Aug. 1-22, 1947, July 3-17, 1953, July 14 to Aug. 1, Aug. 5-7, 1954.
Remarks.--Records good. Discharge measurements made 2 or more times a month. Flow partly regulated by Alamogordo Reservoir (see p. 418). Diversions and ground-water withdrawals for irrigation of about 128,000 acres above station. Discharge represents inflow to Lake McMillan, which is part of the storage system for the irrigation of about 25,000 acres of Carlsbad project. Records of chemical analyses, water temperatures, and sediment loads for the water year 1955 are published in WSP 1402.

Rating tables, water year 1954-55 except Oct. 7-11, July 21, Sept. 26-28 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-6, May 13-27, June 20-22, June 30 to July 8, July 30 to Aug. 8, Aug. 24 to Sept. 5, Sept. 10-25)

Oct, 1-7		Oct. 7 to May 11				May 12 to Sept. 30			
4.2	16	3.6	38	8.0	760	3.0	2.3	5.0	204
4.5	37	4.0	65	10.0	1,590	3.1	4.8	6.0	394
4.8	67	5.0	171	10.5	1,870	3.3	12	8.0	930
5.1	106	6.0	321			3.6	30	10.0	1,770
						4.0	68	11.0	2,400
						4.5	129		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	281	165	121	120	92	63	60	41	474	364	3.6
2	16	269	165	121	116	90	63	64	56	581	306	3.8
3	21	261	164	124	114	90	59	62	48	459	211	3.6
4	51	254	161	125	110	90	68	74	47	445	158	4.0
5	72	252	160	122	111	90	63	71	36	978	128	4.3
6	93	244	158	122	113	81	55	78	40	982	130	8.0
7	7,890	242	157	121	113	78	53	73	42	623	110	12
8	21,400	231	155	117	112	78	49	60	33	518	102	12
9	17,600	224	155	117	120	74	46	63	26	318	86	8.4
10	15,300	219	155	116	120	74	40	61	25	194	78	104
11	4,340	214	154	115	123	73	41	66	29	133	72	423
12	1,820	212	154	117	128	69	48	869	32	108	76	472
13	1,070	208	154	118	117	72	39	460	36	106	101	501
14	772	204	152	120	112	72	46	226	45	103	123	530
15	640	205	148	124	110	69	59	147	30	89	76	556
16	553	203	136	126	111	65	64	128	26	93	59	595
17	501	200	127	130	108	67	60	101	26	115	45	664
18	459	196	131	126	108	67	63	86	28	210	40	864
19	429	192	130	122	103	67	65	74	45	513	41	765
20	401	188	126	110	99	74	58	68	515	542	42	747
21	380	187	124	108	101	72	58	71	621	1,680	28	727
22	361	187	124	105	96	78	52	68	657	1,370	23	724
23	344	185	123	105	94	71	48	60	804	771	21	824
24	326	181	122	103	94	66	48	52	685	1,890	22	1,580
25	330	180	122	102	92	63	50	42	650	852	15	1,670
26	328	178	125	102	92	59	51	36	753	946	11	4,030
27	319	176	123	106	88	63	47	34	605	628	8.0	6,410
28	306	172	123	114	96	66	50	35	566	954	6.1	4,250
29	296	171	125	123	-	68	54	42	520	1,080	4.3	2,340
30	289	167	127	126	------	64	56	51	472	1,250	5.1	1,830
31	284	------	122	123	------	63	------	54	------	598	5.1	------
Total	77,007	6,283	4,367	3,631	3,021	2,265	1,616	3,436	7,539	19,603	2,496.6	30,665.7
Mean	2,484	209	141	117	108	73.1	53.9	111	251	632	80.5	1,022
Ac-ft	152,700	12,460	8,660	7,200	5,990	4,490	3,210	6,820	14,950	38,880	4,950	60,820

Calendar year 1954: Max 21,400 Min 0 Mean 331 Ac-ft 239,600
Water year 1954-55: Max 21,400 Min 3.6 Mean 444 Ac-ft 321,100

Peak discharge (base, 1,500 cfs).--Oct. 8 (3 p.m.) 25,200 cfs (13.76 ft); July 21 (8 p.m.) 3,170 cfs (11.73 ft); July 24 (9:30 a.m.) 2,690 cfs (11.38 ft); July 29 (10:30 p.m.), 2,110 cfs (10.54 ft); Sept. 27 (8 p.m.) 6,950 cfs (12.26 ft); Sept. 29 (5 p.m.) 2,830 cfs (11.66 ft).

Rio Penasco at Dayton, N. Mex.

Location.--Lat 32°44'30", long 104°22'35", in SW¼SW¼ sec. 15, T. 18 S., R. 26 E., on right bank 3 ft upstream from crest of abandoned diversion dam, 1 mile northeast of old Dayton railway station, 3½ miles upstream from mouth and 7 miles southeast of Artesia.

Drainage area.--1,070 sq mi, approximately.

Records available.--April 1951 to September 1955. Prior to October 1953, published as "near Dayton." September 1905 to June 1908 (gage heights only, July 1906 to June 1908), at site 2½ miles downstream, published as Penasco River near Dayton, records not equivalent.

Gage.--Water-stage recorder and concrete control. Datum of gage is 3,340.89 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 25,900 cfs Oct. 7 (gage height, 6.82 ft), from rating curve extended above 1,000 cfs on basis of slope-area determinations at gage heights, 2.41 and 6.82 ft; no flow most days.
1951-55: Maximum discharge, that of Oct. 7, 1955; no flow for long periods.

Remarks.--Records good below 2,000 cfs, poor above. Diversions above station for irrigation of about 2,700 acres. Records of water temperatures and sediment loads for water year 1955 are given in WSP 1402.

Revisions (water years).--WSP 1242: 1951(M).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

0.27	0	1.2	261
.4	.4	1.5	550
.5	4	1.9	1,190
.6	15	2.4	2,530
.7	35	3.0	4,770
.8	62	4.0	9,230
1.0	141	5.0	14,200

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0									0		0
2	0									0		0
3	0									0		0
4	0									0		0
5	0									0		0
6	*320									*252		0
7	11,800									4		0
8	192									*413		0
9	0									43		0
10	0									0		0
11	0									0		0
12	0									0		0
13	0									0		0
14	0									0		0
15	0									0		0
16	0									0		0
17	0									0		0
18	0									0		0
19	0									0		0
20	0									194		0
21	0									20		0
22	0									0		0
23	0									0		0
24	0									101		0
25	0									2		0
26	0									7		175
27	0									321		62
28	0									41		6
29	0									*23		0
30	0				-----					*212		0
31	0	------			-----		------		------	31		------
Total	12,512	0	0	0	0	0	0	0	0	1,664	0	243
Mean	397	0	0	0	0	0	0	0	0	53.7	0	8.1
Ac-ft	24,420	0	0	0	0	0	0	0	0	3,300	0	482

Calendar year 1954: Max 11,800 Min 0 Mean 37.9 Ac-ft 27,460
Water year 1954-55: Max 11,800 Min 0 Mean 39.0 Ac-ft 28,200

Peak discharge (base, 750 cfs).--Oct. 6 (2:30 p.m.) 966 cfs (1.78 ft); Oct. 7 (11 a.m.) 25,900 cfs (6.82 ft); July 6 (5:30 a.m.) 1,690 cfs (2.14 ft); July 8 (4:30 a.m.) 1,400 cfs (2.00 ft); July 20 (5 p.m.) 1,360 cfs (1.98 ft); July 27 (11:30 a.m.) 1,540 cfs (2.06 ft); Sept. 26 (6 p.m.) 1,340 cfs (1.97 ft).

* Discharge measurement made on this day.

Pecos River (Kaiser Channel) near Lakewood, N. Mex.
(Formerly published as Kaiser Lake-McMillan Channel near Lakewood)

Location.--Lat 32°41'22", long 104°17'53", in NW¼SW¼ sec. 5, T. 19 S., R. 27 E., on left bank 3 miles upstream from high-water line of Lake McMillan, 6 miles northeast of Lakewood, 7½ miles northeast of gates in McMillan Dam, and 12 miles southeast of Artesia. Prior to Mar. 23, 1955, at site 3 miles downstream.

Records available.--May 1950 to September 1955. Prior to October 1954, published as Kaiser Lake-McMillan Channel near Lakewood.

Gage.--Water-stage recorder. Datum of gage is 3,270.53 ft above mean sea level (Bureau of Reclamation benchmark). Prior to Mar. 23, 1955, at site 3 miles downstream at datum 9.83 ft lower.

Average discharge.--5 years, 135 cfs (97,740 acre-ft per year).

Extremes.--Maximum daily discharge during year, 2,600 cfs Oct. 10; maximum gage height, 10.15 ft Oct. 11 (backwater from Lake McMillan); minimum daily discharge, 1.8 cfs Sept. 6 (gage height, 1.45 ft).
1950-55: Maximum daily discharge, that of Oct. 10, 1954; no flow at times in 1951-54.

Remarks.--Records good except those for period of backwater from Lake McMillan which are fair. Discharge measurements generally made two or more times a month. Flow partly regulated by Alamogordo Reservoir (see p. 418). Diversions and ground-water withdrawals above station irrigate about 147,000 acres. Channel will not carry entire flow of Pecos River at higher stages. Above about 11,500 cfs flow will begin by-passing the station and, depending on the magnitude and duration of the flow, will reach Lake McMillan.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.9	272	165	130	130	105	64	56	37	430	384	5.2
2	11	268	165	125	125	100	65	59	40	479	326	4.4
3	12	265	165	120	120	95	60	64	44	459	243	3.8
4	16	263	165	122	115	95	64	60	41	410	172	3.3
5	96	262	164	122	115	95	75	73	33	619	125	2.5
6	84	260	162	122	115	90	57	76	28	867	121	1.8
7	781	259	162	122	118	85	52	76	35	655	109	4.9
8	1,920	254	162	120	120	83	48	61	28	515	96	9.5
9	2,200	250	162	120	122	80	44	59	18	360	88	8.6
10	2,600	245	162	118	125	75	42	64	16	196	122	7.5
11	2,500	235	160	116	125	75	35	50	21	140	117	330
12	2,000	225	160	116	130	72	49	536	23	114	77	430
13	1,500	220	160	118	125	72	37	565	25	109	75	463
14	1,100	215	158	120	115	72	37	272	32	101	148	479
15	720	215	158	122	110	71	50	170	31	86	92	507
16	600	210	156	125	110	70	70	136	22	89	69	539
17	530	204	150	130	110	68	64	111	20	88	56	563
18	480	200	145	135	110	68	62	95	20	189	42	669
19	435	196	140	130	105	68	69	82	21	329	46	664
20	405	193	138	115	100	70	60	73	278	555	52	669
21	375	190	136	110	100	75	59	72	523	655	40	660
22	355	187	134	108	100	75	52	73	555	1,090	28	664
23	340	184	133	108	97	73	45	62	615	935	27	678
24	325	182	132	106	96	66	45	59	633	929	26	954
25	320	177	130	105	94	65	44	48	599	1,150	24	1,060
26	330	176	130	104	94	60	51	38	651	770	16	1,280
27	325	173	132	105	90	61	43	35	611	802	13	1,410
28	310	171	132	110	92	65	45	29	547	725	8.6	2,100
29	290	168	132	118	-	73	50	26	495	874	6.9	2,140
30	285	166	134	125	- - -	66	54	33	441	1,090	5.6	1,870
31	280	- - -	134	130	- - -	64	- - - - - -	50	- - - - - -	775	5.6	- - - - - -
Total	21,534.9	6,485	4,618	3,677	3,108	2,352	1,592	3,263	6,483	16,585	2,760.7	18,180.5
Mean	695	216	149	119	111	75.9	53.1	105	216	535	89.1	606
Ac-ft	42,710	12,860	9,160	7,290	6,160	4,670	3,160	6,470	12,860	32,900	5,480	36,060

Calendar year 1954: Max 2,600 Min 0 Mean 158 Ac-ft 114,300
Water year 1954-55: Max 2,600 Min 1.8 Mean 248 Ac-ft 179,800

Note.--Backwater from Lake McMillan Oct. 9 to Mar. 22.

Four Mile Draw near Lakewood, N. Mex.

Location.--Lat 32°40'45", long 104°23'40", at west line of SW¼SW¼ sec. 4, T. 19 S., R. 26 E., on downstream side of center pier of bridge on U. S. Highway 285, 3.8 miles northwest of Lakewood and 5½ miles upstream from mouth.

Drainage area.--265 sq mi, approximately.

Records available.--October 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 3,329.75 ft above mean sea level, datum of 1929.

Extremes.--Maximum discharge during year, 7,650 cfs Oct. 7 (gage height, 13.30 ft), from rating curve extended above 1,350 cfs on basis of slope-area determination of peak flow; no flow most of time.
1951-55: Maximum discharge, that of Oct. 7, 1954; no flow most of time.

Remarks.--Records good above 10 cfs, fair below.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1 to July 7				July 8 to Sept. 30	
2.4	0	4.1	54	2.5	0
2.8	1	4.5	99	3.0	1
2.9	2	5.0	179	3.2	3
3.1	4	6.0	420	3.5	9
3.2	6	8.0	994	3.7	16
3.4	12	10.8	1,980	4.0	32
3.7	25			4.3	55

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0									0		0
2	0									0		0
3	0									0		0
4	0									0		0
5	0									0		0
6	*61									0		0
7	*1,950									0		0
8	*249									*54		0
9	2									1		0
10	0									0		0
11	0									0		0
12	0									0		0
13	0									0		0
14	0									0		0
15	0									0		0
16	0									0		0
17	0									0		0
18	0									0		0
19	0									0		0
20	0									0		0
21	0									35		1
22	0									0		0
23	0									4		0
24	0									3		0
25	0									0		0
26	0									0		0
27	0									14		0
28	0									18		0
29	0									1		0
30	0				-					*2		0
31	0	----			-----		------		------	0		------
Total	2,262	0	0	0	0	0	0	0	0	132	0	1
Mean	73.0	0	0	0	0	0	0	0	0	4.3	0	0.03
Ac-ft	4,490	0	0	0	0	0	0	0	0	262	0	2.0

Calendar year 1954: Max 1,950 Min 0 Mean 6.79 Ac-ft 4,920
Water year 1954-55: Max 1,950 Min 0 Mean 6.6 Ac-ft 4,750

Peak discharge (base, 200 cfs).--Oct. 6 (9 a.m.) 229 cfs (5.23 ft); Oct. 7 (12 m.) 7,650 cfs (13.30 ft); July 8 (11 a.m.) 285 cfs (5.78 ft).
* Discharge measurement made on this day.

Pecos River below McMillan Dam, N. Mex.

Location.--Lat 32°35'30", long 104°21'00", in NE¼ sec. 11, T. 20 S., R. 26 E., on left bank 700 ft downstream from gates in McMillan Dam and 3 miles southeast of Lakewood.

Drainage area.--16,990 sq mi, approximately (contributing area).

Records available.--February 1906 to December 1909, August 1939 to December 1940, December 1946 to September 1955. Published as "near Lakewood" 1906-9.

Gage.--Water-stage recorder and rock control. Datum of gage is 3,239.30 ft above mean sea level, datum of 1929. February 1906 to December 1909 at site half a mile downstream at different datum. August 1939 to December 1940 at site 30 ft downstream at datum 0.99 ft lower.

Average discharge.--11 years (1906-7, 1939-40, 1946-55), 91.3 cfs (66,100 acre-ft per year).

Extremes.--Maximum discharge during year, 16,100 cfs Oct. 11 (gage height, 7.09 ft), includes flow of 2 spillways; no flow for many days.
1939-40, 1946-55: Maximum discharge, that of Oct. 11, 1954; no flow during many periods.
Flood of Oct. 2, 1904, was estimated as 82,000 cfs by chief engineer of Pecos River Irrigation Co.

Remarks.--Records good. Flow regulated by Alamogordo Reservoir and Lake McMillan (see p. 418). Diversions for irrigation of about 147,000 acres above station.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Discharge includes flow over two spillways Oct. 9-15)

Oct. 1-8				Oct. 8 to Sept. 30			
0.3	0.1	1.1	35	0.15	0	1.0	33
.4	.6	1.5	85	.3	.1	1.3	70
.5	2.2	2.0	170	.4	.7	1.8	168
.6	4.8	2.5	290	.5	2.5	2.4	340
.7	8.3	3.0	480	.6	5.7	3.0	575
.9	18	5.0	1,620	.7	10	4.0	1,100
				.8	16	5.3	1,960

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	*0.1	*0.6	0	59	*19	0	*239	110	*318	*259	0	*233
2	.1	0	0	37	19	0	361	*110	292	318	0	233
3	.1	0	0	**.1	19	0	278	110	265	318	81	230
4	.1	0	0	0	19	0	152	110	203	318	268	227
5	.1	0	0	0	18	0	152	110	158	303	354	222
6	.3	0	0	0	18	0	152	44	116	91	364	219
7	222	0	0	0	16	0	152	.1	114	167	311	216
8	1,820	90	0	0	14	0	243	0	114	289	314	214
9	*3,440	146	0	20	14	0	361	0	114	289	311	209
10	*12,200	93	0	57	14	0	308	0	165	289	260	209
11	15,300	93	0	32	14	0	265	0	196	289	126	211
12	10,200	95	0	20	14	0	265	0	193	*146	126	211
13	*5,210	78	66	20	11	0	262	0	193	93	126	211
14	3,540	63	109	10	0	0	305	0	209	93	128	214
15	*1,850	48	72	0	0	0	344	0	409	182	128	206
16	296	*0	*72	0	0	0	344	0	*418	321	128	*216
17	56	0	57	0	0	0	262	0	347	321	*237	216
18	*152	0	.1	8.8	0	0	201	0	283	321	311	216
19	68	0	0	21	0	0	*201	0	283	321	337	216
20	1.3	0	0	21	0	0	198	0	244	135	354	219
21	1.3	0	0	21	0	0	262	0	209	.3	354	168
22	145	0	0	20	0	.2	239	0	211	**.2	347	118
23	133	0	0	20	0	0	161	0	211	.1	347	104
24	.5	0	0	20	0	0	112	0	216	2.7	344	34
25	151	0	0	20	0	0	112	0	219	0	344	0
26	250	0	0	20	0	0	112	0	222	0	337	.5
27	324	0	0	20	0	0	112	75	225	0	337	.2
28	401	0	0	20	0	0	112	211	225	0	274	1.0
29	1,950	0	0	20	-	0	112	292	227	0	241	.2
30	.3	0	15	19	--	0	110	340	230	0	239	.2
31	.1	---	59	19	---	0	------	361	------	0	239	------
Total	57,712.3	706.6	450.1	524.9	209	0.2	6,489	1,873.1	6,829	4,866.3	7,667	4,774.1
Mean	1,862	23.6	14.5	16.9	7.46	0.006	216	60.4	228	157	247	159
Ac-ft	114,500	1,400	893	1,040	415	0.4	12,870	3,720	13,550	9,650	15,210	9,470

Calendar year 1954: Max 15,300 Min 0 Mean 213 Ac-ft 154,400
Water year 1954-55: Max 15,300 Min 0 Mean 252 Ac-ft 182,700

* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
Note.--Flow over 2 spillways added to river flow on Oct. 9-15.

Pecos River at dam site 3, near Carlsbad, N. Mex.

Location.--Lat 32°30'45", long 104°19'50", in lot 14, sec. 6, T. 21 S., R. 26 E., on right bank at dam site 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.--17,620 sq mi, approximately (contributing area).

Records available.--August 1939 to December 1940, August 1944 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 3,172.31 ft above mean sea level (Bureau of Reclamation datum). Prior to Aug. 10, 1944, at site 1,000 ft downstream at same datum.

Average discharge.--12 years (1939-40, 1944-55), 186 cfs (134,700 acre-ft per year).

Extremes.--Maximum discharge during year, 53,000 cfs Oct. 7 (gage height, 18.53 ft), from rating curve extended above 15,000 cfs on basis of slope-area determination of peak flow; minimum daily, 24 cfs Oct. 1, 3, 4.

1939-40, 1944-55: Maximum discharge, that of Oct. 7, 1954; minimum daily, 4.8 cfs Aug. 1, 4, 7, 8, 1954.

Flood of Oct. 2, 1904, was estimated at 82,000 cfs at McMillan Dam (about 10 miles upstream) by chief engineer of Pecos River Irrigation Co.

Remarks.--Records good. Discharge measurements made two or more times a month. Flow regulated by storage in Alamogordo Reservoir and Lake McMillan (see p. 418). Diversions and ground-water withdrawals for irrigation of about 150,000 acres above station. Discharge represents inflow to Lake Avalon. Records of chemical analyses for the water year 1955 are given in WSP 1402.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Feb. 16 to Mar. 26)

Oct. 1-5		Oct. 6 to Dec. 31				Jan. 1 to Sept. 30			
0.1	18	0.6	91	4.0	1,940	0.3	47	2.0	575
.2	26	1.0	193	6.0	4,220	.6	98	3.0	1,140
.4	50	1.5	350	9.0	9,290	1.0	195	4.0	1,950
.6	83	2.0	555	12.0	16,400	1.5	360		
		3.0	1,130	12.9	19,400				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	217	113	137	119	87	176	181	356	269	67	286
2	25	209	115	140	117	88	392	178	314	336	69	280
3	24	204	115	115	117	88	366	175	304	339	70	280
4	24	193	113	106	119	88	213	175	237	342	296	276
5	76	185	113	102	117	90	213	178	219	477	361	276
6	1,610	180	110	100	117	90	213	155	157	211	416	272
7	19,200	174	110	100	117	90	216	77	154	157	353	266
8	2,400	199	110	100	113	90	253	74	154	322	350	266
9	3,080	284	108	98	108	90	408	72	154	322	346	258
10	10,300	244	108	140	113	90	392	70	175	322	436	255
11	15,000	238	108	141	113	90	328	69	228	328	352	255
12	10,700	235	108	117	111	92	332	65	228	773	198	255
13	5,390	229	115	115	111	92	336	65	225	137	178	258
14	3,500	204	209	115	104	92	353	65	231	133	173	258
15	2,090	201	171	102	98	90	412	65	339	150	170	252
16	550	153	169	96	96	92	416	64	440	336	164	258
17	288	140	171	94	96	92	372	62	380	339	226	262
18	311	138	122	96	96	88	290	62	318	342	368	262
19	339	132	108	104	94	88	286	62	311	339	384	262
20	235	128	105	111	94	87	286	62	294	1,920	408	269
21	235	125	103	113	92	87	322	60	237	766	408	242
22	317	125	103	113	92	88	342	59	240	86	408	181
23	399	125	103	113	92	85	266	58	240	80	408	157
24	244	125	101	113	88	87	198	58	240	82	404	178
25	328	125	101	117	90	87	195	56	243	60	396	65
26	441	122	101	117	87	85	189	54	240	59	392	93
27	524	122	98	117	87	85	187	56	250	60	392	154
28	483	118	98	117	88	85	187	219	262	152	360	67
29	2,270	118	93	117	-	85	184	278	262	280	308	65
30	244	115	96	117	------	81	184	346	262	70	304	67
31	226	------	118	119	------	83	-----	360	------	67	294	------
Total	80,877	5,107	3,616	3,502	2,886	2,732	8,506	3,580	7,694	9,636	9,459	6,575
Mean	2,609	170	117	113	103	88.1	284	115	256	311	305	219
Ac-ft	160,400	10,130	7,170	6,950	5,720	5,420	16,870	7,100	15,260	19,110	18,760	13,040

Calendar year 1954: Max 19,200 Min 4.8 Mean 315 Ac-ft 228,100
Water year 1954-55: Max 19,200 Min 24 Mean 395 Ac-ft 285,900

Peak discharge (base, 1,700 cfs).--Oct. 6 (11 a.m.) 2,890 cfs (4.91 ft); Oct. 7 (7 a.m.) 53,000 cfs (18.53 ft); Oct. 11 (1:30 p.m.) 15,700 cfs (11.75 ft); Oct. 29 (10 a.m.) 3,910 cfs (5.77 ft); July 12 (2 a.m.) 2,620 cfs (4.66 ft); July 20 (8 p.m.) 10,000 cfs (9.38 ft).

Carlsbad main canal at head, near Carlsbad, N. Mex.

Location.--Lat 32°29'28", long 104°15'08", in N½SW¼SW¼ sec. 12, T. 21 S., R. 26 E., on right bank 220 ft downstream from headgates in Avalon Dam and 5.0 miles north of Carlsbad.

Records available.--July 1939 to December 1940 (published as "Carlsbad project main canal"), April 1951 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 3,156.50 ft above mean sea level, datum of 1929. July 1939 to December 1940 at site 20 ft upstream at datum 0.9 ft higher.

Extremes.--1939-40, 1951-55: Maximum daily discharge, 490 cfs July 13, 1940; no flow at times.

Remarks.--Records good. Discharge measurements generally made twice a month during irrigation season. Canal diverts water from Lake Avalon for irrigation of Carlsbad Irrigation District. Records of chemical analyses for the water year 1955 are given in WSP 1402.

Monthly discharge in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	183	0	104	6,390
November	193	74	112	6,690
December	92	0	48.2	2,970
Calendar year 1954	466	0	75.2	54,420
January	135	0	79.4	4,880
February	305	0	114	6,340
March	317	0	69.1	4,250
April	416	47	280	16,640
May	329	0	103	6,350
June	331	124	222	13,220
July	361	86	237	14,600
August	399	215	309	19,020
September	339	0	202	12,040
Water year 1954-55	416	0	157	113,400

Pecos River below Avalon Dam, N. Mex.

Location.--Lat 32°28'53", long 104°15'43", in SW¼SW¼NE¼ sec. 14, T. 21 S., R. 26 E., 5,200 ft below Avalon Dam and 4.5 miles northwest of Carlsbad.

Drainage area.--18,080 sq mi, approximately (contributing area).

Records available.--January 1906 to March 1907, June 1951 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 3,130 ft (from topographic map). January 1906 to March 1907 at site half a mile upstream at different datum.

Extremes.--Maximum discharge during year, 41,000 cfs Oct. 7 (gage height, 23.3 ft, from floodmarks); no flow most days.
1951-55: Maximum discharge, that of Oct. 7, 1954; no flow for many days.

Remarks.--Records good. Flow regulated by Alamogordo Reservoir, Lake McMillan and Lake Avalon (see p. 418). Diversions and ground-water withdrawals above station for irrigation of about 175,000 acres. Station bypassed by Carlsbad main canal (see preceding page).

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Jan. 8-11, 14, 15)

3.75	0	7.0	835
4.0	2	8.0	1,370
4.2	10	9.0	2,160
4.3	17	10.0	3,220
4.5	37	12.0	6,490
4.8	86	14.0	10,600
5.4	235	17.0	18,700
6.0	430		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	95						0		
2	0	0	0	108						0		
3	0	0	0	95						0		
4	0	0	0	73						0		
5	0	0	0	59						0		
6	0	0	0	25						0		
7	*16,400	0	0	9						0		
8	*3,820	142	0	2						0		
9	*2,830	*143	0	0						0		
10	*8,050	2	0	0						0		
11	*14,400	188	0	*4						0		
12	11,600	2	0	18						0		
13	*5,720	0	0	16						0		
14	*3,280	0	0	6						0		
15	2,340	0	0	1						0		
16	*179	0	0	0						0		
17	9	0	0	0						0		
18	340	0	0	0						0		
19	135	0	0	0						0		
20	2	0	35	0						0		
21	0	0	54	0						320		
22	*284	0	59	0						0		
23	178	0	*62	0						0		
24	2	0	61	0						0		
25	0	0	64	0						0		
26	279	0	62	0						0		
27	288	0	62	0						0		
28	360	0	67	0						0		
29	2,800	0	62	0						0		
30	10	0	61	0	------					0		
31	1	------	73	0	------		------		------	0		------
Total	73,307	477	722	511	0	0	0	0	0	320	0	0
Mean	2,365	15.9	23.3	16.5	0	0	0	0	0	10.3	0	0
Ac-ft	145,400	946	1,430	1,010	0	0	0	0	0	635	0	0

Calendar year 1954: Max 16,400 Min 0 Mean 204 Ac-ft 147,900
Water year 1954-55: Max 16,400 Min 0 Mean 206 Ac-ft 149,400

* Discharge measurement made on this day.

Pecos River at Carlsbad, N. Mex.

Location.--Lat 32°24'50", long 104°13'20", in NW¼SE¼ sec. 6, T. 22 S., R. 27 E., in downstream end of pier near center of Greene Street Bridge in Carlsbad, half a mile upstream from Dark Canyon.

Drainage area.--18,100 sq mi, approximately (contributing area).

Records available.--May 1903 to March 1908, May 1914 to September 1925, October 1928 to September 1930, and October 1931 to September 1955 in reports of Geological Survey. June 1903 to December 1906, May 1914 to December 1928, and January 1930 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 3,080.28 ft above mean sea level, datum of 1929. Prior to October 1931, several types of gages (staff gage prior to June 1, 1920) in immediate vicinity of present site at different datums.

Average discharge.--23 years (1914-37), 304 cfs (prior to completion of Alamogordo Dam); 18 years (1937-55), 225 cfs (162,900 acre-ft per year).

Extremes.--Maximum discharge during year, 39,500 cfs Oct. 7 (gage height, 18.12 ft); minimum daily, 0.7 cfs Feb. 20, 23.

1903-8, 1914-55: Maximum discharge, 85,700 cfs Aug. 7, 1916 (gage height, about 21.0 ft), from rating curve extended above 34,000 cfs by logarithmic plotting; no flow May 9, 1904.

Remarks.--Records good. Discharge measurements generally made twice a month. Flow regulated by Alamogordo Reservoir, Lake McMillan and Lake Avalon (see p. 418), and at low stages by powerplant above station. Diversions and ground-water withdrawals above station for irrigation of about 175,000 acres. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-7		Oct. 7 to June 30				July 1 to Sept. 30	
1.0	11	0.65	0.5	2.0	180	2.0	180
1.1	22	.7	.8	2.3	300	2.4	330
1.2	38	.8	2.5	3.0	790		
1.5	106	.9	6.0	5.0	2,470	Note.--Same as preceding table below 2.0 ft.	
		1.0	11	7.0	5,040		
		1.2	28	10.0	11,100		
		1.5	67	13.0	19,400		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	62	45	128	67	31	48	39	54	21	43	43
2	45	48	22	132	67	44	46	43	46	3.5	43	2.0
3	38	46	43	130	69	44	46	40	29	29	43	17
4	25	53	48	116	67	18	22	40	2.0	29	32	40
5	56	36	49	105	67	20	26	18	39	52	13	43
6	86	47	58	88	66	34	48	32	46	55	32	55
7	16,800	47	55	64	64	36	49	42	34	19	32	52
8	4,370	212	52	54	62	35	42	40	31	32	45	46
9	2,710	240	51	52	62	36	1.5	40	30	22	19	41
10	7,220	122	49	60	64	35	24	42	30	28	29	15
11	13,700	246	36	49	62	36	33	42	43	54	50	39
12	11,400	132	49	54	61	36	40	42	43	44	26	53
13	5,850	86	61	81	61	37	48	26	19	44	40	36
14	3,320	68	56	91	61	37	32	8.7	31	44	36	22
15	2,460	89	54	204	61	37	42	31	46	43	14	35
16	345	49	55	101	58	35	39	47	55	4.5	46	28
17	62	58	55	78	58	30	20	42	16	19	51	30
18	271	56	48	76	42	34	40	40	7.6	42	16	32
19	178	60	44	72	1.4	35	39	42	33	43	41	45
20	96	56	80	72	.7	35	42	20	42	52	18	21
21	50	87	94	71	.8	44	42	6.8	21	299	42	25
22	256	76	105	71	.8	42	42	30	28	27	39	30
23	209	56	100	67	.7	42	40	38	42	40	38	32
24	91	51	96	67	16	42	16	43	42	43	21	60
25	57	7.6	105	67	21	42	37	43	21	43	48	15
26	293	49	105	67	61	42	42	31	2.1	43	35	58
27	347	54	105	67	2.3	35	40	22	40	43	36	40
28	438	51	109	67	56	20	40	19	44	18	4.6	18
29	2,290	59	105	67	-	27	35	25	43	16	56	30
30	88	61	105	69	------	44	14	29	43	43	44	35
31	68	------	107	69	------	43	------	38	------	43	44	------
Total	73,231	2,344.6	2,146	2,556	1,279.7	1,108	1,075.5	1,041.5	1,002.7	1,338.0	1,076.6	1,038.0
Mean	2,362	78.2	69.2	82.5	45.7	35.7	35.8	33.6	33.4	43.2	34.7	34.6
Ac-ft	145,300	4,650	4,260	5,070	2,540	2,200	2,130	2,070	1,990	2,650	2,140	2,060

Calendar year 1954: Max 16,800 Min 0.6 Mean 238 Ac-ft 172,600
Water year 1954-55: Max 16,800 Min 0.7 Mean 244 Ac-ft 177,100

Pecos River seepage investigation

During the water year 1954-55, several series of discharge measurements were made on the Pecos River and tributaries in New Mexico. The purpose was to determine seepage gains or losses. Three separate reaches of the Pecos River were measured, as described in the paragraphs below.

Two series of discharge measurements were made during the periods Dec. 14-16, 1954, and May 17, 18, 1955, on the Pecos River and tributaries, beginning at a point about 8 miles below the Anton Chico, N. Mex., gaging station and ending about 4 miles below the Santa Rosa, N. Mex., gaging station, at the request of the Ground Water Branch to determine seepage gains or losses. The series of measurements Dec. 14-16 was made during a period of constant low flow; the series May 17, 18 was made during the spring runoff.

A double series of discharge measurements was made Jan. 5, 6, 1955, on the Pecos River and its tributaries beginning at the gaging station near Acme, N. Mex., and ending at the gaging station near Artesia, N. Mex., to determine seepage gains or losses. The investigation was conducted at a time of low and relatively stable flow and no diversions other than the Hagerman Canal were noted. One series was made starting at the upper end and working downstream and the other was made starting from the lower end and working upstream. Similar series of discharge measurements have been made in previous years and published under "Miscellaneous discharge measurements" in annual water-supply papers. Results of measurements are available on request to the district office in Sante Fe, N. Mex.

Several series of discharge measurements were made in February 1955 in the vicinity of Carlsbad, N. Mex., to determine gains or losses in the Pecos River. Two series were made at a time when Tansil Lake was empty to determine the inflow in the Carlsbad Springs area. The first, on Feb. 7, was made 21 days after the lake was drained, and the second, on Feb. 17, the day before the gates in Tansil Dam were closed and the lake filled. A series of discharge measurements was made below Tansil Dam Feb. 21, 22, before the lake had filled and spill began. Harroun Canal was diverting all of flow of the Pecos River at that point, and can be considered as Pecos River discharge.

Discharge measurements on Pecos River and tributaries, New Mexico, water year 1954-55

Date	Stream or diversion	Location	Pecos River mile of measurement or of mouth of tributary	Discharge in cubic feet per second			
				Main stream	Tributary or diversion	Gain or loss in section	Total gain or loss
Dec. 14	Pecos River.....	¼ mile downstream from U. S. Highway 84 and 1⅝ miles southeast of Dilia.	311.3	9.02	-	-	-
14	....do.....	2½ miles east of Dilia.....	308.1	10.1	-	+1.08	+1.08
14	....do.....	3¼ miles east of Dilia.....	307.1	6.38	-	-3.72	-2.64
14	Unnamed tributary.	¼ mile above mouth and 3½ miles east of Dilia.	307.0	-	0.08	-	-
14	....do.....	50 ft above mouth and 3½ miles east of Dilia.	307.0	-	.02	+.02	-
14	Pecos River.....	5¼ miles east of Dilia.....	303.8	3.07	-	-3.33	-5.97
14	....do.....	4 miles upstream from mouth of Gallinas River and 6 miles southeast of Dilia.	301.6	.16	-	-2.91	-8.88
15	....do.....	11 miles northwest of Santa Rosa and 15 miles downstream from mouth of Gallinas River.	282.1	.03	-	-.13	-9.01
15	....do.....	11 miles northwest of Santa Rosa.	281.8	.14	-	+.11	-8.90
15	....do.....	9½ miles northwest of Santa Rosa.	279.8	3.45	-	+3.31	-5.59
15	....do.....	8¼ miles northwest of Santa Rosa.	277.8	3.88	-	+.43	-5.16
15	....do.....	50 ft above mouth of Esteros Creek and 8½ miles north of Santa Rosa.	271.8	4.65	-	+.77	-4.39
15	....do.....	4 miles downstream from mouth of Esteros Creek and 6⅛ miles north of Santa Rosa.	267.6	4.16	-	-.49	-4.88
16	....do.....	1⅞ miles north of Santa Rosa.	260.2	4.47	-	+.31	-4.57
16	....do.....	1½ miles north of Santa Rosa.	259.4	5.22	-	+.75	-3.82
16	....do.....	1¼ miles northwest of Santa Rosa.	258.1	8.81	-	+3.59	-.23
16	....do.....	3½ miles upstream from Rio Agua Negra Chiquita and 4 miles southwest of Santa Rosa.	252.2	54.3	-	+45.49	+45.26
May 17	....do.....	¼ mile downstream from U. S. Highway 84 and 1⅝ miles southeast of Dilia.	311.3	168	-	-	-
17	....do.....	2½ miles east of Dilia.....	308.6	166	-	-2	-2
17	....do.....	3½ miles east of Dilia.....	306.8	167	-	+1	-1
17	....do.....	5⅝ miles east of Dilia.....	303.8	161	-	-6	-7
18	....do.....	8 miles southeast of Dilia...	297.2	137	-	-24	-31
18	....do.....	9¾ miles southeast of Dilia..	293.6	114	-	-23	-54
18	....do.....	12 miles southeast of Dilia..	290.5	98.3	-	-15.7	-69.7
18	....do.....	14½ miles southeast of Dilia.	285.4	55.8	-	-42.5	-112.2
Jan. 5	Pecos River.....	At gaging station near Acme..	94.0	32.2	-	-	-
5	....do.....	Above mouth of Rio Hondo, 7 miles east of Roswell.	74.7	57.5	-	+25.3	+25.3
5	Hagerman Canal..	At head of diversion from Rio Hondo, 5 miles east of Roswell.	-	-	39.4	-	-

Pecos River seepage investigation--Continued

Discharge measurements on Pecos River and tributaries, New Mexico, water year 1954-55--Continued

Date	Stream or diversion	Location	Pecos River mile of measurement or of mouth of tributary	Discharge in cubic feet per second			
				Main stream	Tributary or diversion	Gain or loss in section	Total gain or loss
Jan. 5	Rio Hondo.....	At mouth, 7 miles east of Roswell.	74.6	-	6.86	+6.86	+32.2
5	Pecos River.....	At Dexter Bridge, 2¼ miles northeast of Dexter.	58.0	88.7	-	+24.3	+56.5
5	....do.....	0.9 mile above mouth of Rio Felix and 2½ miles northeast of Hagerman.	50.9	96.5	-	+7.8	+64.3
6	Rio Felix.....	At gaging station near Hagerman, 2½ miles above mouth.	-	-	.001	-	-
6	....do.....	¾ mile above mouth and 2½ miles northeast of Hagerman.	50.0	-	4.60	+4.60	+68.9
6	Pecos River.....	At gaging station near Lake Arthur.	30.6	110	-	+8.9	+77.8
6	Walnut Creek....	Near mouth, ¾ mile south of Lake Arthur.	28.0	-	.36	+.36	+78.2
6	Cottonwood Creek	At gaging station near Lake Arthur.	20.6	-	2.43	+2.43	+80.6
6	Pecos River.....	At gaging station near Artesia.	12.2	126	-	+13.2	+93.8
6	....do.....	At gaging station near Acme...	94.0	31.2	-	-	-
6	....do.....	Above mouth of Rio Hondo, 7 miles east of Roswell.	74.7	46.1	-	+14.9	+14.9
6	Hagerman Canal..	At head of diversion from Rio Hondo, 5 miles east of Roswell.	-	-	34.9	-	-
6	Rio Hondo.....	At mouth, 7 miles east of Roswell.	74.6	-	6.86	+6.86	+21.8
6	Pecos River.....	At Dexter Bridge, 2¼ miles northeast of Dexter.	58.0	91.1	-	+38.1	+59.9
6	....do.....	0.9 mile above mouth of Rio Felix and 2½ miles northeast of Hagerman.	50.9	94.1	-	+3.0	+62.9
5	Rio Felix.....	At gaging station near Hagerman, 2½ miles above mouth.	-	-	.002	-	-
5	....do.....	¾ mile above mouth and 2½ miles northeast of Hagerman.	50.0	-	5.68	+5.68	+68.6
5	Pecos River.....	At gaging station near Lake Arthur.	30.6	116	-	+16.2	+84.8
5	Walnut Creek....	Near mouth, ¾ mile south of Lake Arthur.	28.0	-	.35	+.35	+85.2
5	Cottonwood Creek	At gaging station near Lake Arthur.	20.6	-	2.49	+2.49	+87.7
5	Pecos River.....	At gaging station near Artesia.	12.2	121	-	+2.1	+89.8
Feb. 7	....do.....	At Carlsbad main canal flume, Carlsbad.		1.90	-	-	-
7	....do.....	4,800 ft below Carlsbad main canal flume, Carlsbad.		42.4	-	+40.5	+40.5
7	....do.....	6,100 ft below Carlsbad main canal flume.		43.4	-	+1.0	+41.5
7	....do.....	9,750 ft below Carlsbad main canal flume.		51.1	-	+7.7	+49.2
7	....do.....	At Carlsbad (regular gaging station).		65.0	-	+13.9	+63.1
17	....do.....	At Carlsbad main canal flume, Carlsbad.		2.01	-	-	-
17	....do.....	4,800 ft below Carlsbad main canal flume.		44.0	-	+42.0	+42.0
17	....do.....	9,750 ft below Carlsbad main canal flume.		48.5	-	+4.5	+46.5
17	....do.....	15,800 ft below Carlsbad main canal flume, above Tansil Dam.		51.5	-	+3.0	+49.5
17	....do.....	At gaging station at Carlsbad, 2,500 ft below Tansil Dam.		57.8	-	+6.3	+55.8
19	....do.....	....do.....		1.31	-	-	-
19	Sewer waste.....	1 mile below Tansil Dam.....		-	2.89	-	-
21	Pecos River.....	At gaging station at Carlsbad.		.80	-	-	-
21	Sewer waste.....	1 mile below Tansil Dam.....		-	3.35	+3.35	+3.35
21	Pecos River.....	2.2 miles below Tansil Dam....		4.03	-	-.12	+3.23
21	....do.....	3.9 miles below Tansil Dam....		6.52	-	+2.49	+5.72
21	....do.....	At Six Mile dam, 5½ miles southeast of Carlsbad.		6.74	-	+.22	+5.94
22	Harroun Canal...	At head, 12½ miles southeast of Carlsbad.		-	23.2	+16.46	+22.40

Black River above Malaga, N. Mex.

Location.--Lat 32°13'40", long 104°09'05", in SW¼ sec. 12, T. 24 S., R. 27 E., on right bank 0.6 mile upstream from Black River diversion dam, 4.8 miles west of Malaga, and 7 miles upstream from mouth.

Drainage area.--343 sq mi.

Records available.--December 1946 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 3,070 ft (from topographic map).

Average discharge.--8 years (1947-55), 14.3 cfs (10,350 acre-ft per year).

Extremes.--Maximum discharge during year, 20,500 cfs Sept. 23 (gage height, 14.70 ft), from rating curve extended above 1,400 cfs on basis of slope-area determinations at gage-heights 8.41 and 12.60 ft; minimum daily, 3.8 cfs Dec. 6-9, 14-16.
1946-55: Maximum discharge, that of Sept. 23, 1955; minimum daily, 2.7 cfs Sept. 19-21, 1952, Mar. 21-22, 1953.
Maximum discharge known, 33,000 cfs September 1941 (gage height, 19.0 ft, determined in 1947 from well-defined floodmarks), from rating curve extended above 1,400 cfs on basis of slope-area determinations at gage-heights 8.41 and 12.6 ft.

Remarks.--Records good. Discharge measurements generally made twice a month. Diversion for irrigation of about 1,200 acres above station.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Backwater from irrigation dam Mar. 25 to Apr. 1, Apr. 9)

0.7	2.7	1.8	117
.8	5.5	2.4	267
.9	9.7	3.0	495
1.1	23	4.0	1,080
1.4	54	5.6	2,570

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.9	5.9	8.0	5.2	5.5	7.2	5.9	41	8.0	4.9	8.0	5.9
2	5.9	5.9	5.5	5.5	5.5	7.6	5.5	13	8.4	4.7	6.8	5.9
3	116	6.3	4.7	5.9	5.5	7.6	4.9	8.9	8.4	8.0	6.3	5.5
4	11	6.8	4.4	5.9	5.2	8.9	4.7	8.4	8.0	4.9	5.9	5.5
5	152	6.8	4.1	5.5	5.2	11	4.4	8.0	8.0	4.4	5.9	5.9
6	341	6.8	3.8	5.5	5.2	8.9	7.2	8.0	7.6	4.4	5.2	5.9
7	1,640	6.8	3.8	5.5	4.9	7.2	9.7	7.6	7.6	4.7	4.9	5.9
8	45	6.8	3.8	5.5	4.9	6.8	11	7.2	8.0	105	4.9	5.5
9	20	6.3	3.8	5.5	4.9	7.2	11	7.6	8.4	23	4.7	5.5
10	13	6.8	4.1	5.2	4.9	8.0	11	8.0	8.0	9.3	4.7	5.9
11	10	6.8	4.1	5.2	4.9	8.4	11	7.6	8.4	9.0	5.2	6.3
12	8.9	6.8	4.1	5.2	4.9	8.9	11	8.9	8.4	14	31	6.3
13	8.0	7.2	4.1	5.2	4.9	8.9	11	9.3	8.0	16	13	5.5
14	7.6	7.2	3.8	5.5	4.9	8.9	11	8.4	8.0	8.4	8.0	5.5
15	7.6	7.2	3.8	6.3	4.9	8.9	11	8.9	8.0	6.8	6.3	5.5
16	7.6	7.6	3.8	6.3	5.2	8.9	11	8.4	7.6	5.5	5.9	5.9
17	7.6	8.4	4.4	5.9	5.2	8.4	11	8.4	7.2	7.6	5.5	5.9
18	7.6	9.3	4.4	5.9	4.9	7.6	12	8.4	7.2	16	5.5	5.9
19	7.6	9.3	4.4	5.9	5.2	7.2	11	8.0	7.6	6.3	5.9	9.3
20	7.6	9.3	4.7	5.5	5.2	7.2	11	7.6	8.0	6.3	5.9	8.0
21	6.8	9.7	4.7	5.9	5.2	6.3	11	8.0	8.4	5.9	6.3	5.2
22	5.9	9.7	4.7	5.9	5.2	6.3	11	8.0	10	5.9	6.9	5.5
23	5.5	9.7	4.7	5.5	5.2	6.3	11	7.6	7.2	5.5	15	2,500
24	5.5	9.3	4.9	5.5	5.2	6.3	11	7.6	6.8	5.5	7.2	709
25	5.5	8.0	4.9	5.9	5.2	6.3	11	7.2	6.8	5.5	5.9	26
26	5.5	8.0	4.9	5.9	5.2	6.8	12	6.3	6.3	7.2	5.2	85
27	5.5	8.4	5.2	5.9	5.2	6.5	10	6.8	5.9	8.0	5.2	119
28	5.5	9.3	5.5	5.9	6.3	6.3	9.3	7.2	6.3	6.3	5.2	25
29	5.5	9.7	5.5	5.9	-	6.0	9.7	7.2	5.9	7.2	5.2	13
30	5.9	10	5.5	5.9	------	6.0	71	7.6	5.5	18	5.5	8.0
31	5.9	------	5.2	5.5	------	5.9	------	8.4	------	9.7	5.9	------
Total	2,492.9	236.1	143.3	175.8	144.6	232.7	353.3	283.5	227.9	353.9	223.0	3,617.2
Mean	80.4	7.87	4.62	5.67	5.16	7.51	11.8	9.15	7.60	11.4	7.19	121
Ac-ft	4,940	468	284	349	287	462	701	562	452	702	442	7,170

Calendar year 1954: Max 1,640 Min 3.8 Mean 21.7 Ac-ft 15,690
Water year 1954-55: Max 2,500 Min 3.8 Mean 23.2 Ac-ft 16,820

Peak discharge (base, 200 cfs).--Oct. 3 (4 p.m.) 1,970 cfs (5.06 ft); Oct. 5 (11:30 p.m.) 3,570 cfs (6.43 ft); Oct. 7 (12:30 a.m.) 10,900 cfs (10.66 ft); Apr. 30 (10 p.m.) 700 cfs (3.39 ft); July 8 (3:30 a.m.) 555 cfs (3.23 ft); Sept. 23 (8:30 p.m.) 20,500 cfs (14.70 ft); Sept. 26 (9:30 p.m.) 580 cfs. (3.18 ft).

Pecos River near Malaga, N. Mex.

Location.--Lat 32°12'30", long 104°01'30", in N½ sec. 19, T. 24 S., R. 29 E., on right bank 3 miles southeast of Malaga and 3 miles downstream from Black River.

Drainage area.--19,190 sq mi, approximately (contributing area).

Records available.--May 1920 to September 1925 and October 1931 to September 1955 in reports of Geological Survey. January 1921 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Datum of gage is 2,895.64 ft above mean sea level, datum of 1929. Prior to Mar. 25, 1949, at datum 3 ft higher.

Average discharge.--17 years (1920-37), 299 cfs (prior to completion of Alamogordo Reservoir). 18 years (1937-55), 283 cfs (204,900 acre-ft per year).

Extremes.--Maximum discharge during year, 43,100 cfs Oct. 7 (gage height, 28.31 ft); minimum daily, 17 cfs Mar. 9, 10, May 26.
1920-55: Maximum discharge, 63,700 cfs Sept. 21, 1941, from rating curve extended above 22,500 cfs by logarithmic plotting; maximum gage height, 35.1 ft, present datum, May 22, 1941, from floodmarks; no flow Aug. 20-22, 1934.

Remarks.--Records good. Discharge measurements generally made twice a month. Flow regulated by Alamogordo Reservoir, Lakes McMillan and Avalon (see p. 418) and by several small diversion dams that divert for power and irrigation. Diversions and ground-water withdrawals above station for irrigation of about 181,000 acres. Records of chemical analyses for the water year 1955 are given in WSP 1402.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-6		Oct. 7 to June 20				June 21 to Sept. 30			
2.0	30	2.2	12	5.0	625	2.2	15	4.0	360
2.5	81	2.3	18	6.0	1,010	2.3	24	5.0	685
3.0	156	2.5	37	8.0	2,190	2.7	81	7.0	1,620
4.0	365	2.9	96	12.0	5,600	3.1	152	10.0	3,730
5.5	810	3.4	194	17.0	12,400				
		4.0	340	21.0	20,400				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	139	110	88	64	26	37	93	30	19	23	22
2	35	129	105	109	67	28	63	30	24	19	23	24
3	68	118	79	122	58	28	68	23	30	20	25	26
4	110	101	66	120	51	32	67	21	32	18	24	29
5	63	120	64	107	54	32	56	20	29	19	25	26
6	806	109	36	94	54	25	38	21	24	18	40	23
7	19,500	116	54	79	44	21	28	21	23	18	30	24
8	10,100	129	72	86	40	18	29	21	23	80	21	21
9	2,360	209	64	72	34	17	28	21	34	44	20	21
10	4,560	218	66	67	31	17	25	21	46	21	21	21
11	13,200	127	57	64	34	21	21	21	47	20	31	32
12	13,900	202	61	60	35	29	20	24	50	20	350	24
13	7,980	203	53	57	33	29	20	24	60	20	105	23
14	3,860	184	49	60	28	31	21	37	63	24	52	23
15	2,940	177	50	98	38	41	22	27	54	21	59	23
16	1,170	177	47	193	32	45	21	24	47	20	56	24
17	352	114	56	120	27	30	24	22	58	21	43	28
18	142	82	50	91	33	23	24	22	64	31	30	26
19	336	87	46	76	38	22	21	24	47	32	36	26
20	225	110	35	74	30	19	21	24	42	24	30	29
21	163	110	31	74	24	18	20	23	30	341	26	47
22	122	122	60	74	23	18	19	22	23	286	24	42
23	277	122	76	76	21	36	18	21	23	60	25	380
24	239	88	73	76	19	56	21	20	21	32	25	3,270
25	141	79	74	76	18	36	20	19	21	41	24	373
26	124	74	82	82	18	24	21	17	21	39	21	152
27	291	63	82	84	18	25	20	18	22	72	23	412
28	353	70	93	78	28	33	20	20	24	79	24	173
29	1,770	76	107	76	-	30	21	20	22	37	23	101
30	1,110	86	101	72	------	32	22	22	19	29	23	119
31	155	------	91	66	------	28	------	23	------	26	22	------
Total	86,486	3,741	2,090	2,671	994	870	856	766	1,053	1,551	1,304	5,564
Mean	2,790	125	67.4	86.2	35.5	28.1	28.5	24.7	35.1	50.0	42.1	185
Ac-ft	171,500	7,420	4,150	5,300	1,970	1,730	1,700	1,520	2,090	3,080	2,590	11,040

Calendar year 1954: Max 19,500 Min 5.6 Mean 279 Ac-ft 201,800
Water year 1954-55: Max 19,500 Min 17 Mean 296 Ac-ft 214,100

Peak discharge (base, 1,000 cfs).--Oct. 6 (4:30 a.m.) 1,600 cfs (7.20 ft); Oct. 7 (8 p.m.) 43,100 cfs (28.31 ft); Oct. 12 (3 a.m.) 15,300 cfs (18.64 ft); Oct. 29 (4:30 p.m.) 3,030 cfs (9.14 ft); Sept. 24 (1:30 a.m.) 11,400 cfs (16.32 ft).

Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.

Location.--Lat 32°11'20", long 103°59'00", in SE¼ sec. 28, T. 24 S., R. 29 E., a quarter of a mile upstream from Pierce Canyon Crossing and 6 miles southeast of Malaga.

Drainage area.--19,260 sq mi, approximately (contributing area).

Records available.--July 1938 to September 1941, August 1951 to September 1955.

Gage.--Water-stage recorder. Altitude of gage is 2,890 ft (from river-profile map).

Average discharge.--7 years, 343 cfs (248,300 acre-ft per year).

Extremes.--Maximum gage height, 24.35 ft Oct. 8 (discharge not determined); minimum daily, 18 cfs Feb. 25-27, Mar. 10.
1938-41, 1951-55: Maximum gage height, 24.8 ft May 22, 1941, from floodmarks (discharge not determined); minimum daily, 4.4 cfs Aug. 20, 1954.

Remarks.--Records good below 500 cfs and poor above. Discharge measurements generally made twice a month. Flow regulated by Alamogordo Reservoir, Lake McMillan, Lake Avalon (see p. 418), and several small diversion and power dams below Carlsbad. Diversions and ground-water withdrawals above station for irrigation of about 181,500 acres. Records of chemical analyses and water temperatures for the water year 1955 are given in WSP 1402.

Rating tables, water year 1954-55 except periods of indefinite stage-discharge relation (gage height, in feet, and discharge, in cubic feet per second)

Oct. 1-7		Oct. 8 to Sept. 30			
1.1	32	0.9	14	1.6	122
1.4	71	1.1	30	2.0	280
1.7	137	1.3	57	2.6	625
2.5	425				

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	132	101	109	79	28	32	90	29	23	29	30
2	42	138	112	125	81	24	57	51	28	24	26	29
3	42	119	99	148	68	28	73	32	26	26	26	27
4	130	109	83	148	54	30	70	27	32	24	25	31
5	73	117	68	138	51	34	54	26	32	23	25	32
6	739	114	61	119	54	36	50	25	32	23	32	26
7	e17,000	114	64	101	46	26	31	24	24	23	38	26
8	e12,000	125	73	99	38	21	25	23	21	56	29	26
9	e2,500	214	75	86	35	19	32	25	23	64	26	26
10	e4,300	254	71	77	35	18	26	26	44	32	25	26
11	e11,000	160	66	75	35	19	26	23	45	27	30	46
12	e14,000	200	66	75	34	25	24	25	45	27	355	31
13	e8,000	235	62	73	30	32	20	26	52	23	141	25
14	e3,800	206	57	75	27	31	19	35	59	24	59	25
15	e2,900	197	57	117	29	36	20	42	54	23	48	25
16	e1,500	166	59	220	34	48	20	28	45	22	56	25
17	500	135	61	175	26	46	20	26	46	34	48	29
18	200	99	62	117	26	27	25	26	64	36	34	31
19	325	86	64	96	37	26	28	26	50	32	32	29
20	276	109	59	90	32	26	23	25	44	29	34	25
21	197	114	57	88	26	24	20	25	36	323	29	36
22	138	117	66	88	24	20	20	24	28	347	26	38
23	310	141	88	86	21	23	25	23	25	76	28	48
24	301	99	90	86	19	61	24	21	26	38	29	e3,000
25	177	85	94	86	18	51	26	20	28	31	26	552
26	135	78	106	88	18	36	28	23	29	52	23	161
27	340	65	104	92	18	26	26	20	29	45	23	486
28	480	70	104	88	19	32	26	19	34	97	24	237
29	e1,500	75	119	88	-	34	24	19	31	46	24	114
30	e1,100	85	117	94	-------	32	27	25	26	37	25	114
31	199	-------	114	83	-------	31	-------	35	-------	31	29	-------
Total	84,245	3,958	2,479	3,230	1,014	950	921	885	1,087	1,718	1,404	5,356
Mean	2,718	132	80.0	104	36.2	30.6	30.7	28.5	36.2	55.4	45.3	179
Ac-ft	167,100	7,850	4,920	6,410	2,010	1,880	1,830	1,760	2,160	3,410	2,780	10,620

Calendar year 1954: **Max** 17,000 **Min** 4.4 **Mean** 279 **Ac-ft** 201,900
Water year 1954-55: **Max** 17,000 **Min** 18 **Mean** 294 **Ac-ft** 212,700

e Stage-discharge relation indefinite; discharge estimated on basis of records for Pecos River near Malaga.

Pecos River at Red Bluff, N. Mex.

Location.--Lat 32°04'40", long 104°02'20", sec. 1, T. 26 S., R. 28 E., on right bank at Red Bluff, 0.2 mile downstream from Red Bluff Creek and 5.5 miles upstream from Delaware River.

Drainage area.--19,540 sq mi, approximately (contributing area).

Records available.--October 1937 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,850.05 ft above mean sea level, datum of 1929.

Average discharge.--18 years, 290 cfs (210,000 acre-ft per year).

Extremes.--Maximum discharge during year, 26,600 cfs Oct. 8 (gage height, 23.28 ft); minimum, 15 cfs Apr. 15, 23.
1937-55: Maximum discharge, 52,600 cfs May 24, 1941 (gage height, 28.3 ft), from rating curve extended above 30,000 cfs on basis of slope-area determination of peak flow; minimum, 1.4 cfs Aug. 21, 1954.
Maximum stage known, that of May 24, 1941. Flood in October 1904 reached a stage of 28.0 ft, from information by Panhandle and Santa Fe Railway.

Remarks.--Records excellent. Flow largely regulated by reservoirs above Carlsbad (see p. 418). Many diversions above station for irrigation. Records of chemical analyses and water temperatures for the water year 1955 are published in WSP 1402.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Aug. 4-12, Aug. 14 to Sept. 23)

2.7	15	6.0	1,300
3.0	40	8.0	3,200
3.3	82	12.0	8,350
3.8	191	16.0	13,200
4.4	371	20.0	19,600
5.0	625		

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	161	89	112	87	24	32	31	33	24	36	30
2	34	164	120	114	86	28	35	82	31	21	44	32
3	35	142	110	142	84	26	62	40	28	21	32	31
4	96	127	84	147	71	30	66	31	29	22	25	28
5	*107	116	71	140	56	33	60	27	34	21	26	33
6	518	131	69	127	59	36	52	25	33	20	31	32
7	*3,780	120	69	112	59	34	40	24	31	19	41	28
8	*19,400	131	77	100	50	26	29	24	25	24	46	26
9	*4,810	154	87	95	*45	23	28	25	21	69	38	27
10	3,090	239	80	84	41	23	30	29	28	49	35	25
11	*8,220	221	76	82	35	*21	28	25	45	29	109	35
12	*13,100	138	71	*77	36	23	26	24	45	27	129	40
13	*11,100	242	71	79	37	30	34	25	47	*25	271	28
14	*5,700	214	63	80	36	32	21	26	58	20	89	*24
15	*3,440	196	60	98	34	34	*18	40	*59	18	46	25
16	*2,300	176	65	139	37	42	21	34	50	19	*50	26
17	*560	*161	62	224	36	50	21	*27	44	31	52	31
18	257	110	74	133	31	40	21	25	52	201	45	39
19	*261	93	69	110	34	30	25	25	58	41	36	31
20	333	96	68	98	41	28	25	27	46	28	35	29
21	248	118	59	91	34	28	22	25	40	86	36	27
22	174	116	55	91	30	26	20	23	32	388	32	36
23	191	138	84	91	28	24	19	21	28	149	29	47
24	309	114	96	91	26	37	22	22	24	58	29	3,080
25	248	91	96	89	24	56	22	20	24	37	30	979
26	152	84	104	89	23	46	25	19	26	39	28	250
27	204	79	112	95	23	33	25	24	27	51	26	318
28	385	71	108	95	23	28	25	20	27	77	26	310
29	731	74	120	91	-	35	24	17	29	71	27	159
30	2,200	87	124	96	------	32	23	19	28	46	33	120
31	313	------	120	91	------	33	------	29	------	40	32	------
Total	82,332	4,104	2,613	3,303	1,206	991	901	855	1,082	1,771	1,544	5,926
Mean	2,656	137	84.3	107	43.1	32.0	30.0	27.6	36.1	57.1	49.8	198
Ac-ft	163,300	8,140	5,180	6,550	2,390	1,970	1,790	1,700	2,150	3,510	3,060	11,750

Calendar year 1954: Max 19,400 Min 1.7 Mean 282 Ac-ft 204,100
Water year 1954-55: Max 19,400 Min 17 Mean 292 Ac-ft 211,500

* Discharge measurement made on this day.

Delaware River near Red Bluff, N. Mex.

Location.--Lat 32°01', long 104°03', sec. 23, T. 26 S., R. 28 E., near center of channel on downstream side of pier of bridge on U. S. Highway 285, 3.5 miles upstream from mouth, 4 miles south of Red Bluff, and 14 miles south of Malaga.

Drainage area.--689 sq mi.

Records available.--April 1912 to September 1913, May 1914 to June 1915, October 1937 to September 1955. Published as "near Malaga, N. Mex." 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, datum of 1929. Prior to May 1914, at site 3 miles upstream at different datum. May 1914 to June 1915, at site 2½ miles downstream at different datum.

Average discharge.--19 years (1912-13, 1937-55), 12.6 cfs (9,120 acre-ft per year).

Extremes.--Maximum discharge during year, 8,480 cfs Oct. 7 (gage height, 9.30 ft in gage well, 10.10 ft outside, from rating curve extended above 1,500 cfs on basis of slope-area determinations at gage heights 8.65, 12.84, and 18.00 ft; no flow at times.

1912-13, 1914-15, 1937-55: Maximum discharge, 34,600 cfs June 27, 1938 (gage height, 18.00 ft, from floodmark), from rating curve extended above 1,500 cfs as explained above.

Maximum stage known since at least 1911, that of June 27, 1938.

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

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 2, 7, July 29)

Oct. 1 to Dec. 31

0.4	0	1.6	12
.5	.2	1.8	18
.6	.5	2.0	27
.7	.8	2.3	59
.8	1.4	2.6	121
.9	2.1	3.0	250
1.0	3.1	3.5	520
1.2	5.5	4.0	980
1.4	8.7	6.0	3,100

Jan. 1 to Sept. 30

0.4	0	1.0	3.3
.5	.2	1.2	5.9
.6	.5	1.4	9.3
.7	1.0	1.6	14
.8	1.6	1.8	19
.9	2.4	2.0	28

Note.--Same as preceding table above 2.0 ft.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	1.6	1.6	1.9	1.7	1.5	1.0	6.1	3.5	0	6.3	0
2	254	1.6	1.7	1.9	1.7	1.5	1.0	20	1.5	0	32	0
3	81	1.6	1.7	1.9	1.7	1.5	1.0	5.8	.7	0	22	0
4	13	1.6	1.7	2.0	1.7	1.5	1.0	2.7	.4	0	3.3	0
5	*50	1.6	1.7	2.0	1.7	1.4	.9	2.1	.2	0	2.1	0
6	114	1.6	1.7	1.9	1.7	1.4	1.0	1.3	0	0	1.5	0
7	2,180	1.7	1.7	1.8	1.7	1.4	1.0	1.1	0	0	1.1	0
8	55	1.7	1.7	1.9	1.7	1.4	1.0	1.0	0	42	1.0	0
9	16	1.7	1.7	2.0	*1.6	1.5	1.0	2.1	0	22	.6	0
10	9.8	1.6	1.8	2.1	1.5	1.4	1.0	.8	0	5.4	.4	0
11	7.0	1.6	1.8	2.1	1.5	*1.3	1.0	1.2	0	7.0	76	2.9
12	5.4	1.7	1.8	*2.0	1.5	1.2	.8	1.0	0	66	32	1.3
13	4.3	1.6	1.8	1.9	1.6	1.3	.8	1.1	0	*10	16	.1
14	3.6	1.6	1.8	1.8	1.7	1.3	.8	1.9	0	3.4	7.6	*0
15	3.2	1.6	1.8	2.6	1.7	1.3	*.8	133	*0	1.5	2.6	a0
16	3.0	1.6	1.8	2.6	1.7	1.2	.8	4.2	0	.6	*1.6	a0
17	2.8	*1.6	1.8	2.3	1.7	1.3	.8	*1.9	0	3.3	1.0	a0
18	2.7	1.6	1.8	2.0	1.7	1.3	.8	1.1	0	12	.6	a0
19	2.5	1.6	1.8	1.8	1.6	1.5	.8	.6	5.0	11	.4	a0
20	2.3	1.6	1.9	1.8	1.6	1.3	.6	.4	1.1	2.6	.2	a0
21	2.2	1.6	1.9	1.7	1.6	1.2	.6	.3	4.0	80	14	a0
22	2.0	1.6	1.9	1.7	1.6	1.2	.6	.2	1.3	23	18	a0
23	1.9	1.6	1.9	1.7	1.6	1.2	.5	.1	.3	53	6.5	a254
24	1.9	1.6	1.9	1.7	1.6	1.2	.5	0	0	16	3.5	a57
25	1.9	1.6	1.9	1.7	1.6	1.2	.5	0	0	6.3	1.8	a14
26	1.7	1.6	1.9	1.8	1.6	1.1	.4	0	0	8.5	2.4	a110
27	1.6	1.6	1.8	1.8	1.7	1.3	.4	0	0	4.1	1.4	a15
28	1.6	1.6	1.8	1.8	1.6	1.4	.4	0	0	280	.7	a4.7
29	1.6	1.6	1.8	1.8	-	1.5	.3	0	0	340	.3	a2.9
30	1.6	1.6	1.9	1.8	------	1.3	.4	0	0	23	0	a1.8
31	1.6	------	1.9	1.8	------	1.1	------	28	------	10	0	------
Total	2,829.3	48.4	55.7	59.6	45.9	41.2	22.5	218.0	18.0	1,030.7	256.9	463.7
Mean	91.3	1.61	1.80	1.92	1.64	1.33	0.75	7.03	0.60	33.2	8.29	15.5
Ac-ft	5,610	96	110	118	91	82	45	432	36	2,040	510	920

Calendar year 1954: Max 3,270 Min 0 Mean 31.8 Ac-ft 23,000
Water year 1954-55: Max 2,180 Min 0 Mean 13.9 Ac-ft 10,090

Peak discharge (base, 1,700 cfs).--Oct. 2 (8 p.m.) 2,220 cfs (5.18 ft); Oct. 7 (12:30 a.m.) 8,480 cfs (10.10 ft); July 29 (5 a.m.) 2,220 cfs (5.19 ft).

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

a No gage-height record; discharge estimated on basis of weather records and records for nearby stations.

424841 O - 57 - 27

Salt (Screwbean) Draw near Orla, Tex.

Location.--Lat 31°52'40", long 103°56'50", near center of channel on downstream side of pier of bridge on U. S. Highway 285, 157 ft upstream from Panhandle and Sante Fe Railway bridge, 4.1 miles northwest of Orla, Reeves County, and 5 miles upstream from mouth.

Drainage area.--464 sq mi.

Records available.--August 1939 to December 1940, October 1943 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,804.19 ft above mean sea level, datum of 1929. Aug. 16 to Sept. 9, 1939, staff gage, Sept. 10, 1939, to Dec. 31, 1940, water-stage recorder, and Oct. 1 to Nov. 15, 1943, staff gage, all at present site and datum.

Average discharge.--13 years (1939-40, 1943-55), 2.95 cfs (2,140 acre-ft per year).

Extremes.--1953-54: Maximum discharge during water year, 2,320 cfs Oct. 23 (gage height, 12.08 ft); no flow at times.
1954-55: Maximum discharge during water year, 575 cfs Sept. 23 (gage height, 5.30 ft); no flow at times.
1939-40, 1943-55: Maximum discharge, 4,070 cfs Apr. 17, 1952 (gage height, 13.93 ft); no flow at times.
Floods have reached a stage of 18 or 19 ft, from information by local residents.

Remarks.--Records fair.

Revisions.--WSP 1118: Drainage area.

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	1.7					0	0	0		0	
2	0	1.3					0	0	0		0	
3	0	.9				(*)	0	0	0		0	
4	0	.8					0	0	11		0	
5	0	.6					0	0	40		0	
6	0	.6					0	0	2.6		0	
7	0	.4					0	0	1.0		0	
8	0	.2					0	0	.4		0	
9	0	.2					0	0	.1		0	
10	0	.2					0	0	0		0	
11	0	.2					93	0	0		0	
12	0	.2					409	0	.5		0	
13	*0	.1					5.4	0	2.7		0	
14	0	.1					276	0	4.0		0	
15	0	.1	(*)				22	0	.8		0	
16	0	.1					9.0	45	0		0	
17	0	**.1					6.6	57	*0		0	
18	0	.1					5.1	3.6	0		0	
19	0	.1					3.3	1.1	0		0	
20	0	.1		(*)			1.6	.3	0		0	
21	0	.1					1.3	.1	0		0	
22	20	.1					1.1	0	0		1.0	
23	893	.1					.9	5.2	0		0	
24	28	.1					.8	4.3	0		0	
25	13	0					.7	*1.3	0		.7	
26	9.2	0					.6	.5	0		.3	
27	6.9	0					**.1	0	0		0	
28	4.9	0					0	0	0	(*)	0	
29	3.9	0					0	0	0		0	
30	3.2	0			------		0	0	0		0	
31	2.2	------			------		------	0	------		*0	------
Total	984.3	8.5	0	0	0	0	836.5	118.4	63.1	0	2.0	0
Mean	31.8	0.28	0	0	0	0	27.9	3.82	2.10	0	0.06	0
Ac-ft	1,950	17	0	0	0	0	1,660	235	125	0	4.0	0

Calendar year 1953: Max 893 Min 0 Mean 2.85 Ac-ft 2,060
Water year 1953-54: Max 893 Min 0 Mean 5.51 Ac-ft 3,990

Peak discharge (base, 600 cfs).--Oct. 23 (4 a.m.) 2,320 cfs (12.08 ft); Apr. 12 (1 a.m.) 1,840 cfs (9.52 ft); Apr. 14 (3 a.m.) 644 cfs (5.75 ft).
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
Note.--No gage-height record June 23 to July 27; discharge estimated on basis of weather records and record for Pecos River near Orla.

Salt (Screwbean) Draw near Orla, Tex.--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0						0	34	0	0		0
2	17						0	2.6	0	0		0
3	2.4						0	1.4	0	0		0
4	.5						0	.3	0	0		0
5	**1.1						0	.2	0	0		0
6	*3.5						0	0	0	0		0
7	.3						0	0	0	0		0
8	0						0	0	0	0		0
9	0				(*)		0	.6	0	0		0
10	0						0	3.5	0	0		0
11	0					(*)	0	1.8	0	0		0
12	0						0	.6	0	63		0
13	0			(*)			0	.2	0	*1.7		0
14	0						0	.2	0	.2		*0
15	0						*0	0	*0	.3		0
16	0						0	0	0	.9	(*)	0
17	0	(*)					0	*0	0	.5		0
18	0						0	0	0	23		0
19	0						0	0	4.6	.4		0
20	0						0	0	2.8	0		0
21	0						0	0	.1	0		0
22	0						0	0	0	0		0
23	0						0	0	0	0		a107
24	0						0	0	0	0		a122
25	0						0	0	0	0		a22
26	0						0	0	0	0		a4.3
27	0						*0	0	0	0		a1.8
28	0						0	0	0	0		a1.0
29	0				-		0	0	0	0		a.5
30	0				------		.1	.5	0	0		a.2
31	0	------			------		------	.3	------	0		------
Total	24.8	0	0	0	0	0	0.1	46.2	7.5	90.0	0	258.8
Mean	0.80	0	0	0	0	0	0.003	1.49	0.25	2.90	0	8.63
Ac-ft	49	0	0	0	0	0	0.2	92	15	179	0	513

Calendar year 1954: Max 409 Min 0 Mean 2.86 Ac-ft 2,070
Water year 1954-55: Max 122 Min 0 Mean 1.17 Ac-ft 848

Peak discharge (base, 600 cfs).--No peak above base.
* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
a No gage-height record; discharge estimated on basis of recorded range in stage and record for Pecos River near Orla.

Pecos River near Orla, Tex.

Location.--Lat 31°49', long 103°48', on left bank 600 ft upstream from Pasotex pipeline crossing, 6 miles southeast of Orla, Reeves County, 11 miles downstream from Salt (Screwbean) Draw, and 14 miles downstream frmm Red Bluff dam.

Drainage area.--21,300 sq mi, approximately (contributing area).

Records availbble.--May 1937 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,718.05 ft above mean sea level, datum of 1929.

Average discharge.--18 years, 288 cfs (208,500 acre-ft per year).

Extremes.--Maximum discharge during year, 804 cfs June 30 (gage height, 3.84 ft); minimum, 2.6 cfs Oct. 1.
1937-55: Maximum discharge, 23,700 cfs Sept. 29, 1941 (gage height, 20.74 ft); no flow Sept. 9-14, Nov. 4, 1946.

Remarks.--Records good prior to Apr. 15, fair thereafter. Flow regulated by Red Bluff Reservoir (see p. 419), and reservoirs above Carlsbad, N. Mex. Occasional runoff from draws between dam and station. Many diversions above Red Bluff Reservoir for irrigation.

Revisions (water year).--WSP 928: 1937.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Mar. 19 to Aug. 30)

0.7	4.2	1.3	95
.8	10	1.5	150
.9	19	2.0	330
1.0	32	2.5	570
1.1	49	3.0	868

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.6	19	26	30	27	27	237	256	125	728	386	490
2	7.1	19	25	30	27	27	294	219	*122	527	386	480
3	13	20	25	32	27	27	298	212	133	456	390	409
4	8.0	20	26	30	27	27	298	212	130	465	395	290
5	*8.0	20	25	30	29	27	456	212	130	480	400	256
6	40	22	25	34	32	29	480	219	133	511	404	252
7	10	22	26	32	27	29	480	222	139	692	413	248
8	9.3	22	32	30	27	105	480	230	256	680	543	248
9	9.3	22	33	30	*29	470	480	237	263	664	565	245
10	8.0	27	27	30	27	470	480	248	256	664	559	275
11	9.3	29	29	30	27	*470	480	198	267	658	570	318
12	9.3	26	25	*30	29	432	480	191	386	686	570	330
13	11	26	27	30	29	368	480	201	372	608	565	126
14	11	26	27	30	29	271	480	234	620	592	559	*29
15	12	26	27	33	29	267	*460	195	*592	*592	559	25
16	13	27	30	30	30	271	326	208	465	576	*559	22
17	13	26	29	30	30	271	318	*222	506	576	559	22
18	14	*26	29	30	32	271	318	219	521	559	559	22
19	25	26	26	30	30	314	306	219	603	543	559	22
20	15	26	26	32	30	465	298	215	603	418	548	21
21	15	26	26	30	32	475	480	219	603	381	437	21
22	16	25	26	30	32	470	496	222	608	377	418	21
23	16	25	26	32	32	*470	496	219	614	377	409	33
24	16	25	26	32	30	460	496	219	570	377	404	121
25	16	25	26	32	30	465	496	219	570	490	554	157
26	18	25	32	32	32	465	465	212	451	527	576	36
27	18	25	32	32	30	465	347	215	86	521	576	27
28	18	25	32	29	29	395	282	237	117	485	576	25
29	18	25	32	29	-	215	241	130	301	386	576	23
30	18	25	32	29		222	237	122	772	381	576	23
31	18		32	27		201	-	125	-	381	559	-
Total	436.9	728	867	947	821	8,941	11,965	6,508	11,314	16,358	15,709	4,617
Mean	14.1	24.3	28.0	30.5	29.3	288	399	210	377	528	507	154
Ac-ft	867	1,440	1,720	1,880	1,630	17,730	23,730	12,910	22,440	32,450	31,160	9,160

Calendar year 1954: Max 614 Min 1.8 Mean 93.2 Ac-ft 67,470
Water year 1954-55: Max 772 Min 4.6 Mean 217 Ac-ft 157,100

* Discharge measurement made on this day.

Phantom Lake Spring near Toyahvale, Tex.

Location.--Lat 30°56', long 103°51', on left bank of outlet canal 375 ft below source of spring, 4.0 miles southwest of Toyahvale, Reeves County, and 8.0 miles southwest of Balmorhea.

Records available.--December 1931 to December 1933, October 1948 to September 1955.

Gage.--Water-stage recorder and Parshall flume. Datum of gage is 3,472.69 ft above mean sea level (Bureau of Reclamation benchmark). Dec. 21, 1931, to Dec. 31, 1933, water-stage recorder at site 425 ft downstream at datum 3.05 ft higher.

Average discharge.--8 years (1932-33, 1948-55), 14.9 cfs (10,790 acre-ft per year).

Extremes.--Maximum daily discharge during year, 15 cfs Sept. 26-30; minimum daily, 12 cfs at times.
1931-33, 1948-55: Maximum daily discharge, 114 cfs Oct. 2, 3, 1932; minimum daily, 12 cfs at times.

Remarks.--Records good. Discharge represents total flow of spring. Spring flow fluctuates slowly; check gates below gage affect stage-discharge relation frequently; daily discharge determined from hydrograph based on discharge measurements. Water used for irrigation in vicinity of Toyahvale and Balmorhea.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	13	13	13	13	13	13	12	12	12	14	13
2	13	13	13	13	13	13	13	12	12	13	14	13
3	13	13	13	13	13	13	13	12	12	13	14	13
4	13	13	13	13	13	13	12	12	13	14	14	13
5	13	13	13	13	13	13	12	12	12	13	14	13
6	13	13	13	*13	13	13	12	12	12	13	14	13
7	13	13	13	13	13	13	12	12	12	13	14	13
8	13	13	13	13	13	13	12	12	12	13	14	13
9	13	12	13	13	13	13	12	12	12	13	14	13
10	*13	12	13	13	*13	13	12	12	12	13	14	13
11	13	12	13	13	13	13	12	12	12	13	14	13
12	13	12	13	13	13	13	12	12	12	*13	14	13
13	13	12	13	13	13	13	12	12	12	13	14	*13
14	13	12	13	13	13	13	12	12	*12	13	14	13
15	13	12	13	13	13	13	12	12	12	13	14	13
16	13	12	13	13	13	13	*12	*12	12	13	14	13
17	13	12	13	13	13	13	12	12	12	13	*14	13
18	13	12	13	13	13	13	12	12	12	13	14	13
19	13	*12	13	13	13	13	12	12	12	13	14	13
20	13	12	13	13	13	13	12	12	12	13	14	13
21	13	12	13	13	13	13	12	12	12	13	14	14
22	13	12	13	13	13	13	12	12	12	13	14	14
23	13	12	13	13	13	*13	12	12	12	13	14	14
24	13	12	13	13	13	13	12	12	12	13	14	14
25	13	12	13	13	13	13	12	12	12	13	14	14
26	13	12	13	13	13	13	12	12	12	14	14	15
27	13	12	13	13	13	13	12	12	12	14	14	15
28	13	12	13	13	13	13	12	12	12	14	14	15
29	13	12	13	13	-	13	12	12	12	14	14	15
30	13	12	13	13	------	13	12	12	12	14	14	15
31	13	------	13	13	------	13	------	12	------	14	13	------
Total	403	368	403	403	364	403	363	372	360	408	433	405
Mean	13.0	12.3	13.0	13.0	13.0	13.0	12.1	12.0	12.0	13.2	14.0	13.5
Ac-ft	799	730	799	799	722	799	720	738	714	809	859	803

Calendar year 1954 : Max 14 Min 12 Mean 12.6 Ac-ft 9,140
Water year 1954-55 : Max 15 Min 12 Mean 12.8 Ac-ft 9,290

* Discharge measurement made on this day.

San Solomon Springs at Toyahvale, Tex.

Location.--Lat 30°56', long 103°47', on left bank of South Canal at Toyahvale, Reeves County, 540 ft downstream from spring pool.

Records available.--October 1931 to December 1933, March 1941 to September 1955.

Gage.--Water-stage recorder and sharp-crested weir. Datum of gage is 3,311.02 ft above mean sea level, datum of 1929. Prior to Nov. 18, 1931, at site about 0.6 mile downstream.

Average discharge.--16 years (1931-33, 1941-55), 35.5 cfs (25,700 acre-ft per year).

Extremes.--Maximum daily discharge during year, 38 cfs Oct. 8; minimum daily, 30 cfs at times.
1931-33, 1941-55: Maximum daily discharge, 71 cfs Oct. 7-9, 1932, Oct. 26-30, 1941; minimum daily, 28 cfs Jan. 26 to Feb. 24, 1949, Jan. 25 to Feb. 17, Mar. 10, 11, 1954.

Remarks.--Records good. Discharge represents total flow of springs and is determined by combining flows in South Canal and two additional outlets (flow measured periodically), Middle and North Canals. Flow into each canal regulated by operation of headgates. Water used for irrigation in vicinity of Balmorhea.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	33	32	31	32	33	32	31	31	32	35	32
2	34	33	32	32	32	33	32	30	31	32	34	32
3	34	33	32	32	32	33	32	30	31	32	34	32
4	34	33	32	32	32	33	32	30	31	32	34	32
5	34	33	32	32	33	33	32	30	31	32	34	31
6	34	33	32	*32	33	33	31	30	31	32	34	31
7	37	33	32	32	33	33	31	30	31	32	34	31
8	38	33	32	32	33	33	31	30	31	32	33	31
9	37	33	32	32	33	33	31	30	31	32	33	31
10	*37	33	32	32	*33	33	31	30	31	32	33	30
11	36	33	32	a32	33	34	31	30	31	32	33	30
12	36	33	32	a32	33	*33	31	30	31	*32	33	30
13	36	33	32	a32	34	33	31	30	31	32	33	30
14	35	33	32	a32	34	33	31	30	*32	32	33	30
15	35	33	32	32	34	33	31	31	32	32	33	*30
16	34	33	32	a32	34	33	*31	*31	32	32	33	30
17	34	33	32	a32	34	33	31	31	32	32	*32	30
18	34	32	32	a32	34	33	31	31	32	32	32	30
19	34	*32	32	a32	33	33	31	31	32	32	32	30
20	34	33	32	a32	34	33	32	31	32	36	33	30
21	34	33	32	a32	34	33	32	31	34	36	33	30
22	34	33	32	a32	34	33	31	31	33	36	33	30
23	34	32	32	32	34	33	31	31	33	37	33	30
24	34	32	32	a32	33	32	31	31	32	34	33	30
25	34	32	32	a32	34	32	31	31	32	32	33	33
26	33	32	32	a32	33	32	31	31	32	32	33	34
27	33	32	32	a32	33	32	31	31	32	32	33	34
28	33	32	32	a32	33	32	31	31	32	33	32	34
29	33	33	32	a32	-	31	31	31	32	35	32	33
30	33	33	32	32	------	32	31	31	32	35	32	35
31	33	------	31	32	------	32	------	31	------	35	32	------
Total	1,069	982	991	991	931	1,015	937	948	951	1,021	1,024	936
Mean	34.5	32.7	32.0	32.0	33.2	32.7	31.2	30.6	31.7	32.9	33.0	31.2
Ac-ft	2,120	1,950	1,970	1,970	1,850	2,010	1,860	1,880	1,890	2,030	2,030	1,860

Calendar year 1954: Max 39 Min 28 Mean 31.9 Ac-ft 23,120
Water year 1954-55: Max 38 Min 30 Mean 32.3 Ac-ft 23,420

* Discharge measurement made on this day.
a No gage-height record; discharge estimated.

Principal diversions from Pecos River between Red Bluff Reservoir and Imperial, Tex.

Records of discharge are collected for eight canals that divert water from Pecos River between Red Bluff Reservoir and Imperial, Tex. Each of these canals is equipped with a water-stage recorder for collecting gage-height records. All stations are located within 2 miles of canal headgate except as noted herein. Water diverted by these canals is used for irrigation of lands on both sides of Pecos River in Reeves, Ward, and Pecos Counties. Stations prior to 1941 were published separately (daily discharge figures for the earlier records).

Reeves County Water Improvement District No. 2 Canal near Mentone, diverts from right bank, lat 31°38', long 103°34'. Records available, February 1922 to July 1925, August 1939 to September 1955. Published as "Farmers Independent Canal near Porterville" 1922-25.

Ward County Water Improvement District No. 3 Canal near Barstow, diverts from left bank, lat 31°34', long 103°31'. Records available, August 1939 to September 1955.

Ward County Irrigation District No. 1 Canal near Barstow, diverts from left bank, lat 31°33', long 103°29'. Records available, February 1922 to September 1925, August 1939 to September 1955. Published as "Barstow Canal near Barstow" 1922-25.

Grandfalls-Big Valley Canal near Brastow, diverts from left bank, lat 31°25', long 103°15'. Records available, March 1922 to November 1925, September 1939 to September 1955. Water diverted through Ward County Water Improvement District No. 2 Canal irrigates most of lands formerly supplied by this canal.

Pecos County Water Improvement District No. 2 upper diversion canal near Grandfalls, diverts from right bank, lat 31°20', long 102°58'. Records available, March 1922 to July 1925, August 1939 to September 1955. Published as "Imperial High-line Canal near Grandfalls" 1922-25. Gage located 12½ miles downstream from headgates.

Pecos County Water Improvement District No. 2 Canal near Imperial, diverts from Imperial Reservoir on right bank, lat 31°16', long 102°45'. Records available, April 1940 to September 1955.

Pecos County Water Improvement District No. 3 Canal near Imperial, diverts from Pecos County Water Improvement District No. 2 Canal above station near Imperial on that canal, lat 31°18', long 102°45'. Records available, March 1940 to September 1955.

Ward County Water Improvement District No. 2 Canal near Grandfalls, diverts from left bank, lat 31°22', long 103°01'. Records available, August 1939 to September 1955.

Several smaller diversions (pumps) divert water from the Pecos River between Red Bluff Reservoir and Imperial for irrigation of lands adjacent to the river, but no records for them were obtained.

Diversions, in acre-feet, water year October 1954 to September 1955

Month	Reeves County District No. 2 Canal near Mentone	Ward County District No. 3 Canal near Barstow	Ward County District No. 1 Canal near Barstow	Grandfalls-Big Valley Canal near Barstow
October	272	0	1.6	0
November	748	0	0	0
December	582	0	1.8	0
Calendar year 1954	6,080	4,240	12,130	1,240
January	73	0	4.0	0
February	0	107	0	0
March	0	1,540	1,630	40
April	1,790	1,380	5,480	943
May	1,600	683	3,890	59
June	1,860	1,920	3,630	1,380
July	1,390	1,810	4,730	943
August	2,200	1,220	7,220	1,770
September	817	772	3,230	148
Water year 1954-55	11,330	9,430	29,820	5,280

Month	Pecos County District No. 2 Canal (upper diversion) near Grandfalls	Pecos County District No. 2 Canal near Imperial†	Pecos County District No. 3 Canal near Imperial†	Ward County District No. 2 Canal near Grandfalls
October	186	0	49	241
November	0	326	0	92
December	0	407	245	0
Calendar year 1954	14,690	5,900	3,100	1,450
January	0	0	0	0
February	0	0	0	0
March	9,590	121	52	85
April	5,460	3,280	2,330	5,050
May	2,870	1,220	1,290	1,690
June	2,590	2,250	1,690	2,120
July	9,020	3,000	2,900	6,030
August	6,840	3,560	3,500	6,370
September	5,110	1,340	2,720	3,670
Water year 1954-55	41,670	15,500	14,780	25,350

† Combined flow of Pecos County Water Improvement District No. 2 Canal near Imperial and Pecos County Water Improvement District No. 3 Canal near Imperial represents released water from Imperial Reservoir (fed by Pecos County Water Improvement District No. 2 upper diversion canal).

Pecos River below Grandfalls, Tex.

Location.--Lat 31°18', long 102°46', on left bank 26 ft downstream from State Farm to Market Road 11 between Grandfalls and Imperial, 7.1 miles southeast of Grandfalls, Ward County, and 10 miles downstream from Chacatori Draw.

Drainage area.--27,820 sq mi, approximately (contributing area).

Records available.--December 1921 to July 1926, August 1939 to September 1955. Published as "near Buena Vista" 1921-26.

Gage.--Water-stage recorder. Datum of gage is 2,373.0 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to July 1926, water-stage recorder at site 12 miles downstream at different datum. Aug. 22, 1939, to Oct. 5, 1939, staff gage at present site and datum.

Average discharge.--16 years (1939-55), 152 cfs (110,000 acre-ft per year).

Extremes.--Maximum discharge during year, 350 cfs Oct. 6 (gage height, 5.35 ft); minimum daily, 7.2 cfs July 1.
1921-26, 1939-55: Maximum discharge, 22,000 cfs Oct. 2, 1941 (gage height, 20.98 ft); minimum daily, 5.5 cfs July 26, 27, 30, 1954.

Remarks.--Records good. Flow largely regulated by reservoirs above Orla (see p. 419). Many large diversions for irrigation between Red Bluff Reservoir and this station. Records of chemical analyses for the water year 1955 are published in WSP 1402.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 5-9, June 25 to July 19, Aug. 8 to Sept. 13)

Oct. 1 to July 19				July 20 to Sept. 30	
2.5	5.2	3.5	67	3.0	13
2.6	8.6	4.0	117	3.2	22
2.7	13	5.0	257	3.5	41
3.0	30			4.0	86
				5.0	210

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.9	10	11	13	23	24	11	14	9.0	7.2	20	14
2	7.9	10	11	13	23	24	11	14	9.9	7.9	20	15
3	7.6	11	11	14	24	24	12	14	10	8.3	20	15
4	7.6	11	11	14	24	24	12	13	9.5	7.6	19	15
5	19	11	11	*14	23	24	12	14	9.5	8.3	18	15
6	229	11	11	13	23	24	13	16	9.5	8.3	19	15
7	*58	11	11	13	23	24	13	18	9.0	7.9	19	16
8	36	11	11	13	25	23	13	14	9.5	8.6	17	15
9	22	11	11	14	25	23	15	*14	10	12	17	14
10	16	11	12	15	23	23	14	14	10	12	18	16
11	14	11	12	14	*23	23	17	14	9.0	12	16	16
12	13	11	12	14	23	*23	16	14	8.6	12	16	15
13	13	11	14	14	23	23	16	13	*8.3	10	18	146
14	12	11	14	18	24	23	*14	14	7.9	9.5	18	77
15	12	11	14	20	25	18	14	16	7.9	*9.9	17	51
16	11	11	14	20	25	14	14	14	7.9	11	17	*33
17	11	11	14	20	25	14	14	13	7.9	15	15	27
18	*11	10	14	20	25	13	14	13	8.3	16	*15	24
19	11	11	14	21	25	13	14	11	8.6	25	14	23
20	11	*10	14	20	25	12	14	11	12	96	14	22
21	11	10	14	20	24	12	14	11	39	138	15	20
22	11	10	14	20	21	12	14	11	36	54	18	20
23	11	10	14	22	19	12	13	10	16	26	26	18
24	11	10	14	22	18	12	14	9.9	10	20	20	18
25	11	10	14	22	20	13	15	9.9	8.3	19	17	17
26	11	10	14	22	23	11	14	9.5	8.3	22	17	18
27	11	10	14	22	23	11	12	9.0	8.3	29	16	44
28	11	10	14	22	24	12	13	9.5	7.6	83	14	62
29	11	11	14	22	-	13	14	9.5	7.9	32	15	45
30	11	11	14	21	------	12	14	9.0	7.9	23	15	37
31	10	------	14	22	------	11	-----	9.0	------	21	13	------
Total	650.0	318	401	554	651	544	410	385.3	331.6	771.5	533	883
Mean	21.0	10.6	12.9	17.9	23.2	17.5	13.7	12.4	11.1	24.9	17.2	29.4
Ac-ft	1,290	631	795	1,100	1,290	1,080	813	764	658	1,530	1,060	1,750

Calendar year 1954: Max 843 Min 5.5 Mean 15.9 Ac-ft 11,490
Water year 1954-55: Max 229 Min 7.2 Mean 17.6 Ac-ft 12,760

* Discharge measurement made on this day.

Comanche Springs at Fort Stockton, Tex.

Location.--Lat 30°53', long 102°52', on left bank of outlet canal of Pecos County Water Improvement District No. 1, in eastern outskirts of Fort Stockton, Pecos County, 0.2 mile upstream from bridge on U. S. Highway 290 and 0.5 mile downstream from head of springs.

Records available.--February 1941 to September 1955.

Gage.--Water-stage recorder. Datum of gage is 2,922.82 ft above mean sea level, datum of 1929.

Average discharge.--14 years, 34.5 cfs (24,980 acre-ft per year).

Extremes.--1941-55: Maximum daily discharge, that of June 4, 1955; minimum daily, that of June 26 to July 21, Aug. 3 to Sept. 30, 1955.

Remarks.--Records fair. Since about 1950, flow of springs greatly reduced at times by withdrawals from underground reservoir by irrigation wells. Beginning 1954 flow supplemented after rains by surface water released, directly and by underground leakage, from small flood-control reservoir located several hundred feet above springs. Water used to irrigate about 6,000 acres of land below station.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	16	37	33	35	32	16	1.1	e4.5	0	0.9	
2	15	17	37	33	35	32	15	.4	e7.0	0	.1	
3	16	17	34	34	33	32	15	.2	*e25	0	0	
4	17	17	32	34	33	32	14	0	56	0	0	
5	21	16	33	34	32	32	12	0	43	0	0	
6	21	15	32	34	32	33	14	0	45	0	0	
7	*20	16	28	*35	31	33	13	0	39	0	0	
8	20	16	26	36	*31	32	14	.1	37	0	0	
9	20	16	27	36	32	32	14	.4	36	0	0	
10	22	17	28	36	32	32	13	.4	29	0	0	
11	24	17	29	35	32	32	9.2	.8	30	0	0	
12	25	18	29	35	33	*33	5.3	1.0	23	*0	0	
13	25	19	29	36	33	33	3.9	.6	16	0	0	
14	26	20	28	37	34	31	2.9	e.8	*8.6	0	0	
15	26	21	28	37	34	29	2.4	2.3	6.3	0	*0	
16	22	*21	29	35	34	27	*1.4	*2.4	5.2	0	0	
17	22	23	28	35	34	26	1.1	e2.1	3.9	0	0	(*)
18	23	24	28	35	34	25	2.3	e13	5.2	0	0	
19	22	26	28	36	35	24	1.1	38	5.0	0	0	
20	22	28	29	40	35	23	.5	38	2.6	0	0	
21	21	30	30	42	35	20	.5	30	1.0	0	0	
22	20	31	30	36	36	19	.6	17	.4	11	0	
23	20	32	31	36	36	17	1.0	10	.3	24	0	
24	20	33	31	36	35	16	1.7	7.0	.2	22	0	
25	19	34	32	36	34	16	.6	5.4	.1	19	0	
26	19	34	32	36	33	16	**.6	4.6	0	9.6	0	
27	19	34	32	36	32	16	1.6	4.3	0	8.9	0	
28	17	34	32	36	32	16	1.3	4.5	0	6.6	0	
29	16	35	32	36	-	17	.5	5.4	0	4.2	0	
30	16	36	32	36	------	17	.4	6.0	0	2.8	0	
31	16	------	32	36	------	17	------	6.0	------	1.6	0	------
Total	626	713	945	1,108	937	792	178.9	201.8	429.3	109.7	1.0	0
Mean	20.2	23.8	30.5	35.7	33.5	25.5	5.96	6.51	14.3	3.54	0.03	0
Ac-ft	1,240	1,410	1,870	2,200	1,860	1,570	355	400	852	218	2.0	0

Calendar year 1954: Max 49 Min 7.8 Mean 25.8 Ac-ft 18,700
Water year 1954-55: Max 56 Min 0 Mean 16.6 Ac-ft 11,980

* Discharge measurement or observation of no flow made on this day.
** Field estimate made on this day.
e Discharge affected by local runoff.
Note.--Flow supplemented by surface water released from reservoir above springs during periods May 19-33, June 4-13, July 22-28.

Pecos River near Girvin, Tex.

Location.--Lat 31°07', long 102°25', on right bank 2.4 miles upstream from Comanche Creek, 2.6 miles northwest of Girvin, Pecos County, and 7.8 miles upstream from bridge on U. S. Highway 67.

Drainage area.--29,560 sq mi, approximately (contributing area of supplementary gage 7.8 miles downstream).

Records available.--August 1939 to September 1955.

Gage.--Water-stage recorder with combination concrete control and measuring flume. Supplementary water-stage recorder (used as regular gage prior to July 17, 1951, now used only for flows exceeding about 250 cfs) 7.8 miles downstream at datum 2,269.65 ft above mean sea level, datum of 1929.

Average discharge.--16 years, 178 cfs (128,900 acre-ft per year).

Extremes.--Maximum discharge during year, 2,000 cfs Oct. 6 (gage height, 10.09 ft, at supplementary gage); minimum daily, 4.8 cfs Oct. 4.
1939-55: Maximum discharge, 20,000 cfs Oct. 5, 1941 (gage height, 20.49 ft, at supplementary gage); minimum daily, 4.3 cfs Sept. 27, 28, 1954.
Maximum stage known since at least 1932, that of Oct. 5, 1941.

Remarks.--Records good. Flow largely regulated by reservoirs above Orla (see p. 419). Many diversions above station for irrigation. Some return flow enters river between station below Grandfalls and this station. Records of chemical analyses for the water year 1955 published in WSP 1402.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-7, May 3-14)

Oct. 1 to Oct. 5, Oct. 9 to Sept. 30				Oct. 6-8	
1.0	3.6	1.5	52	3.0	388
1.1	8.7	1.8	98	4.0	608
1.2	17	2.2	182	5.0	830
				6.0	1,060

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.3	23	23	24	32	32	21	17	18	14	37	67
2	6.3	23	23	25	31	30	21	17	18	14	*31	37
3	5.8	24	23	25	31	33	21	18	26	14	27	27
4	4.8	24	23	*25	39	36	20	20	23	14	25	24
5	6.8	24	23	25	34	36	19	19	20	14	24	24
6	*961	24	23	25	33	36	19	18	22	14	23	25
7	620	24	23	25	34	36	18	18	21	14	21	25
8	394	24	23	25	33	36	18	18	34	14	21	24
9	89	24	24	27	33	36	18	*16	29	13	20	24
10	56	24	26	28	33	36	19	17	31	14	19	23
11	44	24	26	28	*33	36	19	19	23	15	19	23
12	37	24	25	27	33	36	*20	20	22	14	19	*23
13	32	24	25	27	33	*36	21	20	*18	15	16	24
14	28	24	25	26	33	36	21	19	16	17	16	25
15	28	25	24	27	33	34	21	22	16	18	*16	75
16	27	*25	24	27	33	34	21	20	16	24	16	105
17	25	24	25	27	33	34	22	20	16	18	17	59
18	25	24	26	28	34	34	20	21	14	20	16	48
19	25	22	26	28	34	32	20	22	16	15	17	40
20	*24	20	26	30	36	28	20	21	14	16	19	33
21	23	18	26	31	36	25	19	21	12	15	19	30
22	24	20	26	31	36	24	19	20	13	15	55	28
23	24	20	26	31	36	23	19	19	14	132	100	26
24	24	21	25	31	36	23	17	18	17	77	36	26
25	24	21	25	31	34	21	17	16	37	44	24	26
26	24	22	25	31	33	21	18	15	32	31	26	24
27	24	22	25	31	32	22	16	16	25	26	26	23
28	25	23	25	32	32	21	15	16	20	27	30	22
29	25	22	24	32	-	21	16	15	17	167	47	21
30	23	23	24	32	------	21	17	16	15	80	32	33
31	23	------	22	32	------	21	------	16	------	54	27	------
Total	2,708.0	686	759	874	943	930	572	570	615	979	841	1,014
Mean	87.4	22.9	24.5	28.2	33.7	30.0	19.1	18.4	20.5	31.6	27.1	33.8
Ac-ft	5,370	1,360	1,510	1,730	1,870	1,840	1,130	1,130	1,220	1,940	1,670	2,010

Calendar year 1954: Max 961 Min 4.3 Mean 29.6 Ac-ft 21,420
Water year 1954-55: Max 961 Min 4.8 Mean 31.5 Ac-ft 22,780

* Discharge measurement made on this day.

Reservoirs in Rio Grande Basin

Carson Reservoir.--Lat 36°25'20", long 105°50'00", in N½NW¼ sec. 12, T. 25 N., R. 10 E., on operating gate structure at Carson Dam on Arroyo Aguaje de la Petaca, 4¾ miles northwest of Carson, Taos County, N. Mex. Drainage area, 190 sq mi, approximately. Records available, January 1940 to September 1955. Water-stage recorder. Prior to February 1942, weekly staff readings. Altitude of gage is 6,810 ft (from topographic map). No contents during 1955 water year. Maximum contents observed during period 1940-55, 3,620 acre-ft May 6, 1941 (gage height, 38.5 ft); no storage most of time.

Reservoir is formed by earth-fill dam, riprap faced, completed in 1935. Capacity, 5,684 acre-ft between gage heights 8.0 ft (sill of outlet gate) and 45 ft (crest of spillway). Dead storage negligible. Reservoir was designed to provide water for irrigation in Carson Irrigation District near Carson, N. Mex., but little storage value has been realized because of major leaks in reservoir. Gage heights and contents at 12 p.m.

El Vado Reservoir.--Lat 36°34'45", long 106°43'55", in Tierra Amarilla Grant, at left end of dam on Rio Chama, at village of El Vado and 13 miles southwest of Tierra Amarilla, N. Mex. Drainage area, 873 sq mi. Records available, January 1935 to September 1955. Water-stage recorder (records stages above spillway floor, elevation, 6,879.3 ft, only) and staff gage. Datum of gage is 9.565 ft above mean sea level, datum of 1929. Maximum daily contents observed during year, 46,860 acre-ft May 14, June 16-23 (gage height, 6,832.6 ft); no contents first half of year. Maximum daily contents during period 1935-55, 204,900 acre-ft June 4, 5, 1948 (gage height, 6,904.2 ft); no contents at times.

Reservoir is formed by rock-fill dam, steel faced. Storage began in January 1935. Capacity, 194,500 acre-ft between gage heights 6,850.5 ft (bottom of new trash rack) and 6,902.0 ft (top of spillway gate). No dead storage. Prior to Jan. 1, 1947, figures represent usable contents computed from capacity table furnished by Middle Rio Grande Conservancy District in 1940; Jan. 1, 1947, to Sept. 30, 1954, figures represent usable contents, computed from capacity table based on Survey of 1944 by Corps of Engineers; after Oct. 1, 1954, figures represent usable contents, computed from revised capacity table based on partial survey (below gage height, 6,770 ft) by Bureau of Reclamation. Water is used for irrigation by Middle Rio Grande Conservancy District. Gage readings and contents given herein are generally those at 7:30 a.m. Staff-gage readings furnished by Middle Rio Grande Conservancy District.

McClure Reservoir.--Lat 35°41'20", long 105°50'10", in NE¼SW¼ sec. 24, T. 17 N., R. 10 E., on outlet tower at McClure Dam on Santa Fe Creek, 2½ miles upstream from Nichols Reservoir and 6 miles east of Santa Fe, N. Mex. Drainage area, 19 sq mi, approximately. Records available, October 1947 to September 1955. Water-stage recorder. Datum of gage is 7,768.32 ft above mean sea level, datum of 1929, and 166.1 ft above Public Service Co. of New Mexico assumed datum. Maximum contents during year, 1,520 acre-ft June 28-30 (gage height, 79.2 ft); minimum recorded, 506 acre-ft Jan. 4, 5. Maximum daily contents during period 1947-55, 2,770 acre-ft June 3-10, 1952 (gage height, 98.5 ft); no contents Jan. 25 to May 8, 1951.

Reservoir is formed by earth-fill dam, completed in 1926 (capacity, 503 acre-ft), raised 5 ft in 1935 (capacity, 650 acre-ft), raised 36.5 ft in 1947. Capacities and changes in height of dam are for effective height of spillway which includes 1 foot of flashboards above concrete crest 1926 to July 1935 and 2 ft August 1935 to September 1947. Capacity, 2,614 acre-ft between gage heights -0.4 ft (bottom of lowest sluice gate), and 96.4 ft (crest of spillway). If 4-foot flashboards are placed in spillway, capacity will be about 2,900 acre-ft. No dead storage. Figures given here represent contents at 12 p.m. Water is used for municipal consumption of city of Santa Fe. Capacity table computed from area-capacity table furnished by Public Service Co. of New Mexico.

Nichols Reservoir.--Lat 35°41'20", long 105°52'40", in E½NE¼ sec. 21, T. 17 N., R. 10 E., on outlet tower at dam on Santa Fe Creek, three-quarters of a mile upstream from Two Mile Reservoir, 2½ miles downstream from McClure Dam, and 3½ miles east of Santa Fe, N. Mex. Drainage area, 24 sq mi, approximately. Records available, December 1942 to September 1955. Water-stage recorder. Datum of gage is 7,313.2 ft above mean sea level, datum of 1929. Maximum contents recorded during year, 552 acre-ft Apr. 26-28 (gage height, 162.3 ft); minimum recorded, 331 acre-ft Sept. 26. Maximum daily contents during period 1943-55, 836 acre-ft June 8, 1952 (gage height, 171.8 ft); minimum daily, 16 acre-ft Feb. 11 to Mar. 10, 1944, Feb. 1-19, 1948.

Reservoir is formed by earth-fill dam. Storage began Mar. 16, 1943. Capacity, 796 acre-ft between gage heights 121.2 ft (bottom of lower operational gate) and 171.0 ft (top of flashboards in spillway). Dead storage, 14 acre-ft. Figures given herein represent total contents at 12 p.m. Water is used for municipal consumption of city of Santa Fe. Capacity table computed from survey furnished in 1943 by Public Service Co. of New Mexico.

Jemez Canyon Reservoir.--Lat 35°23'40", long 106°32'45", in SW¼SW¼ sec. 32, T. 14 N., R. 4 E., at corner of outlet works control tower of Jemez Canyon Dam, about 2¼ miles upstream from mouth and 6 miles north of Bernalillo, N. Mex. Drainage area, 1,034 sq mi. Records available, October 1953 to September 1955. Water-stage recorder. Datum of gage is at mean sea level (Corps of Engineer levels). Maximum daily contents during year, 2,360 acre-ft July 29 (elevation, 5,146.1 ft); no contents most of year. Maximum daily contents during period 1953-55, that of July 29, 1955; no contents most of time.

Reservoir is formed by earth-fill dam, completed about October 1953. Capacity, 187,800 (revised) acre-ft between elevation 5,125.0 ft (sill of outlet gates) and 5,252.3 ft (operating deck of spillway). Spillway is at elevation 5,232.0 ft (capacity, 120,000 acre-ft); spillway is located about three-quarters of a mile south of dam and 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 in Rio Grande. Records furnished by Corps of Engineers.

Reservoirs in Rio Grande Basin--Continued

Elephant Butte Reservoir.--Lat 33°09'15", long 107°11'30", in NW¼ sec. 30, T. 13 S., R. 3 W. (surveys by Bureau of Reclamation), at dam on Rio Grande, 1 mile west of Elephant Butte, N. Mex., and 4 miles northeast of Truth or Consequences (Hot Springs). Drainage area, 28,900 sq mi, approximately (includes 2,940 sq mi in closed basin in San Luis Valley, Colo.). Records available, January 1940 to September 1955. Water-stage recorder. Datum of gage is 43.3 ft above mean sea level, datum of 1929. Maximum daily contents during year, 160,800 acre-ft Mar. 19 (gage height, 4,295.46 ft); minimum daily, 58,300 acre-ft Oct. 1 (gage height, 4,276.58 ft). Maximum daily contents during period 1940-55, 2,302,800 acre-ft June 16-18, 1942 (gage height, 4,409 ft); minimum daily, 9,900 acre-ft Mar. 7, 8, 1954 (gage height, 4,297.30 ft).

Reservoir is formed by concrete dam. Storage began Jan. 6, 1915. Dam completed May 13, 1916. Capacity, 2,185,400 acre-ft between gage heights 4,231.5 ft (sill of outlet gate) and 4,407.0 ft (spillway crest). No dead storage, survey of 1951. No storage allocated to flood control. Figures given herein represent usable contents. Water is used for power development and irrigation on Rio Grande project of Bureau of Reclamation. Contents given herein are computed from mean daily gage heights. Records furnished by Bureau of Reclamation.

Caballo Reservoir.--Lat 32°53'45", long 107°17'30", in SE¼SW¼ sec. 19, T. 16 S., R. 4 W., at dam on Rio Grande, 0.5 miles 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 4.5 miles south of Caballo, N. Mex. Drainage area, 30,200 sq mi, approximately (includes 2,940 sq mi in closed basin in northern part of San Luis Valley, Colo.). Records available, February 1938 to September 1955. Water-stage recorder. Datum of gage is 43.3 ft above mean sea level, datum of 1929. Maximum daily contents during year, 29,810 acre-ft July 31, Aug. 1 (gage height, 4,135.79 ft); minimum daily, 3,820 acre-ft Sept. 12 (gage height, 4,121.54 ft). Maximum daily contents during period 1938-55, 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).

Reservoir is formed by earth fill dam. Storage began Feb. 8, 1938. Dam completed Sept. 19, 1938. Capacity, 340,900 acre-ft between gage heights 4,104 ft (bottom of tunnel entrance to gates) and 4,182 ft (gage height above which spillway gates operate automatically). No dead storage. 100,000 acre-ft of storage is held for flood control. Figures given herein represent usable contents. Water released from Elephant Butte Reservoir for power development is stored in Caballo Reservoir and released for irrigation on Rio Grande project of Bureau of Reclamation. Contents given herein are computed from mean daily gage heights. Records furnished by Bureau of Reclamation.

Alamogordo Reservoir.--Lat 34°36'30", long 104°23'10", in SW¼ sec. 34, T. 5 N., R. 24 E., at dam on Pecos River, 5 miles northeast of Guadalupe and 12 miles northwest of Ft. Sumner, N. Mex. Drainage area, 4,390 sq mi (contributing area). Records available, January 1939 to September 1955. Water-stage recorder (records stages above elevation 4,234.25) and staff gage. Datum of gage is at mean sea level, Bureau of Reclamation datum. Maximum contents during year, 98,290 acre-ft Sept. 5 (elevation, 4,269.30 ft); minimum, 26,770 acre-ft Oct. 1 (elevation, 4,243.00 ft). Maximum daily contents during period 1939-55, 149,400 acre-ft Apr. 19, 20, 1942 (elevation, 4,275.30 ft); minimum daily, 5 acre-ft Aug. 15, 1954 (elevation, 4,204.00 ft).

Reservoir is formed by Alamogordo Dam; completed and storage began in 1938. Total capacity, 122,100 acre-ft at elevation 4,275.0 ft (top of spillway gates). No dead storage. Figures given herein represent total contents and are computed from elevations at 8 a.m.. Elevation record furnished by Bureau of Reclamation. Capacity table based on survey of March 1944 by Corps of Engineers, aerial photographs in October 1950 and partial survey by Carlsbad Irrigation District in May 1954.

Lake McMillan.--Lat 32°35'45", long 104°20'55", in SE¼ sec. 2, T. 20 S., R. 26 E., near gates on dam on Pecos River, 3 miles southeast of Lakewood, N. Mex. Drainage area, 16,990 sq mi (contributing area). Records available, January 1939 to September 1955. Staff gage. Datum of gage is 3,241.6 ft above mean sea level, Bureau of Reclamation datum. Maximum contents during year, 51,360 acre-ft Oct. 11 (gage height, 28.00 ft); minimum contents, 251 acre-ft Oct. 1, 2 (gage height, 13.90 ft). Maximum daily contents observed 1939-55, 68,500 acre-ft Sept. 26, 1941 (gage height, 29.95 ft); no storage at times in 1944, 1946-54.

Lake is formed by McMillan Dam. Storage began in 1906. Capacity, 38,660 acre-ft between gage heights 0.0 ft (sill of outlet gate) and 26.1 ft (crest of spillway 1). No dead storage. Figures given herein represent usable contents. Water is used for irrigation by Carlsbad Irrigation District. Contents computed from gage readings at 6 a.m. Gage-height record and capacity table furnished respectively by Carlsbad Irrigation District and Bureau of Reclamation.

Lake Avalon.--Lat 32°29'25", long 104°15'00", in SW¼ sec. 12, T. 21 S., R. 26 E., on headwall at outlet gate on dam on Pecos River, 5 miles north of Carlsbad, N. Mex. Drainage area, 18,070 sq mi (contributing area). Records available, January 1939 to September 1955. Staff gage. Datum of gage is 3,157.0 ft above mean sea level, Bureau of Reclamation datum. Maximum contents during year, 7,840 acre-ft Oct. 12 (gage height, 22.25 ft); minimum, 420 acre-ft June 15 (gage height, 11.70 ft). Maximum daily contents during period 1939-55, 11,000 acre-ft May 22, 1941 (gage height, 25.0 ft); no storage at times when natural flow was passing through reservoir.

Lake is formed by Avalon Dam. Storage began in 1906. Capacity, 6,600 acre-ft between gage height 0.0 ft (sill of outlet gates) and 21.0 ft (crest of spillway 1). No dead storage. Figures given herein represent usable contents and are computed from daily readings at 6 a.m. Water is used for irrigation by Carlsbad Irrigation District who furnishes gage-height record and contents table.

Reservoirs in Rio Grande Basin--Continued

Red Bluff Reservoir near Orla, Tex.--Lat 31°54'05", long 103°54'40", at right end of Red Bluff Dam on Pecos River, 3 miles upstream from Salt (Screwbean) Draw, 4.5 miles north of Orla, Reeves County, Tex. Drainage area, 20,720 sq mi, approximately (contributing area). Records available, February 1937 to September 1955. Staff gage read at irregular intervals. Datum of gage is 0.30 ft below mean sea level, datum of 1929. Maximum contents observed during year, 164,200 acre-ft Nov. 17, Jan. 18, 22, 27, 31, Feb. 1, 7 (gage height, 2,826.7 ft); minimum observed, 18,970 acre-ft Oct. 1 (gage height, 2,788.9 ft). Maximum contents observed during period 1937-55, 352,000 acre-ft Sept. 27, 28, 1941 (gage height, 2,846.2 ft, observed on staff gage at service spillway, affected by variable drawdown due to flow through taintor gates); minimum observed, 11,080 acre-ft May 13, 1948 (gage height, 2,781.4 ft).

Reservoir is formed by earth-fill dam, rock-faced. Storage began in 1936. Dam completed early in 1937. Capacity, 307,000 acre-ft between gage heights 2,764.0 ft (penstock intake sill) and 2,842.0 ft (top of taintor gates). Dead storage, 3,000 acre-ft. Figures given herein represent total contents. Water is used for power development and for irrigation from Mentone to Grandfalls. Contents computed from intermittent gage readings. Gage-height and capacity curve furnished by Red Bluff Water Power Control District.

Month-end elevation and contents, water year October 1954 to September 1955

Date	Carson Reservoir			El Vado Reservoir			McClure Reservoir		
	Elevation or gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation or gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation or gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30....	-	0	0	-	0	-	56.0	553	-
Oct. 31....	-	0	0	-	0	0	-	a542	-11
Nov. 30....	-	0	0	-	0	0	55.4	536	-6
Dec. 31....	-	0	0	-	0	0	54.5	512	-24
Calendar year 1954	-	-	0	-	-	-4,820	-	-	-414
Jan. 31....	-	0	0	-	0	0	54.6	514	+2
Feb. 28....	-	0	0	-	0	0	55.1	528	+14
Mar. 31....	-	0	0	-	a500	+500	57.0	582	+54
Apr. 30....	-	0	0	-	a10,000	+9,500	-	a722	+140
May 31....	-	0	0	6,829.4	42,920	+32,920	74.0	1,250	+528
June 30....	-	0	0	6,831.5	45,480	+2,560	79.2	1,520	+270
July 31....	-	0	0	6,820.1	32,550	-12,930	68.8	1,010	-510
Aug. 31....	-	0	0	6,808.9	22,200	-10,350	72.3	1,170	+160
Sept.30....	-	0	0	6,760.7	100	-22,100	69.2	1,030	-140
Water year 1954-55	-	-	0	-	-	+100	-	-	+477

Date	Nichols Reservoir			Jemez Canyon Reservoir			Elephant Butte Reservoir		
Sept.30....	154.3	362	-	-	0	0	4,275.90	55,600	-
Oct. 31....	156.7	414	+52	-	0	0	4,280.80	76,100	+20,500
Nov. 30....	157.8	440	+26	-	0	0	4,281.82	80,800	+4,700
Dec. 31....	-	a465	+25	-	0	0	4,285.15	97,600	+16,800
Calendar year 1954	-	-	-105	-	-	0	-	-	-13,000
Jan. 31....	-	a515	+50	-	0	0	4,289.97	125,100	+27,500
Feb. 28....	161.3	526	+11	-	0	0	4,293.91	150,300	+25,200
Mar. 31....	162.0	544	+18	-	0	0	4,292.50	141,100	-9,200
Apr. 30....	161.8	539	-5	5,133.0	111	+111	4,289.30	121,100	-20,000
May 31....	157.8	440	-99	-	0	-111	4,291.05	131,900	+10,800
June 30....	-	a217	-223	-	0	0	4,285.15	97,600	-34,300
July 31....	-	a375	+158	5,139.4	872	+872	4,280.13	73,000	-24,600
Aug. 31....	-	a398	+23	-	0	-872	4,289.25	120,800	+47,800
Sept.30....	153.1	338	-60	-	0	0	4,287.80	112,300	-8,500
Water year 1954-55	-	-	-24	-	-	0	-	-	+56,700

Date	Caballo Reservoir			Alamogordo Reservoir			Lake McMillan		
Sept.30....	4,126.73	10,580	-	4,242.75	26,360	-	13.70	190	-
Oct. 31....	4,129.45	15,380	+4,800	4,262.40	73,880	+47,520	24.08	28,460	+28,270
Nov. 30....	4,130.02	16,480	+1,100	4,263.00	75,860	+1,980	24.79	31,820	+3,360
Dec. 31....	4,130.51	17,470	+990	4,264.00	79,200	+3,340	24.94	32,570	+750
Calendar year 1954	-	-	+3,340	-	-	+64,130	-	-	+32,570
Jan. 31....	4,131.21	18,920	+1,450	4,264.35	80,400	+1,200	24.92	32,320	-250
Feb. 28....	4,131.50	19,550	+630	4,265.00	82,620	+2,220	24.84	32,070	-250
Mar. 31....	4,128.90	14,330	-5,220	4,265.00	82,620	0	24.24	29,160	-2,910
Apr. 30....	4,125.20	8,240	-6,090	4,264.55	81,080	-1,540	20.20	13,000	-16,160
May 31....	4,124.31	7,020	-1,220	4,264.85	82,110	+1,030	19.80	11,680	-1,320
June 30....	4,128.18	13,030	+6,010	4,256.00	54,580	-27,530	18.50	7,760	-3,920
July 31....	4,135.79	29,810	+16,780	4,260.60	68,120	+13,540	23.55	25,960	+18,200
Aug. 31....	4,132.28	21,250	-8,560	4,269.15	97,710	+29,590	19.70	11,360	-14,600
Sept.30....	4,123.05	5,440	-15,810	4,260.15	66,730	-30,980	24.80	31,820	+20,460
Water year 1954-55	-	-	-5,140	-	-	+40,370	-	-	+31,630

a No gage-height record; contents interpolated or estimated.

Reservoirs in Rio Grande Basin--Continued

Month-end elevation and contents, water year October 1954 to September 1955--Continued

Date	Lake Avalon			Red Bluff Reservoir					
	Elevation or gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation or gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation or gage height (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept.30....	14.95	1,670	-	2,788.9	18,970	-			
Oct. 31....	19.45	5,100	+3,430	2,826.6	163,500	+144,500			
Nov. 30....	19.95	5,570	+470	2,826.5	162,800	-700			
Dec. 31....	20.60	6,200	+630	2,826.4	162,000	-800			
Calendar year 1954	-	-	+770	-	-	+127,400			
Jan. 31....	19.60	5,240	-960	2,826.7	164,200	+2,200			
Feb. 28....	17.15	3,180	-2,060	-	a162,000	-2,200			
Mar. 31....	16.40	2,630	-550	2,823.4	141,600	-20,400			
Apr. 30....	14.30	1,300	-1,330	2,819.1	115,600	-26,000			
May 31....	12.05	490	-810	2,816.7	102,500	-13,100			
June 30....	15.05	1,730	+1,240	2,812.2	80,900	-21,600			
July 31....	18.00	3,850	+2,120	2,805.0	53,000	-27,900			
Aug. 31....	15.80	2,210	-1,640	-	a25,410	-27,590			
Sept.30....	16.45	2,660	+450	2,796.7	31,700	+6,290			
Water year 1954-55	-	-	+990	-	-	+12,730			

a No gage-height record; contents interpolated or estimated.

Bear Canyon near Mimbres, N. Mex.

Location.--Lat 32°52'50", long 107°59'20", in SW¼SW¼ sec. 28, T. 16 S., R. 11 W., on left bank 100 ft downstream from bridge on State Highway 167, 200 ft downstream from Bear Canyon Dam, and 2 miles northwest of Mimbres.

Drainage area.--14.5 sq mi.

Records available.--October 1937 to September 1955 (discontinued).

Gage.--Water-stage recorder and Parshall flume. Altitude of gage is 6,050 ft (from topographic map).

Average discharge.--18 years, 0.79 cfs (572 acre-ft per year).

Extremes (regulated).--Maximum discharge during year, 22 cfs Apr. 26 (gage height, 1.60 ft from floodmarks); no flow most of year.
1937-55: Maximum discharge, 83 cfs Mar. 7, 1949; maximum gage height, 2.88 ft Sept. 29, 1941, no flow for long periods.

Remarks.--Records good. Discharge measurements generally made 3 or 4 times a month. Flow regulated by Bear Canyon Reservoir (capacity, 700 acre-ft). One diversion for irrigation of about 10 acres above station. No flow except Oct. 1 and Apr. 26 to May 2.

Revisions.--WSP 1282: Drainage area.

Monthly discharge, in cubic feet per second, water year October 1954 to September 1955

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	0.1	0	0.003	0.2
November	0	0	0	0
December	0	0	0	0
Calendar year 1954	6.2	0	0.07	53.4
January	0	0	0	0
February	0	0	0	0
March	0	0	0	0
April	9.3	0	1.41	84
May	7.2	0	0.27	17
June	0	0	0	0
July	0	0	0	0
August	0	0	0	0
September	0	0	0	0
Water year 1954-55	9.3	0	0.14	101

Mimbres River near Mimbres, N. Mex.

Location.--Lat 32°52'20", long 107°59'00", in NE¼SW¼ sec. 33, T. 16 S., R. 11 W., on left bank a quarter of a mile downstream from Bear Canyon and 1½ miles northwest of Mimbres.

Drainage area.--152 sq mi.

Records available.--October 1930 to September 1955 in reports of Geological Survey. May 1921 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 6,000 ft (from topographic map). Datum raised about 0.1 ft when station was moved 10 ft upstream Jan. 17, 1934.

Average discharge.--32 years (1921-24, 1926-55), 10.9 cfs (7,890 acre-ft per year).

Extremes.--Maximum discharge during year, 690 cfs Aug. 19 (gage height, 5.22 ft); minimum daily, 1.7 cfs July 7-9.
1930-55: Maximum discharge, 2,230 cfs Aug. 19, 1944 (gage height, 5.54 ft), from rating curve extended above 120 cfs by logarithmic plotting; minimum daily, 0.9 cfs July 22, 1947, Aug. 10, 1951.

Remarks.--Records good. Discharge measurements generally made 3 or 4 times a month. Some regulation by Bear Canyon Reservoir (capacity, 700 acre-ft). Diversions for irrigation of about 300 acres above station.

Revisions.--WSP 1282: Drainage area.

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.9	4.7	5.2	5.4	4.4	4.8	3.9	11	2.4	1.9	6.3	5.3
2	5.1	4.7	5.1	5.4	4.4	4.7	3.9	5.4	2.4	2.0	6.2	5.0
3	4.6	4.8	5.2	5.6	4.5	4.5	3.7	3.9	2.1	2.0	6.5	5.0
4	4.2	4.9	5.2	5.6	4.4	4.0	3.7	4.3	2.1	2.1	7.5	4.5
5	18	4.9	5.2	5.6	4.0	4.2	3.1	4.2	2.0	2.0	7.7	4.3
6	5.6	4.9	5.2	5.4	4.0	4.5	3.1	4.2	2.3	1.9	8.6	4.0
7	4.9	4.9	5.2	5.4	3.9	4.5	3.1	4.0	2.6	1.7	15	3.6
8	4.7	5.0	5.2	5.4	3.5	3.9	3.3	4.0	2.6	1.7	19	3.4
9	13	4.9	5.3	5.3	3.1	3.7	3.3	4.0	2.6	1.7	10	2.5
10	7.1	4.9	5.3	5.3	3.2	3.7	3.3	4.0	2.4	1.9	15	2.6
11	5.3	4.9	5.3	5.2	3.5	3.6	3.1	4.0	2.3	1.9	71	2.9
12	4.6	5.1	5.3	5.2	3.8	3.5	3.1	3.6	2.4	1.9	67	3.8
13	4.5	5.1	5.6	5.3	4.0	3.4	3.1	3.7	2.6	1.9	89	5.6
14	4.5	5.1	5.6	5.3	4.0	3.2	2.6	3.5	2.9	2.1	44	3.3
15	4.6	5.2	5.4	5.4	3.8	2.9	2.7	3.3	2.8	2.4	24	4.6
16	4.6	5.2	5.4	5.1	3.9	2.6	2.8	3.0	2.6	2.4	13	4.3
17	4.7	5.3	5.4	5.1	3.9	2.6	2.9	2.9	2.1	2.6	17	5.3
18	4.7	5.2	5.4	5.1	3.9	2.6	2.8	3.2	2.1	2.7	23	5.3
19	4.7	5.0	5.4	5.2	5.2	2.6	2.8	3.5	2.4	2.7	57	5.6
20	4.8	5.0	5.4	4.5	4.1	2.6	2.9	3.4	2.5	2.7	172	5.6
21	4.6	5.0	5.3	4.4	4.1	2.8	2.9	3.4	2.4	2.7	126	5.6
22	4.4	5.0	5.3	4.5	4.1	3.0	3.1	3.1	2.2	3.1	43	5.6
23	4.4	4.8	5.2	4.6	4.1	3.1	3.2	2.8	2.1	2.9	21	5.3
24	4.5	4.8	5.3	4.7	4.2	3.1	3.5	2.9	2.2	2.8	14	5.3
25	4.7	4.8	5.3	4.8	4.5	3.1	3.6	3.0	2.0	2.7	10	5.2
26	4.7	4.9	5.4	4.2	4.9	3.1	7.9	3.1	1.8	3.0	8.6	5.4
27	4.8	5.0	5.4	4.0	4.9	3.4	12	3.0	1.9	31	8.8	5.4
28	4.9	5.2	5.4	4.1	5.0	3.6	12	3.1	1.9	59	7.7	5.2
29	4.8	5.3	5.4	4.3	~	3.9	12	3.9	1.9	90	6.8	5.6
30	4.8	5.3	5.4	4.3	------	3.9	12	2.6	1.9	84	6.6	5.6
31	4.8	------	5.4	4.4	------	3.9	------	2.6	------	9.0	6.3	------
Total	170.5	149.8	165.1	154.1	114.0	109.0	135.4	115.6	68.5	332.4	937.6	142.7
Mean	5.50	4.99	5.33	4.97	4.07	3.52	4.51	3.73	2.28	10.7	30.2	4.76
Ac-ft	338	297	327	306	226	216	269	229	136	659	1,860	283

Calendar year 1954: Max 53 Min 1.2 Mean 3.51 Ac-ft 2,540
Water year 1954-55: Max 172 Min 1.7 Mean 7.11 Ac-ft 5,150

Peak discharge (base, 290 cfs).--July 27 (9:30 p.m.) 413 cfs (4.44 ft); July 29 (7 p.m.) 535 cfs (4.60 ft); Aug. 11 (3:30 p.m.) 467 cfs (4.78 ft); Aug. 19 (6:15 p.m.) 690 cfs (5.22 ft).

Mimbres River near Faywood, N. Mex.

Location.--Lat 32°35'10", long 107°55'10", in NW¼ sec. 7, T. 20 S., R. 10 W., on right bank 6 miles northeast of Faywood Hot Springs, 10 miles northeast of Faywood, and 12 miles upstream from San Vicente Arroyo.

Drainage area.--460 sq mi.

Records available.--April 1908 to December 1914, October 1930 to September 1955 (discontinued) in reports of Geological Survey. April 1908 to December 1931 in reports of State engineer.

Gage.--Water-stage recorder. Altitude of gage is 5,050 ft (from topographic map). April 1908 to Aug. 12, 1909, chain gage at site 200 ft downstream. Prior to July 8, 1909, at datum 10.45 ft higher and July 8 to Aug. 12, 1909, at datum 6.45 ft higher. Aug. 13 to Dec. 31, 1915, at datum 3.45 ft higher, Jan. 1, 1916, to Sept. 30, 1942, at datum 2 ft higher, and Oct. 1, 1942, to Jan. 26, 1950, at datum 1.00 ft higher.

Average discharge.--39 years (1908-10, 1912-17, 1919-24, 1926-27, 1929-55), 18.7 cfs (13,540 acre-ft per year).

Extremes.--Maximum discharge during year, 4,130 cfs July 23 (gage height, 7.79 ft); no flow at times.
1930-55: Maximum discharge determined, 18,800 cfs July 29, 1953 (gage height, 11.7 ft), from rating curve extended above 600 cfs on basis of slope-area determinations at gage heights 7.80 and 11.7 ft; maximum gage height, 12 ft Aug. 4, 1939, present datum; no flow at times.

Remarks.--Records fair. Discharge measurements generally made 3 or 4 times a month. Diversions for irrigation of about 3,000 acres above station.

Revisions.--WSP 1282: Drainage area.

Rating table, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used Oct. 1-4, 8, 9, July 14, 15, 17, 18, 25, Aug. 9, 10, 22-26, Aug. 28 to Sept. 3)

1.2	0.0	1.8	31
1.3	.7	2.0	58
1.4	3.0	2.3	113
1.5	7.0	2.6	180
1.6	13	3.0	288

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.3	0.1			0	0.3	0.4	0.1	0	2.3	2.8
2	.6	.3	0			0	.3	.4	.1	0	1.4	2.1
3	.4	.3	0			0	.3	.4	.1	0	40	1.8
4	.3	.3	0			0	.4	.4	.1	0	61	1.8
5	3.0	.3	0			0	.4	.4	.2	0	56	1.6
6	10	.3	0			0	.4	.4	.1	0	148	1.4
7	28	.3	0			0	.4	.4	.2	0	113	1.4
8	.5	.4	0			0	.3	.4	.2	0	107	1.4
9	.4	.4	0			0	.3	.4	.2	0	66	1.4
10	17	.3	0			0	.3	.4	.3	0	61	1.6
11	4.2	.3	0			0	.3	.4	.3	.9	186	1.4
12	1.2	.3	0			0	.3	.4	.3	3.5	196	1.6
13	.6	.3	0			0	.4	.3	.2	72	151	2.1
14	.6	.3	0			0	.4	.3	.1	.2	52	1.8
15	.5	.2	0			0	.4	.4	.1	0	32	1.8
16	.5	.2	0			0	.4	.4	.1	0	17	1.8
17	.5	.2	0			.1	.4	.4	.1	2.6	6.2	1.8
18	.5	.2	0			.1	.4	.4	.1	.6	15	2.1
19	.5	.2	0			.1	.4	.4	0	0	54	1.6
20	.5	.2	0			.1	.4	.4	.2	0	241	1.6
21	.5	.2	0			.1	.4	.4	.1	30	167	1.6
22	.4	.2	0			.3	.4	.4	.2	268	61	1.6
23	.4	.2	0			.3	.4	.4	0	51	59	1.6
24	.4	.1	0			.2	.4	.4	0	38	43	1.6
25	.4	.1	0			.2	.4	.4	0	1.6	29	1.4
26	.3	.1	0			.2	.4	.4	0	42	33	1.2
27	.2	.1	0			.2	.4	.2	0	8.0	213	.7
28	.4	.1	0			.3	.4	.2	0	181	29	.9
29	.4	.1	0			.3	.4	.2	0	159	12	.7
30	.4	.1	0		------	.3	.4	.2	0	228	8.2	.7
31	.3	------	0		------	.3	------	.3	------	20	3.0	------
Total	74.5	6.9	0.1	0	0	3.1	11.2	11.3	3.4	1,106.4	2,263.1	46.9
Mean	2.40	0.23	0.003	0	0	0.10	0.37	0.36	0.11	35.7	73.0	1.56
Ac-ft	148	14	0.2	0	0	6.1	22	22	6.7	2,190	4,490	93

Calendar year 1954: Max 185 Min 0 Mean 3.31 Ac-ft 2,400
Water year 1954-55: Max 268 Min 0 Mean 9.66 Ac-ft 6,990

Peak discharge (base, 800 cfs).--July 13 (4:45 p.m.) 812 cfs (4.35 ft); July 23 (12 m.) 4,130 cfs (7.79 ft); July 29 (9:30 p.m.) 1,640 cfs (5.55 ft); Aug. 6 (8:40 p.m.) 1,200 cfs (4.95 ft); Aug. 19 (2:20 p.m.) 870 cfs (4.45 ft); Aug. 27 (4 p.m.) 3,060 cfs (6.95 ft).

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San Vicente Arroyo at Silver City, N. Mex.

Location.--Lat 32°46'15", long 108°16'30", in NW¼SE¼ sec. 3, T. 18 S., R. 14 W. (projected), on left bank in Silver City, just upstream from Bullard Street, 300 ft upstream from bridge at Broadway Street, 1,800 ft downstream from confluence of Silva Creek and Pinos Altos Creek.
Drainage area.--26.5 sq mi.
Records available.--August 1953 to September 1955.
Gage.--Water-stage recorder. Altitude of gage is 5,845.ft (from topographic map).
Extremes.--1953: Maximum discharge during period August to September, 60 cfs Aug. 22 (gage height, 2.03 ft); no flow most of period.
1953-54: Maximum discharge during water year, 2,820 cfs Aug. 7 (gage height, 7.83 ft), from rating curve extended above 220 cfs on basis of indirect determination of peak flow; no flow most of year.
1954-55: Maximum discharge during water year, 1,240 cfs July 22 (gage height, 6.92 ft), from rating curve extended above 240 cfs on basis of indirect determination of peak flow; no flow most of time.
A destructive flood (discharge probably exceeded 10,000 cfs) occurred July 21, 1895, and began the erosion of Main Street to create the channel currently known as San Vicente Arroyo.
Remarks.--Records fair. Discharge measurements or observations of no flow generally made 3 to 4 times a month.

Discharge, in cubic feet per second, August and September 1953

Aug. 10.....	0.1
22.....	1.9
23.....	.1

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

Month	Cfs-days	Maximum	Minimum	Mean	Runoff in acre-feet
August.....	2.1	1.9	0	0.07	4.2
September.....	0	0	0	0	0

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

Discharge, in cubic feet per second, water year October 1953 to September 1954

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	0			0	2.6	0	0
2				0	0	.5			0	.2	0	1.1
3				0	0	7.5			0	0	0	.2
4				0	0	0			0	0	0	.3
5				0	0	0			0	0	0	0
6				0	0	0			0	0	41	.4
7				0	0	0			0	0	182	.1
8				0	0	0			0	7.3	5.5	0
9				0	0	0			0	.3	9.8	0
10				0	0	0			0	0	64	0
11				0	0	0			0	0	0	0
12				0	0	0			0	0	a1	.2
13				0	0	0			0	0	a1	0
14				0	0	0			0	0	a0	0
15				0	.4	0			0	0	a0	0
16				0	0	0			0	0	a0	0
17				0	0	0			0	0	a0	0
18				0	0	0			0	0	a0	0
19				0	0	0			0	0	a8	0
20				2.8	0	0			0	11	a1	0
21				.4	0	0			0	.3	8.8	0
22				0	0	9.1			0	13	0	0
23				0	0	.3			0	4.2	65	1.6
24				0	0	3.4			0	31	47	.2
25				0	0	0			0	0	0	70
26				0	0	0			0	0	0	.2
27				0	0	0			0	0	0	.2
28				0	0	0			0	0	0	0
29				0	-	0			0	0	0	0
30				0	------	0			7.7	0	0	0
31		------		0	------	0	------		------	1.8	.1	------
Total	0	0	0	3.2	0.4	20.8	0	0	7.7	71.7	434.2	74.5
Mean	0	0	0	0.10	0.01	0.67	0	0	0.26	2.31	14.0	2.48
Ac-ft	0	0	0	6.3	0.8	41	0	0	15	142	861	148

Calendar year 1953: Max - Min - Mean - Ac-ft -
Water year 1953-54: Max 182 Min 0 Mean 1.68 Ac-ft 1,210

Peak discharge (base, 500 cfs).--July 20 (1:30 p.m.) 946 cfs (4.32 ft); July 22 (2:30 p.m.) 547 cfs (3.48 ft); July 24 (2:30 a.m.) 599 cfs (3.58 ft); Aug. 6 (1:30 p.m.) 1,570 cfs (5.46 ft); Aug. 7 (4:30 p.m.) 2,820 cfs (7.83 ft); Aug. 10 (1 a.m.) 1,350 cfs (5.00 ft); Aug. 24 (2 p.m) 1,350 cfs (4.95 ft); Sept. 25 (5 a.m.) 1,820 cfs (6.04 ft).
a No gage-height record; discharge estimated on basis of recorded range in stage, weather records, and records for Mimbres River near Mimbres.

San Vicente Arroyo at Silver City, N. Mex.--Continued

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0			0			0	0.1		0	0	
2	0			.1			0	.1		0	0	
3	0			.1			0	0		0	0	
4	0			0			0	0		0	0	
5	.2			0			0	0		0	0	
6	0			0			0	0		0	0	
7	2.0			0			.1	0		0	0	
8	0			0			0	.2		0	2.1	
9	.1			0			0	0		0	.1	
10	0			0			0	0		0	0	
11	0			0			0	.1		0	0	
12	0			0			0	0		0	0	
13	0			0			0	0		0	0	
14	0			0			0	0		0	9.3	
15	0			.2			0	0		0	0	
16	0			0			0	0		0	0	
17	0			0			0	0		.7	0	
18	0			0			0	0		0	0	
19	0			0			0	0		0	0	
20	0			0			0	.1		0	0	
21	0			0			0	.1		12	0	
22	0			0			0	0		43	0	
23	0			0			0	0		67	0	
24	0			0			0	0		3.1	0	
25	0			0			0	0		0	0	
26	0			0			0	.1		0	13	
27	0			0			0	0		11	0	
28	0			0			0	0		0	0	
29	0			0	-		0	0		0	.2	
30	0			0	------		.1	0		0	0	
31	0	------		0	------		------	0	------	0	0	------
Total	2.3	0	0	0.4	0	0	0.2	0.8	0	136.8	24.7	0
Mean	0.07	0	0	0.01	0	0	0.007	0.03	0	4.41	0.80	0
Ac-ft	4.6	0	0	0.8	0	0	0.4	1.6	0	271	49	0

Calendar year 1954: Max 182 Min 0 Mean 1.68 Ac-ft 1,220
Water year 1954-55: Max 67 Min 0 Mean 0.45 Ac-ft 327

Peak discharge (base, 500 cfs).--July 22 (12:30 p.m.) 1,240 cfs (6.92 ft); July 23 (9 p.m.) 1,120 cfs (6.15 ft); July 27 (6 p.m.) 715 cfs (5.20 ft); Aug. 14 (2:30 p.m.) 522 cfs (4.65 ft).

Rio Tularosa near Bent, N. Mex.

Location (revised).--Lat 33°08'40", long 105°53'50", in SE¼NW¼ sec. 32, T. 13 S., R. 11 E., on right bank 50 ft downstream from bridge on U. S. Highway 70, 2.6 miles west of Bent, and 8.5 miles northeast of Tularosa.

Drainage area.--120 sq mi, approximately.

Records available.--December 1947 to September 1955.

Gage.--Water-stage recorder and concrete control. Altitude of gage is 5,450 ft, revised (from topographic map).

Average discharge.--7 years (1948-55), 10.8 cfs (7,820 acre-ft per year).

Extremes.--Maximum discharge during year, 286 cfs Aug. 19 (gage height, 1.78 ft); minimum daily, 2.6 cfs Aug. 15.
1947-55: Maximum discharge, 2,360 cfs July 19, 1950 (gage height, 5.3 ft), from rating curve extended above 33 cfs on basis of logarithmic plotting and slope-area determination at gage height 5.3 ft, minimum daily, 1.5 cfs June 20, 1950.

Remarks.--Records fair. Discharge measurements made two or more times a month. Diversion for irrigation of about 1,000 acres above station.

Rating tables, water year 1954-55 (gage height, in feet, and discharge, in cubic feet per second)
(Shifting-control method used May 9-31, July 24 to Aug. 11)

Oct. 1 to May 31		June 1 to Sept. 30	
0.3	1.7	0.4	1.6
.4	7.6	.5	4.4
.5	11	.6	10
.6	15	.7	20
		.9	47

Discharge, in cubic feet per second, water year October 1954 to September 1955

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.0	10	9.3	12	12	12	12	7.1	10	8.6	13	10
2	8.9	10	9.4	12	12	12	14	7.4	11	7.9	11	10
3	6.0	11	9.6	13	11	12	12	7.9	11	7.2	10	8.6
4	4.9	11	9.6	12	11	12	12	11	11	6.4	23	5.4
5	6.4	11	10	12	11	12	13	11	10	7.3	36	4.8
6	9.0	11	8.6	12	11	11	14	11	6.2	7.4	23	4.9
7	9.6	11	8.5	12	11	11	13	11	7.2	8.6	20	8.6
8	9.3	11	9.5	12	11	11	12	10	7.9	6.2	17	8.6
9	9.3	11	9.5	12	11	10	12	8.5	7.6	18	14	7.9
10	9.6	11	9.7	12	11	10	12	7.6	6.8	11	13	7.9
11	9.3	11	10	12	11	10	12	8.2	7.6	7.3	15	15
12	9.0	11	11	12	10	12	12	7.7	5.7	8.3	12	7.9
13	9.3	11	12	12	10	12	12	7.4	6.8	8.8	6.2	7.9
14	9.6	11	12	12	11	10	12	6.2	6.8	6.6	3.4	8.6
15	10	9.6	12	12	11	11	12	4.7	10	6.6	2.6	7.9
16	9.6	8.0	12	12	11	11	11	4.8	11	7.2	3.0	6.2
17	7.9	8.6	12	12	11	11	8.3	4.7	12	7.2	6.0	7.9
18	8.0	9.0	12	12	11	11	7.7	8.6	12	6.6	6.6	5.6
19	6.0	9.6	12	12	11	12	7.7	8.6	11	6.2	28	7.1
20	10	11	12	12	11	12	12	8.6	7.3	6.6	9.7	7.2
21	9.6	10	12	12	11	12	12	8.4	7.1	8.4	6.2	8.6
22	9.6	10	12	12	11	12	12	8.0	6.8	8.4	5.6	8.6
23	10	9.6	12	12	11	11	12	6.1	6.2	7.4	4.0	8.6
24	10	9.3	12	12	11	11	12	5.7	5.4	27	3.7	10
25	10	9.3	12	12	12	11	11	7.0	5.8	17	3.7	10
26	9.6	9.3	12	12	12	12	10	7.4	5.4	14	10	9.3
27	9.6	9.0	12	12	11	12	9.4	7.3	6.4	16	10	9.3
28	10	9.3	12	12	11	13	8.8	6.3	6.3	14	8.6	9.3
29	11	9.3	12	12	-	12	9.6	4.2	11	12	9.3	11
30	11	9.0	12	12	------	11	9.4	4.6	10	11	9.3	11
31	11	------	12	12	------	11	------	4.8	------	13	10	------
Total	281.1	301.9	342.7	373	310	353	338.9	232.0	249.3	308.2	351.9	253.7
Mean	9.07	10.1	11.1	12.0	11.1	11.4	11.3	7.48	8.31	9.94	11.4	8.46
Ac-ft	558	599	680	740	615	700	672	460	494	611	698	503

Calendar year 1954: Max 38 Min 2.1 Mean 8.82 Ac-ft 6,390
Water year 1954-55: Max 35 Min 2.6 Mean 10.1 Ac-ft 7,330

Peak discharge (base, 300 cfs).--No peak above base.

West Fork Trinity River at Lake Worth Dam above Fort Worth, Tex.

Location.--Lat 32°48', long 97°25', in valve tower just above Lake Worth Dam, 4½ miles northwest of Tarrant County courthouse in Fort Worth.

Drainage area.--2,069 sq mi (revised).

Records available.--October 1923 to September 1934 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 594.3 ft above mean sea level. Oct. 1, 1923, to June 10, 1924, staff gage half a mile upstream at same datum.

Average discharge.--11 years (1923-34), 313 cfs (revised).

Extremes.--1923-34: Maximum discharge, 7,600 cfs (revised) Nov. 18, 1923 (gage height, 2.25 ft); no flow at times.

Revisions.--The figures of maximum discharge for some water years have been revised, as shown in the following table. They supersede figures published in the water-supply papers indicated.

WSP	Water year	Date	Discharge (cfs)	Gage height (feet)
588	1924	Nov. 18, 1923	7,600	2.25
628	1926	Sept. 6, 1926	4,300	1.52
648	1927	Apr. 25, 1927	5,900	1.89

Remarks.--City of Forth Worth was diverting 6 to 12 mgd for municipal use from Lake Worth in 1924. Flow partly regulated by Bridgeport Reservoir beginning Apr. 1, 1932, and entirely regulated by Eagle Mountain Reservoir since Feb. 28, 1934 (see p. 63).

Revisions.--Revised figures of discharge, in cubic feet per second, for highwater periods in the water years 1924 and 1927, superseding those published in WSP 588 and 648, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge
1924		1924-Con.		1927-Con.	
Nov. 4	2,540	Dec. 18	6,000	Apr. 20	3,960
5	2,540	19	5,280	21	3,880
17	4,600	20	2,400	22	4,880
18	7,600			23	4,400
19	6,000	1927		24	4,400
20	4,280	Mar. 4	2,680	25	5,800
21	3,300	5	4,800	26	5,190
Dec. 13	3,000	6	4,650	27	4,400
14	3,120	7	4,280	28	4,000
15	3,120	8	3,120	29	3,450
16	6,400	Apr. 18	2,950		
17	7,200	19	4,200		

Month	Maximum	Minimum	Mean	Runoff in acre-feet
November 1923.....	7,600	62	1,460	86,700
December.....	7,200	62	1,410	86,600
Water year 1923-24.....	7,600	0	420	305,000
March 1927.....	4,800	94	1,140	70,200
April.....	5,800	86	2,060	122,000
Water year 1926-27.....	5,800	0	440	318,000
Calendar year 1927.....	5,800	0	403	292,000

West Fork San Jacinto River near Humble, Tex. 1/

Location.--Lat 30°01'35", long 95°15'30", on right bank at downstream side of bridge on U. S. Highway 59, 1,160 ft upstream from Texas and New Orleans Railroad bridge, about half a mile downstream from Spring Creek, and 2½ miles north of Humble, Harris County, and at mile 50.

Drainage area.--1,811 sq mi.

Records available.--October 1928 to September 1954 (discontinued).

Gage.--Water-stage recorder. Datum of gage is 30.53 ft above mean sea level, datum of 1929. Oct. 23, 1928, to July 16, 1933, chain gage at site 3,000 ft downstream at same datum. July 17, 1933, to Mar. 5, 1939, chain gage at present site and datum.

Average discharge.--26 years (1928-54), 1,089 cfs (788,400 acre-ft per year).

Extremes.--1928-54: Maximum discharge, 187,000 cfs May 31, 1929, Nov. 25, 26, 1940; maximum gage height, 32.7 ft May 31, 1929, Nov. 26, 1940, present site and datum (flood of Nov. 26, 1940, affected by backwater from East Fork and it is believed flood of May 31, 1929, occurred under similar conditions); minimum, 11 cfs Aug. 31, Sept. 1, 2, 1951.

Remarks.--No large diversions above station.

Revisions (water years).--WSP 898: 1929(M). Revised figures of discharge, in cubic feet per second, for periods in the water years 1929 and 1938, superseding figures published in WSP 688 and 858, are given herewith:

Date	Discharge	Date	Discharge	Date	Discharge
1929		1937		1937-Con.	
May 29	12,200	Oct. 23	578	Oct. 30	169
30	50,300	24	415	31	153
31	153,800	25	345	Nov. 1	130
June 1	93,300	26	283	2	116
2	38,500	27	238	3	105
3	17,900	28	210	4	95
		29	187	5	86

Month	Cfs-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
May 1929	-	153,800	145	10,400	5.74	6.62	639,000
June	-	93,300	266	6,540	3.61	4.03	389,000
Water year 1928-29	-	153,800	39	2,100	1.16	15.77	1,520,000
Calendar year 1929	-	153,800	42	2,230	1.23	16.74	1,620,000
October 1937	11,758	2,450	34	379	.209	.24	23,320
November	5,134	522	84	171	.094	.11	10,180
Calendar year 1937	192,335	6,310	23	527	.291	3.94	381,400
Water year 1937-38	245,173	9,340	27	627	.371	5.03	486,200

1/ Subsequent to Sept. 30, 1954, maximum and minimum elevations for this site published with records for Lake Houston near Sheldon (see p. 111).

Measurements of streamflow in the Western Gulf of Mexico basins made at points other than regular gaging 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. Measurements believed to have been made under base-flow conditions are identified by an asterisk (*) to the left of the discharge figure. 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 stream. The column headed "Measured previously" shows the water years in which measurements were made at the same, or practically the same, site.

Determinations of peak flow at points other than regular gaging stations are given in a separate table on page 433.

Discharge measurements made at points other than gaging stations in the Western Gulf of Mexico basins during the water year 1955

Mermentau River basin, La.

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Beaver Creek.	Bayou Nezpique.	Lat 30°47'23", long 92°34'05", in sec. 15, T. 4 S., R. 1 W., at bridge on State Highway 10 (renumbered), ½ mile southeast of Beaver.	14.4	1954	Feb. 5	1,620
Fontenot Pond	Beaver Creek.	Lat 30°45'57", long 92°32'04", in NW¼ sec. 25, T. 3 S., R. 2 W., Louisiana meridian, 0.15 mile south of State Highway 10 and 3 miles southeast of Beaver.	-		Feb. 5	14.0
East Fork Bayou Nezpique.	Bayou Nezpique.	Lat 30°43'53", long 92°25'40", in sec. 1, T. 4 S., R. 1 W., at bridge on State Highway 13 (renumbered), 4 miles north of Reddel and 4½ miles above confluence with Boggy Bayou.	44.8	1948	Oct. 14 Feb. 7	243 1,420
Bayou Mallet.	Bayou des Cannes.	Lat 30°26'30", long 92°24'45", in lot 18, T. 7 S., R. 1 E., at bridge on State Highway 13 (renumbered), 3.5 miles south of Eunice.	94.1	1954	Oct. 14 Feb. 7	4,060 8,090
Bayou Wikoff.	Bayou Plaquemine Brule.	Lat 30°17'06", long 92°15'45", in lot 40, T. 9 S., R. 2 E., at bridge on State Highway 35 (renumbered), 4 miles north of Rayne.	27.9	1954	Feb. 7	3,520

Calcasieu River basin, La.

Drakes Creek.	Whiskey Chitto Creek.	Lat 31°57'47", long 93°08'17", in sec. 24, T. 1 S., R. 8 W., at bridge on State Highway 10 (renumbered), 12.5 miles west of Pitkin.	22.1	1954	Feb. 6	762
Bundick Creek	....do.....	Lat 30°51'40", long 93°13'03", on line between secs. 29 and 30, T. 2 S., R. 8 W., at bridge on State Highway 112 (renumbered), 4 miles east of De Ridder.	-	1954	Oct. 20	*13.2
Dry Creek....	Bundick Creek	Lat 30°39'25", long 93°02'47", in between secs. 35 and 36, T. 4 S., R. 7 W., Louisiana meridian, at bridge on State Highway 113, 1 mile south of town of Dry Creek.	42.7		May 20	2,730
Barnes Creek.	Calcasieu River.	Lat 30°31'02", long 93°08'27", in NW¼ sec. 25, T. 6 S., R. 8 W., Louisiana meridian, at bridge on U. S. Highway 190, 5.5 miles west of Reeves.	111	1952	Feb. 6	7,760
Clear Creek..	Barnes Creek.	Lat 30°31'10", long 93°03'10", in sec. 23, T. 6 S., R. 7 W., Louisiana meridian, at bridge on U. S. Highway 190, at Reeves.	23.1	1940, 1952	Feb. 6	730
Serpent Bayou	Calcasieu River.	Lat 30°23'13", long 92°54'18", in sec. 5, T. 8 S., R. 5 W., Louisiana meridian, at bridge on U. S. Highway 165, 1.7 miles north of Fenton.	89.0	1954	Jan. 12† Feb. 6	377 2,430
Bearhead Creek.	Houston River	Lat 30°35'35", long 93°28'48", in sec. 27, T. 5 S., R. 11 W., at bridge on State Highway 109 (renumbered), 5 miles southwest of Singer.	45.6	1954	May 20	6,620
Do.....	....do.....	Lat 30°19'59", long 93°37'44", in sec. 30, T. 8 S., R. 12 W., Louisiana meridian, at bridge on State Highway 12 (renumbered), 2.3 miles northeast of Starks.	177	1948, 1952	Aug. 5	3,060
Cowards Gully	....do.....	Lat 30°25'10", long 93°29'17", in sec. 28, T. 7 S., R. 11 W., at bridge on State Highway 12 (renumbered), 3¾ miles southwest of DeQuincy.	15.3	1952	Feb. 6	604

* Base flow.
† 1954.

Discharge measurements made at points other than gaging stations in the Western Gulf of Mexico basins during the water year 1955--Continued

Calcasieu River basin, La.--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Cowpen Creek.	Beckwith Creek.	Lat 30°42'41", long 92°20'53", in sec. 1, T. 4 S., R. 10 W., at bridge on State Highway 27 (renumbered), 7 miles north of Singer.	28.3	1954	Feb. 6	1,420
Beckwith Creek.	West Fork Calcasieu River.	Lat 30°38'34", long 93°22'58", in sec. 10, T. 5 S., R. 10 W., at bridge on State Highway 110 (renumbered), 2 miles southeast of Singer.	76.0	1954	Aug. 5	1,320
		Sabine River basin				
Bayou Castor.	Sabine River.	Lat 32°05'35", long 93°55'15", between secs. 20 and 29, T. 13 N., R. 15 W., at bridge on State Highway 169 (renumbered), 1.8 miles east of Longstreet, La.	27.7	1954	Dec. 6 Feb. 9 Mar. 22	*a0.04 *7.08 456
Bayou Grand Cane.	Bayou Castor.	In SW¼ sec. 12, T. 11 N., R. 16 W., at bridge on State Highway 763, 1½ miles above mouth and 2½ miles southeast of Logansport, La.	-		Aug. 16 Sept. 22	*3.41 *.10
Bayou San Patricio.	Sabine River.	Lat 31°52'30", long 93°39'30", in sec. 38, T. 10 N., R. 13 W., at bridge on State Highway 512 (renumbered), 2.2 miles east of Benson, La.	81.1	1954	May 24 Aug. 4 Aug. 14 Sept. 22	320 1,970 *4.16 *a.2
Little Cow Creek.	....do.....	Lat 30°58', long 93°36', about 5 miles above mouth and 5 miles southeast of Burkeville, Tex.	-	1952-54	Oct. 8 Mar. 8 Mar. 30 June 16 Aug. 25 Sept. 20	*48.6 *72.2 *56.6 *95.4 *53.1 *46.1
West Anacoco Creek.	Bayou Anacoco	Lat 31°18'00", long 93°22'10", in NW¼ sec. 26, T. 4 N., R. 10 W., at bridge on U. S. Highway 171, 2½ miles southeast of Hornbeck, La.	22.4	1954	July 28	494
Prairie Creek.	....do.....	Lat 31°10'40", long 93°17'00", in NW¼SW¼ sec. 3, T. 2 N., R. 9 W., at bridge on U. S. Highway 171, 2½ miles northwest of Leesville, La.	39.8	1954	July 28	614
		Neches River basin, Tex.				
Wolf Creek...	Neches River.	Lat 30°51', long 94°14', about 3 miles above mouth and 6 miles northwest of Town Bluff, Tyler County.	-	1953-54	Oct. 8	*23.6
Rush Creek...	....do.....	Lat 30°51' long 94°12', 100 ft from mouth and 4 miles north of Town Bluff, Tyler County.	-	1953-54	Oct. 8	*1.30
Sandy Creek..	....do.....	Lat 30°50', long 94°09', 2½ miles above mouth at county road bridge and 3½ miles northeast of Town Bluff.	-	1953-54	Oct. 8	*23.4
Village Creek	....do.....	Lat 30°29', long 94°24', at Highway 69 about 9 miles northwest of Kountze, Hardin County.	-	1954	Oct. 5	*17.6
Hickory Creek	Village Creek	Lat 30°37', long 94°28', 1½ miles above Horsepen Creek and 3½ miles west of Warren, Tyler County.	-	1954	Oct. 5	*5.78
Horsepen Creek.	Hickory Creek	Lat 30°45', long 94°35', at Highway 190, 9½ miles west of Woodville, Tyler County.	-	1954	Oct. 4	*1.17
Do.....	....do.....	Lat 30°41', long 94°31', 7 miles above mouth and 9 miles southwest of Woodville, Tyler County.	-	1954	Oct. 4	*5.45
Do.....	....do.....	Lat 30°37', long 94°27', 1½ miles above Hickory Creek and 3 miles west of Warren, Tyler County.	-	1954	Oct. 5	*7.44
Hickory Creek	Village Creek	Lat 30°34', long 94°24', at Highway 69, 3½ miles south of Warren, Tyler County.	-	1954	Oct. 5	*12.9
Big Turkey Creek.	Cypress Creek	Lat 30°33', long 94°20', at county road, 6 miles southeast of Warren, Tyler County.	-	1954	Oct. 5	*15.7
Beech Creek..	Village Creek	Lat 30°42', long 94°11', at Farm to Market Rd, No. 1013 bridge, 1 mile west of Spurger, Tyler County.	-	1953-54	Oct. 8	*.50
Do.....	....do.....	Lat 30°36', long 94°12', at county road, 2½ miles northwest of Fred, Tyler County.	-	1953-54	Oct. 8	*.26

* Base flow.
a Field estimate.

Discharge measurements made at points other than gaging stations in the Western Gulf of Mexico basins during the water year 1955--Continued

Neches River basin, Tex.--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Beech Creek..	Village Creek	Lat 30°34', long 94°15', at county road, 4½ miles west of Fred, Tyler County.	-	1953-54	Oct. 8	0
Theuvenins Creek.	Beech Creek..	Lat 30°34', long 94°18', at county road bridge, 7 miles southeast of Warren, Tyler County.	-	1953-54	Oct. 5	*1.57
		Brazos River basin, Tex.				
White River..	Salt Fork Brazos River.	Lat 33°41', long 101°10', at county road crossing, about 4½ miles east of Crosbyton, Crosby County.	-	1951-54	Oct. 19	*0.94
					Jan. 18	*1.98
					July 8	*2.75
					Apr. 27	*1.16
Do.....	....do.....	Lat 33°40'00", long 101°09'30", below falls at U. S. Highway 82, 4½ miles east of Crosbyton, Crosby County.	-	1951-54	Oct. 19	*.92
					Jan. 18	*2.22
					July 8	*3.37
					Apr. 27	*1.38
Salado Creek.	Lampasas River.	Lat 30°55'18", long 97°35'34", 4.5 miles above Salado Springs and Salado, Bell County.	-	1948, 1950-52, 1954	Oct. 21	0
					Feb. 10	*.15
					Apr. 25	*.08
					Aug. 22	*1.02
Salado Springs.	Salado Creek.	Lat 30°56'37", long 97°32'06", 2,000 ft below U. S. Highway 81, at Salado, Bell County.	-	1933, 1948, 1950-52, 1954	Oct. 21	b5.21
					Feb. 10	b4.79
					Apr. 25	b5.05
					Aug. 22	b5.05
Caney Creek..	Brazos River.	Lat 30°03'50", long 96°12'40", about 6 miles southeast of Chapel Hill.	-		Feb. 1	*.24
Clear Creek..	....do.....	Lat 29°59'30", long 96°05'15", 7.5 miles south of Hempstead.	-		Feb. 1	*5.23
Piney Creek..	....do.....	Lat 29°56'45", long 96°07'50", 700 ft above county bridge, 7½ miles east of Bellville.	-	1948	Feb. 1	*2.65
Mill Creek...	....do.....	Lat 29°51'35", long 96°08'25", at county bridge, 5.75 miles north of Sealy.	-	1948	Feb. 2	*9.78
		Colorado River basin, Tex.				
Spring Creek.	Middle Concho River.	Lat 31°14', long 100°49', at Boy Scout Ranch, 3.3 miles south of Mertzon.	-	1950-52	Nov. 10	b5.85
Anson Springs	South Concho River.	Lat 31°10', long 100°30', 50 ft below rock dam, 4 miles south of Christoval.	-	1950	Nov. 12	b4.08
South Concho River.	Concho River.	Lat 31°19', long 100°29', at Panhandle and Sante Fe Ry., 10 miles south of San Angelo.	-	1952-54	Nov. 12	0
Government Springs.	San Saba River.	Lat 30°50', long 100°06', at Farm to Market Rd., No. 864, 0.7 mile northeast of Fort McKavett.	-	1942-52	Nov. 11	b6.74
Clear Creek..	....do.....	Lat 30°54', long 99°55', 800 ft above mouth and 8 miles west of Menard.	-	1920-21, 1942,1948, 1951-52	Nov. 11	*8.25
Cogden Creek.	....do.....	Lat 30°55', long 99°52', 100 ft below State Highway 29 and 4.9 miles west of Menard.	-	1951-52	Nov. 11	*.38
South Llano River.	Llano River..	Lat 30°16', long 99°56', 300 ft below Seven Hundred Springs and 23.5 miles southwest of Junction.	-	1939,1952	Dec. 9	*14.6
		Guadalupe River basin, Tex.				
Hueco Springs	Guadalupe River.	Lat 29°45'35", long 98°08'25", on right bank of Guadalipe River, 3.8 miles north of New Braunfels.	-	1937,1944, 1945-54	Oct. 5	0
					Nov. 29	0
					Feb. 18	0
					Apr. 27	0
					June 10	0
San Marcos River.	....do.....	At San Marcos.....	-	1921-54	Oct. 4	b84.7
					Dec. 7	b89.5
					Feb. 22	b93.6
					Mar. 2	b87.1
					Mar. 9	b86.9
					Mar. 16	b83.6
					Mar. 23	b90.9
					Mar. 30	b81.2
					Apr. 6	b80.4
					Apr. 13	b81.8
					Apr. 20	b77.2
					Apr. 27	b72.1
					May 4	b79.8
					May 11	b74.6
					May 18	b93.5
					May 25	b107
					June 1	b107
					June 10	b97.4

* Base flow.
b Spring flow.

Discharge measurements made at points other than gaging stations in the Western Gulf of Mexico basins during the water year 1955--Continued

Guadalupe River basin, Tex.--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
San Marcos River.	Guadalupe River.	At San Marcos.....	-		July 21	b94.2
					Aug. 22	b80.1
Medina River.	San Antonio River.	Lat 29°43'30", long 99°04'30", at Bandera.	-		Mar. 27	*8.21

Rio Grande basin

Santa Fe River.	Rio Grande...	In NE¼SE¼ sec. 24, T. 17 N., R. 10 E., 0.7 mile east of McClure Dam and 6½ miles east of Santa Fe, N. Mex.	16	1910, 1931-54	Oct. 1	*1.06
					Oct. 20	*1.19
					Nov. 8	*1.34
					Nov. 24	*1.03
					Dec. 10	*1.14
					Jan. 6	*.64
					Mar. 4	*1.00
					Mar. 18	*1.22
					Apr. 4	*1.07
					Apr. 19	*2.61
					May 9	*9.52
					June 6	*8.54
					July 5	*1.74
					Aug. 12	14.7
					Sept.26	*3.27
Rio Ruidoso..	Rio Hondo....	Lat 33°20', long 105°45', in SW¼ sec. 19, T. 11 S., R. 13 E., at reservation boundary, 3 miles above Ruidoso, N. Mex.	-	1953-54	Dec. 22	*1.27
					Apr. 6	18.0
					June 23	*1.49
					Sept.14	*8.29
Carrizo Creek	Rio Ruidoso..	Lat 33°20', long 105°40', in SW¼ sec. 26, T. 11 S., R. 13 E., at mouth in Ruidoso, N. Mex.	-	1953-54	Dec. 22	*2.41
					Apr. 6	*2.16
					June 23	*2.18
					Sept.14	*2.62
Pecos River..	Rio Grande...	Center sec. 7, T. 18 S., R. 27 E., 7½ miles southeast of Artesia, N. Mex. River mile 3.5.	-		Aug. 23	25.2
					Sept. 1	*4.68
Black River..	Pecos River..	Lat 32°04'00", long 104°29'00", in NE¼SE¼ sec. 3, T. 26 S., R. 24 E., below Mayes Ranch, 10 miles southwest of White City, N. Mex.	-	1953-54	Oct. 15	*.87
					Oct. 26	*.67
					Nov. 24	*.75
					Dec. 23	*.74
					Jan. 26	*.95
					Feb. 16	*.81
					Mar. 23	*1.00
					Apr. 28	*.66
					May 24	*.66
					June 29	*.60
					July 25	*.83
					Aug. 16	*.68
					Sept.20	*.59
Do.....	....do.....	In SE¼NW¼ sec. 35, T. 25 S., R. 24 E., below Upper Washington Ranch diversion dam, 8½ miles southwest of White City, N. Mex.	-	1952-54	Oct. 18	2.36
					Oct. 26	*1.68
					Nov. 24	*1.73
					Dec. 23	*2.08
					Jan. 26	*1.80
					Feb. 16	*1.94
					Mar. 23	*.92
					Apr. 28	2.08
					May 24	*1.71
					June 29	1.01
					July 25	1.38
					Aug. 16	*1.88
					Sept.20	*1.65
Do.....	....do.....	NW¼NW¼ sec. 25, T. 25 S., R. 24 E., above lower Washington Ranch diversion dam, 7 miles southwest of White City, N. Mex.	-	1952-54	Oct. 18	1.19
					Oct. 26	*2.24
					Nov. 24	*2.32
					Dec. 23	*2.31
					Jan. 26	*2.36
					Feb. 16	*2.52
					Mar. 23	1.47
					Apr. 28	1.42
					May 24	1.32
					June 29	.57
					July 25	.73
					Aug. 16	1.21
					Sept.20	1.69
Rattlesnake Springs.	Black River..	SE¼SW¼ sec. 23, T. 25 S., R. 24 E., 7½ miles southwest of White City, N. Mex.	-	1952-54	Oct. 13	3.14
					Oct. 26	3.08
					Nov. 24	4.06
					Dec. 23	2.94
					Jan. 26	2.97
					Feb. 16	b3.00
					Mar. 23	b2.21
					Apr. 28	b2.01
					May 24	b2.50
					June 29	b2.38
					July 25	b1.44
					Aug. 16	b2.68
					Sept.20	b2.38

* Base flow.
b Spring flow

Discharge measurements made at points other than gaging stations in the Western Gulf of Mexico basins during the water year 1955--Continued

Rio Grande basin--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Black River..	Pecos River..	SE¼NW¼ sec. 24, T. 25 S., R. 24 E., below lower diversion dam, 6 miles southwest of White City, N. Mex.	-	1952-54	Oct. 18	0
					Oct. 26	0
					Nov. 24	0
					Dec. 23	0
					Jan. 26	0
					Feb. 16	0
					Mar. 23	0
					Apr. 28	0
					May 24	0
					June 29	0
					July 25	0
					Aug. 16	0
					Sept.20	0
Do.....	....do.....	SE¼NW¼ sec. 35, T. 24 S., R. 26 E., above mouth of Blue Springs, 6½ miles east of White City, N. Mex.	-	1906-7, 1953-54	Oct. 18	*.29
					Oct. 26	*.32
					Nov. 24	*.34
					Dec. 23	*.37
					Jan. 26	*.39
					Feb. 16	*.40
					Mar. 23	*.34
					Apr. 28	*.40
					May 24	*.25
					June 29	*.31
Blue Springs.	Black River..	SW¼ sec. 27, T. 24 S., R. 26 E., above all diversions, 5½ miles east of White City, N. Mex.	-	1907, 1952-54	Oct. 26	*11.4
					Nov. 24	*12.0
					Dec. 23	*12.2
					Jan. 26	*11.6
					Feb. 16	*11.7
					Mar. 23	*12.1
					Apr. 28	*11.0
					May 24	*10.9
					June 29	*10.5
					July 25	*11.0
					Aug. 16	*10.1
					Sept.20	*10.7
Castle Springs.	....do.....	NE¼SE¼SE¼ sec. 23, T. 24 S. R. 26 E., at diversion dam, 7 miles east of White City, N. Mex.	-	1953-54	Oct. 26	1.30
					Nov. 24	1.36
					Dec. 23	2.30
					Jan. 26	2.74
					Feb. 16	2.20
					Mar. 23	2.11
					Apr. 28	1.24
					May 24	1.23
					June 29	.84
					July 25	.56
					Aug. 16	.59
					Sept.20	.42
Griffin Springs.	Main canal of Reeves County Water Improvement District No. 1.	Lat 30°57', long 103°47', in middle of northeast boundary, sec. 20, block 13, Houston & Great Northern RR. Survey at Toyahvale, Tex.	-	1919,1922, 1923,1925, 1938, 1942-54	Oct. 10	b4.06
					Jan. 6	b4.37
					Mar. 12	b4.15
					May 16	b3.84
					July 12	b6.03
					Sept.15	b4.15
Devils River.	Rio Grande...	Lat 29°58', long 101°09', at site of former gaging station, 13.5 miles southwest of Juno, Tex.	2,733	1952-54	Oct. 16	*96.3
					Jan. 9	*82.3
					Mar. 24	*66.4
					June 8	*51.3
					Aug. 18	*69.9
Las Moras Springs.	....do.....	At Brackettville, Tex.....	-	1925,1928, 1951-54	Oct. 16	b30.0
					Jan. 10	b15.9
					Mar. 25	b11.6
					June 8	b8.01
					Aug. 19	b35.1

* Base flow.
b Spring flow.

The following table contains determinations of peak discharge made at crest stage by indirect methods or by current meter or computed from rating curve at points other than regular gaging stations.

Determinations of peak discharge during water year October to September 1955

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
Ku Creek.....	Stinking Creek.	Lat 33°11', long 100°15', at culvert on U. S. Highway 83, 3½ miles northwest of Aspermont, Tex.	3.15		Sept.25	3,000
North Bosque River.	Brazos River.	Lat 32°13'45", long 98°11'45", at Gulf, Colorado and Santa Fe Ry. bridge at Stephenville, Tex.	86.3		May 19	49,000

Determinations of peak discharge during water year October 1954 to September 1955--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Date	Discharge (cfs)
North Bosque River.	Brazos River.	Lat 32°13'30", long 98°11'45", at bridge on U. S. Highway 377, at Stephenville, Tex.	93.3		May 23, 1952	‡40,000
Hackberry Creek.	Nueces River.	Lat 30°01'02", long 100°03'46", on C. Gilmer Ranch 8.7 miles east of Rocksprings, Tex.	62		Sept.24	53,400
West Nueces River.	....do.....	Lat 29°28'55", long 100°14'20", 0.5 mile above former gaging station, 15.8 miles northeast of Brackettville, Tex.	700		Sept.24	150,000
Pojoaque Creek a/	Pojoaque River.	In NW¼ sec. 8, T. 19 N., R. 9 E., ¼ mile above U. S. Highways 64, 84, 285, and 2 miles west of Nambe, N. Mex.	70	1936-41	July 31	11,000
Unnamed arroyo b/	Arroyo Jaspe.	Lat 35°21'55", long 105°50'40", at culvert on U. S. Highway 285, 6 miles southeast of Galisteo, N. Mex.	1.5	1952	July 27	257
Do.....	San Pedro Creek.	Lat 35°13'10", long 106°17'00", ½ mile above culvert on State Highway 10, 5¼ miles southwest of Golden, N. Mex.	2.82		Sept.24	2,400
Do.....	Unnamed arroyo to San Pedro Creek.	Lat 35°12'55", long 106°17'05", ½ mile above culvert on State Highway 10, 5½ miles southwest of Golden, N. Mex.	.92		Sept.24	2,750
Do.....	San Pedro Creek.	Lat 35°13'15", long 106°17'40", ¼ mile below culvert on State Highway 10, 5½ miles southwest of Golden, N. Mex.	4.21		Sept.24	2,950
San Pedro Creek.	Tongue Arroyo.	Lat 35°13'45", long 106°18'00", 1 mile below dip on State Highway 10, 5½ miles southwest of Golden, N. Mex.	45.2		Sept.24	10,800
Unnamed arroyo.	San Pedro Creek.	Lat 35°13'25", long 106°15'25", ¼ mile above culvert on State Highway 10 and 4 miles southwest of Golden, N. Mex.	.90		Sept.24	962
Cuchillo Arroyo.	Tongue Arroyo.	Lat 35°16'15", long 106°12'45", 0.4 mile north of Ortiz Mine Grant boundary at Golden, N. Mex.	2.1		Sept.24	987
Unnamed arroyo.	Cuchillo Arroyo.	Lat 35°17'00", long 106°12'40", at State Highway 10, 1 mile north of Golden, N. Mex.	12.2		Sept.24	2,000
Canan La Cueva.	Alemeda lateral; Albuquerque drainage system.	In NE¼SE¼ sec. 10, T. 11 N., R. 4 E., 100 ft below Juan Tabo Road and 4½ miles north of city limits of Albuquerque, N. Mex.	2.6		July 27	1,920
Arroyo de Domingo Boca.	....do.....	Lat 35°10'30", long 106°36'15", 0.5 mile above Edith Blvd. and 2.8 miles north of city limits of Albuquerque, N. Mex.	8.1		July 27	977
Arroyo del Pino.	....do.....	Lat 35°09'09", long 106°32'30", 0.6 mile east of Windhill and 1.3 miles north of city limits of Albuquerque, N. Mex.	6.0		July 27	1,150
Unnamed arroyo.	....do.....	Lat 35°09'40", long 106°36'45", 0.5 mile east of Edith Blvd. and 1.8 miles north of city limits of Albuquerque, N. Mex.	(c)		July 27	505
Do.....	....do.....	Lat 35°09'25", long 106°36'24", 0.9 mile above Edith Blvd. and 1½ miles north of city limits Albuquerque, N. Mex.	d 14.7		July 27	1,620
Arroyo del Embudo.	....do.....	In SW¼SW¼ sec. 12, T. 10 N., R. 3 E., between Palomos St. and San Mateo Blvd. in Albuquerque, N. Mex.	28.6		July 27	2,360
Tijeras Arroyo e/	Rio Grande...	In S½SW¼ sec. 17, T. 9 N., R. 3 E., at bridge on State Highway 47, 4.0 miles south of city limits of Albuquerque, N. Mex.	133	1953	July 22 July 27	935 2,000
Encinal Arroyo.	San Jose River.	In SW¼ sec. 35, T. 10 N., R. 6 W., 0.2 miles below U. S. Highway 66 and 1.0 miles west of New Laguna, N. Mex.	20.4		Aug. 10	8,320
Middle Percha Creek.	Percha Creek.	NE¼ sec. 14, T. 16 S., R. 8 W., 4 miles east of Kingston and 4 miles west of Hillsboro, N. Mex.	22		July 11	2,260
Tecolote Creek.	Pecos River..	Lat 35°27'20", long 105°16'55", at bridge on U. S. Highway 85, at Tecolote, N. Mex.	-			1,910
Rio Hondo....	....do.....	NE¼SE¼ sec. 4, T. 12 S., R. 22 E., at dam site, 13 miles southwest of Roswell, N. Mex.	-	1937	Oct. 7	7,250

‡ Revised. First published as 45,000 cfs in WSP 1242.
a Formerly published as Nambe Creek.
b Formerly published as San Cristobal tributary.
c Overflow from Arroyo del Pino; drainage area cannot be determined.
d Bear Arroyo has been diverted into this unnamed arroyo but one diversion dike broke during flood.
e Formerly published as Tijeras Creek.

INDEX

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