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**SURFACE WATER SUPPLY**  
*of the* **UNITED STATES**  
**1944**

PART 8

**WESTERN GULF OF MEXICO BASINS**

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Prepared by  
**WATER RESOURCES BRANCH**  
DIVISION OF SURFACE WATER

In cooperation with the States of  
**COLORADO, LOUISIANA, NEW MEXICO, AND TEXAS**  
and other agencies



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## ILLUSTRATION

Figure 1. Gaging-station structures: A, Sabine River near Gladewater, Tex.; B, Pecos River at Red Bluff, N. Mex.; C, Colorado River at San Saba, Tex.. 3

## SURFACE WATER SUPPLY OF WESTERN GULF OF MEXICO BASINS, 1944

### SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of stage and flow made on streams, lakes, and reservoirs in the United States during the water year ending September 30, 1944. The work was begun in 1888 in connection with special studies relating to irrigation. Measurements of the flow of streams and of the stage and contents of lakes and reservoirs have been made at about 10,000 gaging stations in the 48 States and also at many in the Territories of Alaska and Hawaii. In July 1944, 5,340 gaging stations, including those in Hawaii, were being maintained by the Geological Survey and cooperating organizations. Miscellaneous discharge measurements were made during the water year at many other points.

In the execution of the work many State and private organizations have cooperated, either by furnishing data or by assisting in collecting data. Cooperation of the first kind is acknowledged in connection with the description of each station affected; cooperation of the second kind is acknowledged, under the heading "Cooperation," in the introductory matter that precedes the gaging-station records in each volume. In the present volume, the section on cooperation of the second kind appears on page 13.

### DEFINITION OF TERMS

The units in which stream-flow data are presented in this report and other terms used herein are defined as follows:

"Second-foot" is an abbreviation for "cubic feet per second." A second-foot 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.

"Second-foot per square mile" is the average number of cubic feet of water flowing per second from each square mile of area drained, on the assumption that the runoff is distributed uniformly both as regards 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. It is used for comparing runoff with rainfall, which is usually expressed in inches.

An "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 connection with storage for irrigation.

"Second-foot-day" is the volume of water represented by a flow of 1 second-foot 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 an abbreviation for the term "relation between gage height and discharge."

"Control" is a term used to designate a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural section, a reach of the channel, or an artificial structure.

"Contents" is a term applied to the volume of water in a reservoir, not including water in bank storage unless so indicated.

#### EXPLANATION OF DATA

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the records of stage and discharge measurements 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 the fluctuations. Measurements of discharge are made with a current meter by the general methods outlined in standard textbooks on the measurement of river discharge. Typical structures in use at gaging stations are shown in figure 1.

Rating tables giving the discharge for any stage are prepared from the discharge measurements. 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. At times the stage-discharge relation for a station may be temporarily changed by the presence of aquatic growth or debris on the control. For such times the daily mean discharge is computed by what is essentially the "shifting-control" method, described above.

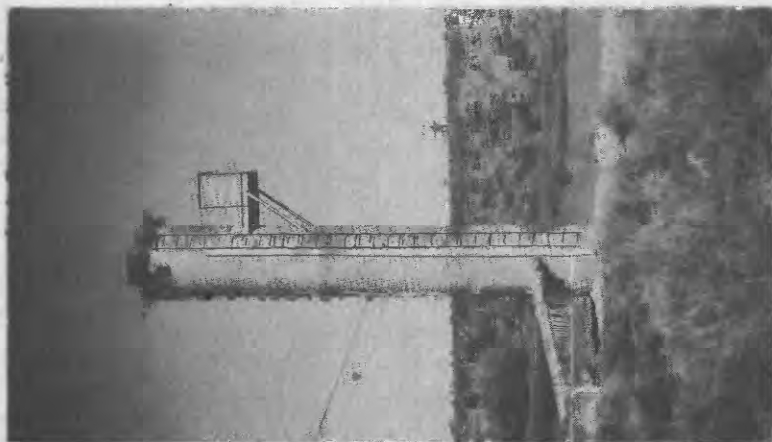
At some gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources, which necessitates the use of the "slope method," in which the slope or fall in a reach of the stream is a factor in the determination of discharge. Information requisite 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, and from them the rate of change of 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, which makes it 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 stations in the same or nearby basins. For those stations at which the stage-discharge relation is affected by ice, the days included in the periods of ice effect either are indicated in the table by symbols referring to a footnote that states this fact or are given in a general note following the table. The days on which discharge measurements were made during or between periods of ice effect, shortly before the first period, or shortly after the last period are similarly indicated by a footnote.

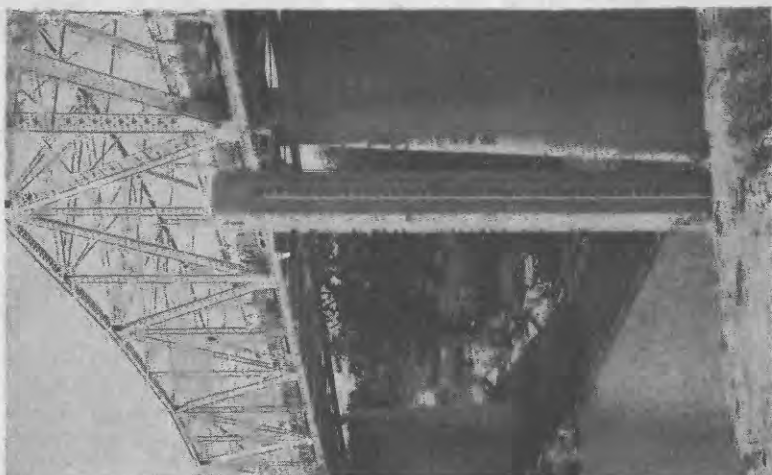
For most of the gaging stations on streams in the area covered by this report the data presented comprise a description of the station, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and runoff. Skeleton rating



A. SABINE RIVER NEAR GLADEWATER, TEX.



B. PECOS RIVER AT RED BLUFF, N. MEX.



C. COLORADO RIVER NEAR SAN SABA, TEX.

FIGURE 1.—GAGING-STATION STRUCTURES.

tables are published for all stations except those at which the daily discharge for the greater part of the year was determined by the shifting-control method, the slope method, or other special methods.

The description of the station gives the type of gage, its latitude and longitude as determined from the best available maps, and information in regard to diversions that decrease the flow at the gage, artificial regulation from pondage or storage, and the accuracy of the records. Under "Average discharge" is given the average discharge for the number of years indicated. It is given only for stations for which there are 10 or more complete years of record. 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). Unless otherwise qualified, the maximum discharge corresponds to the crest stage, obtained by use of a water-stage recorder or a nonrecording gage read at the time of the crest. Likewise the minimum discharge represents the lowest stage, unless otherwise qualified. Selected peak discharges with the times of their occurrence are given, below the table of monthly discharge, for some stations. This supplementary information is generally omitted for a station at which the drainage area of the stream is less than 10 or more than 10,000 square miles or at which, on most days, the peak discharge exceeds the mean discharge by less than 10 percent.

For stations equipped with water-stage recorders, except those on streams subject to sudden or rapid fluctuation, the 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 in second-feet corresponding to once-daily readings of the gage or the mean of twice-daily readings. For periods of rapidly changing stage the daily mean discharge is determined from gage-height graphs based on gage readings made once or twice daily or oftener, as stated in the station description.

In the table of monthly discharge the column headed "Second-foot-days" gives the sum for each month of the figures given in the table of daily discharge. The column headed "Maximum" gives the maximum daily discharge, not the momentary discharge when the water surface was at crest stage. Likewise, in the column headed "Minimum" the quantity given is the minimum daily discharge. The column headed "Mean" gives the average flow in cubic feet per second during the month.

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 is given. A skeleton table of capacity at given stages is usually given in the first report in which data for a station are published but is omitted from succeeding reports.

## TIME BASIS

At 2 a.m. on February 9, 1942, as an emergency measure, the Nation shifted from standard time to "war time," and clock time in the several zones of the country was moved ahead 1 hour, or to 3 a.m. Records of daily discharge prior to February 9, 1942, were computed on the basis of standard time. Records subsequent to that date have been computed on the basis of war time. To convert war time to standard time, subtract 1 hour.

## ACCURACY OF FIELD DATA AND COMPUTED RESULTS

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

The station description gives a statement in regard to the general 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 accurate than the daily records.

Yield at some stations as indicated by monthly means may vary widely from natural yield, owing to diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or other factors. For such stations figures of "second-feet per square mile" and "runoff in inches" are not published unless storage or diversion records are included indicating the extent of the regulation or diversion or unless satisfactory adjustments can be made for changes in contents or 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 its inclusion is indicated. Figures of second-feet per square mile and runoff in inches are also omitted if the drainage area includes large noncontributing areas or if the average annual rainfall over the drainage area is less than 20 inches.

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 show the water supply available for further development, as prior appropriations below the station must first be satisfied.

The table of monthly discharge presents in summary the distribution of the flow past the station. The table of daily discharge affords opportunity for more detailed studies of the variation in flow. As further observations in each succeeding year may be expected to throw new light on data previously published, it should be borne in mind that such data are subject to revision in succeeding water-supply papers.

## PUBLICATIONS

The results of stream-flow measurements are now published annually in 14 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

- Part 1. North Atlantic slope basins (St. John River to York River).  
2. South Atlantic and eastern Gulf of Mexico basins (James River to Mississippi River).  
3. Ohio River Basin.  
4. St. Lawrence River Basin.  
5. Hudson Bay and upper Mississippi River Basins.

- Part 6. Missouri River Basin.
7. Lower Mississippi River Basin.
8. Western 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 obtained or consulted as explained below.

1. Copies may be purchased at nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D. C., who will, on application, furnish lists giving prices.
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 branch of the Geological Survey as follows:

**East of the Mississippi River:**

Albany, N. Y., 528 Federal Building.  
 Asheville, N. C., 220 Post Office Building.  
 Atlanta, Ga., 410 Grand Theater Building.  
 Augusta, Maine, Statehouse.  
 Baton Rouge, La., 124 Geology Building, Louisiana State University.  
 Boston, Mass., 939 Post Office Building.  
 Charleston, W. Va., 408 Union Building.  
 Charlottesville, Va., House G, Dawson Row, University of Virginia.  
 Chattanooga, Tenn., 442 Post Office Building.  
 College Park, Md., 105 Engineering Building, University of Maryland.  
 Columbia, S. C., 207 Creason Building.  
 Columbus, Ohio, 404 Engineering Experiment Station, Ohio State University.  
 Harrisburg, Pa., 490 Education Building.  
 Hartford, Conn., 203 Federal Building.  
 Indianapolis, Ind., 205 Underwriters Building.  
 Jackson, Miss., 208 Millsaps Building.  
 Knoxville, Tenn., 337 Post Office Building.  
 Louisville, Ky., 531 Federal Building.  
 Madison, Wis., 666 State Office Building.  
 Montgomery, Ala., 507 Post Office Building.  
 Morgantown, W. Va., 406 Mineral Industries Building.  
 New Philadelphia, Ohio, Muskingum Watershed Conservancy District Building.  
 Ocala, Fla., 304 Post Office Building.  
 Pittsburgh, Pa., 515 Plaza Building.  
 Raleigh, N. C., 242 Education Building.  
 St. Paul, Minn., 1427 New Post Office Building.  
 Trenton, N. J., 228 Federal Building.  
 Urbana, Ill., 14 Post Office Annex, Elm Street.  
 Washington, D. C., Federal Works Agency Building.  
 Williamsburg, Ky., Kentucky Highway Building.

**West of the Mississippi River:**

Albuquerque, N. Mex., 723 North Second Street.  
 Austin, Tex., 302 West Fifteenth Street.  
 Bismarck, N. Dak., 1301 State Capitol.  
 Boise, Idaho, 428 Federal Building.  
 Denver, Colo., 310 Denham Building.  
 Fort Smith, Ark., 6 Post Office Building.  
 Helena, Mont., 408 Federal Building.  
 Honolulu, Hawaii, 225 Federal Building.  
 Idaho Falls, Idaho, 204 Federal Building.  
 Iowa City, Iowa, 508 Hydraulic Laboratory, University of Iowa.  
 Lincoln, Nebr., 349 Statehouse.  
 Los Angeles, Calif., 429-F United States Post Office and Courthouse.  
 Oklahoma City, Okla., 535 State Capitol.  
 Pierre, S. Dak., City Hall.  
 Portland, Oreg., 606 Post Office Building.  
 Rolla, Mo., Missouri Geological Survey Building, Missouri School of Mines and Metallurgy.  
 St. Louis, Mo., 1004 New Federal Building.  
 Salt Lake City, Utah, 303 Federal Building.  
 San Francisco, Calif., 625 Market Street Building.  
 Santa Fe, N. Mex., 204 United States Courthouse.  
 Tacoma, Wash., 207 Federal Building.  
 Topeka, Kans., 305 Federal Building.  
 Tucson, Ariz., 210 Post Office Building.

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



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.

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

(A = Annual Report; B = Bulletin; W = Water-Supply Paper)

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.
W 11.....	Gage heights.....	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge...	1895-96.
W 15.....	Descriptions, measurements, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries above Kansas River.	1897.
W 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.
W 27.....	Measurements, ratings, and gage heights of streams east of the Mississippi River, and Missouri River and tributaries.	1898.
W 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.
W 35 to 39...	Descriptions, measurements, gage heights, and ratings.....	1899.
21st A, pt. 4	Monthly discharge.....	1899.
W 47 to 52...	Descriptions, measurements, gage heights, and ratings.....	1900.
22d A, pt. 4	Monthly discharge.....	1900.
W 55, 56.....	Descriptions, measurements, gage heights, and ratings.....	1901.
W 75.....	Monthly discharge.....	1901.

Papers on surface water supply containing records from 1899 to date, grouped by years and drainage basins, are listed by number on page 8. The data for any particular gaging station will, in general, be found in the reports covering the years during which the station was maintained. For example, the data for 1910 to 1920 for any station in the area covered by part 3 are published in Water-Supply Papers 283, 303, 323, 353, 403, 433, 453, 473, and 503, which contain records for the Ohio River Basin for those years.

The records at most of the stations discussed in these reports extend over a series of years. Miscellaneous measurements at many points other than regular gaging stations have been made each year and are published under "Miscellaneous discharge measurements" at the end of each report, the streams and points of measurement listed appearing in the same relative order as the streams and gaging stations in the body of the report. An index of the records obtained prior to 1904 has been published in Water-Supply Paper 119.

Each of the reports on surface water supply for the year 1939, issued as Water-Supply Papers 871 to 884 (see table on p. 8), contains, for the area covered by that report, a summary of yearly discharge at gaging stations at which 10 or more complete years of record have been collected. These summaries are available also as separate reprints.

Numbers of water-supply papers containing results of stream measurements, 1899-1944

(For basins included see pp. 5-6).

Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1899 a...	35	b35, 36	35	36	c35, 37	36	37	37	d37, 38	38, e38	38, f38	38	38	38
1900 g...	47, h48	48, i49	48	49	49, j50	49	50	50	50	50, k51	51	51	51	51
1901.....	65, 75	65, 75	65, 75	65, 75	k65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902.....	82, 83	b82, 83	83	83	k83, 85	84	84	84	84	84	84	84	84	84
1903.....	97	b97, 98	98	98	k98, 99, 100	99	99	99	99	99	99	99	99	99
1904.....	0124, p125, q126	q126, 127	128	129	k128, 130, 131	131	132	132	132	132, 133, 134	134	135	135	135
1905.....	0185, p186, q187	q187, 188	189	190	170, 172	172	173	174	175, 177	176, 177, 178	178	179	179	179
1906.....	0201, p202, q203	q203, 204	205	206	245, 246	246	247	248	249	249, 250, 251	251	252	252	252
1907.....	281	282	283	284	265, 266	266	267	268	269	269, 270, 271	271	272	272	272
1908.....	281	282	283	284	285	285	287	288	289	289, 290, 291	291	292	292	292
1909.....	301	302	303	304	305	306	307	308	309	310, 311	311	312	312	312
1910.....	321	322	323	324	325	326	327	328	329	330, 331	331	332	332	332
1911.....	351	352	353	354	355	356	357	358	359	360, 361	361	362	362	362
1912.....	381	382	383	384	385	386	387	388	389	390, 391	391	392	392	392
1913.....	401	402	403	404	405	406	407	408	409	410, 411	411	412	412	412
1914.....	431	432	433	434	435	436	437	438	439	440, 441	441	442	442	442
1915.....	451	452	453	454	455	456	457	458	459	460, 461	461	462	462	462
1916.....	471	472	473	474	475	476	477	478	479	480, 481	481	482	482	482
1917.....	501	502	503	504	505	506	507	508	509	510, 511	511	512	512	512
1918.....	521	522	523	524	525	526	527	528	529	530, 531	531	532	532	532
1919.....	541	542	543	544	545	546	547	548	549	550, 551	551	552	552	552
1920.....	561	562	563	564	565	566	567	568	569	570, 571	571	572	572	572
1921.....	581	582	583	584	585	586	587	588	589	590, 591	591	592	592	592
1922.....	601	602	603	604	605	606	607	608	609	610, 611	611	612	612	612
1923.....	621	622	623	624	625	626	627	628	629	630, 631	631	632	632	632
1924.....	641	642	643	644	645	646	647	648	649	650, 651	651	652	652	652
1925.....	661	662	663	664	665	666	667	668	669	670, 671	671	672	672	672
1926.....	681	682	683	684	685	686	687	688	689	690, 691	691	692	692	692
1927.....	696	697	698	699	700	701	702	703	704	705, 706	706	707	707	707
1928.....	711	712	713	714	715	716	717	718	719	720, 721	721	722	722	722
1929.....	726	727	728	729	730	731	732	733	734	735, 736	736	737	737	737
1930.....	746	747	748	749	750	751	752	753	754	755, 756	756	757	757	757
1931.....	756	757	758	759	760	761	762	763	764	765, 766	766	767	767	767
1932.....	781	782	783	784	785	786	787	788	789	790, 791	791	792	792	792
1933.....	801	802	803	804	805	806	807	808	809	810, 811	811	812	812	812
1934.....	821	822	823	824	825	826	827	828	829	830, 831	831	832	832	832
1935.....	851	852	853	854	855	856	857	858	859	860, 861	861	862	862	862
1936.....	871	872	873	874	875	876	877	878	879	880, 881	881	882	882	882
1937.....	891	892	893	894	895	896	897	898	899	900, 901	901	902	902	902
1938.....	911	912	913	914	915	916	917	918	919	920, 921	921	922	922	922
1939.....	931	932	933	934	935	936	937	938	939	940, 941	941	942	942	942
1940.....	951	952	953	954	955	956	957	958	959	960, 961	961	962	962	962
1941.....	971	972	973	974	975	976	977	978	979	980, 981	981	982	982	982
1942.....	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010, 1011	1011	1012	1012	1012
1943.....														
1944.....														

a Rating tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in 21st Annual Report, part 4.

b James River only.

c Gallatin River.

d Green and Gunnison Rivers and Colorado River above Gunnison River.

e Mojave River only.

f Kings and Kern Rivers and south Pacific slope basins.

g Range tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39.

h Range tables and index to Water-Supply Papers 35-39 contained in Water-Supply Paper 39.

i Wisconsin and Schuykill Rivers to James River.

j Scioto River.

k Loup, Platte, and Elkhorn Rivers and tributaries below Platte River.

l Tributaries of Mississippi River from east.

m Lake Ontario and tributaries to St. Lawrence River proper.

n Hudson Bay only.

o New England rivers only.

p Hudson River to Delaware River, inclusive.

q Platte and Kansas Rivers.

r Platte and Kansas Rivers.

s The Great Basin in California, except Truckee and Carson River Basins.

t Below mouth of Gila River.

u Rogue, Umpqua, and Siletz Rivers only.

Reports 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 have been revised), as well as some records not contained in the annual series of water-supply papers. The following table gives the numbers and titles of these reports, arranged alphabetically, some by States and some by drainage basins.

Reports containing compilations of records of discharge by States and drainage basins		
Report	Period	Water-Supply Paper
<b>STATE</b>		
Alabama, Water powers of, with an appendix on stream measurements in Mississippi.	1895-1903	107
California, Water resources of, part 1, Stream measurements in Sacramento River Basin.	1887-1912	298
California, Water resources of, part 2, Stream measurements in San Joaquin River Basin.	1878-1912	299
California, Water resources of, part 3, Stream measurements in the Great Basin and Pacific Coast river basins.	1891-1912	300
California, southern, Surface water supply of Pacific slope of.....	1890-1918	447
California, Surface water supply of Sacramento River Basin.....	1895-1927	597-E
California, Surface water supply of San Joaquin River Basin.....	1895-1927	636-D
California, southern, Surface water supply of Pacific slope basins in..	1894-1927	636-F
California, Surface water supply of minor San Francisco Bay, northern Pacific, and Great basins in.	1895-1927	637-A
Colorado, Water resources of.....	1884-1900	74
Georgia, Water resources of.....	1895-1905	197
Massachusetts, Surface waters of.....	1845-1915	415
Nebraska, Surface water supply of.....	1894-1906	250
Oregon, Surface water supply of.....	1878-1910	370
Texas, Summary of records of surface waters of.....	1898-1937	850
Vermont, Surface waters of.....	1875-1916	424
Washington, Summary of hydrometric data in.....	1878-1919	492
Washington, Summary of records of surface waters of.....	1919-35	870
Wisconsin, northern, Water power of.....	1895-1905	156
Wyoming, Surface waters of, and their utilization.....	1894-1921	469
<b>DRAINAGE BASIN</b>		
Colorado River (Ariz., Colo., N. Mex., Utah, Wyo.) and its utilization..	1888-1914	395
Colorado River, upper (Colo., Utah), and its utilization.....	1897-1927	617
Colorado River Basin (Ariz., Calif., Colo., Utah, Wyo.), Surface waters at base stations in.....	1891-1938	618
Columbia River Basin, upper (Mont., Idaho), Surface waters of.....	1898-1938	916
Great Salt Lake Basin, Water powers of.....	1899-1920	517
Green River (Colo., Utah, Wyo.) and its utilization.....	1894-1926	618
Kennebec River Basin (Maine), Water resources of.....	1890-1906	198
Milk River. See St. Mary and Milk Rivers.....		
Missouri and St. Mary River Basins (Mont.), Surface waters of.....	1881-1938	917
New-England River Basin (N. C., Va., W. Va.), Surface water supply of...	1895-1920	536
Pembaucet River Basin (Maine), Water resources of.....	1904-9	279
Potomac River Basin (D. C., Md., W. Va.).....	1895-1906	192
Rio Grande Basin (Colo., N. Mex., Tex.), Water resources of.....	1898-1913	358
St. Mary and Milk Rivers (Mont., Canada), Water supply of.....	1898-1917	491
St. Mary River. See St. Mary and Milk Rivers; Missouri and St. Mary River Basin.		
Susquehanna River Basin (Pa., Md.), Hydrography of.....	1890-1904	109

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.

State reports containing compilations of records of discharge

State	Period	Report	Issued by
Alabama.....	1895-1915	Bull. 17, Water powers of Alabama.....	Geological Survey of Alabama.
Arkansas.....	1857-1928	Stream-gaging Rept. 1.....	Arkansas Geological Survey.
Colorado.....	1881-1935	Water resources of Colorado, Appendix 2, Data on stream-gaging stations of Colorado.	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.
Connecticut...	1900-1927	Bull. 44, Water resources of Connecticut..	State Geological and Natural History Survey.
Do.....	1912-33	5th biennial report <sup>2</sup> .....	State Water Commission.
Georgia.....	1895-1906	Bull. 16, Water powers of Georgia.....	Geological Survey of Georgia.
Do.....	1907-19	Bull. 36, Water powers of Georgia.....	Do.
Illinois.....	1908-11	Water resources of Illinois.....	Rivers and Lakes Commission.
Do.....	1900-1934	Stream-flow data of Illinois.....	Division of Waterways.
Indiana.....	1923-27	Pub. 72, Surface water supply of Indiana..	Department of Conservation.
Do.....	1927-30	Pub. 112, Surface water supply of Indiana..	Do.
Iowa.....	1873-1932	Stream-flow records of Iowa.....	State Planning Board.
Do.....	1873-1940	Water-Supply Bull. 1, Summaries of yearly and flood flow relating to Iowa streams.	Iowa Geological Survey.
Do.....	1941-42	Water-Supply Bull. 2, Surface water resources of Iowa.	Do.

1 Contains records of yearly discharge only.

2 Contains records of monthly discharge in second-feet per square mile.

## State reports containing compilations of records of discharge--Continued

State	Period	Report	Issued by
Kansas.....	1895-1919	Surface waters of Kansas.....	Kansas Water Commission.
Do.....	1919-24	.....do.....	Do.
Do.....	1924-28	Report of Division of Water Resources.....	State Board of Agriculture.
Do.....	1928-35	Stream-flow data of Kansas.....	Do.
Do.....	1935-39	.....do.....	Do.
Do.....	1939-41	.....do.....	Do.
Kentucky.....	1910-20	Surface waters of Kentucky.....	Kentucky Geological Survey.
Louisiana.....	1903-38	Geol. Bull. 16, Surface water supply of Louisiana.	Department of Conservation.
Maine.....	1887-1920	1st annual report <sup>2</sup> .....	Maine Water Power Commission.
Maryland.....	1929-37	Flow data and draft storage curves for major streams in Maryland.	State Planning Commission and Water Resources Commission.
Do.....	1892-1943	Bull. 1, Summary of records of surface waters of Maryland and the Potomac River Basin.	Department of Geology, Mines, and Water Resources.
Minnesota....	1909-12	Water-resources investigation of Minnesota.	State Drainage Commission.
Missouri.....	1857-1926	Vol. 20, 2d series, Water resources of Missouri.	Missouri Bureau of Geology and Mines.
Do.....	1927-39	Vol. 26, 2d series, Surface waters of Missouri.	Missouri Geological Survey and Water Resources.
Montana.....	1889-1911	5th biennial report.....	Office of the State Engineer.
Do.....	1881-1938	Special Rept. 10, vols. 1-4, Water resources of Montana.	Montana Agricultural Experiment Station.
Nebraska.....	1894-1914	1st hydrographic report.....	Bureau of Water Power, Irrigation, and Drainage.
Do.....	1914-28	2d hydrographic report.....	Do.
New Hampshire	1889-1922	Annual and statistical report, vol. 12 <sup>2</sup> ...	Public Service Commission.
New Jersey....	1891-1928	Bull. 33, Surface water supply of New Jersey.	Department of Conservation and Development.
Do.....	1928-34	Special Rept. 5, Surface water supply of New Jersey.	State Water Policy Commission.
Do.....	1934-40	Special Rept. 9, Surface water supply of New Jersey.	Do.
New Mexico....	1888-1925	Surface water supply of New Mexico.....	Office of the State Engineer.
North Carolina	1889-1923	Bull. 34, Discharge records of North Carolina streams. <sup>3</sup>	Department of Conservation and Development.
Do.....	1889-1936	Bull. 39, Discharge records of North Carolina streams. <sup>4</sup>	Do.
North Dakota..	1919-21	Report to Governor of North Dakota on flood control.	State chief engineer.
Do.....	1888-1898	Surface water in North Dakota.....	State Planning Board.
Do.....	1882-1944	Supplement B, 4th biennial report.....	State Water Conservation Commission.
Ohio.....	1898-1921	Bull. 73, Ohio stream flow.....	Engineering Experiment Station, Ohio State University.
Do.....	1902-39	Bull. 200, Compilation of stream-flow records of Ohio.	Department of Agriculture, Division of Conservation and Natural Resources.
Do.....	1898-1939	Bull. 111, Ohio stream-drainage areas and flow-duration tables.	Engineering Experiment Station, Ohio State University.
Oregon.....	1878-1914	Bull. 4, Water resources of the State of Oregon.	Office of the State Engineer.
Do.....	1914-24	Bull. 7, Water resources of the State of Oregon.	Do.
Do.....	1924-30	Bull. 8, Water resources of the State of Oregon.	Do.
Do.....	1930-36	Bull. 9, Water resources of the State of Oregon.	Do.
Pennsylvania..	1890-1911	Report of the Water Supply Commission of Pennsylvania.	Water Supply Commission of Pennsylvania.
Do.....	1928-32	Stream-flow records of Pennsylvania.....	Department of Forests and Waters.
Rhode Island..	1929-41	7th annual report.....	Department of Public Works.
Tennessee.....	1874-1924	Bull. 34, Water resources of Tennessee....	Department of Education.
Do.....	1920-30	Bull. 40, Surface waters of Tennessee <sup>3</sup> ...	Do.
Utah.....	1889-1905	5th annual report.....	Office of the State Engineer.
Do.....	1906-10	7th biennial report.....	Do.
Do.....	1911-16	10th biennial report.....	Do.
Virginia.....	1895-1927	Bull. 31, Water resources of Virginia.....	Virginia Geological Survey.
Do.....	1927-42	Bull. 4, Surface water supply of Virginia (Potomac, Rappahannock, and York River Basins).	Virginia Conservation Commission.
Do.....	1927-42	Bull. 5, Surface water supply of Virginia (James River Basin).	Do.
Do.....	1927-42	Bull. 6, Surface water supply of Virginia (Roanoke and Chowan River Basins).	Do.
Do.....	1927-42	Bull. 7, Surface water supply of Virginia (New, Tennessee, and Big Sandy River Basins).	Do.
Washington....	1878-1933	Bull. 5, Monthly and yearly summaries of hydrometric data.	Department of Conservation and Development.
Wisconsin.....	1888-1914	1st report of Railroad Commission of Wisconsin to Legislature on water powers.	Railroad Commission of Wisconsin.
Do.....	1914-23	2d report of Railroad Commission of Wisconsin to Legislature on water powers.	Do.

2 Contains records of monthly discharge in second-feet per square mile.

3 Contains records of weekly discharge.

4 Contains records of maximum and minimum daily, weekly, and monthly discharge and yearly mean discharge.

Notes.—In addition to the records contained in the reports listed above, the following States have issued annual or biennial reports in which are contained records of discharge: California, Colorado, Connecticut, Idaho, Indiana, Maine, Missouri, Montana, Nebraska, Nevada, New Mexico, New York (also New York City Board of Water Supply and city of Rochester), North Dakota, Oregon, Pennsylvania, Rhode Island, Washington, and Wyoming.

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. The more recent of these special reports also contain other pertinent hydrologic information and analyses and compilations of data relating to earlier noteworthy floods. The following list gives the numbers and titles of these reports:

Water-Supply  
Paper

## Title

88	The Passaic flood of 1902.
92	The Passaic flood of 1903.
96	Destructive floods in the United States in 1903.
147	Destructive floods in the United States in 1904.
162	Destructive floods in the United States in 1905.
334	The Ohio Valley flood of March-April 1913.
426	Southern California floods of January 1916.
487	The Arkansas River flood of June 3-5, 1921.
488	The floods in central Texas in September 1921.
520-G	Some floods in the Rocky Mountain region.
636-C	The New England flood of November 1927.
771	Floods in the United States, magnitude and frequency.
773-E	The New York State flood of July 1935.
796-B	Flood on Republican and Kansas Rivers, May and June 1935.
796-C	Flood in La Canada Valley, Calif., January 1, 1934.
796-G	Major Texas floods of 1935.
798	The floods of March 1936, part 1, New England rivers.
799	The floods of March 1936, part 2, Hudson River to Susquehanna River region.
800	The floods of March 1936, part 3, Potomac, James, and upper Ohio Rivers.
816	Major Texas floods of 1936.
836-A	Stages and flood discharges of the Connecticut River at Hartford, Conn.
838	Floods of Ohio and Mississippi Rivers, January-February 1937.
842	Floods in Canadian and Pecos River Basins of New Mexico, May and June 1937.
843	Floods of December 1937 in northern California.
844	Floods of March 1938 in southern California.
847	Maximum discharges at stream-measurement stations through September 1938.
867	Hurricane floods of September 1938.
869	Flood of August 1935 in Muskingum River Basin, Ohio.
914	Texas floods of 1938 and 1939.
967-A	Floods of September 1939 in Colorado River Basin below Boulder Dam.
967-B	Flood of July 5, 1939, in eastern Kentucky.

## RECORDS OF DISCHARGE COLLECTED BY AGENCIES OTHER THAN THE GEOLOGICAL SURVEY

The following table 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 1942 to September 1943 by agencies other than the Geological Survey. The records for these stations are not contained in publications of the Geological Survey.

Records of discharge collected by agencies other than the Geological Survey

Stream	Location	Period	Collected by	Remarks
Alamito Creek.....	Near Presidio, Tex....	1932-44	International Boundary Commission.	Published in bulletins of International Boundary Commission.
Arrey Canal.....	Near Arrey, N. Mex....	1918, 1920-44	Bureau of Reclamation.	Unpublished.
Carlsbad project main canal.	Near Carlsbad, N. Mex.	1941-44	.....do.....	Do.
Devils River.....	Near Del Rio, Tex....	†1931-44	International Boundary Commission.	Published in bulletins of International Boundary Commission.
El Paso sewage outfall.	Near El Paso, Tex....	1936-44	.....do.....	Do.
East Side Canal...	At Mesilla Dam, near Mesilla Park, N. Mex.	1916-18, 1920-44	Bureau of Reclamation.	Unpublished.
Fort Sumner Canal.	Near Fort Sumner, N. Mex.	1940-44	.....do.....	Do.
Goodenough Springs.	Near Comstock, Tex....	†1931-44	International Boundary Commission.	Published in bulletins of International Boundary Commission.
Hagerman Canal....	Near Roswell, N. Mex..	1942-44	Hagerman Irrigation Co.	Unpublished.
Las Vacas Arroyo..	Near Villa Acuna, Coahuila, Mexico.	1938-44	International Boundary Commission.	Published in bulletins of International Boundary Commission.

† Records for earlier years published in Geological Survey water-supply papers.

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

Stream	Location	Period	Collected by	Remarks
Leasburg Canal....	At head, near Fort Selden, N. Mex.	1917-18, 1920-44	Bureau of Reclamation..	Unpublished.
Pecos River.....	At dam site 3, near Carlsbad, N. Mex.	1942-44	....do.....	Do.
Do.....	Near Comstock, Tex....	†1931-44	International Boundary Commission.	Published in bulletins of International Boundary Commission.
Pinto Creek.....	Near Del Rio, Tex.....	†1931-44	....do.....	Do.
Rio Alamo.....	River, Tamaulipas, Mexico.	1923-44	....do.....	Do.
Rio Escondido.....	At Villa de Fuente, Coahuila, Mexico.	1922-44	....do.....	Records for 1923-24 and 1928 published in H. Doc. 359, 71st Cong., 2d sess., as Rio San Antonio above Fuente; records for 1932-44 published in bulletins of International Boundary Commission.
Rio Grande.....	Below American Dam, near El Paso, Tex.	1938-44	....do.....	Published in bulletins of International Boundary Commission.
Do.....	Below Brownsville, Tex.	1934-44	....do.....	Do.
Do.....	Buenos Aires station near Donna, Tex.	1943-44	....do.....	Do.
Do.....	County-line station near El Paso, Tex.	1938-44	....do.....	Do.
Do.....	Del Rio, Tex.....	†1931-44	....do.....	Do.
Do.....	Eagle Pass, Tex.....	†1931-44	....do.....	Do.
Do.....	Near El Paso, Tex.....	†1931-44	....do.....	Do.
Do.....	Below old Fort Quitman, Tex.	†1931-44	....do.....	Do.
Do.....	Hidalgo, Tex.....	†1931-44	....do.....	Do.
Do.....	At island station, near El Paso, Tex.	1938-44	....do.....	Do.
Do.....	At Johnson Ranch, Tex.	1936-44	....do.....	Do.
Do.....	Cuidad Juarez, Chihuahua, Mexico.	1938-44	....do.....	Do.
Do.....	Langtry, Tex.....	†1931-44	....do.....	Do.
Do.....	Laredo, Tex.....	†1926-44	....do.....	Do.
Do.....	Leasburg Dam, at Fort Selden, N. Mex.	1919-44	Bureau of Reclamation..	Unpublished.
Do.....	Matamoros, Tamaulipas, Mexico.	†1926-44	International Boundary Commission.	Published in bulletins of International Boundary Commission.
Do.....	Above Presidio, Tex....	†1926-44	....do.....	Do.
Do.....	Below Presidio, Tex....	†1926-44	....do.....	Do.
Do.....	Rio Grande City, Tex....	1932-44	....do.....	Do.
Do.....	Roma, Tex.....	†1926-28, 1931-44	....do.....	Do.
Do.....	Zapata, Tex.....	1932-44	....do.....	Do.
Rio Salado.....	Near Guarrero, Tamaulipas, Mexico.	†1943-44	....do.....	Do.
Rio San Diego.....	Jimenez, Coahuila, Mexico.	1942-44	....do.....	Records for 1924-1928 published in report of International Water Commission, United States and Mexico, U. S. Section; records for 1932-44 published in bulletins of International Boundary Commission.
Rio San Juan.....	Santa Rosalia, Tamaulipas, Mexico.	†1923-44	....do.....	Published in bulletins of International Boundary Commission.
Rio San Rodrigo...	Near El Moral, Coahuila, Mexico.	1922-44	....do.....	Records for 1923-24 and 1927-28 published in H. Doc. 359, 71st Cong., 2d sess.; records for 1932-43 published in bulletins of International Boundary Commission.
San Felipe Creek..	Near Del Rio, Tex.....	1931-44	....do.....	Published in bulletins of International Boundary Commission.
Terlingua Creek...	Near Terlingua, Tex...	1932-44	....do.....	Do.
West Side Canal...	At Mesilla Dam, near Mesilla Park, N.Mex.	1916-18, 1920-44	Bureau of Reclamation.	Unpublished.

† Records for earlier years published in Geological Survey water-supply papers.

† Records for earlier years published in Geological Survey water-supply papers as Rio Grande near Brownsville, Tex.

Note.- In addition to the gaging stations listed above, the International Boundary Commission collect and publish 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 Soil Conservation Service of the United States Department of Agriculture has been collecting records of runoff from selected areas in the western Gulf of Mexico basins as follows: In Texas, from 6 areas of less than 100 acres each near Mesquite (beginning in 1938) and from 3 areas of less than 200 acres each near Waco (beginning in 1938); in New Mexico, from 3 areas of less than 800 acres each near Santa Fe (beginning in 1938) and 3 areas of less than 190 acres each near Albuquerque (beginning in 1939). These records are in the files of the Soil Conservation Service.

## COOPERATION

The work in the several States was done under cooperative agreements with the organizations listed below:

Colorado: Office of the State engineer, M. C. Hinderlider.

Louisiana: State Department of Public Works, D. L. Pyburn, director.

New Mexico: Office of the State engineer, T. M. McClure; Interstate Stream Commission, T. M. McClure, secretary; and New Mexico State Highway Department, F. G. Healy and F. M. Limbaugh, State highway engineers.

Texas: State Board of Water Engineers, consisting of C. S. Clark, chairman, A. H. Dunlap, and J. W. Pritchett; Red Bluff Water Power Control District; Pecos River Compact Commission; Nueces River Conservation and Reclamation District; and city of Dallas.

Financial assistance was furnished by the Corps of Engineers, United States Army, in the operation of 67 gaging stations, of which 4 were in Louisiana, 7 in New Mexico, and 56 in Texas.

Acknowledgments are due the Bureau of Reclamation of the United States Department of the Interior and the Weather Bureau of the United States Department of Commerce for assistance in collecting the records published herein.

Assistance in collecting records was rendered also by the following organizations:

New Mexico: Agua Pura Co., Alamogordo Community ditch, town of Alamogordo,

New Mexico Power Co., Middle Rio Grande Conservancy District, and San Luis Power & Water Co.

Texas: Dallas County, the cities of Abilene, Corpus Christi, and Houston, Coleman Chamber of Commerce, San Antonio City Service Board, Tarrant County Water Control and Improvement District No. 1, West Texas Utilities Co., Lower Colorado River Authority, Brazos River Conservation and Reclamation District, Pecos County Water Improvement District No. 1, Reeves County Water Improvement District No. 1, Dow Chemical Co., Lower Neches Valley Authority, and Salt Water Disposal Committee.

## DIVISION OF WORK

The stream-gaging work was conducted by the water resources branch of the Geological Survey -- Glenn L. Parker, chief Hydraulic engineer, Carl G. Paulsen, assistant chief hydraulic engineer, and Rudolph G. Kasel, chief of the division of surface water. The data for the stations in the several States were collected and prepared for publication under the supervision of district engineers as follows: In Colorado, Robert Follansbee, the work being done in collaboration with M. C. Hinderlider, State engineer, and L. T. Burgess, State chief hydrographer; in Louisiana (except for Sabine River at Logansport), R. E. Marsh prior to Oct. 14, 1944, and E. B. Rice thereafter; in New Mexico (except for Delaware River near Red Bluff and Pecos River at Red Bluff), Berkeley Johnson; in Texas and for Sabine River at Logansport, La., Delaware River near Red Bluff, N. Mex., and Pecos River at Red Bluff, N. Mex., C. E. Ellsworth.

The records were reviewed and the manuscript prepared for publication under the direction of B. J. Peterson, hydraulic engineer in charge, and F. J. Flynn, associate engineer, section of reports.

## GAGING-STATION RECORDS

## MERMENTAU RIVER BASIN

Bayou Nezpique near Basile, La.

Location.-- Wire-weight gage, lat. 30°28'50", long. 92°37'55", in NE 1/4 sec. 1, T. 7 S., R. 3 W., at bridge on U. S. Highway 190, a quarter of a mile downstream from Missouri Pacific Railroad bridge and 2 miles west of Basile. Datum of gage is 3.60 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Records available.-- October 1938 to September 1944.

Extremes.-- Maximum discharge during year, 7,270 second-feet Mar. 22 (gage height, 23.44 feet); minimum, 0.4 second-foot July 31 (gage height, 1.49 feet).  
1938-44: Maximum discharge, 22,900 second-feet Aug. 11, 1940 (gage height, 31.08 feet); minimum, 0.1 second-foot June 7-13, 1943; minimum gage height, 1.16 feet June 6, 1940.

Remarks.-- Records fair except those below 1 second-foot, which are poor. Gage read twice daily. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	479	10	12	2,800	1,460	k391	k1,930	k179	k847	0.5	1.1	k985
2	269	11	26	2,900	1,530	k276	k1,550	168	k520	11.3	82	1,090
3	170	10	555	3,220	k972	k183	k1,010	k596	k272	54	68	1,080
4	132	10	k825	3,570	600	132	1,080	k1,180	k155	21	46	k568
5	102	10	955	4,030	624	96	1,060	k1,670	113	19	21	k340
6	75	12	1,040	4,250	576	70	k285	k2,050	82	16	12	209
7	56	868	955	4,250	458	56	k618	k2,610	59	15	21	226
8	42	k1,400	k684	4,140	346	42	k303	2,540	44	12	24	k287
9	30	k1,800	k484	3,830	306	34	k132	2,580	33	9.8	24	k1,080
10	25	2,000	366	3,570	k502	29	80	2,500	27	11	27	1,080
11	17	2,100	250	3,280	612	27	56	2,340	26	9.1	35	k924
12	14	2,100	184	2,950	k500	24	38	2,070	31	7.8	38	k544
13	16	2,000	144	2,800	386	22	32	k1,380	59	7.0	19	k377
14	22	1,780	156	3,000	630	13	27	k250	82	5.1	19	293
15	27	k1,150	k294	5,490	k1,150	15	24	k273	82	4.1	19	217
16	36	k700	k655	4,140	k1,390	27	20	96	59	3.4	18	163
17	29	k417	771	4,840	1,520	418	18	46	46	2.4	17	146
18	23	k284	771	4,970	1,620	1,110	15	33	36	3.8	18	113
19	19	138	k546	4,720	1,720	k3,510	15	23	31	3.4	24	87
20	27	96	k329	4,250	1,850	k6,090	19	142	22	2.4	77	78
21	22	65	199	3,740	2,000	k6,940	18	1,500	16	1.6	68	63
22	16	48	144	3,280	2,070	7,270	19	k1,970	10	1.3	82	59
23	13	34	108	2,900	1,960	7,110	649	2,030	6.8	1.2	29	50
24	11	26	k321	k1,950	1,750	6,340	k1,290	2,000	4.4	1.1	22	37
25	13	20	1,170	k1,390	k1,270	5,630	k1,410	1,780	3.4	1.2	18	27
26	18	18	k1,470	k800	1,060	4,720	1,420	k1,560	2.5	1.8	21	21
27	20	15	k1,910	766	868	4,030	1,350	k974	2.0	1.7	31	18
28	22	15	2,260	k1,110	k699	3,570	1,280	955	1.5	1.3	37	15
29	19	15	2,540	k1,340	k536	3,280	k880	1,000	1.2	1.1	54	21
30	13	13	2,780	1,440	-	2,950	k441	985	.8	.7	180	31
31	11	-	2,850	1,520	-	k2,330	-	1,030	-	.5	k591	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,775	479	11	57.5	3,580
November.....	17,085	2,100	10	570	33,890
December.....	25,735	2,850	12	830	51,040
Calendar year 1943.....	255,424.2	5,800	.1	700	506,600
January.....	95,236	4,970	766	3,072	189,900
February.....	30,765	2,070	306	1,061	61,080
March.....	65,742	7,270	16	2,121	130,400
April.....	17,699	1,930	15	590	35,110
May.....	38,510	2,680	23	1,242	76,380
June.....	2,683.6	847	.8	89.5	5,320
July.....	333.3	113	.5	10.8	661
August.....	1,685.1	591	1.1	54.3	3,340
September.....	10,663	1,090	15	365	21,150
Water year 1943-44.....	307,910.0	7,870	.5	841	610,700

k Computed by using rate of change of stage as a factor.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



Bayou des Cannes near Eunice, La.

Location.— Water-stage recorder, lat. 30°29'00", long. 92°29'25", in SW¼ sec. 32, T. 6 S., R. 1 W. Louisiana meridian, at bridge on U. S. Highway 190, 3 miles downstream from Missouri Pacific Railroad bridge and 4 miles west of Eunice. Datum of gage is 14.84 feet above mean sea level, datum of 1929 (Louisiana Geodetic Survey bench mark; levels by Corps of Engineers, U. S. Army). Auxiliary staff gage 1.8 miles downstream.

Records available.— October 1938 to September 1944.

Extremes.— Maximum discharge during year, 4,140 second-feet Mar. 20 (gage height, 17.60 feet); minimum, 0.1 second-foot Aug. 1 (gage height, 1.30 feet).  
1938-44: Maximum discharge, 9,520 second-feet Aug. 10, 1940 (gage height, 21.13 feet); no flow May 7, 10-18, July 10, 1939.

Remarks.— Records fair except those below 1 second-foot, which are poor. Discharge above about 100 second-feet computed by using fall as determined by twice-daily readings of auxiliary staff gage as a factor. Diversions above station for irrigation. Some regulation May to October by small irrigation diversion dams.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	3.0	7.1	589	780	46	185	5.3	71	0.3	0.2	841
2	17	3.4	32	597	298	28	85	20	38	.3	.5	1,020
3	15	4.0	165	562	131	18	204	192	25	2.5	2.2	1,140
4	15	4.4	398	1,150	128	13	437	350	17	2.4	2.4	1,040
5	14	5.5	520	1,350	225	9.7	465	505	21	1.5	3.6	833
6	9.2	6.0	504	1,180	191	7.1	294	657	25	1.1	14	453
7	5.3	308	330	901	106	5.6	79	714	22	1.2	26	447
8	4.3	605	134	651	52	4.4	30	535	20	2.1	15	550
9	3.8	714	64	600	82	3.9	17	157	12	1.2	13	562
10	3.2	765	41	580	176	3.6	12	44	7.0	.6	16	522
11	2.6	621	30	372	196	3.9	9.2	26	29	.4	17	396
12	2.3	290	22	156	144	3.5	9.2	12	232	.4	44	201
13	4.1	95	18	453	86	3.0	7.1	9.4	456	.3	79	116
14	6.4	42	34	991	238	2.6	5.6	9.6	618	.3	58	72
15	7.6	28	183	2,000	535	2.4	4.8	7.4	648	.3	40	50
16												
18	13	21	311	2,590	672	2.8	5.3	4.0	343	.3	30	40
17	13	16	254	1,850	671	9.4	5.6	2.9	95	.3	21	35
18	12	15	135	1,300	561	120	4.8	2.2	40	.6	15	31
19	8.5	10	64	900	653	1,150	6.0	1.8	26	.5	16	26
20	5.8	8.0	37	403	760	3,220	5.9	56	17	.5	26	22
21	4.3	6.4	24	108	968	3,540	6.5	296	9.7	1.4	15	23
22	3.4	5.5	18	49	1,020	2,080	8.5	423	4.4	1.2	11	21
23	3.1	5.0	16	34	795	1,380	215	623	4.3	.8	10	16
24	4.3	6.0	131	25	337	1,030	214	699	3.5	1.1	7.7	12
25	7.3	4.6	591	39	106	772	172	762	1.8	.8	52	8.7
26	6.6	4.3	765	106	101	422	104	645	1.0	.8	60	8.5
27	5.9	4.2	974	318	139	124	49	419	.5	.6	48	11
28	5.5	4.6	1,180	767	129	45	22	289	.4	.6	92	9.4
29	4.3	5.0	1,120	908	76	174	11	160	.4	.4	163	38
30	3.4	6.0	1,060	1,100	-	366	6.6	142	.4	.3	245	40
31	3.1	-	929	1,080	-	397	-	128	-	.3	664	-
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						233.3	20	2.3	7.55	463		
November.....						3,613.2	765	3.0	120	7,170		
December.....						10,091.1	1,180	7.1	326	20,020		
Calendar year 1943.....						83,606.7	5,210	.1	229	165,800		
January.....						24,039	2,590	25	775	47,680		
February.....						10,336	1,020	52	356	20,500		
March.....						14,966.9	3,540	2.4	483	29,730		
April.....						2,679.1	465	4.8	89.3	5,310		
May.....						7,896.6	762	1.8	255	15,660		
June.....						2,788.4	648	.4	92.9	5,530		
July.....						25.2	2.5	.5	58.51	50		
August.....						1,806.6	664	.2	58.5	3,680		
September.....						5,616.6	1,140	8.5	287	17,090		
Water year 1943-44.....						87,112.0	3,540	.2	228	172,800		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## MERMENTAU RIVER BASIN

Bayou Plaquemine Brule near Crowley, La.

Location.- Staff gage, lat. 30°14'05", long. 92°23'44", in NW 1/4 sec. 29, T. 9 S., R. 1 E. Louisiana meridian, at bridge on State Highway 370, 1 1/4 miles upstream from Missouri Pacific Railroad bridge, 1 mile downstream from bridge on State Highway 28, and 1 1/4 miles northwest of Crowley.

Records available.- October 1942 to September 1944.

Extremes.- Maximum discharge during year, 6,150 second-feet Nov. 9 (gage height, 17.80 feet); no flow on several days in June and July.

1942-44: Maximum discharge, that of Nov. 9, 1943; no flow on many days.

Remarks.- Records fair above 300 second-feet and poor below. Gage read twice daily. Diversions above and below station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	188	e6	e10	k1,530	k617	98	394	103	k243	0	19	k366
2	155	e5	83	k1,280	k370	93	k304	153	155	e2	7	k475
3	118	e5	k538	1,330	317	88	177	221	128	46	e4	532
4	57	e5	k814	k1,840	k414	83	177	403	108	83	e3	k462
5	50	e5	k1,030	2,140	k543	73	210	k883	73	118	e10	k319
6	56	e10	k990	k1,920	k648	88	155	k1,190	50	73	57	188
7	32	2,530	k816	k1,590	k692	68	118	1,260	32	19	83	123
8	32	6,950	k544	k1,440	k429	50	103	k1,030	15	e8	46	528
9	31	8,020	311	1,410	k266	32	93	683	88	e4	15	k846
10	21	k6,810	188	k1,320	233	e20	93	323	73	e3	17	k1,070
11	13	k4,380	108	k1,200	199	e15	93	103	64	e2	133	1,070
12	12	k2,680	93	k970	186	e12	78	60	37	e2	166	k836
13	18	k1,820	83	k1,030	123	e10	68	61	55	e1	210	k516
14	233	k1,200	83	k1,790	380	e9	68	155	155	e1	188	k281
15	281	k705	221	k3,250	k658	e8	73	33	233	e1	123	133
16	329	k362	k458	3,680	k968	e10	66	16	233	0	60	78
17	78	k117	532	k2,800	1,000	29	50	e9	144	0	32	60
18	e34	42	k452	k2,050	k901	208	32	e6	144	0	15	48
19	e22	24	k273	k1,430	k767	787	55	e5	93	0	e9	55
20	e15	e17	113	k920	k1,060	1,980	64	e60	60	0	e7	48
21	e12	e13	63	k519	k1,370	k3,240	64	166	42	0	e5	39
22	e10	e11	38	k332	1,410	k2,720	78	k289	24	0	e4	47
23	e8	e9	34	281	k1,200	k2,090	188	731	13	0	e4	44
24	e9	e9	258	245	k734	k1,560	305	k1,420	6	0	e3	39
25	e12	e8	1,660	k296	k392	k1,080	305	1,690	4	0	e10	37
26	e11	e7	k3,060	k389	k233	k622	199	1,640	2	0	37	44
27	e9	e7	3,410	k480	166	k374	118	k1,400	1	0	73	46
28	e8	e7	k2,970	k628	138	k302	83	k1,050	1	0	68	78
29	e7	e7	k2,500	k774	118	257	83	k744	1	0	98	133
30	e7	e8	k2,130	825	-	k311	108	k495	0	7	128	123
31	e6	-	k1,900	k767	-	368	-	k332	-	19	199	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,854	329	6	59.8	3,680
November.....	35,579	8,020	5	1,186	70,570
December.....	25,763	3,410	10	831	51,100
Calendar year 1943 .....	190,497	8,020	0	522	377,800
January.....	40,356	3,680	245	1,302	80,040
February.....	16,512	1,410	118	569	32,750
March.....	16,665	3,240	8	538	33,050
April.....	4,002	394	32	133	7,940
May.....	16,587	1,690	5	535	32,900
June.....	2,277	243	0	75.9	4,520
July.....	389	118	0	12.5	772
August.....	1,623	210	3	58.3	3,620
September.....	8,656	1,070	37	289	17,170
Water year 1943-44 .....	170,463	8,020	0	466	338,100

e Stage-discharge relation indefinite; discharge computed on basis of records for Bayou des Cannes near Eunice and Bayou Nespique near Basile.

k Computed by using rate of change of stage as a factor.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Calcasieu River near Oberlin, La.

Location.- Water-stage recorder, lat. 30°38'25", long. 92°48'50", in NW 1/4 sec. 7, T. 5 S., R. 4 W., at bridge on State Highway 52, 3 miles northwest of Oberlin and 15 miles upstream from Whiskey Chitto Creek. Datum of gage is 39.43 feet above mean sea level, datum of 1929 (Louisiana Geodetic Survey bench marks).

Drainage area.- 753 square miles.

Records available.- August 1922 to January 1925, September 1938 to September 1944.

Extremes.- Maximum discharge during year, 15,300 second-feet May 8 (gage height, 18.71 feet); minimum, 54 second-feet Aug. 17; minimum gage height, 3.23 feet (from recorder range line) sometime during Oct. 21 to Nov. 5.

1922-25, 1938-44: Maximum discharge, 34,700 second-feet Apr. 7, 1923 (gage height, 18.48 feet, datum then in use, or about 21 feet, present datum), from rating curve extended above 14,000 second-feet; minimum, 42 second-feet Aug. 18, 1924.

Flood of 1886 reached a stage about 1 foot higher than that of Apr. 7, 1923.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Paper mill at Elizabeth pumps about 5 second-feet from wells which is later discharged into Mill Creek 20 miles above station. This discharge is continuous and fairly constant.

Rating tables, water year 1943-44 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used July 16 to Sept. 30)

Oct. 1 to May 8					May 9 to Sept. 30						
3.3	64	8.5	1,130	16.0	6,060	3.8	47	6.0	355	10.0	1,530
3.5	80	10.0	1,620	16.5	7,350	4.5	118	6.5	471	11.0	1,940
4.0	127	12.0	2,460	17.0	8,980	5.0	179	7.0	604	12.0	2,440
4.5	181	13.0	3,010	18.0	12,650	5.5	256	9.0	1,180	13.0	3,010
5.0	256	14.0	3,720	18.5	14,500	Note.- Same as preceding table above 13.0 feet.					
5.5	351	15.0	4,640								
6.5	585	15.5	5,230								

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	a60	101	1,070	1,070	1,520	1,730	1,930	1,250	97	72	146
2	95	a60	104	2,090	1,010	1,410	1,410	2,270	1,090	97	67	139
3	90	a60	332	4,150	1,040	1,250	1,620	3,010	947	97	77	128
4	96	a60	985	4,860	1,310	1,040	1,690	3,350	744	94	94	151
5	137	a70	847	4,640	1,520	847	1,380	4,640	590	87	78	200
6	142	a110	408	4,050	1,480	714	1,160	5,370	446	84	68	265
7	124	a1,500	255	2,890	1,450	610	1,040	9,350	355	84	59	484
8	108	a2,000	194	2,400	1,440	535	1,010	14,500	293	85	58	422
9	99	a1,200	164	2,220	1,440	474	1,040	11,200	248	82	63	454
10	91	a800	147	2,320	1,480	428	1,100	7,960	223	78	64	334
11	84	a550	137	2,600	1,380	394	1,160	6,280	239	76	77	223
12	79	a550	132	2,770	1,280	372	1,190	5,100	324	g75	84	208
13	78	a500	132	3,420	1,190	341	1,190	4,060	366	g74	76	239
14	75	a500	164	4,440	1,460	321	1,040	3,280	313	70	63	274
15	a75	a500	508	6,050	2,560	302	766	2,710	284	73	60	284
16	a75	a460	522	6,280	2,890	302	572	2,230	248	71	58	216
17	a90	a360	351	6,060	2,830	450	462	1,730	223	68	55	163
18	a95	a260	274	4,980	2,460	555	394	1,180	200	65	62	135
19	a90	188	216	3,880	2,270	3,880	372	744	200	64	81	117
20	a75	158	194	4,150	2,360	10,100	405	556	186	68	84	106
21	a70	147	201	5,230	2,720	g9,340	439	471	166	71	75	95
22	a65	132	201	5,100	3,070	g5,820	662	702	149	71	69	89
23	a60	124	208	4,440	3,210	g4,640	1,320	860	137	66	63	84
24	a65	116	437	3,720	3,070	g3,560	1,890	773	127	65	61	79
25	a65	111	1,190	3,210	3,490	g2,720	2,050	646	118	70	66	76
26	a60	108	1,480	2,770	2,660	g2,270	1,970	646	112	69	61	74
27	a60	103	1,440	2,480	2,360	g2,180	1,660	773	106	84	70	76
28	a65	102	1,410	2,180	2,010	2,220	1,480	976	104	66	66	73
29	a65	102	1,380	1,850	1,690	2,320	1,520	1,120	99	62	58	76
30	a60	102	1,190	1,480	-	2,360	1,660	1,250	97	70	67	72
31	a60	-	1,130	1,220	-	2,140	-	1,280	-	74	126	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,594	1,422	60	83.7	5,150
November.....	11,193	2,000	60	373	22,200
December.....	16,436	1,480	101	530	32,600
Calendar year 1943.....	150,320	5,220	57	412	296,200
January.....	109,000	6,280	1,070	3,516	216,200
February.....	58,030	3,490	1,010	2,001	115,100
March.....	66,115	10,100	302	2,133	131,100
April.....	35,382	2,050	372	1,179	70,180
May.....	100,927	14,500	471	3,256	200,200
June.....	9,986	1,250	97	333	19,810
July.....	2,337	97	62	75.4	4,640
August.....	2,182	126	55	70.4	4,330
September.....	5,462	464	72	182	10,830
Water year 1943-44.....	419,644	14,500	55	1,147	832,300

a No gage-height record; discharge computed on basis of records for other stations in basin.

g Computed from graph based on gage readings.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## CALCASIEU RIVER BASIN

Calcasieu River near Kinder, La.

Location.- Water-stage recorder, lat. 30°30'10", long. 92°54'55", in NW 1/4 sec. 30, T. 8 S., R. 5 W., at bridge on State Highway 7, 0.5 mile downstream from Whiskey Chitto Creek and 4 miles west of Kinder. Datum of gage is 12.02 feet above mean sea level, datum of 1929 (Louisiana Geodetic Survey bench mark).

Drainage area.- 1,700 square miles.

Records available.- August 1922 to January 1925, October 1938 to September 1944.

Extremes.- Maximum discharge during year, 20,800 second-feet May 9 (gage height, 18.33 feet); minimum, 278 second-feet July 30; minimum gage height, 2.49 feet Aug. 23. 1922-25, 1938-44: Maximum discharge, 68,000 second-feet Jan. 23, 1924 (gage height, 21.89 feet, datum then in use, or about 23.5 feet, present datum), from rating curve extended above 40,000 second-feet; minimum, 200 second-feet Aug. 9, 10, 1924 (gage height, 0.81 foot, datum then in use).

Remarks.- Records good except those for periods of no gage-height record, which are fair. Paper mill at Elizabeth pumps about 5 second-feet from wells which is later discharged into Mill Creek 36 miles above station. This discharge is continuous and fairly constant. Diversions from left bank of Calcasieu River immediately above station and 5 miles above station for irrigation. Records of water analyses April to September 1944 are given in Water-Supply Paper 1022.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,750	365	a480	2,370	2,510	2,660	3,170	k2,580	3,110	428	352	826
2	1,040	381	a500	k4,690	2,280	2,370	2,660	k3,000	2,480	478	386	928
3	794	385	a1,200	k9,370	2,060	2,100	2,510	k5,300	2,080	478	560	1,080
4	648	368	a2,100	k11,900	2,100	1,890	2,990	k7,800	1,690	527	494	1,100
5	583	365	a1,900	k11,600	2,420	1,650	3,410	k11,000	1,450	461	444	996
6	583	426	a1,700	10,200	2,420	1,450	3,230	k13,700	1,240	444	444	860
7	550	k2,160	a1,300	8,700	2,370	1,310	2,560	13,700	1,060	461	444	996
8	518	k4,100	a950	7,530	2,240	1,200	1,970	k17,300	962	428	388	1,240
9	485	k3,320	a750	6,160	2,240	1,130	1,810	20,200	894	461	326	1,200
10	469	k2,840	a650	4,870	2,460	1,060	1,770	k16,000	860	444	289	1,080
11	453	k2,530	a600	4,270	2,660	1,030	1,770	k11,200	928	412	280	894
12	436	k1,800	563	4,050	2,580	968	1,770	k8,350	996	395	329	708
13	436	1,270	566	k5,780	2,280	962	1,770	k6,720	1,130	359	375	642
14	420	1,100	599	k9,070	k2,790	928	1,690	k5,520	1,170	339	352	692
15	417	1,070	1,150	k12,400	k5,110	928	1,490	k4,460	1,030	332	368	708
16	417	1,000	1,590	13,400	k6,340	996	1,240	k3,520	894	336	385	692
17	453	908	1,270	13,100	6,400	1,270	1,100	a3,000	792	332	365	610
18	453	762	1,040	12,800	6,040	k2,290	1,030	a2,400	726	356	346	544
19	436	664	908	11,900	5,480	k2,980	996	a2,000	678	352	359	494
20	417	615	778	10,200	5,370	k17,000	962	a1,600	642	355	359	444
21	410	583	713	7,700	5,920	k17,600	1,030	a1,800	626	398	355	396
22	404	550	680	6,530	6,160	k14,600	1,200	a2,200	578	368	319	392
23	391	518	664	6,280	6,160	k12,900	k3,050	a3,000	544	392	349	408
24	410	502	1,100	5,810	5,700	k11,300	k5,960	a3,400	527	461	415	408
25	394	485	k3,490	5,070	5,070	k8,170	k7,210	a3,600	527	406	444	396
26	381	469	k4,400	4,430	4,600	k5,440	7,220	a3,400	494	375	412	392
27	388	469	4,030	3,890	4,190	k4,000	7,070	2,990	478	359	510	402
28	404	469	3,950	3,680	3,680	k3,430	k6,270	2,610	461	346	444	421
29	420	a460	4,110	3,470	3,170	3,350	k4,320	2,610	444	283	444	444
30	398	a480	3,660	3,230	-	3,540	k2,920	2,660	444	280	544	444
31	378	-	2,930	2,820	-	3,540	-	3,060	-	286	708	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	16,136	1,750	378	521	32,010
November.....	31,414	4,100	365	1,047	62,510
December.....	50,341	4,400	480	1,684	99,860
Calendar year 1943.....	439,505	8,680	248	1,204	871,800
January.....	227,250	13,400	2,370	7,351	450,700
February.....	112,780	6,400	2,060	3,869	223,700
March.....	140,170	17,800	928	4,522	278,000
April.....	86,148	7,220	962	2,872	170,900
May.....	190,670	20,200	1,600	6,161	378,200
June.....	29,810	3,110	444	894	59,130
July.....	12,068	527	230	390	26,980
August.....	12,617	708	289	407	25,030
September.....	20,795	1,240	392	693	41,250
Water year 1943-44.....	930,219	20,200	280	2,542	1,845,000

a No gage-height record; discharge computed on basis of records for other stations in basin.

k Computed by using rate of change of stage as a factor.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Whiskey Chitto Creek near Oberlin, La.

Location.- Wire-weight gage, lat. 30.41'55", long. 92°53'35", in NE1/4 sec. 20, T. 4 S., R. 5 W., at bridge on State Highway 52, 1 mile downstream from Tenmile Creek, 8 miles upstream from Bundick Creek, and 10 miles northwest of Oberlin.

Drainage area.- 510 square miles.

Records available.- January 1939 to September 1944.

Extremes.- Maximum discharge during year, 6,640 second-feet May 7 (gage height, 17.85 feet); minimum, 141 second-feet July 29; minimum gage height, 4.19 feet Oct. 23.  
1939-44: Maximum discharge, 35,000 second-feet Aug. 9, 1940 (gage height, 23.42 feet); minimum observed, 102 second-feet Sept. 19, 1939 (gage height, 3.72 feet).  
Maximum stage known, 25.7 feet in June 1886, from floodmarks preserved by local residents.

Remarks.- Records fair. Gage read twice daily.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	502	147	191	602	896	628	656	501	526	210	164	407
2	434	149	210	1,660	703	476	802	609	477	219	171	602
3	321	149	448	3,260	573	407	859	2,240	430	228	200	656
4	255	147	551	3,360	676	385	1,450	2,830	384	228	191	576
5	217	150	319	3,030	598	364	1,650	3,900	340	219	210	407
6	190	181	278	2,980	650	343	1,140	4,950	319	219	258	340
7	181	376	248	2,270	573	343	712	6,640	298	210	200	430
8	172	889	228	1,470	476	343	876	5,370	298	210	191	430
9	183	1,260	210	1,140	452	323	801	4,050	384	210	180	526
10	159	1,200	238	1,040	628	303	453	2,320	362	200	210	278
11	156	819	210	840	784	303	453	1,170	384	191	182	238
12	156	430	200	676	703	303	430	730	526	191	191	219
13	159	340	200	1,210	573	303	407	624	712	175	200	200
14	156	319	219	2,580	936	303	384	548	551	182	228	181
15	165	258	384	3,620	2,180	308	362	499	407	182	200	191
16	199	228	340	4,020	2,060	283	340	452	319	178	182	182
17	217	219	384	4,510	1,820	303	340	407	298	182	173	182
18	181	200	340	4,430	1,640	348	340	364	278	180	173	180
19	165	200	278	3,670	1,260	3,120	319	343	248	182	160	171
20	156	191	248	2,530	2,100	4,220	340	343	248	182	160	168
21	180	191	228	1,100	2,270	3,840	407	452	248	182	155	166
22	145	178	219	784	2,100	3,360	526	676	238	166	155	164
23	145	173	210	676	1,700	3,460	1,640	1,160	258	191	159	164
24	149	168	339	624	1,360	2,660	2,700	1,450	258	191	169	162
25	149	168	1,200	573	1,010	1,720	2,620	1,450	238	182	162	168
26	165	180	1,390	548	784	1,200	2,530	1,260	219	175	200	164
27	181	160	1,260	452	730	829	2,360	799	219	184	171	171
28	190	164	1,170	676	703	712	1,540	712	219	148	228	168
29	178	169	1,200	784	598	770	799	741	210	183	248	162
30	159	169	1,230	840	-	889	602	629	210	150	228	210
31	149	-	859	840	-	920	-	551	-	155	319	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
October	6,052	502	145	195	0.382	0.44	12,000
November	9,551	1,260	147	318	.624	.70	18,940
December	15,038	1,390	191	488	.951	1.10	29,350
Calendar year 1943	131,519	2,080	145	360	.706	9.60	260,900
January	56,795	4,510	452	1,832	3.59	4.14	112,700
February	31,330	2,270	452	1,080	2.12	2.28	62,140
March	33,958	4,280	283	1,095	2.15	2.48	67,350
April	27,938	2,700	319	931	1.23	2.04	55,410
May	48,740	6,640	348	1,872	3.08	3.55	96,670
June	10,086	712	210	336	.659	.74	20,010
July	5,333	228	146	188	.369	.43	11,570
August	6,038	319	155	195	.382	.44	11,980
September	5,288	656	162	276	.541	.60	16,440
Water year 1943-44	259,647	6,640	145	708	1.59	18.94	515,000

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## CALCASIEU RIVER BASIN

Bundick Creek near Dry Creek, La.

Location.- Wire-weight gage, lat. 30°40'55", long. 93°02'15", on line between NE $\frac{1}{4}$  and NW $\frac{1}{4}$  sec. 25, T. 4 S., R. 7 W., at bridge on State Highway 251, 1 mile northeast of town of Dry Creek and 8 miles upstream from mouth. Prior to Nov. 20, 1943, at datum 7.18 feet lower.

Drainage area.- 238 square miles.

Records available.- January 1939 to September 1944.

Extremes.- Maximum discharge observed during year, 3,360 second-feet Apr. 25 (gage height, 14.4 feet); minimum, 69 second-feet Oct. 21-24, 26.  
1939-44: Maximum discharge, 22,000 second-feet Aug. 10, 1940 (gage height, 19.12 feet, present datum, from floodmark), from rating curve extended above 10,000 second-feet by velocity-area method; minimum, 49 second-feet on many days in September and October 1939; minimum gage height, 2.53 feet, present datum, Sept. 24, 25, 1939.

Remarks.- Records good. Gage read twice daily.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	176	71	100	258	279	207	218	176	445	89	76	176
2	123	75	128	1,560	241	186	218	525	333	95	114	229
3	98	72	318	1,680	279	186	292	1,360	241	93	110	279
4	87	73	212	1,400	403	148	563	1,360	186	93	93	241
5	79	75	145	1,400	266	148	623	2,200	157	93	105	148
6	77	87	128	1,560	218	139	473	2,470	139	85	105	110
7	75	302	120	1,060	176	139	241	2,370	131	85	93	114
8	72	149	112	883	166	131	176	2,000	122	89	81	122
9	72	414	104	578	229	122	167	1,480	122	89	77	176
10	71	584	104	445	369	122	148	533	122	81	76	166
11	71	474	100	333	361	122	139	292	122	79	76	131
12	70	196	96	347	305	114	131	241	110	79	74	101
13	74	151	96	876	241	122	131	218	166	78	79	93
14	74	107	112	1,590	675	122	131	186	166	81	101	85
15	77	99	223	1,330	1,130	114	122	176	131	79	105	81
16	87	94	172	1,780	1,050	122	114	157	114	122	85	80
17	94	91	163	1,780	997	122	110	148	105	105	80	77
18	83	87	145	1,750	859	188	110	139	101	93	76	76
19	74	87	128	1,360	553	1,960	122	139	101	89	75	75
20	71	86	112	598	876	1,830	122	305	101	85	114	74
21	69	84	104	292	910	1,640	148	782	97	122	85	75
22	69	85	100	241	876	1,650	196	876	97	122	77	74
23	69	82	112	207	608	1,580	1,390	1,020	93	110	93	72
24	69	82	283	196	389	944	1,730	944	89	101	89	72
25	71	81	846	176	319	498	2,620	961	89	89	97	71
26	69	80	686	186	319	361	2,710	893	89	89	110	71
27	71	80	578	196	305	266	1,940	683	85	81	101	73
28	75	82	593	292	279	207	1,040	698	81	81	93	78
29	80	82	638	333	253	292	279	714	86	79	122	85
30	75	86	473	333	-	279	207	593	85	74	166	97
31	72	-	309	333	-	253	-	563	-	72	110	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	2,485	176	69	80.5	0.338	0.39	4,950
November	4,173	584	71	139	.584	.65	8,280
December	7,540	846	96	243	1.02	1.18	14,960
Calendar year 1943	60,444	860	58	166	.697	9.43	119,900
January	25,253	1,830	176	815	3.42	3.95	50,090
February	14,061	1,130	166	495	2.04	2.20	27,870
March	14,144	1,950	114	456	1.92	2.21	28,050
April	16,501	2,820	110	560	2.35	2.63	33,320
May	25,172	2,470	139	812	3.41	3.93	49,930
June	4,105	445	81	137	.576	.64	8,140
July	2,800	122	72	90.3	.379	.44	5,550
August	2,940	166	74	94.8	.398	.46	5,830
September	3,421	279	71	114	.479	.53	6,790
Water year 1943-44	122,895	2,820	69	336	1.41	19.21	243,800

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Sabine River near Mineola, Tex.

Location.- Water-stage recorder, lat. 32°36'45", long. 95°29'10", at 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 16.5 miles upstream from Lake Fork. Datum of gage is 304.2 feet above mean sea level, datum of 1929.

Drainage area.- 1,445 square miles.

Records available.- May 1939 to September 1944.

Extremes.- Maximum discharge during year, 39,700 second-feet May 4 (gage height, 20.65 feet); minimum, 0.2 second-foot Aug. 28.

1939-44: Maximum discharge, 64,100 second-feet June 8, 1943 (gage height, 24.37 feet); no flow at times.

Maximum stage from about 1919 to 1939, 20.6 feet Jan. 25, 1938, from information by local resident.

Remarks.- Records good except those for periods of rapidly changing stage, which are fair. No large diversions above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	46	18	18	284	308	2,860	1,680	3,630	9,040	54	2.8	48
2	128	16	19	696	392	3,680	1,400	13,200	6,260	37	2.4	47
3	180	15	19	1,180	730	11,600	1,040	22,100	3,940	38	2.0	276
4	101	13	10	1,330	950	9,680	1,020	36,800	3,040	62	1.8	290
5	75	13	27	1,470	1,020	6,320	1,270	34,000	3,140	376	1.5	123
6	51	14	122	1,440	970	3,690	1,600	18,600	3,260	444	2.4	60
7	31	26	198	1,040	930	1,980	1,620	11,200	2,700	192	2.5	52
8	20	20	180	890	752	1,270	1,660	8,320	2,120	72	2.0	38
9	14	18	164	1,100	1,370	1,120	1,580	6,020	1,980	38	1.7	158
10	10	15	174	1,210	1,980	910	1,900	3,920	2,340	27	1.4	120
11	8.4	13	410	1,240	2,280	508	2,340	2,300	2,620	21	1.3	68
12	13	13	584	1,270	2,400	272	1,900	1,100	1,870	16	1.9	47
13	2,260	13	670	1,540	2,220	210	1,360	369	1,020	14	3.3	34
14	2,340	14	656	1,640	2,120	180	435	556	665	17	4.5	25
15	1,820	15	458	1,440	1,900	161	172	760	472	33	2.4	18
16	1,620	15	225	1,500	1,400	147	117	323	356	126	1.5	14
17	1,150	15	132	1,400	1,240	136	90	126	177	168	1.0	11
18	462	14	86	1,070	1,500	164	73	80	90	93	1.2	8.8
19	98	15	66	745	1,300	925	66	88	60	45	1.4	7.5
20	42	15	58	486	1,580	1,270	132	399	45	27	1.5	6.6
21	31	15	51	290	1,780	1,530	404	570	21	19	1.3	5.4
22	28	15	47	184	1,780	5,670	486	1,110	31	15	1.0	4.6
23	23	15	47	144	1,980	12,400	472	2,070	26	12	.8	4.0
24	38	14	48	123	1,980	9,120	555	2,780	22	9.8	.5	3.6
25	37	14	56	114	1,740	6,380	700	2,860	20	8.2	.4	3.7
26	29	15	66	108	1,860	4,480	372	2,540	18	6.7	.2	3.6
27	27	19	73	123	2,700	3,600	130	2,400	16	6.6	.3	5.2
28	28	20	102	154	2,980	2,760	75	3,040	14	4.2	.4	5.9
29	22	19	126	245	3,140	2,220	54	4,760	26	3.8	4.8	7.1
30	20	18	164	302	-	1,750	574	9,360	88	3.3	16	7.8
31	20	-	240	344	-	1,580	-	10,900	-	3.2	25	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	10,767.4	2,340	8.4	347	0.240	0.28	21,360
November	474	26	13	15.8	.011	.01	940
December	5,301	670	18	171	.118	.14	10,510
Calendar year 1943	364,327.3	58,500	.3	998	.691	9.37	722,600
January	25,002	1,540	108	807	.558	.64	49,590
February	46,962	3,140	308	1,619	1.12	1.21	93,150
March	98,406	12,400	138	3,174	2.20	2.55	195,200
April	25,340	66	847	66	.586	.66	50,390
May	206,161	36,800	80	6,650	4.60	5.31	408,900
June	45,487	9,040	14	1,516	1.05	1.17	90,220
July	1,990.8	444	3.2	64.2	.044	.06	3,960
August	91.2	25	.2	2.94	.0020	.002	181
September	1,503.2	290	3.7	50.1	.035	.04	2,980
Water year 1943-44	467,549.6	36,800	.2	1,277	.884	12.05	927,400

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## SABINE RIVER BASIN

Sabine River near Gladewater, Tex.

Location.- Water-stage recorder, lat. 32°32', long. 94°57', at bridge on U. S. Highway 271, half a mile downstream from Glade Creek and 1 mile southwest of Gladewater Gregg County. Datum of gage is 243.85 feet above mean sea level (Texas Reclamation Department bench mark based on Geological Survey datum).

Drainage area.- 2,846 square miles.

Records available.- October 1932 to September 1944.

Average discharge.- 12 years, 1,810 second-feet.

Extremes.- Maximum discharge during year, 42,500 second-feet May 7 (gage height, 38.46 feet); minimum, 33 second-feet Sept. 26, 27 (gage height, 4.67 feet).  
1932-44: Maximum discharge, 66,200 second-feet (result of discharge measurement) June 11, 1943 (gage height, 41.15 feet); minimum, 5.6 second-feet Aug. 16, 1939.  
Maximum stage known, 41.7 feet in May 1914, from information by local resident (discharge, 71,100 second-feet).

Remarks.- Records good except those for periods affected by backwater from return flow and those for periods of no gage-height record, which are poor. Small diversions above station for oil field operations and municipal supply.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	192	182	706	2,100	7,240	6,460	5,030	5,320	162	57	303
2	100	184	180	1,100	1,930	7,510	6,100	8,040	5,620	185	54	294
3	160	177	177	1,640	1,840	7,050	5,560	10,800	6,350	233	55	267
4	210	170	177	1,910	1,780	6,800	4,580	17,400	7,240	224	51	232
5	325	162	208	2,100	1,720	6,300	3,830	28,300	18,260	240	47	355
6	399	155	422	2,120	1,730	6,300	3,140	37,900	9,290	222	45	496
7	285	178	556	2,230	1,690	6,320	2,650	41,500	8,540	422	48	592
8	250	209	727	2,570	2,270	7,440	2,600	37,000	7,720	522	48	256
9	180	209	812	2,710	3,290	7,440	2,960	30,900	6,920	706	45	213
10	135	208	706	2,680	3,650	6,920	3,470	25,300	6,100	303	47	254
11	100	189	727	2,540	3,690	6,100	3,800	19,600	5,360	209	77	392
12	200	172	856	2,570	3,440	5,080	4,010	15,800	4,720	168	89	486
13	700	162	1,010	2,990	3,230	3,650	4,180	12,900	4,160	144	154	362
14	2,120	158	1,100	3,350	3,620	2,880	4,550	10,700	3,770	126	123	229
15	2,910	156	1,100	3,650	3,920	1,990	4,420	8,260	2,360	119	101	151
16	3,440	158	1,100	3,860	4,260	1,520	4,290	5,550	2,760	180	79	113
17	3,770	156	1,050	3,890	4,650	1,270	3,830	4,620	1,990	167	62	94
18	3,800	156	834	3,880	4,720	1,140	2,740	3,290	1,400	231	54	81
19	3,800	156	580	3,770	4,620	1,450	1,470	2,230	900	294	50	71
20	2,710	156	433	3,550	4,420	2,230	834	1,540	599	268	49	62
21	1,500	155	362	3,110	4,200	2,570	664	1,430	506	190	47	57
22	601	165	332	2,430	4,040	2,940	878	3,300	332	133	44	82
23	294	156	322	1,730	4,070	3,770	1,320	5,000	285	112	41	46
24	303	153	332	1,250	4,130	4,290	1,320	4,960	256	102	42	48
25	444	151	372	968	4,290	4,820	1,300	4,760	233	96	52	36
26	536	153	444	860	4,930	5,670	1,320	4,560	215	89	40	34
27	433	156	506	840	5,800	6,680	1,250	4,820	197	86	42	34
28	303	167	643	1,000	6,400	7,650	1,030	5,000	125	79	44	37
29	242	175	790	1,400	6,980	8,020	790	5,200	172	69	47	53
30	215	180	812	2,000	-	8,180	1,790	5,240	162	64	52	53
31	201	-	749	2,200	-	7,440	-	5,280	-	60	312	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	30,353	3,800	65	979	0.344	0.40	60,200
November	5,065	209	151	169	.059	.07	10,050
December	18,603	1,100	177	600	.211	.24	36,900
Calendar year 1943	722,941	64,500	22	1,981	.696	9.45	1,454,000
January	71,494	3,890	706	2,306	.810	1.41	141,800
February	107,590	6,980	1,720	3,710	1.30	1.93	213,400
March	159,060	8,180	1,140	5,131	1.80	2.08	315,500
April	86,716	6,460	664	2,891	1.02	1.13	172,000
May	377,000	41,500	1,430	12,160	4.27	4.93	747,800
June	102,842	9,290	162	3,428	1.20	1.34	204,000
July	6,224	706	60	201	.071	.08	12,360
August	2,108	312	40	68.0	.024	.03	4,120
September	5,567	496	34	186	.065	.07	11,040
Water year 1943-44	972,612	41,500	34	2,657	.934	12.71	1,929,000

f Computed on basis of partly estimated gage-height record.

Note.- No gage-height record Oct. 1-13, Jan. 26 to Feb. 6; discharge computed on basis of weather records and by comparison with records for nearby stations. Stage-discharge relation affected by backwater from return flow Mar. 2-18, Mar. 31 to Apr. 9, May 15-22, June 7-18; discharge computed from backwater curve based on discharge measurements.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Sabine-River near Tatum, Tex.

Location.- Wire-weight gage, lat. 32°22', long. 94°28', at bridge on State Highway 43, 5 miles upstream from Potter Creek, 5.2 miles northeast of Tatum, Rusk County, and, 7 miles downstream from Cherokee Bayou. Datum of gage is 204.2 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.- 3,586 square miles.

Records available.- January 1939 to September 1944.

Extremes.- Maximum discharge during year, 36,900 second-feet May 10 (gage height, 28.00 feet, from graph based on gage readings); minimum observed, 57 second-feet Aug. 26 (gage height, 2.90 feet).

1939-44: Maximum discharge, 50,500 second-feet June 14, 1943 (gage height, 29.84 feet); minimum observed, 9.1 second-feet Oct. 9, 1939.

Maximum stage known, 32 feet in May 1884, from information by local residents.

Remarks.- Records good. Gage read twice daily, oftener during high stages. Several small diversions above station for oil field operations and municipal supply.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	310	301	232	1,060	a5,100	9,540	8,550	5,130	6,920	301	99	293
2	202	293	240	1,160	a6,920	8,400	8,370	10,200	6,600	293	90	490
3	206	270	240	1,480	a2,680	9,280	8,370	21,600	6,220	317	85	450
4	248	278	240	1,800	a2,480	9,170	8,280	24,600	6,040	a370	82	390
5	262	265	225	2,040	a3,240	8,950	8,190	21,400	5,920	a390	79	352
6	255	255	270	2,200	2,160	8,850	8,010	19,800	6,160	a370	80	352
7	262	240	370	2,280	2,160	8,750	7,690	19,800	6,720	334	79	470
8	255	232	a450	2,400	2,430	8,550	7,270	25,900	7,270	334	77	747
9	218	240	490	2,640	4,370	8,370	7,830	33,800	7,750	507	82	650
10	183	262	600	2,920	5,550	8,190	8,280	36,900	8,190	622	84	460
11	168	270	820	2,970	5,740	8,190	8,010	34,200	8,460	540	82	419
12	146	270	820	3,100	5,960	8,190	7,060	31,500	8,550	410	77	420
13	190	256	850	3,480	5,460	8,190	6,100	27,000	8,370	293	91	520
14	544	232	950	3,890	5,180	8,100	5,460	23,800	8,190	248	135	580
15	1,340	225	1,090	4,260	5,020	7,750	5,020	20,600	7,670	210	156	480
16	2,000	224	1,120	4,580	5,020	7,060	4,800	17,600	7,060	194	144	352
17	2,360	213	1,060	4,800	5,130	6,220	4,690	15,300	6,580	180	131	292
18	2,720	212	1,090	4,850	5,410	5,130	4,580	13,800	5,920	180	110	214
19	2,920	210	1,020	4,740	5,890	3,940	4,370	12,400	4,840	194	91	180
20	3,050	212	950	4,580	6,040	3,480	3,650	11,500	3,090	270	82	154
21	2,970	213	a580	4,420	6,280	3,240	2,410	10,400	1,550	309	73	138
22	2,520	213	a580	4,150	6,280	3,330	1,600	8,950	850	285	73	118
23	1,590	212	a550	3,840	6,220	4,200	1,760	9,170	655	248	73	118
24	790	210	a820	3,280	6,040	4,740	2,240	9,640	580	202	67	111
25	610	294	a820	2,520	5,860	5,020	2,280	9,900	500	166	61	102
26	610	198	a790	2,000	6,220	5,240	2,040	9,400	450	148	66	99
27	610	198	760	1,520	7,270	5,180	1,880	8,750	430	138	106	94
28	590	206	820	1,400	8,190	5,900	1,800	8,190	390	132	98	93
29	500	213	950	1,620	9,520	8,190	1,640	7,510	352	124	70	91
30	410	220	1,120	a2,240	-	8,370	2,470	7,510	334	120	90	102
31	343	-	1,090	a2,980	-	8,550	-	7,350	-	108	132	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	29,382	3,060	146	948	0.284	0.30	58,280
November	7,066	301	198	235	0.066	0.07	14,020
December	22,907	1,120	225	739	0.206	0.24	45,440
Calendar year 1943	765,693	48,600	43	2,098	0.585	7.93	1,519,000
January	91,000	4,850	1,060	2,835	0.819	1.24	180,500
February	146,320	9,520	2,150	5,046	1.41	1.52	290,200
March	217,420	9,640	3,940	7,014	1.96	2.25	431,200
April	154,580	8,650	1,600	5,153	1.44	1.60	306,600
May	522,700	36,900	5,130	16,860	4.70	5.42	1,037,000
June	142,511	8,550	334	4,750	1.32	1.48	282,700
July	8,537	622	108	275	0.077	0.09	16,930
August	2,846	156	61	91.8	0.026	0.03	5,540
September	9,252	747	91	309	0.086	0.10	18,970
Water year 1943-44	1,354,530	36,900	61	3,701	1.03	14.04	2,687,000

a No gage-height record; discharge computed on basis of weather records and records for nearby stations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Sabine River at Logansport, La.

Location.- Wire-weight gage, lat. 31°56', long. 94°00', at bridge on U. S. Highway 84, 200 feet upstream from Texas & New Orleans (Southern Pacific) Railroad bridge in Logansport, De Soto Parish, and 3 miles upstream from Bayou Castor. Datum of gage is 147.72 feet above mean sea level, datum of 1929.

Drainage area.- 4,858 square miles.

Records available.- July 1903 to September 1944 (January 1907 to September 1923, monthly records only, in Water-Supply Paper 850). U. S. Weather Bureau has collected gage-height records in this vicinity since 1903.

Average discharge.- 38 years (1903-19, 1922-44), 3,005 second-feet.

Extremes.- Maximum discharge during year, 34,300 second-feet May 6 (gage height, 35.05 feet); minimum observed, 74 second-feet Oct. 1 (gage height, -1.02 feet).  
1903-44: Maximum discharge observed, 47,000 second-feet May 5, 1915 (gage height, 36.9 feet); minimum observed during periods of daily records, 16 second-feet Sept. 26-28, Oct. 3, 4, 1939.

Maximum stage known, 39.4 feet, present datum, in May 1884.

Remarks.- Records good except those for periods of backwater or rapidly changing stage, which are fair. Gage read twice daily. Small diversions above station.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	74	598	a233	2,800	4,220	c14,200	13,600	c8,500	14,200	c582	180	c268
2	80	c539	233	2,770	4,220	c14,300	16,300	c14,100	18,800	c528	170	c342
3	a170	c506	240	c2,910	3,970	14,000	17,900	c21,300	11,700	a498	160	a422
4	254	a473	247	c2,980	3,610	13,600	17,500	28,100	10,800	a478	150	498
5	226	c451	261	3,020	3,390	13,100	16,500	33,100	10,000	478	142	518
6												
7	214	c440	288	a3,020	3,180	12,400	15,300	33,900	c9,520	468	137	c604
8	214	c420	282	a3,020	3,010	12,000	14,000	33,100	c9,040	468	133	750
9	226	c410	314	a3,170	2,870	11,500	13,100	31,100	c8,640	448	129	518
10	226	c400	509	3,600	c3,230	11,000	12,400	28,900	c8,540	431	126	a478
	a226	400	880	4,000	c4,050	10,700	11,700	26,700	7,970	413	182	700
11	233	400	1,050	4,200	c4,900	10,400	11,100	25,400	a7,850	478	122	750
12	214	440	1,080	c4,480	c5,840	10,200	10,500	26,100	7,760	604	122	628
13	208	451	1,080	a5,520	8,680	10,000	10,200	28,900	c7,780	628	126	498
14	190	400	1,050	c6,560	7,550	9,760	10,100	31,100	c7,830	526	126	415
15	179	346	1,080	8,800	8,260	9,600	10,000	32,500	c7,970	431	118	422
16	247	322	1,130	9,280	8,720	9,440	9,680	31,900	8,190	a564	115	458
17	947	298	1,220	10,400	8,880	9,280	9,120	30,400	8,260	321	129	440
18	1,850	276	1,280	11,600	8,800	9,120	8,420	28,100	8,260	293	146	372
19	2,360	261	1,510	12,100	8,640	9,040	7,620	26,100	8,260	288	150	314
20	2,750	254	1,510	12,200	8,490	8,960	6,810	24,100	8,040	256	a246	262
21	2,980	247	1,920	11,800	8,340	8,800	6,010	22,000	7,760	250	137	228
22	3,130	240	1,100	11,200	8,340	8,560	5,240	c21,700	6,810	262	126	206
23	3,170	240	992	10,400	8,490	8,640	c4,740	c23,800	4,900	307	118	180
24	2,800	233	936	9,600	c8,960	8,720	c4,560	c26,400	2,590	321	112	165
25	2,090	233	c1,020	8,640	c9,600	8,800	4,560	c26,100	1,610	307	c108	155
26	1,370	226	c1,190	7,480	c10,600	8,800	4,470	c25,400	1,200	268	c108	146
27	992	226	c1,560	6,070	c11,700	8,640	4,090	c24,400	1,010	244	c102	142
28	862	226	2,330	4,540	c12,800	c8,960	3,500	c22,600	854	228	99	133
29	800	a226	3,090	3,310	c13,600	c9,600	2,870	20,700	750	212	105	129
30	774	a226	3,130	3,540	-	c10,400	c3,610	18,400	676	200	c133	126
31	696	-	2,980	3,970	-	c11,600	-	15,900	-	190	c195	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
October	30,696	3,170	74	990	0.204	0.23	60,880
November	10,407	598	226	347	.071	.08	20,640
December	34,605	3,130	233	1,116	.230	.26	68,640
Calendar year 1943	861,599	31,000	70	2,361	.486	6.59	1,709,000
January	196,770	12,200	2,770	6,318	1.30	1.80	388,300
February	204,920	13,600	2,870	7,068	1.45	1.57	406,500
March	324,120	14,300	8,560	10,480	2.15	2.48	642,900
April	285,500	17,900	2,870	9,517	1.96	2.19	566,300
May	789,600	33,900	8,600	25,470	5.24	6.04	1,566,000
June	211,330	14,200	676	7,044	1.45	1.62	419,200
July	11,743	628	190	379	.078	.09	23,290
August	4,092	195	99	132	.027	.03	8,120
September	11,245	750	126	375	.077	.09	22,500
Water year 1943-44	2,114,028	33,900	74	5,775	1.19	16.18	4,193,000

a No gage-height records; discharge computed on basis of estimated gage heights.

c Backwater effect from Bayou Castor.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Sabine River near Milam, Tex.

Location.- Wire-weight gage, lat. 31°28', long. 93°45', at bridge on State Highway 21, 6.5 miles northeast of Milam, Sabine County, and 7.2 miles upstream from Palo Gauchito Bayou. Datum of gage is 97.96 feet above mean sea level, datum of 1929.

Drainage area.- 6,543 square miles.

Records available.- January 1939 to September 1944. October 1923 to August 1925 at Sabintown, 7.4 miles downstream, records equivalent except those for periods of extreme low flow and high runoff from Palo Gauchito Bayou.

Extremes.- Maximum discharge during year, 52,700 second-feet May 7 (gage height, 45.33 feet); minimum observed, 102 second-feet Oct. 3-4 (gage height, 6.31 feet).  
1939-44: Maximum discharge, 54,200 second-feet Nov. 29, 1940 (gage height, 44.70 feet); minimum observed, 32 second-feet Oct. 15, 22, 1939.  
Maximum stage known, 48 feet above July 28, 1933, from information by observer.

Remarks.- Records good. Gage read twice daily, oftener during high stages. No large diversions above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	118	746	282	3,020	7,180	13,700	14,400	13,200	28,800	934	276	1,500
2	109	697	271	3,400	6,430	14,600	15,100	20,300	27,300	864	265	1,680
3	104	648	276	3,680	6,150	15,500	16,000	26,100	26,100	862	260	1,300
4	102	614	276	3,560	5,940	16,100	16,500	30,600	24,700	864	229	1,150
5	132	664	282	3,340	5,620	16,400	16,700	41,400	23,500	780	223	1,160
6	271	664	300	3,240	5,000	16,700	16,900	50,400	22,100	730	223	a2,520
7	312	614	312	3,180	4,540	16,800	17,000	52,700	20,700	664	223	a2,370
8	282	565	318	3,180	4,040	16,700	17,100	50,400	19,300	631	212	a1,980
9	271	548	330	3,240	3,920	16,400	17,200	47,400	17,800	614	198	a1,550
10	276	532	354	3,460	4,220	16,200	17,100	43,700	16,100	582	185	a1,300
11	285	484	500	3,620	4,940	15,700	17,000	39,200	14,400	582	188	a1,190
12	255	452	730	4,040	5,730	15,800	16,700	36,000	12,700	548	182	a1,040
13	339	430	899	5,520	6,360	14,600	16,200	31,800	11,400	598	182	a1,040
14	321	484	934	7,400	7,870	14,000	15,400	29,700	10,200	697	182	a934
15	288	484	934	8,990	9,560	13,400	14,600	28,500	9,480	664	188	a864
16	260	436	899	10,100	10,200	12,700	13,700	27,700	9,070	631	182	a796
17	243	394	934	10,600	10,100	11,900	12,700	27,500	8,630	565	172	a730
18	243	369	1,000	10,800	10,100	11,600	11,900	27,100	8,750	484	169	664
19	829	357	1,040	11,100	10,200	11,800	11,000	27,100	8,750	430	180	a598
20	1,600	336	1,120	11,500	10,300	12,400	10,200	27,900	8,670	385	193	516
21	2,170	321	1,120	11,900	10,300	12,400	9,230	28,800	8,670	365	215	484
22	2,520	309	1,120	12,100	10,200	11,900	8,190	29,400	8,510	357	215	388
23	2,740	300	1,080	12,400	10,200	12,000	10,600	30,600	8,190	327	220	452
24	2,900	288	1,080	12,500	10,800	12,000	10,300	30,600	7,250	339	204	582
25	2,800	285	1,150	12,300	11,100	11,900	8,670	30,300	4,740	366	195	598
26	2,270	282	1,150	12,000	11,200	11,600	7,480	30,300	2,580	391	215	262
27	1,600	282	1,300	11,400	11,500	11,500	6,880	31,600	1,730	398	262	251
28	1,190	288	1,640	10,400	12,300	11,500	6,430	33,200	1,380	360	215	223
29	934	285	2,020	9,820	13,100	12,300	5,730	32,700	1,190	318	234	234
30	829	268	2,630	9,310	-	13,700	6,010	31,800	1,040	294	248	206
31	780	-	3,020	8,190	-	14,300	-	30,300	-	276	884	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	27,403	2,900	102	884	0.135	0.16	54,350
November	13,426	746	268	448	.088	.08	26,630
December	29,501	3,020	271	946	.144	.17	58,120
Calendar year 1943	897,842	21,700	102	2,460	.376	5.11	1,781,000
January	239,290	12,500	3,020	7,719	1.18	1.36	474,600
February	239,000	13,100	3,920	8,241	1.26	1.36	474,000
March	427,300	16,800	11,500	13,780	2.11	2.43	847,500
April	582,920	17,200	5,730	12,760	1.95	2.18	759,500
May	1,017,300	52,700	13,200	32,820	5.01	5.78	2,018,000
June	376,730	28,800	1,840	12,460	1.80	2.12	741,300
July	16,940	884	276	646	.083	.10	33,600
August	7,219	884	169	233	.036	.04	14,320
September	28,402	2,580	206	947	.145	.16	56,330
Water year 1943-44	2,602,231	52,700	102	7,656	1.17	15.94	5,558,000

a No gage-height record; discharge computed on basis of weather records and records for nearby stations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Sabine River near Bon Wier, Tex.

Location.- Wire-weight gage, lat. 30°44', long. 93°37', at bridge on U. S. Highway 190, 1 1/4 miles east of Bon Wier, Newton County, and 2.4 miles upstream from Caney Creek. Datum of gage is 46.4 feet above mean sea level, datum of 1929.

Drainage area.- 8,323 square miles.

Records available.- October 1923 to September 1934, January 1939 to September 1944. U. S. Weather Bureau has collected gage-height records in this vicinity since 1913.

Average discharge.- 16 years (1923-34, 1939-44), 7,521 second-feet.

Extremes.- Maximum discharge during year, 54,500 second-feet May 8-10 (gage height, 22.33 feet); minimum observed, 362 second-feet Oct. 8.

1923-34, 1939-44: Maximum discharge observed, 63,000 second-feet Aug. 1, 2, 1933; maximum gage height, 23.04 feet Aug. 2, 1933; minimum discharge observed, 165 second-feet Sept. 11, 22, 24, 1925.

Maximum stage known, 26 feet, present site and datum, in May 1884, from information by local resident.

Remarks.- Records good. Gage read twice daily, oftener during high stages. No large diversions above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	540	1,250	690	3,220	13,200	12,700	14,000	10,900	37,400	2,100	758	2,560
2	502	1,190	668	6,060	11,600	13,000	14,700	16,300	37,400	2,020	735	3,870
3	478	1,110	668	9,500	9,780	13,500	16,800	23,200	37,400	2,100	712	3,560
4	443	1,110	645	9,080	8,660	14,000	18,200	27,500	36,400	1,940	735	3,040
5	398	1,050	645	7,970	8,240	14,700	18,500	34,000	36,500	1,760	690	2,350
6	380	1,000	645	6,440	7,580	15,300	18,500	47,600	34,000	1,650	735	2,020
7	371	2,140	668	5,120	6,800	15,800	18,000	52,100	32,800	1,620	850	3,020
8	365	3,310	668	4,880	6,320	16,000	17,800	53,300	31,000	1,540	975	6,320
9	398	2,350	690	5,720	6,200	16,400	17,800	53,300	29,400	1,410	925	6,370
10	468	1,530	690	4,520	6,900	16,600	17,900	53,300	28,200	1,350	690	4,160
11	462	1,220	690	4,290	6,930	16,600	18,000	53,300	27,200	1,280	668	2,950
12	478	1,050	690	4,400	6,440	16,600	18,200	52,100	25,800	1,250	712	2,180
13	520	925	712	5,800	6,440	16,200	18,200	50,900	24,000	1,190	802	1,870
14	560	925	875	8,590	7,970	15,800	17,800	48,700	19,800	1,160	780	1,850
15	600	900	1,190	12,000	11,000	15,400	17,600	44,500	17,200	1,140	758	1,650
16	600	875	1,410	13,500	12,900	14,900	17,000	42,700	14,200	1,190	712	1,680
17	540	860	1,440	13,600	13,500	14,400	16,200	39,700	11,600	1,220	712	1,440
18	520	825	1,410	13,800	13,000	14,000	15,300	37,400	11,200	1,190	712	1,320
19	502	802	1,380	13,200	12,100	15,600	13,500	35,500	10,900	1,140	668	1,190
20	478	758	1,380	12,800	11,800	17,800	12,700	34,700	10,500	1,080	600	1,140
21	520	755	1,380	12,000	12,000	17,400	12,900	34,000	10,300	1,050	540	1,050
22	1,300	712	1,440	12,000	11,600	16,800	13,500	33,400	9,820	1,140	540	1,020
23	2,020	690	1,620	12,000	12,000	15,600	18,800	33,400	9,920	975	540	950
24	2,520	645	1,910	12,800	12,100	14,700	22,900	33,400	9,780	875	540	900
25	2,860	622	2,350	12,400	11,600	14,900	22,900	34,000	9,360	825	560	825
26	3,040	600	2,690	12,400	12,100	14,400	22,400	35,500	8,940	675	580	780
27	2,950	600	2,600	12,400	12,200	13,700	20,500	36,400	8,240	825	622	735
28	2,600	645	2,520	12,600	12,200	13,200	15,800	37,400	5,430	802	600	780
29	2,160	690	2,600	12,600	12,200	13,000	10,900	37,400	2,690	780	580	900
30	1,760	690	2,780	12,900	-	13,000	8,940	37,400	2,440	802	622	1,020
31	1,440	-	2,860	13,500	-	13,400	-	37,400	-	850	1,090	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	32,813	3,040	365	1,058	0.127	0.15	65,060
November	37,799	3,310	600	1,080	.127	.14	63,070
December	42,604	2,860	645	1,374	.165	.19	84,500
Calendar year 1943	1,116,245	18,500	365	3,058	.367	4.98	2,214,000
January	301,080	13,800	3,220	9,713	1.17	1.35	597,200
February	295,163	13,500	6,800	10,130	1.22	1.32	585,400
March	465,400	17,800	12,700	15,010	1.80	2.08	923,100
April	508,140	22,900	8,940	16,870	2.03	2.26	1,004,000
May	1,200,700	53,300	10,900	38,730	4.65	5.36	2,382,000
June	588,920	37,400	2,440	19,630	2.36	2.65	1,168,000
July	39,129	21,000	780	1,262	.152	.17	77,610
August	21,743	1,090	540	701	.084	.10	43,120
September	63,240	6,370	755	2,108	.255	.28	125,400
Water year 1943-44	3,588,738	53,300	365	9,805	1.18	16.03	7,118,000

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Sabine River near Ruliff, Tex.

Location.— Wire-weight gage, lat. 30°18'10", long. 93°44'40", at bridge on State Highway 235, 2.4 miles north of Ruliff, Newton County, 4.2 miles upstream from Kansas City-Southern Railway bridge, and 4.5 miles downstream from Cypress Creek. Datum of gage is 4.08 feet above mean sea level, datum of 1929.

Drainage area.— 9,440 square miles.

Records available.— October 1924 to September 1944.

Average discharge.— 20 years, 8,255 second-feet.

Extremes.— Maximum discharge during year, 61,900 second-feet May 7, 8; maximum gage height, 16.32 feet May 7; minimum observed, 715 second-feet Oct. 10 (gage height, 2.87 feet).

1924-44: Maximum discharge, 76,600 second-feet May 24, 25, 1935 (gage height, 17.9 feet, present site and datum); minimum observed, 338 second-feet Sept. 25-27, Oct. 2, 3, 22-24, 1939.

Higher stages are known to have occurred in the past.

Remarks.— Records good. Gage read twice daily, oftener during high stages. No large diversions above station.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

2.8	700	9.0	3,700	13.0	12,720
3.0	760	10.0	4,570	14.0	21,000
4.0	1,110	11.0	6,950	15.0	38,500
5.5	1,740	11.5	6,840	16.3	61,900
7.0	2,530	12.0	8,350		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	935	2,140	1,190	4,910	16,200	15,100	16,200	19,100	43,000	44,790	1,350	2,750
2	1,150	1,940	1,370	5,480	15,100	15,100	15,100	17,500	42,100	44,000	1,310	3,630
3	1,190	1,790	1,390	7,880	16,600	15,100	16,600	17,500	41,200	43,630	1,310	4,270
4	1,150	1,660	1,610	11,000	16,600	15,100	17,000	23,400	41,200	43,330	1,270	4,370
5	970	1,610	1,700	13,000	15,100	15,400	17,500	38,500	40,300	43,090	1,270	4,180
6	935	1,560	1,610	14,500	14,200	15,800	18,500	56,500	40,300	2,920	1,270	4,180
7	865	1,660	1,430	14,500	13,000	15,800	19,100	61,900	39,400	2,800	1,270	4,370
8	795	2,140	1,390	13,600	12,000	16,600	19,700	61,900	37,600	2,750	1,390	4,790
9	745	3,530	1,350	11,700	11,000	17,000	20,400	60,100	35,800	2,680	1,560	5,850
10	730	3,510	1,310	9,750	10,200	17,500	19,700	60,100	34,900	2,420	1,610	6,600
11	745	2,920	1,350	7,380	9,520	17,500	19,700	60,100	34,000	2,310	1,430	6,170
12	848	2,200	1,350	7,380	9,520	18,000	19,100	60,100	33,100	2,200	1,350	5,030
13	855	1,840	1,390	8,720	9,520	18,500	19,100	56,500	31,300	2,090	1,310	3,770
14	970	1,740	1,490	10,400	9,940	18,500	19,100	56,500	29,500	2,040	1,350	3,150
15	1,000	1,610	1,660	12,500	10,800	18,500	19,700	54,700	26,800	1,990	1,430	2,800
16	1,040	1,450	1,990	15,100	12,000	19,100	19,700	52,900	24,200	1,990	1,430	2,530
17	1,080	1,390	2,260	16,600	13,800	19,100	19,700	51,100	21,000	1,990	1,390	2,310
18	1,080	1,350	2,260	18,000	15,100	19,700	19,100	49,300	19,100	2,040	1,310	2,200
19	1,040	1,350	2,200	18,500	16,600	21,800	19,100	47,500	16,600	1,990	1,350	1,990
20	970	1,310	2,090	19,100	17,000	23,400	18,500	45,700	15,100	1,890	1,310	1,840
21	935	1,270	2,040	18,000	17,000	23,400	18,000	45,700	13,800	1,890	1,270	1,740
22	900	1,230	2,040	17,000	16,800	23,400	19,700	44,800	13,000	1,890	1,190	1,650
23	1,000	1,190	1,990	17,000	15,800	24,200	25,000	44,800	12,500	1,940	1,150	1,610
24	1,430	1,150	2,530	17,000	15,400	23,400	29,500	45,000	12,200	1,940	1,110	1,530
25	2,310	1,110	3,630	15,800	15,800	21,800	32,200	41,200	11,700	1,740	1,110	1,480
26	2,750	1,040	4,790	15,400	15,800	19,700	33,100	43,000	11,500	1,610	1,150	1,390
27	3,030	1,040	5,030	15,800	15,400	18,500	31,300	45,700	11,300	1,520	1,150	1,390
28	3,150	1,080	5,560	15,800	15,400	18,000	28,600	45,700	10,600	1,430	1,190	1,430
29	3,090	1,110	5,160	15,800	15,100	17,500	25,900	45,700	9,520	1,430	1,180	1,480
30	2,680	1,150	4,790	16,200	-	17,000	22,500	44,800	6,370	1,430	1,150	1,520
31	2,860	-	5,700	16,200	-	16,200	-	43,900	-	1,390	1,940	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	43,208	3,150	730	1,394	0.148	0.17	85,700
November	75,640	5,610	1,040	1,662	0.176	.20	99,880
December	-	5,700	1,190	2,437	.268	.30	149,800
Calendar year 1943	1,468,855	15,800	730	4,024	.426	5.80	2,914,000
January	420,220	19,100	4,910	13,560	1.44	1.65	833,500
February	407,600	17,000	9,520	14,060	1.49	1.61	808,800
March	575,700	24,200	15,100	18,570	1.97	2.27	1,142,000
April	639,300	33,100	16,200	21,310	2.26	2.52	1,266,000
May	1,439,200	61,900	17,500	46,430	4.92	5.67	2,856,000
June	758,990	43,000	6,370	26,300	2.68	2.99	1,505,000
July	71,050	4,790	1,390	2,292	.243	.28	140,900
August	40,830	1,940	1,110	1,317	.139	.16	80,990
September	92,040	6,600	1,390	3,068	.325	.36	182,600
Water year 1943-44	4,613,528	61,900	730	12,610	1.34	18.18	9,151,000

a No gage-height record; discharge computed on basis of weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Lake Fork Sabine River near Quitman, Tex.

Location.— Wire-weight gage, lat.  $32^{\circ}46'$ , long.  $95^{\circ}28'$ , at bridge on State Highway 37, half a mile downstream from Dry Creek and 2.5 miles south of Quitman, Wood County. Datum of gage is 317.42 feet above mean sea level, datum of 1929.

Drainage area.— 586 square miles.

Records available.— June 1924 to April 1926, February 1939 to September 1944.

Extremes.— Maximum discharge during year, 20,700 second-feet May 3 (gage height, 21.21 feet); no flow Aug. 5-29, Sept. 28-30.

1924-26, 1939-44: Maximum discharge, 51,600 second-feet June 7, 1943 (gage height, 25.9 feet, from floodmark); no flow at times.

Flood of July 1895 reached same stage as that of June 7, 1943, from information by local residents.

Remarks.— Records good except those for periods of rapidly changing stage, which are fair. Gage read twice daily, oftener during high stages. No diversion above station.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.9	0.6	1.0	100	100	1,100	281	3,650	1,840	5.0	0.3	69
2	.8	.6	1.0	210	139	1,560	209	15,200	1,730	6.1	.3	309
3	.8	.6	1.0	235	202	1,640	450	18,900	1,980	35	.2	253
4	4.3	.6	1.0	307	226	846	666	9,720	1,170	194	.1	63
5	17	.6	2.1	394	325	492	900	3,640	397	210	0	17
6	8.2	.6	20	258	408	325	998	2,140	869	76	0	84
7	3.9	.6	15	149	244	210	487	1,640	856	29	0	174
8	2.2	.6	10	322	280	127	202	1,250	1,100	18	0	307
9	1.4	.6	7.8	492	732	98	601	646	1,680	416	0	358
10	.9	.6	17	506	1,050	86	2,240	316	1,050	14	0	198
11	.7	.6	81	506	948	86	2,710	121	287	12	0	34
12	19	.6	76	408	972	90	1,400	88	112	10	0	14
13	450	.6	207	380	836	86	643	197	155	19	0	9.3
14	276	.6	262	450	484	83	238	226	271	81	0	6.9
15	226	.6	106	408	347	79	106	156	167	118	0	4.8
16	172	.6	38	380	436	76	79	95	68	72	0	3.2
17	63	.6	22	235	746	74	63	76	40	30	0	1.9
18	32	.6	16	146	616	74	58	50	29	16	0	1.0
19	16	.6	14	103	536	411	49	42	25	10	0	.5
20	11	.6	12	81	746	1,060	156	394	21	7.8	0	.3
21	8.7	.6	10	68	704	4,020	83	795	18	6.1	0	.3
22	6.7	.6	9.1	58	666	3,240	163	1,070	16	4.5	0	.1
23	5.0	.6	9.1	51	768	2,230	271	1,680	14	2.9	0	.1
24	6.1	.6	10	48	654	1,640	130	1,640	13	2.2	0	.1
25	3.2	.6	11	45	450	1,980	63	1,780	11	1.7	0	.1
26	2.2	.7	12	43	701	1,720	51	1,640	10	1.2	0	.1
27	1.4	.8	14	63	996	1,020	42	1,280	8.7	.8	0	.1
28	1.2	.8	18	76	948	666	35	1,630	6.9	.7	0	0
29	.9	.8	23	72	1,100	666	4119	3,530	6.1	.6	5.9	0
30	.8	1.0	26	83	-	632	528	3,560	5.4	.6	47	0
31	.8	-	98	92	-	450	-	2,610	-	.4	76	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff Inches	Acres-foot
October	1,346.1	450	0.7	43.4	0.074	0.09	2,670
November	19.1	1.0	.6	.64	.0011	.001	38
December	1,150.1	262	1.0	37.1	.063	.07	2,280
Calendar year 1943	150,111	41,600	0	356	.607	8.25	258,100
January	6,769	506	43	218	.372	.43	13,430
February	17,360	1,100	100	599	1.02	1.10	34,430
March	26,567	4,020	74	857	1.46	1.69	52,690
April	13,999	2,710	35	467	.797	.89	27,770
May	79,772	18,900	42	2,573	4.39	5.06	158,200
June	13,954.1	1,980	5.4	465	.793	.89	27,680
July	1,000.6	210	.4	32.3	.055	.06	1,980
August	192.8	76	0	4.19	.0071	.008	237
September	1,908.8	358	0	63.6	.109	.12	3,790
Water year 1943-44	163,975.6	18,900	0	448	.764	10.41	325,200

a No gage-height record; discharge interpolated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Big Sandy Creek near Big Sandy, Tex.

Location.- Water-stage recorder, lat. 32°37', long. 95°06', at county highway bridge, 2.2 miles northeast of Big Sandy, Upshur County, and 7.8 miles upstream from mouth. Datum of gage is 281.6 feet above mean sea level, unadjusted.

Drainage area.- 235 square miles.

Records available.- February 1939 to September 1944.

Extremes.- Maximum discharge during year, 5,540 second-feet May 3 (gage height, 18.88 feet); minimum, 17 second-feet Oct. 10, 11.

1939-44: Maximum discharge, that of May 3, 1944; minimum observed, 7.7 second-feet Sept. 30, 1939.

Maximum stage known, 20.4 feet (probably affected by backwater from Sabine River) in January 1938, from information by observer.

Remarks.- Records fair. No large diversions above station.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1 to Jan. 1)

5.0	12	7.5	114	13.2	900
5.4	18	8.0	150	14.0	1,230
5.7	24	9.0	228	15.0	1,830
6.0	34	10.0	319	16.5	3,150
6.5	52	11.5	485	18.9	5,540
7.0	80	12.5	680		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	100	32	39	161	198	1,260	392	967	252	30	20	81
2	85	30	39	252	228	1,060	414	3,640	261	31	19	69
3	50	29	40	289	279	812	392	5,340	289	34	19	56
4	32	28	39	279	261	630	329	4,570	392	37	18	45
5	25	27	43	279	244	500	299	2,250	437	34	18	36
6	21	29	138	270	236	425	279	1,090	381	31	19	46
7	20	53	150	279	244	359	289	705	289	29	19	52
8	19	49	154	349	261	309	289	530	220	28	19	48
9	18	46	146	349	359	259	337	449	180	27	19	41
10	17	41	180	319	359	279	473	370	172	26	19	47
11	17	36	228	299	370	279	590	309	176	25	34	52
12	21	33	228	329	361	270	1,120	261	212	24	37	53
13	470	32	236	449	449	244	830	236	204	24	48	47
14	668	31	212	485	570	228	570	252	158	23	41	37
15	680	32	161	473	530	212	437	212	121	23	31	29
16	590	32	146	473	449	220	339	220	100	24	25	26
17	449	32	132	1473	449	212	270	212	89	26	22	24
18	359	31	114	461	414	212	220	a150	77	26	21	23
19	270	32	93	425	403	385	184	a180	67	24	20	22
20	184	32	82	392	425	414	172	252	59	22	20	21
21	107	33	77	359	461	403	270	244	54	22	19	21
22	72	34	73	319	485	651	279	274	49	22	19	20
23	58	33	74	279	630	865	289	414	44	23	18	20
24	60	33	77	244	765	630	228	414	41	23	18	19
25	57	33	83	220	865	500	188	461	39	23	18	19
26	55	34	99	204	1,100	437	161	470	38	22	19	19
27	48	38	107	204	935	425	139	668	36	22	20	20
28	41	44	180	212	1,160	437	124	530	33	21	20	21
29	39	42	172	200	1,410	425	139	414	31	20	22	24
30	37	40	172	204	-	414	385	319	30	20	60	25
31	35	-	169	f200	-	381	-	270	-	20	95	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
October	4,704	680	17	152	0.647	0.74	9,330
November	1,048	53	27	34.9	1.149	.17	2,080
December	3,847	236	38	124	.528	.61	7,630
Calendar year 1943	50,517	3,300	14	138	.587	7.99	100,200
January	9,730	485	161	314	1.34	1.54	19,300
February	14,918	1,410	196	514	2.19	2.36	29,590
March	14,167	1,260	212	457	1.94	2.24	28,100
April	10,435	1,120	124	345	1.48	1.65	20,700
May	26,673	5,340	150	860	3.66	4.22	52,910
June	4,531	437	30	151	.645	.72	8,990
July	786	37	20	25.4	1.108	.12	1,560
August	816	95	18	26.3	1.112	.13	1,620
September	1,062	81	19	35.4	1.151	.17	2,110
Water year 1943-44	92,717	5,340	17	253	1.08	14.67	183,900

a No gage-height record; discharge computed on basis of known range in stage.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## SABINE RIVER BASIN

Cherokee Bayou near Elderville, Tex.

Location.— Water-stage recorder, lat. 32°20', long. 94°42', at bridge on county highway, 3.8 miles southeast of Elderville, Gregg County, 4.5 miles upstream from bridge on State Highway 149, and 19.3 miles upstream from mouth. Datum of gage is 266.8 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army bench mark).

Drainage area.— 110 square miles.

Records available.— August 1939 to September 1944.

Extremes.— Maximum discharge during year, 9,700 second-feet May 2 (gage height, 12.64 feet), from rating curve extended above 4,500 second-feet by logarithmic plotting; no flow Aug. 5, 9-11, 23-27.

1939-44: Maximum discharge, 10,200 second-feet Nov. 23, 1940 (gage height, 12.81 feet), from rating curve extended above 4,500 second-feet by logarithmic plotting; no flow at times.

Maximum stage known, about 14.0 feet in September 1913, from information by local residents.

Remarks.— Records fair. No diversions above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	4.6	11	53	280	538	322	2,740	138	9.6	0.6	57
2	1.1	6.4	12	84	195	355	274	7,610	99	13	.5	54
3	1.4	7.6	12	92	153	138	266	4,250	86	9.3	.4	56
4	1.4	7.3	12	115	130	222	300	1,500	70	8.9	.2	20
5	1.2	7.8	13	113	122	197	300	707	60	8.5	.1	13
6	.9	10	31	70	110	192	219	522	62	8.2	.7	33
7	.8	14	59	66	92	195	180	384	60	7.6	.5	89
8	.9	12	44	104	230	309	462	266	74	7.1	.5	188
9	.7	10	58	117	1,430	212	1,080	200	84	6.5	.1	194
10	.7	9.6	44	153	1,620	176	562	159	49	5.8	0	29
11	.7	11	30	122	526	168	325	132	42	5.0	.2	16
12	.7	11	22	166	291	168	212	110	57	4.2	.4	13
13	7.6	10	19	314	217	190	164	96	113	3.6	.7	11
14	8.2	9.1	18	645	272	188	134	86	212	3.3	.5	9.1
15	8.7	8.7	17	625	346	166	111	82	132	2.6	.4	8.0
16	12	8.0	16	454	486	166	98	77	68	2.4	.5	7.1
17	13	7.6	14	401	340	173	91	64	46	2.2	.2	6.5
18	10	8.0	14	322	269	209	92	54	37	1.8	.3	6.1
19	7.5	8.3	13	248	277	253	75	176	30	1.6	.5	5.4
20	6.0	8.3	13	133	394	243	75	212	28	1.5	.4	5.2
21	4.7	8.3	13	138	422	274	74	280	24	1.4	.2	4.8
22	4.3	8.5	14	113	352	322	73	736	22	1.5	.1	4.5
23	4.0	8.5	21	99	263	267	124	1,770	19	1.6	0	4.0
24	5.0	8.5	31	89	217	1988	144	1,150	16	1.6	0	3.6
25	4.0	8.7	60	84	253	443	168	468	15	1.6	0	3.4
26	4.3	8.9	92	80	1,010	283	140	274	13	1.2	0	3.4
27	18.5	9.8	98	84	2,000	219	91	308	11	1.1	.9	4.4
28	11	10	113	86	1,000	514	69	984	10	1.0	1.4	4.7
29	8.5	10	80	126	602	1,680	73	592	9.3	.8	3.3	8.2
30	6.7	11	70	195	-	1,340	1471	300	8.9	.8	17	9.1
31	5.8	-	64	268	-	530	-	188	-	.8	35	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	151.1	13	0.7	4.87	0.044	0.05	300
November	271.5	14	4.6	9.06	.082	.09	539
December	1,108	113	11	35.7	.325	.37	2,200
Calendar year 1943	18,621.6	537	0	51.0	.464	6.28	36,940
January	5,799	645	53	187	1.70	1.96	11,500
February	13,899	2,000	92	479	4.35	4.70	27,670
March	11,818	1,630	138	361	3.46	4.00	25,440
April	6,784	1,080	69	226	2.05	2.29	13,480
May	26,357	7,610	54	850	7.73	8.91	52,880
June	1,665.2	212	8.9	55.5	.505	.56	3,300
July	128.1	13	.8	4.07	.037	.04	250
August	65.2	35	0	2.10	.019	.02	129
September	780.5	188	3.4	26.0	.236	.26	1,650
Water year 1943-44	68,624.6	7,610	0	188	1.71	23.25	136,500

Peak discharge.— Feb. 9 (11:30 p.m.) 2,340 sec.-ft.; Feb. 27 (2:30 a.m.) 2,290 sec.-ft.; Mar. 23 (8:30 p.m.) 1,420 sec.-ft.; Mar. 29 (8:30 p.m.) 2,140 sec.-ft.; May 2 (8 a.m.) 9,700 sec.-ft.

Computed on basis of partly estimated gage-height record.

Note.— Because of no gage-height record, discharge May 2, 3 computed on basis of recorded range in stage and weather records, and Sept. 9-14 computed on basis of weather records.

Time basis.— Central war time. To convert war time to standard time, subtract 1 hour.



## Neches River near Neches, Tex.

Location.- Wire-weight gage, lat. 31°54', long. 95°26', at bridge on U. S. Highway 79, half a mile downstream from International-Great Northern Railroad bridge, 1 mile downstream from Walnut Creek, and 4.4 miles northeast of Neches, Anderson County. Datum of gage is 263.9 feet above mean sea level, datum of 1929.

Drainage area.- 1,129 square miles.

Records available.- February 1939 to September 1944.

Extremes.- Maximum discharge during year, 23,600 second-feet May 4 (gage height, 20.27 feet); minimum, 19 second-feet Aug. 10 (gage height, 2.22 feet).

1939-44: Maximum discharge, that of May 4, 1944; no flow Oct. 3-5, 1939.

Flood of May 1908 reached a stage of 24.3 feet, from information by local resident.

Flood of May 1884 was probably higher.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Gage read twice daily. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	90	260	184	568	1,090	8,500	1,680	1,310	1,900	118	35	153
2	142	252	157	619	1,030	8,500	1,490	14,800	1,760	118	34	220
3	177	295	166	762	970	6,800	1,410	22,800	1,640	127	30	163
4	151	268	166	840	940	5,450	1,350	22,800	1,560	136	26	133
5	133	228	170	890	890	a4,050	1,260	15,500	1,440	130	25	a130
6	127	191	258	940	890	a3,590	1,170	14,200	1,440	115	24	a121
7	112	205	415	940	890	a3,000	1,060	9,700	1,300	121	23	a102
8	100	184	437	1,030	970	a2,620	a1,030	6,500	1,170	127	21	a92
9	85	157	404	1,210	1,360	2,200	a1,090	4,460	1,030	115	20	90
10	78	142	393	1,300	2,440	a1,610	1,210	3,190	865	100	20	88
11	72	142	426	1,440	3,060	1,520	1,170	2,500	800	90	24	88
12	68	145	472	1,760	3,120	1,360	1,060	1,900	840	82	46	82
13	88	142	496	2,200	2,930	1,300	940	1,380	970	75	60	68
14	228	136	498	2,560	2,680	1,300	840	a1,210	1,060	70	44	61
15	362	135	472	2,680	2,680	a1,210	781	a1,170	1,030	63	39	52
16	472	133	448	2,560	2,740	a1,170	781	1,030	940	60	47	46
17	556	136	437	2,680	3,060	a1,210	781	865	800	58	58	42
18	704	136	a15	2,740	2,740	1,260	781	743	675	54	57	39
19	1,030	136	404	2,740	2,800	a1,170	782	660	580	51	51	56
20	2,020	136	393	3,000	3,060	a1,170	724	940	484	49	47	34
21	2,680	133	392	3,000	2,860	a1,260	645	1,560	404	47	38	35
22	2,320	133	362	2,800	2,680	a1,350	580	2,050	342	48	33	31
23	1,810	130	342	2,560	2,440	1,560	566	3,140	286	53	28	29
24	1,440	130	a362	2,320	2,380	1,760	532	4,120	236	59	23	28
25	1,170	a130	426	2,100	2,320	2,050	472	3,600	206	55	24	26
26	890	124	448	1,900	2,680	2,440	415	3,190	184	51	23	24
27	875	130	484	1,680	3,340	2,740	382	3,000	163	a48	22	26
28	544	142	520	1,480	4,470	2,680	352	3,000	148	a44	22	31
29	460	154	568	1,360	5,420	2,680	332	2,740	133	a42	28	38
30	415	154	568	1,300	-	2,320	640	2,580	124	39	44	46
31	332	-	580	1,210	-	2,000	-	2,050	-	35	90	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	19,529	2,680	68	630	0.556	0.64	38,740
November	4,917	295	124	164	1.15	.18	9,750
December	12,221	580	154	394	.349	.40	24,240
Calendar year 1943	215,956.4	4,060	5.6	586	.619	7.06	424,400
January	56,189	3,600	568	1,780	1.68	1.82	109,500
February	69,110	5,420	590	2,353	2.11	2.28	137,100
March	32,000	8,500	1,170	2,645	2.84	2.70	162,600
April	26,286	1,680	332	876	.776	.87	52,100
May	158,288	22,800	660	5,106	4.52	5.21	314,000
June	24,509	1,900	124	617	.724	.81	49,610
July	2,380	136	35	76.8	.068	.08	4,720
August	1,106	90	20	35.7	.032	.04	2,190
September	2,152	220	24	71.7	.064	.07	4,270
Water year 1943-44	457,687	22,800	20	1,260	1.11	15.08	907,800

a No gage-height record; discharge computed on basis of weather records, estimated gage heights, and records for downstream stations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Neches River near Alto, Tex.

Location.— Water-stage recorder, lat. 31°34', long. 95°10', at bridge on State Highway 21, 800 feet downstream from Bowles Creek and 7½ miles southwest of Alto, Cherokee County. Datum of gage is 198.29 feet above mean sea level, datum of 1929, supplementary adjustment of 1937.

Drainage area.— 1,903 square miles.

Records available.— January to September 1944.

Extremes.— Maximum discharge during period, 31,800 second-feet May 7 (gage height, 24.46 feet); minimum observed, 59 second-feet Aug. 10 (gage height, 2.35 feet). Maximum stage known, about 28.2 feet in May 1884, from information by local residents.

Remarks.— Records good. No large diversions above station.

Rating table, January to September 1944 (gage height, in feet, and discharge, in second-feet)

2.3	56	7.0	485	15.0	2,200	18.0	6,520
2.6	75	9.0	690	16.0	2,880	19.0	9,500
3.0	106	11.0	958	16.5	3,450	20.0	12,800
4.0	190	12.5	1,280	17.0	4,200	22.0	20,800
5.0	285	14.0	1,730	17.5	5,220	24.5	31,800

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				-	3,430	5,220	4,030	16,200	4,380	335	105	545
2				-	3,070	5,590	4,290	19,100	3,950	315	97	385
3				-	2,800	6,380	4,200	19,500	3,500	305	91	245
4				-	2,580	7,660	3,870	16,200	3,180	295	84	217
5				-	2,380	8,260	3,300	23,600	2,880	325	81	250
6				-	2,140	7,960	2,970	30,400	2,720	295	75	335
7				1,060	1,980	7,220	2,720	31,300	2,580	275	71	395
8				1,160	1,890	6,380	2,580	27,700	2,440	265	69	315
9				1,260	2,260	5,590	2,380	21,600	2,380	250	64	255
10				1,260	2,720	4,890	2,200	15,400	2,260	235	60	255
11				1,260	2,800	4,580	2,030	10,500	2,200	226	69	240
12				1,410	2,720	3,950	1,890	7,220	2,030	217	82	204
13				2,080	2,650	3,570	1,810	5,720	1,590	199	95	172
14				2,720	2,970	3,180	1,730	4,780	1,730	186	102	156
15				3,070	3,500	2,970	1,660	3,870	1,530	181	74	150
16				3,300	3,950	2,880	1,590	3,300	1,380	176	86	137
17				3,500	4,030	2,800	1,530	2,880	1,310	156	85	125
18				3,640	4,120	2,800	1,410	2,720	1,280	163	83	117
19				3,720	4,030	2,800	1,280	2,580	1,260	150	76	107
20				3,640	3,950	2,800	1,210	2,580	1,210	154	71	98
21				3,570	3,950	2,720	1,140	2,580	1,120	154	88	92
22				3,430	4,030	2,580	1,090	3,070	974	156	99	87
23				3,300	4,480	2,800	1,380	3,500	847	172	90	82
24				3,300	4,680	2,880	1,560	4,030	723	190	77	78
25				3,300	4,580	2,650	1,500	4,120	635	186	76	75
26				3,180	4,480	2,510	1,360	4,200	565	172	72	75
27				3,180	4,480	2,440	1,180	5,110	506	163	78	99
28				3,070	4,480	2,440	974	5,590	445	150	66	111
29				3,180	4,780	2,580	885	5,460	395	133	70	156
30				3,500	-	2,880	12,700	5,220	365	121	137	145
31				3,720	-	3,500	-	4,890	-	108	490	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
October							
November							
December							
Calendar year							
January 7-31	69,800	3,720	1,050	2,792	1.47	1.36	138,400
February	99,910	4,780	1,390	3,445	1.81	1.95	198,200
March	127,260	8,260	2,440	4,105	2.16	2.49	252,400
April	72,449	12,700	885	2,415	1.27	1.42	143,700
May	314,920	31,300	2,580	10,160	5.34	6.15	624,600
June	52,664	4,380	365	1,755	.922	1.03	104,500
July	6,408	335	108	207	.109	.13	12,710
August	2,961	490	60	96.5	.060	.06	5,870
September	5,703	545	75	190	.100	.11	11,510
The period	-	-	-	-	-	-	1,492,000

Note.— No recorder record July 9 to Aug. 30; discharge computed on basis of graph drawn through twice-daily readings of wire-weight gage.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Neches River near Diboll, Tex.

Location.- Wire-weight gage, lat.  $31^{\circ}08'$ , long.  $94^{\circ}48'$ , at bridge (new) on U. S. Highway 59, 630 feet downstream from Texas & New Orleans Railroad bridge, 2.9 miles downstream from Alabama Creek, and 3.8 miles south of Diboll, Angelina County. Datum of gage is 134.46 feet above mean sea level, datum of 1923. Prior to Oct. 1, 1943, wire-weight gage at old bridge 500 feet upstream at same datum.

Drainage area.- 2,670 square miles.

Records available.- November 1923 to August 1925, March 1939 to September 1944.

Extremes.- Maximum discharge during year, 49,900 second-feet May 4 (gage height, 18.70 feet); minimum observed, 31 second-feet Oct. 1.

1923-25, 1939-44: Maximum discharge, that of May 4, 1944; no flow Aug. 15-22, 1925.

Maximum stage known, about 21.0 feet, present site, in May 1884, from information by local residents.

Remarks.- Records good. Gage read twice daily, oftener during high stages. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	898	215	1,940	5,860	8,610	5,420	5,560	6,910	648	144	275
2	112	968	222	2,130	5,560	7,300	5,020	17,300	6,720	532	136	478
3	275	992	228	2,200	5,280	8,360	4,490	44,700	6,540	451	127	608
4	304	1,020	228	2,200	4,900	5,560	4,260	49,900	6,020	392	117	628
5	268	1,020	228	2,130	4,580	5,280	4,120	43,400	5,420	352	106	568
6	254	968	254	1,940	4,260	5,280	4,250	33,600	5,020	328	100	1,120
7	228	920	241	1,790	4,120	5,710	4,180	25,300	5,280	304	96	1,020
8	189	810	254	1,670	3,990	7,100	4,900	22,800	5,420	304	91	920
9	170	728	320	1,670	3,990	8,610	4,900	25,300	5,150	289	86	1,090
10	164	668	368	1,570	3,860	9,500	4,900	28,200	4,490	275	80	1,120
11	157	628	408	1,570	3,730	9,070	4,120	27,600	4,120	268	75	854
12	145	608	433	1,750	3,480	8,160	3,860	25,300	3,730	254	73	532
13	141	550	451	2,200	3,360	7,300	3,600	21,100	3,480	234	71	368
14	128	496	478	2,880	3,730	6,360	3,560	17,300	3,120	228	79	296
15	113	392	514	3,860	3,990	5,710	3,120	13,300	2,880	222	74	261
16	109	328	514	4,250	3,990	5,150	2,880	10,600	2,770	208	74	228
17	104	297	532	4,250	3,860	4,680	2,770	8,610	2,560	196	84	202
18	103	268	514	4,250	3,860	4,490	2,560	7,100	2,460	182	91	189
19	101	261	532	4,120	3,860	4,580	2,460	6,190	2,280	176	89	182
20	117	254	532	4,120	3,860	4,580	2,880	7,940	2,130	164	88	176
21	192	241	532	3,990	3,860	4,490	2,880	8,840	1,940	159	93	164
22	248	254	532	3,990	3,990	4,490	2,870	7,720	1,790	158	91	152
23	312	228	568	3,860	4,120	4,580	2,370	7,720	1,640	157	86	145
24	368	215	648	3,860	4,250	4,400	2,130	8,160	1,540	157	81	130
25	424	215	832	3,990	4,400	4,260	1,940	8,840	1,440	170	85	120
26	496	215	1,070	3,990	5,280	4,250	1,890	8,610	1,360	170	87	125
27	568	215	1,250	3,990	6,540	4,250	1,890	8,160	1,250	162	93	112
28	648	208	1,440	3,990	7,720	4,120	1,840	7,100	1,120	162	93	112
29	708	208	1,640	4,400	8,840	4,580	1,750	6,360	944	182	89	108
30	768	208	1,750	5,710	-	5,710	3,000	6,360	788	170	87	112
31	832	-	1,890	6,190	-	5,710	-	6,540	-	162	248	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff Inches	Runoff Acre-feet
October	8,768	832	32	223	0.106	0.12	17,390
November	15,260	1,020	208	509	.191	.21	30,270
December	19,598	1,890	215	532	.237	.27	38,670
Calendar year 1943	289,365	2,740	28	793	.297	4.03	573,900
January	100,350	6,190	1,570	3,237	1.21	1.40	199,000
February	133,110	8,840	3,360	4,590	1.72	1.85	264,000
March	180,020	9,300	4,120	5,807	2.17	2.51	357,100
April	100,090	5,420	1,750	3,336	1.25	1.39	198,500
May	525,510	49,900	5,560	16,860	6.35	7.32	1,042,000
June	100,312	6,910	788	3,344	1.25	1.40	199,000
July	7,648	648	152	253	.095	.11	15,560
August	3,012	248	71	97.2	.036	.04	5,970
September	12,393	1,120	108	413	.155	.17	24,580
Water year 1943-44	1,206,269	49,900	32	3,296	1.23	16.79	2,392,000

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Neches River near Rockland, Tex.

Location.- Staff gage, lat.  $31^{\circ}01'45''$ , long.  $94^{\circ}23'50''$ , a quarter of a mile upstream from bridge on U. S. Highway 69, half a mile upstream from Texas & New Orleans Railroad bridge, 1 mile north of Rockland, Tyler County, and 34 miles downstream from Billams Creek. Datum of gage is 91.4 feet above mean sea level, datum of 1929.

Drainage area.- 3,539 square miles.

Records available.- July 1903 to September 1944 (July 1903 to September 1923, monthly records only, in Water-Supply Paper 850). U. S. Weather Bureau has collected gage-height records in this vicinity since 1903.

Average discharge.- 38 years (1903-10, 1913-44), 2,397 second-feet.

Extremes.- Maximum discharge during year, 49,800 second-feet May 6 (gage height, 31.84 feet); minimum observed, 63 second-feet Oct. 4.

1903-44: Maximum discharge, that of May 6, 1944; minimum observed during period of daily records, 3.0 second-feet Oct. 15, 1931.

Maximum stage known, 34.9 feet in May 1884, from information by local resident.

Remarks.- Records good. Gage read twice daily, oftener during high stages. No large diversions above station.

Rating table, water year 1943-44 (gage height, in feet,  
and discharge, in second-feet)  
(Shifting-control method used July 17 to Aug. 30)

-0.5	60	2.0	754	20.0	12,400
-1.3	90	3.0	1,200	22.0	15,100
0.0	142	6.0	2,750	24.0	21,500
.5	246	9.0	4,500	27.0	31,800
1.0	382	13.0	6,970	30.0	42,900
1.5	556	17.0	9,800	32.0	50,400

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	154	714	265	1,950	7,230	5,760	6,190	6,530	11,500	1,060	198	993
2	93	817	280	2,860	7,560	6,000	6,190	10,400	10,400	904	190	1,080
3	74	980	260	2,920	7,560	7,040	6,450	8,240	9,350	775	180	904
4	113	904	270	2,750	7,490	7,620	6,580	8,680	8,680	654	164	734
5	275	926	275	2,640	7,300	7,820	6,580	8,230	8,230	575	160	754
6	324	970	283	2,580	7,160	7,820	6,450	8,700	9,300	500	154	860
7	330	993	291	2,640	6,840	7,560	6,120	8,700	7,880	462	144	1,040
8	318	970	296	2,640	6,710	7,160	6,000	8,500	7,300	431	129	1,000
9	280	926	304	2,580	6,520	6,710	5,880	8,700	6,640	417	119	1,600
10	251	860	324	2,480	6,320	6,580	5,940	8,300	6,190	404	113	1,300
11	231	775	367	2,200	6,120	6,320	6,120	8,800	5,940	388	101	1,250
12	220	714	424	2,310	5,460	6,450	6,080	8,700	5,820	367	93	1,120
13	220	674	465	2,450	5,280	7,490	5,820	8,200	5,760	358	92	1,040
14	211	634	482	3,190	5,280	7,880	5,450	8,200	5,580	346	88	882
15	196	614	518	4,260	5,880	8,090	5,220	8,500	5,280	335	85	674
16	188	575	537	4,380	5,940	8,090	4,680	8,200	4,500	321	87	441
17	182	537	556	4,620	5,880	8,020	4,320	8,200	3,960	288	77	401
18	170	500	575	4,740	5,700	7,880	4,200	8,100	3,480	278	77	335
19	152	367	594	4,680	5,580	7,880	4,020	8,100	3,180	265	82	288
20	146	324	594	4,740	5,280	7,560	3,720	8,300	2,920	251	87	242
21	150	316	614	4,800	5,160	7,100	3,300	8,400	2,750	228	93	217
22	158	304	614	4,860	5,040	6,970	3,660	8,400	2,630	220	100	206
23	202	288	634	4,920	4,860	6,840	4,680	8,700	2,360	215	110	188
24	235	270	714	4,920	4,800	6,640	5,040	8,700	2,100	211	113	178
25	321	260	993	4,860	4,740	6,380	4,980	8,600	1,950	206	113	168
26	354	258	1,040	4,800	4,920	5,940	4,440	8,600	1,800	209	110	154
27	414	268	1,200	4,800	5,040	5,760	3,780	8,500	1,600	211	93	182
28	500	275	1,350	4,740	5,100	5,340	2,970	8,400	1,500	211	96	158
29	556	278	1,500	4,980	5,400	5,520	2,480	8,400	1,350	215	129	154
30	594	270	1,600	5,940	-	5,820	2,360	8,300	1,220	215	202	138
31	634	-	1,650	6,640	-	6,190	-	8,700	-	209	518	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff Inches	Runoff Acres-foot
October	8,256	634	74	266	0.075	0.09	16,380
November	17,441	993	258	581	.164	.18	34,590
December	19,649	1,650	260	640	.181	.21	39,370
Calendar year 1943	378,000	4,580	40	1,030	.291	3.95	745,800
January	119,900	6,640	1,950	3,868	1.09	1.26	237,800
February	172,150	7,560	4,740	5,936	1.68	1.81	341,500
March	214,230	8,090	5,340	6,911	1.95	2.25	424,900
April	149,630	6,580	2,360	4,988	1.41	1.87	296,800
May	741,830	49,700	6,530	25,930	6.76	7.80	1,471,000
June	150,080	11,500	1,220	5,002	1.41	1.58	297,600
July	11,727	1,060	206	378	.107	.12	23,260
August	4,097	618	77	132	.037	.04	8,130
September	19,371	1,700	138	646	.183	.20	38,420
Water year 1943-44	1,628,541	49,700	74	4,450	1.26	17.11	3,230,000

e Discharge obtained from loop curve.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Neches River at Evadale, Tex.

Location.- Staff gage, lat. 30°21', long. 94°05', at bridge on U. S. Highway 59, 200 feet upstream from Gulf, Colorado & Santa Fe Railway bridge at Evadale, Jasper County, and 15 miles upstream from Village Creek. Datum of gage is 8.3 feet above mean sea level, datum of 1929.

Drainage area.- 7,908 square miles.

Records available.- July 1904 to December 1906, October 1923 to September 1944.

Average discharge.- 23 years (1904-6, 1923-44), 6,307 second-feet.

Extremes.- Maximum discharge during year, 92,100 second-feet May 11 (gage height, 23.58 feet, from floodmark); minimum observed, 338 second-feet Oct. 1, 7 (gage height, 0.20 feet).

1904-6, 1923-44: Maximum discharge, that of May 11, 1944; minimum observed, about 148 second-feet Sept. 10, 1925.

Maximum stages known, 26.2 feet in 1884 (discharge, about 175,000 second-feet, from rating curve extended above 72,000 second-feet by logarithmic plotting), and 24.5 feet in August 1915 from records of Gulf, Colorado & Santa Fe Railway Co.

Remarks.- Records excellent. Gage read twice daily. No large diversions above station.

Rating tables, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to June 23						June 24 to Sept. 30					
-0.10	284	3.0	1,180	10.0	5,100	16.0	21,800	1.3	395	7.0	2,670
+0.20	338	4.0	1,560	11.5	6,870	17.0	28,500	2.0	576	8.5	3,640
.50	395	5.0	1,960	13.0	9,500	19.0	44,800	3.0	886	10.0	5,000
1.0	508	6.0	2,420	14.0	12,200	21.0	64,000	4.0	1,260	12.0	7,600
2.0	815	8.0	3,600	15.0	16,200	23.7	92,200	5.5	1,880		

Notes.- Same as preceding table above 12.0 feet.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	348	798	887	3,170	11,300	10,800	11,600	7,450	38,900	3,560	720	1,790
2	376	923	959	3,960	12,200	11,000	12,600	7,920	37,200	3,020	705	2,780
3	376	995	1,030	5,100	13,200	11,600	12,900	10,200	35,600	2,780	690	2,780
4	376	1,070	1,050	6,590	14,000	11,900	12,900	18,800	34,000	2,560	675	2,620
5	366	1,140	959	7,400	14,400	12,600	13,600	26,400	31,600	2,340	660	2,560
6	348	1,180	905	7,450	15,300	13,200	14,400	30,000	30,000	2,180	646	2,500
7	348	1,370	869	6,870	15,800	13,600	15,300	41,200	28,500	2,030	632	2,500
8	376	1,410	851	6,350	16,200	14,400	16,200	61,000	27,100	1,980	615	2,870
9	520	1,520	815	6,080	16,200	15,300	16,700	75,700	26,400	1,840	705	2,840
10	575	1,600	815	6,960	15,800	15,800	17,200	86,600	25,000	1,660	660	2,960
11	561	1,660	815	5,750	15,300	16,200	17,200	92,100	24,300	1,540	675	3,080
12	580	1,490	815	5,510	14,400	16,700	17,200	89,900	25,600	1,460	660	2,960
13	496	1,410	851	5,620	14,000	16,200	16,700	86,800	21,800	1,380	604	2,620
14	483	1,370	923	6,460	14,000	16,200	15,800	81,100	20,800	1,340	604	2,400
15	468	1,370	1,070	7,450	15,200	15,300	15,300	75,600	16,900	1,260	576	2,280
16	508	1,370	1,140	8,860	12,900	15,800	14,800	70,100	17,200	1,220	549	2,030
17	496	1,370	1,260	9,980	13,200	15,300	14,400	65,000	15,800	1,150	510	1,750
18	472	1,370	1,260	10,800	13,600	15,800	14,000	61,000	14,400	1,110	497	1,680
19	450	1,330	1,260	11,000	13,600	17,700	13,200	57,000	13,200	1,070	471	1,540
20	439	1,260	1,260	11,000	13,600	15,200	12,200	53,000	11,600	1,030	471	1,380
21	428	1,140	1,260	10,800	12,900	13,800	11,600	50,200	9,980	994	484	1,070
22	417	1,070	1,260	10,800	12,600	12,200	10,200	46,800	5,660	994	458	958
23	406	995	1,330	10,200	11,900	17,700	10,200	45,000	7,600	958	484	904
24	406	923	1,680	10,200	11,600	17,200	9,500	39,600	6,960	922	484	835
25	395	869	2,180	10,500	11,300	16,700	9,740	37,200	6,410	886	510	784
26	395	815	2,530	10,500	11,000	15,800	10,800	35,600	6,910	852	536	736
27	450	780	2,640	10,500	10,800	15,300	11,300	35,600	5,530	818	510	762
28	547	798	2,750	10,500	10,800	14,400	11,900	38,000	4,800	784	523	886
29	575	833	2,610	10,500	10,800	15,200	11,600	40,400	4,220	769	549	801
30	617	897	3,050	10,500	-	12,600	10,500	41,800	3,720	762	604	752
31	694	-	3,110	10,800	-	11,900	-	40,400	-	736	1,060	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	14,247	694	548	460	0.058	0.07	23,280
November	35,006	1,600	750	1,167	1.48	.16	69,430
December	44,434	3,110	815	1,433	1.81	.21	88,130
Calendar year 1943	838,851	9,500	292	2,298	.291	3.94	1,664,000
January	257,080	11,000	3,170	8,292	1.05	1.21	509,900
February	385,900	16,200	10,800	13,310	1.68	1.86	785,400
March	466,400	18,800	10,800	15,010	1.90	2.15	925,100
April	410,540	17,600	9,500	15,360	1.69	1.89	796,400
May	1,545,470	92,100	7,450	49,850	6.31	7.27	3,065,000
June	559,090	38,900	5,720	18,640	2.56	2.65	1,109,000
July	45,764	3,550	736	1,476	.187	.22	90,770
August	18,587	1,060	458	600	.078	.09	36,870
September	55,698	3,080	736	1,857	.235	.26	110,500
Water year 1943-44	3,828,186	92,100	548	10,460	1.32	18.02	7,593,000

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Mud Creek near Jacksonville, Tex.

Location.- Water-stage recorder, lat. 31°58'40", long. 95°09'40", at bridge on U. S. Highway 79, 5 miles downstream from International-Great Northern Railroad bridge and 6.9 miles east of Jacksonville, Cherokee County. Datum of gage is 271.6 feet above mean sea level, datum of 1929.

Drainage area.- 382 square miles.

Records available.- May 1939 to September 1944.

Extremes.- Maximum discharge during year, 23,400 second-feet May 3 (gage height, 14.09 feet); minimum, 0.9 second-foot Aug. 11.

1939-44: Maximum discharge, that of May 3, 1944; no flow at times.

Maximum stage known occurred in May 1884, from information by local residents.

Remarks.- Records good except those above 6,000 second-feet, which are poor. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	30	50	258	455	1,910	668	2,420	754	40	5.8	43
2	20	31	49	302	450	1,540	644	16,400	627	42	5.2	58
3	26	60	47	324	430	974	694	18,400	516	42	4.3	60
4	31	120	45	302	398	784	635	6,150	377	41	3.0	40
5	24	132	46	312	360	669	618	2,690	266	38	3.6	26
6	16	100	115	336	324	610	627	1,620	614	35	2.9	33
7	11	166	170	366	302	554	618	1,320	694	31	2.4	83
8	7.0	140	177	435	451	528	554	988	704	29	2.0	86
9	6.3	66	206	435	2,450	486	627	784	714	27	1.7	83
10	5.0	52	227	398	1,440	445	714	660	695	26	1.4	47
11	6.0	40	237	406	1,980	470	764	547	430	24	1.4	31
12	4.1	35	222	578	1,610	476	660	450	281	22	1.4	24
13	5.6	28	177	1,320	974	450	540	422	202	21	8.9	21
14	38	27	146	1,320	979	450	430	799	191	19	16	19
15	94	27	123	1,640	831	480	324	475	198	18	18	17
16	126	27	106	1,670	669	516	247	324	184	18	12	15
17	142	28	91	1,510	677	504	206	270	146	21	8.1	14
18	132	28	80	1,160	724	455	188	222	120	22	6.7	12
19	64	28	75	892	714	435	170	204	105	18	5.8	12
20	32	28	73	734	998	435	160	516	94	16	5.2	11
21	25	27	73	644	1,280	410	152	818	88	14	5.6	10
22	22	28	74	575	1,060	732	166	2,720	80	13	4.3	9.1
23	19	28	86	516	831	1,280	425	3,400	71	13	3.9	8.5
24	22	28	114	455	714	784	357	2,880	65	14	3.7	8.1
25	38	29	163	394	686	677	284	1,590	59	16	3.7	7.3
26	105	29	194	324	1,940	704	284	1,080	55	16	3.2	6.5
27	149	30	210	312	1,930	686	264	916	52	15	4.8	6.0
28	142	33	247	312	2,590	724	210	818	47	13	3.4	6.0
29	80	37	270	409	2,680	1,760	214	892	42	10	3.4	6.6
30	43	45	264	618	-	1,020	1,900	806	40	8.3	6.8	16
31	33	-	258	516	-	774	-	818	-	6.9	29	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	1,463.1	149	4.1	47.8	0.125	0.14	2,940
November	1,505	166	27	50.2	.131	.15	2,990
December	4,414	270	45	142	.372	.43	8,760
Calendar year 1943	41,892.9	903	0	114	.298	4.07	82,710
January	19,673	1,670	258	635	1.66	1.92	39,020
February	30,717	2,680	302	1,059	2.77	2.99	60,930
March	22,491	1,910	410	726	1.90	2.10	44,610
April	14,362	1,900	152	479	1.26	1.40	28,490
May	72,099	18,400	204	2,326	6.09	7.02	143,000
June	8,412	754	40	280	.733	.82	16,680
July	689.2	42	6.9	22.2	.058	.07	1,370
August	186.5	29	1.4	6.02	.016	.02	370
September	821.1	56	6.0	27.4	.072	.08	1,630
Water year 1943-44	176,852.9	18,400	1.4	463	1.26	17.23	350,800

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Angelina River near Alto, Tex.

Location.- Chain gage, lat. 31°40', long. 94°58', at bridge on State Highway 21, 3 miles upstream from Bingham Creek and 7 miles east of Alto, Cherokee County. Datum of gage is 204.3 feet above mean sea level, datum of 1929.

Drainage area.- 1,261 square miles.

Records available.- May to August 1940 (discharge measurements only). September 1940 to September 1944 (fragmentary for 1941, 1942, 1944).

Extremes.- Maximum gage height observed during year, 21.52 feet May 5 (discharge not determined); minimum discharge observed, 18 second-feet Oct. 1.  
1940-44: Maximum gage height observed, that of May 5, 1944 (may have been higher during period of no gage-height record in November 1940); minimum observed, 11 second-feet Aug. 30, 31, Sept. 25-27, 1943.

Remarks.- Records good. Discharge above 2,200 second-feet not computed. Gage read twice daily. No large diversion above station.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

2.2	11	5.5	93	10.0	980
2.5	15	4.0	140	12.0	1,350
2.5	25	5.0	248	14.0	1,810
2.7	35	6.0	368	15.1	2,200
3.0	54	8.0	650		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	170	104	1,070	1,680	-	-	-	-	186	48	590
2	35	202	106	1,200	1,680	-	-	-	-	180	46	446
3	50	165	110	1,220	1,760	-	-	-	-	175	43	502
4	52	145	113	1,220	1,870	-	-	-	-	186	39	560
5	60	150	118	1,220	1,940	-	-	-	-	180	37	590
6	71	150	140	1,220	1,940	-	-	-	-	180	34	560
7	78	236	165	1,220	1,870	-	-	-	-	170	32	450
8	86	394	170	1,240	1,760	-	-	-	2,080	150	30	332
9	87	433	208	1,220	1,900	-	-	-	1,940	140	29	302
10	74	460	266	1,180	1,840	-	2,120	-	1,940	129	28	302
11	55	474	302	1,160	1,940	-	1,870	-	2,080	121	30	286
12	45	407	332	1,270	-	-	1,680	-	2,120	114	30	248
13	43	320	381	1,610	-	2,120	1,560	-	2,040	106	36	242
14	40	266	394	1,840	-	1,940	1,500	-	1,870	98	64	224
15	42	256	407	-	-	1,760	1,470	-	1,710	95	67	186
16	50	202	321	-	-	1,730	1,450	1,970	1,520	91	a56	145
17	70	165	344	-	-	1,680	1,450	1,680	1,330	85	45	116
18	89	140	308	-	-	1,610	1,350	1,540	1,140	84	43	100
19	101	128	266	-	-	1,630	1,200	1,520	944	91	43	92
20	113	120	230	-	-	1,590	1,020	1,610	744	88	42	86
21	130	114	202	-	-	1,540	925	1,520	575	85	37	80
22	130	110	191	-	-	1,610	880	2,040	460	80	34	76
23	109	106	202	-	-	1,810	760	-	407	79	33	71
24	95	106	288	-	-	1,730	696	-	356	78	32	66
25	89	103	560	-	-	1,730	696	-	320	75	73	63
26	82	102	696	-	-	1,870	808	-	290	73	60	60
27	82	102	744	-	-	-	910	-	266	69	56	60
28	98	102	944	2,160	-	-	962	-	242	66	88	71
29	116	104	944	1,970	-	-	944	-	218	62	104	101
30	140	103	980	1,900	-	-	-	-	196	57	135	107
31	160	-	1,020	1,760	-	-	-	-	-	52	531	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	2,493	160	20	80.4	0.064	0.07	4,940
November	6,015	474	102	200	.159	.18	11,930
December	11,616	1,020	104	375	.297	.34	23,040
Calendar year 1943	123,630	1,930	11	339	.269	3.65	245,200
January	-	-	-	-	-	-	-
February 1-11	20,180	1,940	1,680	1,835	1.46	.60	40,030
March 15-26	24,370	2,120	1,540	1,741	1.36	.72	45,340
April 10-29	25,611	2,120	630	1,196	.948	.71	47,430
May 16-22	11,880	2,040	1,520	1,697	.135	.35	23,560
June 8-30	24,788	2,120	196	1,078	.855	.73	49,170
July	5,425	186	52	110	.087	.10	6,790
August	2,005	531	28	64.7	.051	.06	3,980
September	7,104	590	60	237	.188	.21	14,090
Water year	-	-	-	-	-	-	-

a No gage-height record; discharge interpolated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Angelina River near Lufkin, Tex.

Location.- Water-stage recorder, lat. 31°27'40", long. 94°43'35", at bridge on State Highway 35, 400 feet upstream from Procetta Creek, half a mile downstream from Little Loco Bayou, 1.5 miles upstream from Texas & New Orleans Railroad bridge, and 8 miles north of Lufkin, Angelina County. Datum of gage is 164.72 feet above mean sea level, datum of 1929.

Drainage area.- 1,575 square miles.

Records available.- October 1923 to September 1934, July 1939 to September 1944.

Average discharge.- 16 years, 1,303 second-feet.

Extremes.- Maximum discharge during year, 29,600 second-feet May 7; maximum gage height, 18.55 feet May 7; minimum discharge, 19 second-feet Oct. 1.  
1923-34, 1939-44: Maximum discharge, 38,200 second-feet Feb. 24, 1932; maximum gage height, that of May 7, 1944; minimum discharge, 2.3 second-feet Oct. 12, 1939.  
Maximum stage known, about 26.5 feet in May 1844, from information by local residents.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	19	129	123	1,240	3,350	4,380	2,960	5,640	7,020	308	81	464
2	20	156	123	1,240	3,030	3,860	3,030	614,800	6,000	292	72	615
3	20	199	125	1,310	2,760	3,640	3,890	618,400	5,320	292	66	735
4	21	215	123	1,310	2,480	4,240	3,750	616,100	4,680	282	60	702
5	32	190	126	1,280	2,320	5,660	4,530	622,100	4,240	245	53	570
6	41	170	135	1,280	2,180	6,340	5,160	628,700	4,840	235	50	555
7	45	186	152	1,280	2,100	6,170	5,000	628,200	4,100	230	47	600
8	52	236	166	1,310	2,130	5,490	4,680	625,100	5,540	220	46	615
9	60	262	178	1,310	2,280	4,840	4,100	620,700	3,280	210	58	542
10	68	324	190	1,280	2,440	4,380	3,750	616,000	2,820	198	81	455
11	72	369	215	1,280	2,480	4,100	3,350	612,300	2,560	186	90	378
12	65	398	250	1,390	2,440	3,750	2,960	9,400	2,440	182	87	342
13	58	409	284	1,850	2,400	3,350	2,700	7,190	2,320	178	94	308
14	51	388	324	2,200	2,480	3,100	2,520	5,630	2,240	174	72	284
15	47	353	351	2,480	2,600	2,890	2,320	4,880	2,200	170	53	269
16	41	294	378	2,600	2,820	2,760	2,130	3,980	2,130	163	51	256
17	37	245	378	2,650	3,260	2,600	1,980	3,440	2,060	160	56	230
18	39	215	369	2,600	4,100	2,480	1,820	2,960	1,960	156	67	202
19	48	180	342	2,650	4,680	2,600	1,720	2,650	1,780	152	60	170
20	70	166	308	2,650	4,840	2,560	1,690	2,890	1,600	152	55	149
21	90	152	276	2,890	4,530	2,440	1,600	3,100	1,360	160	51	132
22	105	142	245	3,880	4,240	2,440	1,490	3,640	1,110	166	49	120
23	117	135	250	5,320	4,240	2,650	1,450	3,860	842	156	47	111
24	128	129	308	5,830	4,940	2,760	1,450	3,980	650	146	44	102
25	129	123	420	5,660	4,380	2,890	1,390	3,640	542	158	45	96
26	120	123	519	5,160	4,840	2,820	1,210	3,540	486	129	45	90
27	99	120	600	4,680	5,490	2,560	1,010	7,420	431	120	75	87
28	81	120	790	4,240	5,490	2,890	912	11,200	388	114	135	87
29	78	123	970	4,240	5,320	4,380	930	11,200	351	106	156	95
30	87	123	1,080	4,100	-	3,540	1,690	10,100	324	96	149	96
31	105	-	1,080	5,760	-	3,100	-	8,380	-	90	298	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	2,047	129	19	66.0	0.042	0.06	4,060
November	6,358	409	120	212	0.135	.15	12,600
December	11,156	1,080	123	360	0.229	.28	22,130
Calendar year 1943	137,066	2,200	16	376	0.259	3.24	271,900
January	84,740	5,830	1,080	2,734	1.74	2.00	168,100
February	100,520	5,490	2,100	3,466	2.20	2.37	199,400
March	111,660	6,340	2,440	3,602	2.29	2.64	221,500
April	76,516	5,160	912	2,560	1.62	1.81	151,900
May	321,120	29,700	2,650	10,360	6.58	7.59	336,900
June	75,594	7,020	324	2,453	1.56	1.74	146,000
July	5,585	508	90	180	0.114	.13	11,080
August	2,390	298	43	77.1	0.049	.06	4,740
September	9,473	755	87	316	0.201	.22	18,790
Water year 1943-44	805,149	28,700	19	2,200	1.40	19.01	1,597,000

e Discharge obtained from loop curve.

Note.- No gage-height record July 12 to Aug. 4; discharge computed on basis of recorded range in stage, weather records, and by comparison with records for stations near Alto and at Horger.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Angelina River at Horger, Tex.

Location.- Wire-weight gage, lat. 31°00', long. 94°10', at bridge on State Highway 63, a quarter of a mile east of Horger, Jasper County, 7 miles upstream from Indian Creek, and 20 miles upstream from mouth. Datum of gage is 68.4 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army). Prior to Sept. 5, 1944, chain gage at same site and datum.

Drainage area.- 3,435 square miles.

Records available.- March 1928 to September 1944.

Average discharge.- 16 years, 2,992 second-feet.

Extremes.- Maximum discharge during year, 49,900 second-feet May 6 (gage height, 36.90 feet); minimum observed, 78 second-feet Oct. 2.

1928-44: Maximum discharge, that of May 6, 1944, minimum observed, 13 second-feet Sept. 22, 1937.

Maximum discharge known, 82,000 second-feet August 1915 (gage height, 39.5 feet, from information by local residents), from rating curve extended above 50,000 second-feet.

Remarks.- Records good except those subsequent to June 10, which are fair. Gage read twice daily. Occasional backwater from Neches River. No large diversion above station.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1, 2, June 11 to Sept. 30)

0.8	77	5.0	1,350	26.0	16,400
1.0	107	7.0	2,340	30.0	21,400
1.5	195	10.0	3,960	32.0	25,400
2.0	305	14.0	6,260	33.5	30,600
3.0	578	18.0	8,900	35.0	38,500
4.0	920	22.0	12,200	36.8	49,500

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	84	180	205	1,400	7,740	6,580	6,900	7,900	15,700	740	243	864
2	80	184	203	2,640	7,740	6,840	7,940	16,000	14,900	656	232	1,120
3	123	178	205	2,800	7,940	7,160	8,830	24,900	14,200	640	226	1,350
4	132	180	209	2,590	8,000	7,480	9,600	37,300	13,700	640	228	1,300
5	165	176	209	2,490	7,940	7,940	10,000	45,700	13,100	689	219	1,260
6	240	243	209	2,290	7,160	8,340	10,000	49,300	18,500	672	201	1,590
7	151	342	213	2,290	6,540	8,480	9,760	49,300	11,800	578	197	1,590
8	144	342	211	2,290	6,140	8,410	9,250	45,700	10,900	506	187	1,350
9	126	329	217	2,240	6,020	8,070	8,410	40,300	10,200	449	182	1,300
10	94	342	230	2,140	5,780	7,620	7,880	36,200	9,460	407	180	1,120
11	89	342	258	2,090	5,300	7,220	7,620	33,500	8,550	342	211	1,000
12	94	394	287	1,990	4,900	6,960	7,620	31,000	7,880	329	187	960
13	106	421	288	2,540	4,400	6,950	7,560	29,000	7,960	317	172	801
14	125	421	317	3,650	4,900	7,030	7,290	26,600	6,840	311	172	810
15	118	435	342	4,730	6,140	7,100	7,030	24,200	6,200	305	172	723
16	128	435	354	5,360	6,320	7,030	6,510	22,200	5,480	298	172	608
17	121	421	367	5,240	5,720	6,900	5,960	20,300	4,780	285	201	564
18	132	421	380	4,950	5,480	6,930	5,240	18,400	4,290	272	203	520
19	138	394	394	5,000	5,360	6,960	4,560	16,400	3,850	279	180	463
20	133	367	407	5,120	5,120	7,000	4,020	14,600	3,410	281	182	449
21	128	329	421	5,300	4,900	7,160	3,850	13,300	3,080	274	176	400
22	125	305	421	5,240	4,840	6,580	3,680	13,000	2,750	270	174	394
23	115	279	435	4,950	4,840	6,510	4,900	15,700	2,490	272	189	342
24	172	256	520	4,950	4,900	6,320	6,440	17,400	2,240	263	201	317
25	154	243	534	5,000	5,060	5,660	6,770	18,200	2,040	256	199	293
26	128	228	640	5,000	5,240	5,240	5,600	20,000	1,740	251	193	263
27	128	228	846	4,900	5,540	4,950	5,080	20,000	1,400	245	184	274
28	172	219	1,080	4,840	5,840	4,840	4,750	19,600	1,170	223	184	272
29	189	217	1,060	5,180	6,200	5,080	3,960	19,000	960	223	203	260
30	171	209	1,220	6,380	-	5,480	3,900	18,100	846	340	219	245
31	182	-	1,350	7,360	-	6,200	-	16,900	-	238	723	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff Inches	Runoff Acre-feet
October	4,227	240	80	156	0.040	0.05	8,590
November	9,060	435	176	302	0.089	.10	17,970
December	14,032	1,350	203	453	.132	.15	27,830
Calendar year 1943	280,791	4,480	66	769	.224	3.05	556,900
January	122,920	7,560	1,400	3,965	1.15	1.33	243,600
February	172,100	8,000	4,400	5,934	1.73	1.86	341,400
March	211,300	8,480	4,840	6,816	1.98	2.29	419,100
April	200,860	10,000	3,680	6,695	1.95	2.18	398,400
May	780,000	49,500	7,900	25,160	7.32	8.45	1,547,000
June	203,816	15,700	846	6,794	1.98	2.21	404,300
July	11,749	740	223	379	.110	.13	23,500
August	6,692	723	172	213	.062	.07	13,080
September	22,937	1,590	245	765	.225	.25	45,490
Water year 1943-44	1,759,593	49,500	80	4,808	1.40	19.07	3,490,000

a No gage-height record; discharge interpolated.

d Doubtful gage-height record; discharge interpolated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Striker Creek near Summerfield, Tex.

Location.- Chain gage, lat. 32°00'10", long. 94°59'35", at bridge on U. S. Highway 79, 3½ miles downstream from Johnson Creek and 6½ miles northeast of Summerfield, Cherokee County. Datum of gage is 287.0 feet above mean sea level, datum of 1929.

Drainage area.- 135 square miles.

Records available.- May to August 1940 (discharge measurements only). September 1940 to September 1944.

Extremes.- Maximum discharge during year, 9,450 second-feet May 2 (gage height, 16.10 feet); minimum observed, 2.3 second-feet Aug. 9 (gage height, 2.24 feet).  
1940-44: Maximum discharge, 10,800 second-feet Nov. 24, 1940 (gage height, 17.23 feet, from floodmark), from rating curve extended above 5,000 second-feet by velocity-area studies; minimum observed, 0.7 second-foot Aug. 31, Sept. 1, 1943.

Remarks.- Records fair. Gage read twice daily, oftener during floods. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	21	28	138	440	588	351	1,850	169	19	5.6	102
2	97	23	27	131	271	306	256	7,240	119	21	4.9	137
3	112	28	25	237	216	225	278	6,160	97	23	4.9	112
4	89	44	25	446	158	186	379	2,200	82	22	4.9	72
5	54	70	25	293	125	158	348	905	70	20	4.6	38
6	28	60	34	178	116	171	235	422	422	19	4.3	27
7	17	68	82	126	115	150	179	265	745	17	4.0	69
8	13	90	227	205	144	173	140	191	407	15	3.6	201
9	11	184	221	348	1,640	176	221	150	192	15	3.1	171
10	9.1	168	147	412	2,490	134	795	118	114	14	6.6	2,490
11	8.6	103	105	303	1,190	125	461	104	84	13	8.1	57
12	9.5	84	78	242	484	144	280	94	78	12	9.9	33
13	16	48	72	989	254	178	178	87	97	11	13	25
14	26	32	66	1,780	212	164	133	254	127	11	17	20
15	37	29	55	1,280	370	137	108	318	107	10	14	19
16	100	27	46	895	526	144	94	180	78	9.9	10	17
17	97	26	38	722	385	176	84	107	60	10	7.7	15
18	45	23	35	487	276	212	76	74	45	10	7.2	15
19	26	23	33	336	248	131	70	86	41	10	6.4	15
20	19	23	32	235	225	179	66	109	38	9.7	5.8	14
21	16	22	32	176	295	210	53	534	34	8.4	5.4	14
22	14	22	36	161	314	207	53	2,490	31	8.1	4.9	13
23	13	22	49	150	250	861	96	2,910	30	8.1	4.6	12
24	18	21	72	106	179	1,220	190	1,820	28	8.1	4.3	12
25	26	21	139	100	161	599	252	744	26	8.1	5.5	11
26	78	21	235	100	653	298	184	436	24	8.2	7.6	11
27	96	22	311	101	2,050	202	115	610	23	8.2	18	12
28	75	22	290	109	1,600	357	86	678	22	8.1	22	15
29	47	24	212	178	820	1,510	98	468	20	7.6	23	19
30	34	25	223	319	-	1,600	308	298	-19	6.6	31	21
31	24	-	178	429	-	738	-	233	-	6.4	60	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
October	1,301.0	112	8.6	42.0	0.311	0.36	2,580
November	1,396	184	21	46.5	.344	.38	2,770
December	3,178	511	25	103	.763	.98	6,500
Calendar year 1943	20,889.6	408	7	57.2	.424	5.76	41,430
January	11,712	1,780	100	378	2.80	3.23	23,230
February	16,187	2,490	115	558	4.13	4.46	32,110
March	11,723	1,600	125	378	2.80	3.23	23,250
April	6,167	795	63	206	1.53	1.70	12,230
May	32,117	7,240	68	1,056	7.67	8.85	63,700
June	3,432	745	19	114	.844	.95	6,810
July	377.5	23	6.4	12.2	.090	.10	749
August	331.9	60	3.1	10.7	.079	.09	658
September	1,392	201	11	46.4	.344	.38	2,760
Water year 1943-44	89,314.4	7,240	3.1	244	1.81	24.61	177,100

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Attoyac Bayou near Chireno, Tex.

Location.— Water-stage recorder, lat. 31°30'15", long. 94°18'15", at bridge on State Highway 21, 3 miles northeast of Chireno, Nacogdoches County, and 7 miles downstream from Arenoso Creek. Datum of gage is 169.9 feet above mean sea level, datum of 1929.

Drainage area.— 502 square miles.

Records available.— January 1924 to August 1925, July 1939 to September 1944.

Extremes.— Maximum discharge during year, 17,400 second-feet May 2 (gage height, 22.53 feet); minimum, 25 second-feet Oct. 10-13.  
1924-25, 1939-44: Maximum discharge, 31,900 second-feet Nov. 24, 1940 (gage height, 25.97 feet); minimum observed, 7.0 second-feet Aug. 27, 1925.  
Maximum stage known, 29.9 feet in June 1912 (result of local storm), from information by local residents.

Remarks.— Records fair. No large diversion above station.

Rating tables, water year 1943-44 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Jan. 14)

Oct. 1 to Jan. 14

Jan. 15 to Sept. 30

3.0	25	6.0	170	5.0	104	13.0	700	16.5	1,780	19.0	6,200
3.4	34	8.0	352	6.0	181	14.0	834	17.0	2,240	20.5	10,600
3.8	48	11.0	660	9.0	360	15.0	1,040	17.5	2,820	22.0	15,600
4.4	73	13.0	910	11.0	510	15.8	1,340	18.0	3,870		
5.0	104										

Note.— Same as preceding table below 5.0 feet.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	38	60	583	760	2,610	1,950	2,300	1,340	135	48	660
2	258	48	58	763	736	1,950	1,640	15,100	1,170	251	46	528
3	199	114	58	775	712	1,610	1,480	15,600	1,040	225	14	438
4	78	129	58	739	690	1,390	1,340	14,200	940	161	42	416
5	44	86	60	682	680	1,200	1,200	8,340	834	132	42	374
6	33	76	64	649	650	1,100	1,070	4,110	802	121	41	277
7	29	110	86	572	591	962	962	2,470	735	118	41	218
8	27	123	88	432	486	868	1,100	1,860	712	110	40	238
9	26	204	98	372	486	748	1,010	1,580	670	110	39	264
10	25	170	94	372	470	630	850	1,340	564	94	40	244
11	25	135	96	372	478	591	736	1,200	502	91	48	206
12	25	102	96	518	478	564	537	1,100	462	88	49	149
13	30	73	86	788	486	537	409	962	494	86	48	110
14	41	60	78	911	650	478	346	868	510	80	44	91
15	51	55	76	1,010	724	423	318	736	528	76	45	78
16	44	53	71	1,040	748	402	290	610	510	73	45	73
17	47	52	66	1,070	748	381	264	478	462	76	42	69
18	43	51	62	2,210	712	367	244	381	374	71	42	66
19	37	50	62	2,240	724	478	238	332	297	69	56	64
20	33	50	62	1,860	724	555	225	1,220	244	69	71	62
21	31	49	62	1,580	724	591	218	1,800	212	66	55	60
22	30	49	62	1,340	712	591	233	2,610	192	64	45	58
23	30	49	105	1,200	724	630	746	2,840	180	64	42	55
24	37	48	264	1,070	760	660	802	2,610	161	62	45	53
25	45	48	342	940	834	690	902	2,350	155	62	60	51
26	51	48	432	834	962	822	902	2,240	146	62	64	51
27	50	49	492	712	1,320	1,340	834	2,610	138	60	74	54
28	53	52	583	573	3,940	2,480	802	2,470	125	58	143	66
29	50	58	606	804	4,090	3,460	774	2,410	121	55	199	78
30	44	62	583	760	-	3,090	1,010	2,000	118	52	502	73
31	41	-	572	748	-	2,610	-	1,610	-	50	736	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	1,650	258	25	53.2	0.106	0.12	3,270
November	2,289	204	38	76.3	.152	.17	4,540
December	5,571	605	58	180	.359	.41	11,050
Calendar year 1943	51,312	814	17	141	.281	3.79	101,800
January	28,319	2,240	372	914	1.82	2.10	56,170
February	26,792	4,090	470	924	1.34	1.99	53,160
March	34,806	3,460	367	1,123	2.24	2.58	69,040
April	23,432	1,950	218	781	1.56	1.74	46,480
May	100,335	15,600	332	3,237	6.45	7.43	199,000
June	14,740	1,340	118	491	.978	1.09	29,240
July	2,891	251	50	93.5	.186	.21	5,730
August	2,878	736	39	92.8	.185	.21	5,710
September	5,222	660	51	174	.347	.39	10,560
Water year 1943-44	248,932	15,600	25	680	1.35	18.44	493,800

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## NECHES RIVER BASIN

Village Creek near Kountze, Tex.

Location.- Water-stage recorder, lat. 30°24', long. 94°16', at bridge on Kountze-Silsbee county highway, 1.2 miles upstream from Gulf, Colorado & Santa Fe Railway bridge, 3.2 miles northeast of Kountze, Hardin County, and 4½ miles downstream from Beech Creek. Datum of gage is 25.1 feet above mean sea level, datum of 1929.

Drainage area.- 837 square miles.

Records available.- May 1924 to November 1929, April 1939 to September 1944. October 1927 to November 1929 (discharge measurements only).

Extremes.- Maximum discharge during year, 10,700 second-feet May 6 (gage height, 18.23 feet); minimum, 84 second-feet Sept. 27 (gage height, 2.29 feet).

1924-27, 1939-44: Maximum discharge, 67,200 second-feet Nov. 26, 1940 (gage height, 27.6 feet, from floodmark), from rating curve extended above 35,000 second-feet by logarithmic plotting; minimum, 32 second-feet Sept. 28, 1939.

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

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	568	115	418	784	1,970	882	838	267	2,450	146	98	948
2	418	134	358	1,700	2,100	708	772	502	1,460	146	95	992
3	279	233	304	3,750	1,810	608	708	1,550	971	155	95	1,130
4	222	250	279	4,410	1,480	588	686	3,680	696	165	91	884
5	185	233	450	3,950	1,250	532	706	9,840	586	180	91	408
6	160	222	434	3,230	1,010	514	646	10,200	514	165	92	291
7	146	249	355	2,500	860	482	532	7,850	514	165	109	238
8	135	304	344	1,930	794	466	466	5,990	532	155	115	208
9	128	337	510	1,740	772	434	418	4,650	568	141	102	185
10	123	466	285	1,570	926	594	402	3,240	482	132	101	170
11	121	365	267	1,350	1,130	394	394	2,680	394	128	101	155
12	118	255	261	1,100	1,180	434	394	1,140	418	121	100	141
13	128	216	261	1,370	1,040	450	379	794	434	116	103	132
14	141	190	285	2,450	1,130	450	344	628	394	112	105	128
15	160	185	466	3,750	1,780	418	310	568	386	109	186	120
16	228	175	586	4,170	2,320	450	298	532	379	106	155	115
17	206	170	466	3,950	2,680	628	285	514	324	105	123	110
18	165	175	386	3,390	2,800	798	273	450	285	107	109	104
19	141	190	330	2,680	2,560	1,950	267	402	261	114	99	101
20	132	190	285	1,970	2,100	4,120	261	554	244	114	100	99
21	123	185	267	1,370	1,700	4,410	279	1,080	233	108	102	97
22	119	175	250	992	1,480	3,680	304	2,180	222	110	94	96
23	116	165	255	816	1,250	2,940	363	4,000	211	136	91	93
24	116	160	767	728	1,100	2,180	532	4,790	195	195	90	91
25	120	155	1,630	686	1,060	1,690	728	4,630	185	200	91	87
26	128	155	1,930	686	1,250	1,260	816	4,050	175	170	97	87
27	136	155	1,670	750	1,200	937	646	4,410	165	146	105	90
28	150	185	1,420	948	1,130	794	460	4,790	185	152	101	132
29	156	258	1,520	1,060	992	836	344	4,650	160	118	103	170
30	123	386	1,100	1,420	-	948	291	4,290	150	110	124	195
31	118	"	904	1,740	-	926	-	3,580	-	102	462	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	5,290	568	116	171	0.204	0.23	10,490
November	6,533	466	115	221	.264	.29	13,160
December	18,653	1,930	250	602	.719	.83	37,000
Calendar year 1943	212,791	6,690	102	583	.697	9.46	422,100
January	52,950	4,410	686	2,031	2.43	2.79	124,900
February	42,844	2,800	772	1,477	1.77	1.90	84,980
March	36,227	4,410	394	1,169	1.40	1.61	71,380
April	14,110	888	261	470	.552	.65	27,990
May	98,559	10,200	267	3,179	3.80	4.38	198,500
June	14,023	2,450	150	467	.558	.62	27,810
July	4,209	200	102	136	.163	.19	8,550
August	3,598	462	90	116	.139	.16	7,140
September	7,729	1,130	87	258	.308	.34	15,330
Water year 1943-44	314,825	10,200	87	860	1.03	13.97	624,500

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Bridgeport Reservoir above Bridgeport, Tex.

**Location.**- Staff gage, lat. 33°13'20", long. 97°50'10", at Bridgeport Dam on West Fork Trinity River, 2.0 miles west of Bridgeport, Wise County, and 5.8 miles upstream from Big Sandy Creek. Datum of gage is 0.06 foot above mean sea level, datum of 1929 (levels by engineers of Tarrant County Water Control and Improvement District No. 1). Prior to Jan. 28, 1944, a variety of staff gages and reference points near same site and at same datum.

**Drainage area.**- 978 square miles.

**Records available.**- April 1932 to September 1944.

**Extremes.**- Maximum contents observed during year, 196,200 acre-feet June 9-15 (gage height, 815.9 feet); minimum observed, 128,900 acre-feet Dec. 1-4 (gage height, 806.6 feet)

1932-44: Maximum contents observed, 407,600 acre-feet Apr. 29, 30, 1942 (gage height, 836.2 feet); minimum observed at monthly intervals since appreciable storage began, 2,200 acre-feet Dec. 31, 1933.

**Remarks.**- Reservoir 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, and the other left open, and two emergency spillways of natural ground. Dam completed Dec. 15, 1931; storage began Apr. 1, 1932. Capacity, 291,000 acre-feet, between gage heights 751.4 feet (bottom of three 48-inch outlet conduits) and 826.1 feet (top of service spillway). Dead storage is negligible. Reservoir used for flood control and municipal supply of city of Fort Worth.

**Cooperation.**- Capacity curve and records of monthly gage heights (April 1932 to April 1939) and daily gage heights (May 1939 to September 1944) furnished by Tarrant County Water Control and Improvement District No. 1.

Capacity table (gage height, in feet, and contents, in acre-feet)  
(Based on capacity curve prepared by Tarrant County  
Water Control and Improvement District No. 1.)

775	2,800	788	40,200	815	189,000
774	3,800	792	55,000	820	232,000
776	5,600	796	71,400	825	280,000
778	7,800	800	91,000	830	332,000
780	17,000	805	119,000	835	382,000
784	28,000	810	152,000	837	418,000

Monthly gage height and contents, 1932-44

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 31.....				Oct. 31, 1933	782.4	25,260	+3,050
Nov. 30.....				Nov. 30.....	775.0	5,600	-17,660
Dec. 31.....				Dec. 31.....	773.0	2,200	-3,400
Calendar year.....	-	-	-	Calendar year 1933..	-	-	-32,100
Jan. 31, 1932	-	-	-	Jan. 31, 1934	776.9	9,780	+7,580
Feb. 29.....	-	-	-	Feb. 28.....	780.6	18,440	+8,660
Mar. 31.....	-	-	-	Mar. 31.....	789.2	44,280	+25,840
Apr. 1, 1932.	752.9	-	-	Apr. 30.....	791.4	52,600	+8,320
Apr. 30.....	766.1	-	-	May 31.....	791.7	53,800	+1,200
May 31.....	783.1	25,300	-	June 30.....	791.2	51,800	-2,000
June 30.....	785.2	31,600	+6,300	July 31.....	783.0	25,000	-26,800
July 31.....	787.4	38,280	+6,680	Aug. 31.....	778.6	5,150	-21,840
Aug. 31.....	787.2	37,640	-640	Sept. 30.....	778.3	12,920	+8,760
Sept. 30.....	787.1	37,320	-320				
The period.	-	-	+37,320	Water year 1933-34.....	-	-	-7,290
Oct. 31, 1932.	787.2	37,640	+320	Oct. 31, 1934	778.1	12,440	-480
Nov. 30.....	786.1	34,300	-3,340	Nov. 30.....	782.2	22,680	+10,240
Dec. 31.....	786.1	34,300	0	Dec. 31.....	782.3	22,970	+290
Calendar year.....	-	-	-	Calendar year 1934..	-	-	+20,770
Jan. 31, 1933	786.1	34,300	0	Jan. 31, 1935	781.4	20,480	-2,490
Feb. 28.....	786.1	34,300	0	Feb. 28.....	782.3	22,970	+2,490
Mar. 31.....	781.0	19,400	-14,900	Mar. 31.....	783.9	27,700	+4,730
Apr. 30.....	778.2	12,680	-6,720	Apr. 30.....	784.2	28,600	+900
May 31.....	787.8	80,000	+67,320	May 31.....	801.0	96,200	+16,600
June 30.....	788.2	40,890	-39,120	June 30.....	804.8	117,800	+21,600
July 31.....	787.1	37,320	-3,560	July 31.....	800.5	95,600	-24,200
Aug. 31.....	788.3	41,220	+3,900	Aug. 31.....	799.1	76,500	-17,100
Sept. 30.....	781.3	20,210	-21,010	Sept. 30.....	802.1	102,140	+25,640
Water year 1932-33....	-	-	-17,110	Water year 1934-35....	-	-	+99,220

## TRINITY RIVER BASIN

Monthly gage height and contents of Bridgeport Reservoir above Bridgeport, Tex., 1932-44--Continued

Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Gage height (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 31, 1935.	802.4	103,760	+1,620	Oct. 31, 1940.	813.4	176,800	-2,400
Nov. 30.....	803.1	107,600	+3,840	Nov. 30.....	820.5	236,500	+60,300
Dec. 31.....	804.9	118,400	+10,800	Dec. 31.....	825.3	265,000	+26,500
Calendar year 1935....	-	-	+95,430	Calendar year 1940....	-	-	+213,200
Jan. 31, 1936.	804.8	117,800	-600	Jan. 31, 1941.	823.2	262,000	-1,000
Feb. 28.....	804.7	117,200	-600	Feb. 28.....	824.7	277,000	+15,000
Mar. 31.....	804.6	116,600	-600	Mar. 31.....	822.0	250,000	-27,000
Apr. 30.....	803.8	111,800	-4,800	Apr. 30.....	827.8	308,000	+58,000
May 31.....	806.9	130,850	+19,050	May 31.....	828.4	314,400	+6,400
June 30.....	804.6	116,600	-14,250	June 30.....	827.5	305,000	-9,400
July 31.....	801.4	98,360	-18,240	July 31.....	818.0	214,000	-91,000
Aug. 31.....	798.5	83,500	-14,860	Aug. 31.....	818.0	197,000	-17,000
Sept. 30.....	804.5	116,000	+32,500	Sept. 30.....	812.2	167,400	-29,600
Water year 1935-36.....	-	-	+13,860	Water year 1940-41.....	-	-	-11,200
Oct. 31, 1936.	806.3	126,950	+10,950	Oct. 31, 1941.	823.4	264,000	+96,600
Nov. 30.....	802.8	105,920	-21,030	Nov. 30.....	820.7	238,300	-25,700
Dec. 31.....	803.4	109,400	+3,480	Dec. 31.....	818.8	221,200	-17,100
Calendar year 1936....	-	-	-9,000	Calendar year 1941....	-	-	-41,800
Jan. 31, 1937.	803.7	111,200	+1,800	Jan. 31, 1942.	815.9	196,200	-25,000
Feb. 28.....	803.8	111,800	+600	Feb. 28.....	811.6	185,200	-35,000
Mar. 31.....	805.3	120,800	+9,000	Mar. 31.....	809.6	149,200	-14,000
Apr. 30.....	805.6	122,600	+1,800	Apr. 30.....	836.2	407,600	+258,400
May 31.....	804.4	115,400	-7,200	May 31.....	832.2	358,400	-49,200
June 30.....	804.5	116,000	+600	June 30.....	830.0	332,000	-26,400
July 31.....	801.5	98,900	-17,100	July 31.....	826.7	297,000	-35,000
Aug. 31.....	799.4	88,000	-10,900	Aug. 31.....	824.6	275,000	-21,000
Sept. 30.....	797.4	78,000	-10,000	Sept. 30.....	823.7	267,000	-9,000
Water year 1936-37.....	-	-	-38,000	Water year 1941-42.....	-	-	+99,600
Oct. 31, 1937.	797.5	78,500	+500	Oct. 31, 1942.	825.2	282,000	+15,000
Nov. 30.....	796.1	71,866	-6,640	Nov. 30.....	821.1	241,900	-40,100
Dec. 31.....	797.4	78,000	+6,140	Dec. 31.....	821.0	241,000	-900
Calendar year 1937....	-	-	-31,400	Calendar year 1942....	-	-	+19,800
Jan. 31, 1938.	800.1	91,520	+13,520	Jan. 31, 1943.	820.9	240,100	-900
Feb. 28.....	801.3	97,820	+6,300	Feb. 28.....	818.5	218,500	-21,600
Mar. 31.....	805.5	141,500	+45,680	Mar. 31.....	819.2	224,800	+6,300
Apr. 30.....	810.4	154,800	+13,300	Apr. 30.....	817.9	213,100	-11,700
May 31.....	812.8	171,600	+16,800	May 31.....	815.8	195,400	-17,700
June 30.....	813.0	175,000	+3,400	June 30.....	815.6	201,800	+6,400
July 31.....	809.7	148,900	-26,100	July 31.....	814.4	184,200	-17,600
Aug. 31.....	807.3	133,450	-16,450	Aug. 31.....	810.8	157,600	-28,600
Sept. 30.....	803.1	107,600	-25,850	Sept. 30.....	809.0	145,000	-12,600
Water year 1937-38.....	-	-	+29,600	Water year 1942-43.....	-	-	-122,000
Oct. 31, 1938.	798.6	84,000	-25,600	Oct. 31, 1943.	807.6	135,400	-9,600
Nov. 30.....	798.3	82,500	-1,500	Nov. 30.....	806.7	129,600	-5,800
Dec. 31.....	796.1	71,860	-10,640	Dec. 31.....	806.8	130,800	+600
Calendar year 1938....	-	-	-6,140	Calendar year 1943....	-	-	-110,800
Jan. 31, 1939.	797.4	78,000	+6,140	Jan. 31, 1944.	807.6	135,400	+5,200
Feb. 28.....	797.3	77,500	-500	Feb. 28.....	810.7	156,900	+21,500
Mar. 31.....	797.0	76,000	-1,500	Mar. 31.....	812.5	169,500	+12,600
Apr. 30.....	797.2	77,000	+1,000	Apr. 30.....	814.0	181,000	+11,500
May 31.....	798.8	85,000	+8,000	May 31.....	815.6	193,800	+12,800
June 30.....	797.3	77,500	-7,500	June 30.....	814.1	181,800	-12,000
July 31.....	796.4	73,240	-4,260	July 31.....	811.8	164,600	-17,200
Aug. 31.....	793.7	61,800	-11,440	Aug. 31.....	809.3	147,100	-17,500
Sept. 30.....	791.4	52,600	-9,200	Sept. 30.....	808.3	140,100	-7,000
Water year 1938-39.....	-	-	-55,000	Water year 1943-44.....	-	-	-4,900
Oct. 31, 1939.	791.0	51,000	-1,600				
Nov. 30.....	790.9	50,600	-400				
Dec. 31.....	790.7	49,800	-800				
Calendar year 1939....	-	-	-22,060				
Jan. 31, 1940.	790.6	49,400	-400				
Feb. 28.....	791.0	51,000	+1,600				
Mar. 31.....	790.9	50,600	-400				
Apr. 30.....	793.2	59,800	+9,200				
May 31.....	796.8	75,080	+15,280				
June 30.....	800.5	134,750	+59,670				
July 31.....	809.2	146,400	+11,650				
Aug. 31.....	813.5	177,000	+30,600				
Sept. 30.....	813.7	178,600	+1,600				
Water year 1939-40.....	-	-	+128,000				

Note.- Gage read daily. Time of readings prior to October 1943, not known; gage read at 7 a.m. during water year 1943-44.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Eagle Mountain Reservoir above Fort Worth, Tex.

Location.- Staff gage, lat. 32°52'35", long. 97°28'15", at Eagle Mountain Dam on West Fork Trinity River, 3.0 miles downstream from Ash Creek, 4.1 miles downstream from Walnut Creek, and 14.6 miles northwest of Fort Worth, Tarrant County. Datum of gage is at mean sea level, datum of 1929. Prior to Feb. 23, 1943, a variety of staff gages near same site and at same datum.

Drainage area.- 1,751 square miles.

Records available.- February 1934 to September 1944.

Extremes.- Maximum contents observed during year, 221,600 acre-feet Mar. 1, 2 (elevation, 649.9 feet); minimum observed, 205,800 acre-feet Apr. 19, 20, June 21, 22 (elevation, 648.2 feet).

1934-44: Maximum contents observed, 333,500 acre-feet Apr. 26, 1942 (elevation, 659.9 feet); minimum observed at monthly intervals since appreciable storage began, 9,320 acre-feet 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. In addition there is an emergency spillway of natural ground. Dam completed Oct. 24, 1932, and storage began Feb. 28, 1934. Capacity, 214,000 acre-feet, between elevations 599.9 feet (bottom of four 48" outlet conduits) and 649.1 feet (top of service spillway). Dead storage is negligible. Reservoir used to maintain level of Lake Worth from which city of Fort Worth derives its municipal supply.

Cooperation.- Capacity curve and records of monthly elevations (February 1934 to April 1939) and daily elevations (May 1939 to September 1944) furnished by Tarrant County Water Control and Improvement District No. 1.

Capacity table (elevation, in feet, and contents, in acre-feet)  
(Based on capacity curve, prepared by Tarrant County Water  
Control and Improvement District No. 1, from  
Geological Survey topographic maps)

600	0	607	6,100	630	78,000
601	500	610	10,600	635	106,000
602	1,200	613	16,700	640	138,000
603	2,000	616	24,400	645	177,000
604	2,800	620	36,000	650	222,000
605	3,600	625	55,000	657	299,000

Monthly elevation and contents, 1934-44

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 31.....	-	-	-	Oct. 31, 1935	643.4	163,200	-800
Nov. 30.....	-	-	-	Nov. 30.....	643.9	167,200	+4,000
Dec. 31.....	-	-	-	Dec. 31.....	645.0	177,000	+9,800
Calendar	-	-	-	Calendar	-	-	-
year.....	-	-	-	year 1935.....	-	-	+149,800
Jan. 31.....	-	-	-	Jan. 31, 1936	643.1	160,800	-16,200
Feb. 28, 1934	599.3	0	-	Feb. 28.....	643.0	160,000	-800
Mar. 31.....	612.7	16,010	+16,010	Mar. 31.....	643.0	160,000	0
Apr. 30.....	612.7	16,010	0	Apr. 30.....	642.3	154,750	-5,250
May 31.....	614.0	19,100	+3,090	May 31.....	644.0	168,000	+13,250
June 30.....	609.2	9,320	-9,780	June 30.....	643.4	163,200	-4,800
July 31.....	612.5	15,550	+6,230	July 31.....	643.4	163,200	0
Aug. 31.....	614.0	19,100	+3,550	Aug. 31.....	643.1	160,800	-2,400
Sept. 30.....	614.9	21,350	+2,250	Sept. 30.....	646.6	191,400	+30,600
The period..	-	-	+21,350	Water year	-	-	-
Oct. 31, 1934	614.5	20,350	-1,000	1935-36	-	-	+27,400
Nov. 30.....	617.4	28,320	+7,970	Oct. 31, 1936	644.8	175,200	-16,200
Dec. 31.....	617.0	27,200	-1,120	Nov. 30.....	644.0	168,000	-7,200
Calendar	-	-	-	Dec. 31.....	644.6	173,400	+5,400
year 1934....	-	-	-	Calendar	-	-	-
Jan. 31, 1935	618.4	31,200	+4,000	year 1936....	-	-	-3,600
Feb. 28.....	619.3	33,900	+2,700	Jan. 31, 1937	645.2	178,800	+5,400
Mar. 31.....	620.5	37,700	+3,800	Feb. 28.....	644.3	170,700	-8,100
Apr. 30.....	620.5	37,700	0	Mar. 31.....	644.7	174,300	+3,600
May 31.....	644.6	173,400	+135,700	Apr. 30.....	644.2	169,800	-4,500
June 30.....	643.0	160,000	-13,400	May 31.....	644.0	168,000	-1,800
July 31.....	643.9	167,200	+7,200	June 30.....	643.6	164,800	-3,200
Aug. 31.....	642.4	155,500	-11,700	July 31.....	644.1	168,900	+4,100
Sept. 30.....	643.5	164,000	+8,500	Aug. 31.....	644.8	175,200	+6,300
Water year	-	-	+142,650	Sept. 30.....	644.1	168,900	-6,300
1934-35....	-	-	-	Water year	-	-	-
				1936-37.....	-	-	-22,500

Monthly elevation and contents of Eagle Mountain Reservoir above Fort Worth, Tex., 1934-44--Continued

Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)	Date	Elevation (feet)	Contents (acre-feet)	Change in contents during month (acre-feet)
Oct. 31, 1937	643.8	166,400	-2,600	Oct. 31, 1941	644.4	171,600	+1,800
Nov. 30.....	644.1	168,900	+2,500	Nov. 30.....	644.1	168,900	-2,700
Dec. 31.....	644.9	176,100	+7,200	Dec. 31.....	644.9	176,100	+7,200
Calendar year 1937....	-	-	+2,700	Calendar year 1941....	-	-	+1,800
Jan. 31, 1938	645.5	179,700	+3,600	Jan. 31, 1942	642.5	156,250	-19,850
Feb. 28.....	644.8	175,200	-4,500	Feb. 28.....	643.6	164,800	+8,550
Mar. 31.....	648.9	212,100	+36,900	Mar. 31.....	643.5	164,000	-800
Apr. 30.....	644.4	171,600	-40,500	Apr. 30.....	637.2	301,400	+137,400
May 31.....	644.1	168,900	-2,700	May 31.....	650.1	223,450	-77,950
June 30.....	643.8	166,400	-2,500	June 30.....	647.0	195,000	-28,450
July 31.....	644.8	175,200	+8,800	July 31.....	642.3	154,750	-40,250
Aug. 31.....	643.8	166,400	-8,800	Aug. 31.....	641.8	151,000	-3,750
Sept. 30.....	644.4	171,600	+5,200	Sept. 30.....	637.5	120,750	-30,250
Water year 1937-38.....	-	-	+2,700	Water year 1941-42.....	-	-	-49,050
Oct. 31, 1938	645.3	179,700	+8,100	Oct. 31, 1942	637.9	123,350	+2,600
Nov. 30.....	644.2	169,800	-9,900	Nov. 30.....	637.4	120,100	-3,250
Dec. 31.....	645.0	177,000	+7,200	Dec. 31.....	637.6	121,400	+1,300
Calendar year 1938....	-	-	+900	Calendar year 1942....	-	-	-54,700
Jan. 31, 1939	644.2	169,800	-7,200	Jan. 31, 1943	637.6	121,400	-
Feb. 28.....	644.3	179,700	+900	Feb. 28.....	640.6	142,200	+20,800
Mar. 31.....	643.3	162,400	-8,300	Mar. 31.....	644.2	169,800	+27,600
Apr. 30.....	644.9	176,100	+13,700	Apr. 30.....	644.4	171,600	+1,800
May 31.....	644.6	173,400	-2,700	May 31.....	649.0	213,000	+41,400
June 30.....	644.1	168,900	-4,500	June 30.....	648.6	209,400	-3,600
July 31.....	643.3	162,400	-6,500	July 31.....	648.7	210,300	+900
Aug. 31.....	643.3	162,400	0	Aug. 31.....	648.8	211,200	+900
Sept. 30.....	643.2	161,600	-800	Sept. 30.....	648.9	212,100	+900
Water year 1938-39.....	-	-	-10,000	Water year 1942-43.....	-	-	+91,350
Oct. 31, 1939	641.9	151,750	-9,850	Oct. 31, 1943	648.8	211,200	-900
Nov. 30.....	641.7	150,250	-1,500	Nov. 30.....	648.7	210,300	-900
Dec. 31.....	641.6	149,500	-750	Dec. 31.....	648.9	212,100	+1,800
Calendar year 1939....	-	-	-27,500	Calendar year 1943....	-	-	+90,700
Jan. 31, 1940	641.4	148,000	-1,500	Jan. 31, 1944	649.2	214,900	+2,800
Feb. 28.....	641.5	148,750	+750	Feb. 28.....	649.7	219,600	+4,700
Mar. 31.....	641.3	147,250	-1,500	Mar. 31.....	648.5	208,500	-11,100
Apr. 30.....	641.7	150,250	+3,000	Apr. 30.....	648.7	210,300	+1,800
May 31.....	643.2	161,600	+11,350	May 31.....	648.5	208,500	-1,800
June 30.....	645.9	185,100	+23,500	June 30.....	648.6	209,400	+900
July 31.....	645.6	182,400	-2,700	July 31.....	649.0	213,000	+3,600
Aug. 31.....	645.8	184,200	+1,800	Aug. 31.....	649.3	215,800	+2,800
Sept. 30.....	645.5	181,500	-2,700	Sept. 30.....	648.8	211,200	-4,600
Water year 1939-40.....	-	-	+19,900	Water year 1943-44.....	-	-	-900
Oct. 31, 1940	644.7	174,300	-7,200				
Nov. 30.....	647.9	203,100	+28,800				
Dec. 31.....	644.7	174,300	-28,800				
Calendar year 1940....	-	-	+24,800				
Jan. 31, 1941	644.3	170,700	-3,600				
Feb. 28.....	644.4	171,600	+900				
Mar. 31.....	645.9	185,100	+13,500				
Apr. 30.....	646.6	191,400	+6,300				
May 31.....	646.3	188,700	-2,700				
June 30.....	654.3	267,600	+78,600				
July 31.....	646.5	190,500	-76,800				
Aug. 31.....	644.9	176,100	-14,400				
Sept. 30.....	644.2	169,800	-6,500				
Water year 1940-41.....	-	-	-11,700				

Notes.- Gage read daily. Time of readings prior to October 1943 not known; gage read at 8 a.m. during water year 1943-44.

Time basis: Central standard time prior to 2 a.m., Feb. 9, 1942; central war time thereafter.

To convert war time to standard time, subtract 1 hour.



## West Fork Trinity River at Fort Worth, Tex.

Location.— Water-stage recorder above Texas Electric Service Co.'s (revised) concrete dam, lat. 32°46', long. 97°20', in old pump house of Texas Electric Service Co.'s plant in Fort Worth, Tarrant County, 150 feet upstream from Paddock viaduct and a quarter of a mile downstream from Clear Fork. Datum of gage is 519.2 feet above mean sea level (Texas Reclamation Department bench mark based on Coast & Geodetic Survey datum).

Drainage area.— 2,431 square miles.

Records available.— October 1920 to September 1944. U. S. Weather Bureau has collected gage-height records in this vicinity since 1910.

Average discharge.— 24 years, 460 second-feet.

Extremes.— Maximum discharge during year, 7,080 second-feet May 29 (gage height, 7.37 feet); minimum, 6.8 second-feet Nov. 6.

1920-44: Maximum discharge, 85,000 second-feet Apr. 25, 1922 (gage height, 23.95 feet), by slope-area method, data furnished by city engineer of Fort Worth; no flow at times.

Remarks.— Records good. Flow partly regulated by Bridgeport, Eagle Mountain, and Lake Worth Reservoirs (combined capacity, 527,000 acre-feet). Considerable diversion above station for municipal supply of city of Fort Worth. Several small diversions above Fort Worth.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	24	8.0	26	45	2,040	67	1,180	1,920	128	23	1,100
2	27	18	8.0	142	76	2,420	69	4,410	900	64	22	992
3	14	12	9.2	114	88	2,760	67	2,760	468	41	22	669
4	14	9.2	9.2	37	58	2,830	435	2,620	314	35	22	320
5	12	8.0	64	25	44	2,550	1,710	2,040	244	29	22	168
6	12	6.9	27	15	41	2,550	969	856	190	25	23	210
7	10	17	33	14	512	1,180	408	374	158	23	22	222
8	10	20	20	14	1,080	478	215	220	166	22	22	79
9	9.2	14	14	18	1,220	253	283	181	132	22	22	44
10	9.2	8.0	46	20	932	225	444	136	109	20	22	33
11	9.2	6.9	24	20	444	225	586	106	102	18	23	25
12	9.2	6.9	15	16	154	168	488	95	213	32	37	25
13	10	6.9	12	20	89	140	488	85	117	38	23	25
14	10	8.0	14	25	164	117	364	75	75	29	23	23
15	9.2	8.0	14	27	120	182	207	58	64	27	53	22
16	8.0	9.2	14	25	102	475	92	56	58	25	239	22
17	6.9	12	14	25	117	573	58	48	48	25	413	20
18	8.0	12	14	25	98	480	56	48	46	22	394	20
19	8.0	12	12	23	96	530	48	46	39	22	177	20
20	8.0	9.2	12	25	75	226	48	58	37	22	76	20
21	9.2	9.2	12	23	67	144	78	69	33	25	39	20
22	10	9.2	14	22	72	164	64	1,560	27	111	27	20
23	13	10	14	22	72	152	94	946	27	241	22	22
24	12	9.2	14	23	61	109	55	982	25	438	22	20
25	62	10	15	37	78	109	35	1,350	31	482	20	22
26	198	10	15	37	98	95	29	1,100	31	320	44	86
27	112	10	15	44	370	85	35	2,070	37	144	27	352
28	51	9.2	14	33	2,890	85	31	2,480	121	61	55	580
29	31	8.0	12	31	2,210	116	353	4,750	363	39	246	584
30	18	8.0	14	31	-	72	652	3,720	276	27	649	227
31	23	-	18	29	-	69	-	2,550	-	25	1,430	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	766.1	198	6.9	24.7	1,520
November.....	321.0	24	6.9	10.7	637
December.....	540.4	64	8.0	17.4	1,070
Calendar year 1943.....	86,928.4	2,980	1.5	258	172,400
January.....	996	142	14	31.8	1,980
February.....	11,449	2,890	41	395	22,710
March.....	21,572	2,830	69	696	42,790
April.....	8,528	1,710	29	284	16,920
May.....	35,729	4,750	46	1,153	70,870
June.....	6,431	1,920	25	214	12,780
July.....	2,682	462	18	85.3	5,120
August.....	4,264	1,450	20	136	8,460
September.....	5,992	1,100	20	200	11,680
Water year 1943-44.....	99,180.6	4,750	6.9	271	196,700

Peak discharge.— May 2 (2:30 a.m.) 6,180 sec.-ft.; May 29 (2:30 p.m.) 7,080 sec.-ft.

Note.— No gage-height record Dec. 13 to Jan. 19; discharge computed on basis of graph drawn from once-daily readings of U. S. Weather Bureau wire-weight gage 600 feet above recorder.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## TRINITY RIVER BASIN

West Fork Trinity River at Grand Prairie, Tex.

Location.- Water-stage recorder, lat. 32°46', long. 96°59', 440 feet downstream from bridge on Grand Prairie-Sowers-Irving highway, 1 mile northeast of Grand Prairie, Dallas County, and 6 miles upstream from Mountain Creek. Datum of gage is 412.98 feet above mean sea level, datum of 1929.

Drainage area.- 2,886 square miles.

Records available.- March 1925 to September 1944.

Average discharge.- 19 years, 592 second-feet.

Extremes.- Maximum discharge during year, 8,600 second-feet May 30 (gage height, 21.43 feet); minimum, 32 second-feet Nov. 8; minimum gage height, 1.78 feet Oct. 19. 1925-44: Maximum discharge, 27,200 second-feet Apr. 25, 1942 (gage height, 25.98 feet), from rating curve extended above 14,000 second-feet on basis of velocity-area study; minimum observed, 3.2 second-feet June 6, 1925. Maximum stage known, 29 feet in April 1922.

Remarks.- Records good. Flow partly regulated by Bridgeport, Eagle Mountain, and Lake Worth Reservoirs (combined capacity, 527,000 acre-feet). City of Fort Worth diverts considerable water for municipal supply. Several small diversions above Fort Worth.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	108	57	40	75	75	2,290	129	1,650	2,640	298	65	1,480
2	177	61	41	268	126	2,320	282	6,740	1,740	176	63	1,140
3	114	55	42	196	230	2,680	184	5,700	905	114	57	965
4	65	51	42	147	184	3,020	135	2,950	577	91	57	592
5	51	44	43	112	135	2,950	793	2,680	432	79	56	324
6	52	43	124	86	105	2,680	1,790	1,840	368	74	60	241
7	49	39	114	77	90	2,360	875	875	507	72	55	272
8	48	36	71	68	701	1,090	432	451	286	66	54	245
9	48	43	68	95	1,900	534	417	335	296	65	56	133
10	47	50	62	74	1,450	363	461	288	248	60	56	100
11	44	46	88	70	1,020	380	534	235	213	58	55	80
12	39	43	95	68	480	340	620	202	202	40	56	72
13	43	41	60	71	219	274	548	180	296	81	62	70
14	45	40	49	90	186	243	519	174	217	94	70	70
15	45	41	47	74	296	215	394	154	169	80	53	66
16	44	36	47	68	202	297	245	130	145	72	58	64
17	42	39	48	64	174	592	150	121	133	65	244	62
18	39	41	49	63	196	947	114	114	123	62	418	56
19	36	48	50	65	157	1,410	105	110	109	61	374	53
20	40	50	50	64	164	680	99	486	103	59	207	87
21	43	46	46	62	129	332	96	261	103	59	117	57
22	42	43	50	63	124	294	154	890	94	67	85	56
23	43	36	51	64	127	296	127	2,730	87	194	71	56
24	45	39	52	60	129	252	126	995	87	283	64	55
25	57	42	57	60	123	200	120	1,440	81	461	60	50
26	49	41	74	87	178	178	87	2,220	79	490	62	50
27	217	39	65	86	458	156	80	2,220	81	325	94	93
28	159	43	161	106	3,380	145	79	2,780	85	184	83	401
29	103	43	134	86	3,990	141	168	3,580	206	117	98	606
30	75	36	81	79	-	174	1,500	6,300	400	92	333	526
31	61	-	72	74	-	133	-	4,780	-	73	876	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,069	217	36	66.7	4,100
November.....	1,512	61	36	43.7	2,500
December.....	2,071	161	40	66.8	4,110
Calendar year 1943.....	124,608	5,330	32	341	247,200
January.....	2,742	268	60	88.5	5,440
February.....	16,713	3,990	75	576	33,180
March.....	27,976	3,020	133	902	55,490
April.....	11,563	1,790	79	379	22,540
May.....	55,602	8,300	110	1,794	110,300
June.....	10,812	2,640	79	360	21,450
July.....	4,134	490	58	133	8,200
August.....	4,119	876	53	133	8,170
September.....	8,092	1,450	50	270	16,050
Water year 1943-44.....	147,010	8,300	36	402	291,600

Peak discharge.- Feb. 9 (8 a.m.) 2,180 sec.-ft.; Feb. 28 (10:30 a.m.) 4,820 sec.-ft.; Mar. 4 (4 p.m.) 3,140 sec.-ft.; May 2 (7 p.m.) 8,200 sec.-ft.; May 23 (1 a.m.) 3,930 sec.-ft.; May 30 (3 p.m.) 8,600 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Trinity River at Dallas, Tex.

Location.- Water-stage recorder, lat. 32°47', long. 96°48', at Commerce Street viaduct in Dallas, Dallas County, 5½ miles downstream from confluence of West and Elm Forks. Datum of gage is 368.14 feet above mean sea level, datum of 1929.

Drainage area.- 6,001 square miles.

Records available.- July 1903 to July 1930, October 1932 to September 1944 (January 1907 to September 1920, monthly records only, in Water-Supply Paper 850). October 1898 to December 1899 (gage heights only), at site 2 miles upstream. July 1930 to September 1932, at site 6 miles downstream. U. S. Weather Bureau has collected gage-height records in this vicinity since 1903.

Average discharge.- 41 years (1903-44), 1,504 second-feet.

Extremes.- Maximum discharge during year, 22,700 second-feet May 2 (gage height, 34.87 feet); minimum, 52 second-feet Nov. 10.

1903-44: Maximum discharge, 184,000 second-feet May 25, 1908 (gage height, 52.6 feet), from rating curve extended above 109,000 second-feet; minimum observed for periods 1903-6, 1920-44, 6.8 second-feet Sept. 11, 1924.

Remarks.- Records good except those for period of no gage-height record, which are fair. Flow partly regulated by Bridgeport, Eagle Mountain, Lake Worth, Mountain Creek, and Lake Dallas Reservoirs (combined capacity, 757,000 acre-feet). Cities of Fort Worth and Dallas divert considerable water for municipal supply. Several small diversions on West Fork above Fort Worth.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	638	113	77	164	169	e12,100	373	e8,010	e6,370	617	242	2,200
2	530	132	72	306	387	e9,150	1,080	e18,000	e4,690	860	235	1,540
3	440	128	72	705	595	e4,060	e5,490	e20,300	e4,310	559	233	1,540
4	353	130	70	570	905	e5,200	e5,450	e18,400	e3,960	387	240	1,080
5	275	110	79	306	719	e5,270	1,350	e11,500	e2,990	336	240	750
6	233	98	103	185	310	4,550	3,260	e7,480	1,750	312	248	861
7	224	92	280	162	197	3,790	2,910	e4,970	805	306	260	855
8	121	94	172	162	699	2,980	2,200	e4,340	615	285	248	660
9	85	66	118	254	3,550	1,540	2,140	3,740	530	280	250	478
10	90	58	154	245	3,760	830	2,520	3,550	446	g278	250	408
11	106	62	127	153	1,700	682	2,140	1,350	429	g270	255	366
12	102	54	153	215	880	660	1,770	615	404	g262	264	345
13	106	85	118	385	416	550	955	415	418	g572	300	327
14	106	85	101	132	349	494	755	362	g415	g597	303	321
15	101	92	92	127	801	450	550	345	g327	g539	291	318
16	106	84	78	113	730	454	415	297	g262	g530	272	309
17	106	83	70	110	550	830	306	265	g221	g512	374	306
18	107	85	84	107	592	2,000	228	242	226	297	615	300
19	98	88	85	108	660	3,650	214	226	185	280	660	288
20	93	91	86	101	769	3,130	217	1,130	166	270	490	294
21	102	102	68	102	814	2,360	214	1,230	162	280	366	285
22	102	118	77	101	705	2,300	369	e3,070	318	300	300	250
23	101	115	84	106	402	2,300	478	e9,390	366	363	297	212
24	107	108	81	108	294	2,140	432	e7,340	412	467	285	199
25	116	111	59	113	272	1,930	324	e5,580	429	660	280	202
26	107	111	102	116	508	1,980	204	e9,380	429	682	294	195
27	202	98	122	141	e1,480	1,660	170	e10,500	422	570	321	219
28	250	92	193	136	e9,230	1,680	155	e11,000	390	412	370	452
29	183	90	570	402	e11,800	1,980	317	e12,500	382	318	387	705
30	143	81	389	190	-	1,400	e3,450	e16,000	615	297	604	755
31	110	-	160	157	-	570	-	e11,200	-	262	1,380	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,523	638	85	178	10,950
November.....	2,885	132	58	96.2	5,720
December.....	4,126	570	88	133	8,180
Calendar year 1943 .....	350,251	18,300	58	960	694,700
January.....	6,280	705	101	203	12,460
February.....	43,043	11,800	169	1,484	85,370
March.....	83,110	12,100	450	2,681	164,800
April.....	40,436	5,490	155	1,348	80,200
May.....	202,507	20,300	226	6,532	401,700
June.....	33,444	6,370	162	1,115	66,340
July.....	11,990	682	262	387	23,780
August.....	11,154	1,380	233	360	22,120
September.....	16,800	2,200	195	560	33,320
Water year 1943-44 .....	461,299	20,300	58	1,280	914,900

Peak discharge.- Mar. 1 (6:15 a.m.) 12,100 sec.-ft.; May 2 (7:15 p.m.) 22,700 sec.-ft.; May 30 (3 p.m.) 16,600 sec.-ft.

e Discharge from loop curve.

g Computed from graph based on gage readings furnished by U. S. Weather Bureau.

Note.- No gage-height record Nov. 18 to Dec. 3; discharge computed on basis of records for West Fork Trinity River near Grand Prairie and Elm Fork Trinity River near Carrollton less pumpage by city of Dallas.

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

## TRINITY RIVER BASIN

Trinity River near Rosser, Tex.

**Location.**— Water-stage recorder, lat. 32°25'40", long. 96°27'50", at bridge on State Highway 34, 1.4 miles downstream from Texas & New Orleans Railroad bridge, 1.9 miles downstream from East Fork, and 2.5 miles south of Rosser, Kaufman County. Datum of gage is 302.6 feet above mean sea level, datum of 1929.

**Drainage area.**— 8,057 square miles.

**Records available.**— November 1938 to September 1944. July 1924 to September 1925 (October 1924 to September 1925, gage heights only), at site 1.7 miles upstream.

**Extremes.**— Maximum discharge during year, 39,000 second-feet May 6 (gage height, 32.36 feet); minimum, 97 second-feet Nov. 11, 12.

1924, 1938-44: Maximum discharge not determined but occurred Apr. 23 or 24, 1942, following numerous breaks in levee system on both banks; maximum gage height, 41.55 feet Apr. 22, 1942, just prior to levee breaks; minimum discharge, 34 second-feet Sept. 8-11, 1924.

Flood of May 1908 reached a stage of about 33.0 feet, present site and datum, from information by Corps of Engineers, U. S. Army (discharge believed to have been approximately the same as that of Apr. 23 or 24, 1942).

**Remarks.**— Records good. Flow partly regulated by reservoirs above Dallas. Levee system constructed in 1916. Levee breaks which occurred during April 1942 flood were repaired on left bank prior to current year and on right bank prior to May 1944 flood. Cities of Fort Worth and Dallas divert considerable water for municipal supply. Several small diversions on West Fork above Fort Worth.

Rating table, water year 1943-44 (gage height, in feet,  
(Shifting-control method used June 16 to Sept. 1)

4.50	95	14.0	2,590	29.8	14,400
5.0	185	17.0	3,520	30.6	18,400
7.0	500	22.0	5,790	31.4	24,300
8.0	702	25.0	7,900	31.8	28,800
10.0	1,200	28.0	11,000	32.2	36,000
12.0	1,740	29.0	12,400	32.4	40,000

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	624	167	130	289	258	8,950	1,330	9,260	11,800	658	313	1,460
2	823	149	120	401	603	9,760	1,220	16,500	12,600	750	281	2,140
3	680	172	123	518	825	10,600	3,270	21,000	12,700	873	266	1,710
4	518	178	118	823	848	11,000	5,470	24,500	11,000	848	258	1,490
5	417	175	120	726	1,100	10,600	5,970	35,000	7,650	536	266	1,230
6	353	165	125	466	1,020	8,860	3,440	36,000	5,630	483	273	948
7	297	143	144	337	574	6,950	4,140	29,600	3,820	433	273	1,040
8	289	128	289	313	456	5,840	4,240	22,600	2,360	417	289	1,230
9	220	126	273	313	1,900	4,820	3,810	17,600	1,680	385	281	973
10	151	130	206	329	3,840	3,650	3,250	12,600	1,540	361	273	668
11	131	105	482	377	4,040	2,940	3,020	9,040	1,410	353	273	500
12	149	100	273	313	2,440	2,180	2,610	4,490	1,150	337	281	449
13	164	113	280	399	1,560	1,410	2,150	1,900	1,020	478	305	433
14	154	125	195	587	1,120	1,120	1,580	1,500	973	658	353	401
15	150	124	167	273	798	998	1,070	1,120	823	556	329	393
16	142	124	150	250	1,050	923	873	1,020	726	466	313	386
17	142	134	135	213	1,150	898	726	948	658	433	297	369
18	144	123	128	206	1,050	1,260	594	848	536	417	353	361
19	140	130	133	198	973	3,670	518	750	466	377	574	353
20	143	129	140	195	1,050	5,200	822	2,330	417	353	636	346
21	133	133	142	166	1,200	5,010	998	2,340	369	321	500	345
22	136	134	138	184	1,360	5,150	798	2,540	329	329	401	345
23	146	150	130	181	1,150	6,280	948	5,080	417	385	329	313
24	142	168	140	179	750	6,140	998	6,810	518	483	321	266
25	144	153	140	196	594	5,440	750	7,740	554	518	313	260
26	146	147	149	236	574	4,480	594	9,350	574	680	297	250
27	154	153	160	228	774	3,890	449	9,980	656	726	313	245
28	187	181	250	289	5,540	3,440	393	10,500	574	636	345	228
29	305	131	305	258	8,650	3,130	443	10,500	536	466	433	436
30	243	129	614	416	-	3,020	2,990	10,900	483	385	500	750
31	206	-	500	402	-	2,360	-	11,100	-	345	792	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,773	823	131	251	15,420
November.....	4,189	178	100	140	8,310
December.....	6,339	614	118	204	12,570
Calendar year 1943 .....	667,840	22,900	100	1,850	1,325,000
January.....	10,261	823	179	332	20,390
February.....	47,445	8,850	258	1,636	94,110
March.....	149,829	11,000	398	4,833	297,200
April.....	59,244	5,970	393	1,975	117,500
May.....	337,246	36,000	750	10,880	668,900
June.....	83,949	12,700	329	2,798	166,600
July.....	15,426	873	321	498	30,600
August.....	11,031	792	258	356	21,890
September.....	20,324	2,140	243	677	40,510
Water year 1943-44 .....	753,076	38,000	100	2,058	1,494,000

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Trinity River near Oakwood, Tex.

Location.- Water-stage recorder, lat. 31°39', long. 95°47', at bridge on U. S. Highways 79 and 84, 1½ miles upstream from International-Great Northern Railroad bridge and 6 miles northeast of Oakwood, Leon County. Datum of gage is 175.03 feet above mean sea level, datum of 1929.

Drainage area.- 12,840 square miles.

Records available.- July 1932 to September 1944. January 1906 to July 1932, at site 1½ miles downstream (January 1906 to September 1923, monthly and yearly records only, in Water-Supply Papers 850 and 878). U. S. Weather Bureau has collected gage-height records in this vicinity since 1904.

Average discharge.- 21 years (1923-44), 5,001 second-feet.

Extremes.- Maximum discharge during year, 111,000 second-feet May 5 (gage height, 48.97 feet); minimum, 202 second-feet Nov. 16.

1923-44: Maximum discharge, 153,000 second-feet Apr. 29, 1942 (gage height, 51.64 feet); minimum observed for period 1924-44, 22 second-feet Aug. 18, 1934.

Flood of June 4, 1908, reached a stage of about 52.2 feet, present site and datum, from information by U. S. Weather Bureau.

Remarks.- Records good. Flow partly regulated by reservoirs above Dallas. Cities of Fort Worth and Dallas divert considerable water for municipal supply. Several small diversions on West Fork above Fort Worth.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,220	353	286	1,610	5,450	18,400	5,010	11,800	18,500	794	645	585
2	2,190	527	286	2,190	4,750	22,000	4,200	22,200	19,600	750	509	729
3	2,410	473	266	4,610	3,160	26,000	3,400	27,800	20,400	687	423	908
4	3,360	455	260	7,560	3,480	26,000	3,200	28,000	20,600	838	375	1,560
5	13,160	375	266	8,620	5,010	23,800	4,200	110,000	20,200	932	340	1,970
6	1,770	326	340	8,750	5,450	21,700	5,800	103,000	19,100	1,030	326	1,850
7	956	319	340	7,090	4,500	19,600	6,870	84,800	17,800	1,000	305	1,640
8	645	319	361	4,110	3,720	17,800	6,650	66,800	16,700	794	292	1,360
9	491	298	648	2,250	18,780	16,000	5,800	53,000	16,200	645	305	1,150
10	591	272	858	1,970	110,200	14,600	5,450	45,000	16,500	605	292	1,200
11	347	253	794	2,120	12,700	13,500	5,350	40,300	16,200	565	292	1,200
12	312	234	750	2,480	14,000	11,500	5,110	37,800	13,400	509	298	1,000
13	664	220	1,260	3,650	14,700	18,940	4,550	34,900	7,750	455	305	794
14	7,020	220	2,120	5,900	15,300	16,540	3,860	32,400	3,810	455	286	645
15	10,900	208	1,820	8,020	15,000	4,420	3,200	29,200	2,820	455	298	545
16	12,900	202	1,150	9,140	13,500	3,280	2,480	24,700	2,350	491	354	473
17	14,300	208	750	8,620	11,600	2,720	1,880	21,700	1,880	729	354	439
18	14,900	214	565	7,900	18,820	2,380	1,530	16,700	1,630	772	354	375
19	12,800	208	491	7,600	16,260	2,280	1,310	10,100	1,540	708	340	347
20	6,290	208	439	6,260	5,350	3,280	1,130	5,950	1,200	605	319	354
21	1,950	227	369	3,980	4,950	5,950	1,030	3,770	1,030	527	319	368
22	315	234	368	2,380	5,010	8,620	1,130	4,850	884	473	491	361
23	565	234	399	1,700	4,640	11,000	1,610	8,060	772	455	645	347
24	508	227	455	1,390	4,760	12,400	1,820	19,270	708	491	685	340
25	439	220	509	1,230	5,160	13,700	1,610	110,300	666	527	473	319
26	368	227	473	1,130	7,200	14,500	1,500	11,600	645	1,060	383	292
27	326	260	527	1,130	10,900	14,500	1,360	12,900	729	1,360	340	298
28	298	292	708	1,450	13,800	13,300	1,150	13,800	794	1,310	340	292
29	361	286	760	2,800	16,100	10,700	1,280	14,700	816	1,000	340	286
30	375	279	1,100	4,030	-	7,600	5,760	15,500	858	860	354	279
31	347	-	1,700	4,780	-	5,900	-	16,800	-	772	423	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	103,400	14,900	298	5,335	205,100
November.....	8,408	527	202	260	16,680
December.....	21,418	2,120	260	691	42,480
Calendar year 1943 .....	1,437,589	29,200	163	3,939	2,851,000
January.....	136,250	9,140	1,130	4,395	270,200
February.....	248,260	16,100	3,160	8,354	480,500
March.....	368,710	26,000	2,280	12,350	769,100
April.....	99,210	6,870	1,030	3,307	196,800
May.....	1,037,500	110,000	3,770	35,470	2,058,000
June.....	245,342	20,600	645	8,178	486,600
July.....	22,654	1,360	455	731	44,930
August.....	11,705	645	286	378	23,280
September.....	22,286	1,970	279	743	44,200
Water year 1943-44 .....	2,333,143	110,000	202	6,375	4,628,000

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## TRINITY RIVER BASIN

Trinity River near Midway, Tex.

Location.— Wire-weight gage, lat. 31°04'40", long. 95°42'00" at bridge on State Highway 21, 5 miles northeast of Midway, Madison County, and 8 miles downstream from Boggy Creek. Datum of gage is 117.6 feet above mean sea level, datum of 1929.

Drainage area.— 14,390 square miles.

Records available.— April 1939 to September 1944.

Extremes.— Maximum discharge during year, 108,000 second-feet May 8 (gage height, 47.11 feet); minimum observed, 290 second-feet Nov. 18, 21.

1939-44: Maximum discharge, 146,000 second-feet May 1, 1942 (gage height, 48.58 feet); minimum observed, 100 second-feet Oct. 4, 1939.

Maximum discharge known occurred in May 1890 (gage height, about 45.0 feet, discharge not determined), from information by local residents. Flood of May 27, 1930, reached a stage of 46.7 feet, from floodmark (flow confined within levee system constructed in 1916). Flood of June 9, 1908, reached a stage of 44.3 feet, from floodmarks and from information by local residents.

Remarks.— Records good except those for days of no gage-height record, which are fair. Gage read twice daily, oftener during high stages. Flow partly regulated by reservoirs above Dallas. Cities of Fort Worth and Dallas divert considerable water for municipal supply. Several small diversions on West Fork above Fort Worth.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,240	445	430	1,690	8,200	16,100	9,160	32,100	16,800	1,020	945	1,190
2	1,240	635	415	3,990	6,830	17,300	6,760	36,100	17,200	1,020	825	1,140
3	2,100	895	402	4,460	6,060	16,400	6,060	43,600	17,900	1,060	688	865
4	2,480	825	390	5,040	4,780	19,600	5,040	45,000	18,600	1,060	582	885
5	3,120	670	390	6,560	3,960	20,900	4,330	46,600	19,300	1,020	520	1,190
6	3,300	520	565	7,980	4,780	22,200	4,590	64,800	20,200	1,060	475	2,320
7	2,580	535	670	8,580	5,440	22,800	5,710	100,000	20,900	1,060	445	2,540
8	1,420	592	635	8,200	5,110	23,100	6,650	108,000	20,600	1,140	430	2,430
9	965	580	613	5,060	7,680	22,800	7,110	96,000	19,900	1,080	415	1,840
10	725	490	490	5,420	9,580	21,800	6,460	80,500	18,800	865	415	1,420
11	600	402	765	2,210	10,800	20,100	5,850	63,500	17,900	725	415	1,240
12	490	378	865	3,500	11,900	18,000	5,570	48,400	17,400	705	415	1,280
13	565	340	845	8,960	13,200	15,300	5,370	44,500	17,100	635	402	1,190
14	618	340	845	12,800	16,000	12,400	4,980	42,100	13,800	582	415	1,000
15	3,610	325	1,500	13,400	17,400	9,820	4,350	59,600	8,140	565	402	765
16	8,120	315	1,840	13,000	17,600	8,200	3,780	38,100	4,660	565	402	688
17	10,200	310	1,420	13,200	17,000	6,970	3,000	36,800	3,600	550	415	600
18	11,800	300	985	11,300	15,400	5,640	2,380	34,900	2,940	618	445	550
19	12,900	300	705	9,980	12,600	4,520	2,160	33,300	2,430	785	445	520
20	13,500	308	565	9,020	9,580	4,020	1,940	30,800	2,040	805	445	475
21	10,800	295	520	7,900	7,320	4,080	1,800	24,000	1,840	745	445	445
22	5,060	293	490	5,320	6,270	6,020	1,370	16,600	1,640	670	415	450
23	1,800	305	705	3,780	9,280	11,200	1,320	14,500	1,420	618	415	460
24	1,020	315	1,720	2,480	8,420	13,100	1,740	13,100	1,240	582	520	445
25	765	315	2,940	1,940	7,180	13,400	1,990	12,400	1,100	582	562	445
26	652	320	2,430	1,640	9,100	13,700	1,840	14,700	1,000	565	565	430
27	565	365	1,690	1,600	10,700	14,300	1,640	16,600	945	552	490	430
28	490	378	2,210	1,640	11,700	15,000	1,550	17,500	925	1,240	445	430
29	430	430	2,160	5,810	14,200	15,600	1,370	17,000	1,000	1,460	415	445
30	390	460	1,690	11,000	-	15,500	11,500	16,700	1,020	1,280	490	445
31	445	-	1,190	10,400	-	12,900	-	16,600	-	1,060	1,240	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	103,790	13,300	390	3,348	205,900
November.....	13,004	885	295	433	25,790
December.....	32,987	2,940	390	1,064	65,430
Calendar year 1943.....	1,530,155	22,900	221	4,192	3,035,000
January.....	207,450	13,400	1,600	6,692	411,500
February.....	287,270	17,600	3,960	9,906	569,800
March.....	444,670	23,100	4,020	14,340	881,800
April.....	127,350	11,500	1,320	4,245	252,600
May.....	1,248,800	108,000	12,400	40,290	2,477,000
June.....	292,340	20,900	925	9,745	579,800
July.....	26,354	1,460	550	860	52,270
August.....	16,033	1,240	402	517	31,800
September.....	28,563	2,640	430	962	56,650
Water year 1943-44.....	2,828,511	108,000	295	7,728	5,610,000

a No gage-height record; discharge computed by comparison with records for stations near Oakwood and at Riverside.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Trinity River at Riverside, Tex.

Location.-- Wire-weight gage, lat. 30°52', long. 95°24', at bridge on State Highway 45, 1,200 feet upstream from International-Great Northern Railroad bridge, 0.5 mile north of Riverside, Walker County, and three-quarters of a mile downstream from Harmon Creek. Datum of gage is 89.86 feet above mean sea level, datum of 1929.

Drainage area.-- 15,510 square miles.

Records available.-- January 1903 to December 1906, October 1923 to September 1944.

U. S. Weather Bureau has collected gage-height records in this vicinity since 1903.

Average discharge.-- 24 years (1903-6, 1923-44), 6,863 second-feet.

Extremes.-- Maximum discharge during year, 83,000 second-feet May 11 (gage height, 47.75 feet); minimum observed, 348 second-feet Nov. 21.

1903-6, 1923-44: Maximum discharge, 121,000 second-feet May 5, 1942 (gage height, 52.75 feet, from floodmark); minimum observed, 70 second-feet Aug. 20-26, Sept. 8-13, 1925, Sept. 29 to Oct. 4, 1931.

Flood of June 11, 1908, reached a stage of 50.1 feet, present site and datum (discharge, 100,000 second-feet).

Remarks.-- Records good. Gage read twice daily. Flow partly regulated by reservoirs above Dallas. Cities of Fort Worth and Dallas divert considerable water for municipal supply. Several small diversions on West Fork above Fort Worth.

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

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

1.3	330	6.0	3,200	16.0	13,800	30.0	33,200
2.0	590	8.0	4,850	18.0	16,400	36.0	45,000
3.0	1,140	10.0	6,780	20.0	19,000	42.0	56,300
4.0	1,780	12.0	8,980	22.0	21,600	46.0	71,400
5.0	2,480	14.0	11,400	26.0	27,100	48.0	84,400

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,990	486	758	2,130	17,600	18,400	14,500	24,300	18,700	1,020	1,050	2,200
2	2,540	570	612	5,980	13,100	19,200	9,940	42,400	18,800	1,020	930	2,650
3	2,480	730	560	7,380	7,950	19,700	7,620	47,800	19,200	1,020	840	2,480
4	2,520	1,200	560	7,710	6,780	20,100	6,820	46,000	19,700	1,080	750	1,580
5	2,760	1,200	486	8,040	5,108	20,900	5,580	45,600	20,400	1,080	635	1,050
6	3,560	785	590	8,500	4,830	22,000	4,740	42,200	22,100	1,050	550	1,600
7	3,280	635	930	9,340	5,680	22,600	5,190	43,000	22,800	1,110	518	3,570
8	2,540	680	1,200	9,820	6,180	23,200	6,680	48,800	23,400	1,140	482	6,980
9	1,520	680	930	8,860	7,820	23,400	7,930	62,500	23,800	1,170	465	5,510
10	1,020	705	758	6,180	10,300	23,200	7,600	77,400	22,900	1,080	449	2,820
11	785	590	900	3,900	12,000	22,400	6,880	82,300	21,300	900	452	1,640
12	658	486	1,080	6,640	13,100	21,000	6,580	78,800	20,000	785	456	1,380
13	612	446	1,170	15,200	13,800	19,200	6,080	72,600	19,600	730	442	1,350
14	570	421	1,080	22,000	19,000	16,600	5,780	65,300	18,500	705	421	1,260
15	635	410	1,050	24,000	20,900	13,200	5,190	58,900	14,400	658	414	al,080
16	5,050	400	1,420	22,600	21,000	12,200	4,470	53,200	8,040	635	428	a930
17	9,100	390	1,350	19,200	20,800	12,000	3,620	46,900	4,490	612	428	785
18	11,500	368	1,480	16,100	18,300	11,000	3,130	44,900	3,560	612	421	680
19	12,800	358	1,110	13,500	16,700	11,600	2,550	42,000	2,760	658	494	612
20	14,000	351	812	11,300	14,100	8,150	2,270	39,800	2,340	840	490	590
21	13,800	351	705	9,940	10,400	5,980	2,270	38,000	1,990	840	490	542
22	10,400	358	612	8,380	8,150	6,180	1,850	36,200	1,780	785	474	510
23	4,600	351	870	5,980	7,930	11,600	1,710	32,400	1,580	730	463	508
24	1,780	354	2,480	3,820	10,600	15,500	1,740	24,900	1,350	705	463	502
25	1,420	365	4,740	2,760	10,900	17,100	2,270	20,000	1,230	658	550	494
26	1,450	379	5,100	2,410	12,100	16,700	2,410	22,800	1,080	635	680	490
27	1,020	550	5,380	2,760	14,600	15,800	2,200	24,500	960	612	658	494
28	880	730	7,080	2,900	15,700	16,200	1,990	23,200	960	730	590	510
29	590	1,050	5,280	13,600	17,500	17,900	1,850	21,600	930	1,200	570	494
30	522	1,080	4,140	18,700	-	19,300	4,680	20,100	990	1,420	590	486
31	478	-	3,060	21,400	-	18,200	-	19,200	-	1,260	2,130	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	115,960	14,000	478	3,741	230,000
November.....	17,459	1,200	351	582	34,630
December.....	58,715	7,080	486	1,894	116,560
Calendar year 1943.....	1,740,516	23,700	275	4,769	3,452,000
January.....	321,030	24,000	2,130	10,360	636,800
February.....	362,800	21,000	4,830	12,510	719,600
March.....	520,310	25,400	5,980	16,780	1,032,000
April.....	145,880	14,500	1,710	4,863	289,300
May.....	1,347,600	82,500	19,200	45,470	2,673,000
June.....	339,470	25,800	930	11,320	673,300
July.....	27,450	1,420	612	886	84,510
August.....	18,761	2,130	414	605	37,190
September.....	45,475	6,980	486	1,516	90,200
Water year 1943-44.....	3,320,930	82,500	351	9,074	6,587,000

a No gage-height record; discharge computed by comparison with record for station near Midway.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## TRINITY RIVER BASIN

Trinity River at Romayor, Tex.

Location.- Water-stage recorder, lat. 30°25'30", long. 94°51'05", at county highway bridge, 1.9 miles south of Romayor, Liberty County, 2.0 miles downstream from Gulf, Colorado & Santa Fe Railway bridge, and 4½ miles downstream from Big Creek. Datum of gage is 35.92 feet above mean sea level, datum of 1929. Prior to Oct. 1, 1943, chain gage at railway bridge 2.0 miles upstream. Datum of gage (base of rail) was 89.49 feet (revised) above mean sea level, datum of 1929.

Drainage area.- 17,200 square miles.

Records available.- October 1943 to September 1944. May 1924 to September 1943, at site 2.0 miles upstream.

Average discharge.- 20 years, 7,556 second-feet.

Extremes.- Maximum discharge during year, 69,000 second-feet May 15 (gage height, 32.35 feet); minimum, 540 second-feet Nov. 25, 26.

1924-44: Maximum discharge, 111,000 second-feet May 9, 1942 (gage height, 35.8 feet, from floodmarks, present site and datum); minimum observed, 132 second-feet Aug. 21, 22, 1925.

Remarks.- Records good. Flow partly regulated by reservoirs above Dallas. Cities of Fort Worth and Dallas divert considerable water for municipal supply. Several small diversions on West Fork above Fort Worth.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	832	832	1,220	4,100	28,500	19,400	20,300	6,600	21,600	al,500	1,400	3,700
2	1,120	810	1,200	4,100	24,500	19,600	17,200	30,400	20,400	al,460	1,350	3,520
3	1,840	788	1,080	6,260	17,000	15,600	45,300	20,100	al,460	1,180	5,000	2,940
4	2,240	788	925	8,190	11,800	20,100	11,700	49,000	20,100	al,460	1,100	2,840
5	2,560	950	832	8,190	8,750	20,400	9,750	53,700	20,400	al,470	975	2,360
6	2,620	1,300	788	7,770	6,830	21,200	8,050	54,500	21,200	al,480	878	1,680
7	3,000	1,400	785	8,050	5,860	22,200	6,340	52,900	23,600	al,490	810	1,400
8	3,340	1,180	832	8,750	5,980	23,100	6,100	51,800	24,500	al,500	742	2,970
9	3,000	950	1,180	9,170	7,630	23,800	7,350	50,200	24,700	al,500	660	6,180
10	2,180	925	1,350	8,750	9,750	24,000	9,030	51,500	24,900	al,500	620	6,460
11	1,680	975	1,250	7,090	11,000	24,000	8,750	53,700	24,200	al,400	600	4,170
12	1,300	950	1,180	5,060	12,200	23,500	8,050	58,100	23,100	al,200	680	2,490
13	1,150	855	1,200	8,460	12,800	22,000	7,220	63,700	21,800	al,010	755	1,840
14	1,020	765	1,300	19,500	16,600	20,300	6,830	66,300	21,200	a945	640	1,560
15	950	720	1,350	25,600	24,200	18,000	6,580	69,000	19,700	a900	600	1,460
16	855	680	1,280	28,000	25,200	15,600	6,100	69,000	16,500	a878	580	1,400
17	2,010	640	1,350	26,500	24,000	14,600	5,390	66,300	11,100	a855	560	1,280
18	7,510	620	1,780	22,700	23,100	14,700	4,820	63,700	7,090	832	540	1,100
19	10,600	600	1,840	18,900	21,000	16,300	3,900	60,200	5,280	788	540	975
20	12,200	600	1,620	15,500	18,700	18,400	3,160	57,100	4,400	788	540	878
21	13,600	580	1,350	13,000	16,000	14,700	2,840	56,200	3,700	810	580	788
22	15,600	560	1,150	11,200	13,000	10,800	3,000	52,900	3,160	1,000	600	742
23	10,800	560	1,020	9,750	10,600	10,600	3,160	52,200	2,840	1,060	600	700
24	6,460	540	1,100	7,630	9,600	13,800	2,820	49,600	2,820	1,020	600	640
25	3,120	540	1,670	5,620	11,400	16,700	2,840	43,700	2,360	925	580	620
26	2,000	540	4,180	4,200	13,300	18,200	2,920	38,000	2,180	855	680	600
27	1,780	600	5,500	3,520	15,500	18,000	2,840	37,100	2,000	832	640	600
28	1,560	742	5,620	3,610	17,200	17,200	2,620	34,600	al,840	788	765	640
29	1,250	855	7,630	6,170	18,700	17,900	2,360	31,000	al,700	765	832	640
30	1,050	1,000	7,090	23,400	-	19,600	2,240	27,000	al,590	810	832	620
31	900	-	5,740	28,500	-	21,000	-	23,800	-	1,150	1,840	-

	Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....		117,827	13,600	832	3,801	233,700
November.....		23,815	1,400	540	794	47,840
December.....		66,372	7,630	765	2,141	131,600
Calendar year 1943 .....		1,943,215	22,500	394	5,324	3,854,000
January.....		367,240	28,500	3,520	11,850	728,400
February.....		441,000	28,500	5,860	15,210	874,700
March.....		579,000	24,000	10,800	18,680	1,145,000
April.....		197,460	20,300	2,840	6,532	391,700
May.....		1,516,800	69,000	6,600	48,930	3,009,000
June.....		399,860	24,900	1,690	13,330	793,100
July.....		34,421	1,500	765	1,110	68,270
August.....		24,209	1,840	540	781	48,020
September.....		57,813	6,460	600	1,927	114,700
Water year 1943-44 .....		3,825,817	69,000	540	10,450	7,688,000

a No gage-height record; discharge computed by comparison with record for station at Riverside.  
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Trinity River at Liberty, Tex.

Location.- Wire-weight gage, lat. 30°03'25", long. 94°49'05", at bridge on U. S. Highway 90 in Liberty, Liberty County, 450 feet downstream from Texas & New Orleans Railroad bridge. Datum of gage is 2.22 feet below mean sea level, datum of 1929.

Drainage area.- 17,500 square miles.

Records available.- October 1938 to September 1940 (gage heights, discharge measurements and some records of daily discharge), October 1940 to September 1944. U. S. Weather Bureau has collected gage-height records in this vicinity since 1903.

Extremes.- Maximum discharge during year, 64,000 second-feet May 17, 18; maximum gage height, 27.81 feet May 18; minimum discharge not determined (affected by tides); minimum gage height observed, 3.73 feet Nov. 24.

1938-44: Maximum discharge, 114,000 second-feet May 12, 1942 (gage height, 29.38 feet); minimum discharge not determined (affected by tides); minimum gage height observed, 2.5 feet Nov. 4, 1939.

A stage of 28.6 feet was reached May 8-11, 1922, from observation by U. S. Weather Bureau at chain gage on railroad bridge upstream.

Remarks.- Records fair. Gage read once daily. Discharge not computed below about 4,000 second-feet because tides affected stage-discharge relation. Cities of Fort Worth and Dallas divert considerable water for municipal supply. Several small diversions on West Fork above Fort Worth.

Cooperation.- Gage readings furnished by U. S. Weather Bureau.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	-	-	-	6,060	22,200	16,900	19,200	-	28,800	-	-	-
2	-	-	-	6,980	23,680	19,600	18,700	9,180	25,200	-	-	4,280
3	-	-	-	8,560	28,500	19,900	17,200	22,200	22,800	-	-	4,590
4	-	-	-	9,790	19,700	20,500	14,400	26,200	21,600	-	-	4,000
5	-	-	-	10,000	15,900	20,600	11,600	34,600	21,000	-	-	-
6	-	-	-	9,530	12,300	21,400	9,280	45,000	20,600	-	-	-
7	-	-	-	8,920	9,040	21,800	7,400	49,600	21,000	-	-	-
8	-	-	-	9,040	7,220	22,500	6,120	49,600	21,600	-	-	-
9	-	-	-	9,530	7,060	22,800	6,050	55,000	22,200	-	-	-
10	-	-	-	9,660	8,000	25,200	6,820	55,000	22,500	-	-	5,460
11	-	-	-	9,040	9,920	25,700	7,600	55,000	22,500	-	-	6,280
12	-	-	-	7,700	11,400	25,200	7,700	55,000	22,800	-	-	5,040
13	-	-	-	8,000	12,600	24,800	7,140	55,000	22,200	-	-	-
14	-	-	-	14,400	14,400	25,500	6,500	55,000	21,800	-	-	-
15	-	-	-	19,900	17,800	21,800	6,280	61,000	21,200	-	-	-
16	-	-	-	22,500	21,400	21,400	5,980	61,000	20,100	-	-	-
17	-	-	-	24,300	23,200	19,200	5,600	64,000	17,500	-	-	-
18	-	-	-	23,900	25,500	17,700	5,110	64,000	12,900	-	-	-
19	5,620	-	-	22,200	24,300	18,700	4,580	61,000	8,560	-	-	-
20	as 5,560	-	-	20,100	22,800	19,900	4,130	61,000	6,120	-	-	-
21	10,400	-	-	17,000	as 21,000	19,400	-	61,000	5,040	-	-	-
22	11,300	-	-	13,600	18,900	17,300	-	61,000	4,260	-	-	-
23	11,400	-	-	11,300	15,800	14,000	-	58,000	-	-	-	-
24	9,180	-	-	8,680	13,000	12,400	-	58,000	-	-	-	-
25	6,280	-	-	7,220	11,800	14,400	-	55,000	-	-	-	-
26	4,000	-	-	5,900	12,900	16,400	-	55,000	-	-	-	-
27	-	-	4,650	4,580	15,000	17,200	-	49,600	-	-	-	-
28	-	-	5,750	4,060	16,200	17,700	-	47,200	-	-	-	-
29	-	-	6,280	4,840	17,700	17,800	-	45,000	-	-	-	-
30	-	-	7,220	9,790	-	17,800	-	37,800	-	-	-	-
31	-	-	6,660	19,200	-	16,700	-	35,200	-	-	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 19-26.....	66,720	11,400	4,000	6,340	132,300
November.....	-	-	-	-	-
December 27-31.....	30,660	7,220	4,550	6,112	80,610
Calendar year	-	-	-	-	-
January.....	366,570	24,300	4,060	11,820	727,100
February.....	471,040	24,300	7,060	16,240	934,500
March.....	614,200	25,700	12,400	19,810	1,215,000
April 1-20.....	177,390	19,200	4,130	5,870	351,800
May 2-31.....	1,499,150	64,000	9,150	49,970	2,974,000
June 1-22.....	412,580	28,800	4,260	18,750	818,500
July.....	-	-	-	-	-
August.....	-	-	-	-	-
September.....	-	-	-	-	-
Water year	-	-	-	-	-

a No gage-height record; discharge computed on basis of estimated gage height.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Big Sandy Creek near Bridgeport, Tex.

Location.- Water-stage recorder, lat. 33°13', long. 97°41', at 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. Datum of gage is 727.44 feet above mean sea level, datum of 1929.

Drainage area.- 276 square miles.

Records available.- October 1936 to September 1944.

Extremes.- Maximum discharge during year, 3,680 second-feet Feb. 28 (gage height, 9.53 feet); no flow at times.

1936-44: Maximum discharge, 53,000 second-feet June 10, 1941 (gage height, 15.69 feet, from floodmark), from rating curve extended above 22,000 second-feet by logarithmic plotting; no flow at times).

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	1.0	1.4	816	14	137	38	0.1	0	52
2	0			25	36	123	1,350	889	21	0.1	0	7.2
3	20	0	0	17	15	74	145	418	15	0	0	2.1
4	7.2		0	20	4.4	53	61	95	12	0.1	0	4
5	2.3		0	9.0	2.2	63	35	43	10	0	0	1.0
6		7	0	3.9	1.6	44	24	29	22	0	0	106
7	0		0	2.5	1.5	31	22	22	9.3	0	0	58
8	0		0	5.5	64	25	22	19	117	0	0	6.2
9	0		0	3.6	72	23	83	126	152	0	0	1.9
10	0		0	1.7	14	22	55	94	44	0	0	.6
11	0		0	1.4	5.6	22	33	29	27	0	0	.1
12	0		0	1.2	3.0	22	19	19	61	0	0	0
13	0		0	1.0	2.3	21	16	16	13	0	0	0
14	0		0	.8	10	20	15	14	7.8	0	0	0
15	0		0	.8	15	29	14	12	5.8	0	0	0
16	0		0	1.0	6.6	60	13	11	4.7	0	0	0
17	0		0	1.0	27	29	12	9.4	3.8	0	0	0
18	0		0	1.0	36	27	11	5.6	3.0	0	0	0
19	0		0	.8	9.4	97	11	8.5	2.6	0	0	0
20	0		0	.5	5.9	108	15	15	2.3	0	0	0
21	0		0	.8	5.8	74	65	132	1.9	0	0	0
22	0		0	.7	5.8	97	16	111	1.5	0	0	0
23	0		0	.7	5.3	114	13	53	1.1	0	0	0
24	0		0	.8	4.4	49	9.2	26	1.0	0	0	0
25	0		0	.8	21	29	8.0	20	1.0	0	0	0
26	0		0	1.1	271	21	7.8	36	1.0	0	0	0
27	0		0	2.3	473	18	7.5	626	.7	0	0	0
28	0		0	1.9	2,970	16	6.7	348	.3	0	0	0
29	0		2.2	1.7	2,860	14	305	162	.2	0	0	0
30	0		1.1	1.3	-	14	510	162	.1	0	34	0
31	0		.4	1.2	-	14	-	108	-	0	304	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	30.2	20	0	0.97	60
November.....	0	0	0	0	0
December.....	3.7	2.2	0	.12	7.3
Calendar year 1943.....	25,416.8	3,680	0	69.6	50,420
January.....	110.3	23	.7	3.56	219
February.....	6,939.2	2,970	1.4	259	13,760
March.....	2,199	816	14	70.9	4,560
April.....	2,926.2	1,350	6.7	97.5	5,500
May.....	3,518.5	889	8.5	123	7,570
June.....	580.1	152	.1	19.3	1,150
July.....	.3	.1	0	.01	.6
August.....	338	304	0	10.9	670
September.....	235.5	106	0	7.85	467
Water year 1943-44.....	17,181.0	2,970	0	46.9	34,060

Peak discharge.- Feb. 28 (6:30 p.m.) 3,680 sec.-ft.; Apr. 2 (6:15 a.m.) 3,590 sec.-ft.; May 2 (2 p.m.) 1,040 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Clear Fork Trinity River at Fort Worth, Tex.

Location.- Water-stage recorder and concrete control, lat. 32°44', long. 97°21', at bridge on Stove Foundry road, 388 feet downstream from Texas & Pacific Railway bridge at Fort Worth, Tarrant County, and 3 miles upstream from mouth. Datum of gage is 532.91 feet above mean sea level, datum of 1929.

Drainage area.- 522 square miles.

Records available.- March 1924 to September 1944.

Average discharge.- 20 years, 96.6 second-feet.

Extremes.- Maximum discharge during year, 6,370 second-feet May 29 (gage height, 9.12 feet); no flow at times.

1924-44: Maximum discharge, 18,200 second-feet May 19, 1942 (gage height, 20.36 feet); no flow at times.

Maximum discharge known, 74,300 second-feet Apr. 25, 1922 (gage height, 27.5 feet, present datum), by slope-area method, data furnished by city engineer of Fort Worth.

Remarks.- Records good except those above 3,000 second-feet, which are fair. Texas & Pacific Railway Co. diverts small amount of water from pool in which gage is located.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.2		0	22	16	210	52	842	218	7.1	0	67
2	2.0		0	22	28	162	52	2,850	166	7.1	0	19
3	2.0		0	60	65	139	52	307	139	7.1	0	9.7
4	2.8		0	21	32	147	49	154	121	5.9	0	5.9
5	2.0		0	9.7	25	121	43	125	107	4.8	0	3.8
6	.7		6.9	7.1	19	100	43	97	93	4.5	0	71
7	.1		22	8.4	19	80	43	80	56	2.8	0	86
8	0		7.1	8.4	27	70	46	70	83	2.8	0	21
9	0		4.8	7.1	35	67	216	67	70	2.0	0	9.7
10	0		9.0	7.1	43	111	137	61	61	2.4	0	7.1
11	0		5.9	4.8	25	139	52	55	58	0	0	4.8
12	0		4.8	7.1	21	100	33	52	152	0	0	2.8
13	0		3.8	7.1	21	83	32	46	75	2.5	0	2.0
14	0		3.8	7.1	35	80	32	40	52	3.8	0	1.1
15	0		2.0	5.9	46	73	30	35	43	7.1	0	.5
16	0		3.8	5.4	40	97	30	30	38	3.5	0	0
17	0		2.0	8.4	35	93	28	28	30	2.0	0	0
18	0		2.0	7.1	42	85	25	25	28	.4	0	0
19	0		2.8	5.9	40	203	25	25	23	.6	0	0
20	0		2.8	5.9	32	139	35	30	21	0	1.5	0
21	0		2.8	5.9	25	104	60	40	19	0	1.4	0
22	0		2.8	4.8	32	118	40	1,400	14	6.1	0	0
23	0		2.0	4.8	32	107	38	389	14	85	0	0
24	0		3.8	5.9	30	80	28	83	11	44	0	0
25	0		3.8	8.4	32	67	23	120	11	13	0	2.0
26	0		3.8	13	52	61	25	292	9.7	7.1	0	2.0
27	0		15	13	281	58	21	1,520	9.7	3.5	0	2.0
28	0		8.4	9.7	2,940	55	17	386	9.7	1.3	2.7	1.3
29	0		8.4	11	989	52	347	3,670	5.4	1.9	7.1	95
30	0		11	13	-	49	728	1,360	7.1	0	20	21
31	0		7.1	11	-	49	-	316	-	0	634	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	14.8	5.2	0	0.48	29
November.....	0	0	0	0	0
December.....	152.4	22	0	4.92	302
Calendar year 1943 .....	25,637.2	2,560	0	70.2	50,840
January.....	341.0	60	4.8	11.0	676
February.....	5,060	2,940	16	174	10,040
March.....	3,099	210	49	100	6,150
April.....	2,357	728	17	79.6	4,730
May.....	14,598	3,670	25	471	28,950
June.....	1,778.6	215	7.1	59.3	3,550
July.....	229.5	85	0	7.40	455
August.....	666.7	634	0	21.5	1,320
September.....	435.7	95	0	14.5	864
Water year 1943-44 .....	28,762.7	3,670	0	78.6	57,050

Peak discharge.- Feb. 28 (2:30 p.m.) 4,130 sec.-ft.; May 2 (12:45 a.m.) 6,080 sec.-ft.; May 29 (12 m.) 6,370 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## TRINITY RIVER BASIN

Lake Dallas near Lake Dallas, Tex.

Location.- Water-stage recorder, lat. 33°07', long. 96°59', in gatehouse at Garza Dam on Elm Fork Trinity River, 1.6 miles upstream from Little Elm Creek, 2.0 miles southeast of town of Lake Dallas, Denton County. Datum of gage is 0.08 foot above mean sea level, datum of 1929.

Drainage area.- 1,160 square miles.

Records available.- December 1928 to September 1944.

Extremes.- Maximum contents during year, 206,100 acre-feet May 3 (gage height, 526.06 feet); minimum, 82,100 acre-feet Dec. 3, 4, 21-26 (gage height, 512.76 feet).  
1928-44: Maximum contents not determined; maximum gage height, 534.0 feet, from floodmark, Apr. 25, 1942; all gates were open during passing of crest through lake; minimum contents observed, 42,500 acre-feet, Apr. 1, 1940 (gage height, 505.8 feet).

Remarks.- Reservoir is formed by earthen hydraulic-fill dam, consisting of 567 feet of concrete service spillway and two dikes. There are two emergency earthen spillways beyond right end of dam. Dam completed in November 1927 and storage began Feb. 16, 1928. Capacity, 194,000 acre-feet (gage height, 525.0 feet, top of service spillway). Water can be withdrawn through one 18-inch outlet gate (gage height of bottom of gate, 474.0 feet), four 48-inch outlet gates (gage height of bottom of gate, 483.0 feet), and one 6-inch gate (gage height of bottom of gate, 474.0 feet). Dead storage is negligible. Water is used by city of Dallas for municipal water supply. Figures given herein represent total contents.

Cooperation.- Capacity table furnished by city of Dallas.

Monthly gage height and contents, water year October 1943 to September 1944

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	514.90	97,400	-
Oct. 31.....	513.96	90,500	-6,900
Nov. 30.....	512.88	82,800	-7,700
Dec. 31.....	513.45	86,300	+3,500
Calendar year 1943...	-	-	-29,700
Jan. 31.....	514.02	90,500	+4,200
Feb. 29.....	524.55	189,600	+99,100
Mar. 31.....	522.94	171,200	-18,400
Apr. 30.....	523.26	175,400	+4,200
May 31.....	524.78	191,800	+16,400
June 30.....	521.85	160,200	-31,600
July 31.....	519.81	140,300	-19,900
Aug. 31.....	518.13	124,800	-15,700
Sept. 30.....	516.96	106,700	-17,900
Water year 1943-44...	-	-	+9,300

† Gage height at 12 p.m.  
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Elm Fork Trinity River near Carrollton, Tex.

Location.-- Water-stage recorder above spillway of California concrete dam, lat. 32°52'25", long. 96°55'50", at bridge on State Highway 114, 100 feet downstream from Hackberry Creek and 5.5 miles southwest of Carrollton, Dallas County. Datum of gage is 410.46 feet above mean sea level, datum of 1929.

Drainage area.-- 2,612 square miles.

Records available.-- July 1938 to September 1944. January 1907 to December 1928 at site near Dallas, 7 miles downstream (January 1907 to September 1920, monthly records only, in Water-Supply Paper 850). November 1923 to July 1938 at site 8.5 miles upstream, at Carrollton Dam. Records equivalent except following intense local rains and during periods of low flow affected by municipal pumping between present site and former site near Dallas.

Average discharge.-- 36 years (1907-22, 1923-44), 619 second-feet.

Extremes.-- Maximum discharge during year, 13,600 second-feet May 3 (gage height, 13.31 feet); minimum, 24 second-feet (regulated) Nov. 10 (gage height, 0.98 foot). 1907-44: Maximum gage height, about 27.5 feet, present site and datum, May 25, 1908, from floodmarks furnished by State Reclamation Department (discharge not determined but probably maximum for period of record; affected by backwater from West Fork); no flow at times.

Remarks.-- Records good except those above 3,000 second-feet, which are fair. Flow regulated by Lake Dallas (see p. 58). No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	578	104	78	101	107	69,980	174	2,450	2,020	318	266	510
2	362	107	68	265	170	65,470	1,340	8,020	2,020	413	261	362
3	324	117	66	516	447	836	6,420	12,340	3,180	385	271	385
4	297	114	66	399	778	2,230	3,460	9,340	3,180	330	277	374
5	251	97	71	158	452	994	686	65,090	2,000	324	287	346
6	215	91	95	117	142	882	1,720	65,480	1,060	318	292	866
7	180	89	196	107	117	838	1,720	65,180	379	308	297	494
8	94	82	97	118	164	1,770	1,720	65,180	241	303	297	352
9	78	85	78	288	2,400	605	1,820	65,180	133	303	297	324
10	78	48	81	180	1,640	379	1,870	62,830	188	303	297	324
11	101	94	73	114	551	282	1,670	543	188	303	303	318
12	104	86	73	101	298	277	908	297	170	297	303	318
13	101	86	73	91	150	261	338	196	165	297	303	318
14	101	89	76	89	274	241	170	183	165	318	303	313
15	97	89	68	86	565	236	161	170	157	318	303	308
16	101	86	68	86	464	261	154	157	135	313	303	308
17	101	86	68	81	352	346	150	150	124	308	303	303
18	101	84	68	81	418	368	146	142	120	303	303	303
19	101	81	68	81	462	1,360	138	138	120	287	303	303
20	101	84	68	84	734	1,970	138	324	120	282	303	303
21	101	101	68	84	722	1,870	154	490	174	277	303	888
22	101	114	68	78	467	1,870	357	1,630	346	277	303	250
23	97	110	68	76	731	1,920	374	5,960	368	271	318	206
24	97	107	68	78	198	1,820	335	5,180	413	271	318	201
25	97	107	68	81	184	1,770	192	3,690	418	266	313	196
26	94	91	71	81	536	1,720	150	3,420	424	266	318	196
27	97	81	76	84	1,210	1,670	142	5,800	424	266	313	196
28	97	81	270	81	5,720	1,770	142	6,900	368	266	313	201
29	97	78	476	86	10,100	1,770	256	5,790	330	266	313	201
30	97	61	234	94	-	932	2,620	4,410	324	261	335	201
31	97	-	117	117	-	355	-	2,460	-	261	997	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,523	578	73	146	8,970
November.....	2,693	117	38	96.8	5,340
December.....	3,180	476	66	103	6,310
Calendar year 1943.....	207,050	17,300	38	567	410,700
January.....	4,033	516	76	130	8,000
February.....	30,031	10,100	107	1,056	59,870
March.....	45,053	9,990	236	1,463	99,360
April.....	29,824	6,420	138	987	58,750
May.....	101,030	12,400	188	3,259	200,400
June.....	19,521	3,180	120	651	38,780
July.....	9,279	413	261	299	18,400
August.....	10,016	997	261	323	19,870
September.....	9,512	856	196	317	18,870
Water year 1943-44.....	298,495	12,400	38	734	532,800

Peak discharge.-- Feb. 29 (10 p.m.) 12,400 sec.-ft.; May 3 (2 p.m.) 13,600 sec.-ft.  
Backwater from overbank return flow; discharge computed from curve based on discharge measurements made following floods exceeding about 9,000 second-feet.  
Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

## TRINITY RIVER BASIN

Denton Creek near Roanoke, Tex.

Location.— Water-stage recorder, lat. 33°02', long. 97°12', 340 feet upstream from bridge on U. S. Highway 377, a quarter of a mile downstream from Texas & Pacific Railway bridge, and 2.2 miles northeast of Roanoke, Denton County. Datum of gage is 523.6 feet above mean sea level, datum of 1929.

Drainage area.— 704 square miles.

Records available.— October 1923 to December 1927, March 1939 to September 1944.

Extremes.— Maximum discharge during year, 9,300 second-feet Feb. 28 (gage height, 20.65 feet); no flow at times.

1923-27, 1939-44: Maximum discharge, 49,700 second-feet Apr. 20, 1942 (gage height, 30.20 feet), from rating curve extended above 32,000 second-feet on basis of velocity-area studies; no flow at times.

Maximum stage known, 31 feet in May 1908, from information by local residents.

Remarks.— Records good except those for periods of no gage-height record, which are poor. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.5	0	0.1	16	17	2,170	63	1,420	230	6.0	0	28
2	1.8	0	.1	71	121	554	2,350	4,090	179	5.7	0	108
3	.9	0	.1	54	106	358	2,370	754	149	5.7	0	85
4	19	0	.1	44	58	416	548	431	130	5.7	0	34
5	42	0	5.8	29	37	271	230	271	111	5.3	0	101
6	24	0	5.3	23	31	224	170	192	98	4.3	0	241
7	12	0	4.6	18	27	170	140	149	86	4.0	0	24
8	7.1	0	4.3	20	220	136	124	122	82	3.7	0	13
9	4.6	0	4.0	16	355	120	298	111	92	3.1	0	12
10	2.9	0	5.0	14	145	126	134	102	92	2.5	0	9.7
11	2.1	0	3.4	13	65	140	87	95	67	1.8	0	8.8
12	1.4	0	3.1	14	47	126	64	84	63	24	0	5.7
13	.9	0	2.9	19	43	114	57	75	72	37	0	3.4
14	.6	0	2.7	14	145	107	52	67	58	38	0	2.3
15	.4	0	2.3	11	110	105	51	59	46	4.0	0	1.6
16	.3	0	2.1	11	72	250	49	52	40	2.7	0	1.1
17	.1	0	2.0	9.7	143	179	49	47	35	2.1	0	.8
18	0	0	1.7	9.2	136	134	48	44	30	1.6	0	.3
19	0	0	1.7	8.3	99	175	48	42	26	1.3	0	.1
20	0	0	1.6	7.5	90	271	49	314	24	1.1	0	0
21	0	0	1.6	6.4	82	213	260	241	21	.9	0	0
22	0	0	1.8	6.0	75	227	182	1,850	18	.9	0	0
23	0	0	2.5	6.0	65	177	178	1,510	15	1.3	0	0
24	0	0	2.7	6.0	55	156	77	329	13	1.3	0	0
25	0	0	2.7	7.5	54	128	50	394	12	1.1	0	0
26	0	0	3.4	7.9	67	100	45	867	11	.9	0	0
27	0	.2	6.4	11	1,340	86	41	1,770	10	.6	0	0
28	0	.2	21	13	7,360	75	37	1,550	8.8	.5	0	0
29	0	.2	26	20	3,250	72	671	1,400	7.5	.3	0	0
30	0	.2	28	30	-	68	1,140	614	6.7	.2	320	0
31	0	-	13	22	-	64	-	325	-	.1	124	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	126.8	42	0	4.06	251
November.....	162.0	28	0	.03	321
December.....	162.0	28	.1	5.23	321
Calendar year 1943 .....	44,135.6	8,670	0	121	87,550
January.....	557.5	71	6.0	18.0	1,110
February.....	14,413	7,360	17	497	28,690
March.....	7,492	2,170	64	242	14,860
April.....	9,461	2,370	57	315	18,770
May.....	19,331	4,090	42	624	38,340
June.....	1,833.0	230	6.7	61.1	3,640
July.....	1,677.7	38	.1	5.41	3,333
August.....	444	320	0	14.3	881
September.....	659.8	241	0	22.0	1,310
Water year 1943-44 .....	54,648.4	7,360	0	149	108,400

Peak discharge.— Feb. 28 (10 a.m.) 9,300 sec.-ft.; Apr. 3 (5 a.m.) 4,060 sec.-ft.; May 2 (3:30 a.m.) 7,720 sec.-ft.; May 27 (1 a.m.) 3,960 sec.-ft.

Note.— No gage-height record Nov. 20 to Dec. 20, Jan. 10-25, Apr. 10-20, July 15-20, July 23 to Aug. 20; discharge computed on basis of recorded range in stage, weather records, and records for nearby stations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## East Fork Trinity River near Rockwall, Tex.

Location.- Chain gage, lat. 32°55'25", long. 96°30'20", at bridge on U. S. Highway 67, 3 miles southwest of Rockwall, Rockwall County, and 8 miles upstream from Muddy Creek. Datum of gage is 404.3 feet above mean sea level, datum of 1929.

Drainage area.- 831 square miles.

Records available.- November 1923 to September 1944.

Average discharge.- 21 years, 445 second-feet.

Extremes.- Maximum discharge during year, 28,500 second-feet May 3 (gage height, 18.95 feet, from graph based on gage readings); no flow at times.

1923-44: Maximum discharge not determined; maximum gage height, 24.82 feet Apr. 20, 1942, while levees were breaking; no flow at times.

A stage of 24.6 feet (revised) was reached in April 1922. Levees also broke during this flood.

Remarks.- Records good. Gage read twice daily. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	0	12	6.2	3,090	130	2,780	320	8.1		0
2	69	0	0	8.1	9.4	3,480	286	15,400	220	10		0
3	27	0	0	12	31	746	1,390	21,100	168	16		0
4	20	0	0	48	79	718	2,420	8,750	141	30		0
5	5.6	0	0	23	42	1,920	1,030	3,370	127	20		0
6	3.6	3.1	.1	15	26	2,580	244	952	202	12		0
7	2.6	3.9	0	8.4	19	629	188	340	794	8.1		288
8	1.7	3.8	0	7.3	16	220	168	260	914	8.2		45
9	1.3	1.7	0	46	94	172	176	220	233	3.9		18
10	1.0	1.0	.5	43	292	156	164	196	124	3.1		10
11	.8	.8	.1	18	292	152	148	172	110	2.0		5.4
12	.7	.6	0	11	109	152	124	156	97	1.6		3.2
13	.7	.5	2.5	8.6	56	148	108	138	127	1.8		1.7
14	.7	.3	16	7.9	42	159	100	127	124	1.5		1.1
15	.6	.2	9.0	6.6	127	130	100	156	160	41		.7
16	.5	.1	5.5	5.8	184	127	94	116	91	20		.4
17	.3	.1	3.7	5.4	141	168	88	91	68	8.5		.3
18	.2	.2	2.8	4.8	196	814	80	80	57	4.5		.2
19	.1	.2	2.4	4.1	324	4,560	74	73	50	3.1		.1
20	0	.2	2.0	3.7	184	1,670	290	123	42	2.5		0
21	0	.1	1.7	3.3	116	652	408	304	39	1.6		0
22	0	.1	1.5	3.1	106	372	202	127	33	1.2		0
23	0	.1	1.6	3.0	100	628	91	453	28	1.1		0
24	0	.1	1.5	3.0	100	558	72	356	25	.8		0
25	0	0	1.3	3.2	85	284	62	276	20	.8		0
26	0	0	1.6	3.6	190	212	55	332	58	.6		0
27	0	0	1.8	3.1	547	268	50	908	29	.6		0
28	0	0	2.0	3.0	1,460	372	48	1,550	21	.4		0
29	0	0	2.0	3.6	1,460	300	92	2,150	14	.3		0
30	0	0	3.0	4.6	-	192	1,150	2,320	11	.2		0
31	0	-	20	5.7	-	144	-	1,170	-	0		0

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	136.4	69	0	4.40	271
November.....	16.1	3.9	0	.54	32
December.....	82.6	20	0	2.66	164
Calendar year 1943 .....	142,350.4	12,900	0	390	282,300
January.....	335.9	48	3.0	10.8	666
February.....	8,133.6	1,480	6.2	212	12,170
March.....	25,752	4,560	127	831	51,080
April.....	9,650	2,420	43	321	19,100
May.....	64,476	21,100	73	2,080	127,900
June.....	4,415	914	11	147	8,760
July.....	210.5	914	0	6.79	.418
August.....	0	0	0	0	0
September.....	374.1	288	0	12.5	742
Water year 1943-44 .....	111,562.2	21,100	0	305	221,300

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Cedar Creek near Mabank, Tex.

Location.- Water-stage recorder, lat. 32°19'45", long. 96°10'05", at bridge on county highway 2 miles downstream from Lacys Fork and 5½ miles southwest of Mabank, Kaufman County. Datum of gage is 285.39 feet above mean sea level, unadjusted.

Drainage area.- 741 square miles.

Records available.- December 1938 to September 1944.

Extremes.- Maximum discharge during year, 28,000 second-feet May 3 (gage height, 21.78 feet), from rating curve extended above 3,000 second-feet on basis of slope-area determination at gage height 23.5 feet, at location 12 miles downstream; no flow at times.

1938-44: Maximum discharge, 29,400 second-feet Apr. 9, 1942 (gage height, 22.06 feet), from rating curve extended above 3,000 second-feet on basis of slope-area determination at gage height 23.5 feet, at location 12 miles downstream; no flow at times.

Maximum stage known, about 23.5 feet Sept. 29, 1936, from information by local residents; peak discharge of this flood at site about 12 miles below station (drainage area, 910 square miles), 35,400 second-feet, by slope-area method.

Remarks.- Records good except those above 100 second-feet, which are fair, and those for periods of no gage-height record, which are poor. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	516	2.6	1.7	149	a539	a1,180	69	5,640	274	1.3	0.4	0
2	335	2.2	1.4	1,760	a480	a116	98	20,000	435	1.1	0	18
3	105	1.8	1.3	2,230	a396	a48	500	24,100	124	1.0	0	19
4	32	1.6	2.0	1,350	a310	a34	1,010	13,600	56	.7	0	7.6
5	16	1.4	209	293	a216	a28	382	7,020	72	.5	0	4.1
6	7.0	1.3	320	106	a134	a27	113	2,950	867	.4	0	2.6
7	4.1	1.1	236	76	a26	a26	72	974	1,780	.1	0	1.6
8	2.6	.8	87	296	312	a26	56	165	1,660	0	0	1.1
9	1.6	1.0	42	594	2,530	a31	163	90	266	0	0	18
10	1.2	1.0	483	356	3,260	a428	529	65	74	0	0	7.6
11	.8	1.0	954	124	2,480	a317	286	53	51	0	0	3.4
12	23	1.2	650	112	763	a71	105	44	722	0	0	1.8
13	1,370	1.1	253	1,110	150	39	61	35	774	.7	3.8	1.1
14	2,230	1.0	106	1,400	475	34	53	134	232	122	1.0	.6
15	1,320	.8	60	a1,020	936	32	23	f61	78	110	0	.1
16	163	.8	41	a418	534	28	18	f26	40	53	0	0
17	54	.7	30	a189	200	53	15	31	28	18	0	0
18	30	.7	23	a110	396	63	13	21	18	8.0	0	0
19	17	.7	19	a74	429	586	12	16	12	4.1	0	0
20	9.2	.8	16	a57	190	1,760	11	24	8.6	2.4	0	0
21	6.7	.8	15	a44	141	2,390	340	69	7.6	1.4	0	0
22	5.1	1.0	15	a35	240	1,950	314	472	9.0	1.1	0	0
23	4.1	1.0	14	a30	420	1,990	88	883	8.0	1.1	0	0
24	42	1.0	14	a26	a240	2,330	48	1,100	7.3	1.1	0	0
25	58	1.0	14	a26	a81	1,690	30	728	6.0	.5	0	0
26	48	.8	15	a24	a384	276	21	3,060	4.8	2.5	0	0
27	18	.8	22	a132	a2,450	127	15	4,420	3.4	8.9	0	0
28	7.6	.8	251	a976	a4,060	602	12	5,000	2.8	4.8	0	0
29	5.1	.8	270	a1,800	a3,900	813	49	4,420	2.0	2.6	0	0
30	3.6	1.1	200	a1,750	-	202	1,300	3,230	1.6	1.4	0	0
31	3.0	-	102	a1,120	-	120	-	1,410	-	.8	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,463.7	2,230	0.8	209	12,620
November.....	32.7	2.6	.7	1.09	65
December.....	4,447.4	954	1.3	143	8,820
Calendar year 1943.....	141,629.3	21,600	0	588	280,900
January.....	17,786	2,230	24	574	55,280
February.....	26,652	4,060	76	919	55,860
March.....	17,406	2,330	26	561	34,620
April.....	5,774	1,300	11	192	11,450
May.....	99,729	24,100	15	3,217	197,600
June.....	7,683.1	1,760	1.6	254	15,120
July.....	349.5	122	0	11.3	693
August.....	5.2	3.8	0	.17	10
September.....	82.6	19	0	2.75	164
Water year 1943-44.....	186,351.2	24,100	0	509	369,600

a No gage-height record; discharge computed on basis of floodmark in well and weather records.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Chambers Creek near Corsicana, Tex.

Location.- Water-stage recorder, lat. 32°06'30", long. 96°22'15", at bridge on State Highway 31, 500 feet upstream from St. Louis Southwestern Railway bridge, 6 miles east of Corsicana, Navarro County, and 17 miles upstream from Richland Creek. Datum of gage is 294.26 feet above mean sea level, datum of 1929.

Drainage area.- 958 square miles.

Records available.- March 1939 to September 1944.

Extremes.- Maximum discharge during year, 48,000 second-feet May 3 (gage height, 27.19 feet); no flow Aug. 22, 23, Sept. 21-30.

1939-44: Maximum discharge, that of May 3, 1944; no flow at times.

Maximum stage known, about 27½ feet in December 1913, from information by local residents.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,040	8.2	8.7	191	239	1,250	a168	8,660	4,770	21	8.7	9.5
2	2,080	8.2	8.7	2,640	1,410	3,710	f282	26,500	1,150	20	7.6	24
3	814	7.6	8.7	2,250	2,170	581	413	36,800	507	20	6.8	28
4	151	7.5	8.2	814	1,100	519	272	15,300	402	28	5.9	14
5	55	7.1	9.9	252	420	495	a203	5,590	371	20	5.3	9.3
6	34	7.1	50	152	287	402	a180	1,640	3,430	a19	4.7	7.0
7	26	6.8	22	129	239	327	a164	778	4,690	a18	4.2	5.0
8	22	5.5	18	190	508	277	a160	555	734	a16	3.5	3.7
9	20	5.5	18	186	4,110	248	a156	471	524	a14	3.0	14
10	19	5.3	109	116	3,510	277	a148	455	257	a13	2.6	16
11	a18	5.2	281	96	1,190	525	128	369	216	a12	2.2	9.6
12	f227	4.7	132	229	426	607	f02	317	194	a11	2.1	6.5
13	2,990	4.7	60	1,190	317	396	90	277	185	a9.4	2.6	4.7
14	1,980	5.3	32	819	775	317	87	257	172	a10	24	3.4
15	154	6.2	25	337	1,060	287	86	278	148	26	7.9	2.4
16	49	7.2	21	538	568	287	80	304	124	24	3.4	1.8
17	29	7.1	19	343	466	248	72	180	110	15	2.1	1.3
18	20	7.1	17	190	716	230	66	160	96	12	1.5	.8
19	15	7.2	16	140	347	731	66	152	82	10	.9	.6
20	14	7.5	15	113	297	814	256	1,540	72	8.6	.6	.2
21	13	7.1	15	99	287	574	390	1,320	64	7.6	.2	0
22	13	7.1	15	93	297	707	150	976	54	7.8	.1	0
23	13	7.2	16	84	297	1,120	102	2,420	45	261	.9	0
24	17	8.0	20	80	248	594	82	810	41	782	3.8	0
25	14	7.8	54	107	357	358	66	695	37	846	2.1	0
26	11	7.5	52	208	4,820	287	58	6,310	34	421	1.2	0
27	9.3	8.2	52	413	8,000	257	52	7,010	31	41	.9	0
28	9.4	8.2	537	474	3,430	287	50	5,500	27	20	.5	0
29	8.7	7.8	284	418	3,780	248	257	3,220	25	15	.6	0
30	8.5	8.0	115	687	-	287	2,900	2,590	23	18	1.2	0
31	8.5	-	57	349	-	a208	-	4,780	-	12	1.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	9,881.4	2,990	8.5	319	19,690
November.....	207.9	537	4.7	6.93	412
December.....	2,097.2	537	8.2	67.7	4,160
Calendar year 1943 .....	154,890.7	14,100	0	424	307,200
January.....	13,906	2,640	80	449	27,580
February.....	41,658	8,000	289	1,436	82,630
March.....	17,415	3,710	205	562	34,540
April.....	7,286	2,900	50	245	14,450
May.....	135,284	36,800	152	4,384	268,300
June.....	18,616	4,770	25	621	36,920
July.....	2,740.4	846	7.6	88.4	5,440
August.....	111.9	24	.1	3.61	282
September.....	161.7	28	0	5.39	321
Water year 1943-44 .....	249,365.5	36,800	0	681	494,600

Peak discharge.- Feb. 27 (12:15 a.m.) 12,000 sec.-ft.; May 3 (5:15 a.m.) 48,000 sec.-ft.; May 26 (10:30 p.m.) 10,100 sec.-ft.

a No gage-height record; discharge computed from estimated gage heights and by comparison with record for Richland Creek near Richland.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Richland Creek near Richland, Tex.

Location.- Water-stage recorder, lat. 31°57', long. 96°25', at bridge on U. S. Highway 75, 750 feet downstream from Texas & New Orleans Railroad bridge, 1 mile north of Richland, Navarro County, and 3½ miles downstream from Pinoak Creek. Datum of gage is 299.0 feet above mean sea level, datum of 1929.

Drainage area.- 760 square miles.

Records available.- December 1924 to February 1925 (discharge measurements only), March 1939 to September 1944.

Extremes.- Maximum discharge during year, 55,000 second-feet May 2 (gage height, 23.40 feet); no flow Aug. 15-17, Aug. 26 to Sept. 30.

1939-44: Maximum discharge, that of May 2, 1944; no flow at times.

Maximum stage known, 25.5 feet in December 1913, from information by engineers of Texas & New Orleans Railroad.

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

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	94	2.5	3.0	68	248	1,280	80	16,900	370	20		1.6
2	268	2.5	3.3	2,830	160	391	95	41,600	232	19		1.3
3	104	2.4	3.3	3,540	253	507	226	22,900	188	19		1.0
4	38	2.3	3.0	1,430	208	275	128	6,280	160	18		.9
5	9.2	2.3	39	162	160	257	65	4,010	150	17		.8
6	4.4	2.3	14	88	135	351	71	2,220	1,740	19		.8
7	3.0	2.1	15	86	123	656	63	439	2,070	18		.7
8	2.3	2.0	12	112	644	242	60	240	3,090	14		.7
9	1.9	1.9	15	120	5,060	166	59	200	962	12		.6
10	1.6	1.9	8.4	74	5,630	196	58	184	176	11		.4
11	1.5	1.9	329	a50	3,020	765	55	156	117	10		.3
12	155	1.9	312	67	425	486	47	132	111	9.0		.2
13	4,590	1.9	58	1,360	200	224	41	120	96	8.4		.2
14	7,320	1.9	26	1,300	1,640	170	40	111	85	7.8		.1
15	6,220	2.1	15	326	2,160	149	41	123	77	19		0
16	885	2.1	10	996	429	132	39	129	70	37		0
17	51	2.0	8.4	1,760	257	126	35	85	64	16		0
18	18	2.0	7.3	1,240	285	132	32	73	60	11		.1
19	8.8	2.3	6.5	384	232	1,480	33	67	54	8.8		.2
20	5.7	2.5	5.9	143	414	1,620	33	369	51	7.8		.3
21	4.7	2.6	5.6	94	402	188	32	656	46	11		.3
22	4.2	2.8	5.6	75	313	1,020	34	352	42	7.8		.3
23	3.6	2.7	5.9	65	543	2,970	36	2,580	37	7.8		.2
24	3.5	2.6	6.5	60	274	623	38	794	33	34		.2
25	6.0	2.5	29	62	611	183	39	305	31	74		.1
26	60	2.5	58	224	4,280	132	28	5,270	30	21		0
27	14	2.6	46	462	7,160	111	25	9,560	27	8.8		0
28	6.4	2.6	352	871	5,160	99	26	4,670	25	5.6		0
29	4.1	2.6	302	766	3,520	91	384	2,310	23	4.1		0
30	3.0	2.8	94	2,630	-	99	-	2,640	20	2.9		0
31	2.7	-	36	916	-	85	-	1,370	-	2.3		0

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	17,895.6	7,320	1.5	577	35,490
November.....	69.1	2.8	1.9	2.30	137
December.....	1,814.7	332	3.0	58.5	3,600
Calendar year 1943.....	123,980.5	15,700	0	340	245,900
January.....	22,341	3,540	50	721	44,310
February.....	44,141	7,160	123	1,622	87,550
March.....	14,986	2,970	85	483	29,720
April.....	6,032	6,120	25	269	16,030
May.....	126,735	41,600	67	4,088	251,400
June.....	10,237	3,090	20	341	20,300
July.....	481.1	74	2.3	15.5	954
August.....	11.3	1.6	0	.36	22
September.....	0	0	0	0	0
Water year 1943-44.....	246,791.8	41,600	0	674	489,500

a No gage-height record; discharge computed on basis of estimated gage height.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

West Fork San Jacinto River near Conroe, Tex.

Location.- Water-stage recorder, lat. 30°15', long. 95°28', at bridge on U. S. Highway 75, 285 feet upstream from International-Great Northern Railroad bridge, 3½ miles downstream from Lake Creek and 4½ miles south of Conroe, Montgomery County. Datum of gage is 100.3 feet above mean sea level, datum of 1929.

Drainage area.- 832 square miles.

Records available.- May 1924 to September 1927, July 1939 to September 1944.

Extremes.- Maximum discharge during year, 10,400 second-feet Feb. 1 (gage height, 16.10 feet); minimum, 16 second-feet Aug. 11.  
1924-27, 1939-44: Maximum discharge, 110,000 second-feet Nov. 25, 1940 (gage height, 25.85 feet), from rating curve extended above 43,000 second-feet on basis of velocity-area studies; minimum, 9.3 second-feet Oct. 1, 2, 1939.  
Maximum stage prior to 1940, 25.2 feet, present site and datum, in December 1913, at railroad bridge 285 feet downstream, from information by engineers of International-Great Northern Railroad (discharge, 101,000 second-feet, from rating curve extended above 43,000 second-feet on basis of velocity-area studies).

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29	28	155	1,140	8,340	830	464	75	912	40	20	126
2	29	34	163	1,260	4,300	712	332	262	454	38	19	100
3	29	35	126	1,300	1,960	614	273	1,180	255	39	22	104
4	29	32	85	1,300	755	376	235	1,220	191	38	19	89
5	46	29	65	1,500	490	264	192	1,840	155	41	19	86
6	64	29	60	1,460	388	233	181	2,720	136	41	22	64
7	45	37	55	717	302	216	142	1,740	124	36	22	70
8	35	32	54	400	239	202	136	860	142	35	27	121
9	31	30	59	490	451	187	145	851	224	34	19	75
10	28	29	68	600	628	177	154	1,000	364	33	18	55
11	26	28	73	656	726	172	160	755	273	32	21	65
12	25	28	75	606	870	171	155	572	220	31	79	52
13	27	29	155	1,640	342	166	132	642	260	29	50	42
14	26	29	235	2,680	1,320	163	117	354	490	28	31	35
15	26	34	214	5,300	2,820	160	106	214	376	27	26	32
16	23	43	135	6,240	3,720	710	100	177	282	27	25	31
17	23	35	99	4,430	4,020	1,180	95	135	172	29	24	28
18	26	32	85	2,720	2,570	1,400	93	129	129	29	22	26
19	27	30	76	1,340	1,010	3,200	91	118	106	32	23	25
20	26	30	69	614	586	3,320	98	114	92	40	23	24
21	26	30	66	353	464	2,670	99	455	77	31	22	24
22	24	31	65	264	438	2,240	99	1,240	70	28	23	23
23	24	31	71	223	516	2,420	93	2,980	65	26	31	22
24	27	30	112	201	451	1,320	87	3,720	58	26	27	22
25	27	30	201	296	438	1,040	83	4,090	52	26	26	20
26	25	31	201	614	566	1,070	93	4,320	48	25	23	21
27	23	58	321	817	755	829	79	3,960	45	24	23	36
28	24	73	787	1,380	1,070	376	75	2,150	43	23	24	45
29	29	76	1,000	2,220	1,140	464	75	2,060	42	22	24	36
30	30	112	1,070	3,150	-	451	76	2,520	41	21	36	29
31	29	-	1,220	6,370	-	425	-	1,880	-	20	164	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
October .....	907	64	23	29.3	0.035	0.04	1,800
November .....	1,133	112	28	37.8	.045	.05	2,250
December .....	7,199	1,220	54	232	.279	.32	14,280
Calendar year 1943 .....	96,266	4,140	23	269	.323	4.39	194,900
January .....	52,281	6,370	201	1,698	2.03	2.34	103,700
February .....	41,495	8,340	239	1,431	1.72	1.85	82,300
March .....	27,558	3,320	160	889	1.07	1.23	54,660
April .....	4,218	464	75	141	.169	.19	8,370
May .....	44,333	4,320	75	1,430	1.72	1.98	87,930
June .....	5,878	912	41	196	.236	.26	11,660
July .....	953	41	20	30.7	.037	.04	1,890
August .....	954	184	18	30.7	.037	.04	1,890
September .....	1,528	126	20	50.8	.061	.07	3,030
Water year 1943-44 .....	188,437	8,340	18	515	.619	8.41	373,800

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## SAN JACINTO RIVER BASIN

West Fork San Jacinto River near Humble, Tex.

Location.— Water-stage recorder, lat. 30°01'35", long. 95°15'30", at bridge on U. S. Highway 59, 1,160 feet upstream from Texas & New Orleans Railroad bridge, about half a mile downstream from Spring Creek, and 2½ miles north of Humble, Harris County. Datum of gage is 30.53 feet above mean sea level, datum of 1929.

Drainage area.— 1,811 square miles.

Records available.— October 1928 to September 1944.

Average discharge.— 16 years, 1,113 second-feet.

Extremes.— Maximum discharge during year, 14,000 second-feet Feb. 1, Mar. 20; maximum gage height, 12.98 feet Mar. 20; minimum discharge, 56 second-feet Aug. 2. 1928-44: Maximum discharge, 187,000 second-feet May 31, 1929, Nov. 25, 26, 1940; maximum gage height, 32.7 feet, present site and datum, May 31, 1929, Nov. 26, 1940 (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 discharge observed, 14 second-feet Sept. 8-10, 1931.

Remarks.— Records fair. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	80	69	345	1,730	12,400	1,520	1,060	128	4,010	100	61	861
2	82	395	360	3,840	11,000	1,180	988	240	2,150	98	59	784
3	80	581	335	3,580	5,790	1,020	f668	1,230	1,580	135	58	651
4	80	365	270	2,800	2,020	828	756	2,050	1,280	155	59	479
5	80	220	199	2,560	1,950	587	f678	2,300	1,020	134	61	320
6	80	167	155	2,300	1,480	479	f605	2,920	826	122	62	250
7	95	142	134	1,850	1,180	451	553	3,220	561	112	78	559
8	87	114	125	1,220	890	386	f497	1,800	414	102	74	275
9	82	107	117	1,090	898	350	a461	1,620	461	100	95	295
10	80	96	117	1,090	1,100	340	a425	2,650	509	96	85	207
11	76	89	125	1,080	1,220	320	a398	2,400	569	91	82	167
12	74	83	125	1,470	1,260	315	a370	2,360	605	69	480	160
13	82	80	128	3,780	1,010	300	a345	1,700	557	89	405	139
14	83	78	240	5,800	2,770	285	a315	1,900	565	67	451	117
15	78	160	381	6,820	5,480	285	276	1,180	650	83	330	102
16	74	243	350	8,900	6,520	2,790	245	925	533	82	171	93
17	67	191	260	8,600	7,880	3,840	225	749	403	80	107	89
18	66	122	203	6,440	5,970	5,310	212	515	295	80	85	85
19	66	100	171	3,930	3,200	12,000	203	398	235	80	76	80
20	67	91	149	2,300	1,900	13,200	191	360	212	80	74	78
21	69	85	134	1,610	1,560	11,500	191	642	178	89	70	74
22	66	85	122	1,280	1,280	8,240	225	2,050	160	83	66	70
23	62	82	156	958	1,050	6,120	207	5,800	139	80	68	69
24	72	78	445	715	980	8,000	182	5,640	122	80	70	66
25	69	76	675	1,070	950	3,580	164	5,960	122	74	70	62
26	69	80	756	1,660	1,300	2,800	149	9,770	120	72	64	67
27	67	139	683	2,200	1,430	2,200	142	8,060	114	76	64	533
28	64	374	1,340	2,800	1,610	1,520	134	6,120	107	80	66	657
29	64	443	1,700	5,180	1,700	1,610	128	5,520	107	72	67	449
30	67	350	1,660	8,420	-	1,430	125	5,960	105	67	76	305
31	67	-	1,610	8,600	-	1,180	-	5,800	-	62	465	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	2,293	93	62	74.0	0.041	0.05	4,550
November	5,306	561	59	177	.098	.11	10,580
December	13,752	1,700	117	444	.245	.26	27,200
Calendar year 1943	240,748	14,000	62	650	.564	4.96	477,500
January	105,524	8,900	716	3,404	1.88	2.17	209,300
February	98,758	12,400	890	3,061	1.69	1.82	176,000
March	90,944	13,200	285	2,934	1.62	1.87	180,400
April	11,285	1,060	128	376	.208	.25	22,400
May	92,790	2,770	128	2,993	1.65	1.91	184,000
June	18,699	4,010	105	623	.544	.58	37,090
July	2,828	153	62	91.2	.050	.06	5,610
August	4,043	460	58	130	.072	.08	8,020
September	8,103	861	62	270	.149	.17	16,070
Water year 1943-44	444,334	13,200	58	1,214	.670	9.13	881,200

Peak discharge.— Feb. 1 (10 p.m.) 14,000 sec.-ft.; Mar. 20 (3 a.m.) 14,000 sec.-ft.; May 26 (6 a.m.) 11,700 sec.-ft.

a No gage-height record; discharge computed on basis of engineers' notes and weather records.

f Computed on basis of partly estimated gage-height record.

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

# SAN JACINTO RIVER BASIN

San Jacinto River near Huffman, Tex.

Location.- Water-stage recorder, lat. 29°59'40", long. 95°08'00", at Beaumont, Sour Lake & Western Railway bridge, 0.4 mile downstream from confluence of East and West Forks and 3.4 miles southwest of Huffman, Harris County. Datum of gage is 1.93 feet above mean sea level, datum of 1929.

Drainage area.- 2,791 square miles.

Records available.- October 1936 to September 1944.

Extremes.- Maximum discharge during year, 21,500 second-feet May 27 (gage height, 26.25 feet); minimum, 108 second-feet Aug. 4.

1936-44: Maximum discharge observed, 253,000 second-feet Nov. 26, 1940 (gage height, 51.2 feet); minimum observed, 49 second-feet Sept. 1, 1939, Sept. 13, 14, 1940.

Flood of May 31, 1929, reached a stage of 50.3 feet, from information by Beaumont, Sour Lake & Western Railway Co. (discharge, 237,000 second-feet). Flood of April 1876 reached a stage about 1½ feet lower, from information by local resident.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	160	138	578	2,380	12,000	2,220	1,790	270	5,000	232	115	1,660
2	153	549	608	7,560	13,600	1,790	1,650	619	2,740	226	111	1,520
3	149	885	698	6,880	8,880	1,520	1,420	1,600	2,000	321	110	1,230
4	144	568	652	5,300	4,310	1,320	1,320	3,440	1,620	454	108	985
5	140	416	504	4,420	2,900	1,040	1,100	4,000	1,360	287	117	608
6	138	318	472	3,760	2,300	895	985	4,340	1,160	263	117	446
7	153	329	391	3,040	1,930	806	865	4,420	895	238	130	640
8	153	263	347	2,140	1,580	758	758	3,280	701	226	147	504
9	144	241	325	1,860	1,420	696	701	2,740	806	212	136	468
10	140	235	318	1,790	1,760	690	701	3,360	806	204	132	343
11	140	207	318	1,650	2,000	668	684	2,970	835	196	125	276
12	138	194	307	2,330	1,930	646	646	2,600	865	184	255	261
13	151	184	300	5,640	1,680	630	593	2,070	955	179	729	229
14	153	176	410	9,290	3,810	598	543	2,000	1,020	174	504	207
15	149	300	635	10,300	7,360	573	496	1,680	1,100	169	460	186
16	149	632	678	11,100	8,590	3,440	469	1,200	865	164	290	174
17	144	321	468	11,900	9,750	5,300	428	985	852	160	204	164
18	140	244	391	9,180	7,910	6,060	407	701	600	158	174	188
19	138	209	332	5,420	4,790	14,800	387	553	450	155	162	163
20	140	191	300	3,440	2,880	19,500	375	508	423	153	160	147
21	140	176	280	2,370	2,370	16,400	371	809	395	155	155	144
22	140	172	267	1,860	2,070	12,200	383	2,690	359	153	144	140
23	138	169	297	1,490	1,790	8,590	415	8,340	329	153	142	134
24	151	164	747	1,180	1,720	7,150	379	9,720	511	153	151	132
25	144	160	1,680	2,000	1,650	4,840	379	8,170	293	151	153	127
26	144	164	1,580	2,600	2,220	3,760	332	14,000	276	169	151	132
27	153	420	1,360	2,970	2,520	2,820	307	20,500	260	164	147	373
28	149	866	2,000	3,440	2,520	2,070	290	14,000	254	160	179	1,020
29	140	865	2,440	4,890	2,520	2,300	273	9,290	244	142	276	1593
30	138	679	2,370	9,290	-	2,970	267	7,680	238	130	343	1446
31	138	-	2,220	10,900	-	2,220	-	7,780	-	121	702	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	4,491	160	138	145	0.062	0.06	8,910
November	10,414	865	138	347	.124	.14	20,660
December	24,143	2,440	267	779	.279	.32	47,890
Calendar year 1943	412,488	24,800	123	1,130	.405	5.50	818,100
January	152,120	11,800	1,160	4,907	1.76	2.03	302,700
February	119,610	13,600	1,420	4,124	1.48	1.59	237,200
March	129,232	19,500	573	4,169	1.49	1.72	256,300
April	19,701	1,790	267	657	.235	.26	39,080
May	146,085	20,500	270	4,712	1.69	1.86	289,800
June	27,712	5,000	238	924	.331	.37	54,970
July	6,036	454	121	194	.070	.08	11,810
August	6,819	729	108	220	.079	.08	13,530
September	13,790	1,660	127	460	.165	.18	27,880
Water year 1943-44	660,123	20,600	108	1,804	.646	8.79	1,309,000

Peak discharge.- Jan. 17 (6 a.m.) 12,300 sec.-ft.; Feb. 2 (6:30 a.m.) 14,500 sec.-ft.; Mar. 20 (10 a.m.) 20,000 sec.-ft.; May 27 (9:30 a.m.) 21,500 sec.-ft.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Spring Creek near Spring, Tex.

Location.— Wire-weight gage, lat. 30°06'35", long. 95°26'10", at bridge on U. S. Highway 75, 4,600 feet upstream from International-Great Northern Railroad bridge, 2.4 miles northwest of Spring, Harris County, and 4 miles downstream from Willow Creek. Datum of gage is 78.18 feet (revised) above mean sea level, unadjusted.

Drainage area.— 400 square miles.

Records available.— April 1939 to September 1944.

Extremes.— Maximum discharge during year, 5,280 second-feet Mar. 19 (gage height, 18.15 feet); minimum observed, 18 second-feet Oct. 29.

1939-44: Maximum discharge, 42,700 second-feet Nov. 25, 1940 (gage height, 28.6 feet, from graph based on gage readings); minimum observed, 7.7 second-feet Sept. 13, 1940.

Maximum stage known, 29.3 feet May 30, 1929, from floodmarks identified by local resident (discharge, 48,300 second-feet).

Remarks.— Records fair. Gage read twice daily, oftener during high water. No diversion above station.

Rating tables, water year 1943-44 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Jan. 18)

Oct. 1 to Jan. 18

Jan. 19 to Sept. 30

1.5	18	3.0	94	7.0	544	1.4	18	4.0	207	8.0	770	16	3,140
1.7	26	3.5	130	8.0	722	1.6	26	4.5	259	9.0	960	17	3,980
1.9	40	4.0	171	10.0	1,100	2.0	45	5.0	322	11	1,380	18	5,040
2.3	64	5.0	272	12	1,510	2.4	70	6.0	460	13	1,940		
2.6	70	6.0	394			3.0	118	7.0	605	15	2,680		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	21	42	113	1,530	277	146	50	647	32	22	38
2	24	49	37	527	709	178	124	82	248	332	22	26
3	24	69	26	566	522	153	124	308	164	332	22	44
4	24	37	26	544	197	116	151	390	120	332	22	36
5	24	27	26	289	182	106	151	254	98	32	22	30
6	23	24	26	122	156	100	100	237	84	32	24	24
7	22	24	26	98	133	92	88	160	78	32	30	30
8	22	24	26	98	120	83	84	98	142	31	56	51
9	22	22	26	79	142	77	81	182	151	30	37	42
10	21	20	26	94	187	76	81	637	87	30	39	26
11	21	20	26	74	207	70	84	824	77	28	31	25
12	20	20	26	158	153	71	74	669	83	28	85	22
13	23	19	26	705	146	76	63	259	83	28	178	22
14	24	20	28	1,260	904	70	62	197	120	28	71	22
15	20	21	28	1,490	2,100	69	63	116	89	28	40	22
16	20	21	30	1,420	2,220	432	61	92	71	28	28	22
17	20	21	30	869	1,430	59	71	60	27	24	22	22
18	20	22	30	298	605	1,880	54	58	57	26	22	21
19	20	22	30	207	309	4,320	57	63	52	26	22	21
20	20	22	27	151	283	4,380	57	64	47	26	25	21
21	20	24	26	120	242	2,720	54	98	46	26	24	21
22	20	23	26	112	217	1,300	64	285	44	26	26	21
23	20	22	28	90	178	770	68	770	40	26	24	21
24	23	20	47	82	182	960	56	770	41	26	22	20
25	24	20	104	233	207	605	62	702	39	25	22	20
26	23	21	101	575	404	277	50	575	38	24	22	20
27	21	31	79	702	460	212	48	669	38	24	21	45
28	21	53	189	753	432	197	47	862	32	24	22	93
29	19	71	239	1,380	271	259	47	1,640	32	24	26	70
30	19	52	294	2,150	-	355	44	2,590	32	24	36	39
31	20	-	119	2,010	-	207	-	1,970	-	23	158	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	668	24	19	21.5	0.054	0.06	1,320
November	862	71	19	28.7	.072	.06	1,710
December	1,620	294	26	58.7	.147	.17	3,610
Calendar year 1943	52,756	7,530	19	145	.362	4.21	104,600
January	17,399	2,150	74	561	1.40	1.62	34,510
February	14,608	2,220	120	504	1.26	1.36	28,970
March	21,648	4,380	69	698	1.74	2.01	42,940
April	2,284	151	44	76.1	1.90	.21	4,530
May	16,036	2,890	50	517	1.29	1.49	31,810
June	2,940	647	32	98.0	.245	.27	5,830
July	860	32	23	27.7	.069	.08	1,710
August	1,225	178	21	39.5	.099	.11	2,430
September	937	93	20	31.2	.078	.09	1,860
Water year 1943-44	81,287	4,380	19	222	.555	7.55	161,200

a No gage-height record; discharge interpolated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Cypress Creek near Westfield, Tex.

Location.- Water-stage recorder, lat. 30°02'08", long. 95°25'43", at 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. Datum of gage is 75.9 feet above mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Drainage area.- 262 square miles.

Records available.- July to September 1944.

Extremes.- Maximum discharge during period, 379 second-feet Sept. 2 (gage height, 6.20 feet); minimum, 2.2 second-feet July 26.

Maximum stage known, about 22 feet in May 1929, from information by local resident. Flood of November 1940 reached a stage of about 20.2 feet, from information by State Highway Department.

Remarks.- Records fair. No diversions above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										-	3.2	239
2										-	2.9	367
3										4.7	2.6	307
4										18	2.5	154
5										14	2.5	59
6										5.6	3.2	75
7										4.1	3.6	64
8										3.7	6.8	29
9										3.7	4.4	21
10										3.5	3.3	24
11										3.7	4.2	23
12										3.4	18	21
13										3.1	63	17
14										2.9	199	13
15										2.8	100	11
16										2.7	34	10
17										2.6	17	10
18										2.5	13	9.6
19										2.5	13	9.2
20										2.5	10	8.7
21										2.4	8.9	8.2
22										2.4	7.9	8.0
23										2.4	9.4	7.6
24										2.4	9.1	7.2
25										2.4	9.4	6.6
26										12	9.2	7.0
27										15	7.4	76
28										7.2	8.5	183
29										5.4	9.4	136
30										4.4	12	76
31										3.6	128	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October .....							
November .....							
December .....							
Calendar year .....							
January .....	-	-	-	-	-	-	-
February .....	-	-	-	-	-	-	-
March .....	-	-	-	-	-	-	-
April .....	-	-	-	-	-	-	-
May .....	-	-	-	-	-	-	-
June .....	-	-	-	-	-	-	-
July 3-31 .....	145.6	18	2.4	5.02	0.019	0.02	289
August .....	723.4	199	2.5	23.3	.089	.10	1,430
September .....	1,987.1	367	6.6	65.6	.250	.28	3,900
The period .....	-	-	-	-	-	-	5,620

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## SAN JACINTO RIVER BASIN

East Fork San Jacinto River near Cleveland, Tex.

Location.- Water-stage recorder, lat. 30°20', long. 95°07', at bridge on State Highway 105, 83 feet downstream from Gulf, Colorado & Santa Fe Railway bridge, 1½ miles west of Cleveland, Liberty County, and 4 miles downstream from Nebblets Creek. Datum of gage is 113.0 feet above mean sea level, datum of 1929.

Drainage area.- 330 square miles.

Records available.- April 1939 to September 1944.

Extremes.- Maximum discharge during year, 2,240 second-feet Feb. 1 (gage height, 8.73 feet); minimum, 13 second-feet Aug. 21.

1939-44: Maximum discharge, 77,500 second-feet Nov. 24, 1940 (gage height, 20.37 feet), from rating curve extended above 14,000 second-feet by logarithmic plotting; minimum, 7.2 second-feet Sept. 6, 1939.

Maximum stage known prior to 1940, 19.9 feet May 5, 1935, from information by local resident (discharge, 69,500 second-feet, from rating curve extended above 14,000 second-feet by logarithmic plotting).

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	21	36	98	2,070	153	176	61	145	34	18	180
2	22	29	33	263	1,410	147	145	202	119	35	18	306
3	22	44	32	604	344	121	151	726	102	37	17	193
4	20	36	33	436	321	106	131	1,080	91	34	18	86
5	18	26	32	240	222	98	133	1,020	84	41	20	61
6	18	23	31	133	176	91	111	880	78	33	18	46
7	18	28	33	106	159	89	98	726	82	31	18	39
8	17	47	32	143	149	78	96	264	98	29	18	33
9	17	32	31	182	212	71	106	179	82	25	19	31
10	17	26	32	163	447	68	106	147	71	22	19	29
11	17	23	32	125	366	75	106	111	62	22	23	26
12	17	22	34	119	207	73	91	95	80	22	30	25
13	19	22	33	446	153	69	78	106	99	21	36	24
14	26	23	34	854	580	68	71	113	167	20	31	22
15	28	23	43	1,100	1,050	68	69	82	108	19	28	21
16	22	25	46	1,250	1,400	193	64	71	75	19	23	20
17	19	32	36	790	1,260	332	54	61	62	20	19	20
18	18	28	32	290	424	453	52	54	52	20	18	20
19	18	25	31	184	231	1,190	54	52	49	19	18	19
20	19	24	31	146	193	1,100	54	56	47	19	17	19
21	19	23	31	123	167	1,100	56	184	46	24	17	18
22	19	23	31	113	159	802	73	738	41	24	21	18
23	19	23	33	106	181	447	100	1,310	39	25	25	18
24	20	23	64	100	147	828	76	1,500	39	28	26	18
25	28	23	100	139	212	575	56	1,570	37	54	20	17
26	29	23	106	222	306	226	54	1,540	36	36	20	17
27	22	30	96	222	248	167	52	1,080	34	26	20	19
28	21	69	100	344	226	139	44	1,250	35	24	196	34
29	20	57	153	768	182	562	41	1,190	32	21	64	46
30	20	44	180	1,280	-	255	43	508	33	19	66	33
31	21	-	141	1,440	-	229	-	186	-	18	264	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	633	29	17	20.4	0.062	0.07	1,260
November	896	68	21	29.9	.091	.10	1,780
December	1,711	180	31	55.2	.167	.19	3,390
Calendar year 1943	46,644	2,480	17	128	.368	5.25	92,510
January	12,418	1,440	98	401	1.22	1.40	24,630
February	13,172	2,070	147	454	1.36	1.48	26,130
March	9,975	1,190	68	322	.976	1.12	19,780
April	2,538	176	41	84.6	.256	.29	5,030
May	17,131	1,570	52	553	1.68	1.93	33,980
June	2,123	167	32	70.8	.215	.24	4,210
July	819	54	18	26.4	.080	.09	1,620
August	1,165	264	17	37.6	.114	.13	2,310
September	1,458	306	17	48.6	.147	.16	2,890
Water year 1943-44	64,037	2,070	17	175	.530	7.20	127,000

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Caney Creek near Splendora, Tex.

Location.- Water-stage recorder, lat. 30°16', long. 95°18', at county road bridge, 4 miles downstream from Gulf, Colorado & Santa Fe Railway bridge and 8 miles west of Splendora, Montgomery County. Datum of gage is 123.44 feet above mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Drainage area.- 104 square miles.

Records available.- January to September 1944.

Extremes.- Maximum discharge during period, 1,380 second-feet Feb. 15 (gage height, 10.30 feet); minimum, 13 second-feet, Sept. 24-25.

Maximum stage known since about 1885, 21.7 feet, from floodmark in house 900 feet downstream and unadjusted for slope, in November 1940, from information by local resident. Flood of May 1935 reached a stage of 19.0 feet at same location, from information by local resident.

Remarks.- Records good. No diversion above station.

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

0.2	11	2.0	93	5.0	445
.4	17	2.5	133	6.0	600
.8	30	3.0	181	7.0	775
1.2	46	3.5	237	8.0	955
1.6	67	4.0	300	9.0	1,140

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				-	112	59	49	30	48	23	16	183
2				-	82	49	58	100	45	23	16	37
3				-	71	46	56	744	43	24	19	25
4				-	192	46	46	146	41	24	20	21
5				-	74	46	41	230	39	23	18	21
6				-	60	45	39	113	40	22	17	20
7				-	56	43	38	54	40	21	18	18
8				104	54	38	48	46	46	20	21	18
9				95	193	36	46	78	38	20	16	18
10				50	136	37	42	62	34	20	16	17
11				43	67	40	37	40	37	20	22	16
12				58	82	39	33	35	118	19	58	16
13				495	47	37	32	51	168	19	27	16
14				901	376	36	32	86	70	18	24	16
15				332	1,020	36	32	59	41	18	18	16
16				120	147	174	31	59	34	18	17	15
17				78	97	249	29	35	32	18	16	15
18				62	80	269	29	30	30	18	16	15
19				54	69	709	30	29	31	19	16	15
20				50	68	652	30	55	29	18	16	15
21				46	64	119	32	284	27	18	16	14
22				45	60	82	35	843	27	18	16	14
23				44	58	693	33	1,040	26	19	16	14
24				43	62	195	30	446	25	19	16	13
25				60	109	81	27	89	24	21	15	13
26				86	186	63	28	756	24	19	16	14
27				76	92	57	28	472	23	18	16	19
28				187	70	71	26	105	23	17	18	24
29				487	71	169	26	75	25	17	18	21
30				1,040	-	98	28	63	23	16	26	18
31				344	-	57	-	54	-	16	133	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October							
November							
December							
Calendar year							
January 8-31	4,840	1,040	43	202	1.94	1.73	9,600
February	5,805	1,020	47	131	1.26	1.36	7,560
March	4,369	709	36	141	1.36	1.56	8,670
April	1,061	58	25	35.4	1.340	.38	2,100
May	6,264	1,040	29	202	1.94	2.24	12,420
June	1,248	168	23	41.6	.400	.45	2,480
July	603	24	16	19.5	.187	.22	1,200
August	713	133	15	23.0	.221	.25	1,410
September	636	123	13	21.2	.204	.23	1,260
The period	-	-	-	-	-	-	48,690

Peak discharge.- Jan. 30 (8 p.m.) 1,280 sec.-ft.; Feb. 15 (11:30 a.m.) 1,380 sec.-ft.; May 23 (10:30 p.m.) 1,320 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## SAN JACINTO RIVER BASIN

Peach Creek at Splendora, Tex.

Location.- Water-stage recorder, lat. 30°14', long. 95°10', at county road bridge between Splendora and Conroe, about 1,500 feet west of depot at Splendora, Montgomery County, about 3 miles upstream from Texas & New Orleans Railroad bridge, and about 8 miles upstream from Caney Creek. Datum of gage is 86.61 feet above mean sea level, datum of 1929, Galveston-Houston supplementary adjustment of 1936.

Drainage area.- 120 square miles.

Records available.- December 1943 to September 1944.

Extremes.- Maximum discharge during period, 2,890 second-feet May 26 (gage height, 10.73 feet); minimum, 15 second-feet Sept. 25, 26.

Maximum stage known since about 1895, 17.0 feet in November 1940, from floodmarks (adjusted to present site and datum), from information by local resident.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			-	45	212	72	90	36	63	20	16	155
2			-	224	117	60	80	80	55	21	16	108
3			-	146	94	57	148	230	49	22	16	47
4			-	99	82	56	100	230	45	22	19	33
5			-	58	77	56	72	186	44	22	20	27
6			-	48	67	55	63	97	44	23	17	24
7			-	49	67	52	57	63	41	21	17	22
8			-	56	67	50	54	47	47	20	17	22
9			-	60	77	44	60	88	51	19	16	22
10			-	47	82	44	65	149	44	18	16	20
11			-	42	72	47	55	74	38	18	17	19
12			-	57	57	50	47	49	40	17	114	18
13			-	218	59	49	41	42	54	17	30	18
14			-	320	254	45	40	86	90	17	27	17
15			-	220	500	45	41	70	60	16	27	17
16			-	133	278	192	39	47	37	16	22	16
17			-	87	149	189	36	37	32	16	20	16
18			-	72	108	229	35	32	29	17	20	16
19		26	63	84	1,360	94	36	30	31	16	19	16
20		25	57	92	601	37	35	34	17	20	16	16
21		25	53	87	308	37	114	28	17	19	16	16
22		25	49	80	143	45	298	26	18	22	16	16
23		27	48	74	124	49	846	24	18	21	16	16
24		44	47	77	114	52	522	23	19	20	16	16
25		82	107	142	92	39	202	23	47	20	16	16
26		72	144	212	74	33	2,000	22	27	23	15	15
27		53	130	151	70	33	1,120	21	20	21	18	18
28		54	130	102	104	31	390	21	18	32	21	21
29		65	196	84	365	29	162	20	17	27	26	26
30		54	621	-	447	30	100	20	17	43	23	23
31		38	440	-	137	-	77	-	16	155	-	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	-	-	-	-	-
November.....	-	-	-	-	-
December 19-31.....	590	82	25	45.4	1,170
Calendar year.....	-	-	-	-	-
January.....	4,066	621	42	131	8,060
February.....	3,607	500	52	124	7,150
March.....	5,530	1,360	44	178	10,970
April.....	1,574	148	29	52.5	3,120
May.....	7,539	2,000	30	243	14,950
June.....	1,156	90	20	38.5	2,290
July.....	609	47	16	19.6	1,210
August.....	959	155	16	28.7	1,760
September.....	832	155	15	27.7	1,650
The period.....	-	-	-	-	52,330

Peak discharge.- Mar. 19 (1 p.m.) 1,600 sec.-ft.; May 23 (2 p.m.) 1,040 sec.-ft.; May 26 (2:30 p.m.) 2,890 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Buffalo Bayou at Houston, Tex.

Location.- Water-stage recorder, lat. 29°45'42", long. 95°23'52", at Waugh Drive Bridge in Houston, Harris County, half a mile upstream from Texas & New Orleans Railroad bridge and 3½ miles upstream from Whiteoak Bayou. Datum of gage is 4.08 feet below mean sea level, datum of 1929.

Drainage area.- 368 square miles.

Records available.- May 1936 to September 1944.

Extremes.- Maximum discharge during year, 6,810 second-feet Nov. 2 (gage height, 31.03 feet); minimum, 4.1 second-feet Aug. 20, 21.  
1936-44: Maximum discharge, 9,500 second-feet/May 27, 1936 (gage height, 32.5 feet, from graph based on gage readings); minimum not determined.  
Maximum stage known, 54.4 feet, present site and datum, Dec. 9, 1935 (discharge, 40,000 second-feet, furnished by M. J. McCall, engineer for Harris County). Flood of May 31, 1929, reached a stage of 48.9 feet, present site and datum (discharge, 19,000 second-feet at bridge on Capitol Avenue, 2 miles downstream, from rating curve extended above 15,300 second-feet, stage-discharge relation materially affected by interference of bridge; furnished by W. E. White, assistant engineer, city of Houston).

Remarks.- Record good. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	20	f24	956	928	2,300	118	149	29	2,660	13	6.5	428
2	26	f5,610	800	2,230	1,980	96	112	477	1,560	14	6.2	420
3	32	5,500	669	2,130	1,520	75	88	743	804	15	6.2	292
4	41	3,310	466	2,070	1,060	62	74	762	414	16	8.1	171
5	50	2,070	292	1,800	743	56	a65	547	214	36	7.1	116
6	37	1,340	227	1,310	514	48	a57	326	128	42	7.1	322
7	26	925	195	944	375	44	a51	178	87	30	11	241
8	20	617	143	762	298	40	a48	95	67	22	10	198
9	16	390	106	687	260	36	a46	290	57	18	11	227
10	13	227	96	514	227	133	a45	541	59	15	8.8	227
11-	all	136	66	420	196	246	a42	669	56	14	8.4	146
12	a9.0	90	63	981	159	390	a39	530	46	12	7.1	83
13	16	66	59	2,140	123	361	36	390	36	10	6.2	49
14	a8.3	49	134	2,570	744	253	32	222	32	10	6.5	30
15	a8.1	61	202	2,650	1,010	246	29	111	34	9.6	6.5	22
16	a8.1	142	196	2,610	1,260	2,170	26	88	32	9.6	5.9	22
17	a8.1	227	143	2,200	1,260	2,650	25	69	28	10	6.8	17
18	a8.1	113	120	1,660	966	3,820	25	46	24	11	6.2	17
19	a8.1	74	84	1,110	781	5,110	24	37	22	11	5.3	14
20	a8.1	54	59	762	598	5,570	24	30	20	9.6	4.4	12
21	a8.1	44	46	498	482	5,570	24	195	19	9.6	5.3	12
22	a8.1	36	40	328	390	4,440	23	1,010	18	12	6.2	12
23	a8.1	63	65	214	305	3,300	22	1,630	17	9.6	6.2	12
24	a17	27	306	162	253	2,360	21	1,630	16	13	5.6	15
25	a8.1	24	728	447	227	1,770	21	1,470	15	8.8	5.6	17
26	8.1	25	900	973	202	1,260	21	1,060	15	8.0	6.2	37
27	7.9	149	781	1,310	190	880	20	762	14	6.5	5.6	627
28	7.7	866	1,030	1,310	172	651	20	1,430	14	6.8	12	389
29	7.7	1,210	1,210	1,580	144	450	21	3,330	13	6.5	9.2	298
30	7.7	1,210	1,080	1,920	-	298	24	4,860	13	6.2	52	253
31	7.6	-	620	2,070	-	202	-	4,080	-	6.5	277	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	470.0	50	7.6	15.2	0.041	0.05	932
November	24,666	5,610	24	822	2.23	2.49	48,920
December	12,093	1,210	40	390	1.06	1.22	23,990
Calendar year 1943	80,084.5	5,610	5.5	219	.595	8.08	158,800
January	41,288	2,650	162	1,532	3.62	4.17	81,890
February	18,639	2,200	125	645	1.76	1.88	36,970
March	42,705	5,570	36	1,378	3.74	4.31	84,700
April	1,254	149	20	41.8	.114	.13	2,490
May	27,635	4,860	29	991	2.42	2.79	54,810
June	6,534	2,660	13	218	.592	.66	12,960
July	421.3	42	6.2	13.6	.037	.04	836
August	535.2	277	4.4	17.3	.047	.05	1,060
September	4,727	627	12	168	.429	.48	9,380
Water year 1943-44	180,968.5	5,610	4.4	494	1.34	18.27	358,900

Peak discharge.- Nov. 2 (5 p.m.) 6,810 sec.-ft.; Mar. 21 (1 a.m.) 5,870 sec.-ft.; May 30 (1:30 p.m.) 5,010 sec.-ft.

a No gage-height record; discharge computed on basis of known range in stage and weather records.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## SAN JACINTO RIVER BASIN

Whiteoak Bayou at Houston, Tex.

Location.- Water-stage recorder, lat. 29°46'31", long. 95°23'54", at Yale Street Bridge, in Houston, Harris County, just downstream from Texas & New Orleans Railroad bridge and 2 miles upstream from Little Whiteoak Bayou. Datum of gage is 4.08 feet below mean sea level; datum of 1929.

Drainage area.- 87.0 square miles.

Records available.- May 1936 to September 1944.

Extremes.- Maximum discharge during year, 8,600 second-feet Nov. 2 (gage height, 42.45 feet); minimum 0.7 second-foot Aug. 3.  
1936-44: Maximum discharge, that of Nov. 2, 1943; minimum, 0.2 second-foot Aug. 7, 8, 1940.

Maximum stage known, 51.5 feet, present datum, Dec. 9, 1935 (discharge, 14,750 second-feet, furnished by M. J. McCall, engineer for Harris County). Discharge for flood of May 31, 1929, 9,360 second-feet (gage height, 47.0 ± 0.5 feet, present site and datum), computed on basis of current-meter measurement at stage 1 foot below crest, made at bridge 1 block downstream from gage; furnished by W. E. White, assistant engineer, city of Houston.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.2	11	113	270	380	16	11	5.4	410	a3.7	0.8	145
2	5.4	6,630	96	1,430	172	11	11	196	163	a3.7	.8	f33
3	7.1	3,030	88	1,160	114	9.1	11	207	84	a3.5	.7	f12
4	5.6	1,090	105	697	82	8.4	10	92	55	3.4	1.5	6.0
5	4.5	377	84	361	56	7.6	8.9	75	a33	5.0	a1.1	11
6	4.0	a105	62	166	40	7.3	8.4	40	a20	6.0	a.8	86
7	3.5	a105	60	113	36	6.6	8.1	17	a11	5.4	a.8	200
8	3.2	a79	41	206	33	5.8	7.6	9.7	a9.4	4.2	a.8	46
9	2.8	34	30	167	30	5.6	7.6	77	a9.4	3.2	a.8	12
10	2.6	19	26	95	30	4.0	7.3	201	a9.4	2.2	a.8	6.2
11	2.5	13	21	71	25	1.25	7.1	103	a8.6	2.4	a.8	3.8
12	2.6	11	20	483	21	65	6.8	42	a8.6	1.8	a.8	2.9
13	4.8	8.9	15	1,400	16	34	6.4	22	a8.4	1.6	a.8	2.4
14	3.4	7.3	43	1,500	423	20	6.2	14	7.8	1.5	.8	2.1
15	2.5	13	136	991	630	64	6.2	10	7.3	1.4	1.0	1.8
16	2.2	27	85	581	454	1,740	6.0	8.6	7.1	1.4	1.0	1.6
17	2.1	30	43	290	204	1,750	5.8	8.6	6.2	1.3	.9	1.5
18	1.9	17	27	152	120	1,290	6.0	5.4	5.4	1.2	.9	1.3
19	1.9	11	18	101	74	2,030	6.2	5.2	5.2	1.2	.9	1.3
20	1.8	8.4	13	74	59	1,640	6.4	5.4	4.8	1.1	1.0	1.2
21	1.7	7.1	11	53	57	908	6.4	132	4.6	1.1	1.6	1.2
22	1.7	6.0	10	41	45	493	5.8	590	4.6	1.2	f5.0	1.2
23	1.6	5.8	32	35	37	294	5.8	1,160	4.6	1.4	f1.7	1.2
24	3.8	5.8	316	32	31	f196	5.6	823	4.8	1.9	1.2	1.2
25	2.1	5.8	588	227	31	108	5.8	405	a4.8	1.4	.9	1.1
26	2.4	6.4	445	389	37	63	5.6	163	a4.8	1.2	.8	2.6
27	2.6	f64	222	306	34	39	4.8	177	a4.6	1.0	.8	531
28	2.5	514	563	251	27	30	4.8	346	a4.5	1.0	f6.9	550
29	2.1	529	540	440	22	25	4.6	1,940	a4.3	.8	f21	167
30	2.1	271	296	810	-	19	4.8	1,560	a4.2	.8	f20	51
31	1.7	-	136	645	-	15	-	816	-	.8	f180	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acre-feet
October	94.9	7.1	1.6	3.06	0.035	0.04	188
November	13,061.5	6,630	5.8	.435	5.00	5.58	25,910
December	4,283	588	10	138	1.69	1.83	8,500
Calendar year 1943	37,497.1	6,630	1.6	103	1.18	16.02	74,380
January	13,537	1,500	32	437	5.02	5.78	26,850
February	9,320	630	16	114	1.31	1.42	6,690
March	11,055.4	2,030	5.6	357	4.10	4.72	21,630
April	208.2	11	4.6	6.94	.080	.09	413
May	9,153.3	1,940	5.2	295	3.39	3.91	18,160
June	919.3	410	4.2	30.6	.352	.39	1,820
July	67.9	6.0	.8	2.19	.025	.03	135
August	257.7	180	.7	8.31	.095	.11	511
September	1,894.6	550	1.1	62.8	.722	.81	3,740
Water year 1943-44	57,942.8	6,630	.7	158	1.82	24.71	114,700

a No gage-height record; discharge computed on basis of known range in stage and weather records.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Brays Bayou at Houston, Tex.

Location.- Water-stage recorder, lat. 29°42'06", long. 95°24'06", at Old Main Street Bridge in southwest section of Houston, Harris County, three-quarters of a mile upstream from Harris Gully and about 15 miles upstream from Buffalo Bayou. Datum of gage is 3.90 feet below mean sea level, datum of 1929.

Drainage area.- 98.2 square miles.

Records available.- May 1936 to September 1944

Extremes.- Maximum discharge during year, 8,120 second-feet Nov. 2 (gage height, 50.60 feet); minimum, 1.1 second-feet Sept. 25.

1936-44: Maximum discharge, that of Nov. 2, 1943; minimum, 0.1 second-foot Oct. 10-13, 1937.

Maximum discharge known, 11,095 second-feet May 31, 1929 (gage height, 50.4 feet, present site and datum), from current-meter measurement at Lawndale Avenue Bridge about 12 miles below gage; furnished by W. E. White, assistant engineer, city of Houston.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	2.7	179	444	224	7.8	7.3	4.0	144	6.0	2.0	92
2	2.8	7,210	138	3,040	134	6.0	7.8	1,030	59	8.0	1.8	18
3	2.5	5,540	231	1,310	96	5.6	6.5	809	33	5.1	2.0	5.2
4	2.5	2,350	358	548	63	5.2	6.0	734	20	3.0	1.8	3.4
5	2.4	1,450	190	272	43	4.6	6.0	470	14	2.6	2.4	3.1
6	2.2	597	126	149	32	4.4	5.8	148	11	2.5	2.8	40
7	2.2	290	85	137	28	4.0	5.6	60	8.4	2.4	8.7	14
8	2.4	136	56	162	24	3.4	5.8	29	7.6	2.4	4.4	16
9	2.5	62	39	97	21	3.1	5.8	551	14	2.4	1.9	5.6
10	2.4	32	37	63	17	118	5.4	463	19	2.4	1.9	3.4
11	2.4	19	60	69	13	206	4.9	182	15	2.2	1.8	2.7
12	2.4	12	45	1,550	9.5	94	4.6	71	14	2.1	2.0	2.1
13	5.3	9.0	28	2,400	8.0	46	4.6	a29	8.4	2.2	1.9	1.9
14	2.5	6.5	138	1,770	975	24	4.9	a18	5.2	2.1	1.8	1.9
15	2.2	29	346	789	464	17	4.9	a13	4.4	2.2	1.8	1.8
16	2.1	246	154	368	190	2,560	4.2	a9.7	4.1	2.2	1.8	1.8
17	2.0	102	85	190	123	1,240	4.6	a7.8	3.8	2.2	1.9	1.8
18	2.1	48	53	114	78	1,310	4.7	a6.7	3.8	2.5	2.0	1.8
19	2.1	25	34	79	52	2,190	4.7	a6.5	3.5	2.5	1.9	1.8
20	2.1	16	22	55	42	999	4.4	a7.8	3.4	2.2	1.8	1.9
21	2.1	10	18	41	34	381	4.2	a16	3.2	1.9	1.7	2.0
22	2.1	7.3	14	30	27	184	4.2	380	3.2	1.9	2.0	1.9
23	1.9	4.9	44	24	21	125	4.0	1,010	3.0	2.0	2.0	1.8
24	2.4	3.8	468	80	17	69	3.6	352	2.8	3.5	2.0	1.8
25	2.2	2.8	453	592	18	39	4.0	129	2.8	2.8	1.7	1.8
26	2.0	4.7	222	475	25	24	4.6	f74	3.0	1.9	1.7	6.7
27	2.0	541	226	358	20	17	3.8	52	2.7	2.0	2.0	124
28	1.9	1,350	850	290	15	15	3.5	1,600	2.7	2.0	3.9	151
29	2.1	657	382	658	11	11	3.6	1,900	4.8	2.0	2.8	51
30	2.2	314	206	728	-	8.6	3.8	1,080	9.3	2.1	11	15
31	2.2	-	125	373	-	7.6	-	422	-	2.0	123	-

Month	Second-foot-days	Maximum	Minimum	Mean	Per square mile	Runoff	
						Inches	Acres-feet
October	74.3	5.3	1.9	2.40	0.024	0.03	147
November	21,557.7	7,210	2.7	719	7.32	8.18	42,760
December	5,414	850	14	175	1.78	2.05	10,740
Calendar year 1943	51,682.2	7,210	1.7	142	1.45	19.57	102,500
January	17,196	3,040	20	555	5.65	6.51	34,110
February	2,829.5	975	8.0	97.6	.994	1.07	5,610
March	9,527.3	2,360	3.1	307	3.13	3.61	18,900
April	147.8	7.8	3.5	4.93	.050	.06	293
May	11,644.5	1,900	4.0	376	3.53	4.41	23,100
June	433.1	144	2.7	14.4	.147	.16	859
July	80.4	6.0	1.9	2.59	.026	.03	159
August	202.2	123	1.7	6.52	.066	.08	401
September	577.2	151	1.8	19.2	.195	.22	1,140
Water year 1943-44	69,684.0	7,210	1.7	190	1.93	26.39	138,200

Peak discharge.- Nov. 2 (12 m.) 8,120 sec.-ft.; Jan. 2 (2 a.m.) 4,110 sec.-ft.; Jan. 12 (6 p.m.) 2,720 sec.-ft.; Mar. 16 (7 a.m.) 3,120 sec.-ft.; May 28 (4:30 p.m.) 2,720 sec.-ft.

a No gage-height record; discharge computed on basis of 1 discharge measurement and records for stations on nearby streams.

f Computed on basis of partly estimated gage-height record.

g Computed on basis of staff-gage reading.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## CLEAR CREEK BASIN

Clear Creek near Pearland, Tex.

Location.- Staff gage, lat. 29°35'50", long. 95°17'12", at bridge on State Highway 35, 0.8 mile downstream from Gulf, Colorado & Santa Fe Railway bridge, about 1 mile above Hickory Slough, and 2.3 miles north of Pearland, Brazoria County.

Records available.- July to October 1944 (discontinued).

Extremes.- Maximum gage height observed during period, 10.00 feet Sept. 28 (discharge not determined); minimum discharge observed, 0.1 second-foot July 30.

Remarks.- Records good. Large area of rice land above station is irrigated with water from Brazos River. Low flow is largely drainage from irrigated lands. Diversions for irrigation above station.

Discharge, in second-feet, July to October 1944

Day	July	Aug.	Sept.	Oct.	Day	July	Aug.	Sept.	Oct.
1	-	1.1	58	90	16	-	1.5	8.5	1.9
2	-	1.4	45	53	17	-	1.5	5.7	1.4
3	-	4.3	31	38	18	-	1.2	3.7	1.0
4	-	4.6	20	35	19	-	.4	8.5	.9
5	-	5.0	13	28	20	-	.3	7.8	.6
6	-	5.3	22	33	21	-	1.7	8.2	.4
7	-	3.7	62	39	22	-	2.8	9.4	.3
8	-	4.0	59	36	23	-	1.9	10	.2
9	-	1.6	50	26	24	-	.3	11	.2
10	-	2.4	39	17	25	-	2.2	11	.2
11	-	3.7	30	11	26	-	.3	23	.2
12	-	1.9	22	7.6	27	-	2.7	(e)	.2
13	-	3.6	15	5.0	28	5.7	3.2	(e)	.2
14	-	4.2	12	3.7	29	1.1	2.9	501	.2
15	-	3.2	10	2.5	30	1.1	4.2	167	.2
					31	.2	43	-	.3
Month		Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet		
August.....		118.7		43	0.3	3.83	235		
September.....		-		-	-	-	-		
October.....		429.2		90	.2	13.8	851		

e Stage above limits of rating; discharge not determined.

Hickory Slough near Pearland, Tex.

Location.- Staff gage, lat. 29°34'50", long. 95°17'45", at county road bridge, 0.2 mile upstream from Gulf, Colorado & Santa Fe Railway bridge, 1.3 miles north of Pearland, Brazoria County, and about 2 miles upstream from mouth.

Records available.- July to October 1944 (discontinued).

Extremes.- Maximum discharge during period, 123 second-feet Sept. 28 (gage height, 4.64 feet, from floodmark); minimum, 0.3 second-foot Oct. 31.

Remarks.- Records good. Large area of rice land above station is irrigated with water from Brazos River. Low flow is largely drainage from irrigated lands. Diversions for irrigation above station.

Discharge, in second-feet, July to October 1944

Day	July	Aug.	Sept.	Oct.	Day	July	Aug.	Sept.	Oct.
1	-	6.8	28	40	16	-	3.2	6	5.6
2	-	5.2	25	26	17	-	3.5	4.8	3.9
3	-	6.1	19	14	18	-	3.2	3.6	2.9
4	-	12	14	7.9	19	-	3.2	3.1	2.4
5	-	7.7	11	5	20	-	5.6	7.3	2
6	-	7.9	11	4.7	21	-	5.5	11	1.7
7	-	7.5	26	6.3	22	-	5.8	8.6	1.4
8	-	9.1	27	7.5	23	-	3.6	7.2	1.3
9	-	7.2	17	9	24	-	3.1	6.1	1.2
10	-	5.6	8.2	7.5	25	-	3.1	6.5	1.1
11	-	5.6	3.4	8.8	26	-	3.9	12	1
12	-	6.3	2.8	8.9	27	-	1.5	67	.8
13	-	6	1.7	7.7	28	-	1.3	112	.7
14	-	5.3	2.2	5.8	29	5.8	2	88	.7
15	-	4.5	5.5	7	30	5.6	6.6	.62	.6
					31	5.2	23	-	.3
Month		Second-foot-days		Maximum	Minimum	Mean	Runoff in acre-feet		
August.....		180.9		23	1.3	5.84	359		
September.....		607		112	1.7	20.2	1,200		
October.....		192.7		40	.3	6.22	382		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Chocolate Bayou near Alvin, Tex.

Location.- Staff gage, lat. 29°22'19", long. 95°19'14", at Rosharon-Alvin county road bridge, 5½ miles southwest of Alvin, Brazoria County, and 6½ miles upstream from State Highway 35.

Records available.- August to October 1944 (discontinued).

Extremes.- Maximum gage height during period, 16.55 feet, from floodmark, Sept. 29 (discharge not determined); minimum discharge observed, 1.0 second-foot Oct. 31.

Remarks.- Records good. Large area of rice land above station is irrigated with water from Brazos River. Low flow is largely drainage from irrigated lands. Diversions for irrigation above station.

Discharge, in second-feet, August to October 1944

Day	Aug.	Sept.	Oct.	Day	Aug.	Sept.	Oct.
1	55	303	(a)	16	65	96	9.3
2	61	289	289	17	63	98	6.7
3	63	212	145	18	65	98	4.6
4	86	118	106	19	76	88	7.1
5	88	84	88	20	67	81	9.5
6	101	76	71	21	67	91	10
7	106	212	78	22	88	96	7.1
8	112	254	104	23	121	86	4.2
9	94	212	91	24	115	86	2.9
10	81	139	71	25	101	81	2.3
11	63	118	55	26	101	91	1.6
12	59	98	42	27	104	(a)	1.3
13	76	98	30	28	76	(a)	1.6
14	76	98	20	29	78	(a)	2.5
15	71	96	12	30	88	(a)	2.2
				31	233	-	1.1
Month		Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	
August.....		2,700	233	55	87.1	5,360	
September 1-26.		3,399	303	76	131	6,740	
October 2-31...		1,276	289	1.1	42.5	2,530	

a No gage-height record because of flood flow; discharge not computed.

## BASTROP BAYOU BASIN

## Austin Bayou near Danbury, Tex.

Location.- Staff gage, lat. 29°14'42", long. 95°19'47", at county road bridge, 85 feet downstream from Missouri Pacific Railroad bridge, 1½ miles northeast of Danbury, Brazoria County, and 8 miles upstream from Flores Bayou.

Records available.- August to October 1944 (discontinued).

Extremes.- Maximum discharge during period, 1,040 second-feet Sept. 29 (gage height, 14.78 feet, from floodmark); minimum observed, 0.1 second-foot Oct. 28-31.

Remarks.- Records fair. Large area of rice land above station is irrigated with water from Brazos River. Low flow is largely drainage from irrigated lands. Diversions for irrigation above station.

Discharge, in second-feet, August to October 1944

Day	Aug.	Sept.	Oct.	Day	Aug.	Sept.	Oct.
1	-	214	345	16	36	23	1.0
2	27	114	176	17	50	22	.9
3	25	53	35	18	47	21	.6
4	27	31	32	19	38	16	.4
5	24	27	26	20	26	15	.3
6	31	34	26	21	32	15	.2
7	56	35	42	22	44	19	.2
8	20	36	33	23	47	22	.2
9	62	41	24	24	41	24	.2
10	40	34	12	25	51	21	.2
11	34	33	9.6	26	45	44	.2
12	36	32	7.7	27	39	623	.2
13	42	31	5.3	28	29	989	.1
14	35	28	2.9	29	26	1,000	a.1
15	35	23	2.0	30	26	705	a.1
				31	236	-	a.1
Month		Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet	
August 2-31.....		1,365	236	24	45.5	2,710	
September.....		4,324	1,000	15	144	8,680	
October.....		783.5	345	.1	25.3	1,550	

a No gage-height record; discharge estimated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

Double Mountain Fork Brazos River at Lubbock, Tex.

Location.- Water-stage recorder and masonry control, lat. 33°35'05", long. 101°49'40", in Mackenzie State Park in Lubbock, Lubbock County, 1.9 miles downstream from Yellowhouse Creek. Datum of gage is 3,132.7 feet above mean sea level, datum of 1929.

Records available.- September 1939 to September 1944.

Extremes.- Maximum discharge during year, 285 second-feet May 11 (gage height, 6.08 feet); no flow during most of year.

1939-44: Maximum discharge, 892 second-feet June 6, 1941 (gage height, 6.73 feet), from rating curve extended above 120 second-feet on basis of slope-area determination at gage height 6.72 feet; no flow most of time.

Remarks.- Records good. Station is located in small pool (capacity, 29.5 acre-feet).

Figures of daily discharge represent inflow into pool computed on basis of outflow and change in contents with no correction for evaporation, transpiration, or seepage. Several dams form small pools above station which affect low flow.

Discharge, in second-feet, water year October 1943 to September 1944

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	0	0		
8								0	0	0		
9								0	0	6.5		
10								15	0	6.2		
11								81	0	.4		
12								9.0	0	.4		
13								.9	0	0		
14								0	0	0		
15								0	0	0		
16								0	0	0		
17								0	0	0		
18								0	0	0		
19								0	0	0		
20								0	0	0		
21								0	0	0		
22								0	0	0		
23								0	0	0		
24								0	0	0		
25								0	0	0		
26								0	18	0		
27								0	13	0		
28								0	3.0	0		
29								0	.2	0		
30								0	0	0		
31								0	-	0		

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943.....	0	0	0	0	0
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	105.9	81	0	3.42	210
June.....	34.2	18	0	1.14	68
July.....	7.5	6.2	0	.24	15
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1943-44.....	147.6	81	0	.40	293

s Discharge computed from change in reservoir contents.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Double Mountain Fork Brazos River near Aspermont, Tex.

Location.-- Water-stage recorder, lat. 33°00', long. 100°11', at bridge on U. S. Highway 83, 8 miles downstream from Mountain Creek and 10 miles south of Aspermont, Stonewall County.

Drainage area.-- 7,979 square miles, of which 6,470 square miles is probably noncontributing.

Records available.-- December 1923 to September 1934, June 1939 to September 1944.

Average discharge.-- 15 years (1924-34, 1939-44), 188 second-feet.

Extremes.-- Maximum discharge during year, 11,300 second-feet July 22 (gage height, 7.22 feet, from floodmark); no flow at times.

1924-34, 1939-44: Maximum discharge, 52,000 second-feet Oct. 15, 1926 (gage height, 18.14 feet, from floodmark), by slope-area method; no flow at times.

Remarks.-- Records poor. Daily discharge published only to show distribution of runoff. No diversion above station.

Cooperation.-- Eleven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0	0	0.6	0	5.5	0	0.3	11	0	all	203
2	.3	0	0	.4	0	1.4	0	0	a3.8	0	9.4	114
3	.1	0	0	.3	0	.8	0	0	a2.6	0	8.3	60
4	0	0	0	.3	0	.3	0	0	0	0	7.2	32
5	0	0	20	.3	0	.3	0	0	0	0	6.2	30
6	0	0	8.0	.3	0	.3	0	0	72	0	5.2	27
7	0	0	.1	.3	0	.3	0	0	203	0	12	25
8	0	0	.1	.3	8.1	.2	0	0	193	0	5.8	29
9	0	0	.1	.3	18	.3	0	0	335	0	3.5	17
10	0	0	1.4	.2	.3	.3	0	0	237	0	2.7	11
11	0	0	.1	0	0	.3	0	0	100	1.9	1.6	7.6
12	0	0	.2	0	0	.3	0	0	52	.2	.8	5.5
13	0	0	.2	0	0	.3	0	0	27	0	.2	4.2
14	0	0	.1	0	0	.2	0	0	a17	0	0	3.0
15	0	0	.1	0	0	.2	0	0	a7.6	0	0	2.8
16	0	0	.1	0	0	.2	0	0	a2.4	0	0	2.7
17	0	0	.1	a.2	.4	.2	0	0	a1.0	0	0	2.6
18	0	0	.1	0	0	.4	0	0	.3	0	0	2.6
19	0	0	.1	0	0	.5	0	131	0	0	0	2.7
20	0	0	.1	0	0	.2	0	110	0	0	0	2.6
21	0	0	.1	0	0	.1	0	27	0	341	0	2.6
22	0	0	.1	0	0	.1	0	2,200	0	1,140	0	2.7
23	0	0	.1	0	0	.1	0	1,010	0	1,360	0	2.6
24	0	0	.1	0	0	0	0	266	0	722	0	2.7
25	0	0	.2	.2	9.0	.1	0	198	0	283	0	2.7
26	0	1.8	.2	0	.5	0	0	1156	0	307	0	3.5
27	0	0	.2	0	9.6	0	0	138	0	176	32	3.8
28	0	0	.2	0	248	.2	0	a41	0	96	112	31.0
29	0	0	.2	0	22	.1	176	a20	0	53	60	37.0
30	0	0	.1	0	-	.1	31	122	0	a29	406	18.0
31	0	-	.1	0	-	0	-	37	-	a18	100	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0.6	0.3	0	0.02	1.2
November.....	1.8	1.8	0	.06	3.6
December.....	32.5	20	0	1.05	64
Calendar year 1943.....	15,272.7	2,130	0	41.8	30,290
January.....	6.3	.6	0	.20	12
February.....	315.9	248	0	10.9	627
March.....	13.3	5.5	0	.43	26
April.....	207	176	0	6.90	411
May.....	4,366.3	2,200	0	141	8,640
June.....	1,264.7	335	0	42.2	2,510
July.....	7,527.1	4,140	0	243	14,930
August.....	783.9	406	0	25.3	1,550
September.....	690.9	203	2.6	23.0	1,370
Water year 1943-44.....	15,200.3	4,140	0	41.5	30,140

Peak discharge.-- May 22 (2:30 p.m.) 9,080 sec.-ft.; July 22 (1:30 p.m.) 11,300 sec.-ft.; July 24 (1 a.m.) 2,190 sec.-ft.

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

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos River at Seymour, Tex.

Location.- Water-stage recorder, lat. 33°34', long. 99°16', at bridge on U. S. Highways 277 and 283, three-quarters of a mile upstream from Wichita Valley Railway bridge, and 1 mile southwest of courthouse in Seymour, Baylor County. Datum of gage is 1,258.7 feet above mean sea level (Texas State Highway bench mark).

Drainage area.- 14,490 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- November 1923 to September 1944.

Average discharge.- 20 years (1924-44), 487 second-feet.

Extremes.- Maximum discharge during year, 8,480 second-feet July 23 (gage height, 5.10 feet); no flow at times.

1923-44: Maximum discharge, 95,400 second-feet Oct. 16, 1926 (gage height, 15.16 feet, from floodmarks); by slope-area method; no flow at times.

Maximum stage known, about 21.0 feet, sometime prior to 1916.

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

Cooperation.- One discharge measurement furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0	1.8	29	17	498	5.5	53	84	0	73	218
2	10	0	1.5	81	35	260	4.0	115	63	0	45	318
3	14	.4	1.4	80	32	160	3.8	109	73	32	30	187
4	2.6	.4	1.5	45	24	84	3.8	45	57	40	a16	110
5	.6	.4	3.5	32	21	55	3.0	23	78	21	a12	98
6	0	.1	38	28	18	35	3.2	14	592	14	a6.5	71
7	0	0	31	29	17	27	2.6	9.5	876	8.3	a5.2	54
8	0	0	18	42	18	21	2.8	5.5	225	4.5	3.4	36
9	0	.2	16	31	19	18	2.8	5.0	1,040	1.3	2.2	23
10	0	.4	24	31	22	16	19	3.4	832	0	1.3	18
11	0	.5	30	23	18	16	20	2.2	373	35	.7	14
12	.1	.5	26	16	20	13	6.5	1.7	581	129	7.4	8.9
13	0	.5	16	13	28	14	4.8	1.3	857	82	4.2	5.8
14	0	.6	14	16	26	13	3.8	.7	324	45	2.4	3.6
15	0	.5	14	14	21	13	1.9	.1	222	18	.9	1.9
16	0	.5	12	16	17	20	1.3	0	94	6.8	0	1.0
17	0	.5	14	14	21	14	1.1	0	51	4.9	0	.3
18	0	.6	12	13	19	11	.7	0	36	14	0	0
19	0	.5	10	12	19	16	.9	0	24	8.0	0	0
20	0	.6	9.5	12	19	20	.8	.329	18	5.8	0	0
21	0	.5	8.6	11	20	20	1.0	146	13	6.0	0	0
22	0	.5	8.3	10	19	25	1.0	142	8.9	5.2	0	0
23	0	.5	7.1	9.8	17	16	.4	595	6.5	2,770	0	0
24	0	.6	8.3	10	18	12	0	2,060	5.0	3,380	0	0
25	0	.6	16	9.5	37	8.6	0	950	3.8	2,240	0	0
26	0	1.4	20	11	24	7.7	0	620	1.8	1986	1.2	0
27	0	8.7	23	16	44	6.2	0	324	0	1551	.9	0
28	0	6.4	42	15	700	6.2	0	508	0	229	.8	0
29	.2	2.4	27	14	646	7.1	6.5	337	0	208	8.3	1,440
30	.2	2.0	21	14	-	7.1	83	268	0	166	10	5,446
31	0	-	18	13	-	7.4	-	131	-	106	50	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	27.7	14	0	0.89	55
November.....	30.8	8.7	0	1.03	61
December.....	493.5	42	1.4	15.9	979
Calendar year 1943.....	47,540.9	4,100	0	130	93,890
January.....	710.3	81	9.5	22.9	1,410
February.....	1,936	700	17	67.4	3,880
March.....	1,447.3	498	6.2	46.7	2,870
April.....	183.4	83	0	6.11	364
May.....	6,778.4	2,060	0	219	13,440
June.....	6,239.0	1,040	0	208	12,370
July.....	10,876.8	3,380	0	351	21,570
August.....	281.4	73	0	9.08	558
September.....	3,054.5	1,440	0	102	6,060
Water year 1943-44.....	32,079.1	3,380	0	87.6	63,620

a No gage-height record; discharge computed on basis of estimated gage heights.

f Computed on basis of partly estimated gage-height record.

g Computed from wire-weight gage reading.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos River near South Bend, Tex.

Location.— Water-stage recorder, lat. 33°01'30", long. 98°38'50", at bridge on State Highway 67, 0.3 mile upstream from Wichita Falls & Southern Railroad bridge, 1.6 miles downstream from Clear Fork Brazos River, and 2.0 miles northeast of South Bend, Young County. Datum of gage is 1,003.0 feet above mean sea level, datum of 1929.

Drainage area.— 21,600 square miles, of which 9,240 square miles is probably noncontributing.

Records available.— September 1938 to September 1944.

Extremes.— Maximum discharge during year, 8,890 second-feet June 12 (gage height, 8.67 feet); minimum, 0.6 second-feet Nov. 8-11.

1938-44: Maximum discharge, 87,400 second-feet May 4, 1941 (gage height, 27.35 feet); no flow at times.

Maximum stage known, 36.2 feet in 1876, from information by Texas State Highway Department and Corps of Engineers, U. S. Army.

Remarks.— Records fair. No large diversion above station. Flow partly regulated by reservoirs in Elm Creek Basin (see p. 99), and Lakes Sweetwater and Trammel in Sweetwater Creek Basin, which have a combined capacity of about 106,000 acre-feet. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	1.5	1.5	9.0	10	1,700	18	577	1,430	14	217	345
2	18	1.5	1.5	69	13	1,890	141	3,770	671	14	154	149
3	24	1.5	1.4	190	14	1,140	25	2,650	294	13	119	267
4	38	1.5	1.5	89	15	538	13	454	193	137	95	568
5	26	1.5	5.9	58	19	270	11	312	155	68	74	238
6	27	1.4	3.6	54	19	167	12	174	500	32	62	1,510
7	17	1.0	3.1	42	20	125	9.7	108	456	21	45	850
8	17	.7	5.1	26	21	93	210	74	401	16	46	214
9	14	.6	3.6	21	24	75	119	52	1,190	12	48	104
10	13	.6	3.3	18	20	63	12	41	627	14	52	75
11	12	.7	3.1	15	20	56	6.4	32	1,790	14	46	58
12	13	.7	3.3	10	24	51	6.4	26	4,410	24	44	51
13	12	.8	3.3	25	24	45	5.7	21	2,890	52	39	34
14	11	1.0	3.3	20	24	43	5.1	18	1,120	21	34	42
15	10	1.0	3.1	11	26	39	4.6	16	890	21	30	40
16	9.2	1.0	3.3	9.2	26	68	4.0	13	586	31	26	34
17	8.8	1.0	3.6	7.7	33	65	5.1	11	316	26	21	29
18	8.8	1.0	3.6	7.0	39	70	4.0	8.8	174	20	21	26
19	8.8	1.1	3.6	6.7	36	56	4.8	8.4	119	23	19	24
20	8.4	1.1	3.3	6.7	35	53	4.8	8.4	92	26	16	20
21	7.4	1.0	3.3	6.7	34	51	5.4	9.7	71	18	14	18
22	7.0	1.0	3.5	6.4	30	45	294	24	55	819	12	18
23	7.3	1.0	3.1	6.7	29	44	55	890	44	855	12	17
24	5.1	1.0	3.6	7.4	29	46	30	581	776	294	12	17
25	20	1.0	3.8	7.0	34	39	18	1,730	54	3,450	11	16
26	4.8	1.8	3.8	7.7	201	37	12	1,680	25	2,670	11	16
27	2.2	1.5	3.8	7.7	126	32	8.1	1,740	21	2,910	10	16
28	1.8	1.5	3.3	7.4	1,910	27	6.7	1,860	18	1,430	23	17
29	1.6	1.4	3.3	8.1	5,120	22	50	1,870	17	688	67	17
30	1.7	1.4	3.3	8.4	-	20	524	2,870	14	410	2,270	30
31	1.4	-	3.3	8.8	-	18	-	3,200	-	312	2,210	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	374.5	38	1.4	12.1	748
November.....	33.8	1.8	.6	1.13	67
December.....	99.9	5.9	1.4	3.22	198
Calendar year 1943.....	88,079.2	7,640	0	241	174,700
January.....	776.6	190	6.4	25.1	1,540
February.....	7,975	5,120	10	278	15,820
March.....	6,678	1,700	18	215	13,850
April.....	1,635.8	524	4.0	54.5	3,240
May.....	24,529.3	3,770	8.4	791	48,650
June.....	19,339	4,410	14	645	38,360
July.....	14,235	3,450	12	459	28,230
August.....	5,860	2,270	10	189	11,620
September.....	4,858	1,510	16	162	9,640
Water year 1943-44.....	86,394.9	5,120	.6	236	171,400

Notes.— Discharge Oct. 1-7, Nov. 1, Mar. 11-15, 20-31, Apr. 1, 3-7, 10-21, 24-29, May 4-22, June 2-4, 16-23, 26-30, July 1-3, 6-11, 14, 17, 18, 21, 28-31, Aug. 1-29, Sept. 1, 2, 5, 7-29 computed from graph based on once-daily wire-weight gage readings.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Possum Kingdom Reservoir near Graford, Tex.

Location.- Mercury U-tube gage, lat. 32°52', long. 98°26', in powerhouse at dam on Brazos River, 2.6 miles upstream from Loving Creek and 11.3 miles southwest of Graford, Palo Pinto County. Datum of gage is 0.10 foot above mean sea level, datum of 1929 (levels by Brazos River Conservation and Reclamation District).

Drainage area.- 22,550 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- March 1941 to September 1944.

Extremes.- Maximum contents observed during year, 504,400 acre-feet June 16-22 (gage height, 986.8 feet); minimum observed, 375,100 acre-feet Feb. 18-27 (gage height, 977.3 feet).

1941-44: Maximum contents observed, 750,000 acre-feet Oct. 5, 1941 (gage height, 1,001.0 feet); minimum observed, that of Feb. 18-27, 1944.

Remarks.- Reservoir is formed by reinforced concrete dam of flat slab deck, massive buttress type, with nine roof-weir (modified bear-trap) type gates, two bulkhead sections, and earthen dike section. Dam completed and storage began Mar. 21, 1941. Total capacity, 730,000 acre-feet (gage height, 1,000.0 feet, top of closed roof-weir gates). Usable capacity, 705,500 acre-feet between gage heights 911.5 feet (still of powerhouse penstock) and 1,000.0 feet (top of closed roof-weir gates). Water below gage height 911.5 feet can be withdrawn through high pressure outlet down to gage height 874.8 feet. Figures given herein represent total contents. Water used for power development. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022. Water samples are collected immediately below dam.

Cooperation.- Records of daily gage height and capacity table furnished by Brazos River Conservation and Reclamation District.

Monthly gage height and contents, water year October 1943 to September 1944

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	979.3	399,500	-
Oct. 31.....	978.6	390,900	-8,500
Nov. 30.....	978.1	384,800	-6,100
Dec. 31.....	977.9	382,400	-2,400
Calendar year 1943.....	-	-	-315,700
Jan. 31.....	977.6	378,700	-3,700
Feb. 29.....	978.6	390,900	+12,200
Mar. 31.....	980.5	414,900	+24,000
Apr. 30.....	981.4	427,300	+12,400
May 31.....	984.2	466,000	+38,700
June 30.....	986.1	493,700	+27,700
July 31.....	986.6	501,300	+7,600
Aug. 31.....	985.2	480,000	-21,300
Sept. 30.....	985.5	484,600	+4,600
Water year 1943-44.....	-	-	+85,100

† Average of twice-daily readings. Gage read at 1 a.m. and 1 p.m. daily.  
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos River near Palo Pinto, Tex.

Location.- Water-stage recorder, lat. 32°51'45", long. 98°18'10", at bridge on Palo Pinto-Orford highway, 300 feet downstream from Dark Valley Creek and 6½ miles north of Palo Pinto, Palo Pinto County. Datum of gage is 831.23 feet above mean sea level, datum of 1929.

Drainage area.- 22,760 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- November 1933 to September 1944. January 1924 to November 1933, at site near Mineral Wells.

Average discharge.- 10 years (1934-44), 1,391 second-feet.

Extremes (regulated).- Maximum discharge during year, 5,710 second-feet Sept. 5 (gage height, 5.70 feet); minimum, 23 second-feet Oct. 9-11 (gage height, 0.33 foot). 1933-44: Maximum discharge, 64,900 second-feet May 20, 1935, from rating curve extended above 32,000 second-feet; maximum gage height, 17.42 feet Oct. 17, 1942; no flow at times.

Maximum stage known was reached by flood of 1876, according to data of Corps of Engineers, U. S. Army, and was several feet higher than any subsequent flood. A stage of about 24.0 feet was reached in June 1930, from information by local residents.

Remarks.- Records good except those for period of no gage-height record, which are poor. Flow regulated by Possum Kingdom Reservoir on Brazos River (see p. 82) and several smaller reservoirs above Nugent in Clear Fork Basin, having a combined capacity of 836,000 acre-feet. No large diversion above station. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	27	86		110	185	44	142	40	146	250	76
2	28	30	46		429	127	40	550	65	65	339	46
3	30	28	40		194	106	42	239	104	39	375	111
4	30	28	160		231	241	39	86	53	33	435	76
5	30	26	105		200	86	50	56	32	51	438	638
6	29	82	56		76	63	80	48	189	34	260	736
7	28	87	45		108	56	70	46	99	56	62	350
8	26	187	37		389	54	48	40	50	276	502	100
9	24	51	37		201	49	58	38	137	61	356	63
10	23	34	40		75	79	58	38	384	38	226	53
11	24	31	47		72	172	46	36	70	78	233	50
12	25	29	61		46	61	53	37	65	380	137	49
13	29	30	44		37	48	59	37	34	428	366	44
14	32	29	40	a125	40	45	61	34	236	299	71	42
15	559	27			59	46	61	32	287	325	564	42
16	227	33			82	108	44	29	119	72	1,030	48
17	308	31			215	59	37	409	155	42	1,070	56
18	67	30			64	48	34	453	80	502	975	45
19	40	30			87	381	36	315	49	775	849	75
20	30	32			53	89	33	314	335	398	478	372
21	29	32			40	51	39	187	462	176	78	651
22	28	32			56	58	128	224	185	124	347	666
23	528	32	a40		61	58	292	241	151	167	476	584
24	101	33			49	51	91	293	588	86	665	135
25	45	34			46	45	48	579	392	78	618	86
26	33	34			70	45	85	420	78	183	492	54
27	31	37		159	859	46	111	221	753	803	359	277
28	29	34		49	2,090	174	75	65	682	542	89	308
29	29	36		225	352	524	582	86	447	420	173	157
30	29	115		169	-	94	383	78	204	130	765	66
31	30	-		49	-	51	-	46	-	65	292	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,619	559	23	84.5	5,190
November.....	1,298	187	25	45.3	2,670
December.....	1,524	-	-	49.2	3,020
Calendar year 1943.....	232,794	2,390	-	638	461,700
January.....	3,901	-	-	126	7,740
February.....	6,389	2,090	37	220	12,670
March.....	3,300	524	45	106	6,560
April.....	2,827	582	33	94.2	5,610
May.....	5,397	579	28	174	10,700
June.....	6,495	753	32	215	12,980
July.....	6,864	805	33	221	13,610
August.....	13,338	1,070	62	430	26,420
September.....	6,055	736	42	202	12,010
Water year 1943-44.....	60,007	2,090	-	164	119,000

a No gage-height record; discharge computed on basis of recorded range in stage and records of water released from Possum Kingdom Reservoir.

r Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

Brazos River near Glen Rose, Tex.

Location.- Water-stage recorder, lat. 32°15'40", long. 97°41'50", a quarter of a mile upstream from bridge on U. S. Highway 67, 2 miles upstream from Paluxy Creek, and 4 miles northeast of Glen Rose, Somervell County. Datum of gage is 567.82 feet (revised) above mean sea level, datum of 1929.

Drainage area.- 24,840 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- October 1923 to September 1944.

Average discharge.- 21 years, 1,735 second-feet.

Extremes.- Maximum discharge during year, 24,100 second-feet May 2 (gage height, 10.21 feet); minimum, 33 second-feet (regulated) Nov. 12-14 (gage height, 0.60 foot).  
1923-44: Maximum discharge, 97,600 second-feet May 18, 1935 (gage height, 23.68 feet), from rating curve extended above 68,000 second-feet; no flow at times.  
Maximum stage known, about 30.0 feet May 8 or 9, 1922, from information by local residents.

Remarks.- Records good except those above 2,000 second-feet, which are fair. Flow regulated by Possum Kingdom Reservoir (see p. 82) and several smaller reservoirs. Many small diversions above station for municipal and oil field uses.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	89	42	224	271	5,240	130	6,250	2,010	399	539	5,610
2	198	71	42	264	284	2,680	136	13,600	943	576	434	2,990
3	271	68	42	313	264	1,320	320	9,040	615	494	285	1,220
4	185	62	42	485	336	818	244	3,890	476	320	198	618
5	151	56	59	476	306	615	192	1,840	392	244	156	408
6	116	46	85	313	292	539	253	1,050	336	173	205	376
7	89	42	146	218	408	426	352	696	299	140	344	364
8	75	38	156	162	320	368	244	503	285	111	376	2,730
9	62	37	156	136	313	344	192	417	271	85	400	1,760
10	56	35	168	116	292	328	151	344	237	71	306	796
11	51	35	204	106	257	344	125	292	224	59	230	521
12	49	33	185	106	230	292	111	264	479	53	250	360
13	49	33	125	130	344	257	116	237	585	53	336	271
14	44	60	106	173	306	230	211	211	468	178	250	211
15	44	106	89	151	237	211	192	179	451	548	211	173
16	44	89	78	125	192	211	146	156	306	485	192	140
17	44	75	75	209	173	230	120	140	280	503	179	120
18	40	62	68	468	162	269	98	135	185	376	237	102
19	38	56	68	460	146	299	89	135	218	344	248	85
20	90	51	68	313	156	299	89	135	271	271	785	78
21	264	46	68	230	173	264	93	135	198	204	907	68
22	264	44	65	173	179	271	246	1,540	168	252	861	65
23	243	42	62	140	198	271	320	4,650	151	866	665	56
24	168	42	71	125	168	384	173	2,180	126	1,520	803	51
25	111	40	82	185	146	306	244	2,290	289	1,110	313	125
26	116	42	78	156	146	244	198	1,810	278	655	211	485
27	102	44	93	146	310	211	146	2,060	198	655	414	485
28	257	44	102	135	2,870	185	120	3,780	304	434	1,080	328
29	204	44	106	135	11,400	173	287	3,280	408	271	1,260	250
30	146	44	102	253	-	156	1,420	4,730	264	198	862	546
31	111	-	168	250	-	140	-	2,290	-	555	5,270	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,828	271	38	123	7,590
November.....	1,576	106	33	52.5	3,130
December.....	5,001	204	42	96.8	5,950
Calendar year 1943.....	279,651	6,680	33	766	554,700
January.....	6,855	486	106	221	13,600
February.....	20,859	11,400	146	719	41,970
March.....	17,996	5,240	140	577	35,490
April.....	6,768	1,420	89	225	13,400
May.....	68,209	13,600	135	2,200	135,300
June.....	11,664	2,010	125	389	23,140
July.....	12,212	1,520	53	394	24,620
August.....	18,497	5,270	156	597	36,690
September.....	21,392	5,610	51	713	42,430
Water year 1943-44.....	192,746	13,600	33	527	382,800

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos River near Whitney, Tex.

Location.- Wire-weight gage, lat. 31°54'10", long. 97°23'05", at bridge on State Highway 22, 1.8 miles upstream from Towash Creek and 5 miles southwest of Whitney, Hill County. Datum of gage is 432.06 feet above mean sea level, datum of 1929 (Brazos River Conservation and Reclamation District bench mark).

Drainage area.- 26,090 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- October 1938 to September 1944.

Extremes.- Maximum discharge during year, 66,400 second-feet May 1 (gage height, 29.3 feet, from floodmark); minimum observed, 43 second-feet Nov. 10-12.

1938-44: Maximum discharge, that of May 1, 1944; minimum observed, 2.0 second-feet Oct. 31, Nov. 1, 1939.

Maximum stage known, 46 feet May 9, 1922, from information by local residents.

Remarks.- Records good except those for periods of no gage-height record and those above 9,000 second-feet, which are fair. Gage read twice daily, oftener during high stages. Flow regulated by Possum Kingdom Reservoir (see p. 82) and several smaller reservoirs. Many small diversions above station for municipal and oil field uses.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	85	137	61	158	330	7,850	330	18,100	2,900	380	211	6,620
2	85	96	83	515	622	3,550	309	35,800	2,710	a282	566	4,020
3	142	99	65	600	612	2,470	293	12,800	1,590	658	411	2,710
4	422	91	63	482	456	1,740	358	7,240	1,200	612	330	1,490
5	212	70	68	453	437	1,240	411	4,450	1,010	453	257	842
6	146	57	76	590	456	1,020	336	2,650	800	314	181	575
7	134	57	80	463	398	842	304	1,740	688	a228	143	680
8	107	57	154	336	496	725	456	1,290	628	a202	198	612
9	99	52	150	243	672	635	355	1,640	575	a177	304	2,650
10	85	48	233	206	552	650	277	876	530	a162	346	1,920
11	89	46	252	173	482	902	243	740	489	a137	336	948
12	74	46	243	158	398	740	233	665	552	101	252	650
13	65	46	282	162	374	620	198	560	876	104	211	463
14	65	49	211	162	530	530	189	515	996	83	319	352
15	61	54	162	186	476	476	189	385	642	85	282	288
16	56	52	132	224	411	450	272	363	658	344	206	219
17	57	78	112	189	352	404	243	352	508	456	177	194
18	50	96	101	162	314	502	206	319	374	508	181	158
19	50	87	101	280	298	1,100	189	304	341	374	173	143
20	54	66	96	560	277	936	181	309	277	319	198	123
21	54	70	96	437	262	702	288	304	293	298	373	117
22	52	63	99	326	288	658	166	947	298	309	868	96
23	217	63	104	252	298	842	159	4,440	a253	282	950	87
24	252	66	112	219	293	620	368	4,010	a194	592	702	87
25	304	54	117	224	314	642	293	3,490	a166	1,590	545	78
26	154	61	112	418	293	635	219	7,040	a177	1,340	346	78
27	117	66	129	319	303	725	262	4,910	304	766	267	249
28	104	65	137	262	3,650	530	202	6,520	a186	620	449	630
29	107	61	150	248	11,400	455	352	7,190	a198	558	900	437
30	209	61	143	233	-	374	5,110	7,240	358	336	1,540	330
31	158	-	126	224	-	346	-	6,740	-	243	1,450	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,864	422	50	125	7,660
November.....	2,014	137	46	87.1	3,990
December.....	4,010	282	61	129	7,950
Calendar year 1943.....	312,482	6,160	46	856	619,800
January.....	9,672	800	158	312	19,180
February.....	25,934	11,400	262	594	51,440
March.....	35,962	7,850	346	1,096	67,360
April.....	13,031	5,110	166	434	25,850
May.....	141,929	35,800	304	4,578	281,500
June.....	20,755	2,900	166	692	41,170
July.....	12,883	1,590	83	416	25,550
August.....	13,554	1,540	143	437	26,880
September.....	27,756	6,620	78	925	55,050
Water year 1943-44.....	309,364	35,800	46	845	613,600

a No gage-height record; discharge computed on basis of estimated gage heights.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

## Brazos River at Waco, Tex.

Location.- Water-stage recorder, lat. 31°33'40", long. 97°07'45", at Washington Avenue Bridge in Waco, McLennan County, 28 miles downstream from Bosque River. Datum of gage is 356.80 (revised) feet above mean sea level, datum of 1929, supplementary adjustment of 1942.

Drainage area.- 28,500 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- September 1898 to September 1944. (January 1912 to September 1914, monthly records only, in Water-Supply Paper 850). U. S. Weather Bureau has collected gage-height records in this vicinity since 1900.

Average discharge.- 46 years, 2,727 second-feet.

Extremes.- Maximum discharge during year, 137,000 second-feet May 2 (gage height, 36.60 feet); minimum, 77 second-feet (regulated) Nov. 17, 18.

1898-1944: Maximum discharge, 246,000 second-feet Sept. 27, 1936 (gage height, 40.90 feet, levee on left bank was overtopped and broken by flood); minimum discharge for periods of daily record, 1898-1911, 1914-44; no flow Aug. 20, 21, 1918 and probably for several days in August 1923.

A stage of 39.7 feet was reached Dec. 3, 1913, when levee on left bank was broken by flood, from information by U. S. Weather Bureau.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Many small diversions above station do not appreciably affect flow, except during low stages. Flow partly regulated by Possum Kingdom Reservoir on Brazos River (see p. 82) and Lake Waco on Bosque River near Waco (capacity, 39,000 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	296	246	100	356	1,390	11,400	a596	43,700	5,780	411	377	3,860
2	257	217	100	2,160	398	7,210	f1,260	114,000	4,400	492	300	4,540
3	154	177	97	1,560	742	3,270	a812	49,000	3,740	1,320	584	2,780
4	143	154	97	808	702	4,060	a644	16,200	1,960	848	527	1,960
5	211	185	114	538	1,910	1,720	a639	8,820	1,700	792	449	1,310
6	273	124	117	462	523	2,780	a633	6,120	7,510	667	336	958
7	230	110	117	579	518	f1,180	a628	3,380	1,940	751	264	738
8	198	104	120	1,320	2,390	f955	a622	4,380	1,280	459	217	732
9	174	95	154	432	5,030	f829	4,750	3,470	1,220	354	196	672
10	151	88	236	346	1,340	2,040	1,450	4,000	2,350	295	318	1,930
11	135	86	287	294	2,130	906	a750	2,680	1,040	260	368	1,540
12	541	84	277	294	738	2,680	639	1,580	1,010	224	372	986
13	2,720	94	284	343	650	f934	611	1,460	1,070	196	313	748
14	451	84	294	320	3,110	1,860	584	1,400	1,250	322	264	567
15	149	86	270	284	992	696	548	1,340	1,310	228	290	449
16	120	81	280	1,130	770	a644	528	1,310	1,100	170	331	363
17	107	79	189	294	1,780	2,020	543	1,250	1,070	272	264	304
18	100	79	174	297	662	a662	514	1,220	958	537	228	352
19	95	120	249	249	550	2,680	458	1,130	848	582	224	217
20	93	135	149	252	1,750	a973	538	1,190	765	485	210	196
21	93	127	143	490	514	a633	504	2,840	726	401	232	170
22	88	117	135	1,330	490	3,220	494	3,760	683	332	330	154
23	86	110	135	415	476	a882	467	2,440	502	392	765	6146
24	114	102	198	358	1,720	a654	458	5,630	411	362	820	6126
25	287	97	180	359	2,680	2,760	462	11,800	363	540	752	6110
26	294	112	174	1,430	8,280	a720	662	26,300	336	1,310	607	6110
27	270	120	192	436	3,240	a679	490	12,200	304	1,220	517	6136
28	192	112	217	415	4,010	a667	382	14,300	372	902	392	6140
29	160	102	227	1,490	13,000	a650	4,950	11,800	411	721	420	461
30	157	100	198	402	-	a633	17,500	16,500	336	688	894	478
31	180	-	205	354	-	a617	-	7,010	-	497	1,310	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,519	2,720	86	275	16,900
November.....	3,467	246	79	116	6,880
December.....	5,660	294	-	179	11,030
Calendar year 1943 .....	372,640	8,390	76	1,021	738,900
January.....	19,747	2,160	249	637	39,170
February.....	62,484	13,000	398	2,155	123,900
March.....	61,616	11,400	617	1,988	122,200
April.....	44,115	17,500	382	1,470	87,500
May.....	382,270	114,000	1,190	12,330	758,200
June.....	46,745	5,780	304	1,668	32,720
July.....	17,068	1,320	170	551	53,850
August.....	13,451	1,310	196	434	26,680
September.....	27,104	4,540	110	903	53,760
Water year 1943-44 .....	692,146	114,000	79	1,891	1,373,000

Peak discharge.- Apr. 29 (11 p.m.) 19,500 sec.-ft.; May 1 (4 a.m.) 68,200 sec.-ft.; May 2 (1 p.m.) 137,000 sec.-ft.; May 26 (5:30 a.m.) 49,200 sec.-ft.; May 30 (8:50 a.m.) 21,800 sec.-ft.

a No gage-height record; discharge computed on basis of estimated gage heights.

f Computed on basis of partly estimated gage-height record.

g Computed from graph based on once-daily readings of chain gage furnished by U. S. Weather Bureau.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Brazos River near Marlin, Tex.

Location.- Wire-weight gage, lat. 31°17'20", long. 96°58'10", at bridge on State Highway 139, 1 mile upstream from Deer Creek and 4.5 miles southwest of Marlin, Falls County. Datum of gage is 312.15 feet above mean sea level, datum of 1929.

Drainage area.- 29,150 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- October 1938 to September 1944.

Extremes.- Maximum discharge during year, 132,000 second-feet May 3 (gage height, 33.3 feet, from floodmark); minimum observed, 108 second-feet (regulated) Nov. 19. 1939-44: Maximum discharge, that of May 3, 1944; minimum not determined. Maximum stage known, 35.8 feet Dec. 3 or 4, 1913, from information by local residents. Flood of Sept. 28, 1936, reached a stage of 35.2 feet.

Remarks.- Records fair. Flow partly regulated by Possum Kingdom Reservoir (see p. 82) and Lake Waco on Bosque River near Waco (capacity, 39,000 acre-feet). Gage read twice daily, oftener during high stages. Many small diversions above station which do not appreciably affect flow except during low stages.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	276	183	135	348	1,180	13,500	a952	74,800	6,900	492	504	1,850
2	342	257	128	4,200	1,780	9,320	a1,040	116,000	5,880	546	418	5,150
3	378	238	132	4,320	832	6,080	2,050	115,000	5,090	628	370	4,300
4	225	201	128	3,000	1,100	4,650	1,040	35,100	3,460	1,360	577	3,100
5	174	189	133	1,310	1,140	3,760	846	16,800	1,820	876	540	2,150
6	196	176	142	930	2,150	2,800	819	8,310	7,950	808	465	1,360
7	251	162	162	819	903	3,410	894	6,680	7,120	688	398	1,100
8	240	144	158	1,000	7,670	1,700	846	4,560	2,270	765	326	765
9	203	139	148	1,310	16,100	1,080	1,880	4,560	1,700	558	278	765
10	192	139	156	742	6,220	2,280	4,820	3,100	2,580	443	256	809
11	174	130	240	620	3,360	3,030	1,570	8,270	2,100	403	352	2,380
12	174	128	235	1,310	2,650	2,750	1,070	2,020	1,320	374	353	1,540
13	4,900	126	279	a932	1,620	2,800	916	1,550	1,230	352	398	1,040
14	8,540	126	268	1,580	4,560	1,840	825	1,410	1,320	330	334	801
15	2,100	126	262	1,060	4,430	1,960	779	1,320	1,500	354	318	636
16	469	121	257	1,580	2,240	1,080	729	1,230	1,450	361	326	522
17	291	125	230	3,280	1,990	2,110	705	1,180	1,230	305	370	438
18	232	121	205	1,920	2,170	1,960	717	1,140	1,180	352	318	374
19	215	118	192	1,140	2,640	3,770	648	1,090	1,060	596	293	335
20	192	119	179	742	1,580	4,730	573	1,120	961	635	271	309
21	179	150	170	584	1,520	2,800	682	1,140	998	565	256	290
22	170	150	166	960	1,220	9,700	637	3,660	823	498	256	263
23	154	152	170	1,510	1,160	6,790	620	5,360	765	476	351	229
24	154	137	186	806	1,420	3,520	448	4,160	641	476	779	220
25	146	133	303	880	5,570	3,120	424	11,500	577	476	823	207
26	218	139	251	1,580	16,500	2,630	492	30,900	540	481	722	207
27	268	174	230	2,160	14,300	1,170	779	15,300	616	1,310	681	236
28	288	168	298	1,460	5,740	1,120	605	17,300	476	1,230	577	220
29	232	148	355	3,080	11,000	1,260	1,600	14,200	528	876	449	225
30	196	139	285	3,910	-	1,150	21,400	16,200	552	722	487	465
31	187	-	235	1,950	-	1,000	-	11,200	-	668	982	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	21,754	8,340	146	702	43,150
November.....	4,550	257	113	152	9,020
December.....	6,457	355	128	208	12,810
Calendar year 1943.....	456,738	8,460	113	1,251	905,900
January.....	50,952	4,320	348	1,644	101,100
February.....	124,645	16,500	832	4,298	247,200
March.....	108,870	18,600	1,000	3,512	215,960
April.....	51,306	21,400	424	1,710	101,800
May.....	527,150	116,000	1,090	17,000	1,046,000
June.....	64,437	7,950	476	2,148	127,800
July.....	19,034	1,560	305	614	37,750
August.....	15,918	962	256	440	27,610
September.....	32,246	5,150	207	1,075	63,960
Water year 1943-44.....	1,025,319	116,000	113	2,801	2,034,000

a No gage-height record; discharge computed on basis of estimated gage heights.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

Brazos River near Bryan, Tex.

Location.- Water-stage recorder, lat. 30°37', long. 96°29', 2.4 miles downstream from Little Brazos River and 9 miles southwest of Bryan, Brazos County. Datum of gage is 192.3 feet above mean sea level, datum of 1929.

Drainage area.- 38,430 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- September 1925 to September 1944. February 1918 to September 1925 at site near College Station, 7½ miles downstream.

Average discharge.- 25 years (1918-25, 1926-44), 6,130 second-feet.

Extremes.- Maximum discharge during year, 172,000 second-feet May 4 (gage height, 43.20 feet); minimum, 279 second-feet Nov. 18, 19.

1925-44: Maximum gage height, 46.1 feet, present site and datum, May 20, 1930 (discharge not determined); minimum discharge, 87 second-feet Aug. 24, 1934. Maximum stage known, about 54.0 feet, present datum, Dec. 5, 1913.

Remarks.- Records fair. Flow partly regulated by Possum Kingdom Reservoir (see p. 82) and Lake Waco on Bosque River near Waco (capacity, 39,000 acre-feet). Many small diversions above station which do not appreciably affect flow except during low stages.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	926	420	400	842	9,700	28,100	5,380	39,300	a35,600	2,140	1,780	a1,820
2	1,110	396	410	2,860	6,620	23,100	a4,740	89,200	28,100	2,090	1,490	a3,220
3	902	386	386	9,480	5,220	16,600	a4,420	128,000	18,700	2,280	1,280	a6,820
4	883	400	364	8,110	3,970	11,600	a4,120	155,000	13,600	2,680	1,130	a7,900
5	886	540	368	6,260	3,640	11,500	a3,970	137,000	10,100	3,380	1,020	a6,140
6	800	711	373	4,420	3,640	10,100	a3,820	71,500	16,700	3,130	1,090	a4,200
7	615	516	351	3,400	4,120	9,480	a3,820	f42,800	27,400	2,480	1,090	a6,000
8	573	435	351	2,980	3,400	10,100	a3,820	f31,800	a32,400	2,240	1,020	a8,000
9	842	396	351	2,780	14,100	8,200	a3,820	26,100	28,100	2,040	913	a8,800
10	821	364	373	3,260	24,600	6,620	a4,320	26,100	16,000	1,960	882	a6,200
11	711	343	368	2,520	20,100	6,620	7,400	24,600	10,600	1,740	792	a4,200
12	615	323	368	2,140	13,600	8,000	f5,550	25,100	a9,110	1,670	748	a5,300
13	567	311	398	2,520	8,850	8,400	f6,350	16,500	a7,200	1,490	754	a2,600
14	5,630	303	506	4,580	8,820	8,200	6,620	9,110	6,550	1,400	792	a2,280
15	7,600	299	627	5,220	15,000	6,620	5,720	7,430	5,750	1,360	805	1,960
16	3,740	295	609	5,060	11,000	7,000	a3,970	6,340	a5,380	1,280	766	1,610
17	1,960	291	581	6,380	8,000	7,800	a3,400	5,560	a5,020	1,360	729	1,400
18	1,190	283	567	8,000	6,440	7,600	a3,350	5,520	a4,680	1,400	748	1,200
19	849	283	533	8,400	6,260	7,000	a3,190	5,020	a4,510	1,480	792	1,090
20	681	283	500	6,080	5,380	9,450	a5,120	5,560	a4,190	1,670	735	983
21	573	287	475	4,120	5,220	10,600	a3,050	5,560	a3,880	1,610	692	913
22	511	287	450	3,260	5,900	9,500	a2,980	a8,490	a3,590	1,530	674	859
23	470	283	445	2,590	5,060	25,900	a2,920	a11,100	3,320	1,400	668	805
24	511	299	460	3,050	4,740	24,600	a2,850	a14,600	3,070	1,320	662	760
25	465	307	470	2,590	5,220	18,300	2,720	a14,600	2,840	1,240	698	716
26	386	319	465	2,780	14,400	12,500	2,460	a26,600	2,630	1,200	1,060	686
27	360	351	561	6,600	28,400	9,700	2,260	a42,800	2,480	1,200	1,170	686
28	364	368	681	6,440	29,300	7,400	2,330	56,600	2,380	1,530	1,240	698
29	485	386	699	9,510	24,600	8,820	2,590	71,700	2,240	2,090	a1,240	666
30	516	382	705	17,300	-	7,200	10,000	54,200	2,190	2,140	a1,770	686
31	475	-	774	15,600	-	6,080	-	a44,000	-	2,190	a1,520	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	34,967	7,600	360	1,128	69,360
November.....	10,847	711	283	362	21,510
December.....	14,967	774	551	483	29,690
Calendar year 1943.....	776,843	20,100	283	2,128	1,541,000
January.....	169,342	17,300	842	5,463	335,900
February.....	303,100	29,300	3,400	10,450	601,200
March.....	351,390	28,100	6,080	11,340	697,000
April.....	124,070	10,000	2,280	4,136	246,100
May.....	1,207,470	155,000	5,020	38,950	2,595,000
June.....	318,210	35,600	2,190	10,610	631,800
July.....	56,630	3,380	1,820	1,824	112,100
August.....	29,920	1,790	662	965	59,350
September.....	86,170	8,800	656	2,872	170,900
Water year 1943-44.....	2,706,983	155,000	283	7,396	5,569,000

a No gage-height record; discharge computed on basis of recorded range in stage, drift marks in gage well, and records for nearby stations.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos River near Hempstead, Tex.

Location.— Wire-weight gage, lat. 30°07'25", long. 96°11'00", at bridge on U. S. Highway 290, 4,500 feet upstream from Texas & New Orleans Railroad bridge, 6.5 miles northwest of Hempstead, Waller County, and 8 miles upstream from Caney Creek. Datum of gage is 118.07 feet above mean sea level, datum of 1929.

Drainage area.— 42,670 square miles, of which 9,240 square miles is probably noncontributing.

Records available.— October 1938 to September 1944. U. S. Weather Bureau has collected gage-height records in this vicinity at intermittent periods since 1903..

Extremes.— Maximum discharge during year, 108,000 second-feet May 7; maximum gage height, 42.00 feet May 7, from floodmark; minimum discharge observed, 394 second-feet Nov. 25, 1938-44; Maximum discharge, 118,000 second-feet Nov. 30, 1940 (gage height, 44.04 feet); minimum, 254 second-feet Nov. 8, 1939.

Maximum stage known, 56.1 feet Dec. 8, 1913, from data furnished by engineers of Texas & New Orleans Railroad, obtained at bridge 4,500 feet downstream.

Remarks.— Records fair. Flow partly regulated by Possum Kingdom Reservoir (see p. 82) and Lake Waco on Bosque River near Waco (capacity, 39,000 acre-feet). Gage read twice daily, oftener during high stages. Many small diversions above station which do not appreciably affect flow except during low stages.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,760	a660	640	1,830	25,900	34,500	8,470	15,300	46,200	3,260	2,340	8,150
2	1,480	720	602	4,160	19,900	35,100	a7,850	56,500	37,000	3,060	2,180	6,650
3	1,390	660	602	6,090	15,000	28,300	7,850	84,100	26,700	2,970	1,900	a6,800
4	1,450	621	602	9,950	12,200	20,100	7,400	100,000	20,100	3,160	1,620	8,790
5	1,500	584	602	9,440	10,100	16,000	7,100	103,000	16,000	3,460	1,450	8,630
6	1,120	584	602	7,860	a8,790	16,400	6,800	107,000	14,200	a3,890	a1,300	6,370
7	1,080	660	602	8,800	a8,150	15,200	5,820	108,000	28,600	4,330	1,240	6,510
8	930	832	584	6,510	9,310	14,600	5,040	95,000	38,800	3,560	1,260	6,310
9	855	720	566	5,500	8,150	14,000	4,630	78,000	38,500	3,060	1,240	11,800
10	765	621	580	4,560	18,800	a12,000	4,440	63,000	34,200	2,800	1,180	11,600
11	955	566	1,320	4,440	24,800	9,780	4,330	51,500	24,300	2,640	1,090	8,470
12	1,010	566	1,040	a6,220	20,600	8,950	5,950	44,000	18,800	2,480	1,090	5,430
13	982	560	855	10,300	15,000	9,780	5,430	39,000	17,000	2,340	1,040	3,670
14	855	516	700	12,800	17,500	9,780	4,880	a28,300	15,000	2,180	955	3,780
15	1,260	500	560	13,400	17,500	8,650	5,300	19,000	13,200	2,040	905	3,360
16	5,070	484	640	12,200	18,500	10,500	5,040	15,400	a11,800	1,970	930	2,800
17	4,800	462	700	11,200	17,200	10,600	4,110	15,200	10,800	1,830	905	2,410
18	3,560	467	765	11,800	14,200	10,800	3,460	11,700	10,100	1,760	905	2,110
19	2,110	437	765	12,600	12,400	12,000	3,260	10,600	9,110	1,830	880	1,830
20	1,480	422	742	12,200	11,600	11,400	3,060	9,800	8,150	1,830	880	1,620
21	1,920	422	700	9,950	10,300	a11,600	2,890	11,000	7,100	1,900	905	1,450
22	955	422	680	7,850	9,610	13,000	2,880	12,600	6,370	1,900	855	1,560
23	905	422	720	6,650	a9,440	16,900	2,800	15,000	5,690	1,900	798	1,260
24	905	408	810	6,090	8,790	29,200	2,720	18,800	5,300	1,900	798	1,150
25	905	394	1,120	8,760	9,610	28,300	2,720	22,600	4,920	1,760	765	1,090
26	855	467	955	8,000	12,800	21,500	2,640	23,000	4,560	1,690	765	1,040
27	765	1,490	1,240	7,860	25,900	15,800	2,480	36,000	4,220	1,580	768	1,060
28	640	1,520	3,160	11,200	37,000	12,800	2,340	55,700	3,590	1,550	1,040	1,040
29	602	1,010	2,640	17,700	35,400	10,300	2,340	86,000	3,670	1,520	1,200	982
30	584	742	2,180	25,300	-	10,600	2,260	86,800	3,560	1,830	1,520	955
31	a621	-	1,970	27,500	-	9,440	-	51,600	-	2,260	4,320	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	42,849	5,070	584	1,322	84,990
November.....	18,919	1,620	394	631	37,530
December.....	30,644	3,160	566	999	60,780
Calendar year 1943 .....	989,137	16,400	394	2,710	1,962,000
January.....	306,700	27,500	1,850	7,994	608,300
February.....	463,360	37,000	8,150	15,960	919,000
March.....	497,860	35,100	8,830	15,740	967,700
April.....	136,130	8,470	2,260	4,538	270,000
May.....	1,430,100	108,000	9,800	46,130	2,837,000
June.....	487,840	46,200	3,560	16,260	967,600
July.....	74,240	4,330	1,620	2,395	147,300
August.....	39,024	4,320	765	1,259	77,400
September.....	130,477	11,800	955	4,349	258,800
Water year 1943-44 .....	3,648,133	108,000	394	9,966	7,236,000

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

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

Brazos River near San Felipe, Tex.

Location.- Water-stage recorder, lat. 29°46'20", long. 96°02'10", at bridge on U. S. Highway 90 (revised), 200 feet downstream from Missouri-Kansas-Texas Railroad bridge, 1.3 miles downstream from Irons Creek, and 5.0 miles southeast of San Felipe post office, Austin County. Datum of gage is 79.32 feet above mean sea level, datum of 1929.

Drainage area.- 43,690 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- December 1938 to September 1944.

Extremes.- Maximum discharge during year, 106,000 second-feet May 8 (gage height, 36.82 feet); minimum, 465 second-feet Nov. 26.  
1938-44: Maximum discharge, 152,000 second-feet Nov. 25, 1940 (gage height, 41.10 feet); minimum, 278 second-feet Oct. 9, 13, 1939.  
Maximum stage known, 49.0 feet Dec. 9, 1913, from information by local resident.

Remarks.- Records fair. Flow partly regulated by Possum Kingdom Reservoir (see p. 82) and Lake Waco on Bosque River near Waco (capacity, 39,000 acre-feet). Many small diversions above station which do not appreciably affect flow except during low stages.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,080	698	954	2,160	26,800	33,900	9,850	2,460	54,000	3,580	1,990	4,790
2	1,600	864	786	4,150	22,000	34,300	8,940	28,100	46,000	3,480	2,100	7,270
3	1,690	857	728	6,320	16,400	31,700	8,940	56,400	35,400	3,200	2,040	5,780
4	1,500	824	772	7,830	12,800	23,700	8,500	56,600	26,600	3,120	1,840	6,320
5	1,550	746	824	9,850	10,600	17,900	7,870	97,000	20,600	3,200	1,640	7,670
6												
7	1,420	704	753	8,080	8,940	15,800	7,670	102,000	17,000	3,540	1,480	6,880
8	1,290	668	716	6,690	8,290	15,500	7,070	105,000	19,100	3,500	1,370	6,380
9	1,200	674	698	6,500	8,080	14,400	6,140	106,000	38,100	3,740	1,230	7,070
10	1,160	818	686	6,140	8,290	14,400	5,420	97,200	42,500	3,270	1,290	7,870
11	1,080	824	692	4,990	12,000	13,000	5,060	82,400	40,400	2,910	1,290	10,300
12												
13	961	716	1,370	4,220	22,000	11,000	4,720	65,300	31,000	2,700	1,240	8,500
14	1,050	662	1,840	4,550	21,300	9,620	4,890	53,200	20,000	2,570	1,200	5,960
15	1,160	650	1,290	6,550	15,800	9,850	6,320	46,000	16,400	2,440	1,240	4,220
16	1,160	620	996	16,700	16,300	10,100	5,760	37,200	14,400	2,280	1,120	5,270
17	1,120	626	864	15,500	21,000	9,850	5,060	25,000	12,500	2,160	1,050	5,200
18												
19	1,930	a632	792	12,500	18,500	13,600	5,780	19,200	11,000	1,990	1,010	2,910
20	5,060	a576	766	11,500	17,600	15,800	5,420	16,100	9,850	1,940	1,010	2,500
21	3,980	543	792	11,000	14,700	13,300	4,220	14,000	9,290	1,840	1,010	2,210
22	2,770	528	844	12,000	12,000	16,100	3,660	12,300	8,720	1,790	1,010	1,940
23	2,040	810	844	12,600	11,300	15,500	3,340	11,200	8,080	1,790	982	1,740
24												
25	1,600	1506	838	11,300	10,600	13,000	3,200	11,100	7,070	1,790	982	1,560
26	1,890	495	831	8,940	9,390	14,700	3,120	13,700	6,500	1,840	1,000	1,420
27	1,080	485	838	7,470	9,390	14,100	2,910	15,900	5,960	1,890	996	1,330
28	1,010	480	1,080	6,690	9,390	27,100	2,770	18,400	5,420	1,890	988	1,240
29	999	470	1,460	11,100	8,720	30,300	2,700	23,000	5,060	1,840	940	1,160
30												
31	976	460	1,550	12,300	11,300	26,400	2,700	23,700	4,720	1,690	912	1,120
32	947	592	1,730	9,390	19,900	18,900	2,570	32,000	4,890	1,640	898	1,120
33	898	1,500	4,580	10,800	31,700	14,400	2,440	53,000	4,220	1,600	919	1,120
34	805	1,990	4,890	15,700	35,500	11,800	2,320	68,800	3,900	1,550	1,060	1,060
35	728	1,370	3,050	27,600	-	11,000	2,260	70,500	3,740	1,500	1,330	1,010
36	680	-	2,320	28,800	-	11,000	-	60,600	-	1,690	1,690	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	45,803	5,060	680	1,478	90,850
November.....	22,105	1,990	470	737	43,840
December.....	41,144	4,890	696	1,327	81,610
Calendar year 1943.....	1,073,516	18,500	470	2,941	2,129,000
January.....	520,020	28,800	2,160	10,320	634,800
February.....	450,590	35,500	9,080	15,540	893,700
March.....	531,920	34,500	9,620	17,160	1,055,000
April.....	151,640	9,850	2,280	5,055	300,800
May.....	1,463,560	106,000	2,460	47,210	2,903,000
June.....	531,810	54,000	3,740	17,750	1,055,000
July.....	73,680	3,740	1,500	2,377	146,100
August.....	38,897	2,100	898	1,265	77,160
September.....	118,840	10,300	1,010	3,961	256,700
Water year 1943-44.....	3,789,809	106,000	470	10,350	7,513,000

a No gage-height record; discharge computed on basis of estimated gage heights.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos River at Richmond, Tex.

**Location.**— Water-stage recorder and wire-weight gage, lat. 29°35', long. 95°45', at bridge on U. S. Highway 59 (renumbered) in Richmond, Fort Bend County, about 925 feet (revised) downstream from bridge of Texas & New Orleans Railroad (formerly Galveston, Harrisburg & San Antonio Railway). Datum of gage is 40.8 feet above mean sea level, datum of 1929.

**Drainage area.**— 44,050 square miles, of which 9,240 square miles is probably noncontributing.

**Records available.**— January 1903 to June 1906, June 1931 to September 1944. October 1922 to September 1931 at site at Rosenberg, 7.6 miles upstream; records equivalent except for diversion by Richmond Irrigation Co.'s canal. U. S. Weather Bureau has collected gage-height records in this vicinity since 1914.

**Average discharge.**— 24 years (1903-5, 1922-44), 8,049 second-feet.

**Extremes.**— Maximum discharge during year, 93,800 second-feet May 8; maximum gage height, 34.70 feet May 10; minimum discharge, 555 second-feet Nov. 28.

1903-6, 1931-44: Maximum discharge, 117,000 second-feet Nov. 28, 1940 (gage height, 38.40 feet); minimum, 33 second-feet Aug. 23, 24, 1934.

Flood of June 6, 1929, reached a stage of 40.6 feet, present datum, from floodmarks, (discharge, 120,000 second-feet). Flood of Dec. 10, 1913, reached a stage of 48.2 feet (revised), present datum, from floodmarks on right bank 1,000 feet upstream from station.

**Remarks.**— Records good. Flow partly regulated by Possum Kingdom Reservoir (see p. 82) and Lake Waco on Bosque River near Waco (capacity, 39,000 acre-feet). Considerable water diverted above station for irrigation and municipal supply. See records of Brazos Valley Irrigation Co.'s canal near Fulshear (p. 108) and Richmond Irrigation Co.'s canal near Richmond (p. 108).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,000	790	1,760	2,960	30,500	33,200	10,700	2,580	60,300	3,260	1,620	1,720
2	1,090	1,760	1,300	4,840	27,900	32,900	9,860	9,840	52,700	3,160	1,960	5,550
3	1,490	1,640	1,060	5,760	21,800	32,900	9,420	54,000	49,000	3,060	2,080	7,480
4	1,760	1,150	970	7,650	16,400	27,400	9,420	83,600	31,700	2,860	2,080	6,240
5	1,440	1,060	940	10,300	13,000	20,500	8,500	82,400	24,000	2,760	1,840	6,760
6	1,620	910	970	10,100	10,700	16,900	8,200	91,000	19,500	2,860	1,620	8,020
7	1,440	850	880	8,200	9,200	16,400	8,020	93,200	16,900	2,960	1,560	7,120
8	1,300	784	814	7,300	8,400	15,400	7,120	93,800	23,000	3,160	1,220	6,940
9	1,220	760	772	7,120	8,200	14,400	6,400	92,800	29,600	3,480	1,120	7,660
10	1,060	850	748	6,060	8,600	14,400	5,760	92,000	29,900	3,060	1,090	9,000
11	1,060	940	790	4,900	18,000	12,500	5,460	78,000	27,400	2,670	1,090	10,500
12	970	850	1,240	5,180	23,400	11,000	5,180	65,500	20,800	2,490	1,030	8,400
13	1,000	772	1,800	7,900	19,700	10,100	5,600	54,500	16,400	2,400	970	6,080
14	1,120	736	1,400	16,100	16,400	10,560	6,580	46,000	14,900	2,220	1,030	4,510
15	1,120	754	1,120	17,900	23,200	10,500	5,920	33,500	13,000	2,000	940	3,660
16	1,080	940	940	18,400	21,600	15,100	5,460	24,500	11,400	1,960	850	3,460
17	1,560	820	880	13,200	20,300	18,400	5,760	19,400	10,300	1,840	784	3,160
18	5,760	690	772	12,100	19,200	17,900	5,320	15,300	9,200	1,760	790	2,670
19	3,560	645	784	12,300	14,900	19,700	4,540	14,000	8,800	1,640	772	2,310
20	2,860	615	880	13,000	12,700	20,300	4,090	12,800	8,200	1,600	730	2,000
21	2,180	600	820	12,700	12,100	16,600	3,870	11,600	7,300	1,550	730	1,760
22	1,760	590	814	10,700	11,000	15,900	3,660	12,200	6,400	1,500	724	1,600
23	1,440	580	820	8,800	10,100	15,900	3,560	14,800	5,760	1,600	766	1,620
24	1,220	570	1,000	7,480	10,100	20,600	3,460	15,200	5,180	1,680	772	1,400
25	1,120	560	1,300	8,760	9,420	29,300	3,260	17,000	4,660	1,680	750	1,260
26	1,060	555	1,640	13,700	9,860	28,200	3,360	19,000	4,420	1,640	690	1,260
27	1,030	670	1,880	11,800	13,700	21,300	3,160	20,000	4,200	1,560	670	1,360
28	1,030	1,400	3,140	11,000	26,800	16,100	3,060	38,500	3,960	1,480	685	1,480
29	970	2,130	5,460	14,200	35,300	15,700	2,860	60,000	3,660	1,400	712	1,330
30	910	2,310	5,040	24,100	-	11,600	2,670	69,700	3,460	1,330	850	1,220
31	820	-	3,460	30,500	-	11,600	-	70,000	-	1,330	1,440	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	44,920	3,760	320	1,440	89,100
November.....	28,331	2,310	560	944	56,190
December.....	46,110	5,460	748	1,497	91,460
Calendar year 1943	1,063,233	17,500	505	2,913	2,109,000
January.....	341,740	30,600	2,960	11,020	677,800
February.....	481,480	35,300	8,200	16,500	956,000
March.....	570,800	33,200	10,100	18,410	1,138,000
April.....	170,530	10,700	2,670	5,684	338,200
May.....	1,413,820	93,800	2,680	45,600	2,804,000
June.....	519,020	60,300	3,480	17,300	1,089,000
July.....	68,040	3,460	1,330	2,795	136,000
August.....	33,561	2,080	670	1,032	68,550
September.....	127,130	10,500	1,220	4,238	232,200
Water year 1943-44	3,845,172	93,800	560	10,510	7,627,000

**Note.**— No recorder record Oct. 1-23; discharge computed from graph based on once-daily readings of wire-weight gage furnished by U. S. Weather Bureau and additional readings of this gage by the survey construction foreman.

**Time basis:** Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos River at East Columbia, Tex.

Location.- Wire-weight gage, lat. 29°09', long. 95°37', at bridge on State Highway 35 at East Columbia, Brazoria County, 1 mile downstream from Yarners Creek. Datum of gage is 2.7 feet below mean sea level (unadjusted).

Drainage area.- 44,540 square miles, of which 9,240 square miles is probably noncontributing.

Records available.- October 1938 to September 1939 (gage heights only), October 1939 to September 1940 and February 1942 to September 1944 (gage heights, discharge measurements, and daily discharge above 8,000 second-feet), October 1940 to September 1941 (discharge measurements only).

Extremes.- Maximum gage height during year, 33.63 feet May 12, from graph based on gage readings (discharge not determined); minimum observed, 2.01 feet Nov. 11 (affected by tides).

1938-44: Maximum gage height observed, 34.12 feet Dec. 5, 1940 (discharge not determined); minimum, 1.54 feet Aug. 22, 1939 (affected by tides).

Maximum stage known, 35.3 feet Dec. 11 or 12, 1913. Flood of 1899 reached a stage of 35.0 feet. Stages from information by local residents.

Remarks.- Records fair and are for main channel only. Discharge for periods below 8,000 second-feet not published because of effect from tides. Flow partly regulated by Possum Kingdom Reservoir (see p. 82) and Lake Waco on Bosque River near Waco (capacity, 39,000 acre-feet). Gage read twice daily, oftener during high stages. Considerable water diverted above station for irrigation and municipal supply.

Gage height, in feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.46	3.60	3.86	5.21	18.94	19.06	10.54	5.47	31.00	4.60	3.58	4.39
2	5.11	3.34	3.76	8.02	18.60	18.70	10.10	5.63	29.98	4.62	3.68	4.78
3	4.85	4.16	3.87	9.23	16.90	18.84	9.28	13.94	27.70	4.66	4.28	6.01
4	4.18	4.28	3.78	9.60	14.80	18.10	9.10	26.50	23.64	4.66	4.56	6.45
5	4.10	4.36	3.90	9.58	12.50	15.90	8.96	30.90	19.98	4.98	4.66	5.74
6	4.03	4.60	4.26	10.46	11.00	13.60	8.54	32.30	16.64	4.86	3.88	6.03
7	4.16	3.40	4.07	10.37	9.70	12.63	8.38	32.84	14.56	4.83	3.36	6.66
8	4.32	2.55	3.92	8.94	8.90	12.60	8.24	33.10	14.20	4.60	3.22	5.77
9	4.18	3.18	4.06	7.48	8.40	12.10	7.78	33.33	18.90	4.49	2.52	6.52
10	4.67	3.66	3.98	7.29	8.30	12.25	7.37	33.46	20.50	4.25	2.64	6.94
11	4.84	3.24	2.94	6.60	9.83	12.18	6.50	33.58	20.00	3.78	2.83	7.58
12	5.24	3.70	3.40	6.85	14.70	10.90	6.42	33.60	18.00	3.60	3.23	8.08
13	5.27	3.28	3.46	9.54	15.50	9.94	6.08	33.00	14.64	3.45	3.13	7.06
14	4.75	3.37	3.28	12.60	14.00	9.40	6.67	31.10	12.36	3.62	3.82	5.81
15	4.16	3.88	2.58	14.96	13.74	9.50	7.01	27.70	11.16	3.98	3.80	4.84
16	4.22	3.36	2.62	14.62	15.74	11.90	6.52	22.30	10.01	3.80	4.22	4.58
17	3.74	3.60	2.92	13.12	15.14	14.90	6.45	17.96	9.06	4.04	4.35	5.08
18	3.66	3.45	2.64	12.02	14.56	15.46	6.64	15.42	8.15	4.00	5.93	4.65
19	5.00	3.29	2.51	11.18	15.40	18.44	6.77	13.72	7.76	4.04	3.82	4.56
20	4.84	3.34	2.62	11.10	12.00	16.98	6.02	12.52	7.40	3.64	4.46	4.66
21	4.30	3.36	3.60	11.29	11.10	16.20	5.76	12.08	6.99	3.82	4.48	4.21
22	4.28	3.95	3.32	10.73	10.50	14.70	5.24	11.58	6.69	3.64	4.32	4.04
23	4.72	3.66	3.83	9.39	9.90	14.40	5.22	13.28	6.04	3.56	3.95	3.71
24	4.09	4.53	4.10	8.19	9.50	14.30	5.51	14.12	5.50	3.76	3.80	4.01
25	3.94	4.66	3.32	7.83	9.50	16.94	5.39	14.42	5.08	3.78	3.60	4.03
26	4.02	4.32	4.06	10.00	9.20	18.38	4.93	15.64	4.77	3.36	3.36	4.96
27	3.84	2.98	4.70	12.04	9.66	17.14	4.42	16.37	4.68	2.96	3.66	5.48
28	3.84	3.76	3.72	11.22	13.30	14.82	4.68	19.60	4.29	3.12	3.71	5.66
29	3.76	3.22	4.57	10.68	17.60	12.74	5.28	26.38	4.62	3.17	3.80	4.42
30	3.42	3.68	6.20	13.42	-	11.42	5.25	29.97	4.66	3.04	4.44	4.48
31	3.50	-	5.86	17.70	-	10.60	-	31.12	-	3.70	4.26	-

Discharge measurements, water year October 1943 to September 1944

Date	Width (feet)	Area (square feet)	Mean velocity (feet per second)	Gage height (feet)	Discharge (second-feet)
Jan. 19.....	337	4,830	2.92	11.22	14,100
Feb. 22.....	333	4,500	2.74	10.48	12,300
Mar. 1.....	336	7,700	4.07	19.16	31,400
Mar. 8.....	343	6,300	3.16	12.54	16,700
May 5.....	467	12,200	5.93	30.90	72,300
May 7.....	555	15,500	5.36	32.87	71,900
May 20.....	306	4,800	2.98	12.67	14,300
Sept. 13.....	279	3,750	2.15	7.14	8,080

Note.- Discharge listed above are for main channel only.

Discharge, in second-feet, of Brazos River at East Columbia, Tex., water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				-	30,800	31,300	13,100	-	80,500			-
2				9,080	30,100	30,300	12,400	-	57,400			-
3				10,800	25,900	30,600	11,100	21,300	51,200			-
4				11,400	20,800	28,900	10,800	55,000	40,200			-
5				11,500	16,500	25,800	10,600		30,600			-
6				12,800	13,600	18,900	9,900		22,800			-
7				12,600	11,300	16,900	9,760		18,300			-
8				10,400	10,000	16,900	9,480		17,500			-
9				8,240	9,340	15,900	8,920	80,000	28,200			-
10				8,110	9,200	16,100	8,370		32,200			-
11				-	11,700	16,100	-		30,900			8,640
12				-	21,000	13,800	-		28,000			9,340
13				11,500	28,000	12,100	-		12,500			-
14				15,700	19,500	11,300	-		13,800			-
15				21,400	18,900	11,400	-	51,000	11,800			-
16				20,800	23,200	15,600	-	35,400	9,900			-
17				17,600	21,600	21,600	-	25,400	8,640			-
18				15,600	20,300	23,000	-	20,000	-			-
19				14,000	17,800	25,000	-	16,300	-			-
20				14,000	15,000	26,400	-	14,000	-			-
21				14,300	13,400	24,500	-	13,300	-			-
22				13,300	12,200	21,200	-	12,400	-			-
23				11,000	11,300	20,500	-	15,800	-			-
24				9,200	10,600	20,300	-	17,800	-			-
25				8,780	10,600	26,100	-	18,200	-			-
26				12,100	19,400	29,600	-	21,100	-			-
27				15,600	11,000	26,000	-	22,800	-			-
28				14,100	17,800	21,400	-	31,400	-			-
29				13,100	27,300	17,100	-	50,900	-			-
30				18,500	-	14,700	-	61,800	-			-
31				28,000	-	13,300	-	63,000	-			-

Note.- Discharge obtained from loop curves May 3, 4, 15-22, May 23 to June 17. Discharge for period May 8-14 obtained by comparison with record for station at Richmond.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

Salt Fork Brazos River near Aspermont, Tex.

Location.- Water-stage recorder, lat. 33°20', long. 100°14', at bridge on U. S.Highway 83, 5½ miles downstream from Dove Creek and 13.2 miles northwest of Aspermont, Stonewall County. Datum of gage is 1,588.7 feet above mean sea level, datum of 1929.Drainage area.- 4,834 square miles, of which 2,770 square miles is probably noncontributing.Records available.- December 1923 to August 1925, June 1939 to September 1944.Extremes.- Maximum discharge during year, 23,200 second-feet Sept. 27 (gage height, 10.22 feet, from floodmark); no flow at times.  
1923-25, 1939-44: Maximum discharge, 26,600 second-feet Aug. 16, 1940 (gage height, 11.05 feet), from rating curve extended above 20,000 second-feet; no flow at times.  
Maximum stage known, 14.4 feet in December 1913. Flood of November 1934 reached a stage of 13.7 feet. Stages from information by local residents.Remarks.- Records poor. Daily discharge published only to show distribution of runoff. No large diversion above station.Cooperation.- Eleven discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.2	0	0.2	6.2	3.2	18	0.3	2.6	6.2	21	4.2	37
2	.1	0	.2	19	8.0	14	.1	.8	4.2	9.5	2.2	21
3	.1	.1	.2	7.0	5.0	11	.1	.5	3.4	5.4	2.0	8.0
4	.2	.1	.2	3.8	3.0	8.0	0	.4	3.0	9.4	1.8	2.0
5	.2	.1	6.8	5.0	2.2	6.2	.2	.3	7.9	5.6	1.8	.9
6	.2	.1	14	2.4	1.4	3.8	.1	.4	36	2.4	1.6	2.2
7	.2	.1	3.0	3.0	1.4	2.6	.1	.3	9.5	2.2	105	3.0
8	.2	.1	2.0	2.4	2.0	1.6	.1	.2	467	2.2	75	.7
9	.2	.1	3.4	3.0	2.0	1.0	.1	.3	71	2.2	3.8	.4
10	.2	.1	6.6	2.4	4.3	1.0	.3	.4	28	2.2	.7	.3
11	.2	.1	4.2	1.8	3.0	1.2	.2	.4	19	2.0	.3	.3
12	.2	.1	2.4	1.2	2.0	1.0	.4	.3	102	1.8	.3	.1
13	.2	.1	1.4	1.0	1.0	1.6	.4	.3	9.2	2.0	.2	.1
14	.2	.1	1.4	1.4	1.4	1.6	.1	.3	3.4	375	.1	0
15	.2	.1	.6	1.6	1.2	2.2	.2	.2	2.2	64	.1	0
16	.2	.1	.6	1.2	1.4	.6	.3	.2	1.6	17	0	0
17	.2	.1	.6	2.8	2.8	.7	.2	.2	1.4	5.8	0	0
18	.2	.1	.6	2.8	1.6	.8	.1	.4	1.2	21	0	0
19	.2	.1	.6	1.6	1.6	1.4	.3	19	1.2	5.8	0	0
20	.2	.1	.3	.6	1.4	6.8	.4	.8	1.2	17	0	0
21	.1	.1	.3	.6	2.2	2.4	.3	.7	1.0	212	0	0
22	.1	.1	.2	.6	2.4	.6	0	210	1.0	557	0	0
23	.1	.1	.1	.6	2.0	.3	0	126	1.0	513	0	0
24	.1	.1	.6	.8	3.4	.2	.2	39	.9	257	0	0
25	.1	.1	2.8	.9	24	.2	.2	26	.9	106	.2	0
26	.1	3.9	3.4	2.2	12	.2	.1	27	.8	252	.5	0
27	.1	11	4.6	8.8	38	.1	.2	32	.8	84	0	4,560
28	.1	1.6	5.0	4.6	45	.2	.6	30	64	42	.1	1,270
29	.1	.4	3.0	2.4	32	3.4	24	30	1196	25	.1	1,180
30	.1	.2	1.8	1.4	-	1.2	12	14	176	13	66	28
31	0	-	1.2	1.2	-	.4	-	12	-	7.5	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4.8	0.2	0	0.15	9.5
November.....	19.4	11	.1	.65	38
December.....	72.1	14	.1	2.33	143
Calendar year 1943.....	17,126.6	3,480	0	47.1	34,080
January.....	91.3	19	.6	2.95	181
February.....	210.9	45	1.0	7.27	418
March.....	94.1	18	.1	3.04	187
April.....	41.6	24	0	1.39	83
May.....	575.0	210	.2	18.5	1,140
June.....	1,111.0	457	.8	37.0	2,200
July.....	2,642.0	557	1.8	85.2	5,240
August.....	271.8	103	0	8.77	539
September.....	6,113.0	4,550	0	204	12,120
Water year 1943-44.....	11,247.0	4,550	0	30.7	22,300

f Computed on basis of partly estimated gage-height record.

Note.- No gage-height record June 1-3, 7, Sept. 15-30; discharge computed on basis of floodmarks, weather records, and records for nearby stations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## White River at Plainview, Tex.

Location.- Water-stage recorder, lat.  $34^{\circ}11'$ , long.  $101^{\circ}41'$ , at bridge on Broadway Street in Plainview, Hale County, 0.7 mile upstream from Atchison, Topeka & Santa Fe Railway bridge. Datum of gage is 3,341.1 feet above mean sea level, datum of 1929.

Records available.- June 1939 to September 1944.

Extremes.- Maximum discharge during year, 86 second-feet June 12 (gage height, 3.14 feet); no flow most of time.

1939-44: Maximum discharge, 12,000 second-feet June 6, 1941 (gage height, 8.75 feet), by slope-area method; no flow most of time.

Maximum stage known prior to 1941, about 6.50 feet in May 1927 (discharge, about 1,100 second-feet), from information by local resident. Flood of May 24, 1937, reached about same stage as that of May 1927.

Remarks.- Records poor. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.5				0	0	0		0
2			0	.5				0	0	0		0
3			0	.2				0	0	0		0
4			0	0				0	0	0		0
5			0	0				0	0	0		.1
6			0	0				0	0	0		0
7			0	0				0	0	0		0
8			0	0				0	0	0		0
9			.3	0				0	0	0		0
10			.2	0				0	0	.1		0
11			0	0				0	0	0		0
12			0	0				0	22	.1		0
13			0	0				0	1.1	0		0
14			0	0				0	1.7	0		0
15			0	0				0	.6	0		0
16			0	0				0	3.1	0		0
17			0	0				0	.8	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				2.4	0	0		0
27			0	.1				4.1	0	0		0
28			0	0				.6	.1	0		0
29			0	0				0	.3	0		0
30			0	0				0	0	0		0
31			0	0				0	-	0		0

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	.5	.3	0	.02	1.0
Calendar year 1943.....	24.7	18	0	.07	49
January.....	1.3	.5	0	.04	2.6
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	7.1	4.1	0	.25	14
June.....	29.7	22	0	.96	59
July.....	.2	.1	0	.01	.4
August.....	0	0	0	0	0
September.....	.1	.1	0	.005	.2
Water year 1943-44.....	38.9	22	0	.11	77

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Clear Fork Brazos River at Nugent, Tex.

Location.- Water-stage recorder, lat. 32°41', long. 99°40', at county highway bridge in Nugent, Jones County, 4 miles upstream from Deadman Creek.

Drainage area.- 2,220 square miles.

Records available.- February 1924 to September 1944.

Average discharge.- 20 years, 165 second-feet.

Extremes.- Maximum discharge during year, 2,020 second-feet July 25 (gage height, 6.87 feet); minimum, 0.9 second-foot July 20, 21 (gage height, 1.53 feet).  
1924-44: Maximum discharge observed, 47,000 second-feet Sept. 8, 1932 (gage height, 27.05 feet, site then in use), from rating curve extended above 25,000 second-feet; no flow at times.  
Maximum stage known, about 30.0 feet in 1876, from information by local residents.

Remarks.- Records good. Flow regulated by reservoirs in Elm Creek Basin (see p. 99) and Lakes Sweetwater and Trammel in Sweetwater Creek Basin, which have a combined capacity of about 106,000 acre-feet. Small diversions above station for municipal supply and mining.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	58	2.5	9.9	12	6.2	236	2.8	87	88	3.9	12	587
2	57	2.8	9.9	14	6.2	71	3.1	142	33	4.7	11	43
3	16	2.8	9.9	9.2	6.2	26	3.1	28	22	41	9.9	18
4	8.5	2.8	9.9	7.9	5.6	12	3.1	7.9	19	8.5	8.5	11
5	6.8	3.1	18	7.3	5.2	8.5	3.1	5.2	17	3.4	7.9	13
6	5.6	3.9	13	6.8	5.2	5.6	3.4	3.4	266	2.8	7.3	70
7	4.3	3.9	8.5	6.8	5.2	4.7	3.4	3.1	85	2.8	12	58
8	3.4	3.9	8.5	6.8	5.2	4.3	3.9	2.5	432	2.1	26	26
9	3.1	3.9	8.5	6.2	4.7	3.9	4.3	72	678	2.5	220	19
10	2.8	3.9	8.5	5.6	4.3	4.3	3.9	15	175	2.1	50	14
11	2.5	3.9	9.2	5.2	3.9	3.9	3.4	6.2	226	2.8	11	11
12	2.5	4.3	7.3	5.2	3.9	3.9	3.4	3.1	42	11	7.3	9.2
13	2.1	4.7	6.8	4.7	3.9	3.9	3.4	2.5	21	7.5	5.6	9.2
14	2.1	5.6	6.8	4.7	4.3	4.3	3.4	2.1	17	281	5.2	9.2
15	2.1	6.2	6.2	4.7	4.7	3.9	3.1	2.1	17	11	6.2	8.5
16	1.8	7.3	5.6	4.7	3.2	3.9	3.4	2.1	14	5.7	7.9	7.9
17	1.8	6.8	5.6	4.7	7.3	3.9	3.4	1.8	9.9	4.7	6.2	7.9
18	1.8	6.8	5.2	4.7	7.3	3.9	3.4	2.5	11	1.8	5.2	7.3
19	1.7	7.9	5.2	4.7	9.2	5.6	3.9	8.5	11	1.3	9.3	6.8
20	1.5	8.5	4.7	4.7	9.2	30	92	148	7.9	1.0	5.6	6.2
21	1.5	9.2	4.7	4.7	8.5	29	67	127	5.6	44	3.9	7.9
22	1.5	9.2	4.7	4.7	7.3	14	15	579	4.7	152	3.4	7.9
23	1.7	9.2	4.7	4.7	6.8	6.8	5.2	635	4.7	743	3.1	5.2
24	1.7	9.9	5.2	5.2	6.8	4.7	33	695	9.9	1,430	3.1	5.2
25	1.7	11	5.6	5.2	6.2	4.3	19	690	6.2	1,560	3.4	4.7
26	1.7	13	6.2	5.2	5.6	3.9	11	303	5.2	472	3.9	4.7
27	1.8	12	7.3	5.6	9.4	3.4	6.2	608	4.7	105	4.3	5.2
28	1.8	11	6.8	5.6	203	3.4	4.7	1,020	4.7	58	9.1	6.2
29	2.1	11	6.8	7.7	830	3.1	21	1,270	3.9	32	32	6.2
30	2.5	11	6.2	11	-	2.8	17	628	3.9	20	350	6.2
31	2.5	-	5.6	7.3	-	2.5	-	148	-	15	382	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	205.9	58	1.5	6.64	408
November	202.0	13	2.5	6.73	401
December	231.0	18	4.7	7.45	458
Calendar year 1943	14,585.9	1,360	.4	39.4	28,530
January	197.5	14	4.7	6.37	392
February	1,196.5	830	3.9	41.3	2,370
March	521.4	236	2.5	16.8	1,030
April	356.0	92	2.8	11.9	705
May	7,248.0	1,270	1.8	234	14,380
June	2,245.3	678	3.9	74.8	4,450
July	5,037.3	1,560	1.0	163	9,990
August	1,232.3	382	3.1	39.8	2,440
September	1,001.6	587	4.7	33.4	1,990
Water year 1943-44	19,675.1	1,560	1.0	53.8	39,020

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Clear Fork Brazos River at Fort Griffin, Tex.

Location.- Water-stage recorder, lat. 32°56', long. 99°13', at bridge on Fort Griffin-Throckmorton highway, half a mile east of Fort Griffin, Shackelford County, and 1.3 miles upstream from Mill Creek. Datum of gage is 1,174.53 feet above mean sea level, datum of 1929.

Drainage area.- 3,974 square miles.

Records available.- December 1923 to September 1944.

Average discharge.- 20 years (1924-44), 298 second-feet.

Extremes.- Maximum discharge during year, 3,600 second-feet May 30 (gage height, 11.05 feet); no flow at times.

1923-44: Maximum discharge, 33,600 second-feet Sept. 10, 1932 (gage height, 35.09 feet); no flow at times.

Maximum stage known, about 38.0 feet in 1900, from information by local residents.

Remarks.- Records good except those for period of no gage-height record, which are poor. Flow regulated by reservoirs in Elm Creek Basin (see p. 99) and Lakes Sweetwater and Trammel in Sweetwater Creek Basin, which have a combined capacity of about 106,000 acre-feet. Small diversions above station for irrigation, oil field uses, and municipal supply, materially affect low flow.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				0	0	896	3.4	48	373	0.1	39	129
2				0	0	604	2.7	112	179	0	27	474
3				.1	0	173	1.9	228	120	0	19	312
4				0	0	87	1.6	149	72	0	12	102
5				0	0	69	1.4	87	51	0	7.6	56
6				0	0	48	1.1	47	37	0	5.0	36
7				0	0	32	1.1	27	273	0	4.0	24
8				0	0	20	1.0	16	396	0	5.4	16
9				0	0	13	.9	10	355	0	4.6	10
10				0	0	9.2	.7	6.6	1,000	0	2.0	28
11				0	0	6.6	.5	5.0	639	0	1.1	35
12				0	0	5.0	.3	4.3	285	0	43	22
13				0	0	4.0	.3	3.4	200	0	47	14
14				0	0	3.1	.2	12	100	0	24	8.2
15				0	0	2.7	.1	15	76	0	12	5.0
16				0	0	2.0	.1	9.2	47	0	5.8	3.1
17				0	0	1.7	.1	6.6	31	0	3.1	1.7
18				0	0	1.6	.1	5.0	20	0	1.6	1.2
19				0	0	1.6	.1	3.1	15	0	.7	.7
20				0	0	1.4	.1	2.4	9.8	0	.3	.4
21				0	0	1.3	.1	1.4	8.2	0	.1	.1
22				0	0	1.2	.1	1.4	5.8	21	0	.1
23				0	0	1.2	.1	198	3.7	171	0	0
24				0	0	1.0	21	575	2.4	620	0	0
25				0	.1	.8	42	725	1.6	1,420	0	0
26				0	0	.6	29	672	.9	1,630	0	0
27				0	4.5	.5	18	532	.6	685	0	0
28				0	458	3.7	12	969	.3	237	0	0
29				0	456	8.7	18	2,160	.2	112	0	0
30				0	-	6.2	26	2,880	.1	64	2.3	0
31				0	-	4.3	-	862	-	57	2.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943.....	21,249.5	3,510	0	58.2	42,140
January.....	.1	.1	0	.003	.2
February.....	918.6	458	0	31.7	1,880
March.....	2,010.4	896	.5	64.9	3,990
April.....	184.0	42	.1	6.13	365
May.....	10,392.4	2,880	1.4	335	20,610
June.....	4,302.7	1,000	.1	143	8,530
July.....	5,037.1	1,630	0	162	9,990
August.....	269.3	47	0	8.69	534
September.....	1,278.5	474	0	42.6	2,540
Water year 1943-44.....	24,393.0	2,880	0	66.6	48,380

Notes.- No gage-height record Dec. 13 to Jan. 26; discharge computed on basis of weather records and recorded range in stage.

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

Clear Fork Brazos River near Crystal Falls, Tex.

Location.— Water-stage recorder above spillway of concrete dam, lat. 32°54', long. 98°50' at Texas Co.'s pumping plant, 2½ miles downstream from Hubbard Creek and 3½ miles northeast of Crystal Falls, Stephens County. Datum of gage is 1,055.25 feet above mean sea level, datum of 1929.

Drainage area.— 5,656 square miles.

Records available.— July 1928 to September 1944.

Average discharge.— 16 years, 516 second-feet.

Extremes.— Maximum discharge during year, 5,100 second-feet May 2 (gage height, 9.27 feet); no flow at times.

1928-44: Maximum discharge, 35,800 second-feet June 11, 1941 (gage height, 33.45 feet), from rating curve extended above 25,000 second-feet; no flow at times.

Maximum stage known, about 34.0 feet, present datum, in 1900, from information by local residents.

Remarks.— Records good except those for period of no gage-height record and those below 2 second-feet, which are poor. Flow regulated by reservoirs in Elm Creek Basin (see p. 99) and Lakes Sweetwater and Trammel in Sweetwater Creek Basin, which have a combined capacity of about 106,000 acre-feet. A large part of low flow diverted above station for oil field uses and municipal supply.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0.6	1.5	752	2.3	830	758	0	52	198
2	160		0	143	3.9	965	1.5	3,920	313	0	35	136
3	81		0	60	3.9	457	1.2	735	189	232	24	503
4	24		0	12	1.2	172	1.2	347	131	187	20	233
5	44		0	4.7	.9	99	.9	193	102	40	18	165
6	24		16	1.5	.6	79	.9	124	180	18	9.7	1,600
7	9.7		4.7	1.5	.6	58	.6	72	50	12	3.9	279
8	3.9		8.3	1.5	.6	42	.6	44	392	9.7	31	96
9	3.9		8.3	1.2	2.3	35	.9	33	361	5.5	40	40
10	3.9		5.5	1.2	6.9	29	.6	22	633	3.9	9.7	86
11	3.1		3.1	.9	3.9	20	0	16	984	1.5	3.1	16
12	3.1		2.3	.9	1.5	16	0	9.7	427	3.1	1.5	16
13	3.1		1.5	.6	1.5	12	0	6.9	289	14	.9	29
14	1.5		1.2	.6	1.5	11	0	4.7	176	6.9	0	22
15	.6		.9	.3	1.5	59	0	4.7	99	2.3	14	16
16	0		.9	.3	1.2	66	0	2.3	76	1.2	14	11
17	0		.9	.3	2.3	83	0	1.5	47	.3	6.9	6.9
18	0		.9	.3	1.5	47	0	8.3	33	0	3.9	4.7
19	0		.9	.3	1.2	29	0	6.9	24	0	2.3	3.1
20	0		.6	.3	1.2	18	0	9.7	16	0	1.2	1.5
21	0		.6	.3	1.2	16	343	20	6.9	0	.3	.9
22	0		.3	.3	1.2	35	248	73	3.9	505	0	0
23	0		0	.3	1.2	42	61	994	2.3	167	0	0
24	150		.3	.3	1.2	40	26	343	1.2	338	0	0
25	14		.6	.3	98	18	16	647	1.2	981	0	0
26	3.1		.6	.3	118	8.3	9.7	681	1.2	1,400	0	0
27	1.5		2.3	.6	53	6.9	6.9	834	1.2	1,370	0	0
28	.9		3.9	.3	1,700	4.7	4.7	842	.9	488	73	0
29	.6		1.2	0	2,530	3.1	57	1,570	.3	198	69	0
30	.3		.6	.3	-	2.3	775	2,550	0	103	1,920	0
31	0		.6	.9	-	2.3	-	2,550	-	72	912	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	515.2	160	0	16.7	1,020
November.....	0	0	0	0	0
December.....	66.7	16	0	2.15	132
Calendar year 1943 .....	32,900.0	2,910	0	90.1	65,260
January.....	235.9	143	0	7.61	468
February.....	4,543.5	2,530	.6	157	9,010
March.....	3,227.6	985	2.3	104	6,400
April.....	1,558.0	775	0	51.9	3,090
May.....	17,232.7	3,920	1.5	568	34,300
June.....	5,298.1	994	0	177	10,510
July.....	6,019.4	1,400	0	194	11,940
August.....	3,263.4	1,920	0	105	6,470
September.....	3,401.1	1,600	0	113	6,760
Water year 1943-44 .....	45,422.5	3,920	0	124	90,090

Note.— No gage-height record Dec. 27 to Jan. 25; discharge computed on basis of weather records and records for adjacent stations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Fort Phantom Hill Reservoir near Nugent, Tex.

Location.- Staff gage, lat. 32°37', long. 99°40', on outlet tower at dam on Elm Creek, 4 miles upstream from Clear Fork Brazos River and 5 miles south of Nugent, Jones County. Datum of gage is 1,580.0 feet above mean sea level.

Drainage area.- 478 square miles.

Records available.- July 1940 to September 1944.

Extremes.- Maximum contents observed during year, 52,700 acre-feet Oct. 6-11 (gage height, 49.0 feet); minimum observed, 47,950 acre-feet Sept. 26-30 (gage height, 47.1 feet). 1940-44: Maximum contents observed, 80,900 acre-feet Oct. 17, 1941 (gage height, 56.8 feet); minimum observed, 20,290 acre-feet Aug. 12, 13, 1940 (gage height, 34.7 feet).

Remarks.- Reservoir is formed by earth-fill dam with rock riprap face; dam completed and storage began in October 1938. Capacity, 69,550 acre-feet between gage heights 1.6 feet (sill of lowest outlet gate) and 54.0 feet (crest of spillway). Dead storage, 450 acre-feet. Records given herein represent total contents. Water is used for municipal supply. Gage read once daily at 8 a.m. Lake Abilene on Elm Creek, Lake Kirby on Cedar Creek, and Lytle Lake on Lytle Creek (combined capacity, 19,300 acre-feet) are smaller reservoirs upstream in Elm Creek Basin.

Cooperation.- Gage-height record and capacity table furnished by city of Abilene.

Monthly gage height and contents, water year October 1943 to September 1944

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	49.0	52,700	-
Oct. 31.....	48.6	51,700	-1,000
Nov. 30.....	48.1	50,450	-1,250
Dec. 31.....	48.0	50,200	-250
Calendar year 1943..	-	-	-17,950
Jan. 31.....	48.1	50,450	+250
Feb. 29.....	48.4	51,200	+750
Mar. 31.....	48.2	50,700	-500
Apr. 30.....	47.4	48,700	-2,000
May 31.....	48.6	51,700	+3,000
June 30.....	48.1	50,450	-1,250
July 31.....	47.9	49,950	-500
Aug. 31.....	47.4	48,700	-1,250
Sept. 30.....	47.1	47,950	-750
Water year 1943-44..	-	-	-4,750

† Gage height at 8 a.m.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

North Bosque River near Clifton, Tex.

Location.-- Staff gage above spillway of masonry dam, lat. 31°48', long. 97°35', 730 feet upstream from Gulf, Colorado & Santa Fe Railway bridge and 1.4 miles northwest of Clifton, Bosque County. Datum of gage is 622.7 feet above mean sea level, datum of 1929.

Drainage area.-- 974 square miles.

Records available.-- November 1923 to September 1944.

Average discharge.-- 21 years, 224 second-feet.

Extremes.-- Maximum discharge during year, 36,000 second-feet May 2 (gage height, 21.90 feet, from floodmark); minimum observed, 1.7 second-feet Nov. 4-11, Nov. 26 to Dec. 4, 1923-44; Maximum discharge, 38,500 second-feet Jan. 23, 1938; maximum gage height observed, 22.10 feet May 5, 1941; no flow at times. Flood of May 9, 1922, reached a stage of 25 feet, from information by local residents.

Remarks.-- Records good except those for periods of no gage-height record, which are fair, and at times when accumulation of drift on control may affect accuracy of low-water records. Railway company pumps about 100,000 gallons a day (0.15 second-foot) from pool formed by control dam a third of a mile below gage. Gage read twice daily, oftener during high stages.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.6	2.0	1.7	25	87	372	111	1,790	364	31	9.4	69
2	7.6	1.8	1.7	1,150	265	274	120	15,600	304	31	9.4	46
3	6.6	1.8	1.7	270	318	265	111	1,500	243	35	8.5	33
4	7.6	1.7	1.7	123	149	207	105	750	213	35	7.6	20
5	14	1.7	2.0	93	117	189	99	581	222	31	7.6	18
6	9.4	1.7	72	a81	102	176	93	436	302	31	6.6	20
7	7.6	1.7	19	a51	93	155	93	340	207	29	6.6	280
8	6.6	1.7	12	31	127	149	681	274	171	27	6.6	90
9	6.6	1.7	15	27	316	142	1,480	383	155	25	6.6	56
10	5.7	1.7	17	27	248	194	136	438	142	23	6.6	35
11	4.8	1.7	12	27	149	396	108	261	146	23	6.6	20
12	4.8	1.8	a23	31	123	261	87	213	142	21	6.6	14
13	4.8	1.8	a14	a33	108	194	78	194	126	23	a6.6	13
14	4.8	1.8	12	35	303	166	72	176	120	33	a6.6	13
15	4.2	1.8	9.4	41	155	152	66	155	102	23	6.6	11
16	3.1	1.8	11	43	139	149	61	142	90	23	6.6	8.6
17	3.1	1.8	8.5	43	129	142	59	132	81	23	5.7	8.6
18	2.6	2.0	8.5	43	129	142	56	126	75	23	5.7	6.6
19	2.6	2.0	8.5	39	117	237	53	126	72	23	5.7	6.6
20	2.6	2.0	9.4	37	117	237	53	129	64	20	a5.7	6.6
21	2.6	2.6	9.4	35	120	194	53	126	61	20	4.8	5.7
22	2.6	2.6	9.4	33	120	231	53	494	56	18	4.8	5.7
23	2.6	2.0	9.4	29	117	289	53	835	51	18	4.2	5.7
24	7.6	1.8	11	44	108	184	51	431	51	18	4.2	5.7
25	5.7	1.8	11	265	256	162	48	2,450	48	18	3.7	5.7
26	4.8	1.7	11	126	180	149	46	1,740	43	17	3.7	5.7
27	4.2	1.7	13	117	126	139	39	1,320	39	15	4.8	8.5
28	3.7	1.7	14	a111	3,600	129	37	1,590	39	14	25	13
29	3.1	1.7	14	90	1,130	123	138	1,650	35	12	37	11
30	3.1	1.7	14	87	-	120	2,560	1,420	33	12	29	11
31	2.6	-	15	90	-	117	-	608	-	11	154	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	160.2	14	2.6	5.17	318
November	55.3	2.6	1.7	1.84	110
December	391.3	72	1.7	12.6	776
Calendar year 1943	27,789.0	2,920	1.7	76.1	55,120
January	3,277	1,150	25	106	6,500
February	9,038	3,600	87	312	17,930
March	6,026	396	117	194	11,950
April	6,800	2,560	37	227	13,490
May	36,190	16,600	126	1,167	71,780
June	3,797	564	33	127	7,530
July	706	85	11	22.8	1,400
August	413.1	154	3.7	13.3	819
September	790.6	20	5.7	26.4	1,570
Water year 1943-44	67,644.5	15,600	1.7	185	134,200

a No gage-height record; discharge interpolated or computed on basis of weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Leon River near Hasse, Tex.

Location.- Water-stage recorder and concrete control, lat. 31°57', long. 98°28', at bridge on U. S. Highway 67, 1,000 feet upstream from Gulf, Colorado & Santa Fe Railway bridge, 0.4 mile upstream from Walnut Creek, and 2.1 miles northeast of Hasse, Comanche County. Datum of gage is 1,115.1 feet above mean sea level, datum of 1929.

Drainage area.- 1,276 square miles.

Records available.- January 1939 to September 1944.

Extremes.- Maximum discharge during year, 12,100 second-feet May 2 (gage height, 16.34 feet); minimum, 0.1 second-foot sometime during period of no gage-height record. 1939-44: Maximum discharge, 16,400 second-feet Oct. 19, 1942 (gage height, 17.72 feet); no flow at times. Maximum stage known, about 25.0 feet in May 1908, from information by Texas State Highway Department.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	599	2.2	4.7	706	28	1,940	33	769	245	4.0	19	248
2	482	2.1	4.7	1,030	128	938	34	7,280	151	4.4	14	139
3	270	2.0	4.7	587	115	477	32	4,820	85	4.4	11	36
4	143	2.0	4.4	298	62	221	32	2,070	60	3.8	8.7	16
5	58	2.1	9.0	97	46	168	32	931	49	2.8	6.3	11
6	32	2.4	17	22	39	127	33	446	58	2.7	4.4	375
7	19	2.1	14	12	36	91	33	245	55	2.2	3.0	672
8	10	2.1	12	14	73	73	34	161	36	2.0	2.2	190
9	5.4	2.0	9.2	11	174	66	35	141	34	2.0	1.4	80
10	4.0	2.0	11	10	100	79	34	111	30	1.5	1.0	42
11	3.5	2.1	11	11	54	88	30	82	28	1.2	1.1	26
12	3.0	2.4	10	68	37	79	26	70	29	1.1	1.0	16
13	4.0	2.7	10	533	33	64	26	64	27	1.2	.9	11
14	3.8	3.0	9.8	286	40	58	26	58	25	70	.9	8.2
15	3.5	3.3	9.2	148	39	56	25	54	23	52	.8	5.4
16	4.7	3.5	8.2	48	39	56	23	46	21	20	.8	4.0
17	3.3	3.3	7.7	97	37	52	23	42	19	11	.7	3.3
18	2.6	3.3	7.2	68	49	50	21	39	17	6.8	.6	2.8
19	2.4	3.5	6.8	46	44	62	20	37	16	3.3	.6	2.5
20	2.4	3.5	6.3	35	36	54	20	36	15	2.1	.5	2.4
21	2.4	3.5	5.4	30	34	60	21	35	13	1.4	.5	2.1
22	2.2	3.5	5.1	28	34	60	248	48	11	13	.4	2.0
23	2.1	3.5	7.7	28	33	52	257	216	10	2,020	.3	1.8
24	2.1	3.8	14	27	32	46	73	365	9.8	1,740	.3	1.7
25	2.2	3.5	14	33	33	43	40	293	8.7	764	.2	1.4
26	2.2	5.4	12	34	43	40	34	266	7.2	440	.5	1.5
27	2.4	6.3	11	35	118	39	29	340	6.3	280	12	2.4
28	2.4	5.8	9.2	35	1,540	36	26	440	5.1	138	13	4.4
29	2.4	5.4	7.7	30	2,270	34	97	489	4.4	50	10	3.3
30	2.2	4.7	6.8	28	-	33	425	710	4.0	32	46	2.7
31	2.2	-	29	28	-	33	-	425	-	23	65	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,680.3	599	2.1	54.2	3,330
November.....	97.0	6.3	2.0	3.23	192
December.....	298.8	29	4.4	9.64	593
Calendar year 1943.....	17,912.2	1,320	0	49.1	35,620
January.....	4,463	1,030	10	144	8,850
February.....	5,546	2,270	28	184	10,600
March.....	5,325	1,940	33	172	10,560
April.....	1,822	425	20	60.7	3,610
May.....	21,129	7,280	35	682	41,910
June.....	1,102.6	245	4.0	36.8	2,190
July.....	5,699.9	2,020	1.1	184	11,310
August.....	227.1	65	.2	7.33	450
September.....	1,913.9	672	1.4	63.8	3,800
Water year 1943-44.....	49,104.5	7,280	.2	134	97,400

Note.- No gage-height record Nov. 25-28, Dec. 10 to Jan. 17, July 22 to Aug. 10, Aug. 12-30; discharge computed on basis of recorded range in stage, fragmentary gage-height record, and weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

Leon River near Belton, Tex.

Location.- Water-stage recorder above spillway of concrete dam, lat. 31°04'15", long. 97°28'30", 1,400 feet upstream from bridge on U. S. Highway 81 and 2 miles east of Belton, Bell County. Datum of gage is 476.9 feet above mean sea level, datum of 1929.

Drainage area.- 3,547 square miles.

Records available.- October 1923 to September 1944.

Average discharge.- 21 years, 739 second-feet.

Extremes.- Maximum discharge during year, 53,000 second-feet May 26 (gage height, 22.22 feet); minimum, 17 second-feet Nov. 8-12.

1923-44: Maximum discharge, that of May 26, 1944; no flow at times.

Maximum stage known, 25 feet sometime in December 1913, from information by local residents.

Remarks.- Records good. Several small pumping plants divert water above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	60	28	36	174	650	2,140	801	22,200	4,620	373	218	402
2	45	412	28	1,800	624	2,800	774	36,200	3,560	402	187	237
3	76	119	30	732	608	3,240	755	20,400	3,020	784	164	206
4	80	45	33	783	575	3,020	727	18,000	2,600	494	153	224
5	351	30	39	576	591	3,240	693	15,200	2,200	402	156	164
6	550	26	42	1,150	600	3,320	675	9,810	11,300	537	131	170
7	440	23	45	1,080	600	2,270	658	7,330	3,680	316	121	237
8	510	21	52	801	4,480	1,530	650	6,870	2,800	289	116	199
9	212	17	52	591	5,290	1,280	1,480	14,700	2,200	262	112	164
10	147	17	60	465	2,140	1,610	880	5,420	1,820	249	107	230
11	116	17	175	366	1,470	1,880	2,510	2,940	1,610	243	92	518
12	107	17	136	316	1,400	1,520	4,110	2,340	1,580	230	86	506
13	619	19	136	388	1,370	1,410	1,610	2,010	1,410	213	88	337
14	224	19	97	352	1,980	1,320	783	1,750	1,270	230	88	230
15	97	19	76	337	1,390	1,280	658	1,560	1,160	282	88	176
16	52	19	80	425	1,130	1,220	591	1,390	1,050	359	84	141
17	42	19	80	736	1,140	1,040	550	1,270	964	591	80	121
18	39	21	72	675	976	1,220	518	1,160	860	463	88	112
19	36	21	60	502	880	2,040	494	1,080	792	323	84	102
20	33	23	56	455	900	1,520	494	1,070	736	266	80	92
21	33	26	48	440	870	1,160	478	1,050	693	262	76	88
22	33	26	45	463	870	3,330	463	1,870	641	230	80	76
23	33	26	52	465	830	2,140	478	1,940	600	199	80	72
24	33	30	60	425	783	1,690	470	1,510	542	187	72	68
25	33	36	102	3,370	5,930	1,410	426	9,750	510	187	63	64
26	33	45	121	1,530	8,840	1,270	410	30,500	494	182	68	64
27	33	56	102	1,140	5,030	1,110	448	12,900	463	232	88	72
28	33	76	141	792	4,800	1,020	575	14,100	432	792	218	72
29	33	60	126	1,240	2,800	964	2,000	7,570	410	624	218	72
30	30	42	112	900	-	880	8,440	12,400	388	366	477	68
31	30	-	92	746	-	840	-	8,060	-	269	639	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,973	619	30	128	7,880
November.....	1,355	412	17	45.2	2,690
December.....	2,567	176	28	77.0	4,730
Calendar year 1943.....	74,458.0	1,760	6.0	204	147,700
January.....	24,135	3,370	174	779	47,870
February.....	59,546	8,840	575	2,053	118,100
March.....	54,714	3,330	840	1,765	108,500
April.....	34,598	8,440	410	1,153	68,620
May.....	271,340	35,200	1,060	8,752	536,200
June.....	54,585	11,300	398	1,613	107,900
July.....	10,663	792	122	344	21,150
August.....	4,399	639	68	142	8,710
September.....	6,343	566	64	173	10,600
Water year 1943-44.....	526,828	36,200	17	1,439	1,046,000

Peak discharge.- May 1 (9:30 a.m.) 34,000 sec.-ft.; May 2 (12:30 p.m.) 50,600 sec.-ft.; May 4 (7 p.m.) 19,800 sec.-ft.; May 9 (12:30 p.m.) 22,700 sec.-ft.; May 26 (8 a.m.) 53,000 sec.-ft.; May 28 (12:30 p.m.) 19,600 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Little River at Cameron, Tex.

Location.-- Water-stage recorder, lat. 30°50', long. 96°57', at site of old McCowan bridge, 2,100 feet upstream from bridge on U. S. Highway 77 and 2 miles southeast of Cameron, Milam County. Datum of gage is 281.9 feet above mean sea level, datum of 1929.

Drainage area.-- 7,034 square miles.

Records available.-- November 1916 to September 1944.

Average discharge.-- 27 years (1917-44), 2,009 second-feet.

Extremes.-- Maximum discharge during year, 91,800 second-feet May 27 (gage height, 37.24 feet); minimum, 91 second-feet Nov. 12-14.

1916-44: Maximum discharge, 647,000 second-feet Sept. 10, 1921 (gage height, 53.2 feet, present datum, from floodmark), by slope-area method; minimum, 2.6 second-feet, Sept. 3, 5, 7, 1918.

Flood of 1852 reached about same stage as that of Sept. 10, 1921. Flood of December 1913 reached a stage of 49.0 feet. Stages based on information by local residents.

Remarks.-- Records good except those for periods of no gage-height record, which are fair. Many small diversions for irrigation and municipal supply affect very low flows. Slight regulation caused by pumping above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	189	94	182	390	2,420	8,670	2,500	7,490	14,800	1,400	632	2,450
2	236	94	176	1,980	2,040	5,540	2,380	17,000	12,600	1,430	540	1,650
3	221	94	174	3,370	1,850	4,650	2,260	56,800	7,820	1,660	508	920
4	178	414	178	2,110	1,770	5,140	2,150	60,800	6,300	2,070	462	632
5	218	245	147	1,280	1,660	5,090	2,070	30,600	5,640	1,810	451	542
6	213	187	138	902	1,510	4,990	1,960	25,100	6,880	1,320	405	704
7	445	165	136	1,360	1,510	5,140	1,880	18,700	17,800	1,140	379	3,650
8	578	133	143	1,470	1,660	4,460	1,810	12,800	25,100	1,060	367	5,560
9	483	118	147	1,280	5,140	3,410	1,770	16,500	13,900	992	354	2,440
10	379	105	151	1,060	10,100	2,930	2,000	17,800	7,140	920	342	794
11	303	96	151	866	7,410	3,280	2,380	22,600	5,490	884	330	596
12	247	92	157	776	3,860	4,170	2,470	13,600	5,390	848	315	650
13	223	92	287	1,210	2,970	3,680	4,080	6,000	4,940	812	306	894
14	303	92	269	1,810	4,880	3,190	13,420	4,650	4,410	776	300	776
15	668	92	266	1,280	5,690	2,930	1,850	4,080	3,990	740	294	596
16	428	92	218	1,470	3,990	4,130	1,540	3,680	3,590	830	327	508
17	261	99	196	2,340	3,100	4,360	1,400	3,320	3,280	848	318	445
18	194	103	196	3,590	2,840	3,060	1,280	3,010	2,970	1,090	288	405
19	161	100	196	5,010	2,710	3,860	1,210	2,790	2,750	1,030	273	373
20	143	96	189	1,810	2,630	5,140	1,210	2,670	2,970	866	276	367
21	134	96	180	1,520	2,640	3,940	1,170	2,670	2,580	740	273	342
22	126	96	171	1,140	2,500	4,940	1,140	3,100	2,230	704	288	324
23	121	96	169	1,060	2,500	12,500	1,100	5,610	2,070	668	282	312
24	118	96	169	1,030	2,420	12,300	1,060	6,090	1,960	632	279	297
25	110	95	174	1,100	2,880	5,810	1,060	4,570	1,860	614	282	282
26	105	100	180	5,020	8,320	3,900	992	10,500	1,730	578	267	276
27	99	109	213	4,560	11,600	3,450	956	53,600	1,660	614	270	279
28	98	116	242	2,760	12,100	3,630	920	51,000	1,540	560	321	282
29	95	153	259	4,450	11,700	4,220	992	27,700	1,470	1,020	463	309
30	94	189	273	7,680	-	2,640	1,490	25,100	1,430	1,170	384	342
31	94	-	267	4,620	-	2,670	-	18,400	-	530	1,630	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,263	668	94	234	14,410
November.....	3,747	414	92	125	7,430
December.....	5,954	287	136	192	11,810
Calendar year 1943.....	196,335	7,680	52	538	389,400
January.....	68,124	7,680	390	2,198	185,100
February.....	126,290	12,100	1,510	4,355	250,500
March.....	148,020	12,500	2,670	4,775	293,500
April.....	52,490	4,080	920	1,750	104,100
May.....	538,920	60,800	2,670	17,380	1,069,000
June.....	175,480	25,100	1,430	5,849	348,100
July.....	30,656	2,070	560	989	60,810
August.....	12,706	1,630	267	410	26,900
September.....	28,177	5,660	276	939	55,890
Water year 1943-44.....	1,197,827	60,800	92	3,273	2,376,000

Peak discharge.-- May 4 (6 a.m.) 72,900 sec.-ft.; May 11 (1 p.m.) 25,100 sec.-ft.; May 27 (4 p.m.) 91,800 sec.-ft.; June 8 (7:30 a.m.) 27,200 sec.-ft.

f Computed on basis of partly estimated gage-height record.

Note.-- No gage-height record Feb. 17-22, discharge computed on basis of recorded range in stage; June 30 to July 2, July 6, discharge computed on basis of estimated gage heights.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## BRAZOS RIVER BASIN

Lampasas River at Youngsfort, Tex.

Location.- Water-stage recorder, lat. 30°57', long. 97°43', 300 feet upstream from bridge on county highway and half a mile southeast of Youngsfort, Bell County.

Drainage area.- 1,242 square miles.

Records available.- February 1924 to September 1944.

Average discharge.- 20 years, 320 second-feet.

Extremes.- Maximum discharge during year, 52,800 second-feet May 26 (gage height, 33.40 feet, from floodmark), from rating curve extended above 40,000 second-feet; minimum, 14 second-feet Oct. 26-31, Nov. 9, 10, 13.

1924-44: Maximum discharge, 53,200 second-feet Sept. 28, 1936 (gage height, 33.5 feet, from floodmarks), from rating curve extended above 40,000 second-feet; no flow July 17 to Aug. 18, 1925, July 22, 23, Aug. 9 to Sept. 8, 1934.

Flood of September 1873 reached a stage of 44.2 feet and that of Dec. 2, 1913, reached a stage of 33.6 feet, present datum, from information by local residents.

Remarks.- Records good except those above 40,000 second-feet, which are fair. Small diversions above station for municipal uses.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	65	15	30	45	430	1,310	610	15,400	1,970	336	90	322
2	135	15	26	512	430	1,180	583	17,500	1,730	731	86	180
3	83	98	26	419	430	1,130	562	5,170	1,560	638	86	135
4	65	37	23	248	391	1,060	535	2,920	1,360	342	83	112
5	46	20	21	204	360	904	508	2,140	1,260	313	83	97
6	35	16	21	172	354	888	482	1,510	10,900	290	63	117
7	26	15	21	159	342	896	468	1,250	2,350	269	83	860
8	23	15	21	155	2,020	749	468	1,080	2,160	254	79	180
9	20	14	23	146	2,000	709	456	7,950	1,690	238	76	138
10	20	14	28	151	993	1,060	416	2,020	1,510	228	76	123
11	20	15	35	131	781	1,130	379	1,350	1,320	209	69	108
12	20	15	32	131	678	888	349	1,150	1,800	199	69	97
13	192	14	32	153	648	781	342	1,050	1,270	189	101	94
14	70	16	35	199	1,030	717	342	930	1,110	255	126	90
15	28	16	32	204	805	717	331	837	1,000	255	72	83
16	20	16	28	228	662	709	302	765	930	204	63	79
17	19	16	25	242	655	648	285	701	870	180	60	76
18	17	16	23	398	576	813	280	685	845	180	60	72
19	17	16	21	354	549	1,170	269	685	741	159	90	72
20	16	16	21	302	590	797	269	717	685	158	72	76
21	16	16	21	274	583	717	264	733	640	127	63	69
22	16	16	21	264	576	1,930	259	1,410	583	123	60	66
23	16	16	21	254	542	1,350	259	1,400	542	123	69	63
24	16	16	25	349	508	984	228	781	515	123	69	60
25	15	16	28	1,520	3,540	870	218	10,100	482	119	60	57
26	14	20	35	596	5,190	789	218	26,800	449	116	54	60
27	14	26	40	549	1,940	733	204	3,670	416	112	281	103
28	14	40	37	502	2,470	733	194	10,100	398	104	354	155
29	14	30	37	535	1,790	693	1,560	3,510	373	101	283	119
30	14	35	35	542	-	662	2,780	2,900	360	97	1,670	94
31	14	-	35	415	-	640	-	2,280	-	90	917	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,099	192	14	35.5	2,180
November.....	646	98	14	21.5	1,280
December.....	858	40	21	27.7	1,700
Calendar year 1943.....	22,844.2	1,260	3.8	62.6	45,310
January.....	10,439	1,520	45	337	20,710
February.....	31,863	5,190	342	1,099	63,200
March.....	28,357	1,930	640	915	56,250
April.....	14,419	2,780	194	481	28,600
May.....	129,472	26,800	685	4,177	286,800
June.....	41,689	10,900	360	1,394	82,970
July.....	6,882	731	90	222	13,550
August.....	5,487	1,670	54	177	10,880
September.....	3,953	860	57	132	7,840
Water year 1943-44.....	275,304	26,800	14	752	546,100

Peak discharge.- May 1 (11:45 a.m.) 27,900 sec.-ft.; May 2 (7 p.m.) 30,300 sec.-ft.; May 9 (4 p.m.) 16,400 sec.-ft.; May 26 (7 a.m.) 52,800 sec.-ft.; May 28 (11:45 a.m.) 17,200 sec.-ft.; June 6 (10 a.m.) 18,200 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## San Gabriel River at Georgetown, Tex.

Location.— Water-stage recorder and concrete control, lat. 30°39'10", long. 97°39'20", 100 feet downstream from Missouri-Kansas-Texas Railroad bridge, 1½ miles downstream from confluence of North and South Forks, and 1½ miles northeast of Georgetown, Williamson County. Datum of gage is 643.71 feet (revised) above mean sea level, datum of 1929.

Drainage area.— 415 square miles.

Records available.— July 1934 to September 1944. February 1924 to August 1925 at site 1 mile upstream; records equivalent except those for extremely low flow.

Average discharge.— 10 years, 189 second-feet.

Extremes.— Maximum discharge during year, 37,500 second-feet June 6 (gage height, 19.49 feet), from rating curve extended above 24,000 second-feet; minimum not determined.

1924-25, 1934-44: Maximum discharge, that of June 6, 1944; minimum, 0.2 second-foot (regulated) July 31, Aug. 1, 29, 30, 1942.

Maximum stage known, 39.36 feet, present datum, September 1921 (discharge, 160,000 second-feet, by slope-area method), from information by Missouri-Kansas-Texas Railroad Co.

Remarks.— Records good except those for periods of no gage-height record, which are poor. Several small diversions have some effect on low flow which is also regulated at times by gates in recreation dam 3,000 feet above station.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

0.85	1.1	1.5	41.0	3.6	610	8.0	7,200
.90	2.1	1.7	57.5	4.0	930	10.0	11,400
.95	3.7	2.0	87.5	4.5	1,440	12.0	16,300
1.0	5.7	2.5	155	5.0	2,100	15.0	24,200
1.1	11.3	3.0	294	6.0	3,640	18.0	35,000
1.3	25.3	3.3	429	7.0	5,300	19.6	37,800

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	31			1.1	176	331	306	5,000	376	97	18	63
2	30			186	174	319	294	376	344	97	17	36
3	22			47	169	314	283	287	303	95	15	27
4	17			44	149	302	272	528	290	91	15	22
5	15			36	144	272	267	434	268	85	14	19
6	11			32	139	302	244	261	5,060	77	14	284
7	8.8			30	136	272	258	214	852	72	13	1,630
8	7.7	7.0		28	1,110	241	238	183	1,140	67	13	90
9	7.2			25	852	241	231	738	461	63	12	56
10	6.7			25	319	348	217	302	390	60	11	46
11	6.7			25	244	380	195	217	380	56	11	41
12	7.7			31	214	306	186	192	445	54	11	37
13	9.4			33	217	353	176	335	52	52	11	35
14	7.7			38	390	251	183	163	294	49	11	32
15	7.2			46	264	264	172	149	268	47	9.4	31
16		6.7	3.0	51	235	642	159	136	251	44	8.8	17
17		6.2		60	241	327	155	117	215	44	8.8	23
18		6.2		100	205	310	152	129	214	42	8.8	26
19		5.7		95	203	517	147	126	197	39	8.9	25
20		5.7		76	228	335	145	138	198	37	9.4	25
21				66	228	327	139	174	170	35	11	24
22				63	228	2,280	135	372	159	35	11	23
23				61	214	707	125	345	145	35	14	22
24		7.0		342	197	526	117	161	138	35	11	21
25				1,330	1,420	451	113	5,000	131	32	11	20
26			5.0	287	645	409	117	2,790	121	29	11	21
27				225	419	390	105	912	113	26	13	39
28				183	496	395	88	2,600	107	33	88	41
29				279	376	366	281	652	102	15	50	35
30				247	-	340	514	495	97	18	117	30
31		-		195	-	327	-	429	-	19	86	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	307.1	31	-	9.91	609
November.....	185.5	-	-	6.18	368
December.....	93.0	-	-	3.00	184
Calendar year 1943.....	9,726.6	545	0.4	26.6	19,300
January.....	4,292.1	1,330	1.1	138	8,510
February.....	10,031	1,420	136	346	19,900
March.....	13,064	2,280	241	421	25,910
April.....	5,994	514	88	200	11,890
May.....	23,766	5,000	117	767	47,140
June.....	13,554	5,060	97	452	26,880
July.....	1,855	97	15	51.1	3,140
August.....	655.0	117	5.8	21.4	1,520
September.....	2,841	1,630	17	54.7	5,540
Water year 1943-44.....	76,375.7	5,060	-	209	451,500

Peak discharge.— Mar. 22 (12 m.) 6,400 sec.-ft.; May 26 (12:30 a.m.) 9,200 sec.-ft.; May 28

(12:30 a.m.) 6,890 sec.-ft.; June 6 (7 a.m.) 37,800 sec.-ft.; Sept. 7 (1 a.m.) 3,600 sec.-ft.

Note.— No gage-height record Oct. 16 to Nov. 15, Nov. 21 to Jan. 3; discharge computed on basis of recorded range in stage and weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Yegua Creek near Somerville, Tex.

Location.- Water-stage recorder, lat. 30°19', long. 96°30', at bridge on State Highway 36, 780 feet downstream from Gulf, Colorado & Santa Fe Railway bridge, 2 miles south of Somerville, Burleson County, and 5 miles upstream from Davidson Creek. Datum of gage is 199.29 feet above mean sea level, datum of 1929.

Drainage area.- 990 square miles.

Records available.- May 1924 to September 1944.

Average discharge.- 20 years, 316 second-feet.

Extremes.- Maximum discharge during year, 5,410 second-feet Jan. 30 (gage height, 9.80 feet); no flow at times.

1924-44: Maximum discharge, 56,800 second-feet July 1, 1940 (gage height, 19.27 feet); no flow at times.

Maximum stage known, about 22.0 feet, present site and datum, Dec. 5, 1913, from information by chief engineer, Gulf, Colorado & Santa Fe Railway Co.

Remarks.- Records good except those for period of no gage-height record, which are poor. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	163	0.3	2.2	a27	2,230	1,130	205	45	118	1.5	0	1,130
2	82	.1	1.2	a174	1,220	870	213	118	87	1.2	0	1,300
3	78	.1	.9	a1,610	821	626	113	426	59	12	0	893
4	16	.1	.8	a1,180	522	826	62	692	45	26	0	248
5	5.5	.1	.7	a150	227	300	.81	842	36	58	0	130
6	2.9	.1	.6	a54	108	139	63	680	62	57	0	104
7	1.4	.1	.6	a106	74	94	52	424	82	40	0	188
8	.9	.1	.5	280	61	77	49	175	200	23	0	470
9	.7	0	.5	145	77	66	79	465	319	14	0	372
10	.3	0	4.2	53	70	61	121	752	322	8.3	0	132
11	.2	0	42	30	63	60	32	560	194	4.6	0	101
12	.1	0	38	114	46	87	53	560	146	2.6	0	114
13	.2	0	14	751	40	55	41	345	131	1.5	4.8	75
14	.3	0	7.0	1,340	860	.54	35	219	78	.9	11	39
15	.2	0	4.3	1,210	1,530	67	31	122	46	.5	14	24
16	.1	0	2.5	814	1,530	380	27	73	36	.2	7.9	15
17	.1	0	1.5	590	1,010	776	24	48	25	.1	3.4	11
18	0	0	1.0	470	590	814	23	36	18	.1	1.6	8.3
19	0	0	.7	291	438	680	22	30	14	0	.8	6.2
20	0	0	.5	210	277	692	21	197	12	0	.4	4.7
21	0	0	.4	169	231	565	21	468	10	0	.2	3.5
22	0	0	.3	104	210	389	21	1,020	7.9	0	.1	2.7
23	0	0	.6	63	226	1,280	20	2,760	6.2	0	.1	2.1
24	.1	0	8.8	44	372	1,440	20	2,440	5.4	0	0	1.6
25	8.4	0	a34	107	533	1,480	18	1,840	4.3	0	0	1.2
26	3.4	0	a36	277	1,370	1,130	18	1,260	3.0	0	0	1.0
27	1.1	.6	a48	264	1,380	926	19	650	2.7	0	0	1.1
28	.5	4.7	a36	412	1,680	698	18	495	2.2	0	2.3	1.3
29	.4	14	a27	1,870	1,430	431	16	555	2.0	0	19	1.3
30	.2	6.1	a26	3,900	-	243	16	420	1.8	0	79	1.2
31	.2	-	a25	4,200	-	165	-	169	-	0	1,120	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	360.2	163	0	11.6	714
November.....	25.2	14	0	.97	52
December.....	363.8	48	.3	11.7	722
Calendar year 1943.....	17,307.5	968	0	47.4	34,340
January.....	20,709	4,200	27	668	41,080
February.....	19,226	2,230	40	663	38,130
March.....	16,863	1,480	54	534	32,660
April.....	1,604	215	16	53.5	3,190
May.....	18,866	2,750	30	608	37,400
June.....	2,076.0	322	1.8	69.2	4,120
July.....	311.5	86	0	10.0	618
August.....	1,264.6	1,120	0	40.8	2,610
September.....	5,382.2	1,300	1.0	179	10,680
Water year 1943-44.....	86,741.5	4,200	0	287	172,100

a No gage-height record; discharge computed on basis of recorded range in stage and weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Navasota River near Easterly, Tex.

Location.- Water-stage recorder, lat. 31°10'10", long. 96°17'55", at bridge on U. S. Highway 79, 1 mile upstream from Missouri Pacific Railroad bridge and 6 miles north-east of Easterly, Robertson County. Datum of gage is 276.42 feet above mean sea level, datum of 1929.

Drainage area.- 949 square miles.

Records available.- March 1924 to September 1944.

Average discharge.- 20 years, 436 second-feet.

Extremes.- Maximum discharge during year, 60,300 second-feet May 2 (gage height, 22.13 feet); minimum, 0.6 second-foot Aug. 27 (gage height, 1.14 feet).  
1924-44: Maximum discharge, that of May 2, 1944; no flow at times.  
Maximum stage known, about 24.0 feet in 1900, from information by local residents, (discharge, about 71,000 second-feet).

Remarks.- Records good except those for periods of no recorder record, which are poor.  
No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.6	19	28	104	2,370	6,800	144	2,990	1,200	9.8	1.8	24
2	3.3	19	18	398	1,780	3,460	119	47,800	228	10	2.1	12
3	7.0	19	13	684	758	1,450	221	43,700	95	25	2.2	8.2
4	76	73	10	978	192	421	208	20,700	66	23	1.9	8.4
5	44	68	8.7	1,200	140	240	188	9,650	421	16	1.6	7.2
6	25	32	9.3	1,540	112	234	144	5,550	764	13	1.3	7.0
7	17	20	8.4	913	92	299	112	3,210	1,350	11	1.2	219
8	11	16	8.7	172	340	388	92	1,850	1,810	8.9	1.1	65
9	7.6	12	8.0	119	1,520	280	83	647	1,300	8.4	1.1	20
10	5.8	10	7.2	105	2,450	208	78	252	704	8.2	.9	10
11	4.6	8.9	6.4	86	5,720	203	70	184	228	7.0	.9	28
12	3.9	10	5.5	164	7,300	388	63	156	156	6.0	1.2	16
13	4.7	10	5.5	768	3,970	684	57	133	248	5.5	.9	11
14	5.3	8.7	7.4	1,440	1,810	624	54	122	164	5.1	.9	7.0
15	4.7	7.2	6.8	1,940	1,020	304	50	122	92	4.7	1.2	5.1
16	224	6.2	6.0	2,530	1,420	193	42	102	66	4.2	1.0	3.8
17	428	4.9	7.6	2,450	1,740	160	38	86	54	3.8	.8	3.1
18	496	4.1	7.6	1,730	1,530	140	38	77	43	3.6	.8	2.6
19	148	3.8	6.8	1,360	608	133	37	87	35	3.2	.9	2.8
20	60	3.5	5.8	1,390	550	152	36	175	29	2.9	.9	2.0
21	40	2.9	5.3	1,450	644	180	34	180	25	2.7	.8	1.9
22	30	2.7	5.1	822	550	895	34	533	23	2.5	.9	1.8
23	24	2.6	18	124	496	1,600	38	1,150	20	2.7	.9	1.7
24	29	2.5	17	126	364	2,530	36	1,180	18	3.1	1.0	1.6
25	29	2.4	26	105	516	3,760	35	1,330	16	2.9	.9	1.6
26	47	3.3	24	92	1,410	3,600	34	1,640	14	2.7	.7	1.6
27	52	6.8	34	119	4,100	1,950	34	1,610	13	2.4	1.5	1.8
28	42	9.7	55	202	10,700	434	34	1,670	12	2.2	2.4	2.1
29	38	12	46	1,300	9,500	278	69	2,720	11	3.5	2.6	2.3
30	30	31	34	2,630	218	218	779	3,600	98	3.4	32	2.1
31	24	-	38	2,820	-	188	-	3,310	-	2.5	80	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,962.5	496	1.6	63.3	3,890
November.....	431.2	73	2.4	14.4	855
December.....	487.1	55	5.1	15.7	986
Calendar year 1943.....	26,185.3	1,530	.2	71.7	51,940
January.....	29,821	2,320	86	962	59,150
February.....	64,482	10,700	92	2,224	127,900
March.....	32,174	6,900	133	1,038	66,820
April.....	5,001	779	34	100	5,950
May.....	156,416	47,800	77	5,046	310,200
June.....	9,214.8	1,810	9.8	307	18,280
July.....	209.7	25	2.2	6.76	416
August.....	148.4	80	.7	4.79	294
September.....	476.4	219	1.6	15.9	945
Water year 1943-44.....	298,824.1	47,800	.7	81.6	592,700

Note.- No recorder record Mar. 19-25, May 21 to June 11; discharge computed on basis of graph drawn from once-daily staff-gage readings furnished by U. S. Department of Agriculture and weather records.

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

## Brazos Valley Irrigation Co.'s canal near Fulshear, Tex.

Location.- Water-stage recorder, lat. 29°39', long. 95°54', 1 mile downstream from point of diversion and 3 miles south of Fulshear, Fort Bend County.

Records available.- October 1931 to September 1944.

Average discharge.- 13 years, 62.9 second-feet.

Extremes.- Maximum daily discharge during year, 355 second-feet June 8; no flow at times. 1931-44: Maximum daily discharge, 363 second-feet May 17, 1942; no flow for several months each year.

Remarks.- Records good. Station above all diversions from canal. Flow controlled by pumping plant. Canal diverts water from left bank of Brazos River 18 miles above Richmond for irrigation near Sugarland. Figures of discharge represent water actually pumped from Brazos River into canal.

Monthly discharge, in second-feet, water year October 1943 to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0
November.....	0	0	0	0
December.....	0	0	0	0
Calendar year 1943.....	345	0	104	75,270
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	276	0	58.1	3,460
May.....	249	0	39.7	2,440
June.....	355	1.2	273	16,220
July.....	315	246	269	17,760
August.....	295	256	266	16,560
September.....	315	16	229	13,530
Water year 1943-44.....	355	0	96.3	69,890

## Richmond Irrigation Co.'s canal near Richmond, Tex.

Location.- Water-stage recorder, lat. 29°34', long. 95°47', 600 feet downstream from crossing of U. S. Highway 59 (revised), 1½ miles downstream from point of diversion, and 1½ miles west of Richmond, Fort Bend County.

Records available.- October 1931 to September 1944.

Average discharge.- 13 years, 32.3 second-feet.

Extremes.- Maximum daily discharge during year, 213 second-feet Aug. 6; no flow at times. 1931-44: Maximum daily discharge, 234 second-feet June 5, 6, 1936; no flow at times.

Remarks.- Records good. All diversions from canal are below station. Flow controlled by pumping plant. Canal diverts water from right bank of Brazos River 6 miles upstream from Richmond for irrigation.

Monthly discharge, in second-feet, water year October 1943 to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3.0	0	0.10	6.0
November.....	0	0	0	0
December.....	0	0	0	0
Calendar year 1943.....	120	0	40.2	29,170
January.....	0	0	0	0
February.....	0	0	0	0
March.....	0	0	0	0
April.....	0	0	0	0
May.....	106	0	31.0	1,910
June.....	165	63	106	6,290
July.....	205	110	135	8,310
August.....	213	85	130	8,020
September.....	102	0	50.4	3,000
Water year 1943-44.....	213	0	38.0	27,540

Note.- Discharge for May 2, 3, 28 adjusted to eliminate local runoff. No gage-height record Aug. 5, 6; discharge computed from record of pump operation.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Colorado River at Robert Lee, Tex.

Location.- Water-stage recorder, lat. 31°53'05", long. 100°28'45", at bridge on State Highway 208 in Robert Lee, Coke County, half a mile upstream from Mountain Creek. Datum of gage is 1,771.7 feet above mean sea level, datum of 1929 (levels by Bureau of Reclamation).

Drainage area.- 15,770 square miles, of which 11,500 square miles is probably noncontributing.

Records available.- April 1939 to September 1944. September 1915 to September 1920 (October 1918 to October 1920, gage heights only), at site near Bronte, 16 miles downstream. October 1923 to December 1927 at site near Robert Lee, 9 miles downstream. Records equivalent except during periods of local runoff between sites.

Average discharge.- 11 years (1915-18, 1924-27, 1939-44), 202 second-feet.

Extremes.- Maximum discharge during year, 18,300 second-feet July 23 (gage height, 18.00 feet); no flow at times.

1939-44: Maximum discharge, 31,700 second-feet June 22, 1939 (gage height, 21.70 feet, from graph based on gage readings), by slope-area method; no flow at times.

Remarks.- Records good. About 2,200 acres irrigated above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.1	0	0	0.3	1.0	498	1.1	70	137	91	58	58
2	1	0	0	.2	1.1	245	1.0	161	84	44	44	82
3	0	0	0	.2	1.1	132	.9	21	54	23	34	42
4	0	0	.1	.4	1.2	74	.8	4.6	35	14	27	27
5	0	0	.7	2.2	1.5	45	.7	1.3	26	9.2	22	30
6	0	0	.2	4.1	1.5	30	.3	.9	93	6.4	18	2,120
7	0	0	.1	5.0	1.5	20	.3	.3	744	4.1	16	265
8	0	0	.1	4.6	2.4	16	.3	7.5	307	5.9	16	138
9	0	0	.1	3.5	2.2	12	.2	415	668	4.1	32	91
10	0	0	.2	3.5	1.9	11	.1	48	325	2.6	45	52
11	0	0	.1	2.6	1.5	8.6	.1	12	187	1.9	23	35
12	0	0	.1	2.9	1.1	6.4	.1	4.6	113	1.9	16	27
13	0	0	0	4.7	20	4.6	.1	2.2	96	68	12	22
14	0	0	.1	5.8	30	3.5	.1	1.3	49	96	9.2	18
15	0	0	0	2.9	18	3.2	.1	.7	30	24	7.0	15
16	0	0	.1	2.6	13	2.6	0	.4	19	28	5.9	13
17	0	0	0	2.4	12	2.2	0	.2	12	27	13	11
18	0	0	0	2.2	8.6	2.8	0	.2	8.1	12	188	9.2
19	0	0	0	1.9	7.0	192	0	338	5.9	5.0	256	8.1
20	0	0	0	1.6	7.5	86	0	1,610	4.6	2.4	137	7.0
21	0	0	0	1.5	14	23	0	1,980	2.9	1.7	68	5.9
22	0	0	0	1.3	12	12	.2	1,080	2.1	2,030	42	5.5
23	0	0	.1	1.2	8.6	7.0	.2	4,230	1.9	15,900	26	4.6
24	0	0	.2	1.1	7.5	3.8	.1	696	1.7	2,710	17	3.8
25	0	0	.2	1.1	7.0	2.9	0	354	1.7	1,230	12	3.2
26	0	.3	.1	1.0	5.5	2.6	0	504	1.7	758	4.1	3.2
27	0	.2	.2	1.3	6.1	2.1	0	334	1.6	392	88	4.6
28	0	.1	.1	1.1	452	2.1	0	1,410	1.6	252	322	4.6
29	0	.1	.1	1.0	701	1.7	.3	772	625	174	258	3.8
30	0	.1	.1	.9	-	1.6	.2	639	218	116	134	3.5
31	0	-	.1	.9	-	1.2	-	281	-	86	80	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0.2	0.1	0	0.01	0.4
November.....	.8	.3	0	.03	1.6
December.....	3.1	.7	0	.10	6.1
Calendar year 1943.....	13,065.7	2,080	0	35.8	25,920
January.....	66.0	5.8	.2	2.13	131
February.....	1,347.8	701	1.0	46.5	2,870
March.....	1,454.9	498	1.2	46.9	2,890
April.....	7.1	1.1	0	.24	14
May.....	14,978.2	4,230	.2	485	29,710
June.....	4,058.8	744	1.6	135	8,040
July.....	24,020.2	15,800	1.7	775	47,640
August.....	2,030.2	322	4.1	66.5	4,030
September.....	3,093.0	2,120	3.2	103	6,130
Water year 1943-44.....	51,058.3	15,800	0	140	101,300

Peak discharge.- May 23 (5 a.m.) 7,570 sec.-ft.; July 23 (7:45 p.m.) 18,300 sec.-ft.; Sept. 6 (6:30 a.m.) 6,530 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## COLORADO RIVER BASIN

Colorado River at Ballinger, Tex.

**Location.**— Water-stage recorder, lat. 31°43'50", long. 99°56'25", at bridge on U. S. Highway 83 in Ballinger, Runnels County, 2,000 feet upstream from Elm Creek. Datum of gage is 1,593.7 feet above mean sea level, datum of 1929.

**Drainage area.**— 18,840 square miles, of which 11,500 square miles is probably noncontributing.

**Records available.**— June 1907 to September 1944 (June 1907 to November 1915, monthly records only, in Water-Supply Paper 850). U. S. Weather Bureau collected gage-height records in this vicinity from 1903 to 1929.

**Average discharge.**— 37 years, 414 second-feet.

**Extremes.**— Maximum discharge during year, 15,400 second-feet July 24 (gage height, 14.50 feet); minimum, 0.7 second-foot Oct. 15-30, Apr. 28.

1907-44: Maximum discharge, 75,400 second-feet Sept. 18, 1936 (gage height, 28.6 feet); no flow at times.

Maximum stage known, about 36.0 feet sometime in 1884, present site and datum, from information by local residents. A stage of about 32.0 feet occurred Aug. 6, 1906, present site and datum, from floodmarks (backwater from Elm Creek).

**Remarks.**— Records good except those for period of no gage-height record, which are fair. Small diversions above station for irrigation affect low flow.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	0.8	2.1	17	4.0	582	5.2	239	273	196	a101	202
2	1.2	.8	1.9	17	4.0	379	4.8	1,020	159	93	d176	107
3	1.2	.8	1.9	12	3.7	210	4.4	220	101	275	58	82
4	1.2	1.0	1.7	7.8	3.4	124	3.7	66	73	42	45	73
5	1.0	1.2	4.8	6.6	3.4	79	2.6	26	55	21	36	202
6	1.0	1.2	2.9	4.8	3.4	55	1.5	14	1,340	15	30	2,740
7	1.0	1.2	2.4	4.0	3.4	40	1.3	7.8	496	9.9	28	1,150
8	1.0	1.3	2.1	3.4	4.8	32	1.5	4.4	554	7.2	166	320
9	.8	1.3	2.1	3.2	3.7	26	1.7	73.4	344	5.2	110	174
10	.8	1.5	2.2	2.6	3.7	24	1.5	398	525	3.7	38	130
11	.8	1.9	2.1	2.6	3.4	18	1.3	104	324	4.8	21	87
12	1.0	2.2	1.9	2.9	3.2	17	1.7	40	210	9.6	36	63
13	1.2	2.4	1.7	4.0	2.2	15	1.5	18	124	38	54	50
14	1.0	2.9	1.7	2.4	2.4	13	1.5	12	104	47	52	40
15	.7	3.2	1.5	3.2	2.4	12	1.7	7.8	76	98	21	54
16	.7	2.6	1.5	5.2	2.2	9.9	1.7	5.6	58	55	14	28
17	.7	2.6	1.5	6.6	18	8.4	1.3	4.0	43	28	9.9	26
18	.7	2.6	1.5	6.6	18	8.4	1.2	3.2	30	16	e661	19
19	.7	2.6	1.5	5.6	16	8.4	1.2	2.2	28	21	354	18
20	.7	2.6	1.5	5.6	14	44	1.0	730	16	15	275	17
21	.7	3.2	1.5	5.2	13	121	1.0	4,780	14	9.0	167	15
22	.8	3.2	1.5	4.8	12	55	1.2	1,120	13	6.0	93	14
23	.8	3.2	1.7	4.0	9.9	30	1.2	3,900	11	8,150	66	13
24	.7	3.2	4.4	4.0	26	19	1.0	1,670	6.6	11,500	45	9.0
25	.7	3.2	2.9	3.7	16	14	1.0	1,982	6.0	1,620	32	8.4
26	.7	4.0	2.1	4.0	15	11	1.0	624	5.6	1,050	121	8.4
27	.7	3.4	2.2	4.8	17	8.4	.8	546	4.8	606	923	9.0
28	.7	2.6	1.9	4.0	999	7.2	.8	4,998	4.4	356	1,040	9.9
29	.7	2.2	2.1	3.7	613	6.0	1.5	1,280	3.7	256	572	9.9
30	.7	2.1	1.9	3.7	-	5.6	1.5	737	324	a182	411	9.0
31	.8	-	1.9	3.7	-	5.2	-	490	-	a144	333	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	26.7	1.3	0.7	0.86	53
November	67.0	4.0	.8	2.23	133
December	64.6	4.8	1.5	2.08	128
Calendar year 1943	19,286.3	1,550	0	52.8	38,240
January	169.7	17	2.6	5.47	337
February	1,830.2	989	2.2	63.1	3,630
March	1,987.5	582	5.2	64.1	3,940
April	53.3	5.2	.8	1.78	106
May	23,685.0	4,780	2.2	764	46,970
June	5,326.1	1,340	3.7	178	10,560
July	24,879.4	11,500	3.7	803	49,350
August	5,887.9	1,040	9.9	190	11,680
September	5,698.6	2,740	8.4	190	11,300
Water year 1943-44	69,674.0	11,500	.7	190	138,200

Peak discharge.— May 21 (6 a.m.) 7,550 sec.-ft.; May 23 (6 p.m.) 6,800 sec.-ft.; July 24 (1:30 p.m.) 15,400 sec.-ft.

a No gage-height record; discharge computed on basis of estimated gage heights.

e Backwater from Elm Creek; discharge computed from adjusted gage-height record.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Colorado River at Winchell, Tex.

Location.— Water-stage recorder, lat. 31°28'05", long. 99°09'45", at bridge on State Highway 23, 0.3 mile south of Winchell, Brown County, and 6.2 miles downstream from Home Creek. Datum of gage is 1,264.86 feet above mean sea level, datum of 1929.

Drainage area.— 24,580 square miles, of which 11,800 square miles is probably noncontributing.

Records available.— January 1939 to September 1944. November 1923 to September 1934 at site near Milburn, 4.2 miles downstream.

Average discharge.— 15 years (1924-34, 1939-44), 792 second-feet.

Extremes.— Maximum discharge during year, 13,000 second-feet Sept. 7 (gage height, 19.12 feet); minimum, 1.2 second-feet Nov. 8 (gage height, 2.71 feet).

1923-34, 1939-44: Maximum discharge, 76,100 second-feet Oct. 15, 1930, at site then in use (gage height, 51.8 feet, present site and datum); no flow Aug. 8-10, Sept. 1-5, 1929, Aug. 15-25, 1934, Aug. 22 to Sept. 4, 1943.

Maximum stage known, 62.2 feet Sept. 19, 1936, present site and datum, from information obtained by engineers of Gulf, Colorado & Santa Fe Railway at railway bridge 1,000 feet above present gage.

Remarks.— Records good. Diversions above station for irrigation and municipal supply. Flow partly regulated by storage in reservoirs on Concho River.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	223	3.5	13	925	94	1,460	69	940	900	12	188	674
2	112	4.0	12	779	93	845	64	2,320	560	10	147	466
3	114	3.5	10	265	102	768	64	968	366	68	116	269
4	88	3.0	9.0	214	106	511	64	921	274	163	93	166
5	68	3.5	14	187	106	360	60	438	208	470	74	112
6	64	3.5	112	132	104	284	54	234	163	228	61	3,330
7	46	2.5	75	112	102	226	48	147	571	125	55	11,400
8	34	2.5	44	100	118	182	42	97	1,640	77	55	6,100
9	28	2.5	36	93	123	161	36	602	1,140	52	40	1,980
10	24	4.8	31	86	114	177	29	525	664	38	40	801
11	22	18	36	86	106	169	24	861	598	30	60	535
12	18	16	42	82	97	157	23	446	535	26	106	366
13	14	13	40	89	93	145	23	246	376	28	71	248
14	13	12	44	95	95	135	18	155	284	30	48	182
15	13	11	39	95	93	123	16	104	210	20	34	129
16	12	10	33	104	91	112	14	72	159	20	26	102
17	12	11	29	103	91	110	13	56	137	23	20	86
18	10	10	30	102	89	110	12	42	114	22	28	74
19	10	10	33	95	86	114	11	171	89	52	412	64
20	8.0	10	54	93	88	120	10	145	71	60	362	55
21	8.0	10	58	93	86	120	9.0	733	58	44	363	49
22	8.0	10	60	86	86	121	8.0	6,540	46	36	281	43
23	7.0	12	61	86	91	121	5.5	5,290	59	29	225	39
24	7.0	12	69	84	102	169	5.5	4,470	35	6,470	161	36
25	7.0	12	71	84	100	147	4.8	2,280	31	9,760	114	31
26	7.0	17	74	84	97	121	4.0	1,460	25	1,840	91	29
27	7.0	19	74	86	339	100	4.0	2,170	23	1,260	91	35
28	6.2	23	77	84	1,560	88	3.0	5,000	19	900	662	40
29	5.5	19	77	81	924	81	3.0	2,020	16	550	1,900	36
30	4.8	16	72	82	-	76	261	2,360	14	340	960	31
31	4.0	-	69	82	-	72	-	1,200	-	255	600	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,004.5	223	4.0	32.4	1,990
November.....	504.8	25	2.5	10.1	504
December.....	1,498.0	112	9.0	48.3	2,970
Calendar year 1943.....	44,583.6	3,410	0	122	86,420
January.....	4,674	885	81	151	9,270
February.....	5,366	1,560	84	186	10,640
March.....	7,804	1,460	72	242	14,880
April.....	1,001.8	281	3.0	33.4	1,990
May.....	42,952	6,540	42	1,396	85,190
June.....	9,365	1,640	14	312	18,580
July.....	23,036	9,760	10	743	46,700
August.....	7,971	1,900	20	267	16,810
September.....	27,531	11,400	29	918	54,610
Water year 1943-44.....	132,209.6	11,400	2.5	361	262,800

Peak discharge.— May 22 (1 p.m.) 8,940 sec.-ft.; July 25 (8:30 a.m.) 12,900 sec.-ft.; Sept. 7 (9 p.m.) 13,000 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Colorado River near San Saba, Tex.

Location.— Water-stage recorder, lat. 31°13'05", long. 98°33'50", at bridge on State Highway 190, 5.2 miles downstream from San Saba River and 9.2 miles east of San Saba, San Saba County. Datum of gage is 1,096.22 feet above mean sea level, datum of 1929.

Drainage area.— 30,600 square miles, of which 11,800 square miles is probably noncontributing.

Records available.— August 1930 to September 1944. October 1915 to October 1922 at site near Chadwick, 1.2 miles upstream. October 1923 to December 1934 at site near Tow, 44 miles downstream.

Average discharge.— 19 years (1916-19, 1920-22, 1930-44), 1,873 second-feet.

Extremes.— Maximum discharge during year, 19,200 second-feet May 25 (gage height, 16.43 feet); minimum, 101 second-feet Nov. 12, 13 (gage height, 2.09 feet).

1915-22, 1930-44: Maximum discharge, 224,000 second-feet July 23, 1938 (gage height, 63.2 feet, present site, based on floodmarks at site then in use); minimum observed, 1.5 second-feet Aug. 22, 23, 1918.

Maximum stage known prior to 1938, 58.4 feet Sept. 25, 1900 (discharge, 184,000 second-feet), present site, based on floodmarks at former site.

Remarks.— Records good. Diversions above station for irrigation and municipal use. Flow partly regulated by reservoirs on Pecan Bayou and Concho River having a combined capacity of 151,000 acre-feet.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5,060	124	164	704	351	1,690	309	8,700	2,140	189	556	380
2	1,460	124	151	4,580	340	2,000	297	8,600	1,740	178	472	798
3	1,000	124	145	2,410	394	1,310	288	5,550	1,280	178	421	798
4	651	132	142	1,010	394	1,200	288	2,100	940	182	380	556
5	426	175	158	738	366	970	284	1,990	534	182	344	398
6	314	138	204	582	344	880	280	1,160	2,220	241	314	490
7	260	121	288	506	340	716	276	798	1,200	551	293	4,430
8	224	115	260	449	768	603	272	608	798	546	284	11,900
9	208	110	268	394	2,140	531	268	1,520	1,980	344	276	7,810
10	193	107	399	348	1,100	516	264	1,420	1,580	268	256	2,250
11	132	104	497	326	700	592	264	1,460	1,160	224	248	1,200
12	171	104	268	326	536	646	236	1,100	1,220	156	236	910
13	171	104	204	371	482	556	220	970	1,060	175	236	770
14	161	104	178	444	477	516	200	711	825	272	234	624
15	151	104	171	426	482	496	196	546	689	268	284	511
16	145	107	175	472	463	463	175	444	572	297	260	435
17	138	110	171	657	444	435	168	380	487	280	244	394
18	138	121	171	657	430	421	161	335	426	276	244	357
19	132	121	168	566	417	417	158	318	389	272	224	335
20	132	118	168	492	394	435	158	452	357	240	220	318
21	129	112	154	440	394	487	154	770	326	178	742	297
22	129	112	154	412	398	526	151	2,030	297	154	619	288
23	132	110	161	389	394	506	145	7,810	280	361	417	276
24	126	107	193	375	384	506	142	6,460	260	740	357	264
25	116	107	208	362	730	426	142	9,900	248	4,850	297	256
26	110	126	224	362	487	458	138	76,960	232	9,670	252	248
27	110	151	248	362	449	417	129	3,800	212	2,420	248	208
28	112	158	220	366	2,520	389	126	6,450	200	1,540	268	175
29	112	171	224	375	5,040	357	168	8,430	189	1,200	310	161
30	118	178	252	353	-	335	4,460	4,320	186	880	1,770	151
31	124	-	228	340	-	322	-	3,250	-	694	1,240	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	12,634	5,060	110	408	25,060
November.....	3,699	178	104	123	7,340
December.....	6,606	497	142	215	13,100
Calendar year 1943.....	140,290	10,100	42	384	278,300
January.....	20,584	4,580	326	664	40,830
February.....	22,138	5,040	331	763	43,910
March.....	20,122	2,000	322	650	39,910
April.....	10,507	4,460	126	350	20,840
May.....	99,112	9,900	318	3,197	196,600
June.....	24,327	2,220	186	811	48,250
July.....	28,046	9,670	154	905	55,620
August.....	12,596	1,770	220	406	24,380
September.....	38,488	11,900	151	1,283	76,340
Water year 1943-44.....	298,859	11,900	104	817	592,800

Peak discharge.— May 2 (10 p.m.) 10,300 sec.-ft.; May 25 (4 p.m.) 19,200 sec.-ft.; May 29 (4 a.m.) 10,800 sec.-ft.; July 26 (10:30 a.m.) 11,200 sec.-ft.; Sept. 8 (10 p.m.) 12,400 sec.-ft.

<sup>†</sup> Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Buchanan Reservoir near Burnet, Tex.

Location.- Selsyn indicator, lat. 30°45'05", long. 98°25'00", at Buchanan Dam on Colorado River, 1 mile upstream from bridge on State Highway 29 and 10 miles west of Burnet, Burnet County. Datum of gage is 0.48 foot above mean sea level, datum of 1929 (levels by Lower Colorado River Authority).

Drainage area.- 31,250 square miles, of which 11,800 square miles is probably noncontributing.

Records available.- May 1937 to September 1944.

Extremes.- Maximum contents observed during year, 789,000 acre-feet June 7 (gage height, 1,010.7 feet); minimum contents observed, 578,000 acre-feet Dec. 31 (gage height, 999.5 feet).

1937-44: Maximum contents, 1,004,000 acre-feet July 27, 1938 (gage height, 1,020.5 feet; several taintor gates were open); minimum after filling of reservoir in July 1938, that of Dec. 31, 1943.

Remarks.- Reservoir is formed by two reinforced concrete multiple-arch sections, three 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-feet (gage height, 1,020.0 feet, top of spillway section). Usable capacity, 955,000 acre-feet between gage heights 937.0 feet (sill of powerhouse penstock) and 1,020.0 feet (top of spillway section). Water below gage height 937.0 feet can be withdrawn through two 5-foot Bunger gates (emergency) down to gage height of 890.0 feet. Figures given herein represent total contents. Records of gage height as furnished are from once-daily readings at 8 a.m.; gage read hourly by power-plant operator. 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.

Monthly gage height and contents, water year October 1943 to September 1944

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	1,004.2	663,000	-
Oct. 31.....	1,003.8	655,000	-8,000
Nov. 30.....	1,001.8	619,000	-36,000
Dec. 31.....	999.5	578,000	-41,000
Calendar year 1943.....	-	-	-317,000
Jan. 31.....	1,001.2	609,000	+31,000
Feb. 29.....	1,003.2	645,000	+36,000
Mar. 31.....	1,002.2	627,000	-18,000
Apr. 30.....	999.8	584,000	-43,000
May 31.....	1,010.4	783,000	+199,000
June 30.....	1,008.3	741,000	-42,000
July 31.....	1,007.8	731,000	-10,000
Aug. 31.....	1,004.4	667,000	-64,000
Sept. 30.....	1,004.3	665,000	-2,000
Water year 1943-44.....	-	-	+2,000

† Gage height at 8:00 a.m.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Marshall Ford Reservoir near Austin, Tex.

Location.- Bailey indicator gage, lat. 30°23'20", long. 97°54'35", in powerhouse at dam on Colorado River, 7.3 miles downstream from Sandy Creek and 12 miles northwest of Austin, Travis County. Datum of gage is 0.12 foot above mean sea level, datum of 1929 (levels by Bureau of Reclamation).

Drainage area.- 37,900 square miles, of which 11,800 square miles is probably noncontributing.

Records available.- September 1940 to September 1944.

Extremes.- Maximum contents observed during year 1,162,000 acre-feet June 12-16 (gage height, 680.5 feet); minimum observed, 717,000 acre-feet Jan. 13 (gage height, 652.1 feet).

1940-44: Maximum contents observed, 1,377,000 acre-feet Oct. 23, 1942 (gage height, 691.2 feet); minimum observed, that of Jan. 13, 1944.

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-feet (gage height, 714.0 feet, top of spillway). Usable capacity, 1,622,000 acre-feet between gage height 535.8 feet (bottom of 24 8-foot diameter Paradox gates) and top of spillway. Bottom of penstocks, gage height, 552.0 feet. 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.

Monthly gage height and contents, water year October 1943 to September 1944

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	657.9	794,000	-
Oct. 31.....	655.2	757,000	-37,000
Nov. 30.....	655.3	732,000	-25,000
Dec. 31.....	652.3	719,000	-13,000
Calendar year 1943.....	-	-	-503,000
Jan. 31.....	653.1	730,000	+11,000
Feb. 29.....	654.1	745,000	+15,000
Mar. 31.....	661.8	852,000	+109,000
Apr. 30.....	663.1	871,000	+19,000
May 31.....	677.5	1,107,000	+236,000
June 30.....	679.2	1,138,000	+31,000
July 31.....	671.8	1,006,000	-132,000
Aug. 31.....	672.4	1,015,000	+10,000
Sept. 30.....	672.7	1,021,000	+5,000
Water year 1943-44.....	-	-	+227,000

† Gage height is average of 1 a.m. and 1 p.m. observations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Colorado River at Austin, Tex.

Location.- Water-stage recorder, lat. 30°14'40", long. 97°41'20", at southeast edge of Austin, Travis County, at Montopolis Bridge on U. S. Highway 290, 2.8 miles upstream from Walnut Creek, 3.8 miles downstream from Waller Creek, and 5 miles downstream from Barton Creek. Datum of gage is 407.3 feet above mean sea level, datum of 1929.

Drainage area.- 38,160 square miles, of which 11,800 square miles is probably noncontributing.

Records available.- February 1898 to September 1944. U. S. Weather Bureau has collected gage-height records in this vicinity since 1903.

Average discharge.- 46 years, 2,724 second-feet.

Extremes (regulated).- Maximum discharge during year, 4,230 second-feet May 16, June 26; maximum gage height, 6.94 feet July 27; minimum daily discharge, 716 second-feet Oct. 3.

1898-1944: Maximum discharge, 481,000 second-feet June 15, 1935 (gage height, 45.0 feet, present site and datum, from floodmark); minimum, 13 second-feet Aug. 18, 1918.

Maximum stage known, 46.0 feet, present site and datum, July 7, 1869 (adjusted to present site on basis of records for flood of June 15, 1935), determined from information concerning stage at former site furnished by Prof. T. U. Taylor.

Remarks.- Records fair. Flow partly regulated by Marshall Ford and Buchanan Reservoirs (see pp. 113, 114) and other smaller reservoirs, having a combined capacity of 3,150,000 acre-feet. About 36,000 acres irrigated above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	748	1,910	1,480	1,290	1,270	1,790	846	1,180	3,050	2,230	3,820	2,230
2	740	1,800	1,460	857	1,560	2,120	871	1,500	2,400	1,740	3,820	3,110
3	716	2,180	1,780	724	1,300	2,150	846	1,050	2,230	2,780	3,680	2,630
4	724	2,060	1,030	955	1,320	1,220	871	1,420	1,180	1,920	3,560	2,230
5	732	2,010	871	1,170	1,100	1,050	1,040	973	2,180	1,740	3,920	2,670
6	732	1,630	1,280	1,240	923	1,170	930	820	3,550	2,320	2,540	3,360
7	748	1,150	2,030	2,060	1,110	1,170	930	1,090	2,420	3,080	3,430	3,300
8	1,030	930	1,570	1,530	1,950	1,330	1,070	960	2,060	2,940	3,560	2,820
9	1,350	1,260	1,860	724	1,370	1,880	880	2,010	2,690	3,300	3,560	2,160
10	1,350	1,280	1,550	854	1,440	1,820	989	1,520	2,570	3,560	3,430	1,850
11	1,370	1,470	873	1,580	1,590	1,410	1,580	1,750	1,790	3,820	3,690	1,960
12	1,680	1,470	732	1,870	1,030	939	1,690	1,500	2,950	3,950	2,650	2,850
13	1,470	1,580	905	1,760	905	1,220	1,820	1,450	2,770	3,950	2,280	3,300
14	1,470	1,180	1,900	1,290	1,420	1,230	1,630	1,220	3,060	3,760	1,860	2,930
15	1,370	1,200	1,500	875	1,560	1,580	1,520	1,600	2,780	3,130	2,810	3,240
16	1,370	1,310	1,560	804	1,340	1,320	939	2,840	2,620	3,090	2,750	3,560
17	1,420	1,160	1,670	817	1,290	990	1,280	2,550	3,000	3,380	2,930	3,110
18	1,450	1,150	1,070	1,580	1,820	948	1,790	2,700	1,960	3,300	3,170	3,080
19	1,900	1,120	1,140	1,500	1,540	930	1,610	2,670	2,830	3,560	3,020	3,660
20	1,850	812	1,420	1,230	1,050	922	1,180	2,320	3,430	3,690	2,260	3,690
21	1,790	820	1,240	1,550	1,780	1,080	1,320	2,800	3,430	3,690	2,860	3,950
22	1,590	932	1,910	1,170	1,670	1,370	1,420	2,600	3,020	3,060	3,330	3,680
23	1,710	1,030	1,870	908	1,630	1,080	1,030	2,550	3,150	2,470	2,930	3,260
24	1,430	1,100	1,390	1,240	1,540	948	740	2,160	3,430	3,240	3,240	2,630
25	1,460	914	854	1,520	2,410	973	1,210	2,560	2,690	3,690	3,500	2,630
26	1,570	1,640	732	1,760	1,530	896	1,560	3,240	2,700	3,690	2,990	3,430
27	1,690	1,350	1,220	1,220	1,200	990	1,330	2,870	3,690	3,690	2,420	3,300
28	1,780	698	888	1,370	1,720	1,270	1,470	1,540	2,960	3,690	2,740	3,050
29	1,820	905	1,200	1,560	1,840	1,020	1,820	2,590	2,640	3,300	2,750	2,570
30	1,910	1,200	1,350	989	-	905	1,160	3,170	2,750	3,050	2,900	2,400
31	1,850	-	1,450	901	-	880	-	2,840	-	3,430	3,170	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	42,820	1,910	716	1,381	84,930
November	38,991	2,180	812	1,500	77,340
December	41,485	2,030	732	1,338	82,380
Calendar year 1943	715,162	3,780	684	1,984	1,414,000
January	36,258	2,060	724	1,234	75,880
February	41,808	2,410	905	1,442	82,920
March	36,581	2,150	880	1,245	76,520
April	36,962	1,620	740	1,232	73,310
May	59,553	3,240	820	1,921	118,106
June	81,310	3,690	1,180	2,710	161,300
July	98,140	3,950	1,740	3,186	194,700
August	95,260	3,820	1,860	3,073	188,900
September	68,850	3,950	1,650	2,962	178,200
Water year 1943-44	702,018	3,950	716	1,918	1,392,000

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Colorado River at Smithville, Tex.

Location.- Water-stage recorder, lat. 30°01', long. 97°10', 1,200 feet upstream from bridge on State Highway 71 at Smithville, Bastrop County, and 3.7 miles downstream from Alum Creek. Datum of gage is 270.14 feet above mean sea level, datum of 1929.

Drainage area.- 39,650 square miles, of which 11,800 square miles is probably noncontributing.

Records available.- July 1930 to September 1944. U. S. Weather Bureau has collected gage-height records in this vicinity since 1920.

Average discharge.- 14 years, 3,502 second-feet.

Extremes.- Maximum discharge during year, 12,900 second-feet Feb. 26 (gage height, 9.50 feet); minimum, 694 second-feet (regulated) Oct. 6-8 (gage height, 2.54 feet).

1930-44: Maximum discharge, 305,000 second-feet June 16, 1935 (gage height, 42.5 feet, from floodmarks), by slope-area method; minimum, 76 second-feet Nov. 2, 1934.

Maximum stage known, about 47.4 feet Dec. 4, 1913, from information by local residents.

Remarks.- Records good. Many diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	1,880	836	1,560	1,330	2,460	1,110	2,070	3,160	2,740	3,520	3,450
2	903	1,680	1,060	2,340	1,260	2,200	1,100	3,300	3,450	2,670	3,840	2,460
3	775	2,070	1,440	2,400	1,540	2,140	1,070	4,180	2,740	2,260	3,920	2,460
4	736	2,070	1,300	1,080	1,740	2,600	1,020	1,560	2,740	2,200	3,760	2,810
5	708	2,070	1,500	869	1,500	1,940	990	1,740	2,140	2,600	3,920	2,070
6	701	1,740	960	1,020	1,440	1,360	990	1,680	1,960	1,940	3,840	2,530
7	694	1,880	810	1,360	1,170	1,200	1,200	1,070	5,650	2,000	3,300	5,100
8	694	1,370	1,500	1,630	960	1,310	1,280	1,110	3,680	2,880	3,230	4,490
9	736	1,010	1,960	2,200	1,580	1,330	1,180	2,600	3,260	2,950	3,600	2,740
10	1,040	1,040	1,660	1,330	1,680	1,680	1,180	7,470	2,680	3,230	3,680	2,400
11	1,230	1,180	1,860	869	1,540	2,140	950	2,290	3,090	3,380	3,500	2,070
12	1,180	1,170	1,460	1,130	1,490	1,680	1,300	1,680	2,400	3,760	3,760	1,680
13	1,460	1,280	869	2,200	1,520	1,410	1,620	1,880	2,670	3,840	3,160	2,260
14	1,560	1,380	776	3,230	1,910	1,170	1,560	1,560	3,090	3,840	2,600	2,880
15	1,290	1,440	1,120	2,140	2,530	1,450	1,620	1,460	3,160	3,840	2,140	2,810
16	1,420	1,060	1,810	2,000	1,680	4,490	1,620	1,070	3,090	3,300	2,670	2,950
17	1,260	1,190	1,460	2,070	1,610	3,130	1,350	2,070	2,810	3,450	2,670	3,160
18	1,230	1,120	1,490	1,680	1,420	1,680	1,030	2,530	3,020	3,090	2,950	3,230
19	1,420	1,030	1,500	1,330	1,330	1,680	1,500	2,670	2,810	3,460	3,020	2,740
20	1,500	1,030	1,140	1,620	1,610	2,140	1,680	2,950	2,260	3,760	3,090	3,230
21	1,610	940	1,280	1,560	1,340	1,360	1,510	2,740	3,160	3,840	2,460	3,450
22	1,680	767	1,210	1,410	1,290	2,210	1,310	2,330	3,300	3,920	2,800	3,760
23	1,620	776	1,560	1,420	1,230	6,140	1,350	2,440	3,230	3,620	2,950	3,840
24	1,540	940	2,000	1,210	1,680	2,410	1,440	2,950	3,090	3,090	3,090	3,520
25	1,560	920	1,610	950	2,460	1,500	894	2,460	3,380	3,090	3,020	2,880
26	1,240	940	1,380	1,560	9,800	1,370	860	3,120	3,160	3,760	3,020	2,600
27	1,440	903	920	1,610	3,680	1,260	1,440	6,400	2,530	3,840	3,090	3,300
28	1,560	1,560	960	1,880	2,200	1,200	1,440	4,240	3,300	3,840	2,740	3,520
29	1,680	1,180	1,250	3,530	2,880	1,260	1,430	4,170	3,160	3,920	2,330	3,230
30	1,740	818	960	6,930	-	1,410	1,560	2,460	2,880	3,600	3,450	2,950
31	1,610	-	1,350	2,320	-	1,140	-	3,460	-	3,160	4,240	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	39,268	1,810	694	1,267	77,890
November.....	36,424	2,070	767	1,261	76,210
December.....	40,590	2,000	776	1,519	81,100
Calendar year 1943 .....	705,368	5,200	673	1,933	1,399,000
January.....	58,628	6,930	869	1,891	116,300
February.....	57,300	9,800	960	1,976	113,700
March.....	60,660	6,140	1,140	1,956	120,300
April.....	36,554	1,660	860	1,266	76,470
May.....	53,600	7,470	1,070	2,697	165,300
June.....	91,240	5,650	1,960	3,041	181,000
July.....	100,760	3,920	1,940	3,250	199,900
August.....	98,840	4,240	2,140	3,188	196,000
September.....	90,770	5,100	1,880	3,026	180,000
Water year 1943-44 .....	798,924	9,800	694	2,183	1,686,000

Peak discharge.- Jan. 30 (7:30 a.m.) 9,820 sec.-ft.; Feb. 26 (11 a.m.) 12,900 sec.-ft.; May 10 (7 a.m.) 10,400 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Colorado River at La Grange, Tex.

Location.- Wire-weight gage, lat. 29°53'45", long. 96°52'15", at bridge on U. S. Highway 77 in La Grange, Fayette County, 1.2 miles downstream from Buckner Creek. Datum of gage is 211.23 feet above mean sea level, datum of 1929.

Drainage area.- 40,200 square miles, of which 11,800 square miles is probably noncontributing.

Records available.- July and August 1938 (flood, discharge measurements only), November 1938 to September 1944.

Extremes.- Maximum discharge observed during year, 12,200 second-feet Aug. 31 (gage height, 8.36 feet); minimum observed, 699 second-feet (regulated) Oct. 7 (gage height, 0.90 foot).

1938-44: Maximum discharge observed, 182,000 second-feet June 30, 1940 (gage height, 40.18 feet); minimum observed, 430 second-feet (regulated) Mar. 7, 1940.

Maximum stage known, about 56.7 feet probably July 9, 1869 (from marble high-water marker in La Grange). Data on other floods as follows: Dec. 5, 1913, stage 56.4 feet, from floodmarks; June 17, 1935, stage 50.84 feet, from floodmarks (discharge, 255,000 second-feet from rating curve extended as a straight line above 200,000 second-feet); July 27, 1938, stage 42.95 feet, observed (discharge, 200,000 second-feet).

Remarks.- Records good. Gage read twice daily. Diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2,000	1,730	914	1,400	2,390	3,260	1,360	1,730	3,580	2,750	3,260	4,510
2	1,120	1,780	907	1,830	1,730	2,630	1,280	3,220	3,120	2,750	3,720	3,450
3	970	1,830	1,200	2,520	1,630	2,510	1,240	5,730	3,000	3,000	4,000	2,510
4	866	1,940	1,400	1,980	1,850	2,630	1,240	3,160	2,750	2,210	4,000	2,870
5	800	1,890	1,400	1,160	1,830	2,690	1,160	1,890	2,630	2,330	3,860	3,000
6	780	1,780	1,320	1,000	1,680	1,940	1,160	2,040	2,210	2,270	4,000	3,450
7	754	1,580	1,000	1,280	1,540	1,540	1,200	1,630	3,010	1,940	4,000	3,800
8	774	1,580	921	1,400	1,360	1,580	1,320	1,440	5,820	2,270	4,000	7,770
9	787	1,320	1,540	1,850	1,240	1,580	1,830	3,300	3,320	2,750	3,040	4,360
10	839	1,000	1,680	1,880	1,880	1,730	1,360	6,810	3,060	2,760	3,580	2,870
11	1,120	1,040	1,540	1,370	1,780	2,100	1,240	6,310	2,810	3,190	3,720	2,510
12	1,240	1,160	1,630	1,040	1,730	2,390	1,080	2,220	3,000	3,450	3,580	2,160
13	1,320	1,200	1,360	2,280	1,680	2,100	1,490	1,990	2,390	3,860	3,720	2,210
14	1,490	1,240	935	3,260	3,740	1,540	1,680	1,830	3,060	3,720	2,930	2,750
15	1,540	1,360	928	3,060	3,720	1,750	1,580	1,680	3,000	3,860	2,570	3,060
16	1,400	1,320	1,380	2,390	2,820	5,820	1,630	1,540	3,120	3,720	2,040	2,930
17	1,360	1,080	1,580	2,210	2,100	6,140	1,630	1,320	3,000	3,260	2,750	3,120
18	1,320	1,200	1,360	2,210	1,680	3,000	1,560	2,370	2,750	3,260	2,750	3,450
19	1,280	1,120	1,490	1,640	1,680	2,810	1,280	2,610	3,320	3,320	2,930	3,060
20	1,400	1,000	1,360	1,440	1,630	2,810	1,630	3,150	2,690	3,580	3,000	3,060
21	1,580	1,000	1,240	1,630	1,830	2,330	1,730	3,190	2,330	3,860	2,930	3,450
22	1,680	935	1,400	1,490	1,490	2,210	1,490	3,000	3,000	4,000	2,270	3,720
23	1,580	826	1,400	1,400	1,940	6,210	1,400	3,300	3,320	4,000	2,330	4,150
24	1,540	813	1,780	1,320	2,100	5,740	1,440	3,180	3,000	3,580	3,000	3,860
25	1,640	970	2,160	1,160	2,210	2,400	1,360	2,630	3,120	3,000	3,060	3,450
26	1,440	1,000	1,680	1,160	6,840	1,780	1,040	2,510	3,320	3,320	3,000	2,810
27	1,280	1,000	1,360	1,780	8,460	1,580	1,080	5,400	2,810	3,860	3,000	2,930
28	1,400	1,080	1,080	2,110	3,700	1,580	1,640	6,270	2,580	3,860	2,930	3,580
29	1,540	1,360	1,000	7,080	3,000	2,270	1,400	5,400	3,450	4,000	2,690	3,450
30	1,630	1,120	1,120	9,400	-	1,580	1,490	4,020	3,000	4,000	3,900	3,320
31	1,630	-	1,080	5,240	-	1,490	-	3,260	-	3,580	9,500	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	38,999	1,680	754	1,258	77,350
November.....	38,244	1,940	813	1,275	75,860
December.....	41,145	2,160	907	1,327	81,610
Calendar year 1943 .....	727,462	5,760	742	1,993	1,443,000
January.....	70,770	9,400	1,000	2,283	140,400
February.....	71,440	8,460	1,240	2,463	141,700
March.....	81,720	6,210	1,490	2,636	162,100
April.....	41,720	1,830	1,040	1,391	82,750
May.....	98,050	6,810	1,320	3,163	194,500
June.....	91,100	5,820	2,210	3,037	180,700
July.....	101,300	4,000	1,940	3,268	200,900
August.....	106,060	9,500	2,040	3,421	210,400
September.....	101,620	7,770	2,160	3,337	201,600
Water year 1943-44 .....	882,168	9,500	754	2,410	1,750,000

a No gage-height record; discharge estimated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Colorado River at Columbus, Tex.

**Location.**— Water-stage recorder, lat. 29°42'20", long. 96°32'05", at bridge on U. S. Highway 90 at eastern edge of Columbus, Colorado County, 340 feet downstream from Texas & New Orleans Railroad bridge and 2.6 miles downstream from Cummins Creek.

**Datum of gage** is 155.52 feet above mean sea level, datum of 1929.

**Drainage area.**— 40,840 square miles, of which 11,800 square miles is probably noncontributing.

**Records available.**— January 1903 to December 1911, May 1916 to November 1930, May 1939 to September 1944. September 1930 to June 1939 at site near Eagle Lake, 23 miles downstream. U. S. Weather Bureau has collected gage-height records in this vicinity since 1903.

**Average discharge.**— 28 years, (1904-11, 1916-30, 1939-44), 3,317 second-feet.

**Extremes.**— Maximum discharge during year, 17,100 second-feet May 28 (gage height, 12.15 feet); minimum, 800 second-feet (regulated) Oct. 8, 9 (gage height, 3.16 feet).

1903-11, 1916-30, 1939-44: Maximum discharge, 152,000 second-feet July 1, 1940 (gage height, 36.2 feet); minimum observed, about 80 second-feet Sept. 9, 10, 1910.

Maximum stage known, 41.6 feet, present datum, in July 1889 and on Dec. 6, 1912, from information by local resident. River divided each time and left Columbus on an island. Data on other floods as follows: June 18, 1935, observed stage, 38.5 feet, present datum, furnished by U. S. Weather Bureau (discharge, 190,000 second-feet, computed on basis of records for station near Eagle Lake, 23 miles downstream); July 29, 1936, observed stage, 38.4 feet, present datum, furnished by U. S. Weather Bureau (discharge, 175,000 second-feet, 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.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,060	1,760	1,200	1,230	3,550	2,760	1,620	1,580	3,250	2,810	3,470	7,440
2	1,060	1,880	980	3,480	2,020	2,700	1,600	2,060	3,360	2,760	3,360	4,060
3	1,120	1,800	1,190	2,450	1,750	2,350	1,460	3,140	3,360	2,700	3,580	3,140
4	980	1,800	1,920	2,600	1,750	2,200	1,420	4,870	3,140	2,760	3,810	2,660
5	890	2,060	1,460	1,700	1,930	2,450	1,340	2,520	2,760	2,200	3,810	2,920
6	832	2,020	1,500	1,230	1,880	2,250	1,310	1,880	2,600	2,460	3,810	2,920
7	806	1,840	1,310	1,270	1,840	1,700	1,270	1,880	2,060	2,110	3,810	3,930
8	806	1,750	1,060	1,700	1,700	1,500	1,340	1,500	3,580	2,980	3,810	4,370
9	806	1,580	1,060	1,580	1,660	1,500	1,660	2,190	4,520	2,400	3,140	6,710
10	812	1,340	2,660	1,930	1,620	1,540	1,800	4,660	3,810	2,760	3,470	3,470
11	890	1,080	2,720	1,750	2,060	1,660	1,500	6,790	2,920	3,030	3,580	2,810
12	1,160	1,200	1,800	1,380	1,840	1,980	1,340	3,800	3,030	3,250	3,580	2,400
13	1,310	1,250	1,620	4,820	1,750	1,980	1,270	2,020	2,810	3,580	3,580	2,110
14	1,340	1,310	1,310	5,090	6,580	1,750	1,620	1,880	2,400	3,810	3,470	2,200
15	1,540	1,380	1,020	3,930	5,470	2,710	1,700	1,760	3,030	3,810	2,810	2,660
16	1,460	1,540	910	3,030	3,470	10,700	1,680	1,620	3,030	3,810	2,550	2,920
17	1,340	1,340	1,420	2,500	2,500	6,800	1,700	1,460	3,140	3,580	2,450	2,810
18	1,380	1,160	1,800	2,200	2,110	4,880	1,660	1,460	2,980	3,140	2,810	3,080
19	1,340	1,230	1,380	2,110	1,840	5,020	1,340	2,260	2,810	3,140	2,810	3,260
20	1,540	1,160	1,500	1,680	1,750	9,250	1,340	2,400	2,920	3,470	2,920	2,810
21	1,460	1,120	1,310	1,580	1,980	2,760	1,700	2,920	2,400	3,580	3,030	3,030
22	1,620	1,120	1,200	1,660	1,800	3,250	1,660	3,030	2,550	3,810	2,920	3,260
23	1,700	1,020	1,380	1,540	1,660	4,080	1,500	3,690	3,140	3,810	2,450	3,580
24	1,620	890	1,340	1,540	2,020	6,600	1,420	2,940	3,250	3,810	2,700	3,690
25	1,540	890	1,840	3,160	2,280	3,890	1,460	3,030	3,030	3,360	3,030	3,470
26	1,540	1,020	1,880	1,980	3,320	2,200	1,340	2,600	3,030	3,030	3,030	3,140
27	1,420	1,120	2,060	2,680	8,880	1,840	1,050	2,450	3,140	3,470	3,030	2,760
28	1,380	1,270	2,610	2,500	5,260	1,700	1,200	11,600	2,660	3,810	3,140	3,030
29	1,600	1,340	1,340	7,990	3,360	2,780	1,600	6,160	2,810	3,810	3,030	3,360
30	1,580	1,460	1,230	9,680	-	2,060	1,460	5,070	2,250	3,810	2,920	3,260
31	1,700	-	1,230	7,300	-	1,700	-	3,250	-	3,810	10,200	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	39,312	1,700	806	1,268	77,970
November.....	41,700	2,060	890	1,390	82,710
December.....	46,910	2,720	910	1,513	93,040
Calendar year 1943	774,077	7,220	806	2,121	1,535,000
January.....	89,170	9,680	1,230	2,876	176,900
February.....	79,620	8,880	1,620	2,746	157,900
March.....	94,310	10,700	1,600	3,042	187,100
April.....	44,140	1,800	1,050	1,471	87,650
May.....	98,350	11,600	1,460	3,173	195,100
June.....	90,710	4,520	2,060	3,024	179,900
July.....	99,990	3,810	1,980	3,225	198,500
August.....	106,110	10,200	2,450	3,423	210,500
September.....	101,180	7,440	2,110	3,372	200,600
Water year 1943-44	931,472	11,600	806	2,545	1,846,000

**Peak discharge.**— Jan. 29 (10 p.m.) 13,400 sec.-ft.; Feb. 27 (1 p.m.) 9,960 sec.-ft.; Mar. 16

(5 a.m.) 12,500 sec.-ft.; May 28 (8 a.m.) 17,100 sec.-ft.; Aug. 31 (2:50 p.m.) 12,500 sec.-ft.

**g** Computed from graph based on once-daily readings of wire-weight gage furnished by U. S. Weather Bureau.

**Time basis:** Central war time. To convert war time to standard time, subtract 1 hour.



## Colorado River at Wharton, Tex.

Location.- Wire-weight gage, lat. 29°18'30", long. 96°06'15", at bridge on U. S. Highway 96 in Wharton, Wharton County, 1,000 feet downstream from Texas & New Orleans Railroad bridge and 12 miles upstream from Jones Creek. Datum of gage is 65.42 feet above mean sea level, datum of 1929.

Drainage area.- 41,150 square miles, of which 11,800 square miles is probably noncontributing.

Records available.- July 1916 to September 1925, July and August 1938 (flood, discharge measurements only), October 1938 to September 1944. U. S. Weather Bureau has collected gage-height records in this vicinity since 1935.

Average discharge.- 11 years (1919-21, 1922-25, 1938-44), 3,589 second-feet.

Extremes.- Maximum discharge observed during year, 19,700 second-feet Mar. 17 (gage height, 14.96 feet); minimum observed, 730 second-feet (regulated) Oct. 8 (gage height, 1.85 feet).

1919-25, 1938-44: Maximum discharge observed, 100,000 second-feet July 3, 1940 (gage height, 35.99 feet); no flow Aug. 6, 1925 (affected by pumping).

Maximum stage known, 36.9 feet, present datum, Dec. 8, 1913, 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 36.2 feet, present datum (discharge, 159,000 second-feet, from rating curve extended above 145,000 second-feet), furnished by U. S. Weather Bureau. Flood of July 30, 1938, reached a stage of 37.4 feet, present datum, observed by Geological Survey engineers (discharge, 145,000 second-feet).

Remarks.- Records good except those for periods of no gage-height record, which are poor. Gage read twice daily. Diversions above station for irrigation and municipal supply. Regulation same as that for Colorado River at Austin. Records of water analyses for the 1944 water year are given in Water-Supply Paper 1022.

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

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	982	1,700	1,580	2,000	6,840	3,670	2,040	1,700	3,580	2,480	2,750	6,980
2	982	2,390	1,270	2,660	4,350	3,200	2,040	2,210	3,110	2,300	2,390	5,470
3	982	2,300	1,200	4,460	3,020	3,200	1,980	2,390	3,200	2,390	2,040	3,960
4	1,020	1,960	1,200	3,480	2,480	2,750	1,700	3,540	3,020	a2,840	a2,080	3,290
5	1,020	1,960	2,090	3,200	2,210	2,820	1,540	4,850	2,840	2,660	2,750	2,840
6	885	2,080	1,700	2,570	2,280	2,780	1,480	3,390	2,300	1,960	2,750	3,020
7	796	2,080	1,500	1,910	2,210	2,750	1,380	2,210	1,960	1,780	2,660	3,480
8	748	2,000	1,380	1,830	1,910	2,040	1,420	2,080	1,660	1,780	2,840	3,860
9	772	1,830	1,160	1,830	1,830	1,740	1,460	2,000	1,620	1,350	2,750	4,150
10	852	1,740	1,160	1,780	1,830	1,830	1,700	2,510	3,860	1,420	2,170	6,150
11	808	1,460	2,170	1,830	1,780	2,300	2,170	4,650	2,930	1,960	2,390	3,760
12	852	1,200	3,290	2,080	1,960	2,040	1,620	5,700	2,660	2,080	2,570	2,840
13	1,060	1,270	2,170	2,930	1,870	2,170	1,800	4,060	2,660	2,390	2,660	2,300
14	1,240	1,200	2,000	3,670	1,960	2,260	1,850	2,480	2,670	2,670	2,660	2,000
15	1,310	1,270	1,780	4,850	5,340	2,280	1,540	2,080	2,210	2,930	2,670	1,620
16	1,460	1,660	1,380	4,350	4,650	14,300	1,830	2,120	2,480	a2,930	2,080	1,740
17	1,500	1,700	1,200	3,670	3,670	14,400	1,780	1,830	2,390	2,930	1,870	2,040
18	1,380	1,580	1,420	3,110	2,930	7,550	1,830	1,660	a2,390	2,750	1,600	2,820
19	1,420	1,270	1,780	2,840	2,750	8,820	1,780	1,540	2,260	2,480	1,830	2,390
20	1,350	1,270	1,700	2,750	2,170	6,840	1,540	2,570	2,210	2,390	1,780	2,670
21	1,350	1,200	1,740	2,170	a2,170	4,550	1,350	a4,350	2,260	2,300	1,910	a2,670
22	1,800	1,200	1,700	2,000	2,210	3,860	1,540	a5,050	1,870	2,670	2,080	2,480
23	1,680	1,160	1,540	2,080	2,280	3,680	1,700	5,150	1,700	2,840	1,960	a2,840
24	1,700	1,120	1,700	1,960	1,960	3,860	1,660	4,250	2,170	2,930	1,680	3,390
25	1,700	982	1,740	3,960	2,120	6,060	1,460	3,960	2,120	2,750	1,620	3,480
26	1,580	982	1,870	4,750	2,750	4,450	1,500	3,200	2,000	2,390	2,170	3,480
27	1,600	1,080	2,170	3,290	4,310	3,020	1,460	3,110	2,040	2,080	2,280	2,480
28	1,540	1,460	3,860	3,290	7,120	2,570	1,120	4,480	2,210	2,300	2,800	3,110
29	1,350	1,540	3,760	4,780	5,050	2,260	1,160	11,400	2,040	2,660	2,390	3,800
30	1,540	1,350	2,170	10,600	-	2,660	1,350	5,940	1,910	2,660	2,670	3,580
31	1,620	-	1,740	8,650	-	2,750	-	4,750	-	2,840	3,460	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	38,369	1,700	748	1,238	76,100
November.....	45,994	2,390	982	1,535	91,230
December.....	57,110	3,860	1,160	1,842	115,300
Calendar year 1943.....	758,919	6,840	-	2,079	1,605,000
January.....	105,300	10,600	1,780	3,397	308,900
February.....	87,670	7,120	1,780	3,030	174,500
March.....	129,010	14,400	1,740	4,162	255,900
April.....	47,940	2,170	1,120	1,598	96,090
May.....	111,220	11,400	1,540	3,588	320,600
June.....	72,250	3,860	1,620	2,406	145,300
July.....	74,690	2,930	1,550	2,409	149,100
August.....	71,470	3,680	1,600	2,308	141,800
September.....	96,890	6,980	1,620	3,250	198,800
Water year 1943-44.....	938,093	14,400	748	2,563	1,861,000

a No gage-height record; discharge computed on basis of records for station at Columbus.  
Time Basis: Central war time. To convert war time to standard times, subtract 1 hour.

## Elm Creek at Ballinger, Tex.

Location.- Water-stage recorder upstream from spillway of masonry dam, lat.  $31^{\circ}45'00''$ , long.  $99^{\circ}56'50''$ , in Ballinger, Runnels County, and  $1\frac{1}{2}$  miles upstream from mouth. Datum of gage is 1,617.72 feet above mean sea level, datum of 1929.

Drainage area.- 458 square miles.

Records available.- April 1932 to September 1944.

Average discharge.- 12 years, 60.5 second-feet.

Extremes.- Maximum discharge during year, 3,540 second-feet Aug. 18 (gage height, 5.88 feet); no flow at times.

1932-44: Maximum discharge, about 26,100 second-feet Sept. 3, 1935 (gage height, 10.30 feet, from floodmarks, probably slightly affected by backwater from Colorado River), from rating curve extended in a straight line above 15,000 second-feet; no flow at times.

Remarks.- Records good except those below 100 second-feet, which are poor. Stage-discharge relation affected below about 100 second-feet by wind action and occasional accumulation of drift on dam. Low flow affected by diversion of Ballinger city pumping plant.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet) (Shifting-control method used May 24 to June 4, Sept. 7-13)

3.80	0	3.88	4.5	4.00	74	4.30	410
3.82	.2	3.89	7.0	4.03	99	4.4	544
3.84	.6	3.90	11	4.06	127	4.6	843
3.85	1.0	3.92	21	4.10	169	4.8	1,186
3.86	1.5	3.94	35	4.15	224		
3.87	2.5	3.97	52	4.20	284		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	27		0	11	0	0	45
2					0	7.0		400	4.5	0	0	11
3					0	1.5		68	1.0	388	0	4.5
4					0	.1		11	.4	60	0	1.5
5					0	.1		1.5	.1	2.5	0	283
6					0	0		1.0	0	.6	0	137
7					0	0		1.0	0	0	0	21
8					0	0		.1	0	0	0	2.5
9					0	0		0	0	0	0	1.0
10					0	0		0	0	0	0	.4
11					0	0		0	0	0	0	.2
12					0	0		0	0	0	0	.4
13					0	0		0	0	0	0	.2
14					0	0		0	0	0	0	0
15					0	0		0	0	0	0	0
16					0	47		0	0	0	0	0
17					0	2.5		0	0	0	0	0
18					0	1.0		0	0	0	1,080	0
19					0	0		0	0	0	108	0
20					0	.8		0	0	0	16	0
21					0	.4		339	0	0	2.5	0
22					0	.1		432	0	0	.5	0
23					0	0		206	0	0	0	0
24					0	0		45	0	0	0	0
25					0	0		33	0	0	0	0
26					0	0		108	0	0	44	0
27					0	0		33	0	0	66	0
28					436	0		27	0	0	176	0
29					230	0		272	0	0	52	0
30					-	0		124	0	0	27	0
31					-	0		21	-	0	274	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943.....	1,140.4	231	0	3.12	2,260
January.....	0	0	0	0	0
February.....	666	436	0	23.0	1,320
March.....	87.5	47	0	2.82	174
April.....	0	0	0	0	0
May.....	2,122.6	432	0	68.5	4,210
June.....	17.0	11	0	.57	34
July.....	451.1	388	0	14.6	895
August.....	1,846.0	1,080	0	59.5	3,660
September.....	507.7	283	0	16.9	1,010
Water year 1943-44.....	5,697.9	1,080	0	15.6	11,300

Peak discharge.- May 21 (5 a.m.) 1,080 sec.-ft.; July 3 (10 a.m.) 1,180 sec.-ft.; Aug. 18 (10:30 a.m.) 3,540 sec.-ft.; Sept. 5 (8 p.m.) 1,570 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## South Concho River at Christoval, Tex.

Location.- Water-stage recorder and concrete control, lat.  $31^{\circ}13'$ , long.  $100^{\circ}30'$ , at Panhandle & Santa Fe Railway bridge at Christoval, Tom Green County. Datum of gage is 2,010.22 feet above mean sea level, datum of 1929.

Drainage area.- 434 square miles.

Records available.- February 1930 to September 1944.

Average discharge.- 14 years, 52.5 second-feet.

Extremes.- Maximum discharge during year, 24 second-feet Jan. 1 (gage height, 2.01 feet); minimum, 5.0 second-feet Aug. 16, 17 (gage height, 1.80 feet).

1930-44: Maximum discharge, 100,000 second-feet July 23, 1938 (gage height, 21.95 feet, from floodmarks), from rating curve extended above 9,000 second-feet on basis of slope-area determination at gage height 20.5 feet; minimum, 2.1 second-feet July 17-19, 28-29, Aug. 6 to Sept. 5, 1934.

Flood of Aug. 6, 1906, reached a stage about 1.1 feet higher than flood of July 23, 1938, at a point 0.5 mile downstream from gage, from information by local residents.

Remarks.- Records excellent except those for periods of no gage-height record, which are good. Low flow materially affected by diversion 600 feet above station to South Concho Irrigation Co.'s canal (see p. 125).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8.5	10	11	18	20	18	18	12	12	11	6.7	6.2
2	8.5	10	11	16	20	18	18	11	12	11	6.7	5.8
3	8.5	10	11	14	20	18	18	12	12	11	6.7	5.8
4	8.5	10	11	14	20	18	18	12	12	11	6.7	6.2
5	8.5	10	13	16	20	18	18	12	12	11	6.7	6.2
6	8.5	10	11	16	20	18	18	12	12	9.7	6.7	9.1
7	8.5	10	11	16	20	18	20	12	a12	9.7	6.7	7.3
8	8.5	10	11	16	21	18	20	13	a12	9.7	6.7	7.3
9	9.1	9.7	11	16	20	18	20	13	a12	9.7	6.2	7.3
10	9.1	9.7	10	16	20	20	20	13	a12	9.7	6.2	7.9
11	9.1	9.7	10	16	18	18	20	13	a12	9.7	6.2	7.9
12	9.1	9.7	10	17	18	20	20	13	a12	10	6.7	7.9
13	9.1	10	9.7	17	20	20	20	13	a12	10	6.7	7.9
14	9.1	10	9.7	17	20	20	20	13	a12	9.7	6.2	7.9
15	9.7	10	9.7	17	20	20	20	12	a12	9.7	5.8	7.9
16	9.7	10	9.7	17	20	20	20	12	a12	9.7	5.4	7.9
17	9.7	10	9.7	17	20	20	20	12	a12	9.7	5.4	7.9
18	9.7	10	10	17	20	20	20	12	a12	9.1	5.8	7.9
19	9.7	10	12	18	20	20	21	12	a12	9.1	5.8	7.9
20	9.7	10	14	18	20	20	21	13	a12	9.1	5.8	a7.9
21	9.7	10	14	18	18	20	20	13	a12	8.5	5.4	a7.3
22	10	10	16	18	18	20	17	14	a12	8.5	5.4	a7.3
23	10	10	16	18	18	20	16	12	a12	8.5	5.4	a7.3
24	10	11	17	18	18	21	16	12	a12	8.5	5.4	a7.3
25	10	11	16	18	18	21	16	12	a12	7.9	5.4	a7.3
26	10	12	16	20	18	20	13	12	a12	7.3	6.2	a7.3
27	9.7	12	16	20	20	20	13	13	a12	7.9	6.7	a7.3
28	9.7	12	16	20	20	21	13	13	a12	7.9	7.3	a7.3
29	10	11	14	20	18	20	13	13	12	7.3	6.2	a7.3
30	10	11	14	20	-	18	13	12	12	7.3	6.2	a7.3
31	9.7	-	14	20	-	18	-	12	-	6.7	6.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	289.6	10	8.5	9.34	574
November.....	308.8	12	9.7	10.3	612
December.....	384.5	17	9.7	12.4	765
Calendar year 1943 .....	5,485.1	44	7.3	15.0	10,890
January.....	539	20	14	17.4	1,070
February.....	563	21	18	19.4	1,120
March.....	599	21	18	19.3	1,190
April.....	540	21	13	18.0	1,070
May.....	385	14	11	12.4	764
June.....	360	12	12	12.0	714
July.....	285.6	11	6.7	9.21	566
August.....	191.6	7.3	5.4	6.18	380
September.....	221.1	9.1	5.8	7.57	439
Water year 1943-44 .....	4,667.2	21	5.4	12.8	9,260

a No gage-height record; discharge computed on basis of recorded range in stage and records for South Concho Irrigation Co.'s canal at Christoval.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Lake Nasworthy near San Angelo, Tex.

Location.- Water-stage recorder, lat. 31°23'15", long. 100°28'40", 250 feet upstream from Nasworthy Dam on South Concho River, half a mile downstream from Middle Concho River, and 6 miles southwest of San Angelo, Tom Green County. Datum of gage is 1,840.0 feet above mean sea level, datum of 1929.

Drainage area.- 2,659 square miles.

Records available.- March 1930 to September 1944.

Extremes.- Maximum contents during year, 9,900 acre-feet June 6 (gage height, 29.5 feet); minimum, 4,460 acre-feet Aug. 25, 26 (gage height, 24.2 feet).  
1930-44: Maximum contents, 26,900 acre-feet Sept. 15, 1936 (gage height, 38.36 feet); minimum contents since lake filled, 594 acre-feet Oct. 14, 1936 (gage height, 12.6 feet).

Remarks.- Lake is formed by 4,900-foot earthen dam (contains 2 emergency spillways, 300 and 800 feet in length) and 438-foot concrete service spillway, with a bank of 15 taintor gates. Dam completed and storage began Mar. 28, 1930. Total capacity, 10,740 acre-feet (gage height, 30.2 feet, top of taintor gates). Usable capacity, 10,740 acre-feet between gage heights -3.6 feet (bottom two 36-inch gates) and 30.2 feet (top of taintor gates). Figures of contents shown herein represent total contents of lake, and are unadjusted for siltation. A siltation survey made by the Soil Conservation Service of the U. S. Department of Agriculture, indicates a 10 percent capacity loss from siltation in 8.2 years (1930-39). Contents computed from gage heights at 12 p.m. Water used for San Angelo municipal supply.

Monthly gage height and contents, water year October 1943 to September 1944

Date	Gage height (feet)†	Contents (acre-feet)	Change in contents during month (acre-feet)
Sept. 30.....	26.1	6,110	-
Oct. 31.....	27.3	7,450	+1,320
Nov. 30.....	28.3	8,530	+1,100
Dec. 31.....	29.0	9,300	+770
Calendar year 1943.....	-	-	+1,320
Jan. 31.....	29.2	9,540	+240
Feb. 29.....	28.8	9,080	-460
Mar. 31.....	27.9	8,090	-990
Apr. 30.....	27.7	7,870	-220
May 31.....	28.4	8,840	+770
June 30.....	27.7	7,870	-770
July 31.....	25.8	6,820	-2,050
Aug. 31.....	24.5	4,700	-1,120
Sept. 30.....	27.5	7,650	+2,950
Water year 1943-44.....	-	-	+1,540

† Gage height at 12 p.m.  
time basis; Central war time. To convert war time to standard time, subtract 1 hour.

## South Concho River at San Angelo, Tex.

Location.- Water-stage recorder above spillway of San Angelo waterworks concrete dam, lat. 31°26'45", long. 100°25'30", at bridge on U. S. Highways 87 and 277, half a mile south of San Angelo, Tom Green County, and 1 mile upstream from confluence with North Concho River. Datum of gage is 1,802.94 feet above mean sea level, datum of 1929.

Drainage area.- 2,687 square miles, of which 152 square miles is probably noncontributing.

Records available.- October 1931 to September 1944.

Average discharge.- 13 years, 159 second-feet.

Extremes.- Maximum discharge during year, 12,900 second-feet Sept. 6 (gage height, 8.14 feet); no flow at times.

1931-44: Maximum discharge, 111,000 second-feet Sept. 17, 1936 (gage height, 23.4 feet, of which about 2.4 feet was caused by backwater from North Concho River) by slope-area method; no flow at times.

Maximum stage known, 29.7 feet Aug. 6, 1906 (not affected by backwater), from information by local residents.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Divisions above station for irrigation, municipal supply, and power. Flow partly regulated by reservoirs above station (combined capacity, about 11,200 acre-feet), the largest of which is Lake Nasworthy (capacity, 10,740 acre-feet), 6.5 miles above station (see p. 122).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.0	18	6.0	73	88	88	11	9.0	19	5.2	0	0.4
2	9.0	14	6.0	61	88	88	3.9	9.0	9.0	11	0	0.1
3	11	13	6.0	57	83	83	2.8	7.9	5.2	10	0	0
4	9.0	11	7.9	57	83	73	1.4	9.0	5.2	6.9	0	0
5	9.0	11	a30	61	83	78	1.0	9.0	5.8	4.5	0	0
6	9.0	9.0	a17	61	88	65	1.0	6.0	1,210	2.8	0	4,320
7	10	9.0	a16	61	88	69	1.4	7.9	28	1.4	2	2,280
8	11	10	a16	54	93	69	9	3.4	14	9	3.4	243
9	11	11	a16	57	88	73	1.7	6.9	10	2.8	2.8	137
10	13	11	a24	54	73	78	2.0	8.9	9.0	3.4	1.7	11
11	13	11	a19	54	69	78	8	6.0	10	1.4	1.2	7.9
12	14	11	a25	65	73	73	0	5.2	11	11	7	7.9
13	12	13	a51	69	73	73	0	5.2	6.9	7.9	3.4	10
14	11	10	51	65	73	73	0	7.9	6.9	3.4	2.8	10
15	7.9	4.5	57	61	69	65	0	5.2	5.2	1.2	2.0	6.9
16	7.9	1.7	61	61	78	69	0	3.9	3.9	2.8	1.3	1.2
17	11	2.0	57	57	78	89	0	2.8	3.4	3.4	6	8
18	10	1.7	54	54	78	73	5	2.0	5.2	2.8	11	3
19	10	1.7	48	54	78	65	40	6.0	3.4	1.0	13	0
20	6.9	2.8	48	54	78	65	2.7	9.0	1.4	4	11	0
21	8.0	a2.0	48	54	78	61	0	64	0	2	9.0	0
22	7.9	a2.0	48	57	73	87	0	25	0	3.1	6.9	0
23	9.0	a2.0	48	57	73	87	0	15	0	10	6.0	0
24	9.0	a2.0	54	61	73	64	0	13	11	14	6.0	0
25	11	a2.0	57	57	65	51	5	14	18	6.9	4.5	0
26	10	a15	65	61	73	57	9	28	10	3.4	17	0
27	10	a9.0	57	57	88	54	0	16	6.0	1.7	6.9	3.2
28	9.0	a9.0	57	57	88	54	0	32	6.0	7	5.2	7.9
29	10	a9.0	61	61	98	54	2	65	6.0	4	2.4	6.9
30	7.9	a8.0	57	73	-	48	3.6	61	6.0	4	1.4	7.9
31	7.9	-	57	83	-	46	-	51	-	1.3	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	304.4	14	6.9	9.82	604
November	256.4	18	1.7	7.88	469
December	1,224.9	65	6.0	32.5	2,430
Calendar year 1943	12,667.9	1,350	0	35.3	25,530
January	1,868	83	54	60.3	3,710
February	2,311	98	55	79.7	4,580
March	2,069	88	45	66.4	4,080
April	76.3	40	0	2.54	151
May	511.2	65	2.0	16.5	1,010
June	1,432.5	1,210	0	47.7	2,840
July	126.3	14	2	4.07	251
August	121.4	17	0	3.92	241
September	7,062.4	4,320	0	235	14,010
Water year 1943-44	17,353.8	4,320	0	47.4	34,380

Peak discharge.- June 6 (5:30 p.m.) 8,580 sec.-ft.; Sept. 6 (7:30 p.m.) 12,900 sec.-ft. A no gage-height record; discharge computed on basis of engineer's notes and records for Concho River near San Angelo.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Concho River near San Angelo, Tex.

Location.—Water-stage recorder, lat. 31°27'10", long. 100°24'40", half a mile downstream from confluence of North Concho and South Concho Rivers and 1½ miles southeast of San Angelo, Tom Green County. Datum of gage is 1,776.8 feet above mean sea level, datum of 1923.

Drainage area.—4,492 square miles, of which 275 square miles is probably noncontributing.

Records available.—September 1915 to September 1944.

Average discharge.—29 years, 190 second-feet.

Extremes.—Maximum discharge during year, 12,200 second-feet Sept. 6 (gage height, 13.97 feet); minimum, 1.4 second-feet July 30, Aug. 5 (gage height, 0.73 foot).  
1915-44: Maximum discharge, 230,000 second-feet Sept. 17, 1936 (gage height, 46.6 feet, from floodmarks), by slope-area method; no flow Nov. 29, 1921.  
Maximum stage known, 47.5 feet Aug. 6, 1906 (discharge, about 246,000 second-feet), from information by local residents.

Remarks.—Records good. Many diversions above station for irrigation and municipal supply. Flow partly regulated by reservoirs above station (combined capacity, about 11,400 acre-feet), the largest of which is Lake Nasworthy (capacity, 10,740 acre-feet). (See p. 122.)

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	27	11	94	83	75	21	178	25	7.6	1.7	2.5
2	13	57	8.7	66	81	75	9.2	142	14	9.8	1.5	2.1
3	14	17	9.8	61	79	75	7.6	30	10	12	1.7	1.9
4	13	17	11	61	79	75	4.1	19	9.2	6.5	1.7	1.8
5	12	16	33	61	79	75	4.1	17	8.7	6.1	1.5	1.7
6	12	13	19	61	79	68	4.1	13	1,430	4.9	1.7	4,540
7	12	11	17	60	81	68	4.5	14	464	3.7	1.8	2,490
8	12	12	17	57	84	68	4.1	9.8	86	2.5	3.7	272
9	12	14	17	58	81	72	4.1	11	48	2.5	5.3	159
10	13	13	25	57	79	72	5.3	12	30	4.9	5.7	20
11	14	13	20	57	79	72	3.3	11	23	3.3	3.7	14
12	15	13	26	61	79	70	2.4	11	22	8.7	2.3	11
13	14	15	53	61	79	70	1.9	10	16	9.2	3.3	10
14	13	13	53	61	77	70	2.1	12	14	4.9	4.5	8.7
15	10	7.0	53	66	77	68	2.1	11	12	2.9	3.7	5.7
16	9.8	2.9	53	65	77	68	1.9	7.6	9.8	2.5	2.4	3.3
17	12	2.3	53	61	77	68	2.0	7.6	7.0	4.9	2.0	2.5
18	13	2.3	53	60	77	67	1.9	6.1	7.0	3.3	32	2.3
19	13	2.3	54	60	77	73	40	13	7.0	2.5	14	2.3
20	9.8	2.0	53	60	77	68	10	14	4.5	2.0	13	2.0
21	8.7	2.4	53	60	77	65	2.4	102	2.5	1.5	11	2.0
22	9.8	2.9	53	60	77	61	2.4	43	2.0	2.4	7.0	1.9
23	11	2.9	54	61	75	61	1.9	24	1.9	8.2	6.5	2.0
24	11	2.9	57	61	75	61	1.8	19	9.6	16	5.7	1.8
25	14	2.9	55	60	75	58	1.8	19	17	11	5.7	1.8
26	13	16	55	65	73	60	3.3	73	13	5.3	27	2.0
27	13	10	57	65	83	55	1.9	24	8.7	2.9	25	8.2
28	11	9.8	55	65	95	67	1.7	38	7.0	2.0	16	10
29	12	9.8	55	65	75	55	2.9	61	7.0	1.7	7.0	10
30	11	9.2	56	70	-	53	4.9	63	7.0	1.5	5.3	9.2
31	11	-	54	79	-	50	-	55	-	1.9	5.3	-
Month						Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet		
October.....						375.1	15	8.7	12.1	744		
November.....						358.6	57	2.0	11.3	672		
December.....						1,242.5	57	8.7	40.1	2,460		
Calendar year 1943 .....						15,330.6	1,500	1.1	42.0	30,410		
January.....						1,959	94	57	63.2	3,890		
February.....						2,286	95	73	78.8	4,530		
March.....						2,051	75	50	66.2	4,070		
April.....						160.7	40	1.7	5.36	319		
May.....						1,070.1	178	6.1	34.5	2,120		
June.....						2,322.9	1,430	1.9	77.4	4,610		
July.....						159.1	16	1.5	5.13	516		
August.....						224.7	32	1.5	7.25	446		
September.....						7,601.7	4,540	1.7	253	15,080		
Water year 1943-44 .....						19,791.4	4,540	1.5	54.1	39,260		

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Concho River near Paint Rock, Tex.

Location.— Water-stage recorder above spillway of a masonry dam, lat.  $31^{\circ}31'$ , long.  $99^{\circ}55'$ , at bridge on U. S. Highway 83, a quarter of a mile north of Paint Rock, Concho County. Datum of gage is 1,574.43 feet above mean sea level, datum of 1929.

Drainage area.— 5,538 square miles, of which 275 square miles is probably noncontributing.

Records available.— September 1915 to September 1944.

Average discharge.— 29 years, 250 second-feet.

Extremes.— Maximum discharge during year, 13,200 second-feet Sept. 6 or 7 (gage height, 18.97 feet, from high-water mark in gage well); minimum, 0.1 second-foot July 20 to Aug. 18 (leakage through dam).

1915-44: Maximum discharge, 301,000 second-feet Sept. 17, 1936 (gage height, 43.4 feet, from floodmarks), by slope-area method; no flow at times.

Remarks.— Records good. Many diversions above station for irrigation and municipal supply. Flow partly regulated by reservoirs above station (combined capacity, about 11,400 acre-feet), largest of which is Lake Nasworthy (capacity, 10,740 acre-feet). (See p. 122.)

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	10	17	117	93	89	50	6.1	74	1.9	e.1	19
2	12	10	15	143	97	81	48	275	56	2.2	e.1	10
3	10	37	13	93	97	81	32	179	36	2.2	e.1	8.0
4	9.1	41	15	81	89	81	21	70	24	2.2	e.1	7.0
5	22	23	34	77	89	81	15	40	23	1.9	e.2	36
6	13	19	28	74	89	77	15	28	28	1.6	e.1	f3,080
7	13	15	45	81	89	74	13	25	1,500	1.7	e.1	f5,180
8	12	12	34	70	97	74	13	19	283	1.9	e.1	f1,080
9	9.1	13	28	70	93	77	13	202	136	1.9	e.1	304
10	9.1	12	32	70	89	81	10	50	77	1.7	e.1	212
11	10	12	28	70	85	85	8.0	26	53	1.7	e.1	85
12	10	12	32	74	85	81	8.0	19	40	2.4	e.1	45
13	10	15	30	89	85	81	7.0	17	34	1.7	e.1	34
14	12	15	33	85	85	77	7.0	15	28	1.4	e.1	30
15	13	17	63	81	85	107	4.6	12	24	1.2	e.1	23
16	12	17	63	77	85	102	4.6	10	21	.8	e.1	21
17	10	19	63	81	85	74	4.0	10	19	.7	e.1	17
18	9.1	15	63	81	85	74	4.0	10	17	.4	e.1	15
19	8.0	12	63	77	85	81	4.0	10	15	.2	75	13
20	6.1	10	63	74	85	81	3.5	9.1	12	e.1	60	12
21	5.3	7.0	63	74	89	77	3.5	15	9.1	e.1	24	10
22	7.0	5.3	60	74	89	74	3.1	284	6.1	e.1	17	8.0
23	8.0	5.3	60	74	85	70	2.4	212	4.6	e.1	13	6.1
24	6.1	3.8	70	74	85	63	2.6	77	4.0	e.1	10	4.6
25	5.3	3.5	74	74	85	63	2.8	45	3.5	e.1	8.0	4.6
26	5.3	8.0	70	74	85	60	2.6	30	3.1	e.1	90	4.6
27	7.0	10	70	77	89	60	2.2	618	2.6	e.1	422	4.6
28	8.0	10	67	81	164	56	3.5	549	1.9	e.1	229	5.3
29	10	23	67	77	106	53	7.0	554	1.9	e.1	92	5.3
30	10	21	70	77	77	56	5.3	93	1.7	e.1	75	6.1
31	9.1	-	70	77	-	56	-	81	-	e.1	36	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	293.6	13	5.3	9.47	582
November.....	432.9	41	3.5	14.4	859
December.....	1,503	74	13	48.5	2,980
Calendar year 1943 .....	17,183.9	1,540	.3	47.1	34,080
January.....	2,498	143	70	80.6	4,950
February.....	2,649	164	85	91.5	5,250
March.....	2,327	107	53	75.1	4,620
April.....	319.5	50	2.2	10.6	634
May.....	3,568.2	618	6.1	115	7,080
June.....	2,338.5	1,500	1.7	78.0	4,640
July.....	30.9	2.4	.1	1.00	61
August.....	1,152.8	422	.1	37.2	2,280
September.....	10,290.2	5,180	4.6	343	20,410
Water year 1943-44 .....	27,403.6	5,180	.1	74.9	54,360

e Discharge is estimated leakage through control dam.

f Computed on basis of partly estimated gage-height record.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## South Concho Irrigation Co.'s canal at Christoval, Tex.

Location.— Water-stage recorder, lat.  $31^{\circ}13'$ , long.  $100^{\circ}30'$ , at Christoval, Tom Green County, 85 feet downstream from point of diversion and 100 feet downstream from bridge on U. S. Highway 277. Datum of gage is 2,017.0 feet above mean sea level, datum of 1929.

Records available.— November 1939 to September 1944. (November 1921, February 1930 to September 1939, miscellaneous discharge measurements only.)

Extremes.— Maximum daily discharge during year, 18 second-feet Oct. 1-8, Sept. 6, 10-27; minimum daily, 6.8 second-feet Apr. 18.

1939-44: Maximum discharge, 92 second-feet Aug. 23, 1942 (gage height, 5.88 feet, from rating curve extended above 25 second-feet by logarithmic plotting; minimum, 2.3 second-feet Dec. 13, 1941.

Remarks.— Records good except those for period of no gage-height record, which are fair. No diversion above station. Canal diverts water for irrigation from right bank of South Concho River 600 feet above station at Christoval.

## COLORADO RIVER BASIN

Monthly discharge, in second-feet, of South Concho Irrigation Co.'s canal at Christoval, Tex.,  
water year October 1943 to September 1944

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	530	18	16	17.1	1,060
November.....	502	17	16	16.7	996
December.....	425.2	17	9.7	13.7	843
Calendar year 1943.....	5,564.1	21	7.5	16.2	11,020
January.....	300.3	10	9.4	9.69	596
February.....	287.8	9.8	8.6	9.23	531
March.....	268.5	10	7.6	8.66	533
April.....	244.0	9.5	6.8	8.13	484
May.....	354.1	14	9.3	11.4	702
June.....	365	14	11	12.2	724
July.....	405	14	12	13.1	803
August.....	487	17	14	15.7	966
September.....	525	18	16	17.5	1,040
Water year 1943-44.....	4,673.9	18	6.8	12.8	9,270

Middle Concho River near Tankersly, Tex.

Location.- Water-stage recorder and masonry control, lat. 31°22'35", long. 100°36'50", at Twelvemile Bridge, 3 miles northeast of Tankersly, Tom Green County, and 9½ miles upstream from Spring Creek. Datum of gage is 1,919.5 feet above mean sea level, datum of 1929.

Drainage area.- 1,280 square miles, of which 152 square miles is probably noncontributing. Records available.- February 1930 to September 1944.

Average discharge.- 14 years, 47.3 second-feet (10 years, 46.7; 11 years, 53.8; 12 years, 52.7; 13 years, 49.4 second-feet; figures published in Water-Supply Papers 898, 923, 958, and 978 are in error).

Extremes.- Maximum discharge during year, 8,700 second-feet Sept. 6 (gage height, 18.60 feet); no flow at times.

1930-44: Maximum discharge, about 35,000 second-feet Sept. 26, 1936 (gage height, 24.2 feet), computed on basis of flow over Nasworthy Dam, 12 miles downstream, corrected for inflow and storage; no flow at times.

Maximum stage known, about 27.2 feet in April 1922, from information by State Highway Department.

Remarks.- Records good. Small diversions for irrigation above station affect low flow.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0			110	0			0
2					0			29	0			0
3					0			11	0			0
4					0			6.2	0			0
5					0			3.4	0			0
6					0			1.9	766			4,480
7					0			1.2	128			1,200
8					0			.6	36			116
9					0			24	18			40
10					0			31	10			22
11					0			12	6.6			12
12					0			6.1	5.3			7.1
13					0			3.3	3.5			4.6
14					0			2.6	2.4			3.2
15					0			1.5	1.6			2.2
16					0			.8	1.0			1.5
17					0			.1	.4			.9
18					0			0	0			.2
19					0			0	0			0
20					0			0	0			0
21					0			0	0			0
22					0			0	0			0
23					0			0	0			0
24					0			0	0			0
25					0			0	0			0
26					0			1.8	0			0
27					0			6.9	0			0
28					2.9			4.6	0			0
29					0			1.5	0			0
30					-			.3	0			0
31					-			0	-			-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943.....	2,790.6	599	0	7.65	5,540
January.....	0	0	0	0	0
February.....	2.9	2.9	0	.10	5.8
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	260.3	110	0	8.40	616
June.....	978.8	766	0	32.6	1,940
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	5,979.6	4,480	0	199	11,860
Water year 1943-44.....	7,221.6	4,480	0	19.7	14,320

Peak discharge.- June 6 (8 a.m.) 3,340 sec.-ft.; Sept. 6 (3 p.m.) 8,700 sec.-ft.

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.



## Spring Creek near Tankersly, Tex.

Location.- Water-stage recorder and concrete control, lat.  $31^{\circ}21'30''$ , long.  $100^{\circ}32'05''$ , 2½ miles upstream from mouth and 6½ miles east of Tankersly, Tom Green County. Datum of gage is 1,874.6 feet above mean sea level, datum of 1929.

Drainage area.- 734-square miles.

Records available.- February 1930 to September 1944.

Average discharge.- 14 years, 42.5 second-feet.

Extremes.- Maximum discharge during year, 5,420 second-feet Sept. 6 (gage height, 11.00 feet); minimum, 0.2 second-foot Aug. 25, 26 (gage height, 1.14 feet).

1930-44: Maximum discharge, 26,900 second-foot Aug. 23, 1942 (gage height, 21.37 feet), from rating curve extended above 18,000 second-feet; no flow at times.

Maximum stage known, about 26.0 feet in 1882, from information by local residents.

Remarks.- Records good. Several small diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	52	8.7	16	48	37	34	4.2	1.7	16	5.1	0.6	3.5
2	50	11	17	44	38	34	3.2	19	16	4.1	.6	3.9
3	46	9.1	18	34	36	34	2.8	18	15	2.3	1.3	3.2
4	46	7.4	17	30	36	32	2.6	15	13	2.3	.8	3.1
5	44	14	34	30	34	33	2.3	14	12	3.2	.6	66
6	41	16	32	29	36	32	2.3	14	473	1.7	.7	1,440
7	37	14	30	29	36	33	2.2	15	118	1.6	.7	99
8	36	22	26	27	39	36	2.1	12	44	1.3	.6	37
9	36	24	27	27	36	36	2.0	25	25	1.4	.5	33
10	36	22	29	28	34	36	1.7	27	19	1.4	.5	31
11	36	20	25	28	33	38	1.6	22	18	1.0	.4	30
12	36	20	25	32	33	36	1.6	22	23	29	.4	30
13	36	19	28	34	34	37	1.6	20	20	17	.5	30
14	36	19	28	33	34	37	1.6	19	17	3.2	.4	30
15	34	24	27	31	34	36	1.4	19	19	1.4	.3	29
16	31	23	27	30	34	33	1.4	14	14	1.3	.3	28
17	28	18	26	30	34	27	1.3	9.8	11	.9	.3	28
18	17	11	25	28	32	24	1.3	8.8	11	.7	.6	27
19	16	11	25	28	33	27	1.3	8.8	11	.6	.6	26
20	14	9.8	25	31	34	22	1.3	20	8.3	.6	.4	22
21	14	8.8	25	32	34	22	1.3	18	6.1	1.5	.3	21
22	16	15	27	32	34	22	1.2	19	3.9	.6	.3	19
23	16	14	27	34	34	18	1.2	18	2.9	.6	.3	15
24	15	14	32	42	33	18	1.2	16	2.3	.7	.3	8.6
25	17	10	32	42	33	20	1.2	16	2.1	.5	.3	7.6
26	12	15	30	42	32	21	1.2	18	1.8	1.7	.5	8.8
27	8.3	18	34	42	36	19	1.2	19	1.7	1.8	.6	16
28	9.5	17	31	39	51	18	1.2	22	2.0	.6	.8	26
29	9.8	14	29	38	39	19	1.3	21	2.2	1.2	.7	25
30	6.5	13	29	38	-	18	1.3	19	5.5	.7	.6	25
31	6.5	-	29	37	-	8.2	-	18	-	.7	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	836.7	52	5.5	27.0	1,660
November.....	459.6	24	7.4	15.3	912
December.....	834	34	16	26.9	1,650
Calendar year 1943.....	8,198.2	78	1.0	22.5	16,280
January.....	1,049	48	27	33.8	2,080
February.....	1,023	51	32	35.3	2,030
March.....	838.2	38	8.2	27.8	1,710
April.....	52.0	4.2	1.2	1.73	103
May.....	528.1	27	1.7	17.0	1,050
June.....	933.8	473	1.7	31.1	1,850
July.....	90.7	29	.5	2.93	180
August.....	16.3	1.3	.3	.53	32
September.....	2,171.7	1,440	5.1	72.4	4,310
Water year 1943-44.....	8,657.3	1,440	.3	24.2	17,570

Peak discharge.- June 6 (11:30 a.m.) 2,190 sec.-ft.; Sept. 6 (1 a.m.) 5,420 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## North Concho River at Sterling City, Tex.

Location.- Water-stage recorder and concrete control, lat.  $31^{\circ}50'$ , long.  $100^{\circ}59'$ , at county highway bridge, 0.3 mile south of Sterling City, Sterling County, and 4 miles upstream from Sterling Creek. Datum of gage is 2,242.4 feet above mean sea level, datum of 1929.

Drainage area.- 690 square miles, of which 75 square miles is probably noncontributing.

Records available.- September 1939 to September 1944.

Extremes.- Maximum discharge during year, 2,130 second-feet June 6 (gage height, 14.69 feet), from rating curve extended above 1,000 second-feet by logarithmic plotting; no flow at times.

1939-44: Maximum discharge, 2,950 second-feet Mar. 28, 1941 (gage height, 16.47 feet), from rating curve extended above 1,000 second-feet by logarithmic plotting; no flow at times.

Maximum stage known, 23.3 feet May 6, 1891, from information by local residents.

Remarks.- Records fair. Small diversions above station for irrigation.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used June 5-9)

1.85	0	2.5	6.7	7.0	315
1.9	.04	2.7	14.4	8.0	409
2.0	.2	3.2	35.2	9.0	553
2.1	.5	3.6	53.4	10.5	856
2.2	1.0	4.0	77.0	12.0	1,200
2.3	2.0	5.0	153	13.5	1,675
2.4	3.8	6.0	233	15.0	2,250

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0	0.3	1.7	0.3	0.2	0	0	0	
2			0	0	.4	1.6	.3	.4	0	0	0	
3			0	0	.4	1.4	.4	.3	0	0	0	
4			0	0	1.3	.8	.3	.2	0	0	0	
5			0	0	.9	.7	.3	.2	3.1	0	0	
6			0	0	.4	.7	.5	.1	507	0	0	
7			0	0	.2	.6	.4	.1	18	0	0	
8			0	0	.2	.6	.4	0	5.1	0	0	
9			0	0	.2	.6	.4	0	2.4	0	0	
10			0	0	.2	.6	.7	0	1.2	0	0	
11			0	0	.3	.7	.7	0	1.0	0	0	
12			0	0	.7	.7	.7	0	.6	1.8	0	
13			0	.1	.5	.5	.7	0	.4	0	0	
14			0	.2	.4	.6	.6	0	.4	0	0	
15			0	.3	.1	.7	.6	0	.4	0	0	
16			0	.3	.2	.7	.6	0	.3	0	0	
17			0	.3	.5	.7	.3	0	.2	0	44	
18			0	.2	.5	.7	.2	0	.1	0	16	
19			0	.2	.5	1.0	.2	0	.1	0		
20			0	.2	.5	.8	.3	0	0	0	.1	
21			0	.2	.6	.7	.3	0	0	0	0	
22			0	.3	.6	.6	.3	0	0	0	0	
23			0	.3	.5	.6	.2	0	0	0	0	
24			0	.4	.5	.6	.2	0	0	0	0	
25			0	.3	.6	.5	.2	0	0	0	0	
26			0	.3	.5	.5	.1	2.7	0	0	0	
27			0	.4	4.4	.4	0	.3	0	0	0	
28			0	.5	14	.4	0	0	0	0	0	
29			.3	.4	2.4	.6	.2	0	0	0	0	
30			.3	.3	-	.6	.1	0	0	0	0	
31			.1	.3	-	.4	-	0	-	0	0	

Month	Second-feet-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0.7	.3	0	.02	1.4
Calendar year 1943.....	322.4	74	0	.88	639
January.....	5.5	.5	0	.18	11
February.....	32.5	14	.1	1.13	65
March.....	22.1	1.7	.4	.71	44
April.....	10.5	.7	0	.35	21
May.....	4.5	2.7	0	.15	8.9
June.....	538.3	507	0	17.9	1,070
July.....	1.8	1.8	0	.08	3.6
August.....	60.9	44	0	1.96	121
September.....	0	0	0	0	0
Water year 1943-44.....	677.1	507	0	1.95	1,350

Peak discharge.- June 6 (6:30 a.m.) 2,130 sec.-ft.; Aug. 17 (10 p.m.) 433 sec.-ft.

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

## North Concho River near Carlsbad, Tex.

Location.— Water-stage recorder above spillway of State Sanatorium Dam, lat.  $31^{\circ}36'$ , long.  $100^{\circ}40'$ , 2 miles upstream from Carlsbad, Tom Green County. Datum of gage is 2,000.8 feet above mean sea level, datum of 1929.

Drainage area.— 1,529 square miles, of which 123 square miles is probably contributing.

\* Records available.— March 1924 to September 1944.

Average discharge.— 20 years, 51.9 second-feet.

Extremes.— Maximum discharge during year, 1,900 second-feet June 6 (gage height, 7.39 feet); minimum, 0.1 second-foot Oct. 1 to Nov. 19, June 23 to Aug. 17, Aug. 25 to Sept. 5 and Sept. 17-30 (leakage through control).  
1924-44: Maximum discharge, 94,600 second-feet Sept. 26, 1936 (gage height, 16.0 feet, from highest floodmarks known), by slope-area method; no flow at times.

Remarks.— Records good. Diversions by pumping above station affect low flow (combined capacity of pumps, 40 second-feet); low flow also partly regulated by small reservoir above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a0.1	e0.1	2.2	7.0	4.2	4.0	4.4	4.6	1.8	e0.1	e0.1	0.1
2	a.1	e.1	3.1	6.8	4.7	4.0	3.8	4.0	1.5	e.1	e.1	e.1
3	a.1	e.1	5.2	6.0	4.7	3.4	3.8	3.5	1.2	e.1	e.1	e.1
4	a.1	e.1	5.7	5.2	5.3	3.4	3.8	3.1	1.0	e.1	e.1	e.1
5	a.1	e.1	8.9	5.2	5.3	3.4	3.9	3.1	.8	e.1	e.1	e.1
6	a.1	e.1	6.1	3.7	5.3	3.8	3.8	3.1	751	e.1	e.1	103
7	a.1	e.1	5.3	4.3	4.7	3.8	3.8	3.1	126	e.1	e.1	20
8	a.1	e.1	3.9	3.6	4.2	3.8	3.8	2.4	34	e.1	e.1	6.6
9	a.1	e.1	3.9	4.3	3.6	3.8	4.2	5.2	11	e.1	e.1	3.5
10	a.1	e.1	3.3	3.6	3.6	3.8	2.1	3.5	11	e.1	e.1	3.1
11	e.1	e.1	3.3	3.6	2.8	3.8	2.5	3.1	8.2	e.1	e.1	1.8
12	e.1	e.1	3.3	4.2	2.8	3.8	2.8	3.1	6.9	e.1	e.1	1.4
13	e.1	e.1	3.9	4.9	3.2	3.8	2.8	2.7	4.6	e.1	e.1	.9
14	e.1	e.1	3.3	4.9	3.6	3.8	2.8	2.7	3.5	e.1	e.1	.5
15	e.1	e.1	3.3	4.9	3.6	3.8	2.2	3.1	3.1	e.1	e.1	.3
16	e.1	e.1	3.9	4.8	3.6	3.8	3.1	2.4	2.7	e.1	e.1	.2
17	e.1	e.1	3.9	3.6	3.6	3.8	2.6	2.1	1.6	e.1	e.1	.1
18	e.1	e.1	4.5	3.5	3.6	3.8	2.6	1.9	1.2	e.1	e.1	.1
19	e.1	e.1	5.8	4.2	3.6	3.8	2.6	2.1	1.0	e.1	e.1	.1
20	e.1	.2	5.8	4.2	3.6	3.8	3.1	1.8	.8	e.1	e.1	7.4
21	e.1	.4	5.0	3.6	3.6	3.8	3.5	1.4	.5	e.1	e.1	2.7
22	e.1	.8	5.0	4.2	4.2	3.8	2.4	4.2	.2	e.1	e.1	1.3
23	e.1	.9	5.7	4.2	4.2	3.8	2.4	3.1	.1	e.1	e.1	.6
24	e.1	1.3	5.7	4.7	4.2	3.8	2.4	1.9	e.1	e.1	e.1	.2
25	e.1	1.4	6.4	4.7	3.6	3.8	2.4	1.8	e.1	e.1	e.1	.1
26	e.1	1.9	6.4	5.3	3.6	3.8	2.1	6.4	e.1	e.1	e.1	e.1
27	e.1	2.5	5.6	4.7	3.6	4.1	2.1	4.0	e.1	e.1	e.1	e.1
28	e.1	2.9	4.8	4.7	4.6	4.4	2.1	4.6	e.1	e.1	e.1	e.1
29	e.1	2.9	4.1	5.3	4.6	4.4	2.7	5.2	e.1	e.1	e.1	.1
30	e.1	2.5	4.8	4.7	-	4.4	3.1	3.5	e.1	e.1	e.1	e.1
31	e.1	-	4.8	4.7	-	4.4	-	2.1	-	e.1	e.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3.1	0.1	0.1	0.10	6.1
November.....	19.6	2.9	.1	.65	39
December.....	146.9	8.9	2.2	4.74	291
Calendar year 1943.....	1,983.3	353	.1	5.43	3,930
January.....	143.3	7.0	3.5	4.62	284
February.....	115.8	5.3	2.8	3.99	230
March.....	118.7	4.4	2.8	3.83	235
April.....	99.6	4.4	2.1	2.99	178
May.....	98.8	6.4	1.4	3.19	196
June.....	980.4	751	.1	32.7	1,940
July.....	3.1	.1	.1	.10	6.1
August.....	123.6	77	.1	3.99	245
September.....	143.2	103	.1	4.77	284
Water year 1943-44.....	1,986.1	751	.1	5.43	3,930

a No gage-height record; discharge estimated on basis of recorded range in stage.

e Stage below crest of control. Flow is leakage through control; discharge estimated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Pecan Bayou at Brownwood, Tex.

Location.- Water-stage recorder above spillway of city dam, lat. 31°44'10", long. 98°58'30", at Gulf, Colorado & Santa Fe (Fort Worth & Rio Grande) Railway bridge, 1 mile north of Brownwood, Brown County, 6 miles downstream from Salt Creek, and 10 miles downstream from Brownwood Reservoir. Datum of gage is 1,318.58 feet above mean sea level, datum of 1929.

Drainage area.- 1,614 square miles.

Records available.- May 1917 to June 1918, October 1923 to September 1944.

Average discharge.- 19 years (1924-28, 1929-44), 218 second-feet.

Extremes.- Maximum discharge during year, 2,560 second-feet May 1 (gage height, 3.80 feet); no flow at times.

1917-18, 1923-44: Maximum discharge, 52,700 second-feet Oct. 14, 1930 (gage height, 16.92 feet), from rating curve extended above 38,000 second-feet; no flow at times.

Maximum stage known, 21.7 feet in September 1900, from information by Gulf, Colorado & Santa Fe Railway Co. Flood of July 3, 1932, probably the greatest known, reached a discharge of about 235,000 second-feet 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 except those below 10 second-feet and those for periods of no gage-height record, which are poor. Stage-discharge relation for low flows affected by occasional accumulation of drift on dam. Flow regulated by Brownwood Reservoir (capacity, 140,000 acre-feet). Water is diverted at Brownwood Reservoir, 10 miles upstream, for irrigation of 6,430 acres and for municipal supply of city of Brownwood. Irrigation canal completed Apr. 9, 1939.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	29		0.2	154	1.9	6.0	1.3	503	244	0	134	1.3
2	2.8		.1	52	4.7	4.7	2.8	355	14	.1	134	.9
3	.9		.1	3.7	1.9	3.7	.9	16	6.0	.1	134	.6
4	.6		.2	1.9	.9	2.8	.6	11	6.0	.1	138	.4
5	.4		1.9	1.9	1.3	1.9	.6	12	6.0	1.4	138	36
6	.4		1.3	4.7	1.9	1.9	.6	12	3.7	235	143	285
7	.4		.1	6.0	1.9	1.9	.9	6.0	3.7	12	143	20
8	.4		.1	3.7	14	1.9	1.3	4.7	3.7	1.3	138	3.7
9	.6		.1	.6	21	2.8	1.9	a14	2.8	.4	138	121
10	2.8		.1	1.3	3.7	6.0	.9	a7.4	3.7	.2	138	143
11	1.3		.1	1.9	1.3	4.7	.2	a4.7	3.7	.1	147	143
12	.6	a2.0	.1	2.8	.9	2.8	.2	a3.7	1.9	1.3	143	143
13	.9		0	1.9	1.3	1.9	.6	a3.7	1.3	129	143	143
14	.6		.1	1.9	1.9	1.9	.6	a3.7	.9	134	143	138
15	.4		0	1.9	1.3	1.9	.6	a2.8	.9	134	143	138
16	.2		0	1.9	1.3	1.3	.4	a2.8	.6	134	143	143
17	.2		0	1.9	1.3	1.3	.4	1.9	.6	134	143	147
18	.6		0	2.8	.9	1.3	.4	1.9	.6	27	4.7	143
19	1.9		.1	1.3	1.3	2.8	.4	2.8	.6	1.9	3.7	143
20	.9		.1	1.9	1.3	8.9	.6	3.7	.4	.6	2.8	143
21	.6		.4	1.9	1.9	8.9	.6	38	.2	.1	.6	143
22	.6		.6	1.9	1.9	8.0	.6	108	.1	306	.2	147
23	1.9		.6	1.3	1.9	1.3	.2	28	.1	36	0	147
24	1.9	1.9	.9	1.9	2.8	.9	.2	11	.1	5.5	0	123
25	.6	1.9	1.3	1.9	2.8	.6	.4	50	.1	129	0	12
26	.4	3.7	.6	1.9	2.8	.9	.4	12	.1	134	2.8	3.7
27	1.9	1.3	1.3	1.3	388	.4	.2	23	0	129	6.0	3.7
28	1.9	.6	1.3	.9	401	.4	.2	157	0	134	16	3.7
29	1.9	.4	.6	.9	22	.4	32	223	0	134	7.4	1.9
30	1.9	.6	.6	.9	-	2.8	18	124	0	134	3.7	1.9
31	a1.9	-	.4	.9	-	4.7	-	305	-	134	6.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	61.4	29	0.2	1.98	122
November.....	56.2	-	-	1.87	111
December.....	13.3	1.9	0	.43	86
Calendar year 1943.....	5,694.5	674	0	15.6	11,290
January.....	265.7	154	.6	8.57	527
February.....	393.1	401	.9	3.07	1,770
March.....	89.7	8.9	.4	2.59	178
April.....	69.0	32	.2	2.30	137
May.....	2,051.8	505	1.9	66.2	4,070
June.....	305.8	244	0	10.2	807
July.....	2,222.9	306	0	71.7	4,410
August.....	2,327.9	147	0	75.1	4,620
September.....	2,618.8	285	.4	87.3	5,190
Water year 1943-44.....	10,975.6	505	0	30.0	21,770

a No gage-height record; discharge computed on basis of recorded range in stage and weather records.

Time basis: Central war-time. To convert war time to standard time, subtract 1 hour.

## San Saba River at Menard, Tex.

Location.- Water-stage recorder, lat. 30°55', long. 99°47', at bridge on U. S. Highway 83 in Menard, Menard County, 0.7 mile downstream from Las Moras Creek. Datum of gage is 1,863.05 feet above mean sea level, datum of 1929.

Drainage area.- 1,151 square miles.

Records available.- September 1915 to September 1944.

Average discharge.- 29 years, 76.2 second-feet.

Extremes.- Maximum discharge during year, 13,300 second-feet May 1 (gage height, 13.15 feet); minimum, 12 second-feet (regulated) Aug. 8.

1915-44: Maximum discharge, 117,000 second-feet July 23, 1938 (gage height, 22.2 feet, present site and datum, from floodmark), from rating curve extended above 80,000 second-feet on basis of slope-area determinations at gage heights 21.0 and 22.2 feet; no flow at times caused by diversions to Noyes Canal.

Maximum stage known, 23.3 feet, present site and datum, June 5 or 6, 1899, from information by local residents.

Remarks.- Records good. Low flow during irrigation season regulated by diversions to Noyes Canal 4 miles above Menard. About 4,300 acres above and 7,700 acres below gage have been declared irrigated (see records of Noyes Canal at Menard).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	96	32	29	59	38	56	51	2,860	42	20	30	18
2	65	20	30	95	42	54	52	171	40	21	14	17
3	53	25	29	61	36	55	51	88	39	22	13	16
4	49	21	29	41	35	54	51	65	39	21	14	16
5	45	20	44	36	38	54	50	48	40	21	14	16
6	44	20	48	35	36	54	46	42	78	22	13	55
7	43	20	34	36	38	53	47	47	69	21	16	67
8	43	20	30	34	44	52	40	47	49	21	23	63
9	43	20	30	34	54	54	25	98	40	20	17	51
10	44	20	34	34	45	62	24	73	35	20	14	46
11	45	19	38	34	40	60	25	65	33	20	13	43
12	46	20	33	34	39	59	25	64	31	20	14	42
13	47	20	31	40	40	56	25	65	30	20	14	41
14	46	21	29	44	40	56	25	65	28	20	14	40
15	46	22	28	45	36	56	25	49	27	20	14	38
16	44	24	28	41	38	56	25	27	26	20	15	38
17	44	24	28	40	44	55	25	28	26	19	14	38
18	44	24	28	41	44	62	24	28	26	19	16	38
19	28	24	30	40	42	63	20	28	26	19	15	38
20	24	26	29	38	44	59	20	30	24	19	14	38
21	24	26	29	37	44	57	20	40	23	18	14	38
22	23	22	30	40	44	57	22	100	22	19	14	38
23	24	23	31	41	41	54	21	93	22	21	15	37
24	25	25	36	40	41	54	25	45	22	22	15	37
25	38	26	36	38	62	62	19	36	22	21	15	36
26	38	31	34	37	61	53	19	37	22	20	16	41
27	38	34	35	39	66	53	23	45	21	25	18	72
28	38	36	38	38	81	52	20	236	20	43	21	69
29	40	32	32	38	65	51	22	108	19	40	23	52
30	39	30	31	36	-	52	636	70	20	58	21	44
31	38	-	30	38	-	51	-	49	-	37	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,303	96	23	42.0	2,580
November.....	727	36	19	24.2	1,440
December.....	1,001	48	23	32.2	1,890
Calendar year 1943 .....	11,181	135	12	30.6	22,160
January.....	1,286	95	34	41.6	2,550
February.....	1,318	81	35	45.4	2,610
March.....	1,716	63	51	55.4	3,400
April.....	1,503	636	19	50.1	2,980
May.....	4,847	2,860	27	156	9,610
June.....	961	78	19	32.0	1,910
July.....	709	43	18	22.9	1,410
August.....	502	30	13	16.2	996
September.....	1,223	72	16	40.8	2,430
Water year 1943-44 .....	17,096	2,860	13	46.7	33,910

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## COLORADO RIVER BASIN

San Saba River at San Saba, Tex.

Location.- Water-stage recorder, lat.  $31^{\circ}12'10''$ , long.  $98^{\circ}42'15''$ , at bridge on San Saba-Chadwick Mill highway, three-quarters of a mile northeast of San Saba, San Saba County, and 15 miles upstream from mouth. Datum of gage is 1,153.3 feet above mean sea level, datum of 1929.

Drainage area.- 3,046 square miles.

Records available.- August 1930 to September 1944. December 1904 to December 1906 and September 1915 to August 1930 at site  $\frac{1}{4}$  miles upstream.

Average discharge.- 29 years (1915-44), 289 second-feet.

Extremes.- Maximum discharge during year, 4,670 second-feet May 2 (gage height, 20.46 feet); minimum, 36 second-feet Aug. 24 (gage height, 3.43 feet).

1904-6, 1915-44: Maximum discharge, 203,000 second-feet July 23, 1938 (gage height, 45.18 feet, from floodmarks at highest stage known), by slope-area method; no flow Aug. 9, 10, 1918.

Maximum stage known prior to 1938, 42.6 feet June 6, 1899, from information by local resident.

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

Divisions above station for irrigation and municipal uses affect low flow.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	499	85	105	327	170	278	146	2,780	399	114	64	105
2	412	86	100	215	170	240	144	3,440	330	114	67	103
3	380	88	96	470	171	226	143	943	292	124	71	96
4	188	135	93	315	167	212	143	670	270	129	71	87
5	162	114	110	262	162	198	140	519	255	118	69	82
6	135	92	144	226	157	194	139	345	651	113	65	93
7	117	86	151	198	155	187	138	285	572	108	64	873
8	109	81	150	184	144	178	139	248	350	105	61	1,230
9	105	78	124	173	143	174	139	248	292	105	57	350
10	102	78	170	162	161	190	135	805	270	105	51	226
11	100	78	147	156	270	205	128	423	240	97	50	178
12	100	78	156	157	240	198	117	285	226	91	48	151
13	102	79	124	197	219	188	109	233	219	90	48	130
14	99	80	116	233	219	185	103	219	205	96	47	125
15	94	81	113	212	219	177	96	205	192	93	44	118
16	91	80	110	251	205	171	92	192	185	93	45	109
17	90	78	107	312	205	167	90	185	177	86	46	107
18	90	78	104	278	198	164	87	183	170	84	51	a105
19	88	76	104	248	192	166	87	178	166	82	64	a102
20	88	74	104	226	190	170	90	378	160	81	65	a98
21	87	77	103	212	191	173	84	270	155	81	64	a97
22	88	80	103	205	151	181	82	375	148	84	47	a94
23	87	80	103	195	197	205	81	930	143	86	46	a92
24	79	78	112	190	183	194	79	850	139	82	44	a90
25	73	79	121	187	248	169	76	1,340	136	80	49	a88
26	71	92	125	185	226	160	74	1,640	129	78	52	a88
27	70	108	120	185	212	156	75	652	124	79	68	a108
28	71	110	118	184	291	152	72	1,870	116	82	97	a108
29	74	114	127	185	388	148	141	2,190	116	76	113	a92
30	84	116	121	178	-	147	843	1,030	116	71	117	a92
31	85	-	116	176	-	146	-	545	-	69	117	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,020	499	70	130	7,970
November.....	2,637	133	74	87.9	5,230
December.....	3,667	170	93	118	7,250
Calendar year 1943.....	55,192	11,500	29	151	109,500
January.....	7,484	815	156	241	14,840
February.....	7,174	843	155	247	14,230
March.....	5,697	278	146	124	11,300
April.....	4,008	843	72	134	7,950
May.....	24,206	3,440	178	781	48,010
June.....	6,923	651	116	231	13,730
July.....	2,894	129	69	93.4	5,740
August.....	1,952	117	44	65.0	3,870
September.....	5,385	1,230	82	180	10,680
Water year 1943-44.....	76,037	3,440	44	208	150,800

Peak discharge.- May 1 (3 a.m.) 4,130 sec.-ft.; May 2 (9 a.m.) 4,670 sec.-ft.; May 25 (11 p.m.) 3,200 sec.-ft.; Sept. 7 (11 p.m.) 2,930 sec.-ft.

a No gage-height record; discharge computed on basis of partial gage-height record, recorded range in stage, occasional gage readings, and records for nearby stations.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Noyes Canal at Menard, Tex.

Location.- Water-stage recorder, lat.  $30^{\circ}55'$ , long.  $99^{\circ}47'$ , at intersection of Canal and Gay streets in Menard, Menard County,  $\frac{1}{4}$  miles downstream from head gates. Datum of gage is 1,878.1 feet above mean sea level, datum of 1929.

Records available.- March 1924 to September 1944.

Average discharge.- 20 years (1924-44), 15.0 second-feet.

Extremes.- Maximum daily discharge during year, 25 second-feet May 20; maximum gage height, 4.05 feet Apr. 30 (affected by local runoff); no flow at times.

1924-44: Maximum daily discharge (exclusive of times canal submerged by waters of San Saba River), 50 second-feet Apr. 15, 1925 (probably affected by local runoff between point of diversion and station); no flow at times.

Remarks.- Records fair. 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 above Menard for irrigation near Menard; 10 acres irrigated from canal above station.

COLORADO RIVER BASIN

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Monthly discharge, in second-feet, of Noyes Canal at Menard, Tex.,  
water year October 1943 to September 1944

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	100.6	18	0	3.25	200
November.....	855.0	24	9.0	21.8	1,300
December.....	718	24	22	23.2	1,420
Calendar year 1943 .....	6,327.8	27	0	17.3	12,550
January.....	659	24	19	21.3	1,310
February.....	398.2	19	0	13.7	790
March.....	0	0	0	0	0
April.....	464.6	24	0	15.5	922
May.....	502.8	26	.3	16.2	997
June.....	587	23	14	19.6	1,160
July.....	408.0	17	0	13.2	809
August.....	631.9	23	6.9	20.4	1,250
September.....	144.4	22	0	4.81	286
Water year 1943-44 .....	5,269.5	26	0	14.4	10,440

Notes.- Gage-height record affected by local runoff Dec. 5, 27, Jan. 1, Feb. 8, 27, 28, Mar. 9, 10, 18, 19, 22, Apr. 30, May 4, 8, 9, 21, 22, Aug. 7, Sept. 26-28; discharge computed on basis of adjusted gage-height record and record for San Saba River at Menard.

Brady Creek at Brady, Tex.

Location.- Water-stage recorder, lat. 31°08'15" long. 99°19'55", just upstream from bridge on North Bridge Street in Brady, McCulloch County, and 0.4 mile downstream from Live Oak Creek. Datum of gage is 1,646.50 feet above mean sea level, datum of 1929.

Drainage area.- 575 square miles.

Records available.- May 1939 to September 1944.

Extremes.- Maximum discharge during year, 4,800 second-feet Sept. 7 (gage height, 12.03 feet); no flow at times.

1939-44: Maximum discharge, 13,900 second-feet Apr. 27, 1941 (gage height, 16.81 feet), from rating curve extended above 8,000 second-feet; no flow at times.

Maximum stage known, 29.1 feet July 23, 1938, present site and datum (discharge at site 5 miles downstream, 86,000 second-feet, by slope-area method).

Remarks.- Records fair. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.7	0	0.1	22	0.4	6.5	0.2	153	14	0	0	0.1
2	3.0	.1	.1	22	.5	3.6	.2	27	8.9	0	0	0
3	5.2	.1	.1	8.4	.4	2.9	.2	8.4	6.3	0	0	0
4	6.5	0	.2	5.2	.5	2.1	.2	5.0	4.6	.1	0	0
5	1.7	0	4.1	3.8	.5	1.7	.2	2.5	5.4	.1	0	0
6	.5	0	.6	2.4	.5	1.6	.2	1.4	2.7	0	0	938
7	.2	0	.2	.8	.5	1.1	.2	.8	1.4	0	0	1,120
8	.1	0	.2	.6	5.6	1.0	.2	4.4	5.3	0	0	73
9	0	0	.1	.4	4.5	1.1	.2	.5	2.3	0	0	32
10	0	0	2.8	.4	2.0	3.2	.1	1.6	1.7	0	0	17
11	0	0	.3	.3	1.0	2.4	.1	9.1	1.0	0	0	8.9
12	.1	.1	.2	.5	.7	1.6	.1	5.2	.8	0	0	4.8
13	.1	.1	.1	.6	.7	1.1	.1	2.8	.8	0	0	2.8
14	0	.1	.1	.9	1.0	.9	.1	1.3	.4	0	0	2.0
15	0	.1	.1	1.1	.8	.8	.1	.5	.2	0	0	1.4
16	0	.1	.1	1.7	.7	.7	.1	.3	.2	0	0	.7
17	0	.1	.1	1.4	.8	.6	.1	.2	.3	0	0	.4
18	0	.1	.1	1.1	.6	.6	.1	.1	.2	0	0	.4
19	0	.1	.1	.8	.6	.9	.1	40	.1	0	0	.3
20	0	.1	.1	.7	.6	.5	.2	13	.2	0	0	.2
21	0	.1	.1	.8	.5	.6	.2	74	.1	0	0	.2
22	0	.1	.1	.6	.9	.9	.1	208	.1	0	0	.2
23	0	.1	.2	.5	.5	.7	.1	91	0	0	0	.2
24	.1	.1	.5	.5	.5	.5	0	27	.1	0	0	.2
25	.1	.1	.2	.5	.6	.4	.1	217	.1	0	0	.2
26	0	.5	.2	.5	.8	.4	.1	66	0	0	.2	.2
27	0	.4	.3	.8	4.5	.3	.1	18	0	0	.5	1.3
28	0	.4	.3	.5	13	.3	.1	965	0	0	.4	1.1
29	0	.2	.5	7.4	.2	.2	.1	149	0	0	.2	.9
30	0	.1	.1	.4	.4	.2	1.3	58	0	0	.7	.7
31	0	-	.1	.4	-	.2	-	23	-	0	.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	27.3	9.7	0	0.88	54
November.....	3.2	.5	0	.11	6.3
December.....	12.1	4.1	.1	.39	24
Calendar year 1943 .....	1,052.2	550	0	2.88	2,080
January.....	81.1	22	.3	2.62	161
February.....	51.3	13	.4	1.77	102
March.....	39.4	6.5	.2	1.27	73
April.....	5.2	1.3	0	.17	10
May.....	2,169.1	965	.1	70.0	4,300
June.....	53.2	14	0	1.77	106
July.....	.2	.1	0	.01	.4
August.....	2.3	.7	0	.07	4.6
September.....	2,207.2	1,120	0	75.6	4,580
Water year 1943-44 .....	4,651.6	1,120	0	12.7	9,230

Peak discharge.- May 28 (4 a.m.) 2,820 sec.-ft.; Sept. 7 (12:30 a.m.) 4,800 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## COLORADO RIVER BASIN

North Llano River near Junction, Tex.

Location.- Water-stage recorder, lat. 30°30', long. 99°47', about 1,000 feet above remains of old Wilson Dam, 3 miles northwest of Junction, Kimble County, and 4 miles upstream from confluence with South Llano River. Datum of gage is 1,699.9 feet above mean sea level, datum of 1929.

Drainage area.- 914 square miles.

Records available.- September 1915 to September 1944.

Average discharge.- 29 years, 76.5 second-feet.

Extremes.- Maximum discharge during year, 15,600 second-feet Apr. 30 (gage height, 10.38 feet, from floodmark); minimum, 2.0 second-feet Aug. 17, 21, 22.  
1915-44: Maximum discharge, 94,800 second-feet Sept. 16, 1936 (gage height, 29.2 feet, present site, based on gage-height relation curve), by slope-area method; no flow at times.

Remarks.- Records good except those above 1,000 second-feet and those for period of no gage-height record, which are fair. Diversions for irrigation materially reduce low flow.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	51	16	19	29	36	34	29	a3,670	44	17	4.7	12
2	36	15	18	78	36	34	29	a310	40	15	4.7	12
3	55	15	17	60	38	32	28	a128	38	15	4.4	10
4	42	15	17	55	36	32	28	a115	36	14	3.9	9.9
5	36	15	22	55	35	30	27	a86	39	13	3.3	9.4
6	34	15	22	51	34	32	26	a77	38	12	3.3	36
7	32	14	21	49	35	30	26	a69	42	12	3.6	25
8	29	14	21	46	35	29	26	a63	41	11	3.6	24
9	28	14	20	42	36	32	25	a56	38	11	3.3	21
10	27	14	21	42	36	35	24	a52	35	10	3.1	20
11	27	14	21	42	34	35	23	48	35	9.4	2.8	19
12	27	14	20	42	34	34	22	48	34	9.4	2.8	18
13	25	15	19	44	32	30	21	44	32	9.4	2.8	16
14	24	15	19	49	35	29	21	41	29	9.0	2.8	15
15	22	15	18	48	35	28	20	38	27	9.4	2.6	14
16	21	15	18	46	35	28	19	36	26	9.4	2.2	13
17	20	15	18	44	36	28	19	34	25	9.0	2.2	13
18	20	15	18	44	32	35	19	32	24	8.6	2.2	12
19	19	15	18	44	32	36	19	34	23	8.3	2.4	12
20	19	15	18	42	32	36	19	32	22	7.6	2.2	12
21	19	15	18	42	32	35	19	40	21	7.6	2.0	12
22	19	15	18	42	32	38	18	56	19	7.2	2.0	11
23	18	15	19	41	30	35	17	48	19	7.6	2.2	11
24	17	15	22	41	30	34	16	42	19	7.6	2.4	10
25	17	15	21	41	35	32	15	41	17	8.0	2.4	10
26	17	16	21	40	35	32	15	38	16	7.2	3.3	11
27	17	19	22	41	34	30	15	46	15	7.2	6.2	15
28	17	23	21	40	38	30	14	185	15	6.9	9.9	17
29	17	21	21	38	35	30	14	77	14	6.2	15	15
30	16	20	20	38	-	30	a1,440	57	15	5.5	15	14
31	16	-	19	36	-	30	-	46	-	5.0	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	785	55	16	25.3	1,550
November.....	469	22	14	15.6	950
December.....	607	22	17	19.6	1,200
Calendar year 1943.....	9,438.5	1,420	2.6	25.9	18,710
January.....	1,390	78	29	44.8	2,760
February.....	995	38	30	34.3	1,970
March.....	995	38	28	32.1	1,970
April.....	2,063	1,440	14	68.4	4,070
May.....	5,688	3,670	32	163	11,860
June.....	837	44	14	27.9	1,660
July.....	295.5	17	5.0	9.55	586
August.....	137.3	15	2.0	4.43	272
September.....	449.3	36	9.4	15.0	891
Water year 1943-44.....	14,699.1	3,670	2.0	40.2	29,140

a No gage-height record; discharge computed on basis of partial gage-height record, 2 readings of outside gage, levels to high-water mark, and records for Llano River near Junction.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Llano River near Junction, Tex.

Location.— Water-stage recorder, lat. 30°30', long. 99°44', at site and datum used prior to May 18, 1940, 250 feet north of old Kerrville-Junction road, about half a mile downstream from point where slough diverts floodwater from main channel, 3 miles (revised) east of Junction, Kimble County, 4 miles (revised) downstream from confluence of North Llano and South Llano Rivers, and 4½ miles upstream from Johnson Fork. Datum of gage is 1,630.32 feet above mean sea level, datum of 1929. Prior to Aug. 18, 1944, water-stage recorder at site 5,335 feet upstream at datum 6.00 feet higher.

Drainage area.— 1,762 square miles.

Records available.— September 1915 to September 1944.

Average discharge.— 29 years, 224 second-feet.

Extremes.— 1942-43: Maximum discharge during water year, 10,000 second-feet June 5 (gage height, 10.47 feet); minimum, 62 second-feet Sept. 15, 16.

1943-44: Maximum discharge during water year, 8,640 second-feet May 1 (gage height, 9.80 feet); minimum, 44 second-feet Aug. 18, 22.

1915-44: Maximum discharge, 319,000 second-feet June 14, 1935 (gage height, 43.3 feet, present site and datum, from floodmarks), by slope-area method; minimum, 13 second-feet Aug. 22-28, 1918.

Remarks.— Records good except those above 300 second-feet, which are poor. Small discharges above station for irrigation.

## Discharge, in second-feet, 1942-44

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	147	186	197	a111	101	96	92	78	100	113	87	72
2	143	177	197	g111	100	97	91	77	96	110	85	73
3	150	166	126	a111	101	85	88	76	92	108	82	77
4	152	161	124	a110	101	88	87	73	108	101	82	79
5	145	157	126	f115	100	88	86	74	4,380	99	81	78
6	139	210	122	f124	99	86	86	76	2,960	97	81	73
7	135	202	127	f121	96	85	86	74	792	94	79	71
8	128	156	124	a115	96	86	130	75	411	95	80	70
9	126	175	124	g114	96	97	130	75	328	92	79	69
10	124	159	122	a113	93	87	118	537	287	92	78	66
11	122	154	121	a110	91	86	110	160	256	985	77	67
12	120	149	121	110	92	87	104	121	231	242	77	67
13	120	147	118	110	91	86	100	104	215	162	76	65
14	120	146	117	108	92	85	97	94	201	224	73	64
15	128	142	117	107	92	85	93	96	190	303	73	64
16	162	141	115	107	92	80	97	92	175	191	71	67
17	1,280	139	114	106	93	78	96	87	168	152	71	67
18	2,780	138	111	106	92	79	93	85	161	133	70	67
19	1,060	139	113	103	93	78	92	82	157	122	70	66
20	558	141	114	104	92	76	89	81	154	115	71	65
21	577	139	127	107	91	76	89	81	144	110	69	64
22	505	156	130	107	88	76	88	137	156	104	69	64
23	274	134	124	104	89	77	87	163	150	100	68	65
24	256	132	118	103	87	118	86	138	127	97	68	65
25	245	132	118	101	86	156	85	115	121	96	67	70
26	231	132	117	100	87	128	82	111	120	94	65	92
27	223	132	114	101	86	114	81	108	117	92	65	88
28	215	130	115	103	87	106	81	104	114	89	65	80
29	207	128	a114	103	-	100	79	104	110	88	65	87
30	201	128	a113	103	-	94	78	107	111	89	66	681
31	190	-	a111	103	-	93	-	104	-	88	66	-

Peak discharge.— Oct. 17 (4 p.m.) 4,000 sec.-ft.; June 5 (8 p.m.) 10,000 sec.-ft.; July 11 (10 a.m.) 4,000 sec.-ft.

a No gage-height record; discharge computed on basis of graph drawn through occasional readings of staff gage.

f Computed on basis of partly estimated gage-height record.

g Computed from graph based on gage readings.

## COLORADO RIVER BASIN

Discharge, in second-feet, of Llano River near Junction, Tex., 1942-44--Continued

1943-44

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	192	88	87	106	113	142	103	3,060	107	63	48	62
2	144	89	87	157	114	136	103	383	104	65	48	60
3	154	89	85	166	113	133	101	199	96	65	47	58
4	142	89	83	150	110	128	101	219	94	63	47	58
5	128	88	91	144	108	124	100	184	94	60	46	56
6	121	86	92	139	108	132	100	152	118	59	46	129
7	113	87	89	138	108	127	100	138	124	58	46	136
8	108	86	89	135	115	180	100	127	114	57	45	107
9	106	86	88	130	115	120	99	128	107	56	45	97
10	103	86	88	127	111	127	97	144	100	56	45	91
11	103	86	87	126	107	122	94	130	96	55	45	88
12	103	86	87	127	106	120	94	120	99	55	45	82
13	101	86	86	132	107	117	94	113	94	56	45	80
14	100	86	86	138	108	114	94	111	89	55	45	80
15	97	86	85	135	107	114	93	99	86	55	45	75
16	94	85	85	130	106	114	93	97	83	55	45	72
17	94	85	85	128	107	113	93	96	82	56	45	70
18	94	83	85	126	104	114	93	96	79	66	44	70
19	94	83	85	124	106	117	92	99	77	56	47	70
20	94	82	85	124	106	115	95	100	76	56	47	67
21	95	82	85	121	106	114	94	117	75	56	46	67
22	93	81	85	120	104	118	94	138	71	58	44	65
23	93	81	86	118	103	115	91	127	71	61	46	66
24	93	81	91	118	103	111	88	110	70	56	47	65
25	92	81	89	118	107	108	89	108	70	55	47	62
26	91	82	87	117	236	107	91	106	67	54	55	67
27	91	87	88	121	166	106	92	119	67	53	107	77
28	91	97	88	118	166	104	89	236	65	51	88	75
29	89	93	86	117	154	103	88	157	65	50	80	72
30	89	88	85	115	-	103	55	127	64	49	75	70
31	89	-	85	114	-	103	-	113	-	48	70	-

Note.- Discharge computed from graph based on weekly readings of staff gage July 6-22, July 24 to Aug. 17.

## Monthly discharge, in second-feet, 1942-44

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1942	10,541	2,780	120	340	20,910
November	4,558	210	128	161	9,000
December	3,711	130	111	120	7,360
Calendar year 1942	63,145	8,280	43	173	125,200
January 1943	3,351	124	100	108	6,650
February	2,803	101	86	93.0	5,180
March	2,823	156	76	91.1	5,600
April	2,801	130	78	93.4	5,560
May	3,285	337	73	106	6,580
June	12,692	4,380	92	425	25,170
July	4,653	985	88	150	9,250
August	2,276	87	65	73.4	4,510
September	2,645	581	64	88.2	5,250
Water year 1942-43	55,929	4,380	64	153	110,900
October 1943	3,289	192	89	106	6,580
November	2,577	97	81	85.9	5,110
December	2,687	92	83	86.7	5,350
Calendar year 1943	45,692	4,380	64	125	90,650
January 1944	3,965	157	106	128	7,860
February	3,624	307	103	125	7,190
March	3,641	142	103	117	7,220
April	3,109	356	88	104	6,170
May	7,263	3,060	96	234	14,390
June	2,602	124	64	86.7	5,160
July	1,747	65	48	56.4	3,470
August	1,615	107	44	52.1	3,200
September	2,293	156	56	76.4	4,550
Water year 1943-44	38,402	3,060	44	105	76,170

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Llano River at Llano, Tex.

Location.- Water-stage recorder, lat. 30°45', long. 98°40', in Llano, Llano County, 0.4 mile downstream from bridge on State Highway 81 and 7 miles upstream from Little Llano River. Datum of gage is 970.0 feet above mean sea level, datum of 1929.

Drainage area.- 4,000 square miles.

Records available.- September 1939 to September 1944.

Extremes.- Maximum discharge during year, 10,100 second-feet May 25 (gage height, 8.24 feet); minimum daily, 28 second-feet (regulated) Aug. 17, 1939-44: Maximum discharge, 50,600 second-feet June 5, 1943 (gage height, 16.92 feet), from rating curve extended above 17,000 second-feet; minimum daily, 12 second-feet (regulated) Aug. 7, 1942.  
Maximum stage known, 41.5 feet June 14, 1935, from information by local resident.

Remarks.- Records good. Low flow regulated by power plant half a mile above station. No large diversion.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	289	99	172	223	245	482	215	1,570	462	78	39	244
2	640	102	159	1,130	240	408	220	2,960	581	98	55	197
3	568	99	152	605	240	374	215	1,050	352	92	44	129
4	285	153	147	412	255	352	210	779	304	74	42	101
5	220	112	146	362	225	321	196	880	277	71	55	90
6	210	116	168	321	225	305	191	510	2,540	81	44	855
7	199	117	204	290	225	300	195	374	1,200	72	35	1,820
8	158	101	176	280	265	285	193	297	590	75	42	617
9	139	99	169	260	509	275	181	1,180	446	77	51	423
10	148	106	177	240	424	362	186	1,140	581	66	44	290
11	118	95	209	255	326	418	155	470	318	61	33	225
12	162	103	191	255	280	336	151	352	304	56	40	166
13	144	97	168	300	255	305	140	290	297	61	36	146
14	134	116	175	379	265	285	162	251	244	64	45	133
15	136	100	166	412	280	280	149	220	220	68	37	110
16	112	119	117	536	255	300	148	195	196	49	38	101
17	114	117	168	524	250	285	147	159	185	66	29	100
18	95	104	133	412	255	265	121	155	160	54	37	98
19	124	113	135	352	245	270	125	187	152	59	32	82
20	103	122	134	321	240	290	134	249	138	53	41	87
21	103	110	132	295	245	280	136	325	139	42	39	89
22	105	117	142	280	245	496	134	446	106	56	30	80
23	110	132	129	265	240	458	96	566	123	58	44	80
24	105	118	163	260	230	336	137	482	100	51	41	86
25	95	108	183	260	450	290	86	2,950	95	62	30	75
26	90	155	177	255	1,050	270	106	1,880	99	55	58	84
27	100	154	199	250	989	255	118	1,250	83	70	114	96
28	100	170	175	255	859	245	90	2,640	85	64	452	100
29	89	212	177	255	754	235	165	1,570	82	58	281	117
30	87	200	159	260	-	225	763	982	84	53	751	117
31	100	-	170	255	-	220	-	617	-	46	457	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,982	640	87	161	9,880
November.....	3,668	212	95	122	7,270
December.....	5,072	209	117	164	10,060
Calendar year 1943 .....	92,514	19,400	30	253	183,500
January.....	10,717	1,130	223	346	21,260
February.....	10,546	1,050	225	364	20,920
March.....	9,806	496	220	516	19,450
April.....	5,264	763	85	175	10,440
May.....	26,728	2,960	155	962	55,010
June.....	10,121	2,540	92	337	20,070
July.....	1,990	98	42	64.2	3,950
August.....	3,056	751	29	98.6	6,060
September.....	6,908	1,820	66	230	13,700
Water year 1943-44 .....	98,854	2,960	29	270	196,100

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## COLORADO RIVER BASIN

Pedernales River near Johnson City, Tex.

Location.— Water-stage recorder, lat. 30°18', long. 98°24', at bridge on U. S. Highway 281, 1.5 miles north of Johnson City, Blanco County, and 1.9 miles downstream from Buffalo Creek. Datum of gage is 1,086.6 feet above mean sea level, unadjusted.

Drainage area.— 947 square miles.

Records available.— May 1939 to September 1944.

Extremes.— Maximum discharge during year, 104,000 second-feet Aug. 30 (gage height, 28.10 feet, from recorder at upstream side of right bridge pier, affected by draw-down; maximum gage height, 27.6 feet, from floodmark on staff gage 50 feet upstream and 300 feet to right of recorder), from rating curve extended above 42,000 second-feet by logarithmic plotting; minimum, 3.6 second-feet Aug. 21 (gage height, 2.16 feet). 1939-44: Maximum discharge, that of Aug. 30, 1944; minimum, 1.2 second-feet Oct. 1-3, 1939.

Maximum stage known, about 33 feet in July 1869, from information by local residents.

Remarks.— Records good. No diversion for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	9.4	18	43	28	82	54	185	285	42	10	384
2	35	9.4	17	186	29	66	52	170	238	45	9.4	257
3	29	8.9	16	100	28	60	50	78	214	76	8.9	194
4	25	9.4	15	60	26	52	46	720	191	60	8.4	159
5	18	9.4	18	42	24	48	a45	492	175	45	8.0	134
6	16	9.4	22	34	24	48	a44	161	400	42	8.4	521
7	14	8.9	22	31	23	46	a43	103	285	38	9.4	2,800
8	12	8.0	22	26	31	42	a41	78	200	34	8.0	372
9	12	8.4	22	25	38	42	a40	643	175	31	7.4	240
10	11	8.4	22	23	52	64	a39	246	149	28	7.1	186
11	11	8.4	20	22	37	78	38	114	159	24	6.8	189
12	12	8.9	18	22	32	37	87	174	23	6.8	134	
13	11	9.4	19	28	29	62	37	70	133	23	6.5	120
14	10	9.8	19	38	34	54	35	62	117	22	6.2	110
15	9.8	11	17	38	34	60	34	56	109	21	5.0	97
16	9.4	11	16	45	34	474	34	48	100	20	5.3	88
17	8.9	11	16	52	31	126	32	46	90	19	5.3	82
18	8.4	11	16	50	29	85	31	45	85	18	4.4	76
19	8.4	11	16	40	31	100	31	45	75	18	4.4	71
20	8.4	12	16	35	32	87	32	45	75	18	4.0	68
21	8.4	12	16	31	34	68	32	227	68	15	4.0	64
22	8.4	12	16	29	35	469	32	210	62	15	5.0	59
23	8.4	12	16	28	34	309	28	196	56	15	12	55
24	8.9	12	18	29	34	133	25	98	54	15	25	52
25	8.4	12	18	31	186	98	24	15,900	52	14	12	50
26	8.4	12	18	29	218	87	23	10,800	48	12	7.1	57
27	8.4	15	20	28	106	78	22	2,160	45	12	267	65
28	8.4	19	22	26	114	70	21	1,400	42	12	5,920	88
29	9.8	20	20	28	120	62	194	558	40	16	321	91
30	9.8	19	19	28	-	60	92	434	40	12	24,500	71
31	9.4	-	19	28	-	56	-	353	-	11	1,280	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	392.0	35	8.4	12.6	778
November.....	338.1	20	8.0	11.8	671
December.....	569	22	15	18.4	1,150
Calendar year 1943.....	17,592.4	1,650	2.7	47.7	54,470
January.....	1,255	186	22	40.5	2,490
February.....	1,507	218	23	52.0	2,990
March.....	3,226	474	42	104	6,400
April.....	1,288	194	21	42.9	2,550
May.....	35,830	15,900	45	1,091	67,100
June.....	3,912	400	40	150	7,760
July.....	796	76	11	25.7	1,580
August.....	50,492.8	24,500	4.0	984	60,480
September.....	6,924	2,800	50	251	13,730
Water year 1943-44.....	84,529.9	24,500	4.0	251	167,700

Peak discharge.— May 25 (8 a.m.) 27,000 sec.-ft.; Aug. 28 (7:45 a.m.) 15,900 sec.-ft.; Aug. 30

(12:20 p.m.) 104,000 sec.-ft.

a No gage-height record; discharge interpolated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

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 feet in Zilker Park at Austin, Travis County. The main spring is near right bank of creek 500 feet upstream from concrete dam forming swimming pool, 1,800 feet upstream from bridge on Austin-Bee Cave highway, and 0.8 mile upstream from mouth of Barton Creek.

Records available.— October 1918 to September 1926 and October 1940 to September 1944.

November 1894 to September 1918, October 1926 to September 1940, discharge published as miscellaneous measurements. Daily discharge record of Barton Creek at Austin, published for period April 1917 to September 1918, closely represents flow of Barton Springs. Summary of all discharge measurements prior to October 1937 is contained in Water-Supply Paper 850.

Extremes.— Maximum discharge measured during year, 85.0 second-feet Mar. 18; minimum measured, 23.0 second-feet Dec. 17.

1894-1944: Maximum discharge measured, 166 second-feet May 10, 1941; minimum measured, 12.1 second-feet Feb. 25, 1918.

Remarks.— Discharge measurements represent total flow of springs including Old Mill

Spring which is on right bank and about 1,000 feet downstream from main spring.

Springs emerge from Edwards limestone in Balcones fault zone and respond to rainfall on Edwards Plateau. Water used for recreational purposes.

Discharge measurements, in second-feet, of Barton Creek and determination of discharge of Barton Springs at Austin, Tex., water year October 1943 to September 1944

Date	Barton Creek below springs	Barton Creek above springs	Barton Springs	Date	Barton Creek below springs	Barton Creek above springs	Barton Springs
Oct. 14	32.5	0	32.5	Mar. 18	185	100	85.0
Nov. 4	31.4	0	31.4	June 20	118	34.1	83.9
29	26.0	0	26.0	July 20	65.2	0	65.2
Dec. 17	23.0	0	23.0	Aug. 23	46.6	0	46.6
Jan. 11	30.8	0	30.8	Sept. 29	43.2	0	43.2
Feb. 7	95.6	30.8	64.8				

Dry Creek at Buescher Lake near Smithville, Tex.

Location.— Water-stage recorder above concrete spillway of dam, lat. 30°03', long. 97°09', in Bastrop-Buescher State Park, 1.9 miles upstream from mouth and 2.2 miles north of Smithville, Bastrop County. Datum of gage is 327.9 feet above mean sea level, datum of 1929.

Drainage area.— 1.48 square miles (area above dam).

Records available.— October 1939 to September 1944.

Extremes.— Maximum gage height during year, 8.98 feet, probably May 9 (maximum discharge not determined); no flow most of time.

1939-44: Maximum discharge, 1,870 second-feet June 30, 1940 (gage height, 24.82 feet); maximum gage height, 24.96 feet June 30, 1940; no flow most of time.

Remarks.— Records poor. Records given herein represent flow into Buescher Lake. No run-off except during and immediately following precipitation. Discharge below gage height, 22.27 feet (spillway crest), determined from change in contents of lake; that above gage height 22.27 feet determined by algebraic summation of flow over spillway (computed from spillway curve) and change in contents of lake (computed from capacity curve and reduced to equivalent second-feet). There was no flow over spillway during year. No adjustments made for evaporation or seepage losses. Capacity of lake, 255 acre-feet. No diversion above station or from lake.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	0.3	0	0	0	5.0			0	
2			0	0	0	0	0	0			0	
3			0	0	0	0	0	0			0	
4			0	0	0	0	0	0.5			0	
5			0	0	0	0	0	0			0	
6			0	0	0	0	0	0			0	
7			0	.1	0	0	0	0			0	
8			0	0	0	0	1.0	0			0	
9			0	0	0	0	0	3.6			0	
10			0	0	0	0	0	0			0	
11			0	0	0	0	0	0			0	
12			0	0	gl.1	0	0	0			0	
13			0	0	0	0	0	0			0	
14			0	.2	0	0	0	0			0	
15			0	0	0	.5	0	0			0	
16			0	0	0	.4	0	0			0	
17			0	0	0	.2	0	0			0	
18			0	0	0	.2	0	0			0	
19			0	0	0	.1	0	.1			0	
20			0	0	0	.1	0	0			0	
21			0	0	0	.1	0	0			0	
22			0	0	0	.1	0	.1			0	
23			0	0	0	5.2	0	0			0	
24			0	0	0	.1	0	0			0	
25			0	0	0	0	0	0			0	
26			0	0	0	0	0	0			0	
27			.1	gl.6	0	0	0	0			0	
28			0	0	0	0	0	0			0	
29			0	0	0	0	0	0			0	
30			0	0	0	0	0	0			1.5	
31			0	0	-	0	-	0			0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	.1	.1	0	.005	.2
Calendar year 1943.....	4.3	.9	0	.01	8.6
January.....	2.2	1.6	0	.07	4.4
February.....	1.1	1.1	0	.04	2.2
March.....	2.0	.5	0	.06	4.0
April.....	1.0	1.0	0	.03	2.0
May.....	9.3	5.0	0	.30	18
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	1.5	1.5	0	.05	3.0
September.....	0	0	0	0	0
Water year 1943-44.....	17.2	5.0	0	.05	34

g Computed on basis of staff-gage reading.

Notes.— No gage-height record as water was below recorder intakes: Oct. 1-7, Oct. 9 to Nov. 22, Nov. 24-29, Dec. 1-6, 8-15, 18-20, 22-27, Dec. 29 to Jan. 3, Jan. 5-7, 9, 12-18, 20-25, Jan. 28 to Feb. 2, Feb. 4-9, 11, 13-15, 18-25, Feb. 27 to Mar. 22, Mar. 24 to May 9, June 17-23, July 15 to Aug. 9, Aug. 11 to Sept. 14, Sept. 16-30. No gage-height record for higher stage May 1-9. Discharge computed on basis of weather records and recorded range in stage.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Lavaca River at Hallettsville, Tex.

Location.- Wire-weight gage for low stages and water-stage recorder for high stages, lat. 29°26', long. 96°57', at bridge on U. S. Highway 77 in Hallettsville, Lavaca County, and 0.4 mile upstream from Texas & New Orleans Railroad bridge. Datum of gage is 186.7 feet above mean sea level, datum of 1929.

Drainage area.- 101 square miles.

Records available.- July 1939 to September 1944.

Extremes.- 1941-42: Maximum discharge during water year, 16,300 second-feet Apr. 8 (gage height, 28.43 feet); minimum, 2.5 second-feet July 1-2.

1942-43: Maximum discharge during water year, 2,500 second-feet May 25 (gage height, 16.22 feet); minimum, 2.0 second-feet Sept. 22-27.

1943-44: Maximum discharge during water year, 12,200 second-feet Mar. 15 (gage height, 26.61 feet); minimum, 1.6 second-feet Aug. 10-21.

1939-44: Maximum discharge, 93,100 second-feet June 30, 1940 (gage height, 40.60 feet, from floodmarks of highest flood known), by slope-area method; minimum, 0.4 second-foot Sept. 29, 1939.

Maximum stage known prior to 1940, 32.8 feet July 16, 1936, from information by local resident.

Remarks.- Records good except those above 3,000 second-feet, which are fair. Wire-weight gage read twice daily, oftener during floods. No known diversion above station.

## Discharge, in second-feet, 1941-44

1941-42

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.4	61	8.4	8.4	7.3	13	4.7	12	4.6	2.6	6.4	7.5
2	5.0	22	8.1	8.1	7.3	13	4.9	12	4.6	2.6	6.4	7.0
3	6.0	16	8.1	7.7	7.3	10	4.9	11	4.4	36	6.2	18
4	8.1	16	7.9	7.7	7.3	8.6	4.7	11	4.4	472	6.0	43
5	7.0	13	7.5	7.7	7.3	7.3	4.6	11	4.4	359	6.2	16
6	6.4	11	7.5	7.9	7.3	6.6	4.7	10	5.0	3,380	5.5	25
7	6.6	11	7.5	8.6	7.3	6.0	1,390	10	5.4	946	5.5	16
8	40	10	7.7	8.6	7.3	5.7	6,220	11	5.4	54	5.4	119
9	18	9.4	7.5	8.8	7.7	5.7	175	11	5.4	30	5.2	315
10	7.9	9.4	7.7	8.6	8.1	5.7	69	8.8	5.0	17	5.0	50
11	6.0	9.1	14	8.1	8.4	5.7	40	8.6	4.6	14	5.0	24
12	6.0	8.6	16	8.1	8.1	5.7	20	8.4	4.4	12	5.0	15
13	5.8	8.4	12	8.1	7.9	5.7	15	8.1	4.0	11	5.0	10
14	5.5	8.4	9.6	8.1	8.4	5.7	15	7.9	4.0	9.8	5.0	8.8
15	5.5	8.4	9.1	8.1	8.8	5.7	14	7.5	3.8	9.1	4.9	7.7
16	5.5	8.4	8.8	8.1	8.8	5.8	13	7.5	3.8	8.4	5.2	7.5
17	5.5	8.4	8.8	7.9	8.6	5.7	12	7.3	3.8	8.4	5.5	7.5
18	5.5	8.4	8.6	7.9	8.1	5.7	12	7.3	3.8	8.6	17	7.0
19	5.5	8.6	8.6	7.9	7.9	5.5	12	7.7	3.7	8.6	58	7.0
20	5.4	9.6	8.6	7.9	7.3	5.4	11	7.5	3.7	8.1	13	6.8
21	5.4	125	9.8	7.9	6.8	4.9	11	7.0	3.7	7.7	6.2	6.6
22	5.4	32	10	7.9	7.0	4.9	9.8	6.8	3.4	7.7	6.0	6.0
23	5.4	26	9.6	7.9	7.9	5.2	444	6.6	3.1	7.9	6.2	6.7
24	6.0	11	9.1	7.7	7.0	5.4	1,080	6.4	3.1	7.7	42	5.5
25	5.5	9.6	9.4	7.7	6.4	5.5	60	6.0	3.0	7.5	18	5.4
26	5.5	9.4	8.6	7.5	6.4	5.7	32	5.8	3.0	7.5	9.6	5.5
27	5.7	9.4	7.7	7.3	6.4	5.2	22	5.5	2.9	7.0	8.6	5.4
28	6.2	9.1	7.7	7.3	6.6	4.9	18	5.2	2.9	7.0	6.2	5.4
29	6.0	8.6	7.7	7.3	-	4.9	16	5.2	2.8	7.5	6.4	5.5
30	23	8.4	7.9	7.3	-	4.6	14	5.2	2.8	7.7	9.6	5.5
31	1,620	-	8.6	7.3	-	4.6	-	4.7	-	7.0	10	-

Peak discharge.- Oct. 31 (6 a.m.) 4,420 sec.-ft.; Apr. 8 (10 a.m.) 16,500 sec.-ft.; Apr. 24 (1:30 a.m.) 4,630 sec.-ft.; July 6 (9:30 p.m.) 8,860 sec.-ft.

Discharge, in second-feet, of Lavaca River at Hallettsville, Tex., 1941-44--Continued

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.5	5.4	6.2	6.4	9.1	10	7.9	4.0	14	2.7	12	2.7
2	5.4	5.0	6.2	6.4	9.1	10	7.5	4.0	9.4	2.8	5.8	37
3	5.5	35	6.2	6.2	8.8	10	7.3	3.8	7.7	2.9	4.7	7.8
4	20	249	6.0	5.7	8.8	10	7.0	3.8	8.7	2.8	4.1	3.0
5	9.1	112	6.0	5.5	9.1	10	6.6	3.8	22	2.8	3.7	2.4
6	6.6	19	6.0	16	8.6	10	6.6	3.8	45	2.8	3.6	2.2
7	5.4	9.4	6.4	24	8.6	10	6.6	3.8	9.6	2.8	3.1	2.1
8	5.4	7.3	6.4	12	8.6	10	6.6	3.7	7.3	2.9	3.0	4.0
9	5.4	6.8	6.2	9.1	8.1	9.8	6.6	3.7	5.4	8.9	2.9	21
10	5.2	6.4	6.4	8.6	8.1	9.8	6.6	4.1	4.9	52	2.8	2.8
11	5.0	6.2	6.2	8.6	7.7	9.6	6.2	3.8	4.7	207	3.0	2.3
12	5.0	6.2	6.2	128	7.5	9.6	5.8	3.7	14	23	3.0	2.2
13	5.0	6.0	6.2	43	7.5	9.4	5.4	3.6	188	21	2.9	2.2
14	5.0	6.0	6.2	19	7.3	9.1	5.4	3.6	107	7.4	2.9	2.2
15	5.0	6.0	6.2	13	7.3	9.1	5.0	3.6	12	5.4	2.9	2.2
16	5.0	6.0	6.2	12	7.7	8.8	5.0	3.6	6.0	4.3	2.8	3.0
17	5.0	5.8	6.2	12	7.7	8.8	5.8	3.6	5.2	4.0	2.7	2.3
18	5.0	5.7	6.0	11	7.7	8.8	5.4	3.6	5.0	3.7	2.7	2.3
19	6.8	5.7	6.0	11	9.5	8.8	5.0	3.6	5.0	5.7	2.7	2.2
20	6.0	5.7	6.0	11	22	8.8	5.0	3.6	4.9	3.7	2.7	2.1
21	5.2	5.7	9.1	10	16	8.8	4.7	39	4.0	3.4	2.7	2.1
22	5.0	518	72	10	13	8.8	4.6	100	3.7	3.5	2.7	2.0
23	4.9	12	11	9.8	12	8.8	4.6	32	3.6	3.1	2.7	2.0
24	4.9	8.4	7.8	9.8	11	9.4	4.4	20	3.7	3.1	2.7	2.0
25	4.9	7.9	6.8	9.8	11	421	4.4	780	3.6	3.1	2.7	2.0
26	4.9	7.5	6.6	9.8	10	42	4.3	44	5.4	3.7	2.7	2.0
27	5.0	6.8	34	9.6	10	17	4.3	27	3.1	5.8	2.7	2.0
28	10	6.4	12	9.6	10	12	4.1	18	2.9	62	2.7	2.3
29	6.6	6.4	7.9	9.6	-	11	4.1	90	2.8	424	2.7	2.5
30	6.0	6.2	7.3	9.6	-	9.6	4.1	152	2.7	21	4.4	2.4
31	5.8	-	6.2	9.4	-	8.6	-	103	-	13	3.1	-

Peak discharge.- May 25 (5 a.m.) 2,500 sec.-ft.; July 22 (11 a.m.) 1,010 sec.-ft.  
 a No gage-height record; discharge estimated.

1943-44

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.2	2.0	4.0	22	51	9.4	16	9.8	27	7.3	1.9	19
2	14	2.8	3.7	80	28	9.1	36	38	22	30	1.9	12
3	2.9	4.4	3.8	15	24	9.4	81	17	19	124	1.9	8.6
4	2.2	2.9	4.0	11	19	9.4	17	31	17	59	1.9	7.5
5	2.0	2.7	4.1	9.1	18	9.4	15	14	16	27	1.8	7.0
6	2.0	2.5	4.1	8.1	17	9.4	15	12	16	8.6	1.8	20
7	2.0	2.5	4.0	9.4	17	9.4	15	10	15	6.4	1.7	27
8	2.1	2.4	3.8	8.8	16	9.4	14	9.6	15	5.8	1.7	11
9	2.0	2.4	4.0	8.4	16	9.4	14	88	14	5.5	1.7	6.4
10	2.0	2.3	457	8.1	15	11	13	24	13	5.2	1.6	5.4
11	2.2	2.2	14	8.1	14	11	13	14	33	4.6	1.7	4.7
12	2.3	2.1	6.8	11	13	11	13	12	22	4.4	1.6	4.7
13	2.4	2.1	5.8	293	13	10	13	12	13	4.3	1.6	4.6
14	2.5	2.0	6.8	51	15	9.8	12	11	11	4.0	1.6	4.4
15	2.2	7.1	6.0	28	15	2,590	12	11	8.1	5.8	1.6	4.4
16	2.0	12	5.4	26	14	707	12	11	7.7	3.8	1.6	4.4
17	1.8	5.5	5.4	16	14	73	10	9.1	7.7	5.4	1.6	4.4
18	1.8	5.8	5.4	11	13	94	11	10	7.7	3.3	1.6	4.4
19	1.8	3.6	5.4	9.4	12	422	11	18	7.7	3.0	1.6	4.3
20	1.9	5.4	5.4	8.8	12	49	10	125	7.5	2.7	1.6	4.1
21	2.0	3.4	5.4	8.1	12	28	10	180	7.3	2.4	1.8	4.0
22	2.0	3.4	5.4	7.7	12	482	10	53	7.0	2.4	3.8	3.8
23	2.1	3.4	7.3	7.7	12	111	10	29	6.6	2.3	2.2	3.8
24	2.1	3.4	6.2	7.9	12	42	9.6	11	6.4	2.3	2.1	3.8
25	2.0	3.4	8.1	216	11	24	9.6	25	6.2	2.1	2.0	3.7
26	2.0	3.4	6.0	26	10	22	9.8	37	6.0	2.1	2.2	4.0
27	2.0	6.0	56	46	10	20	9.8	155	6.0	2.1	2.2	8.1
28	1.9	14	13	46	10	20	9.8	1,290	5.8	2.0	2.0	5.7
29	1.9	7.0	6.8	1,380	9.8	18	9.8	50	5.7	2.0	2.2	4.7
30	1.9	4.7	5.8	114	-	17	9.6	38	6.6	2.0	1,250	4.6
31	1.9	-	5.7	44	-	16	-	32	-	2.0	782	-

Peak discharge.- Mar. 15 (8 p.m.) 12,200 sec.-ft.; Aug. 30 (9:30 p.m.) 5,860 sec.-ft.

Monthly discharge, in second-feet, of Lavaca River at Hallettsville, Tex., 1941-44

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1941	1,859.7	1,620	4.4	60.0	3,690
November	512.6	125	8.4	17.1	1,020
December	278.1	16	7.5	8.97	552
Calendar year 1941	34,344.2	2,440	4.4	94.1	68,120
January 1942	245.4	8.8	7.3	7.92	497
February	211.0	8.8	6.4	7.54	419
March	194.0	13	4.6	6.26	385
April	9,751.3	6,220	4.6	325	19,340
May	250.0	12	4.7	8.06	496
June	118.9	5.4	2.8	3.96	236
July	5,479.2	3,380	2.6	177	10,870
August	310.2	58	4.9	10.0	615
September	774.1	315	5.4	25.8	1,540
Water year 1941-42	19,984.5	6,220	2.6	54.8	39,650
October 1942	189.5	20	4.9	6.11	376
November	597.7	249	5.0	19.9	1,190
December	305.6	72	6.0	9.79	602
Calendar year 1942	18,424.9	6,220	2.6	50.5	36,560
January 1943	475.5	128	5.5	15.3	945
February	271.8	22	7.3	9.71	539
March	747.4	421	8.6	24.1	1,480
April	166.9	7.9	4.1	5.56	331
May	1,479.8	780	3.6	47.7	2,940
June	519.3	188	2.7	17.3	1,030
July	912.1	424	2.7	29.4	1,810
August	105.8	12	2.7	3.41	210
September	129.3	37	2.0	4.31	256
Water year 1942-43	5,898.7	780	2.0	16.2	11,710
October 1943	76.1	14	1.8	2.45	151
November	122.8	14	2.0	4.09	244
December	664.6	457	3.7	21.4	1,320
Calendar year 1943	5,671.4	780	1.8	15.5	11,250
January 1944	2,544.6	1,380	7.7	82.1	5,050
February	454.8	51	9.8	15.7	902
March	4,872.1	2,590	9.1	157	9,660
April	451	81	9.6	15.0	895
May	2,376.5	1,290	9.1	76.7	4,710
June	365	33	5.7	12.1	720
July	339.8	124	2.0	11.0	674
August	2,086.5	1,250	1.6	67.3	4,140
September	214.5	27	3.7	7.15	425
Water year 1943-44	14,566.3	2,590	1.6	39.8	28,890

Time basis: Central standard time prior to 2 a.m., Feb. 9, 1942; central war time thereafter.  
To convert war time to standard time, subtract 1 hour.



## Lavaca River near Edna, Tex.

Location.- Wire-weight gage, lat. 28°58', long. 96°42', at bridge on U. S. Highway 59, 550 feet upstream from Texas & New Orleans Railroad bridge and 2.8 miles southwest of Edna, Jackson County. Datum of gage is 13.88 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.- 887 square miles.

Records available.- August 1938 to September 1944.

Extremes.- Maximum discharge during year, 9,640 second-feet Mar. 19 (gage height, 22.70 feet, from graph based on gage readings); minimum observed, 18 second-feet Oct. 25-28, 1938-44: Maximum discharge, 73,000 second-feet July 1, 1940 (gage height, 32.51 feet); minimum observed, 5.2 second-feet July 10, 1939.  
Maximum stage known, 33.8 feet May 25, 1936, from information by local resident (discharge, 83,400 second-feet).

Remarks.- Records good. Gage read twice daily, oftener during high stages. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	34	20	90	156	764	101	165	78	317	65	29	2,870
2	75	957	65	1,220	638	96	160	371	253	67	29	527
3	54	482	60	1,490	407	94	429	1,260	206	65	28	194
4	81	132	581	426	310	94	347	692	176	135	27	139
5	41	75	398	232	239	96	194	692	154	130	27	114
6	31	51	150	170	200	94	158	315	144	91	27	101
7	26	42	88	164	182	89	141	200	336	89	27	90
8	23	38	68	152	170	86	131	183	252	59	27	672
9	22	55	59	114	163	82	127	259	157	59	28	295
10	22	54	101	100	154	432	127	806	133	53	26	146
11	22	33	2,770	90	139	2,070	124	413	120	50	26	99
12	22	33	1,520	171	126	558	115	208	150	48	26	80
13	22	33	260	428	118	287	108	168	194	46	24	69
14	24	33	175	1,520	145	182	105	183	162	44	24	62
15	23	33	146	618	176	236	104	147	119	44	24	58
16	22	50	121	317	176	4,780	102	127	103	43	23	54
17	22	104	100	219	147	7,800	99	116	97	44	22	51
18	21	84	87	163	231	3,610	97	113	92	40	22	49
19	20	51	79	132	126	7,800	97	153	89	40	22	47
20	20	42	75	112	119	5,700	100	295	90	39	22	46
21	20	38	71	101	114	822	99	273	81	37	22	44
22	20	36	68	92	114	620	96	747	76	36	22	44
23	20	35	68	86	116	1,840	93	2,140	75	36	27	42
24	20	35	68	80	116	989	90	745	73	36	29	41
25	18	33	69	702	121	423	88	408	71	36	26	39
26	18	35	68	1,010	119	317	86	1,160	69	33	26	42
27	18	101	457	384	114	274	83	1,480	67	33	24	47
28	18	709	1,360	455	113	246	82	2,570	65	31	23	51
29	19	463	478	1,740	106	219	79	6,580	64	31	24	84
30	20	157	245	5,480	-	194	79	2,200	62	31	25	49
31	20	-	170	3,010	-	176	-	455	-	29	764	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	839	75	18	27.1	1,660
November.....	4,004	957	20	133	7,940
December.....	10,115	2,770	59	326	20,080
Calendar year 1943.....	42,268	2,770	18	116	83,820
January.....	21,134	5,480	80	682	41,920
February.....	5,662	764	105	195	11,230
March.....	40,387	7,800	82	1,303	90,110
April.....	3,904	429	79	130	7,740
May.....	25,392	6,520	78	819	50,360
June.....	4,049	336	62	135	8,030
July.....	1,600	135	29	51.6	3,170
August.....	1,522	764	22	49.1	3,020
September.....	6,216	2,870	39	207	12,330
Water year 1943-44.....	124,824	7,800	18	341	247,600

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Navidad River near Canado, Tex.

Location.— Wire-weight gage, lat. 29°02', long. 96°33', at bridge on U. S. Highway 59, 100 feet upstream from Texas & New Orleans Railroad bridge, a quarter of a mile downstream from Sandy Creek and 24 miles southwest of Canado, Jackson County. Datum of gage is 13.62 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.— 1,116 square miles.

Records available.— May 1939 to September 1944.

Extremes.— Maximum discharge during year, 15,600 second-feet Mar. 17 (gage height, 28.56 feet); minimum observed, 17 second-feet Oct. 22, 24, 25, 28, 30, 31.

1939-44: Maximum discharge, 64,500 second-feet July 2, Nov. 26, 1940; maximum gage height, 36.54 feet July 2, 1940, from floodmark; minimum discharge observed, 4.0 second-feet Nov. 1, 1939.

Maximum stage known, 39.8 feet May 27, 1936, from information by engineers of Texas & New Orleans Railroad (discharge, 94,000 second-feet, from rating curve extended above 60,000 second-feet).

Remarks.— Records good except those following overflow stages, which are poor. Gage read twice daily, oftener during high stages. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	104	24	275	552	3,070	99	230	49	797	70	51	1,440
2	125	2,420	230	2,750	1,460	90	192	1,110	393	76	41	2,240
3	152	5,540	219	4,000	880	83	289	1,120	268	202	40	805
4	102	2,740	410	2,520	604	74	296	2,250	224	224	54	242
5	68	1,450	393	1,080	393	76	230	2,080	180	117	95	143
6	54	524	304	514	352	74	175	1,060	153	107	131	98
7	56	261	248	410	312	67	151	445	153	103	115	343
8	49	140	180	444	219	63	140	208	149	72	97	514
9	37	74	126	282	202	61	133	219	125	65	84	532
10	55	46	94	208	186	431	153	384	118	60	74	214
11	34	37	374	164	164	3,220	158	496	129	57	68	121
12	30	30	2,070	1,694	141	2,180	131	312	151	72	66	78
13	27	28	544	1,980	970	115	158	576	76	69	49	135
14	32	26	248	3,730	214	427	103	128	268	70	63	56
15	40	26	304	3,730	344	429	98	103	214	67	50	31
16	32	45	254	1,560	514	8,270	93	93	146	63	44	31
17	24	93	186	656	284	15,100	91	86	123	70	51	45
18	25	115	116	360	208	12,800	89	80	107	76	48	37
19	21	81	89	254	160	11,500	87	84	106	61	40	37
20	19	41	82	192	175	12,800	89	899	121	57	50	42
21	18	29	75	164	186	7,140	87	1,350	101	61	57	83
22	17	24	69	142	164	2,500	85	1,700	83	70	78	92
23	18	23	74	128	164	2,240	80	4,000	77	67	61	108
24	17	24	86	121	158	1,840	76	4,660	77	59	125	134
25	17	22	97	1,300	151	875	66	2,520	81	102	141	107
26	18	21	115	3,310	140	604	62	1,190	74	86	142	90
27	18	26	491	2,360	129	478	58	700	74	73	119	171
28	17	194	4,520	2,070	142	402	56	2,590	67	71	106	402
29	18	700	3,960	3,320	116	328	57	6,700	60	80	90	568
30	17	550	2,240	6,090	-	261	54	7,360	55	76	72	4427
31	17	-	940	7,070	-	344	-	2,310	-	67	514	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,236	132	17	39.9	2,450
November.....	15,354	5,540	21	511	30,410
December.....	19,413	4,520	69	626	58,510
Calendar year 1943.....	37,992	6,290	17	241	174,500
January.....	51,935	7,070	121	1,675	103,000
February.....	11,557	3,070	116	392	22,550
March.....	85,826	15,100	61	2,769	170,200
April.....	3,724	296	54	124	7,390
May.....	46,454	7,360	49	1,499	92,140
June.....	5,050	797	55	188	10,020
July.....	2,577	224	57	85.1	5,110
August.....	2,656	314	40	85.0	5,230
September.....	9,260	2,240	31	309	18,370
Water year 1943-44.....	254,802	15,100	17	696	505,400

a No gage-height record; discharge estimated.

Notes.— Discharge Feb. 1, 2, Mar. 21-26, May 31 following overflow stages, computed on basis of backwater curves.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Guadalupe River at Hunt, Tex.

Location.— Water-stage recorder and concrete control, lat. 30°03', long. 99°19', at bridge on State Highway 39, half a mile downstream from confluence of North and South Forks, 0.6 mile east of Hunt, Kerr County. Datum of gage is 1,722.7 feet above mean sea level, datum of 1929.

Drainage area.— About 370 square miles.

Records available.— October 1941 to September 1944.

Extremes.— Maximum gage height exceeded limit of recorder May 25 (gage height and discharge not determined); minimum discharge, 19 second-feet Aug. 15-17 (gage height, 0.78 foot).

1941-44: Maximum gage height occurred May 25, 1944 (gage height and discharge not determined); minimum discharge, 18 second-feet Aug. 29, 1943 (gage height, 0.69 foot). Maximum stage known, 36.6 feet July 2, 1932, from information by local resident.

Remarks.— Records excellent. Discharge not computed above 600 second-feet. About 60 acres above station are irrigated.

Rating table, water year 1943-44 (gage height, in feet,  
and discharge, in second-feet)  
(Shifting-control method used Oct. 1 to Nov. 4,  
July 16 to Aug. 29)

0.7	18	1.2	54	2.0	166
.8	22	1.4	78	2.4	234
.9	28	1.6	105	3.0	355
1.0	34	1.8	135		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	27	31	47	35	42	37	38	90	38	24	84
2	35	27	30	71	36	40	36	37	63	37	24	59
3	38	27	35	50	35	40	36	33	78	45	22	52
4	36	27	38	42	34	40	37	60	73	42	22	47
5	32	35	40	40	33	38	36	53	70	40	22	42
6	30	29	37	38	33	38	36	42	74	34	22	76
7	29	28	32	40	33	37	37	37	70	35	22	76
8	26	27	31	37	36	36	37	34	71	32	22	62
9	28	27	31	35	37	37	37	46	65	31	21	61
10	28	28	45	35	35	50	35	49	64	31	22	46
11	30	28	40	34	33	47	33	44	65	30	20	42
12	31	28	32	35	32	42	33	40	59	30	20	49
13	31	29	32	38	33	42	33	38	49	30	21	47
14	29	30	31	40	35	40	33	35	54	30	20	42
15	28	30	30	40	34	42	33	36	49	30	20	36
16	28	30	29	38	34	64	32	38	49	29	20	34
17	28	30	29	37	35	55	32	30	48	29	20	34
18	27	29	29	36	36	48	33	30	46	28	20	34
19	27	29	29	35	40	47	34	40	46	28	20	33
20	28	29	29	34	37	46	34	49	44	28	20	35
21	28	29	29	34	36	42	33	59	42	27	20	33
22	28	27	30	34	37	56	33	76	40	27	21	32
23	28	27	31	34	36	53	32	58	38	28	24	32
24	28	28	32	34	36	47	31	(e)	40	28	23	32
25	27	28	32	34	60	44	30	(e)	40	27	22	32
26	27	26	32	34	61	44	30	(e)	37	27	22	36
27	27	32	34	34	49	42	30	225	38	26	24	48
28	27	42	34	33	49	40	30	172	36	22	35	51
29	27	35	32	36	46	38	38	136	34	25	35	42
30	27	32	31	35	-	38	45	108	40	25	322	37
31	27	-	31	35	-	37	-	99	-	24	162	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	909	38	27	29.3	1,600
November.....	880	42	27	29.3	1,750
December.....	1,008	45	29	32.5	2,000
Calendar year 1943 .....	12,787	304	16	35.0	25,360
January.....	1,179	71	33	38.0	2,340
February.....	1,108	61	32	36.1	2,190
March.....	1,352	64	36	45.6	2,690
April.....	1,030	45	30	34.3	2,040
May.....	-	-	30	-	-
June.....	1,635	90	34	54.5	3,240
July.....	941	45	22	30.4	1,870
August.....	1,134	322	20	36.6	2,250
September.....	1,356	84	32	45.2	2,690
Water year 1943-44 .....	-	-	20	-	-

e Discharge above 600 second-feet for a considerable part of day.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Guadalupe River at Comfort, Tex.

Location.— Water-stage recorder, lat. 29°58', long. 98°54', at bridge on U. S. Highway 87, a quarter of a mile downstream from Cypress Creek and half a mile east of Comfort, Kendall County. Datum of gage is 1,372.0 feet above mean sea level, datum of 1929.

Drainage area.— About 990 square miles.

Records available.— May 1939 to September 1944. December 1917 to August 1924, at site 5 miles upstream, and August 1924 to September 1932, at site 4 miles upstream. Records published as Guadalupe River near Comfort (records equivalent during flood runoff originating above upper site and during extremely low flow, at which times Cypress Creek contributes no appreciable flow).

Extremes.— Maximum gage height during year, about 29.4 feet May 26 (discharge not determined); minimum discharge, 30 second-feet Aug. 21, 22.  
1917-32, 1939-44: Maximum discharge, 182,000 second-feet July 1, 1932 (gage height, 38.4 feet, present site and datum, from floodmarks, from data furnished by Texas Highway Department); by slope-area method (flood originated above Cypress Creek drainage); minimum observed, 0.4 second-foot Aug. 2, 1918, at site then in use.  
Flood of July 16, 1900, reached about same stage as that of July 1, 1932.

Remarks.— Records good except those above 3,000 second-feet, which are poor. Several small diversions above station for irrigation. Slight regulation at low flow by power plants above station.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	70	43	60	93	74	146	160	2,680	635	162	38	269
2	67	45	58	182	76	132	158	218	600	215	37	182
3	70	43	56	160	74	123	150	172	565	172	35	134
4	65	43	53	130	70	116	148	472	548	162	34	118
5	67	45	63	107	69	105	143	267	551	160	34	105
6	60	45	76	99	67	112	136	218	616	153	35	268
7	56	46	74	97	67	103	134	184	565	139	35	349
8	53	46	72	89	70	97	136	167	531	130	35	202
9	50	50	68	81	79	99	132	338	497	116	35	167
10	50	48	65	79	79	143	130	205	463	112	34	143
11	51	46	74	79	74	150	118	187	453	97	35	127
12	53	48	83	76	69	141	114	180	443	99	35	114
13	55	45	76	78	67	132	112	167	408	95	35	107
14	55	46	67	81	72	123	110	155	376	91	37	107
15	53	50	62	85	72	575	103	143	352	87	37	101
16	50	46	58	85	72	238	99	130	351	83	37	95
17	48	50	63	83	72	226	101	123	310	79	35	89
18	48	51	58	83	72	215	99	125	295	78	35	87
19	48	50	58	79	70	236	97	189	278	72	35	85
20	46	50	58	78	72	210	99	174	261	69	34	83
21	46	51	56	76	76	197	99	343	245	65	30	81
22	46	55	60	74	76	339	99	247	228	63	32	78
23	45	53	60	74	76	256	93	220	215	63	34	74
24	45	51	63	76	76	234	85	221	205	62	37	70
25	46	50	62	74	664	210	85	6,200	197	55	38	70
26	45	53	65	74	236	197	83	15,900	197	55	37	72
27	45	58	74	72	187	187	83	1,590	174	53	35	927
28	45	67	76	74	184	184	85	1,030	165	50	144	107
29	45	70	72	72	160	170	125	828	165	46	83	103
30	43	67	70	72	-	187	183	758	180	42	1,200	99
31	43	-	67	74	-	182	-	705	-	35	570	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,609	70	43	51.9	3,190
November.....	1,509	70	43	50.3	2,990
December.....	2,024	83	53	65.3	4,010
Calendar year 1943.....	30,442	1,450	22	63.4	60,360
January.....	2,736	182	72	89.3	5,430
February.....	3,172	664	67	109	6,290
March.....	5,765	575	97	187	11,470
April.....	3,499	183	63	117	6,940
May.....	34,535	16,900	123	1,114	68,500
June.....	11,019	635	165	367	21,860
July.....	2,982	215	35	96.2	5,910
August.....	3,189	1,800	30	103	6,330
September.....	3,779	349	70	126	7,500
Water year 1943-44.....	75,838	16,900	30	207	150,400

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Guadalupe River near Spring Branch, Tex.

Location.- Water-stage recorder, lat. 29°51'40", long. 98°23'00", at bridge on county highway (formerly State Highway 46), 4 miles southeast of Spring Branch, Comal County, and 6 miles downstream from Curry Creek. Datum of gage is 948.13 feet above mean sea level, datum of 1929.

Drainage area.- 1,432 square miles.

Records available.- June 1922 to September 1944.

Average discharge.- 22 years, 287 second-feet.

Extremes.- Maximum discharge during year, 28,000 second-feet May 27 (gage height, 25.60 feet); minimum, 54 second-feet Nov. 11; minimum gage height, 2.07 feet Aug. 22.

1922-44: Maximum discharge, 121,000 second-feet July 3, 1932 (gage height, 42.10 feet), from rating curve extended above 70,000 second-feet; minimum, 2.2 second-feet July 11, 1939, from rating curve extended below 15 second-feet.

Maximum stage known, between 45 and 50 feet in 1900, from information by local residents.

Remarks.- Records good. Small diversions above station for irrigation. Slight regulation at low flow by power plants above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	62	88	148	126	341	445	4,810	1,340	302	99	860
2	99	68	90	328	128	313	427	1,890	1,180	309	95	511
3	90	64	86	243	128	298	405	535	1,100	337	93	392
4	86	61	84	214	124	286	388	436	990	317	90	321
5	88	61	88	185	122	264	379	990	920	275	88	286
6	82	59	88	161	119	261	370	526	885	264	88	377
7	84	58	93	156	119	245	354	440	1,220	257	88	1,130
8	77	56	99	144	119	227	350	392	885	243	84	568
9	74	56	97	133	122	227	346	580	820	230	81	418
10	71	57	97	128	124	261	337	645	738	220	79	350
11	70	56	101	124	122	309	313	427	694	211	79	306
12	70	59	99	124	119	313	294	383	688	202	77	275
13	71	59	99	126	119	298	286	358	650	194	76	247
14	70	59	105	128	122	286	282	333	610	188	74	240
15	70	61	97	124	130	415	279	317	565	135	72	260
16	70	59	90	133	135	1,270	261	302	555	169	71	224
17	70	59	84	137	137	646	250	290	501	166	70	214
18	66	62	79	137	135	535	247	279	473	156	68	205
19	66	59	82	135	133	501	243	279	454	149	66	200
20	65	64	81	133	133	516	237	346	436	144	65	191
21	64	66	81	130	130	473	234	393	418	142	65	188
22	62	64	81	130	133	1,570	227	352	392	137	68	185
23	62	65	79	126	137	1,140	220	459	370	133	79	180
24	64	66	79	123	139	732	211	396	354	130	79	174
25	61	70	81	137	1,340	656	202	2,080	346	128	72	169
26	59	68	84	135	1,350	605	200	11,800	329	124	72	169
27	59	70	88	133	516	560	194	12,000	317	117	134	180
28	58	76	91	126	422	530	188	8,700	298	115	1,240	191
29	59	74	91	126	396	492	191	2,150	290	111	463	194
30	59	78	93	128	-	463	437	1,800	302	109	2,470	191
31	62	-	88	128	-	454	-	1,550	-	107	2,550	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,203	99	58	71.1	4,370
November.....	1,897	79	56	63.2	3,760
December.....	2,763	105	79	89.1	5,480
Calendar year 1943.....	49,696	2,350	31	136	98,570
January.....	4,572	325	124	147	9,070
February.....	7,078	1,350	119	244	14,040
March.....	15,488	1,670	227	500	30,710
April.....	8,797	445	188	293	17,450
May.....	51,621	12,000	279	1,662	102,200
June.....	19,100	1,340	290	637	37,880
July.....	5,869	337	107	189	11,640
August.....	8,895	2,550	65	287	17,640
September.....	9,383	1,130	169	313	18,610
Water year 1943-44.....	137,564	12,000	56	376	272,800

Peak discharge.- Feb. 25 (8 p.m.) 3,000 sec.-ft.; Mar. 22 (5:30 p.m.) 3,420 sec.-ft.; May 1 (11:30 p.m.) 7,470 sec.-ft.; May 26 (1:30 a.m.) 7,270 sec.-ft.; May 27 (1 a.m.) 28,000 sec.-ft.; Aug. 30 (8:30 p.m.) 7,670 sec.-ft.

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

## GUADALUPE RIVER BASIN

Guadalupe River above Comal River, at New Braunfels, Tex.

Location.- Water-stage recorder and concrete control, lat. 29°42'55", long. 98°06'40", at New Braunfels, Comal County, 1.1 miles upstream from Comal River. Datum of gage is 586.8 feet above mean sea level, datum of 1929.

Drainage area.- 1,666 square miles.

Records available.- December 1927 to September 1944. March 1898 to December 1899, January 1915 to December 1927 at site 1 mile downstream from Comal River.

Average discharge.- 16 years (1928-44), 411 second-feet.

Extremes.- Maximum discharge during year, 26,500 second-feet May 27 (gage height, 17.90 feet); minimum, 78 second-feet Nov. 10-12 (gage height, 1.47 feet).  
1927-44: Maximum discharge, 101,000 second-feet June 15, 1935 (gage height, 32.95 feet); minimum, 9.6 second-feet July 9-11, 1939.  
Maximum stage known, 38 feet sometime in 1869 and in December 1913, from information by local residents.

Remarks.- Records excellent. Small diversions above station for irrigation. Slight regulation at low flow by small power plants above station.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

1.4	70	2.2	280	3.0	995	8.0	8,320
1.6	95	2.4	415	3.5	1,690	10.0	11,100
1.8	128	2.6	580	4.0	2,420	12.0	14,200
2.0	196	2.8	775	6.0	5,320	15.0	19,500

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	138	96	94	138	379	816	713	2,120	1,850	487	211	1,370
2	180	92	96	313	365	743	703	4,900	1,860	495	207	816
3	163	95	107	471	357	703	654	1,120	1,520	487	199	580
4	150	94	104	372	330	664	626	826	1,410	495	194	479
5	130	90	107	330	324	617	608	960	1,320	471	190	408
6	123	86	107	280	318	589	599	938	1,300	431	186	379
7	119	85	112	254	305	563	580	743	1,390	415	183	670
8	114	81	112	233	305	520	589	654	1,360	401	176	1,060
9	114	80	121	224	293	512	563	723	1,160	386	173	645
10	110	80	128	211	293	554	554	949	1,100	379	170	520
11	107	78	126	203	270	608	529	848	1,030	365	166	463
12	107	79	128	194	270	636	504	684	1,030	357	163	415
13	117	80	126	199	260	617	487	826	972	343	160	393
14	104	87	119	203	318	599	479	599	914	337	153	372
15	100	88	121	199	330	901	471	572	859	330	148	357
16	96	88	123	211	330	1,150	455	546	805	324	146	343
17	95	96	114	224	330	1,860	439	529	773	318	143	330
18	95	83	107	233	318	1,080	431	512	753	312	143	312
19	95	85	102	228	312	972	423	504	703	299	140	305
20	92	86	100	220	305	914	415	512	673	293	138	293
21	91	85	102	220	305	903	415	580	645	275	136	280
22	90	87	102	211	305	949	408	693	617	270	136	270
23	87	87	100	211	312	2,160	393	816	580	264	133	264
24	87	85	101	271	312	1,360	379	664	563	254	143	259
25	83	85	100	243	280	1,130	372	690	546	254	146	244
26	83	86	100	538	2,350	1,020	365	5,970	529	249	140	258
27	83	92	104	455	1,340	926	357	18,400	520	233	173	249
28	81	100	107	408	1,020	869	350	5,800	504	233	163	249
29	83	95	104	423	892	816	357	3,070	479	228	1,020	254
30	83	95	107	408	-	763	384	2,420	495	224	820	249
31	83	-	108	393	-	733	-	2,120	-	220	3,850	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,263	163	81	105	6,470
November.....	2,607	100	78	86.9	5,170
December.....	3,389	128	94	109	6,720
Calendar year 1943.....	88,715	1,880	66	188	136,300
January.....	9,321	943	159	301	18,490
February.....	14,148	2,350	270	488	28,060
March.....	27,247	2,160	512	879	54,040
April.....	14,802	713	350	487	28,960
May.....	61,068	18,400	504	1,970	121,100
June.....	28,040	1,850	479	935	55,620
July.....	10,434	495	220	337	20,700
August.....	10,889	3,850	136	331	20,370
September.....	13,066	1,370	228	436	25,920
Water year 1943-44.....	197,454	18,400	78	539	391,600

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Guadalupe River at Victoria, Tex.

Location.— Water-stage recorder, lat. 28°47', long. 97°01', at bridge on U. S. Highway 59 in Victoria, Victoria County, 1,300 feet upstream from Texas & New Orleans (Galveston, Harrisburg & San Antonio) Railroad bridge and 10 miles upstream from Coleta Creek. Datum of gage is 29.23 feet above mean sea level, datum of 1929.

Drainage area.— 5,676 square miles.

Records available.— November 1934 to September 1944. Gage-height records collected in this vicinity since 1904 are contained in reports of U. S. Weather Bureau.

Extremes.— Maximum discharge during year, 12,300 second-feet June 1 (gage height, 23.94 feet); minimum daily, 545 second-feet Nov. 10, 12.

1934-44: Maximum discharge, 179,000 second-feet July 3, 1936 (gage height, 31.22 feet); minimum daily, 308 second-feet Sept. 5, 1939.

Remarks.— Records good except those for periods of fragmentary or no recorder record, which are poor. Numerous small diversions above station do not materially affect flow. Low flow partly regulated by power plants above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	756	f586	656	816	5,360	2,940	2,060	1,550	12,100	1,420	968	7,640
2	741	698	726	1,100	4,230	2,560	1,960	2,480	9,230	1,450	1,000	5,740
3	936	684	726	1,160	2,120	2,350	1,930	5,480	4,180	1,420	1,000	4,640
4	766	726	956	936	1,620	1,970	2,120	5,870	3,400	1,480	1,000	2,730
5	642	741	876	1,420	1,420	1,790	1,820	5,290	3,070	1,480	906	1,860
6	698	741	670	1,380	1,750	1,680	1,820	3,160	2,890	1,550	1,100	1,650
7	656	628	698	1,220	1,220	1,650	1,680	2,600	2,770	1,620	846	1,450
8	684	656	670	1,130	1,260	1,650	1,650	2,240	3,110	1,850	726	1,620
9	642	642	756	968	1,220	1,480	1,620	2,090	4,180	1,380	586	2,180
10	614	f545	656	1,000	1,130	1,720	1,580	2,200	4,760	1,380	670	2,560
11	726	614	1,000	1,000	1,160	1,970	1,580	2,350	5,500	1,290	786	1,680
12	f572	545	712	1,060	1,130	1,580	1,820	3,020	2,680	1,290	968	1,550
13	656	586	756	1,130	1,100	1,580	1,550	2,430	2,520	1,190	1,000	1,380
14	726	586	642	1,420	1,060	1,680	1,550	2,090	3,110	1,160	816	1,220
15	684	642	670	1,650	1,130	1,620	1,480	1,970	f3,160	1,160	846	1,190
16	642	698	698	1,680	1,130	2,570	1,420	1,820	2,470	1,130	712	1,100
17	712	656	712	1,420	1,610	4,130	1,450	1,550	2,120	1,190	741	968
18	f628	698	642	1,260	1,480	7,620	1,420	1,580	2,060	1,190	684	1,000
19	f586	712	698	1,260	1,290	10,200	1,290	1,750	1,980	1,160	684	1,000
20	628	670	628	1,100	1,220	5,090	1,580	1,790	1,820	1,130	670	906
21	656	600	656	1,030	1,130	3,350	1,290	1,750	1,790	1,100	786	876
22	628	586	698	906	1,160	3,500	1,320	1,680	1,720	1,030	698	876
23	614	556	726	968	1,160	2,810	1,320	2,200	1,650	1,060	786	906
24	656	600	712	968	1,160	2,680	1,290	1,860	1,620	1,030	712	876
25	628	586	726	1,000	1,220	4,800	1,260	2,010	1,580	1,100	756	906
26	600	614	642	1,000	1,190	4,970	1,320	3,350	1,550	756	684	786
27	586	684	816	1,130	1,220	2,940	1,260	3,880	1,550	1,030	756	846
28	600	712	968	1,380	2,200	2,470	1,220	4,630	1,620	968	684	846
29	f586	756	786	2,200	4,130	2,350	1,190	9,270	1,650	906	786	816
30	f586	684	726	2,940	-	2,200	1,220	10,400	1,550	876	786	906
31	f572	-	712	3,600	-	2,120	-	11,300	-	968	3,560	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	20,397	936	572	658	40,460
November.....	19,532	756	545	651	38,740
December.....	22,696	1,000	628	732	45,020
Calendar year 1943 .....	345,678	3,020	619	947	685,700
January.....	41,432	3,800	816	1,337	82,180
February.....	47,710	5,360	1,060	1,645	94,630
March.....	92,020	10,200	1,480	2,968	182,500
April.....	45,560	2,120	1,190	1,619	90,370
May.....	105,360	11,300	1,550	3,399	209,000
June.....	91,330	12,100	1,550	3,044	181,200
July.....	37,454	1,650	786	1,208	74,290
August.....	27,693	3,560	586	893	54,930
September.....	52,704	7,640	786	1,757	104,600
Water year 1943-44 .....	603,888	12,100	545	1,650	1,198,000

f Fragmentary gage-height record; discharge computed from partly estimated gage heights.

Note.— No recorder record June 18 to July 20; discharge computed from graph based on once-daily readings of wire-weight gage furnished by U. S. Weather Bureau.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Comal River at New Braunfels, Tex.

Location.— Water-stage recorder, lat. 29°42'05", long. 98°07'10", 200 feet upstream from San Antonio Street viaduct in New Braunfels, Comal County, and 1.1 miles upstream from mouth. Datum of gage is 582.80 feet above mean sea level, datum of 1929.

Drainage area.— 94 square miles. Ordinary flow of river comes from springs; drainage area of stream not applicable.

Records available.— December 1927 to December 1944. 1882 to November 1927 (discharge measurements only).

Average discharge.— 12 years (1932-44), 337 second-feet.

Extremes.— Maximum gage height and discharge not determined (gage height affected by backwater from Guadalupe River); minimum daily discharge, 301 second-feet (regulated) Oct. 15, 18, 19, 23, 29.

1927-44: Maximum gage height, 30.71 feet June 15, 1935, from floodmarks (affected by backwater from Guadalupe River; discharge not determined); minimum, about 142 second-feet (regulated) Dec. 11, 1928 (gage height, 2.12 feet); minimum daily, 245 second-feet July 17, 20, 1939.

Maximum stage known, 35.4 feet in December 1913, from floodmarks (probably some backwater from Guadalupe River).

Remarks.— Records good except those for periods of backwater, which are poor. Flow partly regulated by steam power plant half a mile above station. Entire flow of river from Comal Springs, about 1 mile above station, except during periods of local rain. Springs emerge from the Edwards limestone in the Balcones fault zone.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	316	305	313	355	340	340	371	c508	386	371	332	328
2	316	313	309	382	332	347	382	c406	382	371	398	320
3	316	309	309	340	332	351	379	390	375	363	336	316
4	309	320	309	336	336	347	375	379	375	375	332	316
5	309	316	309	332	324	347	382	386	375	387	332	324
6	309	313	309	336	324	355	382	379	379	371	332	332
7	309	313	316	344	332	351	382	375	379	367	328	332
8	309	313	309	340	332	351	386	375	379	363	328	328
9	309	313	313	336	332	347	390	418	382	367	328	328
10	305	309	313	336	332	371	382	386	371	367	324	328
11	309	309	313	336	328	363	382	379	379	367	332	332
12	309	316	316	332	328	355	382	382	382	363	398	332
13	305	320	316	336	332	351	379	371	379	359	328	332
14	305	316	313	336	332	351	386	371	379	359	332	332
15	301	313	309	336	336	420	379	371	379	355	328	332
16	305	320	309	336	336	398	386	375	382	355	398	336
17	305	320	316	336	332	382	382	371	379	351	324	332
18	301	320	313	328	336	363	386	371	382	351	328	332
19	301	320	313	328	336	363	382	379	379	351	324	336
20	305	320	313	332	336	367	382	375	375	351	324	340
21	305	320	316	332	336	367	390	379	371	351	324	336
22	305	320	316	328	336	534	382	379	379	347	324	340
23	301	320	316	328	336	c406	382	375	379	347	328	340
24	309	320	316	317	336	371	382	371	379	347	324	336
25	305	324	316	445	c336	375	386	454	375	351	328	336
26	305	316	320	340	c340	363	379	c702	371	340	316	340
27	305	324	320	328	344	363	382	c418	371	340	332	340
28	305	316	316	328	340	367	382	c406	371	340	328	347
29	301	316	313	472	340	367	386	c398	371	336	324	340
30	309	324	313	340	340	367	406	c388	371	332	328	340
31	305	-	320	332	-	367	-	394	-	332	c324	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	9,508	316	301	307	18,860
November	9,498	324	305	317	18,840
December	9,722	320	309	314	19,280
Calendar year 1943	124,775	425	-	342	247,500
January	10,863	517	328	350	21,580
February	9,692	344	324	334	19,220
March	11,467	534	340	370	22,740
April	11,494	406	371	383	22,800
May	12,441	702	371	401	24,680
June	11,316	386	371	377	22,440
July	11,007	375	332	355	21,830
August	10,156	336	316	328	20,140
September	9,983	347	316	333	19,800
Water year 1943-44	127,147	702	301	347	252,200

c Stage-discharge relation affected by backwater from Guadalupe River.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## San Marcos River at Luling, Tex.

Location.- Water-stage recorder, lat. 29°39'55", long. 97°39'05", 390 feet downstream from Bridge on State Highway 80, 1 mile south of Luling, Caldwell County, and 8 miles upstream from Plum Creek. Datum of gage is 322.0 feet above mean sea level, datum of 1929.

Drainage area.- 833 square miles.

Records available.- April 1939 to September 1944.

Extremes.- Maximum discharge during year, 6,720 second-feet May 28 (gage height, 26.52 feet); minimum, 19 second-feet (regulated) Nov. 5; minimum daily, 125 second-feet Oct. 8, Nov. 10.

1939-44: Maximum discharge, 29,500 second-feet July 5, 1942 (gage height, 32.93 feet); minimum, 7.7 second-feet (regulated) May 21, 1943; minimum daily, 55 second-feet Oct. 15, 1939.

Maximum stage known, 40.4 feet in 1869 and 1870, from information by engineers of State Highway Department.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Flow regulated by power plant 800 feet above station. Discharge is mostly from large springs near San Marcos. No large diversions above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	153	156	154	176	428	663	596	1,130	813	350	258	358
2	138	217	153	580	358	600	580	1,060	762	358	265	358
3	151	159	145	351	356	570	564	455	711	425	265	293
4	136	139	155	245	353	555	532	395	668	435	258	255
5	141	136	132	214	350	528	516	516	628	358	258	251
6	137	145	160	200	348	498	500	395	1,350	342	265	258
7	131	141	151	214	345	484	500	380	1,120	328	265	659
8	125	135	162	194	342	470	500	350	1,260	328	265	643
9	133	139	143	181	340	456	500	1,150	677	321	265	380
10	129	128	153	176	337	470	485	654	612	314	265	300
11	139	145	145	181	334	615	470	470	621	307	265	272
12	136	141	142	181	332	555	440	410	1,450	300	265	251
13	151	144	145	226	329	512	425	365	644	300	258	251
14	145	136	145	246	326	484	425	350	564	293	258	230
15	145	148	145	281	324	1,090	425	335	532	286	279	230
16	142	154	156	235	321	4,210	410	328	500	279	265	225
17	141	150	136	207	318	949	395	321	485	279	272	218
18	136	148	145	200	315	728	355	314	470	265	272	216
19	138	154	144	194	312	961	320	314	455	286	272	216
20	142	155	137	194	309	728	380	321	440	279	265	216
21	141	158	141	200	309	644	380	355	440	279	265	209
22	148	155	138	200	316	1,160	372	410	410	272	279	209
23	148	155	151	200	323	2,590	365	564	410	272	279	209
24	145	206	160	207	316	932	350	425	395	272	286	202
25	145	158	149	266	391	796	342	440	395	272	279	202
26	142	160	143	570	1,870	752	342	3,110	380	265	265	209
27	141	155	149	414	1,030	711	335	3,380	372	265	258	216
28	143	149	162	351	759	677	328	4,460	365	265	307	225
29	149	163	154	1,180	843	668	345	2,400	365	258	307	216
30	149	149	151	953	-	828	550	1,030	365	265	651	209
31	136	-	158	400	-	596	-	898	-	251	366	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,376	153	125	141	8,680
November	4,585	217	125	153	9,090
December	4,582	162	132	148	9,090
Calendar year 1943	75,299	1,120	114	206	149,300
January	9,596	1,180	176	310	19,030
February	12,934	1,870	309	446	25,650
March	26,288	4,210	466	948	52,140
April	13,227	650	328	441	26,240
May	27,493	4,460	314	887	54,540
June	18,558	1,450	355	622	37,010
July	9,387	425	251	305	18,680
August	8,822	631	258	285	17,500
September	8,160	659	202	272	16,190
Water year 1943-44	148,111	4,460	125	405	293,800

Peak discharge.- Mar. 16 (6:30 a.m.) 6,220 sec.-ft.; Mar. 23 (4:30 a.m.) 4,980 sec.-ft.; May 26 (8:30 p.m.) 6,220 sec.-ft.; May 28 (6 p.m.) 6,720 sec.-ft.

Note.- No gage-height record Feb. 3-20, July 15, 16; discharge computed on basis of weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Blanco River at Wimberley, Tex.

Location.- Water-stage recorder, lat. 29°59', long. 98°04', 800 feet downstream from Cypress Creek, 1,200 feet upstream from bridge on State Highway 12, and a quarter of a mile south of Wimberley, Hays County. Datum of gage is 802.2 feet above mean sea level, datum of 1929.

Drainage area.- 378 square miles.

Records available.- August 1924 to September 1926, June 1928 to September 1944.

Average discharge.- 18 years, 111 second-feet.

Extremes.- Maximum discharge during year, 10,900 second-feet May 26 (gage height, 10.02 feet); minimum, 14 second-feet Dec. 1-4 (gage height, 0.40 foot).

1924-26, 1928-44: Maximum discharge, 113,000 second-feet May 26, 1929 (gage height, 31.10 feet, from floodmarks), by slope-area method; minimum, 2.9 second-feet Oct. 5, 6, 1940.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	19	18	41	149	383	302	165	413	126	55	624
2	33	27	16	62	149	356	294	152	374	120	53	438
3	33	22	16	53	146	338	286	142	351	114	51	320
4	33	19	16	44	142	338	286	155	329	112	51	270
5	33	19	19	44	156	298	262	168	302	109	51	243
6	33	19	18	43	133	298	250	152	360	103	49	239
7	29	26	18	41	126	282	239	156	316	98	49	456
8	27	24	18	39	136	254	235	123	290	92	47	488
9	26	22	18	41	133	250	231	192	270	92	44	342
10	26	22	19	41	139	307	228	216	250	89	44	278
11	27	22	21	37	139	320	216	155	254	84	44	231
12	27	22	19	41	130	282	206	139	266	84	44	196
13	29	22	19	44	130	270	199	133	243	82	44	166
14	26	21	19	47	152	250	199	130	231	79	45	142
15	26	21	21	47	152	311	196	126	216	76	45	117
16	27	21	21	47	152	448	185	120	206	76	41	103
17	24	21	21	51	152	356	175	117	192	76	41	84
18	22	21	21	53	146	333	175	114	182	71	41	71
19	21	19	19	53	142	360	165	117	175	71	37	62
20	19	19	19	51	142	342	162	117	168	69	35	53
21	19	21	19	49	142	316	159	126	162	66	33	47
22	19	19	18	47	146	634	152	172	152	64	33	44
23	19	19	19	47	146	535	152	155	146	64	31	41
24	21	18	21	186	149	458	149	130	142	62	31	41
25	22	18	21	384	1,510	428	142	146	139	62	29	39
26	22	18	19	206	675	398	139	2,430	136	62	29	39
27	22	19	21	178	465	383	136	498	128	60	70	39
28	21	21	21	152	517	580	130	1,630	123	60	1,040	39
29	18	19	19	185	448	351	130	695	120	60	743	39
30	19	19	19	162	-	324	159	509	117	57	578	39
31	19	-	21	159	-	320	-	458	-	57	850	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	779	37	18	25.1	1,550
November.....	619	27	18	20.6	1,230
December.....	594	21	16	19.2	1,180
Calendar year 1943 .....	18,875	476	16	51.7	37,450
January.....	2,655	384	37	85.6	5,270
February.....	7,012	1,510	126	242	13,910
March.....	10,883	634	250	351	21,590
April.....	9,719	302	130	197	11,740
May.....	9,718	2,430	114	313	19,280
June.....	6,751	413	117	225	13,390
July.....	2,497	128	57	80.5	4,950
August.....	4,374	1,040	29	141	8,680
September.....	5,329	624	39	178	10,570
Water year 1943-44 .....	57,130	2,430	16	156	113,500

Peak discharge.- Feb. 25 (4 p.m.) 5,340 sec.-ft.; May 26 (5 a.m.) 10,900 sec.-ft.; May 28 (1:30 a.m.) 5,200 sec.-ft.

Note.- No gage-height record Aug. 20 to Sept. 22, Sept. 27-30; discharge computed on basis of recorded range in stage, engineers' notes, and weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Plum Creek near Luling, Tex.

Location.- Water-stage recorder, lat. 29°42', long. 97°37', at county highway bridge 1 mile downstream from West Fork Plum Creek, 2 miles upstream from Texas & New Orleans (Galveston, Harrisburg & San Antonio) Railroad bridge, 3 miles northeast of Luling, Caldwell County. Datum of gage is 326.6 feet above mean sea level, datum of 1929.

Drainage area.- 356 square miles.

Records available.- March 1930 to September 1944.

Average discharge.- 14 years, 97.5 second-feet.

Extremes.- Maximum discharge during year, 3,700 second-feet May 27 (gage height, 16.07 feet); minimum, 2.2 second-feet Aug. 17.  
1930-44: Maximum discharge, 78,500 second-feet July 1, 1936 (gage height, 25.7 feet, from floodmarks), from rating curve extended above 54,000 second-feet; minimum, 0.7 second-foot Oct. 24, 1939.

Flood in December 1913 reached about same stage as that of July 1, 1936, from information by local residents.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. No diversion above station. Slight regulation at low flow by oil field operations above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.8	3.5	5.5	7.5	61	83	25	261	29	10	3.2	23
2	6.0	25	5.4	241	65	38	25	411	22	36	3.2	9.4
3	4.4	59	5.4	242	55	35	25	1190	19	165	3.1	7.8
4	3.8	7.8	5.4	20	45	35	22	158	17	135	2.9	6.9
5	3.7	5.5	5.5	15	35	31	22	458	17	40	3.3	6.0
6	3.5	5.2	5.7	9.8	35	26	22	54	332	20	3.2	45
7	3.4	5.0	5.5	13	25	20	20	25	2,420	11	2.9	1,660
8	3.3	4.6	6.9	14	37	18	23	22	827	7.8	2.9	326
9	3.4	4.6	6.9	11	31	18	31	357	177	6.9	2.6	17
10	3.6	4.6	6.3	9.4	39	23	26	636	67	6.9	2.6	9.8
11	3.6	4.7	5.8	9.0	33	90	22	59	144	6.9	2.5	7.8
12	3.7	4.9	5.7	9.4	26	83	18	34	623	6.9	2.5	7.5
13	4.0	5.2	5.7	44	32	41	17	22	258	6.9	2.9	7.2
14	3.8	5.2	5.8	203	368	31	16	16	51	6.3	2.6	7.2
15	3.6	5.0	5.7	120	354	359	16	13	28	6.0	2.4	6.9
16	3.4	5.0	5.4	221	33	2,120	15	12	22	5.8	2.4	6.6
17	3.4	4.9	5.4	120	28	757	14	9.0	21	5.4	2.3	6.0
18	3.3	5.0	5.5	27	26	99	14	7.8	21	5.5	2.3	5.7
19	3.5	5.0	5.8	16	25	658	14	7.5	20	5.2	2.4	5.7
20	3.4	5.0	5.7	13	26	660	14	7.2	18	4.7	2.5	5.5
21	3.4	5.4	5.7	12	45	82	14	6.6	17	4.2	2.6	5.5
22	3.4	5.0	5.7	11	35	563	14	48	16	4.1	2.8	5.5
23	3.4	5.0	6.0	11	41	1,560	14	407	14	4.6	3.1	5.5
24	3.4	5.0	6.6	11	40	192	14	95	14	4.0	3.1	5.4
25	5.3	6.0	6.9	12	78	64	13	37	13	3.8	3.1	5.4
26	3.2	5.2	6.9	27	1,820	42	13	922	13	3.5	3.0	5.4
27	3.1	6.0	7.2	18	405	37	13	2,450	13	3.4	3.1	5.8
28	3.2	9.8	7.2	14	137	34	12	1,050	12	3.4	4.1	6.3
29	3.4	8.1	6.9	750	554	29	12	1,760	12	3.4	5.4	6.0
30	3.5	6.3	6.3	1,350	-	27	29	130	11	3.3	409	5.7
31	3.7	-	6.0	130	-	26	-	49	-	3.2	753	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	117.6	9.8	3.1	3.79	235
November	235.5	59	3.5	7.85	467
December	188.4	7.2	5.4	6.01	370
Calendar year 1943	5,266.9	714	1.6	17.2	12,430
January	3,709.1	1,350	7.5	120	7,560
February	4,535	1,820	25	156	9,000
March	7,881	2,120	18	254	15,650
April	547	31	12	18.2	1,080
May	9,614.1	2,450	6.6	310	19,070
June	5,268	2,420	11	178	10,450
July	557.1	165	3.2	17.3	1,070
August	1,247.0	753	2.3	40.2	2,470
September	2,233.5	1,660	5.4	74.4	4,430
Water year 1943-44	36,111.3	2,450	2.3	98.7	71,630

Peak discharge.- Feb. 26 (2 p.m.) 2,690 sec.-ft.; Mar. 16 (8:30 p.m.) 2,620 sec.-ft.; May 27 (7:30 a.m.) 3,700 sec.-ft.; May 29 (9 a.m.) 2,620 sec.-ft.; June 7 (3 p.m.) 3,600 sec.-ft.; Sept. 7 (12 m.) 2,060 sec.-ft.

† Computed on basis of partly estimated gage-height record.

Note.- No gage-height record May 7, 8, 12-21, 25, May 31 to June 5, June 10, June 14 to July 8, July 16-18, Sept. 2-5, 9-24; discharge computed on basis of weather records and records for stations on nearby streams.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## GUADALUPE RIVER BASIN

Coleto Creek near Victoria, Tex.

Location.- Water-stage recorder, lat. 28°43', long. 97°08', at bridge on U. S. Highway 59, 100 feet upstream from Texas & New Orleans Railroad bridge, 1.1 miles downstream from Perdido Creek, and 9.4 miles southwest of Victoria, Victoria County. Datum of gage is 49.2 feet above mean sea level, datum of 1929.

Drainage area.- 514 square miles.

Records available.- June 1939 to September 1944.

Extremes.- Maximum discharge during year, 12,200 second-feet Mar. 18 (gage height, 13.08 feet); minimum, 1.6 second-feet Aug. 14-20.

1939-44: Maximum discharge, 48,200 second-feet Nov. 25, 1940 (gage height, 24.25 feet); minimum, 0.5 second-foot July 9, 1939.

Maximum stage known, 27.2 feet July 1, 1936, at railroad bridge 100 feet below gage, from information by railroad company.

Remarks.- Records good except those above 500 second-feet, which are poor. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	2.6	24	24	64	12	28	242	75	18	2.6	476
2	9.7	44	17	233	46	12	28	1,490	62	12	2.6	140
3	11	41	44	134	44	13	28	1,360	53	12	2.3	94
4	8.3	18	149	56	37	14	26	171	47	12	2.3	70
5	6.8	12	60	56	30	13	24	111	43	10	2.3	56
6	5.4	10	36	25	28	13	23	76	38	9.7	2.6	69
7	5.0	8.8	24	42	26	10	23	60	53	18	3.9	646
8	4.3	7.3	19	32	25	9.2	23	49	46	9.7	3.2	166
9	4.6	6.4	17	20	23	9.2	23	51	33	7.8	2.6	103
10	5.9	5.9	16	17	22	32	22	53	30	7.3	2.3	66
11	6.4	5.9	33	17	20	144	20	45	28	6.8	2.0	48
12	6.4	5.9	33	32	18	85	18	38	28	6.4	2.0	38
13	15	5.9	20	80	18	46	18	35	27	6.9	1.8	33
14	10	5.9	18	94	26	32	18	29	24	5.4	1.6	29
15	6.4	6.8	16	61	24	26	18	26	22	5.4	1.6	27
16	4.3	10	15	40	22	630	17	24	21	6.4	1.8	25
17	4.3	8.8	13	32	22	94	16	22	20	7.8	1.8	23
18	3.9	11	11	26	19	2,780	17	21	19	5.4	1.8	22
19	3.9	11	10	25	17	1,870	18	111	19	4.6	1.8	21
20	3.9	9.2	9.7	21	17	296	18	145	17	4.6	1.8	20
21	3.5	8.8	9.2	20	17	128	17	120	17	4.3	2.0	18
22	3.2	7.8	9.2	19	17	177	16	58	15	4.6	4.6	18
23	3.2	7.8	9.7	18	18	132	16	174	14	4.6	7.8	17
24	3.2	7.8	12	18	17	73	14	145	13	3.9	8.8	16
25	2.9	7.3	13	20	17	59	13	68	12	3.2	6.4	15
26	2.3	6.8	12	20	16	51	14	1,980	12	2.9	5.4	18
27	2.0	6.8	15	19	15	45	12	670	12	2.9	4.6	32
28	2.0	15	16	24	15	41	12	774	11	2.9	4.3	31
29	2.3	54	10	314	13	35	12	832	11	2.9	5.0	20
30	2.6	38	8.8	315	-	32	12	155	45	2.9	11	17
31	2.6	-	8.3	96	-	30	-	96	-	2.6	3,930	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	167.3	15	2.0	5.40	332
November.....	396.5	54	2.6	13.2	786
December.....	707.9	149	8.3	22.8	1,400
Calendar year 1943	10,218.7	1,360	1.0	28.0	80,260
January.....	1,928	315	17	62.2	5,820
February.....	693	64	13	25.9	1,370
March.....	6,943.4	2,780	9.2	224	13,770
April.....	564	29	12	18.8	1,120
May.....	9,231	1,980	21	298	18,510
June.....	866	75	11	28.9	1,720
July.....	212.9	18	2.6	6.87	422
August.....	4,034.6	3,930	1.6	130	8,000
September.....	2,874	646	15	79.1	4,710
Water year 1943-44	28,118.6	3,930	1.6	76.8	55,760

Peak discharge.- Mar. 18 (5 p.m.) 12,200 sec.-ft.; May 2 (12 m.) 3,380 sec.-ft.; May 26 (1 p.m.) 3,700 sec.-ft.; May 28 (11 p.m.) 2,130 sec.-ft.; Aug. 31 (1:30 p.m.) 7,300 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## San Antonio River at San Antonio, Tex.

Location.- Water-stage recorder, lat. 29°24'35", long. 98°29'40", at South Alamo Street Bridge in San Antonio, Bexar County, 2.1 miles upstream from San Pedro Creek. Datum of gage is 612.3 feet above mean sea level, datum of 1929.

Drainage area.- 38 square miles.

Records available.- January 1915 to November 1929, February 1939 to September 1944. Estimated monthly ground-water discharge contained in Water-Supply Paper 773-B.

Average discharge.- 19 years (1915-29, 1939-44), 71.8 second-feet.

Extremes.- Maximum discharge during year, 1,280 second-feet Sept. 6 (gage height, 5.54 feet, from rating curve extended above 700 second-feet); minimum, 1.3 second-feet (regulated) Nov. 20; minimum daily, 14 second-feet Aug. 23.  
1915-29, 1939-44: Maximum discharge, 15,300 second-feet Sept. 10, 1921 (gage height, 20.14 feet, from floodmark), by slope-area method; no flow at times because of regulation.  
Flood of July 5, 1819, equalled or exceeded that of Sept. 10, 1921.

Remarks.- Records fair. Flood flow regulated by Olmos flood-control reservoir (capacity, 15,500 acre-feet), about 8½ miles above station. Normal flow of river comes from springs located about 8 miles above station. Springs emerge from Edwards limestone formation in Balcones fault zone. Diurnal fluctuation caused by industrial pumping from wells (depleting the underground reservoir) above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	28	26	109	32	38	83	132	125	68	26	34
2	28	44	28	33	32	40	113	73	126	56	25	36
3	38	26	29	24	38	45	65	77	123	65	24	38
4	32	30	32	24	25	43	79	78	123	65	23	40
5	32	31	40	24	27	43	81	77	121	65	23	42
6	31	32	35	25	28	46	82	78	130	55	20	255
7	28	29	49	25	37	39	80	78	118	53	24	56
8	29	27	35	24	27	48	111	78	121	54	21	56
9	29	28	42	23	26	71	90	60	120	56	20	48
10	30	26	37	23	26	60	86	74	117	56	19	48
11	33	26	31	24	17	40	79	72	136	55	18	50
12	52	26	32	24	21	45	81	68	117	54	17	47
13	37	25	34	33	38	48	82	69	115	50	16	46
14	31	32	30	28	36	51	70	69	115	50	19	46
15	29	76	26	26	26	216	72	68	112	47	13	45
16	26	25	24	25	24	97	71	64	109	47	17	43
17	26	25	23	25	24	77	70	64	105	48	17	43
18	27	24	22	24	17	85	70	66	105	46	16	46
19	27	24	24	25	24	85	70	75	105	42	16	43
20	27	22	24	26	30	88	68	70	99	41	16	42
21	29	24	23	26	31	94	71	88	96	38	17	39
22	26	25	26	27	24	222	64	67	91	38	39	36
23	24	24	23	30	27	91	63	65	88	36	14	36
24	29	22	23	71	27	89	63	74	82	36	17	33
25	29	22	23	31	32	89	62	91	80	34	18	35
26	28	29	24	34	44	91	60	119	80	34	16	35
27	26	39	33	31	34	94	58	208	76	29	49	54
28	21	41	19	30	46	86	58	320	67	30	70	35
29	26	28	22	77	27	85	65	117	94	28	40	35
30	26	26	22	31	-	86	64	120	66	26	76	36
31	26	-	21	34	-	86	-	126	-	27	33	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	917	52	21	29.6	1,920
November	884	76	22	29.5	1,750
December	878	49	19	28.3	1,740
Calendar year 1943	21,875	155	19	59.9	43,390
January	1,011	109	23	32.6	2,010
February	844	46	17	29.1	1,670
March	2,414	222	38	77.9	4,790
April	2,251	113	56	76.0	4,460
May	2,904	320	64	93.7	5,760
June	3,162	136	66	105	6,270
July	1,419	65	26	45.8	2,810
August	784	76	14	26.3	1,560
September	1,466	265	33	46.9	2,910
Water year 1943-44	18,934	320	14	51.7	37,550

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## San Antonio River near Falls City, Tex.

Location.— Water-stage recorder, lat. 28°57'05", long. 98°03'55", at highway bridge, 0.9 mile (revised) upstream from Scared Dog Creek and 3.6 miles (revised) southwest of Falls City, Karnes County. Datum of gage is 285.5 feet above mean sea level, datum of 1929.

Drainage area.— 2,067 square miles.

Records available.— April 1925 to September 1944.

Average discharge.— 19 years, 308 second-feet.

Extremes.— Maximum discharge during year, 5,170 second-feet May 28 (gage height, 6.92 feet); minimum, 137 second-feet July 31, Aug. 1.  
1925-44: Maximum discharge, 18,500 second-feet July 6, 1942; maximum gage height, 22.3 feet June 13, 1935 (affected by backwater); minimum discharge, 36 second-feet May 11, 12, 1928 (gage height, 0.97 foot).  
Maximum stage known, 28.36 feet in October 1913, from information by local residents.

Remarks.— Records good. Flow partly regulated by Medina Lake and Olmos flood-control reservoir (combined capacity, 269,500 acre-feet). Water diverted at diversion dam on Medina River about 70 miles above station from mouth for irrigation in vicinity of Devine and Lytle and some water diverted for irrigation near San Antonio. Water used industrially in San Antonio.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	204	185	298	209	324	258	245	321	351	319	145	615
2	243	178	217	225	285	239	245	724	304	298	148	486
3	243	360	178	573	268	234	238	515	285	265	145	352
4	217	454	159	550	258	253	356	314	283	263	146	279
5	230	213	170	330	245	238	238	248	288	253	145	243
6												
7	200	200	217	273	243	200	243	225	283	209	152	266
8	213	196	196	253	243	204	258	213	309	225	163	949
9	243	189	189	258	253	217	283	209	298	217	159	452
10	213	185	189	230	243	250	356	196	278	209	152	243
11	185	185	174	217	209	288	384	189	315	209	152	234
12	189	185	181	217	189	407	268	181	330	300	159	217
13	200	166	178	225	185	335	221	178	319	189	155	213
14	234	155	174	225	185	278	213	178	293	185	152	209
15	217	189	170	243	204	253	209	178	263	185	152	204
16	181	189	189	288	238	292	209	174	253	181	152	200
17	178	282	192	263	234	922	213	166	248	181	152	196
18	178	314	192	288	225	628	213	166	245	181	152	192
19	174	238	189	248	221	335	213	245	238	178	152	185
20	174	225	204	243	217	273	213	170	234	174	152	185
21	181	221	221	234	204	258	221	200	234	170	152	181
22	204	217	225	225	196	288	221	258	225	163	159	178
23	204	213	230	225	204	293	230	384	217	152	163	178
24	192	204	234	271	230	306	221	306	209	155	178	178
25	163	189	238	621	234	541	213	540	200	163	189	174
26	166	189	238	740	234	330	200	767	192	163	170	174
27	174	189	243	503	234	258	200	1,770	196	163	185	178
28	166	217	225	309	268	263	200	2,620	192	155	189	185
29	185	273	213	755	258	248	200	1,610	200	152	286	217
30	196	335	209	842	-	248	192	1,560	225	148	1,110	192
31	204	-	200	592	-	243	-	560	-	141	949	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6,186	243	163	200	12,270
November.....	6,727	454	155	224	13,340
December.....	6,324	298	169	204	12,640
Calendar year 1943 .....	92,245	1,190	166	253	193,000
January.....	10,913	842	209	352	21,650
February.....	6,780	324	185	234	13,450
March.....	10,065	922	200	325	19,960
April.....	7,215	384	192	240	14,310
May.....	15,603	2,620	166	603	30,950
June.....	7,796	351	192	260	15,460
July.....	6,066	319	141	196	12,030
August.....	6,759	1,110	145	218	13,410
September.....	8,117	949	174	271	16,100
Water year 1943-44 .....	98,551	2,620	141	269	195,500

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## San Antonio River at Goliad, Tex.

Location.- Water-stage recorder, lat. 28°39', long. 97°23', at bridge on State Highway 29, 1.3 miles southeast of courthouse in Goliad, Goliad County, and 10 miles upstream from Manahulla Creek. Datum of gage is 91.1 feet (revised) above mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Drainage area.- 3,914 square miles.

Records available.- June 1924 to March 1929, February 1939 to September 1944.

Extremes.- Maximum discharge during year, 9,880 second-feet May 30 (gage height, 29.01 feet); minimum, 196 second-feet Aug. 2.  
1924-29, 1939-44: Maximum discharge, 33,800 second-feet July 9, 1942 (gage height, 44.9 feet); minimum observed, 44 second-feet for several periods in 1927.  
Floods of October 1913 and June 15, 1935, reached about same stage as that of July 9, 1942.

Remarks.- Records good except those for periods when loop curves were used, which are fair. Flow partly regulated by Medina Lake and Olmos flood-control reservoir (combined capacity, 269,500 acre-feet). Water diverted at diversion dam on Medina River about 70 miles upstream from mouth for irrigation in vicinity of Devine and Lytle and some water diverted for irrigation near San Antonio. Water used industrially in San Antonio.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	299	249	355	290	1,600	335	317	402	e1,640	272	213	a4,260
2	326	272	398	299	776	335	308	e3,000	860	308	204	e1,180
3	272	263	359	290	488	326	299	e6,950	632	425	202	668
4	290	281	326	338	416	299	290	e6,070	542	398	214	542
5	299	582	263	833	380	310	344	e1,900	488	380	213	425
6	281	615	254	689	362	531	470	e720	452	362	211	432
7	272	363	238	47C	344	317	371	524	1,700	335	211	488
8	290	281	252	398	335	272	317	452	1,420	299	214	1,320
9	284	281	290	362	326	249	299	389	524	290	213	820
10	284	272	290	344	326	272	308	371	452	308	225	987
11	290	263	254	344	326	317	335	326	425	299	227	512
12	272	254	272	317	308	362	389	380	398	281	222	371
13	243	254	241	299	281	362	416	371	596	281	214	344
14	232	263	250	299	254	445	326	317	488	272	218	308
15	247	254	250	335	249	398	272	281	425	263	218	299
16	290	243	256	335	245	344	254	263	398	254	218	290
17	290	371	229	326	283	317	245	263	362	254	216	281
18	240	363	250	335	299	1,070	243	252	344	250	216	272
19	232	380	263	344	299	1,320	247	342	335	247	214	263
20	225	425	254	326	299	698	250	317	326	250	213	263
21	222	335	254	317	290	445	249	474	317	249	213	254
22	227	317	263	308	281	380	250	308	308	238	223	254
23	231	308	299	299	272	376	254	317	308	235	223	247
24	263	299	299	281	254	576	254	452	299	229	263	241
25	263	290	299	290	263	844	263	542	290	222	241	240
26	247	281	308	358	299	944	252	e2,020	281	220	238	245
27	216	254	317	928	299	596	241	e3,800	263	227	263	263
28	213	281	317	1,050	290	425	227	e4,140	254	232	260	263
29	220	317	317	650	290	353	227	e7,410	263	232	362	260
30	218	290	308	520	-	335	229	e9,730	263	223	488	243
31	227	-	281	1,610	-	317	-	e5,610	-	216	e3,980	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,945	326	213	256	15,760
November.....	9,481	615	243	316	18,810
December.....	8,776	398	229	293	17,410
Calendar year 1943.....	161,889	4,260	213	416	301,300
January.....	14,184	1,610	281	458	28,130
February.....	10,714	1,600	245	369	21,250
March.....	14,472	1,320	249	497	28,700
April.....	8,748	470	227	292	17,350
May.....	57,673	9,730	252	1,860	114,400
June.....	15,663	1,700	254	522	31,050
July.....	8,654	425	216	276	16,970
August.....	11,050	3,980	202	356	21,920
September.....	16,795	4,260	240	560	33,310
Water year 1943-44.....	184,043	9,730	202	503	365,100

Peak discharge.- May 4 (11:45 a.m.) 6,590 sec.-ft.; May 30 (5:30 p.m.) 9,880 sec.-ft.; June 7 (8:30 p.m.) 7,450 sec.-ft.; Sept. 1 (1 a.m.) 6,590 sec.-ft.

a No gage-height record; discharge computed on basis of estimated gage height.

c Discharge obtained from loop curves.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## GUADALUPE RIVER BASIN

Cibolo Creek near Falls City, Tex.

Location.- Water-stage recorder, lat. 29°01', long. 97°56', at bridge on State Highway 123, 5.5 miles northeast of Falls City, Karnes County, and 9 miles upstream from mouth. Datum of gage is 264.3 feet (revised) above mean sea level, datum of 1929, Houston supplementary adjustment of 1943.

Drainage area.- 831 square miles.

Records available.- November 1930 to September 1944.

Average discharge.- 13 years (1931-44), 132 second-feet.

Extremes.- Maximum discharge during year, 7,640 second-feet May 28 (gage height, 19.82 feet); minimum, 12 second-feet Aug. 20 (gage height, 1.03 feet).

1930-44: Maximum discharge, 33,600 second-feet July 6, 1942 (gage height, 34.45 feet); minimum, 4.9 second-feet Aug. 27, 28, Oct. 23, 1940.

Flood in October 1913 reached a stage about half a foot higher than that of July 6, 1942.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	18	23	24	100	42	28	924	160	81	17	38
2	24	66	24	34	61	36	28	4,120	114	55	16	32
3	27	246	27	296	52	34	58	1,710	.86	45	16	23
4	25	150	26	161	43	32	161	290	69	38	15	22
5	22	49	24	68	38	30	56	166	58	33	16	20
6	20	32	24	44	35	28	56	147	189	31	15	76
7	19	27	24	38	32	27	32	88	68	32	15	144
8	18	24	24	35	30	25	31	65	52	34	15	316
9	18	21	24	30	28	25	30	57	48	31	15	84
10	18	20	24	28	27	32	30	118	48	29	14	46
11	18	20	25	27	26	30	35	134	47	27	14	33
12	15	20	25	27	24	29	37	74	94	26	14	27
13	21	20	25	49	24	44	32	52	52	25	14	24
14	20	20	26	48	25	41	30	42	49	24	14	22
15	20	33	24	32	26	36	29	36	48	23	13	22
16	19	87	22	32	26	301	27	34	44	23	13	21
17	18	65	22	36	34	372	27	32	40	22	13	20
18	18	50	21	33	32	131	27	32	38	22	14	20
19	18	32	21	30	30	73	26	31	37	21	14	20
20	18	27	21	28	29	51	26	36	37	20	13	20
21	18	24	21	26	28	46	26	44	36	20	14	19
22	17	23	22	25	28	89	27	44	38	20	18	19
23	17	22	22	25	30	397	27	61	38	20	20	18
24	17	22	23	25	31	277	24	59	34	19	18	18
25	16	20	23	165	32	110	23	150	32	19	17	17
26	15	20	23	583	32	66	23	1,780	31	19	16	18
27	16	22	22	133	31	48	22	2,050	30	18	19	21
28	16	28	22	69	60	40	22	4,540	30	18	24	21
29	17	25	22	444	54	35	22	2,280	30	18	35	20
30	18	23	22	925	-	32	808	509	30	18	144	20
31	18	-	22	243	-	30	-	248	-	17	264	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	588	27	15	19.0	1,170
November.....	1,256	245	18	41.9	2,490
December.....	720	27	21	23.2	1,430
Calendar year 1943 .....	16,088	981	14	44.1	31,900
January.....	3,753	925	24	121	7,440
February.....	1,048	100	24	36.1	2,080
March.....	2,589	397	25	83.5	5,140
April.....	1,800	808	22	60.0	3,570
May.....	19,933	4,540	31	643	39,540
June.....	1,707	189	30	56.9	3,390
July.....	848	81	17	27.4	1,680
August.....	979	264	13	28.4	1,740
September.....	1,221	316	17	40.7	2,420
Water year 1943-44 .....	36,342	4,540	13	99.3	72,090

Peak discharge.- May 2 (9 a.m.) 6,580 sec.-ft.; May 26 (10:15 a.m.) 3,490 sec.-ft.; May 28 (5:30 a.m.) 7,640 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Mission River at Refugio, Tex.

Location.- Wire-weight gage, lat. 28°17', long. 97°17', at bridge on U. S. Highway 77, 500 feet upstream from Missouri Pacific Railroad bridge and a quarter of a mile southwest of Refugio, Refugio County. Datum of gage is 1.7 feet above mean sea level, datum of 1929.

Drainage area.- 643 square miles.

Records available.- July 1939 to September 1944.

Extremes.- Maximum discharge during year, 4,950 second-feet Mar. 19 (gage height, 22.5 feet, from graph based on gage readings); minimum observed, 2.2 second-feet Aug. 19, 1939-44: Maximum discharge, 41,700 second-feet July 7, 1942 (gage height, 33.3 feet); minimum observed, 0.7 second-foot Oct. 7, 9, 1940.  
Maximum stage known prior to 1942, 32.3 feet in August 1914, May 17, 1938, from information by local residents.

Remarks.- Records good. Gage read twice daily, oftener during floods. No large diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a8.4	3.4	6.2	50	41	6.4	18	8.3	68	11	3.3	1,200
2	a7.8	5.9	6.4	293	32	6.7	16	106	47	9.3	3.3	208
3	a7.2	44	12	277	26	7.0	16	1,280	36	30	3.1	66
4	a6.7	54	80	86	20	4.8	15	500	51	9.6	3.1	34
5	a6.2	14	94	36	14	6.7	14	162	62	9.6	3.3	22
6	a5.6	8.9	46	22	11	6.2	12	90	55	10	24	17
7	a5.0	7.8	25	30	10	5.0	15	58	18	10	16	151
8	4.5	5.4	14	32	8.9	4.2	13	31	195	10	6.3	154
9	4.7	5.0	11	24	8.4	6.4	13	27	120	7.6	4.2	79
10	4.5	4.7	14	18	8.4	21	12	21	48	6.3	3.6	38
11	5.0	4.7	11	14	7.5	18	11	17	27	5.8	3.3	21
12	5.2	4.5	9.6	12	7.2	12	11	15	23	5.4	2.9	16
13	5.2	4.7	11	12	7.8	9.5	9.6	13	20	5.4	2.7	13
14	3.8	7.2	12	15	8.1	7.8	9.9	12	17	5.4	2.6	12
15	4.2	15	9.2	17	7.6	6.2	10	12	15	5.2	2.6	11
16	3.8	23	8.6	14	8.1	6.4	9.1	11	12	4.9	2.6	10
17	3.4	20	7.0	12	7.5	28	9.3	10	12	4.5	2.6	9.6
18	3.4	12	6.4	9.8	7.0	253	9.6	9.6	12	4.0	2.6	10
19	3.4	8.9	6.2	8.6	7.0	3,790	9.6	56	12	4.0	2.2	8.8
20	3.4	7.0	6.4	8.6	7.2	1,930	9.9	529	11	4.0	2.6	8.3
21	3.4	6.4	6.2	8.1	7.8	374	9.6	266	10	4.0	4.7	8.0
22	3.4	5.9	6.2	8.1	7.8	218	9.6	146	9.9	4.5	15	6.0
23	3.6	5.9	7.2	7.8	7.8	607	12	108	9.6	4.5	27	7.8
24	3.4	5.7	6.7	8.1	7.6	256	8.6	71	9.1	4.0	20	7.6
25	3.4	5.4	6.4	8.1	7.2	108	8.0	53	8.3	4.0	12	7.8
26	3.2	5.7	6.7	8.1	7.2	62	8.8	61	8.3	4.0	10	36
27	3.2	5.9	11	8.1	7.0	44	8.0	72	8.3	3.5	8.6	200
28	3.4	7.0	12	9.8	7.0	37	8.0	1,440	7.8	3.3	8.6	577
29	3.4	5.9	7.5	11	6.4	27	8.0	1,540	7.8	3.3	9.3	211
30	3.6	5.9	6.2	8.9	-	23	8.6	301	15	3.5	13	54
31	3.6	-	5.7	84	-	19	-	135	-	3.3	1,050	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	139.0	8.4	3.2	4.48	276
November.....	319.8	54	3.4	10.7	534
December.....	476.8	94	5.7	15.4	946
Calendar year 1943.....	15,572.3	2,740	2.2	42.7	30,880
January.....	1,239.2	293	7.8	40.0	2,460
February.....	320.3	41	6.4	11.0	635
March.....	7,950.5	3,790	4.2	256	15,770
April.....	330.2	18	8.0	11.0	655
May.....	7,160.9	1,540	8.3	231	14,200
June.....	955.1	195	7.8	31.8	1,890
July.....	203.9	30	3.3	6.58	404
August.....	1,275.1	1,050	2.2	41.1	2,530
September.....	3,205.9	1,200	7.6	107	6,360
Water year 1943-44.....	23,576.7	3,790	2.2	64.4	46,760

a No gage-height record; discharge interpolated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## NUECES RIVER BASIN

Nueces River at Laguna, Tex.

Location.- Water-stage recorder, lat. 29°25'45", long. 99°59'50", half a mile downstream from Sycamore Creek and 1 mile northeast of Laguna, Uvalde County. Datum of gage is 1,119.72 feet above mean sea level, datum of 1929.

Drainage area.- 764 square miles.

Records available.- October 1923 to September 1944.

Average discharge.- 21 years, 152 second-feet.

Extremes.- Maximum discharge during year, 6,190 second-feet Sept. 6 (gage height, 8.36 feet); minimum, 23 second-feet Aug. 18-22.

1923-44: Maximum discharge, 222,000 second-feet July 13, 1939 (gage height, 26.40 feet), from rating curve extended above 40,000 second-feet on basis of float measurement (110,000 second-feet) and slope-area determination (213,000 second-feet); minimum, 7.8 second-feet Nov. 3-15, 1934.

Flood of Sept. 21, 1923, reached a stage of 23.5 feet (discharge, 226,000 second-feet, based on rating curve mentioned above). Flood of June 1913 reached a stage 2 or 3 feet higher than that of Sept. 21, 1923, from information by local resident.

Remarks.- Records fair. Part of flow of Nueces River and its tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde and downstream from station. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	50	39	42	66	88	105	150	78	73	48	28	80
2	38	44	42	66	88	102	146	78	73	46	28	66
3	32	40	42	66	86	99	138	78	73	46	28	87
4	32	40	42	68	86	96	135	80	70	46	28	55
5	51	40	52	68	86	93	131	78	70	46	27	52
6	31	40	46	68	86	91	127	75	105	46	27	1,100
7	31	39	46	68	86	88	124	73	96	45	27	1,350
8	30	39	46	66	86	88	124	70	91	42	26	474
9	30	39	46	66	86	102	121	70	83	39	25	317
10	34	39	63	68	86	108	118	68	78	39	25	244
11	34	39	57	73	83	108	115	68	75	39	25	207
12	34	39	56	78	80	105	112	66	75	38	25	180
13	34	39	56	86	80	105	108	66	75	38	25	164
14	36	39	52	88	80	102	108	63	70	38	25	162
15	36	39	52	88	80	99	105	63	70	36	25	142
16	36	39	52	88	80	99	102	61	66	34	24	136
17	36	39	52	88	80	99	102	59	63	34	24	130
18	36	39	52	86	80	102	99	59	61	34	24	126
19	36	39	52	86	78	102	96	70	61	33	23	122
20	36	39	52	86	78	102	96	89	61	32	23	118
21	36	39	52	86	75	105	93	214	57	33	23	116
22	36	39	50	86	75	124	93	146	55	33	25	114
23	38	39	52	86	75	161	91	99	52	32	27	116
24	38	39	52	86	78	173	88	83	52	32	26	113
25	38	40	52	86	131	197	86	75	50	31	24	110
26	38	40	50	86	165	201	83	75	48	31	27	109
27	38	45	52	86	131	189	83	78	48	31	29	113
28	39	45	52	86	124	181	80	73	46	30	32	114
29	39	44	52	88	115	169	78	70	46	29	30	114
30	39	44	52	88	-	161	78	70	50	29	122	114
31	39	-	57	88	-	157	-	75	-	28	93	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,111	50	30	35.8	2,200
November.....	1,203	45	39	40.1	2,390
December.....	1,571	63	42	50.7	3,120
Calendar year 1943.....	21,893	626	28	60.0	43,430
January.....	2,469	88	66	79.6	4,900
February.....	2,632	166	75	90.8	5,220
March.....	3,813	201	89	123	7,560
April.....	3,210	150	78	107	6,370
May.....	2,470	214	59	79.7	4,900
June.....	1,991	105	46	66.4	3,950
July.....	1,138	48	28	36.7	2,260
August.....	970	122	23	31.3	1,920
September.....	6,405	1,350	52	214	12,700
Water year 1943-44.....	28,983	1,350	23	79.2	57,490

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Nueces River below Uvalde, Tex.

Location.- Water-stage recorder, lat. 29°08', long. 99°54', on Smyth Ranch, 4 miles upstream from bridge on U. S. Highway 83, 9 miles southwest of Uvalde, Uvalde County, and 15 miles downstream from West Nueces River. Datum of gage is 796.1 feet above mean sea level, datum of 1929.

Drainage area.- 1,947 square miles.

Records available.- April 1939 to September 1944.

Extremes.- Maximum discharge during year, 3,370 second-feet Aug. 30 (gage height, 6.33 feet); minimum, 5.8 second-feet Aug. 19-22.  
1939-44: Maximum gage height, 19.25 feet July 13, 1939 (discharge not determined); minimum, that of Aug. 19-22, 1944.  
Maximum stage known, 40.4 feet, from floodmarks, June 14, 1935 (discharge at former station 5 miles upstream, 616,000 second-feet, by slope-area method).

Remarks.- Records good except those for period of no gage-height record, 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. No diversion.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	12	12	13	9.9	11	8.9	8.9	11	11	7.3	38
2	16	14	12	11	10	11	8.9	8.6	11	11	7.3	31
3	16	13	12	10	9.9	11	8.6	8.3	12	11	7.0	29
4	15	13	12	10	9.9	10	8.6	10	12	11	6.8	28
5	15	13	13	10	9.9	10	8.6	9.2	11	10	6.8	26
6	15	13	12	10	9.9	9.9	8.6	8.9	573	10	6.8	24
7	14	12	12	10	9.9	9.9	8.6	8.6	a38	10	6.8	220
8	13	12	12	9.6	9.6	9.9	8.9	8.6	a20	10	6.8	296
9	14	12	12	9.9	9.6	10	8.6	8.9	a19	9.9	6.8	128
10	14	12	12	9.9	9.6	11	8.1	9.2	a18	9.9	6.5	63
11	14	12	12	9.9	9.2	10	8.1	9.2	a18	9.6	6.5	47
12	14	12	12	9.9	9.6	9.9	8.3	8.9	a18	9.6	6.3	42
13	14	12	12	9.9	9.9	9.9	8.6	8.9	a18	9.2	6.3	36
14	13	12	11	9.9	9.9	10	8.3	8.6	18	9.2	6.3	34
15	13	12	11	9.9	9.9	9.9	8.3	8.6	16	9.2	6.3	31
16	13	12	11	9.9	9.9	9.6	8.3	8.6	15	8.9	6.3	30
17	13	12	11	9.6	9.6	9.6	8.3	8.6	14	8.9	6.0	28
18	13	12	11	9.6	9.6	9.6	8.3	8.6	14	8.6	6.0	27
19	13	12	11	9.6	9.6	8.9	8.3	18	13	8.6	6.0	26
20	13	12	11	9.6	9.9	8.9	8.3	12	13	8.3	6.0	26
21	13	12	11	9.9	9.9	9.2	10	52	12	8.1	6.0	26
22	13	12	11	9.9	9.9	9.2	8.6	14	12	8.1	6.0	26
23	13	12	10	9.9	9.6	8.9	8.1	12	12	8.1	6.5	25
24	13	12	10	9.9	10	8.9	8.3	12	12	7.8	6.8	26
25	13	12	10	9.9	66	8.9	8.3	14	12	7.8	6.5	25
26	13	12	10	9.9	13	8.9	8.3	13	11	7.8	8.2	26
27	13	13	10	9.6	12	8.9	8.3	15	11	7.6	19	26
28	13	13	9.9	9.9	11	8.6	8.6	21	11	7.3	74	26
29	13	12	9.9	10	11	8.3	8.6	13	12	7.3	16	26
30	13	12	9.9	-	-	8.9	8.6	12	12	7.3	630	26
31	12	-	10	9.9	-	8.9	-	12	-	7.3	71	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	423	16	12	13.6	639
November.....	368	14	12	12.3	730
December.....	345.7	13	9.9	11.2	686
Calendar year 1943.....	6,204.7	50	6.5	17.0	12,310
January.....	309.9	13	9.6	10.0	615
February.....	356.7	55	9.2	11.6	668
March.....	297.6	11	8.3	9.60	590
April.....	256.2	10	9.1	8.51	506
May.....	379.2	52	8.3	12.2	752
June.....	999	573	11	33.3	1,990
July.....	278.4	11	7.3	8.98	552
August.....	980.9	630	6.0	31.6	1,950
September.....	1,463	296	24	48.8	2,900
Water year 1943-44.....	6,436.6	630	6.0	17.6	12,770

Peak discharge.- June 6 (6:45 a.m.) 3,270 sec.-ft.; Aug. 30 (8:15 a.m.) 3,370 sec.-ft.

a No gage-height record; discharge computed on basis of estimated gage heights.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## NUECES RIVER BASIN

Nueces River near Asherton, Tex.

**Location.**- Water-stage recorder, lat. 28°30', long. 99°42', at bridge on county road between Asherton and Brundage, 1.2 miles downstream from El Moro Creek and 5.5 miles northeast of Asherton, Dimmit County. Datum of gage is 470.9 feet above mean sea level, datum of 1929.

**Drainage area.**- 4,082 square miles.

**Records available.**- October 1939 to September 1944.

**Extremes.**- Maximum discharge during year, 15,400 second-feet Sept. 2 (gage height, 30.40 feet); no flow at times.

1939-44: Maximum discharge, that of Sept. 2, 1944; no flow at times.

Maximum stage known, about 33 feet (revised) June 17, 1935, present site and datum; based on relation determined from levels to floodmarks of the June 17, 1935, and the Sept. 2, 1944, floods at farm house on left bank, 0.8 mile upstream from gage.

**Remarks.**- Records fair except those for period of no gage-height record, which are poor. Part of flow of Nueces River and its headwater tributaries enters Edwards limestone in Balcones fault zone which crosses basin just north of Uvalde in an east-west course. At low stages most of headwater flow enters this formation. Flow partly regulated by several small reservoirs above station. About 12,000 acres irrigated from river or jointly from wells and river above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	93	0	0			0	0.2	0	852		0	12,600
2	327	0	0			0	.1	0	361		0	15,000
3	291	0	0			0	.1	0	190		0	12,600
4	291	0	1.5			0	0	0	116		0	9,300
5	180	81	1.3			0	0	0	82		0	5,660
6	134	321	1.6			0	0	0	573		0	1,760
7	110	185	1.3			0	0	0	808		0	445
8	38	106	.8			0	0	0	894		0	233
9	63	64	.7			0	0	0	1,080		0	172
10	44	36	.6			0	0	0	696		0	130
11	34	18	.3			0	0	0	310		0	154
12	25	8.4	.3			0	0	0	158		0	138
13	17	4.4	.2			0	0	0	92		0	103
14	10	2.6	.2			0	0	0	52		0	77
15	5.7	1.6	.2			0	0	0	59		0	56
16	3.7	1.0	.1			62	0	0	22		0	36
17	2.2	1.6	.1			7.6	0	0	12		0	23
18	1.3	1.0	0			18	0	0	7.3		0	13
19	.8	.5	0			11	0	0	4.8		0	7.5
20	.5	.2	0			4.2	0	0	2.7		0	4.2
21	.3	.2	0			2.0	0	0	1.6		0	2.4
22	.2	.1	0			17	0	0	.7		0	1.2
23	.1	.1	0			435	0	0	.2		0	.6
24	.1	0	0			297	0	34	0		0	.2
25	0	0	0			53	0	931	0		0	0
26	0	0	0			16	0	1,590	0		0	0
27	0	0	0			15.5	0	1,310	0		2,210	0
28	0	0	0			2.2	0	2,160	0		10,800	0
29	0	0	0			1.0	0	2,910	0		12,600	0
30	0	0	0			.5	0	2,820	0		9,300	0
31	0	-	0			.3	-	2,040	-		10,400	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,719.9	327	0	55.5	3,410
November.....	832.7	321	0	27.8	1,650
December.....	9.3	1.6	0	.30	18
Calendar year 1943.....	17,047.0	3,390	0	46.7	33,810
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	932.3	435	0	30.1	1,860
April.....	13,795.4	2,910.2	0	445	27,360
May.....	6,164.3	1,080	0	205	12,230
June.....	0	0	0	0	0
July.....	45,310	12,600	0	1,462	89,870
August.....	58,546.1	15,000	0	1,952	116,100
September.....	127,310.0	15,000	0	348	252,600

**Peak discharge.**- May 26 (9:30 a.m.) 1,710 sec.-ft.; May 29 (4 p.m.) 2,940 sec.-ft.; June 9 (1 p.m.) 1,140 sec.-ft.; Aug. 29 (12:30 a.m.) 14,690 sec.-ft.; Sept. 2 (7 a.m.) 15,400 sec.-ft.

**Note.**- No gage-height record June 16 to July 4; discharge computed on basis of estimated gage heights and knowledge that stage was falling.

**Time basis.** Central war time. To convert war time to standard time, subtract 1 hour.

## Nueces River at Cotulla, Tex.

Location.- Wire-weight gage, lat. 28°26', long. 99°16', at bridge on U. S. Highway 81 at Cotulla, La Salle County, a third of a mile upstream from International-Great Northern Railroad bridge. Datum of gage is 368.08 feet above mean sea level, datum of 1929.

Drainage area.- 5,260 square miles.

Records available.- October 1923 to September 1944. July 1915 to June 1918 at site 4 miles upstream. 1914-17 and since 1922 (gage heights only) in reports of U. S. Weather Bureau.

Average discharge.- 21 years, 333 second-feet.

Extremes.- Maximum discharge during year, 40,900 second-feet Aug. 30 (gage height, 26.80 feet); no flow at times.

1923-44: Maximum discharge, 82,600 second-feet June 18, 1935 (gage height, 32.4 feet, from floodmarks), by slope-area method; no flow at times.

Remarks.- Records good. Gage read once daily. 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. Low-water flow partly 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.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.6	0	0.6	2.0	0.4	0	11	0	4,470	0.4	0	19,500
2	77	0	4.0	1.4	.3	0	8.6	0	3,020	.3	0	12,000
3	302	0	24	1.4	.3	0	5.9	0	1,960	.1	0	12,700
4	474	0	13	.9	.3	0	3.7	.4	972	.2	0	19,300
5	554	0	5.3	.9	.3	0	2.4	104	345	0	0	18,500
6	402	0	3.2	.9	.3	0	1.2	468	363	.4	0	12,700
7	235	2.2	2.4	.9	.2	0	.5	545	807	.1	0	7,020
8	179	149	4.2	.9	.2	0	.5	227	1,240	.2	0	3,020
9	129	168	5.9	.4	.2	0	.9	96	1,340	.2	0	1,200
10	83	96	5.9	.5	.2	0	1.4	70	1,300	.1	0	437
11	70	64	7.2	.4	.2	0	.2	50	1,280	0	0	225
12	62	40	5.9	.6	0	0	0	19	946	0	0	57
13	21	29	4.2	.9	0	0	.1	11	372	0	0	157
14	29	20	4.2	.7	.1	0	0	7.2	254	0	0	115
15	21	16	4.2	.6	.1	0	0	5.9	150	0	0	96
16	15	14	3.2	.6	.1	0	0	4.2	77	0	0	83
17	12	11	3.2	.4	.1	0	0	1.4	48	0	0	57
18	2.8	4.7	2.9	.4	0	0	0	.4	40	0	0	44
19	1.4	7.2	2.8	.3	.2	0	0	2.4	26	0	0	33
20	.4	1.2	1.4	.3	.1	0	0	1.2	20	0	0	20
21	1.2	1.2	1.4	.3	.2	.1	0	.6	14	0	0	11
22	.7	.9	1.4	.2	.1	34	0	.4	11	0	0	8.6
23	1.2	1.2	1.4	.2	.2	72	0	.2	6.5	0	0	11
24	.3	.5	1.2	.2	.1	83	0	.4	6.3	0	0	10
25	.2	.5	1.2	.2	.2	308	0	17	.7	0	0	5.9
26	.1	.4	1.2	.2	.2	352	0	248	.2	0	0	5.9
27	0	.4	.9	.1	.1	157	0	1,180	.5	0	0	6.5
28	0	.5	.6	.1	.1	128	0	2,090	.3	0	2,660	6.5
29	0	.6	.6	.3	.1	29	0	3,320	.2	0	20,000	4.2
30	0	.6	.5	.3	.1	18	0	6,480	.1	0	37,800	2.8
31	0	-	.4	.4	-	18	-	6,300	-	0	30,500	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,682.9	554	0	86.5	5,320
November.....	629.1	168	0	21.0	1,250
December.....	118.4	24	.4	3.82	235
Calendar year 1943.....	28,217.9	3,940	0	77.3	55,970
January.....	17.9	2.0	.1	.58	36
February.....	4.9	.4	0	.17	9.7
March.....	1,199.1	352	0	38.7	2,380
April.....	36.4	11	0	1.21	72
May.....	21,219.7	6,480	0	685	42,090
June.....	19,068.8	4,470	.1	656	37,820
July.....	2.0	.4	0	.06	4.0
August.....	90,960	37,800	0	2,934	180,400
September.....	107,336.4	19,500	2.8	3,578	212,900
Water year 1943-44.....	243,275.6	37,800	0	665	482,500

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Nueces River near Tilden, Tex.

Location.— Water-stage recorder, lat. 28°18', long. 98°34', at bridge on State Highway 173, 2 miles upstream from Cow Creek and 10.5 miles south of Tilden, McHullen County. Datum of gage is 183.3 feet above mean sea level, datum of 1929 (levels by State Highway Department).

Drainage area.— 8,192 square miles.

Records available.— November 1942 to September 1944.

Extremes.— Maximum discharge during year, 29,900 second-feet Sept. 3 (gage height, 22.98 feet); no flow at times.

1943-44: Maximum discharge, that of Sept. 3, 1944; no flow at times.

Maximum stage known, about 23.7 feet in June 1935, from information furnished by State Highway Department.

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. About 12,000 acres irrigated from river or jointly from wells and river above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	101	0.1	4.8	0.5	0.2	0	60	0	13,800	41	0	1,230
2	451	.1	3.1	.5	.1	0	39	248	8,330	52	0	2,030
3	629	.1	3.1	.4	.1	0	29	569	5,010	112	0	25,300
4	527	.1	12	.4	.1	0	19	753	4,510	60	0	25,400
5	231	119	80	.4	.1	0	15	842	5,290	40	6.1	19,500
6	192	150	180	.3	.1	0	11	1,100	5,290	33	136	15,200
7	368	53	260	.3	.1	0	6.8	1,550	4,750	80	12	14,700
8	476	22	146	.3	.1	0	5.0	1,940	3,900	7.0	2.1	19,500
9	512	10	90	.4	.1	0	3.5	1,340	3,040	5.7	.9	18,900
10	440	5.7	45	.4	.1	.1	2.0	577	2,290	2.2	.5	15,700
11	272	3.5	30	.4	0	0	1.0	452	1,780	1.2	.3	12,000
12	169	75	31	.4	0	0	.7	174	1,470	.9	.1	9,010
13	118	121	25	.5	0	0	.4	98	1,280	.6	.1	6,020
14	84	87	16	.6	0	0	.3	62	1,150	.6	.1	4,120
15	72	61	9.5	.5	0	0	.2	33	1,150	.4	.1	2,740
16	58	49	7.7	.4	0	0	.1	18	1,150	.3	0	659
17	36	34	5.7	.3	0	0	.1	11	920	.3	0	210
18	22	133	4.0	.3	0	0	.1	7.7	356	.3	0	153
19	15	268	2.9	.2	0	.1	.1	8.2	165	.2	0	121
20	10	102	2.1	.1	0	40	.1	12	109	.1	0	98
21	6.8	36	1.8	.1	0	216	.1	7.0	74	.1	0	77
22	5.0	17	1.6	.1	0	144	.1	10	52	.1	0	59
23	4.0	10	1.4	.1	0	62	0	4.0	36	.1	0	46
24	2.7	7.2	1.1	.1	0	27	0	3.0	30	.1	0	37
25	1.6	5.0	.9	.1	0	9.4	0	6.4	22	.1	0	31
26	1.0	3.6	.9	.1	0	4.8	0	74	17	.1	0	25
27	.7	3.5	.7	.1	0	37	0	173	13	0	24	99
28	.5	4.6	.6	.1	0	140	0	915	7.5	0	391	157
29	.3	4.0	.5	.1	0	245	0	1,950	8.8	0	910	69
30	.2	4.6	.4	.1	-	196	0	4,860	37	0	1,230	70
31	.1	-	.4	.1	-	102	-	18,000	-	0	1,280	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	4,805.9	629	0.1	155	9,530
November	1,399.1	268	.1	46.3	2,760
December	968.2	260	.4	31.2	1,920
Calendar year 1943	55,524.3	3,820	0	152	110,100
January	8.7	.6	.1	.28	17
February	1.1	.2	0	.04	2.2
March	1,223.4	245	0	39.5	2,430
April	193.6	60	0	6.45	384
May	35,793.3	18,000	0	1,155	70,900
June	66,017.3	13,800	7.5	2,201	130,900
July	418.4	112	0	13.5	830
August	3,995.3	1,280	0	129	7,920
September	193,261	25,400	25	6,442	383,300
Water year 1943-44	308,073.3	25,400	0	842	611,000

Peak discharge.— May 31 (1 p.m.) 20,100 sec.-ft.; June 6 (9 a.m.) 5,570 sec.-ft.; Sept. 3 (5 p.m.) 29,900 sec.-ft.; Sept. 8 (10 p.m.) 20,100 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Nueces River near Three Rivers, Tex.

Location.- Water-stage recorder, lat. 28°26'10", long. 98°11'10", 100 feet downstream from San Antonio, Uvalde & Gulf (Missouri Pacific) Railroad bridge, half a mile downstream from Frio River, and 2 miles southeast of Three Rivers, Live Oak County. Datum of gage is 101.16 feet above mean sea level, datum of 1929.

Drainage area.- 15,600 square miles.

Records available.- July 1915 to September 1944. Gage-height records collected in this vicinity since 1922 are contained in reports of U. S. Weather Bureau.

Average discharge.- 27 years (1915-18, 1920-44), 836 second-feet.

Extremes.- Maximum discharge during year, 20,500 second-feet Sept. 6 (gage height, 38.48 feet); minimum, 0.5 second-feet Aug. 5, 17-22.

1915-44: Maximum discharge observed, 85,000 second-feet Sept. 18, 1919 (gage height, 46.0 feet), from rating curve extended above 55,000 second-feet; no flow at times.

Remarks.- Records good. 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 in an east-west course. At low stages most of headwater flow enters this formation. About 5,000 acres irrigated from river above station, and about 12,000 acres jointly from river and wells.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	160	5.8	75	30	158	28	164	11	8,400	382	1.0	2,830
2	270	7.6	50	33	87	26	117	818	10,900	339	.9	2,580
3	523	25	90	41	65	25	128	2,940	11,600	180	.8	2,950
4	706	134	130	43	51	76	87	2,140	8,560	340	.7	5,240
5	581	134	136	40	45	345	68	1,490	6,010	256	.6	14,600
6	250	126	121	39	36	75	53	1,190	4,770	177	.6	20,000
7	212	188	198	47	37	42	45	1,250	4,950	416	70	19,000
8	355	95	254	47	35	35	43	1,490	4,850	202	43	15,000
9	470	217	188	38	33	34	39	1,850	4,860	97	13	15,500
10	522	232	128	36	31	76	61	1,760	4,480	48	5.8	14,700
11	420	126	76	35	29	328	108	721	3,610	36	3.1	15,000
12	262	71	57	33	26	187	76	462	2,530	30	1.9	13,400
13	185	67	52	33	26	93	85	212	2,320	26	1.2	10,700
14	141	149	55	52	27	65	66	113	1,980	20	1.0	8,100
15	108	137	45	60	27	50	47	94	1,660	16	.8	5,840
16	90	103	38	54	28	45	37	58	1,490	13	.6	4,130
17	78	134	33	44	28	38	30	43	1,430	10	.5	1,580
18	59	136	31	36	27	57	24	34	1,210	8.3	.5	364
19	47	135	29	32	26	139	19	35	642	7.0	.5	247
20	39	254	28	32	28	160	18	72	410	6.2	.5	191
21	33	149	26	30	29	66	23	44	286	5.3	.5	147
22	28	75	26	29	31	204	22	29	212	4.6	.5	114
23	23	52	24	28	32	901	19	20	151	4.0	6.0	85
24	17	42	23	37	32	686	18	21	153	3.8	3.1	68
25	13	36	21	332	32	267	17	343	129	3.1	2.5	57
26	11	32	20	767	31	149	18	1,620	104	2.5	3.1	53
27	9.0	32	23	112	30	97	19	3,150	87	2.1	2.7	42
28	7.9	58	52	31	186	18	18	4,800	73	1.6	292	92
29	7.0	169	25	100	30	247	18	8,260	65	1.3	3,050	232
30	6.7	147	24	726	-	294	15	11,000	157	1.3	3,770	119
31	6.0	-	26	800	-	240	-	10,800	-	1.1	4,130	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,639.6	706	6.0	182	11,190
November.....	3,266.4	254	5.8	109	6,480
December.....	2,075	254	20	66.9	4,120
Calendar year 1943.....	109,245.5	4,930	1.0	299	216,800
January.....	3,816	800	28	123	7,570
February.....	1,126	158	26	38.8	2,230
March.....	5,259	901	25	170	10,430
April.....	1,510	164	15	50.3	3,000
May.....	56,845	11,000	11	1,834	112,800
June.....	88,379	11,600	65	2,946	175,500
July.....	2,640.2	416	1.1	85.2	5,240
August.....	11,407.4	4,130	5	368	22,630
September.....	170,941	20,000	42	5,698	339,100
Water year 1943-44.....	352,904.6	20,000	.5	964	700,100

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## NUECES RIVER BASIN

Nueces River near Mathis, Tex.

Location.- Water-stage recorder, lat. 28°02', long. 97°52', at bridge on U. S. Highway 59, 200 feet downstream from Texas & New Orleans Railroad bridge, 0.8 mile downstream from Lake Corpus Christi Dam, and 4 miles southwest of Mathis, San Patricio County. Datum of gage is 27.53 feet above mean sea level, datum of 1929.

Drainage area.- 16,660 square miles.

Records available.- August 1939 to September 1944.

Extremes.- Maximum discharge during year, 19,000 second-feet Sept. 9 (gage height, 28.40 feet); minimum, 30 second-feet (regulated) July 21; minimum daily, 37 second-feet (regulated) Feb. 15, 16, 18, 21-27, Mar. 1.  
1939-44: Maximum discharge, 49,400 second-feet July 12, 1942 (gage height, 37.38 feet); minimum, 3.7 second-feet (regulated) Aug. 15, 1940; minimum daily, 6.8 second-feet (regulated) Aug. 15, 1940.  
Maximum stage known, 39.9 feet September 1919 at railroad bridge 200 feet upstream, from floodmark identified by Texas & New Orleans Railroad engineers.

Remarks.- Records good. Flow regulated by Lake Corpus Christi Reservoir. (Original capacity at spillway crest, about 64,000 acre-feet, as determined by Texas State Board of Water Engineers, computed from Geological Survey advance topographic sheets, scale 1:48,000 contour interval, 10 feet; the U. S. Soil Conservation Service, in connection with a siltation survey, determined capacity in 1942 to be 43,400 acre-feet, which survey also determined original capacity to be 54,000 acre-feet, indicating a loss of 10,600 acre-feet by siltation.) Part of flow of Nueces River and its headwater tributaries enters Edwards limestone, in Balcones fault zone which crosses basin just north of Uvalde in an east-west course. At low stages most of headwater flow enters this formation. About 5,000 acres irrigated from river above station, and about 12,000 acres jointly from river and wells above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	196	55	45	55	490	37	156	194	9,970	139	137	4,500
2	350	78	52	125	330	38	216	139	10,700	172	136	3,040
3	273	60	131	50	246	39	216	508	10,100	242	136	2,600
4	330	50	118	47	142	40	90	1,940	10,900	219	134	2,840
5	446	50	122	59	110	40	76	1,820	11,200	216	133	4,260
6	457	51	136	48	93	68	87	1,450	9,650	328	47	7,070
7	348	189	120	54	76	43	62	1,110	6,890	364	45	11,400
8	237	61	112	306	122	42	62	1,110	6,420	374	77	16,500
9	237	48	146	54	53	43	64	1,310	4,920	263	77	18,700
10	330	52	293	50	56	44	99	1,530	4,790	176	76	18,100
11	368	44	218	50	216	43	87	1,530	4,420	116	75	16,600
12	358	44	81	136	42	41	53	1,000	3,650	86	75	16,500
13	339	44	79	215	40	45	51	636	2,840	77	75	16,600
14	221	44	158	124	64	47	57	373	2,870	74	75	15,800
15	210	57	182	55	37	53	52	224	1,950	75	74	13,000
16	139	101	54	54	37	89	51	148	1,630	77	74	9,630
17	90	85	53	61	48	79	51	112	1,400	74	75	5,780
18	51	76	51	52	37	391	60	91	1,310	74	71	2,590
19	74	85	50	53	52	1,720	52	108	1,110	142	70	1,370
20	69	86	50	52	44	574	51	92	708	194	74	797
21	65	117	48	52	37	330	51	94	426	137	73	282
22	80	123	46	93	37	292	51	81	294	221	76	237
23	59	108	79	94	37	348	75	54	223	221	74	181
24	92	86	101	93	37	419	49	45	181	179	74	181
25	62	69	60	62	37	572	49	60	151	148	66	158
26	56	69	47	80	37	436	56	209	120	142	45	223
27	53	151	65	102	37	320	49	936	102	141	45	496
28	53	116	106	90	75	238	49	2,870	95	139	46	334
29	54	61	45	131	38	402	49	4,460	97	139	48	179
30	54	39	45	83	-	84	99	6,110	146	137	481	118
31	54	-	46	255	-	110	-	8,150	-	137	3,760	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,795	457	53	187	11,490
November.....	2,299	189	39	76.6	4,660
December.....	2,939	293	45	94.8	5,830
Calendar year 1943.....	103,138	4,550	25	283	204,500
January.....	2,840	306	47	91.6	5,630
February.....	2,707	490	37	93.5	5,370
March.....	7,067	1,720	37	223	14,020
April.....	2,250	216	49	76.0	4,460
May.....	38,474	9,150	45	1,241	76,310
June.....	107,663	11,200	95	3,589	213,500
July.....	5,243	384	74	169	10,400
August.....	6,524	3,760	45	210	12,940
September.....	189,448	18,700	118	6,315	375,800
Water year 1943-44.....	373,249	18,700	37	1,020	740,500

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Nueces River at Calallen, Tex.

Location.— Staff gage, lat. 27°52'40", long. 97°37'35", at old pump house of city of Corpus Christi, half a mile northwest of Calallen, Nueces County, and half a mile upstream from tidewater and breakwater dam. Datum of gage is 1.12 feet above mean sea level, datum of 1929.

Drainage area.— 16,920 square miles.

Records available.— August 1915 to September 1944 (1918–44 gage heights only).

Extremes.— Maximum gage height observed during year, 10.62 feet Sept. 11; minimum observed, 3.12 feet Apr. 28.

1915–44: Maximum gage height observed, 13.58 feet July 13, 1942; no flow Aug. 23–29, 1918 (only period of no flow known).

Remarks.— Discharge not computed. Gage read twice daily.

Cooperation.— Gage readings furnished by city of Corpus Christi.

Gage height, in feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.67	3.37	3.50	3.32	4.09	3.45	3.69	3.35	8.15	3.74	3.73	6.28
2	3.91	3.36	3.44	3.45	4.39	3.28	3.80	3.96	8.76	3.83	3.72	6.96
3	4.13	3.44	3.79	3.69	4.20	3.26	3.95	3.82	9.14	3.84	3.71	6.83
4	4.10	3.50	3.92	3.53	4.08	3.38	3.99	4.56	9.39	3.95	3.74	6.42
5	4.12	3.43	3.87	3.39	3.87	3.39	3.70	5.55	9.50	3.94	3.74	6.36
6	4.33	3.39	3.82	3.26	3.77	3.34	3.60	5.55	9.61	3.93	3.73	6.98
7	4.32	3.37	3.83	3.48	3.71	3.38	3.84	5.35	9.69	4.30	3.53	7.76
8	4.19	3.84	3.79	3.43	3.63	3.43	3.48	5.05	9.52	4.20	3.32	8.48
9	4.01	3.56	4.77	4.11	3.73	3.34	3.50	5.04	9.12	4.17	3.48	9.21
10	4.01	3.45	3.84	3.63	3.62	3.49	3.45	5.24	8.70	4.04	3.56	10.09
11	4.16	3.37	4.17	3.43	3.48	3.46	3.51	5.41	8.46	3.85	3.53	10.60
12	4.23	3.31	4.02	3.37	4.02	3.45	3.60	5.36	8.26	3.75	3.53	10.58
13	4.16	3.30	3.68	3.43	3.62	3.38	3.44	4.92	7.92	3.66	3.55	10.47
14	4.21	3.38	3.66	3.21	3.49	3.35	3.36	4.57	7.29	3.59	3.52	10.45
15	3.99	3.53	3.83	3.74	3.47	3.41	3.35	4.25	6.49	3.53	3.50	10.46
16	3.93	3.62	3.98	3.50	3.52	3.44	3.41	4.04	5.85	3.61	3.49	10.33
17	3.78	3.64	3.58	3.39	3.42	3.63	3.35	3.81	5.48	3.55	3.49	10.07
18	3.59	3.68	3.64	3.33	3.40	3.65	3.40	3.71	5.27	3.51	3.49	9.52
19	3.59	3.63	3.47	3.39	3.43	4.64	3.42	3.59	5.19	3.53	3.51	8.41
20	3.52	3.65	3.38	3.37	3.45	5.29	3.43	3.76	4.91	3.68	3.59	6.46
21	3.47	3.66	3.45	3.37	3.49	4.51	3.39	3.69	4.52	3.85	3.58	4.76
22	3.45	3.75	3.38	3.32	3.45	4.19	3.32	3.68	4.21	3.76	3.69	4.15
23	3.42	3.77	3.38	3.32	3.40	4.15	3.37	3.83	4.03	3.94	3.65	4.11
24	3.42	3.76	3.48	3.68	3.39	4.22	3.39	3.66	3.95	3.93	3.60	4.00
25	3.46	3.71	3.58	3.68	3.38	4.38	3.34	3.46	3.89	3.88	3.60	3.96
26	3.51	3.59	3.62	3.56	3.32	4.50	3.22	3.58	3.80	3.94	3.61	4.21
27	3.40	3.56	3.43	3.58	3.36	4.33	3.19	4.04	3.72	3.75	3.60	4.63
28	3.31	3.84	3.39	3.64	3.38	4.18	3.20	5.33	3.63	3.77	3.47	4.82
29	3.30	3.82	3.69	3.66	3.40	4.08	3.22	6.06	3.63	3.71	3.48	4.43
30	3.38	3.58	3.48	3.75	-	4.19	3.30	6.75	3.65	3.78	3.58	4.12
31	3.37	-	3.36	3.65	-	3.65	-	7.48	-	3.73	4.66	-

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## NUECES RIVER BASIN

West Nueces River near Brackettville, Tex.

Location.- Water-stage recorder, lat. 29°28'55", long. 100°14'20", at Bruce Ranch, 11 miles upstream from Liveoak Creek and 15.8 miles northeast of Brackettville, Kinney County. Datum of gage is 1,326.8 feet above mean sea level, datum of 1929.

Drainage area.- 700 square miles.

Records available.- September 1939 to September 1944.

Extremes.- Maximum discharge during year, 1.0 second-foot June 9 (gage height, 2.83 feet); no flow most of time.

1939-44: Maximum gage height, 11.56 feet, from floodmark, Oct. 27, 1939 (discharge not determined); no flow most of time.

Maximum stage known, 48.0 feet June 14, 1935, from floodmark, at site 0.6 mile above gage (discharge at a point 33 miles above gage and 2½ miles downstream from Kickapoo Creek, 580,000 second-feet, by slope-area method; a second determination 24 miles below gage and 8 miles north of Cline, 536,000 second-feet, by slope-area method).

Remarks.- Records poor. Most of runoff from basin, in ordinary years, is lost by seepage into Edwards limestone above station. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					0	0.5			0			
2					0	.4			0			
3					0	.3			0			
4					0	.1			0			
5					0	0			0			
6					0	0			0			
7					0	0			0			
8					0	0			.8			
9					0	0			1.0			
10					0	0			.9			
11					0	0			.7			
12					0	0			.4			
13					0	0			.3			
14					0	0			.1			
15					0	0			0			
16					0	0			0			
17					0	0			0			
18					0	0			0			
19					0	0			0			
20					0	0			0			
21					0	0			0			
22					0	0			0			
23					0	0			0			
24					0	0			0			
25					0	0			0			
26					0	0			0			
27					.1	0			0			
28					.6	0			0			
29					.6	0			0			
30					-	0			0			
31					-	0			-			

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943.....	35.3	3.6	0	.10	70
January.....	0	0	0	0	0
February.....	1.3	.6	0	.04	2.6
March.....	1.3	.5	0	.04	2.6
April.....	0	0	0	0	0
May.....	0	0	0	0	0
June.....	4.2	1.0	0	.14	8.3
July.....	0	0	0	0	0
August.....	0	0	0	0	0
September.....	0	0	0	0	0
Water year 1943-44.....	6.8	1.0	0	.02	14

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Frio River at Concan, Tex.

Location.- Water-stage recorder, lat. 29°29', long. 99°42', half a mile southeast of Concan post office, Uvalde County, and 15 miles upstream from Dry Frio River. Datum of gage is 1,303.71 feet above mean sea level, datum of 1929.

Drainage area.- 485 square miles.

Records available.- October 1923 to September 1944.

Average discharge.- 19 years (1924-29, 1930-44), 113 second-feet.

Extremes.- Maximum discharge during year, 2,080 second-feet June 6 (gage height, 4.20 feet); minimum, 24 second-feet Aug. 21, 22.  
1923-44: Maximum discharge, 182,000 second-feet July 1, 1932 (gage height, 34.44 feet, from floodmarks), by slope-area method; minimum observed, 8.1 second-feet Aug. 2, 3, 1928.

Remarks.- Records good. 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 flow enters this formation. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	28	32	60	52	63	90	67	128	79	39	236
2	30	30	32	63	52	63	93	67	125	77	38	169
3	33	30	32	53	52	63	90	67	122	93	36	136
4	32	30	33	52	50	62	90	71	120	79	34	121
5	30	30	39	52	50	62	88	67	114	77	34	114
6	28	30	40	52	50	60	86	65	487	79	33	110
7	30	28	38	52	50	60	86	63	205	75	32	110
8	30	27	38	50	50	60	86	62	158	71	32	106
9	30	27	38	48	50	60	84	62	141	69	33	99
10	30	27	42	48	50	79	84	60	131	67	30	92
11	32	27	47	48	48	75	81	60	128	67	28	89
12	33	28	42	48	48	73	81	60	125	65	28	89
13	33	28	42	50	48	73	79	60	122	65	27	86
14	32	28	42	52	50	71	79	58	120	62	27	83
15	32	28	42	50	48	75	79	58	117	60	27	80
16	30	28	42	50	48	73	77	56	114	58	27	78
17	30	28	42	50	48	91	77	56	111	58	27	78
18	30	28	42	50	48	158	77	56	106	56	27	75
19	30	28	42	50	48	134	77	77	98	56	26	75
20	30	28	42	50	48	125	77	92	95	55	26	75
21	30	28	42	50	48	120	75	90	93	53	26	72
22	30	28	42	50	48	144	73	75	90	52	32	72
23	30	28	42	50	48	125	71	87	88	52	32	72
24	30	28	42	50	48	114	69	73	86	50	28	72
25	30	28	42	50	48	111	67	576	86	48	27	72
26	28	28	42	50	67	108	67	275	84	47	26	72
27	28	34	42	50	53	106	65	214	79	45	34	75
28	28	38	40	60	67	103	65	174	79	44	45	78
29	28	34	40	52	63	95	65	161	77	42	40	75
30	28	32	40	52	-	69	69	144	84	40	879	72
31	28	-	40	52	-	93	-	134	-	39	494	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	931	53	28	30.0	1,850
November.....	872	38	27	29.1	1,730
December.....	1,243	47	32	40.1	2,470
Calendar year 1943.....	16,161	172	14	44.3	32,050
January.....	1,584	63	48	51.1	3,140
February.....	1,518	86	48	52.3	3,010
March.....	2,799	158	60	90.3	5,550
April.....	2,347	93	55	75.2	4,680
May.....	3,257	576	56	105	6,460
June.....	3,713	487	77	124	7,360
July.....	1,880	93	39	60.6	3,730
August.....	2,274	879	26	75.4	4,510
September.....	2,833	236	72	94.4	5,620
Water year 1943-44.....	25,251	879	26	69.0	50,090

Peak discharge.- May 25 (1:30 a.m.) 1,460 sec.-ft.; June 6 (6 a.m.) 2,080 sec.-ft.; Aug. 30 (3 p.m.) 1,800 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Frio River near Derby, Tex.

Location.- Water-stage recorder and concrete control, lat. 28°44'10", long. 99°08'45", at bridge on U. S. Highway 81, 150 feet upstream from International-Great Northern Railroad bridge, 750 feet downstream from Leona River, and 2.4 miles south of Derby, Frio County. Datum of gage is 449.3 feet above mean sea level, datum of 1929.

Drainage area.- 3,493 square miles.

Records available.- August 1915 to September 1944.

Average discharge.- 29 years, 163 second-feet.

Extremes.- Maximum discharge during year, 2,270 second-feet Aug. 30 (gage height, 6.40 feet); no flow at times.

1915-44: Maximum discharge, 230,000 second-feet July 4, 1932 (gage height, 29.60 feet, present site, from floodmarks at former site), by slope-area method; no flow at times.

Remarks.- Records good except those for period of no gage-height record, which are poor. Part of flow of Frio River and its headwater tributaries enters Edwards limestone, in Balcones fault zone which crosses basin just north of Uvalde in an east-west course. At low stages most of headwater flow enters this formation. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.0		3.2	11	3.8	18	14	0.8	50	0.2	0	1,730
2	7.0	7.8	4.6	11	3.8	11	12	.4	24	1.3	0	1,280
3	6.2	12	4.6	6.2	4.6	7.0	11	.3	13	4.6	0	875
4	3.8	167	4.6	6.2	4.6	6.2	10	.3	8.6	.3	0	202
5	20	282	4.6	8.6	4.6	6.2	7.8	.2	6.2	.3	0	57
6	21	246	4.6	9.4	4.6	6.2	6.2	.1	7.0	.3	0	29
7	10	41	5.4	7.8	4.6	6.2	4.6	0	42	.2	0	17
8	7.8	23	6.2	6.2	4.6	7.0	3.2	0	256	.1	0	11
9	7.0	15	7.0	5.4	4.6	7.8	2.2	0	369	0	0	7.0
10	5.4	11	5.4	5.4	3.8	8.6	1.8	0	460	0	0	6.2
11	4.6	9.4	3.8	5.4	3.8	8.6	13	0	132	0	0	3.8
12	4.6	8.6	2.6	6.2	3.8	8.6	10	0	48	0	0	3.2
13	3.8	7.8	1.8	6.2	3.8	7.8	2.6	0	29	0	0	3.2
14	3.8	6.2	2.6	6.2	4.6	7.0	1.0	0	20	0	0	2.6
15	4.6	4.6	7.0	7.0	4.6	8.6	.4	0	22	0	0	2.6
16	4.6	3.8	6.2	7.0	4.6	8.6	.2	0	20	0	0	2.6
17	4.6	2.6	6.2	7.0	4.6	66	.2	0	12	0	0	2.2
18	3.2	2.2	7.0	7.0	4.6	35	.2	0	9.4	0	0	1.8
19	2.2	2.2	7.8	7.0	4.6	158	.2	0	6.2	0	0	1.0
20	2.6	1.8	8.6	6.2	4.6	73	.2	0	3.2	0	0	1.4
21	3.2	1.4	8.6	6.2	4.6	48	.2	0	1.4	0	0	1.0
22	3.2	1.4	8.6	6.2	4.6	40	.1	0	1.8	0	0	1.0
23	3.8	.8	8.6	5.4	4.6	65	0	0	2.2	0	0	.8
24	3.8	.8	8.6	4.6	5.4	246	0	0	1.4	0	0	.8
25	3.2	.8	8.6	4.6	5.4	105	0	0	1.0	0	0	1.0
26	3.8	.5	9.4	3.8	5.4	68	0	13	1.0	0	0	1.4
27	4.6	1.4	9.4	3.8	5.4	56	0	334	1.0	0	0	1.8
28	4.6	4.6	9.4	4.6	5.4	47	0	374	.4	0	952	1.0
29	5.4	3.2	9.4	4.6	12	36	.2	867	.5	0	2,120	.4
30	6.2	2.6	9.4	4.6	-	29	.4	304	.3	0	1,800	.3
31	6.2	-	9.4	4.6	-	21	-	150	-	0	1,420	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	181.8	21	2.2	5.86	361
November.....	877.7	282	.5	29.3	1,740
December.....	205.2	9.4	1.8	6.55	405
Calendar year 1943.....	12,601.6	4,070	0	34.5	24,980
January.....	195.4	11	3.8	6.30	388
February.....	140.0	12	3.8	4.83	278
March.....	1,226.4	246	6.2	39.6	2,430
April.....	101.7	14	0	3.39	202
May.....	2,044.1	867	0	65.9	4,050
June.....	1,548.4	460	.3	51.6	3,070
July.....	7.5	4.6	0	.24	14
August.....	6,292	2,120	0	203	12,480
September.....	4,248.1	1,730	.3	142	8,430
Water year 1943-44.....	17,066.1	2,120	0	46.6	33,850

Peak discharge.- May 29 (6 a.m.) 1,060 sec.-ft.; Aug. 30 (3 a.m.) 2,270 sec.-ft.; Sept. 1 (1 p.m.) 1,860 sec.-ft.; Sept. 2 (8 p.m.) 1,710 sec.-ft.

Note.- No gage-height record Nov. 8-27; discharge computed on basis of recorded range in stage and weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Frio River at Calliham, Tex.

Location.- Water-stage recorder and concrete control, lat. 28°29'30", long. 98°20'45", at bridge on Calliham-Whitsett highway, 1 mile north of Calliham, McMullen County, and 9.7 miles downstream from San Miguel Creek. Datum of gage is 153.47 feet above mean sea level, datum of 1929.

Drainage area.- 5,491 square miles.

Records available.- October 1924 to April 1926, April 1932 to September 1944.

Average discharge.- 13 years (1924-25, 1932-44), 303 second-feet.

Extremes.- Maximum discharge during year, 10,400 second-feet May 30 (gage height, 26.70 feet); no flow Aug. 10-27.

1924-26, 1932-44: Maximum discharge, 109,000 second-feet July 6, 1932 (gage height, 39.20 feet, from floodmarks), by slope-area method; no flow at times.

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 in an east-west course. At low stages most of headwater flow enters this formation. Diversions above station for irrigation.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	15	1.3	26	11	43	8.3	46	43	1,370	164	0.1	1,070
2	50	1.3	17	12	30	7.8	37	741	960	88	.1	1,350
3	47	1.0	20	12	23	7.5	38	1,380	396	106	.1	1,650
4	83	41	34	12	18	33	29	544	180	235	.1	1,460
5	26	75	39	17	15	23	22	346	103	56	1.9	1,370
6	12	34	21	25	14	16	18	148	110	50	2.3	1,280
7	8.3	20	15	27	13	15	17	86	165	97	.5	1,110
8	6.2	102	17	21	12	17	15	60	537	36	.3	280
9	5.2	241	14	18	11	15	15	42	704	17	.1	162
10	5.8	145	12	15	9.7	27	76	29	490	12	.1	70
11	5.5	68	11	12	8.3	46	33	23	316	13	0	44
12	5.2	38	10	12	7.8	40	32	17	376	12	0	32
13	9.2	26	9.2	14	7.5	28	65	12	422	9.2	0	25
14	9.2	19	8.7	13	7.8	24	36	9.2	292	7.1	0	18
15	6.8	16	8.3	18	7.5	20	21	7.1	123	5.8	0	14
16	5.5	36	7.1	17	7.1	17	13	5.5	73	4.0	0	11
17	4.5	88	6.8	12	6.5	15	9.2	4.3	52	3.8	0	9.2
18	4.5	31	6.5	12	7.1	15	7.1	3.4	40	2.9	0	7.5
19	4.0	22	6.5	12	7.8	16	6.8	3.8	36	2.7	0	7.1
20	3.6	19	6.5	12	9.2	20	10	3.4	32	1.9	0	7.1
21	3.1	15	5.8	11	11	19	8.7	2.2	31	1.6	0	5.8
22	2.4	13	5.2	10	11	78	6.8	1.8	26	1.4	0	4.5
23	2.1	12	4.5	9.7	11	521	6.2	1.4	23	1.0	0	5.8
24	1.6	9.7	4.3	10	10	211	4.5	23	20	.9	0	5.2
25	1.3	8.7	4.8	11	9.7	125	7.1	410	18	.7	0	5.5
26	1.2	7.8	6.4	11	9.7	66	7.5	1,810	15	.7	0	4.8
27	1.0	9.2	8.3	11	9.2	108	8.3	1,520	12	.6	1.8	4.8
28	.9	43	8.3	11	9.7	156	7.1	6,470	10	.5	329	4.8
29	1.0	125	7.8	13	9.2	98	4.8	9,400	43	.4	1,480	4.0
30	1.2	50	9.2	187	-	71	4	9,400	119	.4	1,690	3.8
31	1.3	-	11	75	-	57	-	5,890	-	.5	1,260	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	335.6	85	0.9	10.8	662
November.....	1,298.0	241	1.0	43.3	2,570
December.....	371.2	59	4.5	12.0	736
Calendar year 1943.....	38,064.8	3,420	0	104	75,500
January.....	631.7	157	9.7	20.4	1,250
February.....	355.8	43	6.5	12.3	706
March.....	1,920.6	521	7.5	62.0	3,810
April.....	661.1	82	4.0	22.0	1,310
May.....	36,426.1	9,400	1.4	1,175	72,250
June.....	7,082	1,370	10	236	14,050
July.....	931.9	1,350	.5	30.1	1,650
August.....	4,666.4	1,590	0	151	9,260
September.....	9,933.9	1,560	3.8	331	19,700
Water year 1943-44.....	64,612.3	9,400	0	177	128,200

Peak discharge.- Mar. 23 (5 a.m.) 940 sec.-ft.; May 2 (8 p.m.) 1,670 sec.-ft.; May 26 (4 p.m.) 2,350 sec.-ft.; May 30 (5 a.m.) 10,400 sec.-ft.; Aug. 30 (11 a.m.) 1,760 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Leona River spring flow near Uvalde, Tex.

Location.- Water-stage recorder, lat. 29°09', long. 99°44', at old road crossing on White's ranch, 3½ miles downstream from Cooks Slough and 5.6 miles southeast of Uvalde, Uvalde County.

Records available.- January-1939 to September 1944. Occasional discharge measurements since 1925 in connection with seepage investigations.

Extremes.- Maximum daily spring discharge during year, 18 second-feet Oct. 3-6, 10-13; maximum gage height, from floodmark, (flood runoff), 13.63 feet Aug. 30; minimum daily spring discharge, 4.9 second-feet Aug. 26.  
1939-44: Maximum daily spring discharge, 33 second-feet Feb. 15-18, 1942; maximum gage height (flood runoff), that of Aug. 30, 1944; minimum daily spring discharge, that of Aug. 26, 1944.

Remarks.- Records good. Discharge represents flow from several springs that enter river above station and below Uvalde. Surface runoff from precipitation is excluded. Many small diversions by pumping from river channel above station.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	e17	16	14	13	10	8.8	9.3	8.8	7.3	8.8	7.8	e9.7
2	e17	16	14	13	10	8.8	9.3	8.3	7.3	8.8	7.3	e10
3	e18	16	14	13	10	8.9	9.3	8.3	7.3	8.8	7.3	11
4	e18	16	14	13	9.8	8.9	9.3	8.8	7.3	8.8	6.5	11
5	e18	16	16	12	9.3	9.9	8.8	8.8	7.3	9.3	6.5	11
6	18	16	15	12	9.3	8.9	8.8	8.3	e8.2	9.3	6.5	11
7	17	15	15	12	9.3	8.9	8.8	8.3	e9.1	9.3	6.5	11
8	17	15	15	12	9.8	8.9	8.8	8.3	e10	8.8	6.5	11
9	17	15	15	12	9.8	9.0	8.8	8.3	e11	9.3	6.5	11
10	18	16	14	12	9.8	9.0	8.8	8.3	12	8.8	6.5	11
11	18	15	14	12	9.3	9.0	8.8	7.8	11	8.8	6.5	11
12	18	15	15	12	9.3	9.0	8.3	7.8	11	9.3	6.5	11
13	18	15	15	12	9.3	9.0	8.3	7.3	11	9.8	6.5	11
14	17	15	15	12	9.3	9.0	8.3	7.3	11	e10	6.5	11
15	17	15	14	12	9.3	9.1	8.3	7.3	11	e10	6.5	11
16	17	15	14	12	9.3	9.1	8.3	7.3	11	11	6.1	11
17	17	15	14	12	9.3	9.1	7.8	7.3	11	11	5.8	11
18	17	15	14	12	9.3	9.1	7.8	7.3	11	11	5.8	11
19	17	15	14	12	9.3	9.1	7.8	e7.6	11	11	5.8	11
20	17	15	14	12	9.3	9.1	7.8	7.8	11	11	6.1	11
21	17	15	14	12	9.3	9.2	7.8	e7.6	11	10	5.8	11
22	17	15	14	12	9.3	9.2	7.8	7.3	11	10	5.4	12
23	17	15	14	11	8.8	9.2	7.8	6.9	10	9.8	5.4	12
24	17	14	14	11	8.8	9.2	7.8	7.8	10	9.8	5.4	12
25	17	14	13	11	e9.0	9.2	7.8	7.8	10	9.3	5.2	12
26	17	14	13	11	e9.1	9.2	7.8	7.3	10	8.8	4.9	12
27	17	14	13	11	9.3	9.3	7.8	7.3	10	9.3	e5.7	13
28	17	14	12	11	8.8	9.3	7.8	7.8	9.8	9.3	e6.5	13
29	17	14	12	11	8.8	9.3	8.3	7.3	9.8	8.8	e7.3	12
30	17	14	12	11	-	9.8	8.3	7.3	9.3	8.8	e8.1	12
31	17	-	12	11	-	9.8	-	7.3	-	8.3	e8.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	535	18	17	17.3	1,060
November.....	449	16	14	15.0	891
December.....	431	16	12	13.9	855
Calendar year 1943 .....	7,626	30	12	20.9	15,130
January.....	367	13	11	11.8	728
February.....	271.3	10	8.8	9.36	538
March.....	282.3	9.8	8.8	9.11	560
April.....	250.5	9.3	7.8	8.35	497
May.....	241.0	8.8	6.9	7.77	478
June.....	297.7	12	7.3	9.92	590
July.....	295.1	11	8.3	9.52	585
August.....	198.6	8.9	4.9	6.41	394
September.....	338.7	13	9.7	11.3	672
Water year 1943-44 .....	3,957.2	18	4.9	10.8	7,850

e Gage height affected by surface runoff; discharge interpolated.

Note.- No gage-height record Mar. 1-28; discharge computed on basis of recorded range in stage and weather records.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Atascosa River at Whitsett, Tex.

Location.- Water-stage recorder and wooden control, lat. 28°39', long. 98°18', 0.9 mile west of Whitsett, Live Oak County, and 4 miles downstream from La Parita Creek. Datum of gage is 159.0 feet above mean sea level, datum of 1929.

Drainage area.- 1,171 square miles.

Records available.- September 1924 to May 1926, May 1932 to September 1944.

Average discharge.- 13 years (1924-25, 1932-44), 153 second-feet.

Extremes.- Maximum discharge during year, 5,900 second-feet May 29 (gage height, 23.93 feet); no flow July 29 to Aug. 22.  
1924-26, 1932-44: Maximum discharge, 39,300 second-feet July 7, 1942 (gage height, 38.3 feet, from floodmark), from rating curve extended above 12,000 second-feet on basis of slope-area measurement at gage height 38.0 feet; no flow at times.

Remarks.- Records good. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	5.9	20	15	70	16	13	7.8	72	254	0	115
2	37	9.6	16	24	46	15	13	426	48	84	0	39
3	18	95	18	32	35	15	16	636	38	37	0	21
4	22	126	31	30	29	91	19	101	31	30	0	14
5	19	45	32	21	25	74	15	33	27	50	0	9.8
6	12	23	28	18	23	29	13	21	36	27	0	27
7	10	16	25	22	22	22	12	17	28	24	0	13
8	9.0	13	21	19	21	18	12	14	24	49	0	13
9	8.2	11	19	18	20	16	23	12	24	17	0	37
10	9.0	10	18	16	19	181	42	13	20	9.8	0	13
11	9.0	9.8	18	15	17	240	33	12	19	7.2	0	8.5
12	9.4	9.8	16	15	16	92	18	11	18	6.5	0	6.8
13	9.8	9.8	16	29	16	44	14	10	17	5.9	0	5.5
14	8.5	9.8	15	54	16	30	12	9.8	20	5.2	0	5.0
15	9.0	9.8	14	39	16	23	11	9.0	16	4.5	0	4.3
16	8.2	13	13	28	18	21	11	8.2	14	4.0	0	4.0
17	7.2	52	13	20	18	24	10	8.2	13	3.6	0	3.6
18	7.2	31	13	18	18	28	9.8	7.8	11	3.1	0	3.4
19	7.2	16	13	16	18	23	9.8	7.8	12	2.8	0	2.9
20	7.2	13	13	15	18	22	10	11	12	2.8	0	2.9
21	6.9	12	13	15	18	23	10	9.4	10	2.4	0	2.6
22	7.2	11	13	15	19	1,020	10	9.0	9.8	2.4	.6	2.4
23	6.5	10	13	14	20	439	13	9.0	9.0	2.8	2.9	2.1
24	6.2	9.8	13	38	20	171	12	12	8.2	1.7	3.8	1.7
25	5.5	9.8	13	689	20	50	10	276	7.5	1.3	4.7	1.5
26	5.2	9.8	13	343	18	30	10	673	6.5	1.1	2.6	1.7
27	5.2	12	14	54	18	23	9.8	1,240	5.9	1.0	5.3	2.9
28	5.5	61	14	13	18	18	9.8	3,870	5.5	.9	35	5.6
29	5.5	66	14	194	18	15	9.4	4,980	7.0	.4	61	2.8
30	5.5	33	13	1,030	-	14	8.5	809	145	0	395	2.9
31	5.9	-	13	209	-	13	-	136	-	0	337	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	347.9	56	5.2	11.2	690
November.....	762.9	126	5.9	25.4	1,510
December.....	518	32	13	16.7	1,030
Calendar year 1943 .....	12,570.5	954	.4	34.4	24,940
January.....	3,088	1,030	14	99.9	6,140
February.....	650	70	16	22.4	1,290
March.....	2,940	1,020	13	31.6	5,630
April.....	419.1	42	8.5	14.0	831
May.....	13,399	4,980	7.8	432	26,580
June.....	714.4	145	5.5	23.8	1,420
July.....	641.4	254	0	20.7	1,270
August.....	848.9	395	0	27.4	1,680
September.....	372.9	115	1.5	12.4	740
Water year 1943-44 .....	24,612.5	4,980	0	67.2	48,810

Peak discharge.- Jan. 25 (8:30 p.m.) 1,140 sec.-ft.; May 3 (9 a.m.) 888 sec.-ft.; May 27 (9:30 a.m.) 1,270 sec.-ft.; May 29 (6 a.m.) 5,900 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande at Thirtymile Bridge, near Creede, Colo.

Location.— Water-stage recorder, lat. 37°44', long. 107°16', in sec. 13, T. 40 N., R. 4 W., 500 feet upstream from Squaw Creek, three-quarters of a mile downstream from Rio Grande Reservoir, and 20 miles southwest of Creede.

Drainage area.— 163 square miles.

Records available.— June 1909 to September 1913 and October 1933 to September 1944 in reports of Geological Survey. June 1909 to September 1944 in reports of State engineer.

Average discharge.— 31 years (1910-23, 1926-44), 230 second-feet.

Extremes.— Maximum discharge during year, 2,210 second-feet June 15 (gage height, 4.70 feet); minimum daily, 3 second-feet Nov. 14 to Apr. 25.

1909-44: Maximum discharge, 7,500 second-feet June 28, 1927 (gage height, 7.03 feet); minimum daily, 0.6 second-foot at times when reservoir was about empty and gates were closed.

Remarks.— Records excellent except those for period of no gage-height record and those for July 27 to Sept. 30, which are fair. Flow regulated by Rio Grande Reservoir (capacity, 51,110 acre-feet), just above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	87	69	3	3	3	3	3	12	1,210	1,330	512	171
2	91	49	3	3	3	3	3	12	1,210	1,370	517	182
3	87	70	3	3	3	3	3	12	1,210	1,300	542	92
4	82	65	3	3	3	3	3	13	1,200	1,110	580	72
5	80	76	3	3	3	3	3	13	1,200	917	607	80
6	77	65	3	3	3	3	3	14	1,200	951	756	58
7	78	65	3	3	3	3	3	14	327	951	756	57
8	74	65	3	3	3	3	3	14	140	943	740	55
9	73	65	3	3	3	3	3	14	144	850	786	54
10	73	65	3	3	3	3	3	14	154	756	718	52
11	73	65	3	3	3	3	3	17	295	733	711	51
12	77	65	3	3	3	3	3	20	778	654	711	39
13	70	55	3	3	3	3	3	86	1,210	726	647	33
14	78	3	3	3	3	3	3	574	1,910	770	593	33
15	78	3	3	3	3	3	3	943	2,150	682	512	35
16	78	3	3	3	3	3	3	1,200	1,850	567	490	33
17	76	3	3	3	3	3	3	748	1,370	458	486	40
18	73	3	3	3	3	3	3	548	1,080	614	486	48
19	84	3	3	3	3	3	3	548	1,480	770	479	61
20	68	3	3	3	3	3	3	555	2,060	960	479	68
21	70	3	3	3	3	3	3	555	1,990	917	455	62
22	81	3	3	3	3	3	3	107	1,750	891	448	60
23	70	3	3	3	3	3	3	33	1,590	866	443	60
24	72	3	3	3	3	3	3	41	1,530	786	418	60
25	67	3	3	3	3	3	3	43	710	891	406	60
26	74	3	3	3	3	3	11	268	710	825	406	60
27	72	3	3	3	3	3	50	614	1,680	627	388	62
28	83	3	3	3	3	3	70	680	1,550	555	400	69
29	82	3	3	3	3	3	96	1,000	1,350	474	400	73
30	82	3	3	3	3	3	43	1,200	1,290	438	375	87
31	64	-	3	3	-	3	-	1,200	-	474	320	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,372	91	64	76.5	4,700
November.....	870	76	3	29.0	1,730
December.....	93	3	3	3	184
Calendar year 1943.....	73,510	1,360	3	201	145,800
January.....	93	3	3	3	184
February.....	87	3	3	3	173
March.....	93	3	3	3	184
April.....	345	96	3	11.5	684
May.....	11,057	1,200	12	357	21,930
June.....	38,318	2,150	140	1,277	76,000
July.....	25,166	1,370	438	811	49,900
August.....	16,501	766	320	832	32,730
September.....	1,864	171	33	62.1	3,700
Water year 1943-44.....	96,849	2,150	3	265	192,100

Note.— No gage-height record Nov. 7 to Apr. 28, May 7-9, 11, 12; discharge computed on basis of gate openings at Rio Grande Reservoir.

Time basis. Mountain war time. To convert war time to standard time, subtract 1 hour.



## Rio Grande at Wason, below Creede, Colo.

Location.- Water-stage recorder, lat.  $37^{\circ}49'$ , long.  $106^{\circ}53'$ , in NE $\frac{1}{4}$  sec. 8, T. 41 N., R. 1 E., at Wason,  $\frac{1}{2}$  miles downstream from Willow Creek and 3 miles southeast of Creede.

Drainage area.- 705 square miles.

Records available.- April 1907 to September 1913 and October 1933 to September 1944 in reports of Geological Survey. April 1907 to September 1944 in reports of State engineer.

Average discharge.- 37 years, 640 second-feet.

Extremes.- Maximum discharge during year, 4,110 second-feet June 16 (gage height, 4.38 feet); minimum daily, 61 second-feet Nov. 28.

1907-44: Maximum discharge, 9,750 second-feet June 28, 1927 (gage height, 7.65 feet); minimum not determined.

Remarks.- Records excellent except those for period of ice effect, which are fair. Diversions above station for irrigation. Flow regulated by three reservoirs (total capacity, 122,900 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	254	188	92	71	80	98	105	469	3,570	2,340	1,030	680
2	254	179	88	76	76	100	107	457	3,460	2,380	1,150	487
3	246	198	93	84	74	103	107	360	3,060	2,270	1,180	421
4	242	221	99	85	76	110	123	365	2,660	2,140	1,280	380
5	228	235	94	*86	84	108	145	548	2,500	1,880	1,340	347
6	224	211	92	86	88	103	191	702	2,630	1,970	1,510	329
7	221	157	86	90	88	96	224	830	2,570	1,860	1,560	324
8	228	160	80	96	90	92	258	882	1,960	1,700	1,510	320
9	228	207	72	76	90	98	235	946	2,250	1,640	1,520	316
10	221	207	71	74	84	104	214	954	2,480	1,480	1,540	312
11	218	191	74	76	80	110	228	852	2,560	1,390	1,480	307
12	238	198	78	72	74	114	291	1,000	2,760	1,270	1,450	303
13	224	188	80	68	76	120	235	1,570	3,040	1,190	1,390	282
14	228	139	76	66	70	130	221	2,250	3,480	1,260	1,330	274
15	228	123	70	66	74	120	204	3,060	3,970	1,230	1,250	198
16	228	120	69	70	78	110	198	3,730	3,820	1,110	1,180	172
17	224	115	*88	68	80	104	185	3,090	3,110	986	1,180	163
18	214	120	92	68	82	88	191	2,040	2,600	1,080	1,210	185
19	250	113	93	68	80	103	194	1,980	2,880	1,220	1,140	204
20	231	113	92	66	78	103	201	2,170	3,560	1,520	1,130	211
21	207	113	88	68	90	103	182	2,250	3,730	1,510	1,100	198
22	224	126	83	70	*100	101	166	2,290	3,390	1,380	1,070	182
23	224	109	78	70	94	*97	178	2,320	3,090	1,380	1,040	180
24	211	113	74	80	96	101	214	2,510	3,040	1,360	1,040	178
25	221	90	70	81	108	95	238	2,350	3,160	1,380	1,000	191
26	224	93	70	80	104	95	250	2,180	3,260	1,400	986	207
27	224	72	70	77	101	88	375	2,320	3,110	1,240	946	224
28	228	65	74	76	98	86	469	2,270	2,860	1,110	938	211
29	231	*61	68	82	96	86	433	2,990	2,580	1,070	922	214
30	246	74	67	76	-	88	410	3,660	2,390	986	906	207
31	242	-	70	78	-	97	-	3,620	-	986	792	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,171	291	207	231	14,220
November.....	4,298	235	61	143	8,520
December.....	2,491	99	67	80.4	4,940
Calendar year 1943 .....	173,051	2,260	61	474	343,800
January.....	2,340	90	56	75.5	4,640
February.....	2,489	108	70	85.8	4,940
March.....	3,151	130	86	102	6,250
April.....	6,812	469	105	227	13,510
May.....	57,015	3,730	360	1,839	113,100
June.....	89,450	3,970	1,960	2,982	177,400
July.....	45,718	2,380	986	1,476	90,680
August.....	37,090	1,560	792	1,196	73,570
September.....	8,205	680	165	274	16,270
Water year 1943-44 .....	266,230	3,970	61	727	528,000

\* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 27 to Mar. 17 (no gage-height record Jan. 6 to Feb. 21, Mar. 8-17; discharge computed on basis of 1 discharge measurement, weather records, and record for station on Rio Grande near Del Norte).

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande near Del Norte, Colo.

Location.-- Water-etage recorder, lat.  $37^{\circ}41'$ , long.  $106^{\circ}28'$ , in NW $\frac{1}{4}$  sec. 29, T. 40 N., R. 5 E., 5 miles upstream from Pinos Creek and 6 miles west of Del Norte. Datum of gage is 7,982.21 feet above mean sea level, datum of 1929.

Drainage area.-- 1,320 square miles.

Records available.-- July 1889 to November 1906 (at site 4 miles downstream), April 1908 to September 1913, and October 1933 to September 1944 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 (at site 4 miles downstream), unpublished, in files of State engineer.

Average discharge.-- 55 years (1889-1944), 966 second-feet.

Extremes.-- Maximum discharge during year, 7,070 second-feet May 16 (gage height, 5.22 feet); minimum daily, 122 second-feet Nov. 27.  
1889-1944: Maximum discharge, 18,000 second-feet Oct. 5, 1911 (gage height, 6.80 feet), from rating curve extended above 6,000 second-feet; minimum daily, 90 second-feet Dec. 3, 1934.

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-feet) and several smaller ones.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	356	260	b165	175	190	210	320	762	6,110	3,540	1,160	778
2	338	220	*b172	188	160	*213	330	872	6,020	3,580	1,260	603
3	338	235	b180	192	*170	230	315	738	5,330	3,440	1,290	519
4	326	270	b190	203	195	245	370	682	4,540	3,310	1,380	470
5	308	302	b210	*198	195	240	*420	905	4,050	3,080	1,450	446
6	308	314	b210	205	195	220	484	1,380	4,200	3,190	1,570	422
7	302	225	b208	210	205	215	575	1,800	4,600	2,930	1,690	422
8	302	205	b203	185	195	225	610	1,980	3,920	2,630	1,640	416
9	302	270	b196	165	210	244	616	2,130	4,410	2,540	1,660	404
10	302	320	b165	165	180	264	519	2,260	4,670	2,320	1,670	398
11	296	302	160	178	155	290	498	1,920	4,780	2,140	1,600	398
12	320	285	188	168	145	330	596	2,300	4,780	1,970	1,590	380
13	320	285	180	155	170	360	666	3,230	4,990	1,800	1,500	368
14	308	260	172	150	140	380	491	4,050	5,190	1,860	1,460	362
15	314	215	165	150	165	350	440	5,580	5,740	1,810	1,390	332
16	308	*205	160	160	165	330	422	6,470	5,630	1,710	1,300	270
17	306	205	*210	160	170	310	386	6,230	4,940	1,560	1,270	250
18	302	210	215	155	180	330	404	4,090	4,300	1,520	1,320	235
19	332	200	219	160	160	280	404	3,880	4,450	1,660	1,260	255
20	356	200	220	*150	150	300	434	4,240	5,170	2,100	1,260	260
21	302	190	215	155	200	280	398	4,410	5,530	2,050	1,220	260
22	302	200	208	162	*210	260	356	4,690	5,280	1,830	1,170	250
23	320	220	195	180	180	*255	362	4,850	4,760	1,740	1,150	240
24	302	200	182	192	190	275	470	5,350	4,740	1,710	1,150	240
25	302	162	168	190	250	300	561	5,070	4,800	1,670	1,110	255
26	308	162	164	165	230	310	596	4,490	4,820	1,730	1,070	285
27	306	122	164	180	220	285	762	4,370	4,670	1,550	1,040	308
28	314	b174	172	176	215	265	661	4,060	4,300	1,360	995	314
29	410	b178	165	185	205	250	778	5,030	3,950	1,320	982	320
30	380	b162	155	170	-	280	690	5,920	3,760	1,200	971	314
31	314	-	180	180	-	310	-	6,020	-	1,150	894	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-foot
October.....	9,908	410	296	320	19,650
November.....	6,758	320	122	225	13,400
December.....	5,756	280	155	186	11,420
Calendar year 1943 .....	251,363	3,250	122	689	498,600
January.....	5,426	250	150	175	10,760
February.....	5,395	260	140	195	10,700
March.....	9,636	380	210	279	17,150
April.....	15,136	861	315	505	30,020
May.....	109,799	6,470	662	3,542	217,800
June.....	144,330	6,110	3,760	4,811	286,300
July.....	65,990	3,580	1,150	2,129	130,900
August.....	40,460	1,690	894	1,305	60,250
September.....	10,774	778	235	359	21,370
Water year 1943-44 .....	428,368	6,470	122	1,170	849,700

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.-- No gage-height record Dec. 11 to Apr. 5 (stage-discharge relation affected by ice most of period); discharge computed on basis of 9 discharge measurements and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande near Monte Vista, Colo.

Location.- Water-stage recorder, lat. 37°37', long. 106°09', at west line of sec. 19, T. 39 N., R. 8 E., 2 miles north of Monte Vista. Datum of gage is 7,654.54 feet above mean sea level, datum of 1929.

Drainage area.- 1,590 square miles.

Records available.- October 1933 to September 1944 in reports of Geological Survey (no winter records in earlier years). May 1926 to September 1944 in reports of State engineer.

Average discharge.- 11 years (1933-44), 363 second-feet.

Extremes.- Maximum discharge during year, 5,860 second-feet May 17 (gage height, 6.28 feet); minimum daily, 10 second-feet Oct. 26-28, Nov. 2, 4-6.

1926-44: Maximum discharge, 18,500 second-feet June 30, 1927 (gage height, 7.85 feet); minimum daily, 4 second-feet Apr. 18, 1926.

Remarks.- Records good above 250 second-feet and fair below. Diversions above station for irrigation. Flow regulated by three main reservoirs (total capacity, 122,900 acre-feet) and several smaller ones.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	76	12	173	168	167	184	109	121	4,260	1,570	97	76
2	93	10	*173	178	155	*167	102	156	4,260	1,560	87	80
3	97	11	167	185	148	165	105	112	3,640	1,440	84	64
4	95	10	173	187	165	162	114	55	2,750	1,410	89	70
5	78	10	172	190	172	162	*146	29	1,940	1,400	151	68
6	76	10	186	194	180	170	233	304	1,760	1,680	105	66
7	82	18	198	197	180	221	278	738	2,070	1,480	159	57
8	68	97	205	202	182	162	324	1,040	1,480	1,170	151	66
9	61	192	202	200	190	162	358	1,100	1,620	1,010	162	66
10	64	256	188	165	190	170	298	1,250	1,990	841	175	64
11	61	272	170	170	170	194	259	890	2,160	642	154	70
12	61	249	162	180	143	233	314	939	2,230	369	167	70
13	61	243	170	164	130	291	399	1,720	2,250	314	178	72
14	61	218	165	155	135	227	324	2,780	2,590	419	109	72
15	59	206	160	160	135	224	206	3,950	3,070	351	80	76
16	59	*192	155	172	138	184	175	5,150	3,330	291	44	70
17	57	186	155	170	145	175	151	5,580	2,740	255	59	72
18	51	189	200	180	150	141	89	3,900	1,950	227	68	68
19	48	194	210	195	155	209	76	2,890	1,710	308	59	61
20	41	189	215	*190	140	245	76	3,020	2,210	680	33	48
21	35	186	217	175	150	224	38	3,210	2,940	685	43	46
22	21	189	215	175	*162	209	30	2,890	2,890	534	28	39
23	15	209	206	178	170	175	25	3,450	2,340	455	23	33
24	13	206	188	185	176	184	14	3,690	2,200	399	30	38
25	11	192	165	190	160	189	57	3,540	2,240	358	51	38
26	10	167	157	189	190	212	93	2,740	2,370	376	23	50
27	10	141	152	177	185	192	121	2,230	2,590	294	18	50
28	10	114	153	165	180	178	249	1,830	2,210	159	16	50
29	12	148	155	162	180	175	294	2,560	1,720	84	21	39
30	15	*173	160	162	-	181	165	3,690	1,530	87	38	35
31	15	-	165	163	-	178	-	4,140	-	80	64	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,516	97	10	48.9	3,010
November.....	4,489	272	10	150	8,900
December.....	5,521	217	150	178	10,950
Calendar year 1943.....	88,457	1,160	10	242	175,500
January.....	5,523	202	155	178	10,950
February.....	4,720	190	130	163	9,360
March.....	5,943	291	141	192	11,790
April.....	5,222	399	14	174	10,360
May.....	70,174	5,580	29	2,264	139,200
June.....	73,060	4,260	1,480	2,435	144,900
July.....	20,938	1,680	80	675	41,530
August.....	2,546	178	16	82.1	5,050
September.....	1,774	80	33	59.1	3,520
Water year 1943-44.....	201,426	5,580	10	550	399,500

\* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 27 to Mar. 12 (no gage-height record Dec. 5 to Feb. 22; discharge computed on basis of 2 discharge measurements and weather records).

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande at Alamosa, Colo.

Location.— Water-stage recorder, lat. 37°29', long. 105°53', in SE $\frac{1}{4}$  sec. 4, T. 37 N., R. 10 E., a quarter of a mile northwest of Alamosa and 7 miles upstream from Alamosa Creek. Datum of gage is 7,532.66 feet above mean sea level, datum of 1929.

Drainage area.— 1,710 square miles.

Records available.— May 1912 to September 1913 and October 1933 to September 1944 in reports of Geological Survey. May 1912 to September 1944 in reports of State engineer.

Average discharge.— 32 years, 334 second-feet.

Extremes.— Maximum discharge during year, 4,020 second-feet May 18 (gage height, 9.32 feet); minimum daily, 8.3 second-feet Sept. 2, 3, 5, 6, 8-10.  
1912-44: Maximum discharge, 14,000 second-feet July 1, 1927 (gage height, 9.37 feet); minimum daily, 2 second-feet Oct. 24-29, 1933.

Remarks.— Records good except those for periods of ice effect or no gage-height record, which are fair. Many diversions above station for irrigation. During irrigation season low-water flow is water returned from irrigated lands above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	23	(*)				280	155	2,660	1,260	25	12
2	29	28					260	145	2,780	1,320	23	8.3
3	a30	12					230	131	2,910	937	20	8.3
4	32	a11					220	104	2,720	861	20	9.4
5	26	11					*218	84	2,150	1,350	18	8.3
6	24	a12					245	73	1,520	1,040	18	8.3
7	21	a14					310	193	1,300	1,280	18	9.4
8	20	16					360	617	1,400	1,210	18	8.3
9	19	37					391	782	1,000	996	15	8.3
10	a18	151					423	826	1,020	847	13	8.3
11	18	204	170	165	180	245	376	876	1,150	678	12	9.4
12	17	234					349	650	1,240	497	13	9.4
13	17	238					341	739	1,320	312	13	10
14	17	253					396	1,260	1,320	209	13	9.4
15	17	244					321	1,710	1,430	211	12	9.4
16	17	*214					238	2,310	1,660	166	12	9.4
17	a18	172					208	3,240	1,890	128	25	10
18	19	160					179	3,880	1,750	93	23	10
19	21	149					151	3,120	1,230	63	20	10
20	21	128					135	2,260	1,020	53	18	10
21	a22	112			(*)		128	2,210	1,250	116	18	10
22	25	75					118	2,290	1,580	127	16	10
23	a25	62					106	2,320	1,710	61	16	10
24	a25	60					*292	100	2,370	1,460	56	10
25	a25	60					310	90	2,390	1,300	52	14
26	a25	59					323	80	2,370	1,320	49	a14
27	a25	b77					356	78	1,980	1,400	41	a14
28	a25	b157					310	78	1,550	1,500	37	a14
29	a26	b140					275	170	1,280	1,360	34	a14
30	a25	b84					290	230	1,600	1,030	29	12
31	a24	-					290	-	2,130	-	23	12

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	699	32	17	22.5	1,390
November.....	3,177	253	11	106	6,300
December.....	5,270	-	-	170	10,450
Calendar year 1943 .....	35,546	-	11	96.8	70,100
January.....	5,115	-	-	165	10,150
February.....	5,220	-	-	180	10,350
March.....	8,061	-	-	260	15,990
April.....	6,808	423	76	227	13,500
May.....	45,595	3,880	73	1,471	90,440
June.....	47,360	2,910	1,000	1,579	93,940
July.....	14,104	1,330	23	455	27,970
August.....	509	25	12	16.4	1,010
September.....	302.9	14	8.3	19.1	601
Water year 1943-44 .....	142,220.9	3,880	8.3	389	282,100

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for stations near Monte Vista and near La Sauses.

b Stage-discharge relation affected by ice.

Note.— No gage-height record Dec. 1 to Mar. 23, Mar. 28 to Apr. 3 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 3 discharge measurements, weather records, and records for stations near Monte Vista and near La Sauses.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Rio Grande above mouth of Trinchera Creek, near La Sauces, Colo.

Location.- Water-stage recorder, lat. 39°19', long. 105°45', in sec. 35, T. 36 N., R. 11 E., a quarter of a mile upstream from Trinchera Creek and 5 miles north of La Sauces.

Drainage area.- 5,740 square miles (includes 2,940 square miles in closed basin).

Records available.- May 1936 to September 1944.

Extremes.- Maximum discharge during year, 3,540 second-feet May 20 (gage height, 8.33 feet); minimum daily, 22 second-feet Sept. 7-10.  
1936-44: Maximum discharge, 4,740 second-feet June 28, 1941 (gage height, 8.77 feet), from rating curve extended above 4,000 second-feet; minimum daily, 0.4 second-feet July 4, 1940.

Remarks.- Records excellent except those for periods of ice effect or no gage-height record, which are fair. Storage and several diversions above station for irrigation. During irrigation season, low flow is water returned from irrigated lands above station.

Rating table, water year 1943-44, except period of ice effect  
(gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1-4)

0.7	20	2.1	272	5.6	1,680
.9	44	2.7	420	7.0	2,580
1.2	88	3.5	675	8.1	3,360
1.5	142	4.5	1,090		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	78	b110	195	*207	*243	420	328	2,420	1,120	102	34
2	39	76	b115	190	220	260	400	294	2,730	1,060	93	30
3	44	74	b90	190	220	300	375	313	2,850	1,080	82	28
4	47	72	b170	*184	240	340	362	315	2,920	1,070	76	27
5	48	70	b210	180	260	380	362	308	2,850	1,120	68	25
6	48	74	b210	190	255	365	372	291	2,360	1,150	64	24
7	47	88	b220	200	265	340	405	294	1,830	1,310	62	22
8	43	110	b200	210	270	320	453	510	1,660	1,400	55	22
9	42	120	180	190	250	350	498	822	1,610	1,320	52	22
10	47	94	165	200	230	360	525	982	1,330	1,190	50	22
11	48	105	170	220	225	390	531	1,140	1,350	1,060	47	24
12	48	150	180	200	220	410	496	1,220	1,400	856	44	27
13	47	240	190	185	220	430	459	1,120	1,430	692	43	25
14	48	275	*201	180	220	460	462	1,300	1,460	507	40	26
15	48	280	215	190	215	480	504	1,700	1,460	420	39	30
16	54	275	220	200	215	460	435	2,030	1,550	382	36	34
17	66	250	220	205	*220	440	*400	2,470	1,730	328	40	34
18	68	*211	220	200	220	480	368	3,040	1,840	272	54	34
19	76	202	230	*190	220	450	342	3,320	1,630	228	48	33
20	86	187	220	185	225	470	320	3,360	1,270	202	46	32
21	84	164	230	190	230	510	310	2,760	1,180	181	44	31
22	62	144	220	200	230	477	308	2,590	1,340	260	42	30
23	66	119	215	220	235	474	294	2,600	1,550	244	40	25
24	74	110	205	230	240	438	279	2,600	1,580	206	40	26
25	72	100	200	230	240	435	260	2,640	1,400	187	42	28
26	72	b86	185	220	240	444	247	2,640	1,360	172	39	33
27	66	b66	170	215	235	447	242	2,620	1,340	156	40	38
28	72	b48	175	210	230	453	233	2,250	1,420	152	42	38
29	80	b68	180	205	240	420	244	1,930	1,480	138	39	39
30	84	b68	190	200	-	410	335	1,850	1,320	129	39	40
31	78	-	190	200	-	423	-	2,090	-	116	39	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,841	86	37	59.4	3,650
November.....	3,994	280	48	133	7,920
December.....	5,896	230	90	190	11,690
Calendar year 1943.....	48,363	-	11	133	95,930
January.....	6,204	230	180	200	12,310
February.....	6,737	270	207	232	13,360
March.....	12,659	510	243	408	25,110
April.....	11,231	531	235	374	22,280
May.....	51,727	3,360	291	1,669	102,600
June.....	51,650	2,920	1,180	1,722	102,400
July.....	18,738	1,400	116	604	37,170
August.....	1,586	102	36	51.2	3,150
September.....	883	40	22	29.4	1,750
Water year 1943-44.....	173,146	3,360	22	473	343,400

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Oct. 16 to Nov. 17; discharge computed on basis of record for station near Lobatos minus record for Conejos River near La Sauces. No gage-height record Dec. 9 to Mar. 21 (stage-discharge relation probably affected by ice during entire period); discharge computed on basis of 6 discharge measurements and record for station near Lobatos minus record for Conejos River near La Sauces.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande near Lobatos, Colo.

Location.- Water-stage recorder; lat. 37°05', long. 105°45', in sec. 22, T. 33 N., R. 11 E., 6 miles north of Colorado-New Mexico State line, 7 miles downstream from Culebra Creek, and 10 miles east of Lobatos. Datum of gage is 7,426.79 feet above mean sea level, datum of 1929.

Drainage area.- 7,700 square miles (includes 2,940 square miles in closed basin).

Records available.- June 1899 to September 1913 and October 1933 to September 1944 in reports of Geological Survey. June 1899 to September 1944 in reports of State engineer.

Average discharge.- 45 years (1899-1944), 752 second-feet.

Extremes.- Maximum discharge during year, 6,440 second-feet May 18 (gage height, 6.25 feet); minimum daily, 33 second-feet Sept. 24.

1899-1944: Maximum daily discharge, 13,100 second-feet June 8, 1905, from rating curve extended above 8,000 second-feet; minimum daily, 5.0 second-feet Aug. 4, 1940.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation. Flow regulated by many reservoirs on headwaters.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	68	123	*123	239	*300	*330	551	544	4,690	1,890	113	49
2	68	123	168	240	295	350	551	573	5,140	1,740	103	44
3	74	116	143	240	300	380	508	790	5,240	1,720	98	46
4	76	113	218	*239	310	420	481	736	5,170	1,730	74	44
5	76	110	247	230	330	445	467	619	4,730	1,810	66	44
6	79	110	256	248	330	480	474	698	3,820	1,970	61	41.
7	79	143	247	268	335	450	508	1,100	2,940	2,130	58	42
8	76	155	261	270	345	430	619	1,830	2,580	2,260	56	39
9	74	164	242	250	345	455	674	2,620	2,610	2,070	56	44
10	74	138	220	260	320	470	755	2,860	2,450	1,860	54	38
11	76	168	215	278	315	520	730	3,320	2,620	1,660	51	36
12	76	271	230	274	310	560	619	3,140	2,900	1,420	71	41
13	76	318	250	250	310	600	558	3,140	2,900	1,100	71	42
14	76	335	*266	250	305	640	603	3,700	2,880	822	63	39
15	88	335	275	255	300	680	658	4,610	2,800	619	54	39
16	90	341	280	265	300	660	596	5,170	2,760	544	46	44
17	99	*330	275	265	*300	630	508	5,760	2,840	467	41	49
18	103	287	275	260	300	640	454	6,210	2,840	399	63	51
19	116	261	280	*250	305	670	414	5,700	2,690	324	71	54
20	120	256	285	248	310	619	395	5,790	2,230	292	68	46
21	99	237	270	250	315	690	395	5,290	2,090	261	66	46
22	96	218	250	255	320	*666	399	4,950	2,340	261	58	42
23	108	190	270	265	320	627	375	5,000	2,640	330	56	34
24	116	172	265	290	325	611	359	5,150	2,710	266	59	33
25	106	155	260	295	330	588	324	5,300	2,580	218	61	34
26	106	138	240	290	325	603	297	5,240	2,570	186	71	39
27	103	134	230	290	320	619	282	5,020	2,430	172	61	41
28	113	99	220	290	315	611	313	4,320	2,400	159	61	44
29	120	110	224	290	310	573	421	3,640	2,560	151	58	49
30	130	116	228	285	-	537	515	3,590	2,180	134	54	51
31	123	-	230	290	-	544	-	4,090	-	127	54	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	2,882	130	68	95.0	5,780
November	5,766	541	99	192	11,440
December	7,473	285	123	241	14,820
Calendar year 1943	92,522	1,290	36	253	183,500
January	8,169	295	230	264	16,200
February	9,145	345	295	315	18,140
March	17,098	690	330	552	33,910
April	14,794	755	282	493	29,340
May	110,492	6,210	544	3,564	219,200
June	91,100	5,240	2,090	3,037	180,700
July	29,082	2,260	127	938	57,680
August	1,985	113	41	64.1	3,940
September	1,285	54	33	42.8	2,560
Water year 1943-44	299,272	6,210	33	818	593,600

\* Winter discharge measurement made on this day.

Note.- Stage-discharge relation affected by ice Nov. 27 to Dec. 20. No gage-height record Dec. 21 to Mar. 19 (stage-discharge relation affected by ice most of period); discharge computed on basis of 5 discharge measurements and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

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

Location.- Water-stage recorder, lat. 36°19'00", long. 105°45'30", in N $\frac{1}{2}$  sec. 15, T. 24 N., R. 11 E., 2 miles downstream from Taos Creek and bridge on Taos-Taos Junction highway and 12 miles southwest of Taos.

Drainage area.- 9,730 square miles (includes 2,940 square miles in closed basin in northern part of San Luis Valley, Colo.).

Records available.- October 1930 to September 1944 in reports of Geological Survey. July 1925 to December 1931 in reports of State engineer.

Average discharge.- 19 years (1925-1944), 891 second-feet.

Extremes.- Maximum discharge during year, 8,120 second-feet May 19 (gage height, 8.60 feet); minimum daily, 251 second-feet Sept. 12-17, 25-27.  
1930-44: Maximum discharge, 9,630 second-feet May 17, 1941 (gage-height, 9.41 feet); minimum daily, 140 second-feet (estimated) Aug. 21, 1931.

Remarks.- Records good except those for periods of doubtful or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	295	348	354	a440	511	623	761	897	6,160	2,530	377	280
2	295	343	377	a440	511	721	769	960	6,630	2,310	365	275
3	290	343	354	a450	511	682	753	978	6,870	2,240	348	270
4	290	348	354	a470	518	668	737	1,110	6,630	2,310	338	270
5	295	343	401	a460	518	d660	d700	1,150	6,390	2,240	326	270
6	300	343	470	a450	511	d645	753	1,030	5,700	2,310	326	265
7	305	332	490	a460	532	d602	769	1,190	4,640	2,460	321	265
8	305	310	490	a440	539	d560	828	1,960	3,960	2,600	310	260
9	305	305	518	a420	546	d567	924	3,000	3,690	2,600	310	256
10	300	316	464	a430	553	d595	d1,000	3,870	3,690	2,380	332	256
11	300	338	316	a440	553	705	d980	4,250	3,510	2,170	326	256
12	300	348	365	451	539	761	d970	4,740	3,780	1,940	321	251
13	305	444	464	451	553	794	d940	4,740	3,870	1,700	305	251
14	305	511	464	451	539	862	d900	5,060	3,690	1,390	310	251
15	305	546	477	451	546	d900	d900	6,160	3,690	1,130	300	251
16	310	546	477	451	532	d930	d910	7,110	3,510	960	300	251
17	316	553	477	451	546	d930	d840	7,610	3,510	870	295	251
18	316	546	490	451	546	d950	d800	7,860	3,600	769	295	256
19	321	504	504	451	532	d930	d810	7,610	3,510	698	310	256
20	326	490	504	451	546	d840	d770	7,360	3,170	638	321	256
21	326	477	511	458	553	d780	d720	7,360	2,760	616	321	256
22	332	464	525	458	553	d800	d730	6,630	2,760	553	310	256
23	321	444	539	458	567	d820	761	6,630	3,080	511	310	256
24	321	464	546	470	595	d800	753	6,870	3,340	595	315	256
25	326	425	518	490	602	d800	753	7,110	3,260	588	315	251
26	332	413	a510	490	567	d780	705	6,870	3,080	525	310	251
27	332	395	a500	490	551	d760	652	6,630	3,000	484	310	251
28	326	348	490	490	551	d770	675	6,160	3,000	458	310	256
29	343	343	a470	497	588	777	698	5,370	2,920	444	300	256
30	360	316	a450	497	-	777	769	5,160	2,840	425	290	260
31	354	-	a440	511	-	761	-	5,480	-	401	285	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	9,757	360	290	315	19,350
November.....	12,246	553	305	408	24,290
December.....	14,309	546	316	462	28,380
Calendar year 1943.....	187,249	1,940	242	513	371,400
January.....	14,268	511	420	460	28,500
February.....	15,959	602	511	547	31,480
March.....	23,530	950	560	759	46,670
April.....	24,060	1,000	675	802	47,720
May.....	149,905	7,860	897	4,803	295,300
June.....	120,240	6,870	2,760	4,008	238,500
July.....	41,845	2,600	401	1,350	83,000
August.....	9,812	377	285	317	19,460
September.....	7,746	280	251	258	15,560
Water year 1943-44.....	442,587	7,860	251	1,209	877,800

a No gage-height record; discharge computed on basis of weather records and records for station at Embudo.

b Doubtful gage-height record; discharge computed on basis of recorder graph, weather records, and records for station at Embudo.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande at Embudo, N. Mex.

Location.- Water-stage recorder, lat. 36°12'20", long. 105°57'40", in SW<sup>1</sup>/<sub>4</sub> sec. 23, T. 23 N., R. 9 E., a quarter of a mile downstream from bridge at Embudo and 2½ miles downstream from Embudo Creek.

Drainage area.- 10,400 square miles (includes 2,940 square miles 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 1944 in reports of Geological Survey. January 1889 to December 1903 and September 1912 to December 1931 in reports of State engineer.

Average discharge.- 44 years (1889-93, 1894-1903, 1912-16, 1917-44), 1,088 second-feet.

Extremes.- Maximum discharge during year, 8,770 second-feet May 19 (gage height, 11.26 feet); minimum daily, 240 second-feet Sept. 13, 14.

1889-1903, 1912-44: Maximum discharge, 15,900 second-feet June 19, 1903 (gage height, 15.8 feet); minimum daily, 35 second-feet Dec. 31, 1903.

Remarks.- Records excellent except those for periods of ice effect, which are fair. Divisions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	330	395	340	b460	534	660	770	958	6,140	2,550	385	280
2	330	390	385	b460	540	744	784	1,050	6,660	2,310	375	278
3	330	385	385	b470	529	758	770	1,050	6,920	2,180	355	271
4	325	390	390	490	534	673	744	1,250	6,790	2,220	335	266
5	325	395	410	474	552	673	738	1,290	6,400	2,180	330	271
6	330	395	480	468	534	624	751	1,250	5,880	2,310	325	266
7	345	390	529	*480	546	806	784	1,530	5,080	2,360	325	266
8	340	355	524	b460	564	594	555	2,260	4,420	2,450	315	258
9	340	340	534	b440	576	535	937	3,100	4,190	2,450	380	253
10	335	360	502	b450	558	654	1,020	3,750	4,080	2,310	380	248
11	330	385	360	b460	564	718	1,060	4,080	3,970	2,080	370	244
12	340	395	380	480	546	751	1,040	4,540	4,080	1,900	355	248
13	345	441	496	474	558	790	1,000	4,540	4,080	1,650	330	240
14	345	529	480	b440	540	846	944	5,080	3,970	1,370	325	240
15	345	564	474	b460	558	923	930	6,140	3,860	1,140	310	248
16	345	570	485	485	534	955	972	7,760	3,640	993	295	248
17	345	576	*485	480	546	972	930	8,320	3,640	895	285	248
18	345	576	540	480	546	1,010	853	8,470	3,640	797	290	253
19	400	552	524	480	534	993	867	8,320	3,530	732	305	253
20	385	518	529	480	552	881	825	7,900	3,310	660	330	253
21	375	502	524	480	558	818	770	7,900	2,900	670	350	253
22	380	496	534	485	564	832	797	7,340	2,900	612	305	248
23	370	480	546	502	558	874	790	7,200	3,100	558	300	248
24	360	502	546	512	582	853	825	7,340	3,200	618	305	248
25	365	474	529	529	636	846	832	7,480	3,200	642	310	253
26	370	463	534	518	576	811	790	7,340	3,100	558	320	253
27	370	430	540	512	588	804	784	7,060	3,000	507	315	253
28	370	380	518	502	582	818	811	6,660	2,900	468	320	258
29	390	350	b480	*524	588	804	832	5,750	2,800	458	310	252
30	425	335	b470	518	-	804	867	5,380	2,800	430	290	271
31	405	-	b470	524	-	777	-	5,620	-	415	285	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	11,035	425	325	356	21,990
November.....	13,303	576	335	443	26,390
December.....	14,913	546	340	481	29,680
Calendar year 1943.....	206,987	2,100	245	567	410,600
January.....	14,977	529	440	485	29,710
February.....	16,177	656	529	558	32,080
March.....	24,512	1,010	594	791	48,620
April.....	25,642	1,060	738	855	50,860
May.....	157,648	8,470	958	5,085	312,700
June.....	124,120	6,920	2,900	4,137	246,200
July.....	41,467	2,550	415	1,338	82,250
August.....	10,090	385	285	325	20,010
September.....	7,677	280	240	256	16,280
Water year 1943-44.....	461,561	8,470	240	1,261	915,500

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Time Basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Rio Grande at Otowi Bridge, near San Ildefonso, N. Mex.

Location.- Water-stage recorder, lat. 35°52'25", long. 106°08'35", in San Ildefonso Pueblo Grant, 100 feet downstream from highway bridge, 1½ miles southwest of San Ildefonso Pueblo, 2½ miles downstream from Rio Pojoaque, and 7 miles west of Pojoaque. Datum of gage is 5,488.48 feet above mean sea level, datum of 1929.

Drainage area.- 14,300 square miles (includes 2,940 square miles 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 1944 in reports of Geological Survey. February 1895 to December 1905 and June 1909 to December 1931 in reports of State engineer. January 1941 to December 1944 in reports of Rio Grande Compact Commission.

Average discharge.- 17 years (1927-44), 1,633 second-feet.

Extremes.- Maximum discharge during year, 10,400 second-feet May 16 (gage height, 8.32 feet); minimum daily, 389 second-feet Nov. 9, Dec. 12.  
1930-44: Maximum discharge, 22,500 second-feet May 16, 1941; maximum gage height, 13.70 feet May 14, 1941; minimum daily discharge, 128 second-feet June 21, 1934.

Remarks.- Records good. Flow partly regulated by operation of El Vado Reservoir on upper Rio Chama which stores water for irrigation. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	725	640	422	*b540	670	742	900	1,500	8,970	3,180	1,440	956
2	695	629	500	b530	682	830	914	1,700	9,490	2,980	1,820	949
3	725	607	505	b580	700	914	928	1,750	9,760	2,780	1,750	963
4	725	618	490	616	694	921	900	1,690	9,650	2,850	1,620	949
5	695	618	510	b560	700	893	886	1,690	8,870	2,960	1,420	935
6	695	550	585	b550	718	816	921	1,930	7,680	3,260	1,350	1,030
7	725	485	640	b580	718	730	970	2,530	6,290	3,090	1,290	1,320
8	725	435	646	b570	754	712	1,060	3,260	5,120	3,090	1,340	1,320
9	695	399	690	b500	767	736	1,180	4,090	4,650	3,180	1,540	1,310
10	575	404	629	*s14	724	795	1,400	5,310	4,500	2,980	1,670	1,330
11	550	412	525	564	712	858	1,480	5,570	4,360	2,740	1,680	1,310
12	555	440	399	588	706	978	1,550	6,770	5,120	2,530	1,770	1,310
13	550	475	575	508	700	1,090	1,570	7,170	5,490	2,910	1,610	1,300
14	550	575	590	481	676	1,030	1,450	7,650	5,060	2,010	1,840	1,310
15	550	629	580	b500	694	1,090	1,500	8,360	4,740	1,760	1,530	1,310
16	545	646	565	b530	700	1,130	1,280	9,730	4,540	1,570	1,500	1,350
17	550	640	560	*b550	700	1,140	1,280	9,790	4,470	1,360	1,470	1,170
18	555	646	596	b550	700	1,180	1,190	9,330	4,540	1,290	1,520	872
19	596	629	678	b560	678	1,190	1,230	9,230	4,340	1,190	1,550	861
20	629	590	662	b560	688	1,090	1,240	8,810	3,850	1,270	1,180	844
21	602	580	640	b560	706	1,070	1,180	9,100	3,380	1,380	724	837
22	585	570	640	569	706	970	1,150	8,560	3,240	1,220	586	858
23	570	570	656	586	706	1,030	1,120	8,380	3,400	1,060	998	858
24	565	596	678	*s16	712	1,010	1,120	8,460	3,670	1,110	1,076	886
25	575	580	634	658	830	1,010	1,190	8,840	3,690	1,110	1,160	900
26	580	560	607	646	742	994	1,220	9,810	3,640	886	1,070	935
27	575	535	*s62	604	742	978	1,200	9,650	3,550	767	1,060	856
28	565	500	651	566	730	970	1,340	9,330	3,420	682	1,080	810
29	602	440	556	610	718	942	1,500	8,560	3,300	634	1,020	604
30	684	430	560	640	-	921	1,460	8,070	3,280	610	970	564
31	684	-	555	640	-	914	-	8,340	-	569	986	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	19,197	725	545	619	38,080
November.....	16,428	646	399	548	32,580
December.....	18,175	690	399	586	36,050
Calendar year 1943.....	355,908	3,040	599	970	702,000
January.....	17,644	658	481	589	35,000
February.....	20,671	830	670	713	41,000
March.....	29,674	1,190	712	957	58,660
April.....	36,089	1,570	886	1,203	71,680
May.....	204,940	9,810	1,600	6,611	406,600
June.....	186,060	9,760	3,240	5,202	309,500
July.....	58,348	3,260	569	1,882	118,700
August.....	41,262	1,820	586	1,331	81,840
September.....	30,579	1,330	564	1,019	60,650
Water year 1943-44.....	649,067	9,810	399	1,773	1,287,000

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

## Rio Grande at Cochiti, N. Mex.

Location.- Water-stage recorder, lat. 35°37'10", long. 106°19'10", in NE¼ sec. 17, T. 16 N., R. 6 E., at highway bridge, 1½ miles northeast of Cochiti, 4 miles north of Pena Blanca, and 8 miles upstream from Galisteo Creek.

Drainage area.- 14,600 square miles (includes 2,940 square miles in closed basin in northern part of San Luis Valley, Colo.).

Records available.- October 1930 to September 1944 in reports of Geological Survey. January 1925 to December 1931 in reports of State engineer.

Average discharge.- 19 years (1925-44), 1,628 second-feet.

Extremes.- Maximum discharge during year, 10,500 second-feet May 16 (gage height, 7.98 feet); minimum daily, 306 second-feet Nov. 9.  
1930-44: Maximum discharge, 23,400 second-feet May 15, 1941 (gage height, 10.93 feet); minimum daily, 1 second-foot Aug. 10-12, 1934.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	591	541	461	a560	708	738	872	1,260	8,680	3,200	968	847
2	624	523	456	a580	730	823	1,460	9,030	2,920	1,890	856	
3	658	511	488	a550	738	932	823	1,590	9,380	2,660	1,690	890
4	578	494	493	a624	715	968	799	1,490	9,380	2,570	1,630	799
5	565	494	478	604	722	958	839	1,520	8,680	2,660	1,470	791
6	553	527	505	591	722	914	847	1,690	8,010	3,020	1,380	823
7	559	a450	578	617	730	847	880	2,250	6,760	2,920	1,320	1,030
8	591	328	610	553	775	775	976	2,830	5,630	2,920	1,240	1,080
9	591	306	644	a500	815	752	1,040	3,700	4,980	3,110	1,680	1,110
10	571	334	651	a520	775	815	1,210	4,650	4,720	2,920	1,690	1,190
11	425	a360	617	547	760	864	1,300	5,630	4,600	2,570	2,030	1,210
12	415	a400	559	a560	752	976	1,350	6,470	4,850	2,330	2,180	1,200
13	420	a450	494	a580	745	1,030	1,440	7,060	5,360	2,100	1,890	1,210
14	420	a520	630	a510	752	949	1,500	7,530	5,230	1,820	1,580	1,210
15	415	584	672	a500	738	1,000	1,370	8,340	4,850	1,550	1,500	1,220
16	466	630	644	a530	745	1,040	1,260	9,740	4,600	1,450	1,400	1,300
17	a440	624	637	a570	730	1,070	1,230	10,100	4,600	1,280	1,310	1,220
18	405	610	617	617	722	1,140	1,090	9,390	4,720	1,140	1,360	752
19	368	598	617	a600	693	1,160	1,050	9,380	4,480	1,190	1,470	708
20	382	578	665	a610	700	1,040	1,050	9,030	4,020	1,180	1,210	672
21	400	523	686	a610	730	994	1,010	9,030	3,600	1,240	651	658
22	396	494	844	a610	738	932	1,040	2,680	3,400	1,220	565	565
23	432	483	837	a610	730	949	1,110	8,180	3,400	1,200	776	730
24	a420	486	651	610	730	940	1,000	8,340	3,700	967	1,110	783
25	410	498	686	624	799	958	1,030	8,680	3,800	940	1,110	730
26	386	505	a650	630	752	976	1,070	9,740	3,600	799	1,220	775
27	373	523	a620	610	693	906	1,040	9,740	3,500	679	1,060	783
28	368	505	a700	610	708	889	1,120	9,380	3,300	598	940	644
29	386	488	b650	637	715	839	1,350	8,680	3,200	591	898	630
30	515	472	a580	679	-	815	1,320	8,180	3,200	598	880	617
31	630	-	a570	686	-	855	-	8,340	-	500	889	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	14,753	658	368	476	29,260
November	14,831	630	306	494	29,420
December	18,580	700	456	599	36,650
Calendar year 1943	342,269	2,830	306	938	678,900
January	18,209	686	500	587	36,120
February	21,362	815	693	737	42,370
March	28,834	1,160	738	930	57,190
April	32,888	1,500	799	1,096	65,230
May	202,270	10,100	1,260	6,525	401,200
June	157,260	9,380	3,200	5,242	311,900
July	54,842	3,200	500	1,769	106,800
August	40,917	2,180	565	1,320	81,160
September	27,122	1,300	617	904	53,800
Water year 1943-44	631,868	10,100	306	1,726	1,253,000

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for station at Otowi Bridge.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande at San Felipe, N. Mex.

Location.- Water-stage recorder, lat. 35°26'30", long. 106°26'30" in NW 1/4, sec. 17, T. 14 N., R. 5 E., at highway bridge in San Felipe Grant, 2,000 feet downstream from Tonque Arroyo, half a mile upstream from San Felipe Pueblo, and 12 miles northeast of Bernalillo. Datum of gage is 5,110.38 feet above mean sea level, datum of 1929.

Drainage area.- 16,100 square miles (includes 2,940 square miles in closed basin in northern part of San Luis Valley, Colo.).

Records available.- October 1930 to September 1944 in reports of Geological Survey. March 1925 to December 1931 in reports of State engineer.

Average discharge.- 18 years (1926-44), 1,750 second-feet.

Extremes.- Maximum discharge during year, 11,600 second-feet May 16 (gage height, 6.70 feet); minimum daily, 430 second-feet Nov. 10.

1930-44: Maximum discharge, 42,100 second-feet Aug. 21, 1935, from rating curve extended above 15,000 second-feet by logarithmic plotting; maximum gage height, 11.13 feet June 26, 1937; minimum daily discharge, 34 second-feet July 7, 1934.

Remarks.- Records fair except those for periods of ice effect or doubtful or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	700	660	490	580	*742	808	938	1,460	8,300	3,310	695	986
2	720	624	480	580	731	914	950	1,530	8,920	3,110	2,030	1,020
3	760	610	510	590	753	1,050	914	1,830	9,240	2,920	1,900	1,110
4	680	600	510	600	731	986	926	1,830	9,240	2,920	1,930	962
5	677	600	520	*580	710	1,020	914	1,820	8,920	2,920	1,680	590
6	630	630	547	560	786	902	878	2,050	8,000	3,210	1,790	902
7	650	600	610	590	786	842	926	2,630	6,420	3,110	1,370	1,160
8	670	490	640	550	808	786	1,020	3,210	5,360	3,010	1,240	1,350
9	670	458	680	510	926	742	1,150	3,950	4,880	3,310	1,520	1,350
10	640	450	700	490	914	786	1,210	4,760	4,760	3,310	1,760	1,390
11	520	460	670	490	902	830	1,590	5,760	4,520	3,010	1,790	1,290
12	510	510	640	520	842	950	1,410	6,420	4,520	2,720	2,020	1,240
13	520	560	560	550	842	1,080	1,460	7,120	5,250	2,450	1,760	1,280
14	533	610	726	580	819	1,010	1,430	7,700	5,120	2,150	1,470	1,230
15	510	660	750	610	742	1,010	1,290	8,300	4,880	1,860	1,480	1,230
16	550	690	710	630	797	1,080	1,290	10,200	4,760	1,880	1,470	1,240
17	530	680	690	650	764	1,150	1,260	10,600	4,640	1,530	1,400	1,330
18	490	680	670	660	742	1,190	1,210	9,890	4,640	1,320	1,500	914
19	460	670	680	670	819	1,200	1,100	9,890	4,520	1,360	1,500	797
20	450	660	720	690	786	1,170	1,190	9,560	4,180	1,290	1,500	797
21	490	610	*742	700	850	1,070	1,120	9,240	3,730	1,400	866	742
22	500	560	751	720	808	962	1,120	8,920	3,410	1,290	660	775
23	540	530	680	740	797	1,010	1,110	8,610	3,410	1,170	830	797
24	560	540	710	740	808	1,060	1,080	8,300	3,730	1,100	1,400	914
25	580	530	720	750	890	1,100	1,160	8,300	3,950	1,070	1,210	830
26	557	540	700	740	878	1,100	1,260	9,890	3,840	914	1,410	926
27	510	560	640	720	775	1,020	1,200	9,390	3,730	797	1,120	1,060
28	500	550	660	720	797	1,010	1,340	9,560	3,520	720	1,030	962
29	520	514	580	700	797	926	1,580	8,610	3,410	640	1,050	700
30	600	500	580	600	-	938	1,530	8,000	3,310	740	962	690
31	700	-	590	710	-	962	-	8,000	-	630	986	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	17,927	760	450	578	35,560
November.....	17,286	690	430	576	34,290
December.....	19,816	742	480	639	39,300
Calendar year 1943.....	377,623	2,920	398	1,055	749,000
January.....	19,590	750	490	632	38,860
February.....	25,222	926	710	804	46,260
March.....	30,664	1,200	742	989	60,820
April.....	35,356	1,580	878	1,179	70,130
May.....	207,830	10,600	1,460	6,704	412,200
June.....	157,130	9,240	3,310	5,238	311,700
July.....	61,191	3,310	630	1,974	121,400
August.....	43,127	2,030	630	1,591	85,540
September.....	30,874	1,390	690	1,029	61,240
Water year 1943-44.....	664,113	10,600	430	1,815	1,317,000

\* Winter discharge measurement made on this day.

Note.- Doubtful or no gage-height record Oct. 1 to Dec. 20, Dec. 26 to Jan. 9, July 27-31; discharge computed on basis of 15 discharge measurements, weather records, and records for stations at Cochiti and near Bernalillo. Stage-discharge relation affected by ice Dec. 24, 25, Jan. 10-30.

Time basis. Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande near Bernalillo, N. Mex.

Location.- Water-stage recorder, lat. 35°17'05", long. 106°35'45", in Alameda Grant, 2 miles northwest of Sandia Pueblo, 3 miles southwest of Bernalillo, Sandoval County, 3.5 miles downstream from State Highway 44, and 8.5 miles downstream from Jemez Creek.

Records available.- May 1941 to September 1944.

Extremes.- Maximum discharge during year, 10,100 second-feet May 26 (gage-height, 4.58 feet); minimum daily, 166 second-feet Oct. 11.  
1941-44: Maximum discharge, 25,400 second-feet May 16, 1941; maximum gage height, 6.83 feet Sept. 20, 1941; minimum daily discharge, that of Oct. 11, 1943.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	350	376	386	b590	744	645	610	1,410	7,950	2,750	285	520
2	360	366	371	a600	*778	712	728	1,560	8,540	2,840	376	508
3	645	350	398	a610	894	775	624	1,740	8,850	2,300	1,240	849
4	280	340	514	a630	939	832	728	1,450	9,150	2,220	1,250	508
5	310	340	508	*b590	885	921	808	1,400	8,540	2,680	1,130	494
6	335	335	527	b570	849	808	948	1,440	7,660	2,920	1,520	469
7	350	457	575	b600	852	788	1,080	1,940	6,430	3,010	921	575
8	340	256	631	b540	800	784	1,160	2,440	5,300	2,760	905	824
9	350	260	673	b500	775	832	1,400	3,100	4,720	3,190	1,320	840
10	588	242	680	b450	760	688	1,230	4,060	4,490	2,680	1,480	1,140
11	166	251	610	b450	744	659	1,190	4,940	4,600	2,300	1,360	752
12	192	201	520	b500	744	885	1,190	5,660	4,280	2,150	1,420	792
13	235	204	482	b550	744	894	1,330	6,560	5,180	2,010	1,500	792
14	219	404	561	b650	735	958	1,200	7,660	5,180	1,810	1,110	800
15	220	295	605	b550	728	885	1,200	8,240	4,800	1,450	1,050	800
16	360	350	666	b550	775	849	1,430	9,150	4,220	1,610	1,080	840
17	561	376	688	b600	775	912	1,210	9,480	4,080	1,140	1,010	1,800
18	366	410	712	b650	768	984	1,030	9,160	4,380	1,020	1,200	720
19	270	395	675	b650	760	1,060	975	9,160	3,980	1,050	1,570	564
20	320	382	704	b700	752	975	1,020	8,850	3,660	966	1,510	482
21	378	520	*720	b750	780	876	993	8,540	3,480	1,350	792	439
22	355	325	744	b800	764	728	784	7,950	3,010	1,090	404	410
23	335	345	752	b900	616	712	938	7,660	3,190	1,190	335	427
24	508	376	736	b950	800	784	800	7,950	3,280	1,010	792	768
25	300	393	752	b1,000	858	752	876	8,540	3,460	840	752	508
26	265	427	712	b950	876	868	968	9,160	3,190	792	768	582
27	300	393	666	b850	752	720	1,140	9,160	3,010	617	1,070	589
28	286	469	617	b750	652	728	1,350	8,850	2,840	534	631	800
29	295	345	b540	b700	624	728	1,580	8,540	2,920	445	589	433
30	315	320	*b560	735	688	880	1,680	8,240	2,760	638	554	560
31	547	-	b580	752	-	624	-	7,950	-	350	827	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	10,708	645	166	345	21,240
November.....	10,501	520	201	350	20,830
December.....	18,841	752	366	608	37,370
Calendar year 1943.....	275,064	2,150	166	756	547,600
January.....	20,568	1,000	480	683	40,800
February.....	22,705	939	624	753	45,050
March.....	25,033	1,000	824	808	49,550
April.....	32,229	1,680	610	1,074	63,930
May.....	191,980	9,480	1,400	6,192	380,700
June.....	146,940	9,160	2,760	4,898	291,500
July.....	51,742	3,199	350	1,669	102,600
August.....	30,949	1,570	288	998	61,390
September.....	19,775	1,200	360	659	39,220
Water year 1943-44.....	581,941	9,480	166	1,590	1,154,000

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for stations at Cochiti, San Felipe, and Albuquerque.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande at Albuquerque, N. Mex.

Location.- Water-stage recorder, lat. 35°05'20", long. 106°40'45", in SE¼ sec. 13, T. 10 N., R. 2 E., (projected), at bridge on U. S. Highway 66, at Albuquerque, in Albuquerque Grant. Datum of gage is 4,948.10 feet above mean sea level, datum of 1929.

Records available.- January 1942 to September 1944.

Extremes.- Maximum discharge during year, 11,400 second-feet May 17 (gage height, 3.69 feet); minimum daily, 150 second-feet Aug. 1.  
1942-44: Maximum discharge, 25,000 second-feet Apr. 24, 1942 (gage height, 4.07 feet), from rating curve extended above 13,900 second-feet by logarithmic plotting; minimum daily, 137 second-feet Nov. 14, 1942.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	453	516	383	a600	900	648	666	1,320	8,560	2,660	150	411
2	390	432	390	a620	900	694	770	1,560	8,860	2,660	279	366
3	540	404	404	a57	860	820	594	1,410	9,450	2,170	1,040	476
4	432	390	484	684	820	880	612	1,410	9,450	2,080	953	492
5	369	404	585	675	740	850	567	1,390	8,860	2,330	966	380
6	369	390	585	702	780	740	666	1,660	7,990	2,750	1,250	308
7	376	492	639	630	780	702	880	2,170	6,890	2,660	1,070	260
8	348	390	684	621	a800	702	920	2,410	5,750	2,660	860	532
9	362	284	711	a450	870	585	1,190	3,290	4,760	2,750	1,200	730
10	476	254	675	369	951	612	1,530	4,180	4,490	2,500	1,760	975
11	425	216	666	376	880	693	1,580	6,000	4,600	2,330	1,460	800
12	284	238	666	476	920	840	1,240	6,120	4,280	2,090	1,550	648
13	296	210	639	549	940	870	1,270	7,020	4,930	1,860	1,860	684
14	308	320	702	624	820	986	1,430	7,710	5,160	1,840	1,330	711
15	290	290	800	432	790	900	1,280	8,270	4,490	1,540	1,270	711
16	266	308	800	484	750	900	1,310	9,450	4,180	1,710	1,280	750
17	334	334	760	584	850	910	1,130	10,700	3,970	1,210	1,240	1,030
18	355	341	720	576	830	1,120	964	10,400	4,180	910	1,500	780
19	266	348	675	a650	810	1,360	910	9,450	3,870	880	2,200	500
20	308	314	675	a700	820	1,180	1,010	9,300	3,670	910	1,840	390
21	314	453	770	a800	840	1,140	1,020	8,860	3,380	1,150	1,430	341
22	327	425	820	a900	880	1,060	942	8,850	2,930	1,150	711	387
23	284	460	770	a960	931	850	920	8,850	2,930	1,010	390	350
24	418	508	702	a1,050	780	720	800	8,560	3,200	984	640	530
25	404	500	711	a1,100	740	790	975	8,270	3,670	910	920	476
26	320	532	730	1,120	780	964	920	9,450	3,110	810	931	540
27	296	558	730	1,060	657	790	975	9,760	2,930	683	1,030	603
28	278	558	675	953	558	800	975	9,760	2,930	460	760	830
29	290	508	675	800	639	750	1,180	8,450	2,750	369	585	666
30	362	432	630	830	-	693	1,520	7,990	2,660	540	460	362
31	594	-	a600	880	-	666	-	8,270	-	302	432	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	11,134	594	266	359	22,080
November.....	11,809	858	210	394	23,420
December.....	20,456	820	363	660	40,570
Calendar year 1943 .....	267,256	2,330	155	732	530,100
January.....	21,742	1,120	369	701	43,120
February.....	23,478	951	558	810	46,560
March.....	26,205	1,360	585	845	51,980
April.....	30,396	1,620	567	1,013	60,290
May.....	203,080	10,700	1,320	6,551	402,800
June.....	148,860	9,450	2,660	4,962	295,300
July.....	48,758	2,750	302	1,573	96,710
August.....	33,357	2,200	150	1,076	66,180
September.....	16,958	1,030	260	565	33,640
Water year 1943-44 .....	596,231	10,700	150	1,629	1,183,000

a No gage-height record; discharge computed on basis of weather records and records for stations near Bernalillo and near Belen.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande near Belen, N. Mex.

Location.- Water-stage recorder, lat. 34°39'10", long. 106°44'10", in Tome Claim, at bridge on State Highway 52, 2 miles east of Belen, Valencia County.

Records available.- January 1942 to September 1944.

Extremes.- Maximum discharge during year, 10,700 second-feet May 17; (gage height, 4.50 feet); minimum daily discharge, 140 second-feet Aug. 3.

1942-44: Maximum discharge, 23,100 second-feet Apr. 24, 1942 (gage height, 5.05 feet), from rating curve extended above 12,500 second-feet by logarithmic plotting; minimum daily, 126 second-feet Aug. 1, 1943.

Remarks.- Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	526	407	435	740	1,020	730	640	1,400	8,230	2,800	216	202
2	380	348	323	700	917	730	486	840	8,820	3,050	144	225
3	281	287	323	690	917	710	730	928	8,820	2,590	140	270
4	329	265	323	710	917	873	428	1,430	9,430	2,160	435	348
5	361	270	361	710	928	1,010	568	1,280	9,220	2,120	502	335
6	281	245	397	750	906	962	354	1,180	8,420	2,240	577	235
7	329	265	335	780	928	790	435	1,270	7,300	2,290	882	168
8	407	293	478	650	895	790	700	2,140	6,400	2,110	463	180
9	380	293	670	6450	873	770	800	2,800	5,570	2,760	442	245
10	428	220	917	374	928	780	1,330	3,520	5,100	2,960	895	293
11	435	202	998	342	962	730	1,160	4,660	5,260	2,510	1,340	577
12	397	194	884	374	790	720	820	5,570	4,510	2,350	1,150	494
13	335	194	810	486	750	760	917	6,230	5,100	2,000	1,210	374
14	329	194	700	559	750	873	1,280	7,110	5,570	1,760	1,490	348
15	323	202	740	577	740	1,010	1,140	8,040	4,960	1,650	928	631
16	299	220	840	486	760	974	928	8,820	4,370	1,840	760	740
17	297	212	840	502	760	962	1,100	10,100	4,370	1,520	710	780
18	267	196	830	586	790	917	1,120	10,300	4,530	720	1,100	1,030
19	323	199	861	700	760	1,160	830	9,220	4,100	631	2,120	700
20	220	240	840	790	760	1,230	568	9,020	3,830	939	1,670	428
21	207	240	840	760	760	939	660	9,430	3,550	1,260	1,430	361
22	265	235	880	800	810	928	928	9,640	2,980	1,620	690	342
23	329	270	862	906	840	760	840	8,420	2,450	1,710	354	306
24	275	260	873	950	830	650	820	8,040	2,720	1,700	293	317
25	270	287	820	1,140	840	604	374	8,230	3,600	998	449	622
26	323	374	862	1,200	800	660	502	9,020	3,350	862	622	604
27	311	660	830	1,150	873	939	534	10,100	3,100	710	670	604
28	270	690	800	1,020	800	631	710	10,100	2,830	528	790	670
29	245	670	906	998	720	568	770	9,220	2,830	368	518	906
30	265	466	820	1,010	-	542	1,110	8,620	2,760	407	317	631
31	299	-	740	939	-	518	-	8,230	-	235	235	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	9,976	528	207	322	19,790
November.....	9,110	690	189	304	18,070
December.....	22,088	998	323	713	43,810
Calendar year 1943.....	232,203	2,410	126	656	460,800
January.....	22,838	1,200	342	737	45,300
February.....	24,324	1,020	780	839	48,250
March.....	25,220	1,230	518	814	50,020
April.....	23,382	1,330	354	779	46,380
May.....	194,848	10,300	840	6,286	386,500
June.....	154,050	9,430	2,450	5,135	305,600
July.....	51,876	3,050	235	1,567	101,900
August.....	23,542	2,120	140	769	46,990
September.....	15,945	1,030	160	465	27,660
Water year 1943-44.....	574,699	10,300	140	1,570	1,140,000

a No gage-height record; discharge interpolated.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande near Bernardo, N. Mex.

Location.— Water-stage recorder, lat. 34°25'00", long. 106°47'50", in WNW¼ sec. 12, T. 2 N., R. 1 E. (projected), at bridge on U. S. Highway 60, 2½ miles east of Bernardo and 3½ miles upstream from Rio Puerco. Datum of gage is 4,723.95 feet above mean sea level, datum of 1929.

Drainage area.— 19,230 square miles (includes 2,940 square miles in closed basin in northern part of San Luis Valley, Colo.)

Records available.— June 1936 to January 1939, October 1941 to September 1944.

Extremes.— Maximum daily discharge during year, 10,700 second-feet May 22; minimum daily, 181 second-feet Sept. 9.

1936-39, 1941-44: Maximum discharge, not determined, probably occurred Apr. 25, 1942; maximum daily discharge, 19,800 second-feet Apr. 25, 1942; maximum gage height, 6.90 feet Apr. 25, 1942; minimum daily discharge, 36 second-feet July 26, 1936.

Remarks.— Records poor. Records of discharge obtained by summing the discharge of three channels carrying river flow. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	518	395	593	703	929	728	533	1,490	8,450	2,040	438	297
2	505	498	522	702	930	672	574	1,010	9,120	2,320	368	267
3	451	429	481	674	847	672	561	785	9,480	2,280	337	286
4	438	401	468	660	845	714	631	1,020	10,300	1,760	302	275
5	505	400	481	618	844	1,010	452	1,190	10,100	1,780	343	325
6	464	380	549	660	843	1,120	425	982	9,320	1,810	331	277
7	438	381	549	744	814	1,090	465	897	8,300	2,180	352	228
8	424	414	556	423	841	925	589	1,540	7,110	2,040	573	185
9	464	428	621	422	811	770	772	1,950	5,180	2,250	352	181
10	464	362	874	422	838	686	1,220	2,850	4,350	2,410	690	284
11	519	304	931	422	922	630	1,460	4,450	4,420	1,970	1,100	320
12	506	286	902	422	993	588	1,070	5,650	4,180	1,840	1,480	474
13	397	275	817	438	811	658	925	6,470	4,120	1,600	1,110	330
14	373	275	760	478	797	730	1,090	7,300	4,840	1,610	1,210	361
15	365	234	689	532	769	870	1,440	7,930	4,400	1,350	1,150	393
16	352	300	773	518	770	1,020	1,230	8,740	3,790	1,380	927	557
17	349	308	773	463	742	983	1,220	10,000	3,500	1,230	764	718
18	340	241	745	491	770	926	1,250	10,100	3,840	1,020	837	731
19	373	270	717	573	756	1,010	1,100	9,570	3,730	956	1,460	831
20	371	281	717	657	756	1,420	757	9,750	3,170	1,020	2,150	558
21	346	304	731	755	728	1,170	631	10,600	3,020	1,440	1,440	428
22	378	300	801	727	700	1,130	925	10,700	2,760	1,090	1,060	372
23	430	333	843	769	722	984	1,030	9,750	2,410	1,380	738	351
24	416	401	843	755	756	813	1,120	8,680	2,400	1,260	412	405
25	397	428	843	811	756	757	838	8,490	3,540	1,060	399	463
26	416	522	871	1,090	784	757	561	8,350	3,600	949	582	663
27	370	651	899	1,120	840	954	645	9,980	2,860	848	536	650
28	358	750	801	922	952	841	673	10,000	2,610	762	585	690
29	331	721	844	868	840	617	757	9,730	2,450	640	547	773
30	339	678	815	841	-	589	813	9,640	2,180	525	416	890
31	353	-	745	871	-	561	-	8,980	-	478	292	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	12,750	519	331	411	25,290
November.....	11,950	750	234	398	25,700
December.....	22,604	931	468	729	44,630
Calendar year.....	-	-	-	-	-
January.....	20,551	1,120	422	663	40,760
February.....	23,614	952	700	814	46,840
March.....	26,395	1,420	561	851	52,550
April.....	25,757	1,460	485	866	51,090
May.....	198,364	10,700	788	6,399	335,400
June.....	149,500	10,300	2,180	4,983	295,600
July.....	45,178	2,410	478	1,457	89,610
August.....	23,181	2,150	292	748	45,980
September.....	13,553	890	181	452	26,880
Water year 1943-44.....	573,397	10,700	181	1,567	1,137,000

Note.— Discharge record not complete Jan. 8-12, June 19-23, July 15-18, 25-27, Aug. 1-4, 22, 23, 30, Sept. 1-7; discharge computed on basis of records for station near Belen.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande at San Acacia, N. Mex.

**Location.**— Water-stage recorder, lat. 34°15'20", long. 106°53'30", in NE¼ sec. 1, T. 1 S., R. 1 W., 0.2 mile downstream from San Acacia diversion dam, half a mile east of San Acacia, and 2 miles downstream from Rio Salado. Datum of gage is 4,660.16 feet above mean sea level, datum of 1929.

**Drainage area.**— 26,770 square miles (includes 2,940 square miles in closed basin in northern part of San Luis Valley, Colo.).

**Records available.**— April 1936 to September 1944 in reports of Geological Survey. February to December 1925, January 1926 to September 1927 (gage heights and discharge measurements only) in reports of State engineer. January 1941 to December 1944 in reports of Rio Grande Compact Commission.

**Extremes.**— Maximum discharge during year, 3,300 second-feet May 28; maximum gage height, 8.15 feet Aug. 18; minimum daily discharge, 44 second-feet Sept. 8.  
1936-44: Maximum discharge, 27,400 second-feet Aug. 5, 1936 (gage height, 8.35 feet, datum of gage, 4,662.56 feet), from rating curve extended above 18,000 second-feet by logarithmic plotting; minimum daily, 1 second-foot June 23, 1939.

**Remarks.**— Records good. Socorro main canal north diverts 0.2 mile above gage. Diversions above station for irrigation. Records of water analyses for water year 1944 are given in Water Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	328	290	566	730	957	705	500	994	7,320	1,810	180	102
2	364	392	553	715	969	705	555	1,180	7,850	1,930	203	77
3	382	344	420	715	849	684	448	747	8,030	2,140	115	87
4	320	312	540	670	781	694	652	815	8,580	1,950	83	87
5	344	248	452	670	837	849	432	1,290	8,950	2,020	231	60
6	373	190	518	837	960	994	416	1,110	7,670	2,290	260	131
7	312	290	553	790	736	1,010	317	945	6,490	2,260	360	60
8	305	312	579	685	860	884	391	1,120	6,330	1,910	545	44
9	320	312	685	430	770	736	623	1,710	4,830	2,140	474	57
10	275	305	805	*b400	804	674	908	2,530	3,770	2,370	1,260	97
11	373	242	871	411	826	594	1,440	3,900	4,020	2,110	1,740	165
12	402	180	888	441	957	585	1,090	5,110	3,770	1,770	1,850	251
13	344	180	922	382	857	536	731	5,550	3,480	1,500	1,260	231
14	354	146	837	430	896	536	804	7,150	4,150	1,290	1,180	231
15	248	185	760	605	705	716	1,530	7,320	4,280	1,280	1,210	254
16	218	195	730	618	837	957	1,230	7,320	3,390	1,250	804	416
17	200	280	700	540	770	920	957	8,950	3,240	1,290	1,310	536
18	190	200	775	553	705	792	945	9,930	3,430	1,140	1,480	545
19	218	206	715	618	694	953	1,050	9,930	2,970	826	2,900	677
20	275	230	700	670	632	1,260	684	8,760	2,860	1,110	3,060	282
21	175	275	745	790	663	1,350	518	8,760	2,970	2,690	1,720	226
22	275	260	760	820	652	981	792	8,580	2,530	4,320	637	250
23	268	248	837	760	652	860	1,060	7,850	2,070	2,280	594	203
24	320	402	*b890	790	726	736	896	7,320	2,220	1,330	360	256
25	306	463	854	871	758	694	837	7,500	2,930	1,220	360	309
26	275	485	854	1,080	747	747	440	7,850	3,200	945	407	555
27	268	566	854	1,410	826	684	518	9,730	2,240	758	527	509
28	190	745	837	1,170	945	826	527	9,340	2,180	623	474	584
29	230	657	854	1,010	815	527	594	8,760	2,090	509	483	1,330
30	218	618	922	973	-	500	663	8,580	2,000	391	282	1,020
31	254	-	760	1,010	-	440	-	7,670	-	244	156	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,923	402	175	288	17,700
November.....	9,738	745	146	325	19,320
December.....	22,736	922	420	733	45,100
Calendar year 1943.....	213,065	3,640	14	564	422,600
January.....	22,594	1,410	382	729	44,810
February.....	23,066	969	632	795	45,750
March.....	24,079	1,550	440	777	47,760
April.....	22,588	1,530	317	753	44,800
May.....	178,301	9,930	747	5,752	353,700
June.....	129,820	8,950	2,000	4,327	267,500
July.....	49,676	4,320	244	1,802	96,580
August.....	26,665	1,060	83	860	52,800
September.....	9,632	1,530	44	321	19,100
Water year 1943-44.....	527,818	9,930	44	1,442	1,047,000

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Rio Grande at San Marcial, N. Mex.

Location.- Water-stage recorder, lat. 33°40'50", long. 106°59'15", in Pedro Armendaris Grant 33, at Atchison, Topeka & Santa Fe Railway bridge, 1.1 miles downstream from San Marcial, Socorro County. Datum of gage is 4,455.38 feet above mean sea level (levels by International Boundary Commission).

Drainage area.- 27,700 square miles (including 2,940 square miles in closed basin in northern part of San Luis Valley, Colo.).

Records available.- January 1895 to September 1944 in reports of Geological Survey. Prior to January 1922 at site 0.3 mile upstream; January 1922 to February 1932 at highway bridge half a mile northeast of San Marcial and 1.8 miles above present site.

Average discharge.- 48 years (1896-1944), 1,563 second-feet.

Extremes.- Maximum discharge during year, 9,650 second-feet May 29 (gage height, 13.22 feet); minimum daily, 28 second-feet Sept. 10.

1896-1944: Maximum discharge, about 50,000 second-feet Oct. 11, 1904; no flow at times.

Remarks.- Records good. Diversions above station for irrigation.

Cooperation.- Records furnished by International Boundary Commission, United States and Mexico, U. S. Section.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	201	242	680	751	798	716	567	589	7,510	2,000	254	197
2	305	263	608	736	776	674	482	815	7,170	1,830	194	186
3	390	308	530	722	743	627	527	977	7,410	1,900	144	85
4	379	379	450	708	685	536	551	767	7,660	1,910	113	72
5	306	351	482	693	692	641	553	759	8,190	1,910	75	89
6	294	279	461	631	741	730	463	943	8,280	1,920	63	81
7	352	268	514	632	802	896	353	906	7,770	1,780	130	56
8	298	289	639	371	700	966	323	858	7,160	1,660	184	60
9	264	330	730	278	671	830	411	1,100	5,940	1,860	313	46
10	271	347	956	282	680	704	610	1,470	4,660	1,920	453	28
11	319	375	928	260	695	605	752	2,200	3,980	2,150	1,040	29
12	300	290	895	278	695	563	1,160	3,570	3,910	1,950	1,460	42
13	356	258	844	399	725	552	1,070	4,890	3,680	1,560	1,450	178
14	352	210	805	562	734	449	689	5,830	3,430	1,560	1,040	172
15	303	198	699	371	700	598	697	6,540	3,900	1,180	958	168
16	238	166	632	437	634	736	1,030	7,480	3,870	1,140	985	186
17	234	172	656	471	675	858	1,200	7,520	3,490	1,140	839	265
18	200	240	716	610	660	772	1,020	8,190	3,090	1,140	978	354
19	172	253	700	720	733	783	1,060	9,090	3,250	991	1,380	413
20	187	202	667	813	697	710	1,020	9,290	3,260	722	2,260	547
21	255	235	652	968	660	837	e900	8,410	2,760	808	2,470	477
22	234	233	659	825	625	1,020	e800	8,350	2,650	1,510	1,580	344
23	223	287	688	787	674	1,050	e830	7,980	2,420	2,690	897	249
24	266	327	713	745	748	978	833	7,590	2,000	1,940	537	803
25	305	363	798	715	803	826	924	7,180	1,770	1,410	327	268
26	303	470	858	752	753	705	845	6,990	2,580	1,170	399	272
27	271	478	935	1,180	727	687	626	7,500	2,610	939	425	407
28	312	568	954	1,510	709	642	507	9,200	2,610	744	420	523
29	247	706	882	1,050	748	707	550	9,460	2,120	584	396	497
30	260	697	778	850	-	594	573	8,830	2,140	456	398	632
31	231	-	816	827	-	583	-	8,240	-	354	319	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,637	390	167	277	17,030
November.....	9,740	706	166	325	19,320
December.....	22,322	956	460	720	44,280
Calendar year 1943.....	210,857	3,850	17	578	418,200
January.....	20,734	1,510	260	669	41,130
February.....	20,681	803	625	713	41,020
March.....	22,675	1,050	449	731	44,980
April.....	21,926	1,200	323	731	43,490
May.....	163,491	9,460	589	5,274	324,300
June.....	130,970	8,280	1,770	4,366	289,800
July.....	44,628	2,690	354	1,440	88,520
August.....	22,501	2,470	63	786	44,580
September.....	7,036	652	28	235	13,960
Water year 1943-44.....	495,291	9,460	28	1,353	982,500

e Discharge estimated.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande below Elephant Butte Dam, N. Mex.

Location.- Water-stage recorder, lat. 33°09'05", long. 107°12'10", in N<sup>o</sup> sec. 25, T. 13 S., R. 4 W. (projected), 3,800 feet downstream from Elephant Butte Dam in Pedro Armendaris Grant.

Records available.- October 1916 to September 1944.

Average discharge.- 28 years, 1,208 second-feet.

Extremes.- Maximum daily discharge during year, 1,770 second-feet July 19; minimum daily, 675 second-feet July 2.

1916-44: Maximum daily discharge, 8,220 second-feet May 22, 1942; no flow at times.

Remarks.- Records good. Many diversions above station for irrigation. Flow regulated by Elephant Butte Reservoir (see p. 194).

Cooperation.- Records furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,180	1,010	1,150	1,090		1,180	1,140	1,100	1,160	1,190	1,620	1,140
2	1,130	1,030	1,190	1,010	1,120	1,190	1,010	1,220	1,190	675	1,630	1,210
3	998	1,070	1,090	1,080	1,120	1,260	1,100	1,150	1,150	1,070	1,660	872
4	1,080	1,030	1,150	1,060	1,200	1,190	1,180	1,180	901	986	1,760	962
5	1,160	1,020	1,040	1,120	1,160	1,030	1,180	1,190	1,090	1,120	1,630	995
6	1,200	1,100	1,050	1,380	983	1,130	1,200	1,190	1,110	1,280	1,390	1,120
7	1,180	942	1,130	1,500	1,090	1,130	1,200	974	1,250	1,500	1,650	1,040
8	1,190	1,080	1,160	1,560	1,140	1,180	1,140	1,160	1,570	1,410	1,490	1,180
9	1,190	1,130	1,130	1,170	1,180	1,190	1,030	1,260	1,350	1,150	1,480	1,200
10	1,150	1,140	1,150	1,420	1,170	1,140	966	1,260	1,580	1,250	1,450	1,060
11	1,150	1,160	1,160	1,390	1,110	1,140	1,040	1,220	1,110	1,520	1,580	1,170
12	1,220	1,140	1,120	1,390	1,130	1,120	1,160	1,210	1,320	1,580	1,560	1,210
13	1,300	1,140	1,050	1,250	993	1,050	1,160	1,200	1,400	1,700	1,290	1,160
14	1,290	984	1,130	1,080	1,140	1,250	1,200	958	1,420	1,750	1,530	1,180
15	1,250	1,130	1,160	1,020	1,140	1,180	1,130	1,110	1,470	1,750	1,440	1,200
16	1,190	1,160	1,130	907	1,210	1,200	1,000	1,210	1,330	1,480	1,560	1,180
17	985	1,180	1,150	990	1,160	1,200	1,130	1,250	1,330	1,600	1,540	1,000
18	1,130	1,300	1,160	1,020	1,180	1,220	1,160	1,260	1,160	1,470	1,600	1,150
19	1,220	1,300	1,120	1,070	1,190	994	1,190	1,260	1,240	1,770	1,620	1,150
20	1,220	1,190	1,120	1,030	979	1,240	1,190	1,300	1,310	1,730	1,480	1,180
21	1,170	1,080	1,170	1,050	1,130	1,160	1,290	928	1,230	1,670	1,610	1,160
22	1,210	1,180	1,250	1,140	1,130	1,180	1,210	1,130	1,200	1,660	1,520	1,150
23	1,210	1,200	1,250	1,000	1,190	1,180	1,110	1,160	1,250	1,420	1,240	1,170
24	1,150	1,160	1,220	1,160	1,150	1,210	1,180	1,170	1,220	1,350	1,240	984
25	1,210	1,140	949	1,240	1,170	1,170	1,250	1,230	989	1,680	1,200	1,180
26	1,140	1,170	933	1,490	1,170	1,080	1,220	1,090	1,000	1,740	1,150	1,090
27	1,190	1,160	1,130	1,550	1,040	1,150	1,220	1,110	1,150	1,740	998	1,060
28	1,140	953	1,420	1,260	1,120	1,230	1,200	907	1,190	1,700	1,070	1,130
29	1,130	1,120	1,500	1,070	1,230	1,280	1,240	968	1,190	1,760	1,100	1,090
30	1,110	1,090	1,250	944	-	1,220	1,010	1,160	1,130	1,630	1,100	1,130
31	939	-	1,130	1,010	-	1,190	-	1,170	-	1,650	1,100	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	36,012	1,300	939	1,162	71,430
November.....	33,489	1,300	942	1,116	66,420
December.....	35,732	1,500	933	1,153	70,870
Calendar year 1943.....	407,695	1,500	835	1,117	808,600
January.....	36,451	1,560	907	1,176	72,500
February.....	32,825	1,230	979	1,132	65,110
March.....	36,214	1,260	984	1,168	71,830
April.....	34,435	1,290	956	1,148	68,300
May.....	35,675	1,300	907	1,151	70,760
June.....	36,790	1,570	901	1,226	72,970
July.....	46,261	1,770	675	1,492	91,760
August.....	44,258	1,750	998	1,428	87,780
September.....	33,403	1,210	862	1,113	66,280
Water year 1943-44.....	441,546	1,770	675	1,206	875,800

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Grande below Caballo Dam, N. Mex.

Location.- Water-stage recorder, lat. 32°53'05", long. 107°17'30", in NE¼SW¼ sec. 30, T. 18 S., R. 4 W., 600 feet upstream from Bojarquez bridge, 4,200 feet downstream from Caballo Dam, 1 1/3 miles upstream from Percha diversion dam, 3 miles northeast of Arrey, and 5 miles south of Caballo. Datum of gage is 4,145.9 feet above mean sea level.

Records available.- January 1938 to September 1944.

Extremes.- Maximum daily discharge during year, 3,000 second-feet Aug. 6; minimum daily, 2.5 second-feet Nov. 10-14.

1938-44: Maximum daily discharge, 7,650 second-feet May 20, 1942; minimum daily, 1.3 second-feet Nov. 18-21, Dec. 12-27, 1940.

Remarks.- Records good. Considerable diversion above station for irrigation. Flow regulated by Caballo Reservoir (capacity, 345,900 acre-feet) and Elephant Butte Reservoir (capacity, 2,219,000 acre-feet).

Cooperation.- Records furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	371	29	5.1	5.7	9.0	791	2,310	2,040	1,610	2,170	2,390	2,360
2	737	29	4.2	5.7	9.7	791	2,550	2,040	1,580	1,960	2,450	2,460
3	718	29	4.2	5.7	9.4	578	2,460	1,980	1,720	1,980	2,600	2,460
4	560	29	4.2	4.8	9.0	753	2,210	1,880	1,710	2,100	2,850	2,460
5	480	29	3.9	3.7	9.7	1,110	2,220	1,830	1,760	2,140	3,000	2,260
6	360	29	3.9	4.0	9.5	1,110	2,180	1,900	1,820	2,170	2,880	2,060
7	122	29	3.9	3.5	9.7	1,090	2,140	1,910	1,910	2,340	2,810	1,770
8	125	18	4.2	3.3	10	1,020	2,320	1,880	1,930	2,340	2,810	1,700
9	126	3.5	4.5	3.3	11	902	2,460	1,960	1,900	2,280	2,440	1,700
10	127	2.5	3.2	3.8	10	736	2,480	1,890	2,000	2,250	1,860	1,700
11	93	2.5	3.6	3.8	10	1,030	2,320	1,770	2,100	2,230	1,740	1,710
12	9.7	2.5	3.9	3.1	10	1,200	2,350	1,700	2,100	2,230	1,860	1,710
13	3.3	2.5	3.9	3.3	10	1,270	2,660	1,780	2,100	2,210	1,910	1,620
14	3.3	2.5	3.9	3.3	373	1,370	2,470	1,820	2,080	2,000	2,040	1,530
15	280	524	3.2	4.0	1,040	1,560	2,440	1,870	2,010	1,990	2,040	1,530
16	999	1,090	3.9	3.3	965	1,110	2,370	1,860	1,920	2,390	2,210	1,550
17	999	1,070	4.5	3.7	799	1,190	2,360	1,930	2,070	2,390	2,320	1,490
18	930	1,010	4.8	4.3	746	1,590	2,160	1,930	2,210	2,390	2,160	1,440
19	721	868	5.1	4.5	657	1,720	2,170	1,430	2,220	2,390	1,910	1,400
20	574	591	5.1	4.4	560	1,720	2,360	1,680	2,310	2,360	1,880	1,350
21	478	187	5.4	5.5	535	1,650	2,330	2,000	2,410	2,250	1,980	1,240
22	267	157	5.1	7.0	407	1,540	2,260	1,990	2,290	2,230	1,980	1,080
23	114	157	3.9	6.9	445	1,660	2,260	1,950	2,320	2,120	2,150	994
24	113	138	331	7.2	440	1,920	2,270	1,900	2,390	1,620	2,140	944
25	113	12	620	4.9	387	2,210	2,260	1,850	2,410	1,540	1,990	799
26	76	5.4	589	4.6	542	2,280	2,190	1,840	2,390	1,820	2,030	607
27	28	5.1	446	5.6	700	2,170	2,030	1,900	2,350	1,980	2,060	467
28	28	5.1	408	6.9	791	2,170	1,920	1,910	2,280	2,090	2,050	368
29	29	5.1	280	8.5	791	2,280	2,010	1,910	2,260	2,480	2,180	307
30	28	5.1	148	8.2	-	2,530	2,040	1,910	2,190	2,490	2,290	404
31	29	-	9.9	8.8	-	2,260	-	1,750	-	2,440	2,290	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	9,641.3	999	3.3	311	19,120
November.....	6,066.8	1,090	2.5	202	12,030
December.....	2,930.2	620	3.2	94.5	5,810
Calendar year 1943.....	450,760.3	2,920	2.5	1,260	911,900
January.....	155.3	8.8	3.1	5.01	308
February.....	10,305	1,040	9.0	355	20,440
March.....	44,991	2,350	678	1,451	89,940
April.....	68,530	2,650	1,920	2,286	136,000
May.....	57,970	2,040	1,430	1,870	115,000
June.....	62,350	2,410	1,580	2,078	123,700
July.....	67,340	2,490	1,540	2,172	133,600
August.....	69,280	3,000	1,740	2,235	137,400
September.....	43,420	2,460	307	1,447	86,180
Water year 1943-44.....	443,029.6	3,000	2.5	1,210	878,800

a No gage-height record; discharge estimated.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Reservoirs in Rio Grande Basin

Elephant Butte Reservoir.— Water-stage recorder, lat.  $33^{\circ}09'15''$ , long.  $107^{\circ}11'30''$ , at dam on Rio Grande in NW $\frac{1}{4}$  sec. 30, T. 13 S., R. 3 W. (surveys by Bureau of Reclamation), 1 mile west of Elephant Butte, N. Mex., and 4 miles northeast of Hot Springs. Datum of gage is 43.3 feet above mean sea level. Records available, January 1940 to September 1944. Maximum daily contents during year, 1,522,400 acre-feet July 11, 12 (gage height, 4,385.68 feet); minimum daily, 1,130,200 acre-feet May 12 (gage height, 4,369.16 feet). Maximum daily contents during period 1940–44, 2,303,000 acre-feet June 16–18, 1942 (gage height, 4,409.19 feet); minimum daily, 416,500 acre-feet Sept. 21–23, 1940 (gage height, 4,323.20 feet).

Reservoir is formed by concrete dam; storage began Jan. 6, 1915; dam completed May 13, 1916. Capacity, 2,219,000 acre-feet between gage heights 4,231.5 feet (sill of lower outlet gate) and 4,407.0 feet (spillway crest), survey of 1940. No dead storage. Figures given herein represent usable contents. Water is used for power development and irrigation on Rio Grande project of Bureau of Reclamation. Contents as here given are computed from mean daily gage heights.

Gage-height record and capacity table furnished by Bureau of Reclamation.

Caballo Reservoir.— Water-stage recorder, lat.  $32^{\circ}53'45''$ , long.  $107^{\circ}17'30''$ , at dam on Rio Grande, in SE $\frac{1}{4}$  sec. 19, T. 16 S., R. 4 W., 0.5 mile downstream from mouth of Apache Canyon, 0.9 mile upstream from Bojarquez Bridge, 2 miles upstream from Percha diversion dam, 3.5 miles northeast of Arrey, and 4.5 miles south of Caballo, N. Mex. Datum of gage is 43.3 feet above mean sea level. Records available, February 1938 to September 1944. Maximum daily contents during year, 284,900 acre-feet Mar. 11 (gage height, 4,176.40 feet); minimum daily, 8,140 acre-feet Sept. 21 (gage height, 4,123.14 feet). Maximum daily contents during period 1938–44, 347,000 acre-feet Mar. 4, 1942 (gage height, 4,182.06 feet); minimum daily, 118 acre-feet Oct. 14, 1938 (gage height, 4,108.1 feet).

Reservoir is formed by earth-fill dam; storage began Feb. 8, 1938; dam completed Sept. 19, 1938. Capacity, 345,870 acre-feet between gage heights 4,104 feet (bottom of tunnel entrance to gates) and 4,182 feet (maximum gage height at which spillway gates operate automatically). No dead storage. 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 as here given are computed from mean daily gage heights.

Gage-height record and capacity table furnished by Bureau of Reclamation.

Carson Reservoir.— Water-stage recorder, lat.  $36^{\circ}25'$ , long.  $105^{\circ}50'$ , in NW $\frac{1}{4}$  sec. 12, T. 25 N., R. 10 E., on Aguaje de la Petaca,  $4\frac{1}{2}$  miles northeast of Stong and  $4\frac{1}{2}$  miles northwest of Carson, Taos County, N. Mex. Records available, January 1940 to September 1944. Maximum daily contents during year, 80 acre-feet May 7–9 (gage height, 11.8 feet); no storage most of year. Maximum contents during period 1940–44, 3,620 acre-feet May 6, 1941 (gage height, 38.5 feet); no storage for extended periods.

Reservoir is formed by earth dam, stone-faced, completed in 1935. Capacity 5,684 acre-feet between gage heights 8.0 feet (sill of outlet gate) and 45 feet (crest of spillway). Dead storage negligible. Water used for irrigation in Carson Irrigation District near Carson, N. Mex.

Storage from spring runoff started from zero Apr. 28, reached 80 acre-feet May 7–9 (gage height, 11.8 feet), and receded to zero May 22; the reservoir was empty the rest of the year except a flash peak of 2 acre-feet July 20. Gage heights and contents at 12 p.m.

El Vado Reservoir.— Water-stage recorder (records stages above spillway floor only) and staff gage, lat.  $36^{\circ}55'45''$ , long.  $106^{\circ}43'55''$ , in SE $\frac{1}{4}$  sec. 4, T. 27 N., R. 2 E. (protected), at left end of El Vado Dam, on Rio Chama, 2 miles downstream from old town of El Vado and 13 miles southwest of Tierra Amarilla, N. Mex. Datum of gage is 9.565 feet above mean sea level, datum of 1929. Records available, January 1935 to September 1944. Maximum daily contents during year, 199,700 acre-feet June 20 to July 3 (gage height, 6,901.8 feet); minimum daily, 25,160 acre-feet Nov. 4 (gage height, 6,809.6 feet). Maximum daily contents during period 1935–44, that of June 20 to July 3, 1944; minimum daily, 56 acre-feet Jan. 1, 1935.

Reservoir is formed by rock-fill dam, steel-faced; storage began in January 1935. Capacity, 200,300 acre-feet between gage heights 6,740.0 feet (bottom of trash rack) and 6,902.0 feet (top of spillway gate). Dead storage unknown. Figures given herein represent usable contents. Water is used for irrigation by Middle Rio Grande Conservancy District. Gage read daily about 7:30 a.m. Continuous recorder registers gage height above 6,879.3 feet (floor of spillway). Contents given herein are those at 7:30 a.m. Staff gage readings and capacity table furnished by Middle Rio Grande Conservancy District.

Nichols Reservoir.— Water-stage recorder, lat.  $35^{\circ}41'20''$ , long.  $105^{\circ}52'40''$ , in E $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 21, T. 17 N., R. 10 E., at dam on Santa Fe Creek, three-quarters of a mile upstream from lower storage reservoir of New Mexico Power Co.,  $\frac{3}{4}$  miles east of Santa Fe, N. Mex. Datum of gage is 7,313.2 feet above mean sea level, datum of 1929. Records available, December 1942 to September 1944. Maximum daily contents during year, 816 acre-feet May 23–25 (gage height, 171.2 feet); minimum daily, 16 acre-feet Feb. 11 to Mar. 10 (gage height, 121.8 to 122.0 feet).

Reservoir is formed by earth-fill dam, rock-faced; storage began Mar. 16, 1943. Capacity, 796 acre-feet between gage heights 121.2 feet (bottom of lower operational gate) and 171.0 feet (top of storage with temporary flashboards in spillway). Dead storage, 14 acre-feet. Figures given herein represent total contents. Water is used for municipal consumption by city of Santa Fe. Contents here given are those for 12 p.m. Capacity table computed from survey furnished by New Mexico Power Co.

San Mateo Reservoir.— Water-stage recorder, lat.  $35^{\circ}19'35''$ , long.  $107^{\circ}38'04''$ , in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 25, T. 13 N., R. 8 W., over concrete outlet tower in upstream face of dam on San Mateo Creek, three-quarters of a mile southeast of San Mateo, N. Mex. Prior to Nov. 5, tape gage at same site. Records available, December 1939 to January 1944 (discontinued). Maximum daily contents recorded or observed, 40 acre-feet Jan. 31 (gage height, 32.1 feet); minimum, 13 acre-feet Nov. 5, 30, Dec. 11 (estimated). Maximum daily contents recorded or observed during period 1939–44, 64 acre-feet Feb. 18, 19, 1943 (gage height, 38.0 feet); no storage Sept. 4–13, 1940.

## Reservoirs in Rio Grande Basin--Continued

Reservoir is formed by earth dam, rock-faced, completed in 1937. Capacity, 49 acre-feet (revised) up to gate heights 36.0 feet (approximate floor level in earth channel spillway), as originally built. No dead storage. Water is diverted below reservoir for irrigation.

Contents on last day of each month, September 1943 to January 1944 are as follows: 60, 20, 13, 14, 40 acre-feet.

Alamogordo Reservoir.—Mercury gage, lat. 34°36'30", long. 104°23'10", in SW¼ sec. 34, T. 5 N., R. 24 E., at Alamogordo Dam on Pecos River, 5 miles northeast of Guadalupe, 12 miles northwest of Ft. Sumner, N. Mex. Datum of gage is at mean sea level, Bureau of Reclamation datum. Drainage area, 4,390 square miles (contributing area). Records available, January 1939 to September 1944. Maximum daily contents during year, 56,540 Mar. 8-10 (elevation, 4,248.55 feet); minimum daily, 4,850 acre-feet Sept. 10 (elevation, 4,248.55 feet); minimum daily, 4,850 acre-feet Sept. 10 (elevation, 4,209.00 feet). Maximum daily contents during period 1939-44, 149,400 acre-feet Apr. 19, 20, 1942 (elevation, 4,275.30 feet); minimum daily, 3,000 acre-feet Aug. 5, 1940 (elevation, 4,205.9 feet).

Reservoir is formed by Alamogordo Dam; completed and storage began in 1938. Capacity, 148,000 acre-feet between elevations 4,200.0 (sill of outlet gates) and 4,275.0 feet (top of spillway gates) above mean sea level. Dead storage, 8,750 acre-feet (revised). Figures given herein represent usable contents. Contents computed from once-daily gage readings at 8 a.m. Gage-height record and capacity curve furnished by Bureau of Reclamation.

Lake McMillan.—Staff gage, lat. 32°35'45", long. 104°20'55", in SE¼ sec. 2, T. 20 S., R. 26 E., at McMillan Dam on Pecos River, 3 miles southeast of Lakewood, N. Mex. Datum of gage is 3,241.6 feet above mean sea level, Bureau of Reclamation datum. Drainage area, 16,990 square miles (contributing area). Records available, January 1939 to September 1944. Maximum daily contents observed during year, 27,540 acre-feet March 26 (gage height, 23.9 feet); no storage Aug. 16-23. Maximum daily contents observed during period 1939-44, 68,500 acre-feet Sept. 26, 1941 (gage height, 29.95 feet); no storage Aug. 16-23, 1944.

Lake is formed by McMillan Dam, completed and storage began in 1906. Capacity 38,660 acre-feet between gate heights 0.0 foot (sill of outlet gate) and 26.1 feet (crest of spillway 1). No dead storage. Figures given herein represent usable contents. Water is used for irrigation on Carlsbad project of Bureau of Reclamation. Contents computed from daily readings at 6 a.m. Gage-height record and capacity table furnished by Bureau of Reclamation.

Lake Avalon.—Staff gage, lat. 32°29'25", long. 104°15'00", in SW¼ sec. 12, T. 21 S., R. 26 E., at Avalon Dam on Pecos River, 5 miles north of Carlsbad, N. Mex. Datum of gage is 3,157.0 feet above mean sea level, Bureau of Reclamation datum. Drainage area, 18,070 square miles (contributing area). Records available, January 1939 to September 1944. Maximum daily contents during year, 9,950 acre-feet Dec. 10 (gage height, 20.35 feet); no storage June 7, 8, Aug. 8-24. Maximum daily contents during period 1939-44, 11,000 acre-feet May 22, 1941 (gage height, 25.0 feet); no storage Sept. 7, Oct. 2-11, 1940, June 7, 8, Aug. 8-24, 1944, when natural flow was passing through reservoir.

Lake is formed by Avalon Dam; storage began in 1906. Capacity, 6,600 acre-feet between gate heights 0.0 foot (sill of outlet gates) and 21.0 feet (crest of spillway 1). No dead storage. Figures given herein represent usable contents. Water is used for irrigation on Carlsbad project of Bureau of Reclamation. Contents computed from once-daily readings at 6 a.m. Gage-height record and capacity curve furnished by Bureau of Reclamation.

Red Bluff Reservoir near Orla, Tex.—Staff gage, 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. Datum of gage is 0.30 foot below mean sea level, datum of 1929. Subtract 0.30 foot from elevations given herein to obtain elevation above mean sea level, datum of 1929. Prior to May 25, 1941, Ashcroft Durogate (pressure type). Since then elevations obtained as follows: staff gage at service spillway, May 25, 1941 to Aug. 12, 1943, Feb. 10-29, 1944; by measuring down from bench mark on surge tower Sept. 8 to Dec. 31, 1943; staff gage at right end of dam Aug. 13 to Sept. 7, 1943, Jan. 2 to Feb. 7, 1944, Mar. 2 to Sept. 30, 1944. All gages to same datum. Contributing drainage area, 20,720 square miles. Records available, February 1937 to September 1944. Maximum contents observed during year, 240,000 acre-feet Mar. 15, 17 (elevation, 2,835.0 feet); minimum observed, 106,000 acre-feet Sept. 1-3 (elevation, 2,817.3 feet). Maximum contents observed during period 1937-44, 352,000 acre-feet Sept. 27, 28, 1941 (elevation, 2,846.2 feet, observed on staff gage at service spillway, affected by variable draw down due to flow through taintor gates); minimum, 28,000 acre-feet Sept. 17, 23-28, 1940 (elevation, 2,794.8 feet).

Reservoir is formed by earth-fill dam, rip-rap faced; storage began in 1936; dam completed early in 1937. Capacity, 307,000 acre-feet between elevations 2,764.0 feet (penstock intake sill) and 2,842.0 feet (top of taintor gates). Dead storage, 3,000 acre-feet. 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. Elevation record and capacity curve furnished by Red Bluff Water Power Control District.

## RIO GRANDE BASIN

Monthly gage height and contents, of reservoirs in Rio Grande Basin, water year  
October 1943 to September 1944

Date	Elephant Butte Reservoir			Caballo Reservoir		
	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)
Sept. 30.....	4,380.82	1,394,300	-	4,130.03	20,210	-
Oct. 31.....	4,378.16	1,329,400	-64,900	4,146.62	70,440	+60,230
Nov. 30.....	4,375.89	1,276,700	-52,700	4,166.39	121,500	+51,060
Dec. 31.....	4,374.73	1,250,600	-26,100	4,164.63	180,500	+59,000
Calendar year 1943....	-	-	-529,900	-	-	-84,000
Jan. 31.....	4,373.36	1,219,600	-31,100	4,172.39	245,900	+65,400
Feb. 29.....	4,372.45	1,199,800	-19,700	4,176.06	281,600	+35,600
Mar. 31.....	4,371.18	1,173,000	-26,800	4,173.94	261,000	-20,500
Apr. 30.....	4,369.69	1,141,400	-31,600	4,166.70	197,200	-63,700
May 31.....	4,378.53	1,339,000	+197,600	4,161.39	155,600	-41,700
June 30.....	4,385.23	1,611,600	+172,600	4,154.12	107,700	-47,900
July 31.....	4,385.00	1,505,800	-7,800	4,146.99	71,960	-35,740
Aug. 31.....	4,383.00	1,450,500	-53,300	4,135.42	33,150	-38,810
Sept. 31.....	4,380.76	1,393,000	-57,500	4,134.53	30,800	-2,350
Water year 1943-44....	-	-	-1,300	-	-	+10,590

Date	El Vado Reservoir			Nichols Reservoir		
	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)
Sept. 30.....	6,822.3	37,570	-	147.0	233	-
Oct. 31.....	6,810.6	26,050	-11,520	144.6	197	-36
Nov. 30.....	6,812.6	27,780	+1,730	143.7	165	-32
Dec. 31.....	6,815.7	30,810	+3,030	122.1	17	-168
Calendar year 1943....	-	-	-11,620	-	-	+17
Jan. 31.....	6,818.9	34,000	+3,190	122.2	17	0
Feb. 29.....	6,822.0	37,240	+3,240	-	16	-1
Mar. 31.....	6,827.4	43,370	+6,130	122.8	19	+3
Apr. 30.....	6,846.5	72,620	+29,250	166.1	401	+381
May 31.....	6,869.8	131,100	+120,480	171.0	810	+410
June 30.....	6,901.8	198,700	+6,800	166.4	667	-143
July 31.....	6,898.2	188,000	-11,700	170.9	806	+139
Aug. 31.....	6,877.6	129,800	-58,200	169.2	752	-54
Sept. 30.....	6,857.1	87,100	-42,700	165.7	646	-106
Water year 1943-44....	-	-	+49,530	-	-	+413

Date	Alamogordo Reservoir			Lake McMillan		
	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)
Sept. 30.....	4,229.05	22,860	-	19.2	9,780	-
Oct. 31.....	4,230.00	24,000	+1,140	17.25	4,580	-5,200
Nov. 30.....	4,235.80	31,990	+7,990	16.7	3,400	-1,180
Dec. 31.....	4,239.20	37,600	+5,610	18.2	6,930	+3,530
Calendar year 1943....	-	-	-56,280	-	-	-29,460
Jan. 31.....	4,244.75	48,120	+10,520	19.3	10,100	+3,170
Feb. 29.....	4,248.10	55,480	+7,360	18.9	8,910	-1,190
Mar. 31.....	4,230.30	24,380	-31,100	23.5	25,740	+16,830
Apr. 30.....	4,231.20	26,610	+1,130	19.6	11,040	-14,700
May 31.....	4,242.20	43,030	+17,520	16.25	2,490	-8,550
June 30.....	4,221.60	14,790	-28,240	20.6	14,370	+11,880
July 31.....	4,214.80	8,850	-5,940	17.4	4,890	-9,480
Aug. 31.....	4,218.75	12,130	+3,280	16.2	1,050	-3,840
Sept. 30.....	4,211.65	6,740	-5,390	16.8	3,550	-2,500
Water year 1943-44....	-	-	-16,120	-	-	-6,230

Date	Lake Avalon			Red Bluff Reservoir		
	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)	Elevation or gage height (feet)	Contents (acre- feet)	Change in contents during month (acre-feet)
Sept. 30.....	15.90	2,280	-	2,328.3	177,000	-
Oct. 31.....	16.95	3,030	+750	2,329.2	185,000	+8,000
Nov. 30.....	20.25	5,860	+2,830	2,330.4	196,000	+11,000
Dec. 31.....	20.00	5,620	-240	2,331.8	208,000	+12,000
Calendar year 1943....	-	-	+2,480	-	-	-93,000
Jan. 31.....	20.15	5,760	+140	2,333.4	224,000	+16,000
Feb. 29.....	19.95	5,670	-190	2,334.4	234,000	+10,000
Mar. 31.....	14.40	1,360	-4,310	2,334.7	227,000	-7,000
Apr. 30.....	14.00	1,150	-210	2,334.7	196,000	-31,000
May 31.....	13.85	1,080	-70	2,327.3	174,000	-22,000
June 30.....	15.80	2,210	+1,130	2,325.5	156,000	-18,000
July 31.....	14.05	1,180	-1,030	2,320.8	126,000	-30,000
Aug. 31.....	12.20	525	-655	2,317.4	106,000	-20,000
Sept. 30.....	15.25	1,850	+1,325	2,319.2	116,000	+10,000
Water year 1943-44....	-	-	-430	-	-	-61,000

a No gage-height record; contents estimated.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Clear Creek below Continental Reservoir, Colo.

Location.- Water-stage recorder and Parshall flume, lat. 37°53', long. 107°11', in sec. 22, T. 42 N., R. 3 W., 1,000 feet downstream from Continental Reservoir and 15 miles west of Creede.

Drainage area.- 51.7 square miles (revised).

Records available.- October 1933 to September 1944 in reports of Geological Survey. May 1929 to September 1944 in reports of State engineer.

Average discharge.- 15 years, 30.5 second-feet.

Extremes.- Maximum discharge during year, 179 second-feet May 13 (gage height, 2.71 feet); minimum daily, 4.9 second-feet Sept. 28.

1929-44: Maximum discharge, 313 second-feet May 4, 1937 (gage height, 3.41 feet); no flow June 22, 23, 1935.

Remarks.- Records fair. Flow regulated by Continental Reservoir (capacity, 26,700 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	11	11	11	11	11	11	11	161	97	61	34
2	12	11	11	11	11	11	11	11	163	97	61	35
3	12	11	11	11	11	11	11	11	167	97	61	30
4	12	11	11	11	11	11	11	11	169	77	61	22
5	12	11	11	11	11	11	11	14	169	58	70	16
6	12	11	11	11	11	11	11	60	187	48	77	15
7	12	11	11	11	11	11	11	75	165	27	77	14
8	12	11	11	11	11	11	11	96	164	17	64	14
9	12	11	11	11	11	11	11	110	165	18	59	18
10	12	11	11	11	11	11	11	100	167	33	67	12
11	12	11	11	11	11	11	11	90	168	50	67	11
12	12	11	11	11	11	11	11	120	171	34	62	10
13	12	11	11	11	11	11	11	178	154	20	54	9.8
14	12	11	11	11	11	11	11	97	145	21	52	9.4
15	12	11	11	11	11	11	11	32	144	39	51	9.4
16	12	11	11	11	11	11	11	60	144	31	52	6.7
17	12	11	11	11	11	11	11	78	145	30	52	5.5
18	11	11	11	11	11	11	11	75	144	38	54	5.5
19	11	11	11	11	11	11	11	75	144	46	54	5.5
20	11	11	11	11	11	11	11	100	144	73	55	5.5
21	11	11	11	11	11	11	11	120	144	82	54	5.5
22	11	11	11	11	11	11	11	128	119	62	55	5.5
23	11	11	11	11	11	11	11	136	113	49	46	5.5
24	11	11	11	11	11	11	11	141	101	53	43	5.2
25	11	11	11	11	11	11	11	94	93	54	43	5.2
26	11	11	11	11	11	11	11	102	94	62	44	5.2
27	11	11	11	11	11	11	11	140	96	66	34	5.2
28	11	11	11	11	11	11	11	140	96	58	33	4.9
29	11	11	11	11	11	11	11	142	96	48	31	5.2
30	11	11	11	11	11	11	11	142	96	46	30	5.5
31	11	-	11	11	-	11	-	147	-	54	30	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	358	12	11	11.6	710
November.....	330	11	11	11	655
December.....	341	11	11	11	676
Calendar year 1943.....	13,738.4	193	8.6	37.6	27,240
January.....	341	11	11	11	676
February.....	319	11	11	11	635
March.....	341	11	11	11	676
April.....	330	11	11	11	655
May.....	2,835	178	11	91.5	5,620
June.....	4,205	171	93	140	8,340
July.....	1,585	97	17	51.1	3,140
August.....	1,654	77	30	53.4	3,280
September.....	341.2	55	4.9	11.4	677
Water year 1943-44.....	12,980.2	178	4.9	35.5	25,740

Note.- No gage-height record Oct. 2 to May 12; discharge computed on basis of 1 discharge measurement and gage openings at Continental Reservoir.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Goose Creek near Wagon Wheel Gap, Colo.

Location.- Water-stage recorder, lat. 37°41', long. 106°50', in NW¼ sec. 26, T. 40 N., R. 1 E., 1½ miles downstream from Roaring Fork and 6 miles south of Wagon Wheel Gap.

Drainage area.- 53.6 square miles (revised).

Records available.- October 1939 to September 1944 (no winter records after October 1941). October 1924 to July 1926 at site 1 mile upstream.

Extremes.- Maximum discharge during year, 594 second-feet May 15 (gage height, 2.54 feet); minimum daily recorded, 10 second-feet Sept. 11-14, 20.

1924-26, 1939-44: Maximum discharge, 780 second-feet June 23, 1941 (gage height, 2.99 feet), from rating curve extended above 500 second-feet; minimum, 8 second-feet (regulated) Nov. 29 to Dec. 16, 1924 (gage height, 0.08 foot, site and datum then in use).

Remarks.- Records good except those for periods of no gage-height record, which are fair. Lake Humphreys, above station (capacity, 842 acre-feet), has slight effect on flow.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	17						a42	475	296	49	18
2	25	17						a49	451	306	48	17
3	24	17						a47	345	270	46	16
4	22	19						a55	285	265	45	15
5	21	23						76	241	a285	45	15
6	20	19						111	278	a310	45	14
7	19	13						140	360	a270	43	14
8	18	14						154	398	218	41	14
9	17	14						169	469	200	42	12
10	17	15						157	505	184	40	11
11	17	16						132	505	166	37	10
12	21	16						190	475	149	31	10
13	19	15						252	469	140	34	10
14	19	18						325	481	130	32	10
15	19	15						439	481	122	31	11
16	20	14						457	445	111	29	11
17	20	14						335	404	105	29	11
18	19	14						248	404	94	30	11
19	26	15						256	433	96	32	11
20	21	15						288	457	146	32	10
21	22	15						310	481	100	31	11
22	22	16						355	445	87	27	12
23	19	17						421	415	79	26	13
24	18	17						439	453	78	31	15
25	19	15						410	415	74	29	17
26	19	15						350	415	72	28	20
27	19	15						283	389	69	24	22
28	21	15						288	355	63	24	21
29	25	a16						404	335	60	19	20
30	22	a17						445	320	58	19	18
31	22	-						445	-	50	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	636	26	17	20.5	1,260
November.....	478	23	13	15.9	948
December.....	-	-	-	-	-
Calendar year	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	8,072	457	42	260	16,010
June.....	12,343	505	241	411	24,450
July.....	4,651	310	50	150	9,230
August.....	1,059	49	19	33.5	2,060
September.....	420	22	10	14.0	833
Water year	-	-	-	-	-

a No gage-height record; discharge computed on basis of 1 discharge measurement and records for nearby stations.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## South Fork Rio Grande at South Fork, Colo.

Location.- Water-stage recorder, lat. 37°40', long. 106°39' in sec. 4, T. 39 N., R. 3 E.,  $\frac{1}{2}$  miles upstream from mouth and  $\frac{1}{2}$  miles southwest of village of South Fork. Datum of gage is 8,221.79 feet above mean sea level, datum of 1929.

Drainage area.- 216 square miles.

Records available.- August 1910 to September 1913 and May 1936 to September 1944 in reports of Geological Survey. August 1910 to September 1922 and May 1936 to September 1944 in reports of State engineer. Records for 1910-22 at site 1 mile downstream.

Average discharge.- 20 years (1910-22, 1936-44), 241 second-feet.

Extremes.- Maximum discharge during year, 1,650 second-feet June 1, 10 (gage height, 5.30 feet); minimum daily, 27 second-feet Dec. 3, 25.  
1910-22, 1936-44: Maximum discharge, 8,000 second-feet Oct. 5, 1911 (gage height, 9.7 feet, from floodmarks, site and datum now in use), from rating curve extended above 1,500 second-feet; minimum daily, 20 second-feet Jan. 1, 2, 8, 17, 23-25, 1915, Dec. 20, 1937.

Remarks.- Records excellent except those for Aug. 1 to Sept. 30, which are good, and those for periods of ice effect or no gage-height record, which are fair. A few small diversions above station for irrigation and several small storage reservoirs.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	49	38	32	29	42	42	b59	183	1,460	832	91	45
2	45	39	35	30	41	44	b60	212	1,420	827	88	43
3	45	47	27	35	40	46	b76	205	1,270	785	85	44
4	44	49	30	30	42	42	b96	220	1,050	744	83	43
5	45	48	33	*28	43	39	*b138	314	949	796	81	42
6	43	34	35	32	41	36	b181	462	997	827	87	41
7	41	b32	36	33	42	38	b205	566	1,120	681	85	42
8	41	b32	35	30	46	40	200	642	1,240	585	83	43
9	40	b41	34	32	48	43	183	710	1,350	552	96	40
10	38	44	34	34	46	45	142	690	1,430	503	85	37
11	38	41	34	35	42	48	126	618	1,390	454	78	36
12	50	41	39	34	42	50	144	765	1,340	422	79	36
13	44	41	44	33	46	49	163	949	1,280	450	72	36
14	49	40	42	34	40	45	122	1,090	1,280	418	68	36
15	45	37	40	35	44	40	112	1,280	1,280	406	65	37
16	44	36	33	36	46	43	106	1,270	1,240	402	66	41
17	42	39	*35	35	45	50	98	1,070	1,150	372	66	38
18	42	37	38	34	44	58	98	864	1,110	346	65	38
19	54	36	43	34	43	52	101	780	1,140	336	69	39
20	*42	36	42	35	42	50	106	901	1,200	426	76	38
21	42	39	40	36	46	45	98	1,000	1,250	320	71	36
22	49	40	41	37	*42	40	91	1,140	1,250	278	63	37
23	46	37	40	37	43	*b43	98	1,270	1,140	192	59	38
24	44	37	36	36	44	b50	140	1,340	1,170	183	62	40
25	44	38	27	33	43	b50	166	1,320	1,170	175	66	47
26	45	35	35	39	42	b49	179	1,200	1,140	153	62	52
27	44	29	35	40	44	b47	228	1,050	1,050	133	58	61
28	50	29	30	40	44	b47	212	1,030	944	120	54	50
29	74	*30	29	40	42	b49	173	1,200	901	117	49	58
30	58	31	35	40	-	b50	164	1,340	906	117	48	48
31	47	-	28	39	-	b54	-	1,390	-	99	47	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,422	74	38	45.9	2,820
November.....	1,133	49	29	37.8	2,250
December.....	1,097	44	27	35.4	2,180
Calendar year 1943.....	52,094	854	27	143	105,400
January.....	1,075	40	28	34.7	2,130
February.....	1,255	48	40	43.3	2,490
March.....	1,424	58	36	46.9	2,820
April.....	4,055	228	59	135	8,040
May.....	27,090	1,390	183	874	53,730
June.....	35,587	1,450	901	1,186	70,590
July.....	13,031	832	99	420	26,860
August.....	2,207	96	47	71.2	4,380
September.....	1,272	61	36	42.4	2,520
Water year 1943-44.....	90,648	1,450	27	248	179,800

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Notes.- No gage-height record Nov. 24 to Mar. 22 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 4 discharge measurements and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Pinos Creek near Del Norte, Colo.

Location.- Water-stage recorder and Parshall flume, lat. 37°27', long. 106°35', in sec. 29, T. 39 N., R. 5 E., just downstream from Bennett Creek and 8 miles southwest of Del Norte.

Drainage area.- 53 square miles.

Records available.- May 1936 to September 1944 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.)

Extremes.- Maximum discharge during year, 307 second-feet May 15 (gage height, 2.93 feet), from rating curve extended above 230 second-feet; minimum daily recorded, 5.4 second-feet Nov. 9.

1919-24, 1936-44: Maximum daily discharge, 2,400 second-feet June 3, 1922; minimum not determined.

Remarks.- Records good above 100 second-feet and fair below. One small diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.2	6.9					10	30	207	105	18	8.6
2	7.2	6.5					11	31	220	102	16	8.2
3	7.2	7.4					12	29	207	100	16	8.2
4	7.2	8.4					15	28	174	94	16	6.2
5	6.8	9.0					17	38	160	92	16	8.2
6	7.2	9.0					18	72	163	81	16	8.2
7	6.8	8.6					20	102	178	73	16	8.2
8	6.8	67.8					19	120	182	71	16	8.2
9	7.2	5.4					17	132	203	65	18	8.2
10	6.8	6.5					16	134	203	58	16	8.2
11	7.2	7.6					15	111	188	52	16	8.2
12	8.2	8.4					17	151	177	47	17	8.2
13	8.0	9.0					19	198	174	43	16	7.9
14	7.9	9.2					17	210	163	40	14	7.6
15	7.9	9.6					15	265	159	37	14	7.6
16	7.9	*10	6.8	6.6	8.0	8.6	14	259	158	34	13	8.2
17	7.6	10					13	219	150	32	12	8.2
18	7.2	9.8					13	181	139	30	12	8.2
19	7.6	9.5					*15	175	137	35	12	8.2
20	6.8	9.4					16	185	139	44	13	7.6
21	8.6	9.6					14	195	137	31	12	6.5
22	9.0	10					13	199	141	30	12	6.5
23	7.6	10					14	205	138	28	12	6.5
24	8.6	8.6					18	210	137	28	12	6.8
25	7.6	8.8					20	212	133	27	11	7.6
26	7.6	7.4					22	195	138	25	10	8.6
27	7.6	5.8					29	158	129	24	10	8.2
28	7.6	5.6					29	155	120	22	9.9	8.2
29	9.3	5.8					26	168	113	24	9.6	8.6
30	7.2	6.2					26	191	111	23	9.3	7.6
31	7.2	-					-	196	-	21	8.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	234.6	9.3	6.8	7.57	465
November.....	245.8	10	5.4	8.19	488
December.....	210.8	-	-	6.8	418
Calendar year.....	-	-	-	-	-
January.....	204.6	-	-	6.6	406
February.....	232.0	-	-	8.0	460
March.....	266.6	-	-	8.6	529
April.....	520	29	10	17.3	1,030
May.....	4,756	265	28	153	9,430
June.....	4,778	220	111	159	9,480
July.....	1,518	106	21	49.0	3,010
August.....	419.4	18	8.6	13.5	832
September.....	237.4	8.6	6.5	7.91	471
Water year 1943-44.....	13,623.2	265	-	37.2	27,020

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Oct. 13, Nov. 1-4, Nov. 12 to Apr. 19, Apr. 21-23, July 9-17, Aug. 27-29 (stage-discharge relation affected by ice during winter); discharge computed on basis of 2 discharge measurements, weather records, and records for South Fork Rio Grande at South Fork.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rock Creek near Monte Vista, Colo.

Location.- Water-stage recorder and 8-foot Parshall flume, lat. 37°29', long. 106°16', in SE¼ sec. 36, T. 38 N., R. 6 E., 3 miles downstream from North Fork and 9 miles southwest of Monte Vista.

Drainage area.- 33.6 square miles.

Records available.- May 1935 to September 1944 in reports of Geological Survey. April 1919 to September 1924 and May 1935 to September 1944 in reports of State engineer. (No winter records.)

Extremes.- Maximum discharge during year, 178 second-feet May 15 (gage height, 2.88 feet); minimum daily computed, 2.5 second-feet Nov. 27.  
1935-44: Maximum discharge, that of May 15, 1944; minimum not determined.

Remarks.- Records good above 20 second-feet and fair below. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.1	4.5					5.8	24	95	28	8.6	3.9
2	5.6	4.0					6.4	28	90	26	8.3	3.9
3	5.6	4.1					8.0	24	85	28	8.1	3.9
4	5.1	4.4					10	22	76	30	7.5	3.7
5	4.9	4.6					13	26	69	30	7.8	3.7
6	4.9	4.2					16	43	70	26	8.9	3.5
7	4.9	3.5					17	69	74	22	8.3	3.3
8	4.7	3.3					15	74	75	21	7.6	3.3
9	4.4	3.3					14	81	80	20	7.8	3.3
10	4.4	3.6					13	86	79	20	6.9	3.3
11	4.7	3.5					12	70	76	19	6.1	3.1
12	5.1	3.4					13	85	73	18	6.1	3.1
13	4.9	3.2					16	117	70	17	5.6	3.1
14	5.4	3.2					12	131	67	16	5.4	3.3
15	5.4	3.1					10	148	65	16	5.1	3.3
16	5.4	3.0					9.4	140	58	16	5.1	3.7
17	5.1	3.0					8.5	116	61	16	6.1	3.7
18	5.1	*3.0					8.2	92	48	15	6.7	3.9
19	5.6	3.0					*9.5	97	46	16	6.9	3.9
20	5.4	3.0					11	101	45	18	6.7	3.9
21	5.9	2.9					9.2	103	44	16	6.1	3.9
22	5.4	2.9					8.2	100	41	14	5.4	3.7
23	5.1	2.9					8.5	102	38	14	5.1	3.7
24	4.9	2.9					12	104	38	14	6.7	3.7
25	4.9	2.9					16	96	37	12	6.1	4.2
26	4.9	2.7					20	91	36	11	5.1	5.1
27	4.7	2.5					26	73	33	10	5.1	4.4
28	4.7	2.6					26	71	32	10	5.1	4.7
29	5.6	2.7					24	78	30	9.8	4.7	4.7
30	5.1	2.7					23	89	30	9.2	4.4	3.9
31	4.7	-					-	95	-	8.6	4.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	158.6	6.1	4.4	5.12	315
November.....	98.6	4.6	2.5	3.29	196
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	398.7	26	5.8	13.5	791
May.....	2,572	148	22	83.0	5,100
June.....	1,749	95	30	59.3	3,470
July.....	546.6	30	8.6	17.6	1,080
August.....	197.5	8.9	4.2	6.37	392
September.....	112.8	5.1	3.1	3.76	224
Water year.....	-	-	-	-	-

\* Winter discharge measurement made on this day.

Notes.- No gage-height record Nov. 1-30, Apr. 1-16 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 1 discharge measurement and record for South Fork Rio Grande at South Fork.

Time basis. Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Closed basin in San Luis Valley, Colo.

Kerber Creek at Ashley Ranch, near Villa Grove, Colo.

Location.- Water-stage recorder, lat.  $38^{\circ}15'$ , long.  $106^{\circ}08'$ , in sec. 7, T. 46 N., R. 8 E., at Ashley Ranch, 10 miles west of Villa Grove.

Drainage area.- 38 square miles.

Records available.- May 1936 to September 1944 in reports of Geological Survey. June 1923 to September 1926 and May 1936 to September 1944 in reports of State engineer. (No winter records some years.)

Extremes.- Maximum discharge during year, 120 second-feet May 15 (gage height, 2.97 feet); minimum daily, 1.3 second-feet Sept. 30.  
1923-26, 1936-44: Maximum discharge, 407 second-feet May 14, 1941 (gage height, 3.88 feet), from rating curve extended above 150 second-feet; minimum daily recorded, 1.2 second-feet Aug. 14, 16, 17, 1940.

Remarks.- Records good except those for period of no gage-height record and those for Aug. 25 to Sept. 30, which are poor.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.6							14	72	32	8.3	2.8
2	3.6							22	78	29	7.2	2.6
3	3.4							19	79	28	8.3	2.6
4	3.4							16	74	30	8.3	2.5
5	3.4							20	70	27	8.0	2.6
6	3.4							25	67	27	7.8	2.8
7	3.2							32	65	23	6.7	2.4
8	3.4							41	64	23	6.4	1.8
9	3.4							35	66	22	5.9	1.6
10	3.6							27	72	20	5.6	1.9
11	3.6							33	80	19	5.6	2.5
12	3.6							56	78	18	5.2	2.4
13	3.0							80	76	16	4.7	2.6
14	3.4							92	74	16	4.5	2.8
15	3.4							95	74	16	4.3	2.8
16	3.4	7.4					11	104	70	15	3.8	2.8
17	3.4							92	66	14	4.3	2.8
18	3.6							76	60	13	4.9	2.5
19	3.8	(*)						73	59	16	5.6	2.4
20	4.5							80	59	14	4.9	1.7
21	4.2							76	61	14	4.3	1.7
22	3.8							76	58	12	3.6	1.5
23	3.7							63	56	12	3.6	1.4
24	3.5						(*)	79	53	13	3.8	2.2
25	3.4							72	51	13	3.8	2.8
26	3.4							62	47	11	4.1	2.6
27	3.4							52	43	10	4.3	2.0
28	3.7							52	38	9.0	3.8	2.0
29	5.0							57	36	9.0	2.8	1.9
30	5.4							61	35	9.8	2.6	1.3
31	5.1	-					-	67	-	7.5	2.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	114.7	5.4	3.0	3.70	228
November.....	222.0	-	-	7.4	440
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	330	-	-	11	655
May.....	1,769	104	14	57.1	3,510
June.....	1,878	80	33	62.6	3,720
July.....	538.3	32	7.5	17.4	1,070
August.....	159.8	8.3	2.6	5.15	317
September.....	68.5	2.8	1.3	2.28	156
Water year.....	-	-	-	-	-

\* Winter discharge measurement made on this day.

Note.- No gage-height record Oct. 20 to Nov. 30, Apr. 1 to May 8, June 1-21; discharge computed on basis of 3 discharge measurements, weather records, and records for nearby stations.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Closed basin in San Luis Valley, Colo.

Saguache Creek near Saguache, Colo.

Location.- Water-stage recorder, lat. 38°09', long. 106°19', in sec. 11, T. 45 N., R. 6 E., 10 miles northwest of Saguache.

Drainage area.- 595 square miles.

Records available.- August 1910 to September 1912 and October 1933 to September 1944 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.)

Extremes.- Maximum discharge during year, 615 second-feet May 16 (gage height, 3.32 feet); minimum daily, 12 second-feet Dec. 11.  
1910-12, 1914-44: Maximum discharge, 746 second-feet June 15, 1921 (gage height, 3.45 feet, datum then in use); minimum daily, that of Dec. 11, 1943.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	40	30	20				48	74	396	194	74	19
2	39	28	21				45	121	394	190	74	18
3	40	32	22				48	97	394	188	69	17
4	36	36	24				57	64	365	192	69	15
5	34	45	34				74	62	308	204	69	15
6	34	36	34				89	131	290	190	70	15
7	34	a32	29				91	227	289	175	74	14
8	34	a32	30				86	338	314	166	74	14
9	34	a35	26				96	351	312	166	74	14
10	34	a40	13				75	382	328	164	75	14
11	33	a38	12				60	271	351	171	66	14
12	34	a38	17				68	278	358	154	56	14
13	36	a37	20				90	414	312	145	61	14
14	33	a36	23				58	478	298	138	48	15
15	36	a35	22				40	451	296	136	48	17
16	36	a35	21	21	30	38	48	475	285	141	48	19
17	32	a37	19				38	421	258	131	46	19
18	30	a37	24				36	328	239	129	51	18
19	33	*40	28				51	287	235	122	52	23
20	36	39	29				54	312	235	145	52	22
21	28	34	30				48	331	235	132	52	23
22	33	40	27				45	331	233	114	48	22
23	42	46	26				36	365	219	107	44	24
24	34	33	24				45	398	215	112	46	24
25	34	32	17				57	408	217	116	58	23
26	a55	22	24				54	391	211	101	40	26
27	a35	17	*28				21	360	209	91	29	28
28	a43	18	27				147	317	200	85	26	28
29	63	19	26				114	310	198	81	23	30
30	54	20	27		-		80	374	196	81	21	28
31	38	-	25		-		-	411	-	77	20	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,137	63	28	36.7	2,260
November.....	999	46	17	33.3	1,980
December.....	749	34	12	24.2	1,490
Calendar year.....	-	-	-	-	-
January.....	651	-	-	21	1,290
February.....	870	-	-	30	1,730
March.....	1,178	-	-	39	2,340
April.....	1,949	147	36	65.0	3,870
May.....	9,558	478	62	308	18,960
June.....	8,360	396	196	279	16,580
July.....	4,338	204	77	140	8,600
August.....	1,647	75	20	53.1	3,270
September.....	586	30	14	19.5	1,160
Water year 1943-44.....	32,022	478	-	87.5	63,530

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for nearby stations.

Note.- Stage-discharge relation affected by ice Nov. 25, 29, Dec. 7-25. No gage-height record Dec. 4-6, Dec. 26 to Mar. 31 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 1 discharge measurement and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Closed basin in San Luis Valley, Colo.

North Crestone Creek near Crestone, Colo.

Location.- Water-stage recorder, lat. 38°01', long. 105°41', in sec. 5, T. 43 N., R. 12 E., 1½ miles upstream from Crestone and 3 miles upstream from South Crestone Creek.

Drainage area.- 10.7 square miles.

Records available.- May 1936 to September 1944 (no winter records).

Extremes.- Maximum discharge recorded during year, 102 second-feet May 30 (gage height, 1.87 feet), greater during period of no gage-height record; minimum daily recorded, 1.0 second-foot Sept. 21.  
1936-44: Maximum discharge, 735 second-feet Aug. 6, 1936 (gage height, 4.33 feet), by slope-area method; minimum daily recorded, that of Sept. 21, 1944.

Remarks.- Records good except those below 20 second-feet and those for period of no gage-height record, which are fair.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.3						1.8	3.5	77	35	12	3.1
2	4.6						1.9	3.8	64	39	9.5	2.9
3	4.4						1.9	3.3	49	38	9.2	2.6
4	4.2						1.9	3.3	38	37	8.4	2.4
5	4.0						2.0	4.2	32	59	8.4	2.4
6	4.2						2.0	7.8	35	57	8.1	2.4
7	3.5						2.1	11	45	45	7.6	2.4
8	3.3						2.2	11	44	39	6.8	2.3
9	3.3						2.2	14	60	34	6.8	2.1
10	3.3						2.4	14	78	30	6.6	2.0
11	3.3						2.6	15	105	29	6.3	2.1
12	3.8						2.9	29	98	25	6.0	2.0
13	3.5						2.7	44	89	23	5.6	1.9
14	3.8						2.3	54	83	21	5.0	1.7
15	3.5						2.2	66	80	19	4.8	1.9
16	3.5						2.1	68	78	18	4.8	1.9
17	3.3						2.1	58	76	17	4.6	1.9
18	3.1						2.1	36	72	16	4.6	1.9
19	3.3						2.1	32	68	17	5.0	1.3
20	4.5						2.1	45	62	18	6.0	1.2
21	4.2						2.1	54	58	35	5.8	1.0
22	3.8						2.3	58	57	25	4.6	1.2
23	3.7						2.4	71	58	19	4.4	1.9
24	3.5						2.6	84	60	20	5.8	1.9
25	3.3						2.6	77	58	21	5.8	2.1
26	3.3						2.7	60	59	20	5.0	5.0
27	3.3						3.8	46	48	18	4.8	2.9
28	3.7						4.0	40	44	16	4.6	2.4
29	5.8						3.8	50	40	16	4.0	2.3
30	5.0						3.3	77	37	13	4.0	2.0
31	4.5						-	82	-	12	3.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	119.8	5.8	3.1	3.86	238
November.....	78.0	-	-	2.6	165
December.....	-	-	-	-	-
Calendar year	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	73.2	4.0	1.8	2.44	145
May.....	1,221.9	84	3.3	39.4	2,420
June.....	1,853	105	32	61.8	3,680
July.....	830	59	12	26.8	1,650
August.....	188.7	12	3.8	6.09	374
September.....	65.1	5.0	1.0	2.17	129
Water year	-	-	-	-	-

\* Winter discharge measurement made on this day.

Note.- No gage-height record Oct. 20 to Nov. 30, Apr. 1-18, June 5-21, July 24-27; discharge computed on basis of record for Ute Creek near Fort Garland.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Closed basin in San Luis Valley, Colo.

Carnero Creek near La Garita, Colo.

Location.- Water-stage recorder, lat. 37°52', long. 106°20', in sec. 26, T. 42 N., R. 6 E., 3 miles northwest of La Garita.

Drainage area.- 117 square miles.

Records available.- October 1933 to September 1944 in reports of Geological Survey.  
April 1919 to September 1944 in reports of State engineer. (No winter records most years.)

Extremes.- Maximum discharge during year, 715 second-feet July 19 (gage height, 3.21 feet), from rating curve extended above 165 second-feet; minimum daily recorded, 1.0 second-foot Sept. 10, 11.

1919-44: Maximum discharge, that of July 19, 1944; minimum daily, 0.5 second-foot July 9, 1940.

Remarks.- Records good except those for period of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.2	4.0					a10	35	80	19	4.0	1.7
2	5.6	b4.0					a11	46	77	19	3.8	1.7
3	5.2	b4.2					a10	35	77	18	3.5	1.6
4	4.8	b4.4					a11	27	70	21	3.0	1.6
5	4.5	b4.4					a12	38	60	24	3.0	1.6
6	4.5	4.2					a13	92	59	22	4.8	1.4
7	4.0	4.2					a14	145	59	18	4.5	1.4
8	4.2	4.2					a15	138	55	17	4.2	1.2
9	4.0	4.2					a18	120	53	16	8.0	1.2
10	4.2	4.8					18	106	52	16	8.0	1.0
11	4.2	b4.9					18	80	49	16	4.2	1.0
12	4.8	b4.8					20	110	48	15	5.2	1.1
13	5.6	b4.6					19	149	46	14	2.8	1.1
14	5.9	b4.2					20	163	43	13	2.0	1.4
15	5.2	b4.4					18	171	30	12	1.8	1.6
16	4.5	b4.8					15	203	36	12	1.8	1.8
17	4.2	b5.0					14	161	34	12	1.7	1.8
18	4.0	b5.0					18	114	31	13	4.0	1.8
19	5.2	a4.8					18	108	29	30	7.0	1.7
20	*5.2	a4.6					14	110	26	11	5.2	1.6
21	4.0	a4.2					13	100	24	10	4.5	1.6
22	4.5	a4.0					11	104	23	7.3	4.0	1.6
23	4.5	a4.0					12	106	22	7.0	3.5	2.5
24	4.2	a4.0					20	108	22	9.6	3.8	2.8
25	4.0	a4.0					22	100	22	8.8	4.0	2.8
26	4.2	a4.0					22	93	22	7.3	3.5	3.2
27	4.0	a3.8					36	85	20	6.2	2.5	4.0
28	4.5	a3.8					47	80	20	5.6	2.2	3.8
29	5.6	a3.6					31	85	19	5.6	2.0	3.8
30	4.8	a3.6					28	95	20	5.6	1.7	3.2
31	3.8	-					-	83	-	4.5	1.7	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	144.1	6.2	3.8	4.65	286
November.....	128.7	5.0	3.6	4.29	255
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	548	47	10	18.3	1,090
May.....	3,190	203	27	105	6,330
June.....	1,228	80	19	40.9	2,440
July.....	415.5	30	4.5	13.4	824
August.....	113.9	8.0	1.7	3.67	228
September.....	58.6	4.0	1.0	1.95	116
Water year.....	-	-	-	-	-

\* Winter discharge measurement made on this day.

a No gage-height record (stage-discharge relation affected by ice during most of period); discharge computed on basis of weather records.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Closed basin in San Luis Valley, Colo.

La Garita Creek near La Garita, Colo.

Location.— Water-stage recorder, lat. 37°49', long. 106°18', in sec. 10, T. 41 N., R. 6 E., 4 miles southwest of La Garita.

Drainage area.— 61 square miles.

Records available.— October 1933 to September 1944 in reports of Geological Survey. April 1919 to September 1944 in reports of State engineer. (No winter records most years.)

Extremes.— Maximum discharge during year, 226 second-feet May 15 (gage height, 1.68 feet), from rating curve extended above 150 second-feet; minimum daily recorded, 2.0 second-feet Sept. 17-22.  
1919-44: Maximum discharge, 457 second-feet May 16, 1941 (gage height, 5.11 feet), from rating curve extended above 220 second-feet; minimum daily, 0.7 second-foot Aug. 29, 1940.

Remarks.— Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	4.7					a4.7	24	102	13	4.2	3.8
2	5.1	5.1					a5.0	38	91	16	4.2	3.8
3	5.6	5.1					a4.9	32	90	17	3.5	3.6
4	5.3	5.3					a4.8	23	77	19	3.5	3.4
5	5.1	4.7					a4.9	39	66	27	4.2	3.1
6	5.1	b4.6					a5.0	82	68	18	5.8	2.9
7	5.1	b4.6					a5.2	107	78	13	6.0	2.7
8	4.9	b4.5					a5.6	100	71	12	6.0	2.7
9	4.9	4.7					a5.9	113	73	12	6.5	2.7
10	4.7	4.5					6.0	100	71	14	7.4	2.7
11	5.3	4.9					6.0	79	66	20	5.8	2.7
12	5.3	4.2					7.1	114	62	15	5.6	2.5
13	5.3	3.8					6.8	135	57	14	5.3	2.5
14	5.8	3.8					5.8	144	58	12	4.9	2.4
15	5.1	3.8					5.8	170	48	11	4.5	2.4
16	4.7	3.8					5.6	165	43	12	4.7	2.2
17	4.7	4.2					5.3	124	39	9.4	4.5	2.0
18	4.5	3.8					6.0	96	37	8.6	4.2	2.0
19	5.1	*3.6					7.1	102	33	*13	4.9	2.0
20	*5.1	3.6					7.6	106	32	11	5.8	2.0
21	4.7	3.4					a7.4	106*	31	10	6.8	2.0
22	5.6	3.4					a7.2	118	29	8.6	5.8	2.0
23	5.3	3.4					a7.0	127	25	8.6	5.6	2.5
24	4.9	3.4					a7.4	127	23	10	5.1	2.2
25	5.1	3.4					7.4	110	22	11	6.5	4.9
26	5.3	b3.5					7.1	94	21	7.8	5.6	6.0
27	4.9	b3.4					12	85	18	7.8	5.1	5.3
28	5.1	b3.3					22	86	16	7.0	4.7	6.5
29	5.3	b3.2					23	98	14	6.3	4.5	5.8
30	4.9	b3.2					17	110	15	5.6	4.0	4.9
31	4.9	-					-	103	-	4.9	4.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	158.3	5.8	4.5	5.11	314
November.....	120.8	5.3	3.2	4.03	240
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	232.6	23	4.7	7.75	461
May.....	3,057	170	23	98.6	6,060
June.....	1,471	102	14	49.0	2,920
July.....	374.6	27	4.9	12.1	743
August.....	159.2	7.4	3.5	5.14	315
September.....	96.2	6.5	2.0	3.21	191
Water year.....	-	-	-	-	-

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 1 discharge measurement and record for Carrero Creek near La Garita.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Alamosa Creek above Terrace Reservoir, Colo.

Location.- Water-stage recorder, lat.  $37^{\circ}23'$ , long.  $106^{\circ}21'$ , in sec. 8, T. 36 N., R. 6 E., 3 miles upstream from Terrace Reservoir Dam and 15 miles northwest of Capulin.

Drainage area.- 107 square miles.

Records available.- September 1911 to June 1912 and October 1934 to September 1944 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.)

Extremes.- Maximum discharge during year, 1,260 second-feet May 15 (gage height, 3.69 feet); minimum daily discharge computed, 11 second-feet Nov. 27-29. 1911-12, 1915-19, 1923-27, 1934-44: Maximum discharge, 5,200 second-feet Oct. 5, 1911 (gage height, 11.0 feet, datum then in use, from floodmark), computed by weir formula; minimum not determined.

Remarks.- Records good except those for period of no gage-height record and those for July 15 to Sept. 30, which are fair.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	26	19					26	89	976	460	60	20
2	22	18					24	98	984	450	60	20
3	20	19					30	100	757	455	55	20
4	19	18					40	94	552	445	54	20
5	20	18					50	143	500	505	51	19
6	19	17					68	285	546	515	54	19
7	20	18					80	410	621	415	49	20
8	19	18					91	455	705	360	46	20
9	18	22					89	490	856	328	55	20
10	18	20					68	475	896	285	49	19
11	18	23					57	355	904	261	44	18
12	21	18					61	470	833	225	46	18
13	20	16					66	663	819	205	38	18
14	19	15					56	777	805	191	34	17
15	20	14					50	976	777	177	31	18
16	20	14	12	13	16	19						
17	20	14					48	1,000	724	158	32	18
18	19	14					43	764	645	152	32	18
19	22	14					49	552	633	145	34	18
20	19	14					51	597	669	130	36	17
21	18	14					52	718	724	167	38	16
22	18	15					48	819	738	135	36	16
23	18	16					43	888	687	113	29	16
24	19	15					41	1,040	639	111	27	17
25	18	14					54	1,080	651	100	31	18
26	19	14					68	1,020	615	96	31	20
27	20	11					74	856	597	87	28	22
28	21	11					107	639	558	80	26	22
29	27	11					107	657	510	77	24	24
30	23	12					91	904	490	72	23	24
31	23	-					87	1,000	530	71	22	20
							-	952	-	65	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	623	27	18	20.1	1,240
November.....	474	23	11	15.8	940
December.....	372	-	-	12	758
Calendar year.....	-	-	-	-	-
January.....	405	-	-	13	799
February.....	464	-	-	16	920
March.....	589	-	-	19	1,170
April.....	1,819	107	24	60.6	3,610
May.....	19,386	1,080	88	825	38,460
June.....	20,941	984	490	898	41,540
July.....	7,032	515	65	227	13,950
August.....	1,196	60	21	38.6	2,370
September.....	572	24	16	19.1	1,130
Water year 1943-44.....	53,871	1,080	-	147	106,900

Note.- No gage-height record Oct. 1-4, Nov. 12 to Apr. 7; discharge computed on the basis of 1 discharge measurement, weather records, and record for Conejos River near Mogote.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Alamosa Creek below Terrace Reservoir, Colo.

Location.- Water-stage recorder, lat. 37°21', long. 106°17', in sec. 23, T. 36 N., R. 6 E., half a mile downstream from Terrace Reservoir and 11 miles northwest of Capulin.

Drainage area.- 116 square miles.

Records available.- April 1909 to June 1912 and October 1933 to September 1944 in reports of Geological Survey. April 1909 to November 1912, April to October 1915, February 1917 to October 1920, and April 1922 to September 1944 in reports of State engineer.

Average discharge.- 26 years (1909-10, 1915-18, 1922-44), 123 second-feet.

Extremes.- Maximum discharge during year, 885 second-feet June 15 (gage height, 4.65 feet); minimum daily, 0.6 second-foot Nov. 18-20.

1909-12, 1915, 1917-20, 1922-44: Maximum daily discharge, 1,450 second-feet June 16-18, 1917; minimum daily, 0.2 second-foot Nov. 13, 1942.

Remarks.- Records good except those for period of no gage-height record, which are fair. No diversion above station. Flow regulated by Terrace Reservoir (capacity, 17,700 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	22	8.0	3.1	3.1	3.1	3.1	62	825	495	188	130
2	29	19	8.0	3.1	3.1	3.1	3.1	78	830	464	193	127
3	16	17	8.0	3.1	3.1	3.1	3.1	95	830	433	188	125
4	17	15	8.0	3.1	3.1	3.1	3.1	97	783	433	180	118
5	17	15	5.0	3.1	3.1	3.1	3.1	97	783	430	166	118
6	18	16	3.1	3.1	3.1	3.1	3.1	105	702	412	163	94
7	23	13	3.1	3.1	3.1	3.1	3.1	119	616	408	155	68
8	34	14	3.1	3.1	3.1	3.1	8.7	139	621	388	155	68
9	40	26	3.1	3.1	3.1	3.1	17	168	626	331	153	65
10	37	27	3.1	3.1	3.1	3.1	19	171	634	290	150	63
11	28	15	3.1	3.1	3.1	3.1	19	204	644	268	148	61
12	22	11	3.1	3.1	3.1	3.1	33	224	693	252	145	61
13	21	12	3.1	3.1	3.1	3.1	48	278	890	249	145	63
14	19	9.0	3.1	3.1	3.1	3.1	43	461	765	246	148	63
15	18	6.0	3.1	3.1	3.1	3.1	37	577	825	246	148	61
16	18	3.0	3.1	3.1	3.1	3.1	37	657	770	246	148	61
17	17	1.5	3.1	3.1	3.1	3.1	37	702	663	243	148	60
18	16	.6	3.1	3.1	3.1	3.1	38	698	607	240	148	33
19	17	.6	3.1	3.1	3.1	3.1	42	698	651	237	127	84
20	14	.6	3.1	3.1	3.1	3.1	46	693	698	237	118	36
21	12	4.0	3.1	3.1	3.1	3.1	48	688	734	237	118	36
22	13	8.0	3.1	3.1	3.1	3.1	44	688	711	255	118	36
23	13	8.0	3.1	3.1	3.1	3.1	44	702	635	258	118	36
24	14	8.0	3.1	3.1	3.1	3.1	46	756	647	262	118	34
25	14	8.0	3.1	3.1	3.1	3.1	48	855	655	219	118	33
26	13	8.0	3.1	3.1	3.1	3.1	58	840	575	213	110	32
27	12	8.0	3.1	3.1	3.1	3.1	64	675	555	210	108	30
28	13	8.0	3.1	3.1	3.1	3.1	62	675	523	207	108	28
29	20	8.0	3.1	3.1	3.1	3.1	62	670	491	193	110	27
30	24	8.0	3.1	3.1	-	3.1	62	670	497	185	113	27
31	23	-	3.1	3.1	-	3.1	-	788	-	185	115	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	626	40	12	20.2	1,240
November.....	319.3	27	.6	10.6	633
December.....	117.6	8.0	3.1	3.79	233
Calendar year 1943 .....	30,788.7	549	.6	84.4	61,070
January.....	96.1	3.1	3.1	3.1	191
February.....	89.9	3.1	3.1	3.1	178
March.....	96.1	3.1	3.1	3.1	191
April.....	984.4	64	3.1	32.8	1,950
May.....	14,330	855	62	462	28,420
June.....	20,259	830	487	675	40,180
July.....	8,972	495	185	289	17,800
August.....	4,368	193	108	141	8,660
September.....	1,828	130	27	60.9	3,630
Water year 1943-44 .....	52,066.4	855	.6	142	103,300

Note.- No gage-height record Nov. 14 to Apr. 7; discharge computed on basis of 2 discharge measurements and valve opening at reservoir.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

La Jara Creek at Gallegos Ranch, near Capulin, Colo.

Location.— Water-stage recorder, lat. 37°09', long. 106°13', in NE¼ sec. 32, T. 34 N., R. 7 E., 2 miles upstream from former station (published as La Jara Creek near Capulin), 2½ miles upstream from Canyon del Rancho, 11 miles southwest of Capulin, and 11½ miles downstream from La Jara Reservoir.

Drainage area.— 79 square miles.

Records available.— May 1936 to September 1944 (no winter records).

Extremes.— Maximum discharge during year, 624 second-feet May 6 (gage height, 5.72 feet), from rating curve extended above 150 second-feet; minimum not determined.  
1936-44: Maximum discharge, 653 second-feet Apr. 15, 1937 (gage height, 5.94 feet), from rating curve extended above 220 second-feet; minimum daily recorded, 3.5 second-feet Nov. 28, 1936.

Remarks.— Records good above 50 second-feet and fair below except those for period of no gage-height record, which are poor. Small diversions above station for irrigation. Flow regulated by La Jara Reservoir (capacity, 14,040 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5						a8.8	122	44	12	9.4	16
2	8.5						a9.0	148	39	12	9.0	15
3	8.0						a9.4	133	56	12	9.0	15
4	8.0						a9.4	120	55	14	29	18
5	8.0						a9.6	206	41	17	32	20
6	8.5						a10	366	34	16	39	20
7	8.5						11	394	33	12	50	21
8	8.5						14	355	30	11	50	21
9	8.5						14	345	28	11	44	22
10	8.5						8.0	291	25	11	43	23
11	8.5						7.5	215	24	11	39	23
12	*11						11	252	22	9.8	37	23
13	9.5						18	273	20	9.8	31	23
14	9.0						14	266	19	9.4	30	19
15	9.0						12	279	18	11	43	18
16	9.0	a9	a8	a7	a7.5	a8	12	275	17	11	36	18
17	9.0						10	190	16	11	32	13
18	9.0	(*)					13	128	15	11	32	10
19	13						21	125	14	11	25	9.8
20	11						24	137	14	13	20	9.4
21	9.5						20	130	12	12	19	9.8
22	10						16	130	12	12	17	9.8
23	9.5						11	114	11	11	16	9.8
24	9.0						14	102	11	12	18	10
25	9.0						*27	87	12	11	18	11
26	9.0						37	76	12	10	17	12
27	9.0						65	71	11	9.8	16	11
28	9.5						78	66	10	8.6	16	12
29	14						73	61	11	7.8	16	11
30	14						88	52	13	7.8	16	9.8
31	9.5	-					-	52	-	8.6	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	294.5	14	8.0	9.50	584
November.....	270	-	-	9	536
December.....	248	-	-	8	492
Calendar year.....	-	-	-	-	-
January.....	217	-	-	7	430
February.....	217.5	-	-	7.5	431
March.....	248	-	-	8	492
April.....	674.7	88	7.5	22.5	1,340
May.....	5,550	384	52	179	11,010
June.....	679	56	10	22.6	1,550
July.....	348.6	17	7.8	11.2	887
August.....	324.4	50	9.0	26.6	1,640
September.....	463.4	23	9.4	15.4	919
Water year 1943-44.....	10,033.1	384	-	27.4	19,910

\* Winter discharge measurement made on this day.  
a No gage-height record (stage-discharge relation affected by ice during most of period); discharge computed on basis of 1 discharge measurement and weather records.  
Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Trinchera Creek above, Turners Ranch, near Fort Garland, Colo.

Location.- Water-stage recorder, lat. 37°22', long. 105°19', in sec. 2, T. 31 S., R. 71 W., just upstream from Turners Ranch and 7 miles southeast of Fort Garland.

Drainage area.- 45 square miles.

Records available.- October 1933 to September 1944 in reports of Geological Survey. April 1923 to September 1944 in reports of State engineer. (No winter records most years.)

Extremes.- Maximum discharge during year, 382 second-feet May 15 (gage height, 3.47 feet), from rating curve extended above 240 second-feet; minimum daily recorder, 7.5 second-feet Nov. 2, 21.

1923-44: Maximum discharge, 689 second-feet May 27, 1942, from rating curve extended above 240 second-feet; maximum gage height, that of May 15, 1944; minimum daily discharge, 3.0 second-feet Oct. 3, 1942.

Remarks.- Records good except those below 10 second-feet, which are fair, and those for period of no gage-height record, which are poor. No diversion or regulation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	9.5						a28	201	52	19	12
2	11	7.5						a27	209	51	18	12
3	9.5	b7.6						a27	184	50	18	12
4	9.5	b7.8						a27	156	50	18	11
5	9.5	b8.4						a28	137	56	18	11
6	10	b8.5						a33	125	52	19	11
7	10	b8.0						a40	120	49	18	11
8	9.5	b8.2						a50	117	49	18	11
9	9.5	b8.4						68	128	49	17	10
10	9.5	b8.4						80	146	46	19	10
11	10	b8.4						80	152	44	18	11
12	12	8.5						120	146	42	15	11
13	11	8.5						143	131	40	15	11
14	11	8.5						201	122	39	15	11
15	11	*8.0						265	115	38	14	10
16	11	8.0						274	108	36	14	11
17	11	b8.0						213	100	34	13	10
18	11	8.0						149	93	32	15	10
19	12	8.0						146	89	31	14	9.4
20	11	8.0						163	84	32	14	9.4
21	11	7.5						174	84	30	14	9.7
22	12	8.0						163	79	28	14	9.4
23	11	8.0						192	76	27	13	9.4
24	11	8.5						213	74	27	15	9.7
25	12	8.5						201	72	26	14	10
26	12	a8.4						174	69	25	13	10
27	12	a8.3						149	65	24	13	10
28	13	a8.2						134	61	22	13	10
29	15	a8.0						131	58	21	12	10
30	13	a8.0						146	56	21	13	10
31	11	-						184	-	20	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	344.0	15	9.5	11.1	682
November.....	245.6	9.5	7.5	8.19	497
December.....	-	-	-	-	-
Calendar year	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	4,023	274	27	130	7,980
June.....	3,357	209	56	112	6,660
July.....	1,145	56	20	36.9	2,270
August.....	475	19	12	15.3	942
September.....	312.0	12	9.4	10.4	619
Water year	-	-	-	-	-

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for nearby stations.

b Stage-discharge relation affected by ice.

Time basis, Mountain war time. To convert war time to standard time, subtract 1 hour.

Trinchera Creek above Mountain Home Reservoir, near Fort Garland, Colo.

Location.— Water-stage recorder upstream from rating flume, lat. 37°24', long. 105°32', in sec. 31, T. 30 S., R. 71 W., 1½ miles upstream from Mountain Home Reservoir Dam and 4 miles southeast of Fort Garland.

Drainage area.— 61 square miles.

Records available.— October 1933 to September 1944 in reports of Geological Survey. May 1923 to September 1944 in reports of State engineer. (No winter records most years.)

Extremes.— Maximum discharge during year, 296 second-feet May 16 (gage height, 2.01 feet), from rating curve extended above 130 second-feet; minimum observed, 3.8 second-feet Jan. 21 (discharge measurement).

1923-44: Maximum discharge, 391 second-feet May 27, 1942 (gage height, 3.83 feet), from rating curve extended above 220 second-feet; minimum not determined.

Remarks.— Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	5.4					5.4	8.2	198	42	13	6.7
2	5.6	4.8					5.8	8.2	208	41	13	6.5
3	5.4	4.8					5.6	8.0	198	41	13	6.5
4	5.4	5.0					5.8	7.7	184	42	13	6.4
5	5.4	5.2					6.2	7.7	134	48	13	6.5
6	5.8	5.0					6.4	7.9	127	44	13	6.5
7	5.9	4.3					6.6	21	128	38	13	6.4
8	5.9	4.3					6.8	33	120	36	12	6.3
9	5.6	4.7					7.8	41	126	36	12	5.2
10	5.8	5.2				(*)	7.4	61	136	36	14	5.1
11	5.8	5.3					9.0	51	134	32	13	5.2
12	6.4	5.3					10	92	126	31	11	5.2
13	5.8	5.3					9.3	130	115	31	10	5.6
14	5.4	5.3					8.0	182	108	30	10	5.6
15	5.8	*5.2					8.0	240	100	31	9.6	5.1
16	5.6	5.2	4.5	4.0	4.0	4.5	7.9	246	89	31	9.6	5.4
17	5.6	5.0					7.5	198	80	29	8.9	5.0
18	5.8	5.2					7.4	150	74	26	9.6	5.1
19	5.6	5.0					8.0	133	70	23	9.1	4.8
20	5.4	5.0					*7.9	180	66	25	8.7	4.7
21	5.3	5.0		(*)			7.7	173	64	24	8.6	4.7
22	5.6	5.0					7.5	154	62	22	7.5	4.6
23	5.4	5.0			(*)		7.5	178	60	20	7.1	4.3
24	5.4	5.2					8.2	208	58	21	7.6	5.1
25	5.3	5.3					8.5	208	59	22	8.2	5.6
26	5.4	5.1					8.0	178	56	19	7.5	5.6
27	5.4	4.9					9.0	150	54	17	7.6	5.1
28	5.4	4.9					9.6	138	49	16	7.4	5.2
29	6.4	4.8					9.3	130	47	15	6.9	5.9
30	6.2	4.8					8.5	150	44	15	6.9	5.6
31	5.9	-					-	183	-	14	6.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	175.5	6.4	5.3	5.66	348
November.....	150.5	5.4	4.3	5.02	299
December.....	139.5	-	-	4.5	277
Calendar year.....	-	-	-	-	-
January.....	124.0	-	-	4.0	246
February.....	116.0	-	-	4.0	230
March.....	139.5	-	-	4.5	277
April.....	230.6	10	5.4	7.69	457
May.....	3,615.7	246	7.7	117	7,170
June.....	3,054	208	44	102	6,060
July.....	998	48	14	29.0	1,780
August.....	310.7	14	6.9	10.0	615
September.....	165.5	6.7	4.3	5.52	328
Water year 1943-44.....	9,119.5	246	-	24.9	18,090

\* Winter discharge measurement made on this day.

Note.— No gage-height record Nov. 26 to Apr. 12 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 3 discharge measurements and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Trinchera Creek below Smith Reservoir, near Blanca, Colo.

Location.- Water-stage recorder, lat. 37°23', long. 105°35', in sec. 5, T. 31 S., R. 73 W., 1 mile downstream from Smith Reservoir and 5 miles southwest of Blanca.

Drainage area.- 396 square miles.

Records available.- October 1933 to September 1944 in reports of Geological Survey.  
October 1929 to September 1944 in reports of State engineer. (No winter records most years.)

Extremes.- Maximum discharge during year, 662 second-feet May 17 (gage height, 5.34 feet); minimum daily, 0.4 second-foot Mar. 27, 29, 30.  
1929-44: Maximum daily discharge, 1,340 second-feet May 11, 1942; minimum daily recorded, 0.1 second-foot Nov. 3, 1937, to Feb. 28, 1938.

Remarks.- Records good. Diversions above station for irrigation. Flow regulated by Smith Reservoir (capacity, 5,335 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.8	0.9	0.7	0.7	0.7	0.5	55	249	8.7	4.8	0.5
2	.6	.8	.9	.7	.7	.7	.5	60	231	8.4	4.8	.5
3	.6	.8	.9	.7	.7	.7	.5	64	199	8.1	4.8	.5
4	.6	.8	.9	.7	.7	.7	.5	60	181	7.2	4.8	.6
5	.6	.8	.9	.7	.7	.7	.5	55	165	6.3	4.8	.6
6	.6	.8	.8	.7	.7	.7	.5	53	121	7.8	5.0	.8
7	.6	.8	.8	.7	.7	.7	.5	62	104	9.0	5.0	.7
8	.6	.8	.8	.7	.7	.7	.7	88	94	8.7	5.0	.6
9	.6	.8	.8	.7	.7	.7	3.0	110	76	8.7	5.2	.6
10	.6	.8	.8	.7	.7	*.7	12	153	64	8.4	5.2	.6
11	.6	.8	.8	.7	.6	.7	16	215	53	8.7	5.0	.6
12	.6	.8	.8	.7	.6	.7	20	266	47	8.7	4.8	.6
13	.6	.8	.8	.7	.6	.7	25	350	42	8.7	4.2	.7
14	.6	.8	.8	.7	.6	.7	31	435	30	8.7	4.0	.7
15	4.4	*.8	.8	.7	.6	.6	34	518	23	8.7	3.8	.7
16	8.3	.8	.7	.7	.6	.6	31	605	17	8.7	3.0	.7
17	8.3	.9	.7	.7	.6	.6	32	640	11	8.7	2.8	.7
18	8.3	.9	.7	.7	.6	.7	32	583	5.8	8.7	2.6	.7
19	8.3	.9	.7	.7	.6	.6	38	463	4.0	7.5	2.6	.7
20	8.3	.9	*.7	.7	.6	.5	40	396	3.0	3.2	2.2	.7
21	8.3	.9	.7	*.7	.6	.5	43	373	2.4	.7	2.0	.7
22	8.3	.9	.7	.7	.6	.5	44	351	2.2	.9	2.0	.7
23	8.3	.9	.7	.7	*.6	.5	40	313	2.0	1.2	1.9	.7
24	8.3	.9	.7	.7	.6	.5	38	298	1.9	1.9	1.7	.8
25	8.3	.9	.7	.7	.6	.5	42	295	1.9	3.2	1.3	.7
26	8.3	.9	.7	.7	.6	.5	43	296	1.8	6.0	1.2	.7
27	8.3	.9	.7	.7	.6	.4	44	275	1.7	5.8	.6	.8
28	8.3	.9	.7	.7	.6	1.0	47	273	3.0	5.6	.6	.8
29	6.5	.9	.7	.7	.6	.4	52	273	9.0	5.4	.6	.8
30	.8	.9	.7	.7	.7	.4	55	279	9.0	5.2	.5	.8
31	.8	-	.7	.7	-	.5	-	270	-	4.8	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	128.8	8.3	0.6	4.15	255
November.....	25.4	.9	.8	.85	50
December.....	23.7	.9	.7	.76	47
Calendar year .....	-	-	-	-	-
January.....	21.7	.7	.7	.70	43
February.....	18.4	.7	.6	.63	36
March.....	19.1	1.0	.4	.62	38
April.....	766.2	55	.5	25.5	1,520
May.....	8,527	640	53	275	16,910
June.....	1,754.7	249	1.7	58.5	3,480
July.....	202.3	9.0	.7	6.53	401
August.....	97.3	5.2	.5	3.14	193
September.....	20.3	.8	.5	.68	40
Water year 1943-44 .....	11,604.9	640	.4	31.7	23,010

\* Winter discharge measurement made on this day.

Note.- No gage-height record Oct. 1 to Nov. 14, Dec. 4 to Mar. 9; discharge computed on basis of intermittent gage readings, 4 discharge measurements, and valve openings at Smith Reservoir.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Sangre de Cristo Creek near Fort Garland, Colo..

Location.- Water-stage recorder, lat. 37°26', long. 105°24', in sec. 23, T. 30 S., R. 72 W., 1½ miles east of Fort Garland and 4 miles upstream from Ute Creek.

Drainage area.- 187 square miles.

Records available.- October 1933 to September 1944 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.)

Extremes.- Maximum discharge during year, 833 second-feet May 16 (gage height, 7.33 feet, from high-water marks), from rating curve extended above 730 second-feet; minimum daily, 1.8 second-feet Sept. 21, 23, 1916, 1923-44; Maximum discharge, 1,520 second-feet Aug. 31, 1936, by slope-area method; maximum gage height, 7.65 feet May 10, 1942, from floodmarks; no flow at times during 1934-36, 1939-40, 1943.

Remarks.- Records good July 10 to Sept. 30; remainder fair. A few diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.5	8.9					13	57	415	48	11	4.0
2	4.1	7.1					16	84	371	48	9.8	3.8
3	4.1	6.7					14	70	342	44	9.4	3.8
4	3.7	7.1					17	58	298	65	8.6	3.4
5	2.6	8.0					20	57	252	85	9.0	3.6
6	3.0	7.1					22	69	220	62	9.0	3.4
7	3.4	8.0					25	121	204	44	8.2	3.4
8	3.0	8.5					26	166	192	38	8.2	3.4
9	3.0	8.0					28	213	172	34	7.8	3.6
10	3.0	8.5					26	326	152	31	9.4	3.8
11	3.4	7.6					44	351	136	30	8.2	3.8
12	4.9	7.5					50	512	198	31	6.7	3.8
13	4.9	7.5					45	593	118	29	6.1	3.2
14	4.9	6.5					38	640	116	25	5.2	3.0
15	4.9	*5.4					33	785	109	25	4.6	2.6
16	4.9	5.4					33	780	101	26	4.6	2.8
17	4.5	5.4					30	720	94	24	4.9	2.4
18	4.5	5.8					29	815	89	23	6.4	2.2
19	4.9	5.8					33	509	83	22	6.4	2.0
20	6.3	5.8					31	494	77	25	7.0	1.9
21	5.4	4.9					29	487	71	29	7.8	1.8
22	4.9	6.3					26	467	66	24	6.1	1.9
23	4.9	7.6					24	453	64	20	4.9	1.8
24	4.5	8.0					32	450	62	22	6.1	2.4
25	4.5	7.1					40	432	62	24	7.4	3.2
26	4.5	7.1					38	425	65	18	6.4	3.6
27	4.5	7.0					47	425	53	16	5.5	3.6
28	4.9	6.8					57	432	50	14	5.5	3.6
29	9.4	6.7					55	435	49	14	5.2	4.0
30	12	6.7					46	445	49	13	4.9	4.0
31	12	-					-	460	-	12	4.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	154.0	12	2.6	4.97	305
November.....	209.4	8.9	4.9	6.98	415
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	967	57	13	32.2	1,920
May.....	12,079	780	57	390	23,960
June.....	4,260	415	49	142	8,450
July.....	963	83	12	31.1	1,910
August.....	214.9	11	4.6	6.93	426
September.....	93.8	4.0	1.8	3.13	186
Water year.....	-	-	-	-	-

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Notes.- No gage-height record Nov. 13, 14, 27-30, Apr. 1-12, May 14-17, 29, 30; discharge computed on basis of weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Ute Creek near Fort Garland, Colo.

Location.- Water-stage recorder upstream from rating flume, lat. 37°28', long. 106°24', in sec. 2, T. 30 S., R. 72 W., 2½ miles north of Fort Garland and 6 miles upstream from mouth.

Drainage area.- 32 square miles.

Records available.- October 1933 to September 1944 in reports of Geological Survey.  
March to October 1916 and May 1923 to September 1944 in reports of State engineer.  
(No winter records some years.)

Extremes.- Maximum discharge during year, 176 second-feet May 16 (gage height, 2.58 feet); minimum daily, 1.5 second-feet Sept. 23.  
1916, 1923-44: Maximum daily discharge, 630 second-feet May 15, 1941; minimum daily, that of Sept. 23, 1944.

Remarks.- Records good above 10 second-feet and fair below. A few diversions above station for irrigation.

Rating table, water year 1943-44, except period of ice effect  
(gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1-9, Sept. 1-30)

0.4	1.2	0.9	24
.5	4.4	1.3	53
.6	8.4	1.8	95
.7	13	2.3	141
.8	18	2.5	166

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	7.2					a8.6	15	120	72	19	9.3
2	11	7.2					a9.0	18	119	78	19	8.4
3	10	7.6					a8.2	16	111	69	18	6.8
4	10	7.6					a8.4	16	94	111	17	6.4
5	9.8	7.6					a8.8	16	82	126	16	6.0
6	9.8	6.8					a9.0	20	87	124	16	6.4
7	9.3	6.0					a9.6	28	99	84	16	5.6
8	8.9	5.9					a10	31	96	67	16	5.6
9	8.4	9.8					a12	38	108	61	17	5.6
10	7.6	8.4				*8.6	a11	51	116	59	27	5.6
11	7.6	6.8					a14	57	115	55	20	6.0
12	8.0	6.8					a16	75	109	50	18	5.2
13	8.4	6.8					a15	103	103	44	16	4.8
14	8.4	6.4					12	127	101	42	14	3.4
15	8.0	*6.0					12	149	97	41	14	3.4
16	7.6	6.0					12	165	93	42	13	3.4
17	7.2	6.0					11	148	96	35	14	3.1
18	7.2	6.0					11	118	88	30	15	3.1
19	8.4	5.6					11	100	91	34	16	2.8
20	7.6	5.6					12	106	95	39	20	2.2
21	7.6	5.2					11	115	95	35	23	2.2
22	8.0	6.0					9.8	119	90	33	18	1.6
23	7.6	5.6					10	131	88	29	16	1.5
24	7.2	6.0					14	140	86	26	16	1.8
25	7.6	5.2					14	153	99	26	17	2.2
26	7.6	6.0					12	120	90	24	14	2.8
27	7.6	b5.8					14	99	75	23	14	3.1
28	7.6	b5.8					14	94	73	22	12	3.1
29	11	b5.8					14	98	74	20	12	2.8
30	9.8	b5.7					13	108	73	20	12	2.2
31	8.4	-					-	118	-	20	11	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	264.2	11	7.2	8.52	524
November.....	196.2	9.8	5.2	6.54	389
December.....	-	-	-	-	-
Calendar year .....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	346.4	16	8.2	11.5	687
June.....	2,672	165	15	86.2	5,600
July.....	2,840	120	73	94.7	5,630
August.....	1,641	126	20	49.7	3,080
September.....	509	27	11	16.4	1,010
Water year .....	126.6	9.3	1.5	4.22	251

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Conejos River at Platoro, Colo.

Location.- Water-stage recorder, lat. 37°21'00", long. 106°31'30", in sec. 22, T. 36 N., R. 4 E., half a mile east of Platoro and 5 miles downstream from Adams Fork.

Drainage area.- 44.4 square miles.

Records available.- April 1937 to September 1944 (no winter records).

Extremes.- Maximum discharge during year, 1,150 second-feet June 24 (gage height, 2.99 feet), from rating curve extended above 850 second-feet; minimum daily recorded, 3.5 second-feet Oct. 20.

1937-44: Maximum discharge, 1,310 second-feet June 25, 1941 (gage height, 3.15 feet), from rating curve extended above 850 second-feet; minimum daily recorded, that of Oct. 20, 1943.

Remarks.- Records excellent except those for period of ice effect and those for Sept. 8-30, which are fair, and those for period of no gage-height record, which are poor. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	b11						60	752	615	71	14
2	12	b10						68	702	581	60	11
3	12	b10						68	538	525	65	9.6
4	12	b10						62	395	510	57	9.6
5	11	11						95	356	598	53	9.6
6	9.7	b10						140	367	598	52	9.6
7	9.0	b8.8						170	438	485	50	9.8
8	8.6	b7.6						210	523	431	49	9.6
9	8.4	b9.0						250	655	384	79	8.8
10	8.4	b11						230	739	346	55	8.0
11	9.0	b10						210	746	302	55	8.8
12	11	9.7						320	696	268	53	8.0
13	9.7	b9.7						430	714	248	42	7.4
14	8.8	9.7						520	696	225	35	7.4
15	8.8	b9.5						590	714	195	29	7.4
16	7.9	b9.2						540	720	181	29	7.4
17	7.0	b9.0						500	678	168	28	7.4
18	6.6	8.8						360	696	149	28	7.4
19	7.0	b9.2						310	766	162	33	7.4
20	3.5	b9.0						370	861	184	38	7.4
21	7.0	8.8						460	929	178	41	6.8
22	8.8	8.8						540	850	146	38	6.8
23	8.8	8.8						696	824	132	36	6.8
24	8.8	b9.4						672	888	120	36	6.0
25	8.8	b8.2						633	798	118	39	8.0
26	8.8	b6.5						543	804	110	35	10
27	8.8	5.0						434	747	97	28	11
28	12	5.2						478	699	90	25	15
29	16	5.6						633	699	88	21	15
30	12	6.8						714	729	82	18	12
31	b11	-						714	-	75	15	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	293.2	16	3.5	9.46	582
November.....	284.3	11	5.0	8.81	524
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	12,000	714	50	387	23,800
June.....	20,719	929	356	691	41,100
July.....	8,377	615	75	270	16,620
August.....	1,300	79	15	41.9	2,580
September.....	274.8	16	6.8	9.16	545
Water year.....	-	-	-	-	-

b Stage-discharge relation affected by ice.

Note.- No gage-height record Oct. 7-11, Nov. 27-30, May 1-22; discharge computed on basis of weather records and records for nearby stations.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Coméjos River at Counsellors Cabin, near Mogote, Colo.

Location.- Water-stage recorder, lat. 37°07'30", long. 106°20'00", in SE¼ sec. 5, T. 33 N., R. 6 E., half a mile east of Counsellors Cabin, 2 miles downstream from Elk Creek, and 14 miles northwest of Mogote. Datum of gage is 8,606.23 feet above mean sea level (Bureau of Reclamation bench mark).

Drainage area.- 211 square miles.

Records available.- October 1943 to September 1944.

Extremes.- Maximum discharge during year, 2,440 second-feet June 1, 2 (gage height, 4.62 feet); minimum daily computed, 27 second-feet Nov. 28, but probably less during period of no gage-height record.

Remarks.- Records excellent above 500 second-feet and good below except those for periods of ice effect or no gage-height record, which are poor. No diversions above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	72	68					76	270	2,250	1,360	155	66
2	64	64					76	320	2,220	1,160	149	60
3	62	*66					84	320	1,900	1,120	137	58
4	58	66					119	300	1,350	1,160	130	57
5	57	64					130	382	1,100	1,350	127	53
6	56	57					150	607	1,120	1,270	130	53
7	54	56					178	820	1,320	1,110	122	51
8	54	b47					209	896	1,500	910	117	51
9	52	b58					231	910	1,840	881	152	50
10	52	b60					195	945	2,050	762	143	48
11	52	56					178	768	2,190	710	146	47
12	58	54					240	945	2,000	613	127	45
13	66	50					253	1,270	1,980	556	119	43
14	63	47					190	1,480	1,960	519	105	43
15	62	47					170	1,800	1,930	490	93	42
16	62	46					150	1,790	1,940	426	89	45
17	62	*49					145	1,520	1,780	414	93	45
18	60	52					*157	1,070	1,690	376	100	47
19	68	48					165	1,110	1,850	361	102	42
20	66	b47					170	1,320	2,020	426	117	40
21	60	b47					150	1,480	2,100	454	146	39
22	64	50					130	1,880	2,030	376	105	39
23	63	52					120	1,920	1,840	345	95	40
24	62	50					140	2,090	1,890	315	117	48
25	60	48					180	2,090	1,870	290	122	50
26	62	46					190	1,870	1,710	262	114	62
27	62	32					220	1,480	1,620	225	96	62
28	68	27					290	1,390	1,480	203	87	77
29	95	30					280	1,770	1,376	188	79	73
30	58	35				(*)	250	2,140	1,530	185	73	62
31	72	-				-	-	2,180	-	167	69	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,964	95	52	63.4	3,900
November.....	1,518	68	27	50.6	3,010
December.....	1,116	-	-	36	2,210
Calendar year.....	-	-	-	-	-
January.....	1,147	-	-	37	2,280
February.....	1,247	-	-	43	2,470
March.....	1,612	-	-	52	3,200
April.....	5,196	280	76	178	10,510
May.....	38,913	2,180	270	1,255	77,180
June.....	58,400	2,250	1,100	1,780	105,900
July.....	19,964	1,360	167	612	37,610
August.....	3,554	155	69	115	7,050
September.....	1,538	77	39	51.3	3,050
Water year 1943-44.....	130,169	2,250	-	356	288,200

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Oct. 7-22, Nov. 11, Nov. 22 to Mar. 31, Apr. 5, 6, 14-17, 19-30, May 1-3 (stage-discharge relation affected by ice during part of period); discharge computed on basis of 2 discharge measurements and records for station near Mogote.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Conejos River near Mogote, Colo.

Location.- Water-stage recorder, lat.  $37^{\circ}03'$ , long.  $106^{\circ}11'$ , in SE  $\frac{1}{4}$  sec. 34, T. 33 N., R. 7 E., three-quarters of a mile downstream from Fox Creek and  $5\frac{1}{2}$  miles west of Mogote.

Drainage area.- 282 square miles.

Records available.- September 1899 to March 1900, April 1903 to September 1913, and October 1933 to September 1944 in reports of Geological Survey. September 1899 to March 1900 and April 1903 to September 1944 in reports of State engineer.

Average discharge.- 42 years (1902-44), 377 second-feet.

Extremes.- Maximum discharge during year, 2,890 second-feet June 2 (gage height, 4.83 feet); minimum daily, 21 second-feet Dec. 10.

1899-1900, 1903-44: Maximum discharge, 9,000 second-feet Oct. 5, 1911 (gage height, 8.50 feet, site and datum then in use), from rating curve extended above 3,500 second-feet; minimum, 18 second-feet (discharge measurement) Dec. 19, 1939.

Remarks.- Records good except those for period of ice effect, which are poor. No diversion or regulation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	75	75	*38	34	41	*48	94	313	2,680	1,440	175	66
2	66	70	42	38	*43	53	88	372	2,700	1,280	167	82
3	63	70	37	37	44	55	98	372	2,380	1,180	158	58
4	80	72	48	*37	45	53	*112	354	1,720	1,240	144	56
5	57	73	46	37	49	48	158	453	1,350	1,380	133	56
6	55	68	44	37	45	38	186	760	1,340	1,350	140	55
7	54	55	41	38	44	43	220	1,110	1,540	1,200	125	53
8	54	48	40	38	46	48	228	1,260	1,680	945	118	58
9	53	61	28	35	50	49	244	1,300	2,020	880	127	52
10	52	63	21	34	44	49	194	1,370	2,300	770	140	49
11	53	58	45	35	43	57	172	1,140	2,430	700	133	a48
12	72	55	44	36	45	68	211	1,350	2,220	592	133	a47
13	69	55	60	35	51	73	204	1,820	2,180	544	120	a46
14	64	52	*46	35	56	59	200	1,940	2,140	499	106	46
15	64	50	49	37	57	58	172	2,270	2,070	471	96	43
16	63	51	50	42	57	53	167	2,360	2,080	414	89	47
17	63	*61	46	46	57	59	147	2,020	1,930	402	91	46
18	60	53	46	50	59	66	156	1,410	1,810	374	99	47
19	72	51	46	*50	53	58	167	1,400	1,950	352	99	44
20	70	50	41	45	58	64	174	1,670	2,100	402	104	42
21	63	50	38	45	*61	52	156	1,870	2,240	450	116	42
22	68	53	36	44	66	*53	139	2,080	2,180	379	89	42
23	68	55	32	44	83	63	129	2,330	2,010	340	76	42
24	66	54	33	45	59	69	152	2,630	2,030	330	97	48
25	65	49	34	43	66	75	197	2,520	2,040	301	102	49
26	65	49	34	44	61	65	200	2,300	1,810	274	101	61
27	65	34	35	45	54	69	277	1,840	1,770	249	89	64
28	69	28	28	40	51	63	302	1,700	1,610	231	82	80
29	96	34	31	41	46	59	268	2,100	1,480	214	77	56
30	95	37	32	40	-	72	256	2,520	1,620	204	71	77
31	82	-	32	39	-	84	-	2,600	-	191	69	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,040	96	52	65.8	4,050
November.....	1,622	75	26	54.1	3,220
December.....	1,211	60	21	39.1	2,400
Calendar year 1943 .....	99,252	1,740	21.	272	196,900
January.....	1,244	50	34	40.1	2,470
February.....	1,513	66	41	52.2	3,000
March.....	1,923	84	38	58.8	3,620
April.....	5,626	302	88	184	10,950
May.....	49,414	2,600	313	1,594	99,010
June.....	59,410	2,700	1,540	1,980	117,800
July.....	19,568	1,440	191	631	38,790
August.....	3,464	175	69	112	6,870
September.....	1,606	86	42	53.5	3,190
Water year 1943-44 .....	148,433	2,700	21	406	294,400

\* Winter discharge measurement made on this day.

a No gage-height record; discharge interpolated.

Note.- Stage-discharge relation affected by ice Nov. 27 to Mar. 31.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Conejos River near La Sauces, Colo.

Location.- Two water-stage recorders (two channels), lat. 37°23', long. 106°45', in sec. 2, T. 35 N., R. 11 E., half a mile upstream from mouth and 2 miles north of La Sauces. Datum of gage (north channel) is 7,495.02 feet above mean sea level (Colorado State Highway Department bench mark).

Drainage area.- 887 square miles.

Records available.- October 1933 to September 1944 in reports of Geological Survey. March 1921 to September 1944 in reports of State engineer.

Average discharge.- 23 years, 250 second-feet.

Extremes.- Maximum discharge during year, 3,280 second-feet May 17; minimum daily, 4.6 second-feet Aug. 6-11, 14, 15.

1921-44: Maximum discharge, 3,890 second-feet May 15, 1941; no flow July 21 to Sept. 8, 1934.

Remarks.- Records good except those for periods of ice effect or incomplete or no gage-height record and those below 20 second-feet, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	42	*50	48	82	81	104	216	2,200	553	6.0	5.8
2	23	43	49	49	83	84	109	350	2,190	499	5.1	7.2
3	23	43	49	52	84	91	112	437	2,110	456	5.1	7.6
4	23	42	49	*55	84	91	107	356	1,950	506	5.1	8.3
5	26	42	49	52	81	99	106	316	1,370	556	5.1	9.8
6	26	42	49	55	81	96	128	520	910	653	4.6	11
7	28	42	47	66	81	94	174	995	832	645	4.6	9.9
8	28	41	47	62	94	108	218	1,560	812	541	4.6	12
9	27	41	45	59	83	100	240	1,860	924	440	4.6	10
10	25	43	43	64	83	108	257	1,920	1,090	399	4.6	11
11	25	43	44	66	82	116	215	2,200	1,250	355	4.6	13
12	25	42	47	64	80	136	136	1,880	1,430	*276	5.1	11
13	25	43	51	60	80	157	159	2,250	1,560	*224	5.1	10
14	33	44	*56	61	79	185	208	2,750	1,250	*121	4.6	11
15	33	45	52	65	79	157	187	2,980	1,160	*140	4.6	12
16	34	45	52	64	80	139	124	3,010	1,080	*104	4.8	15
17	34	46	52	61	80	131	95	3,090	964	*72	5.0	15
18	34	46	51	60	80	145	65	2,740	816	49	5.8	16
19	35	46	52	*58	80	118	57	1,890	744	31	6.0	18
20	36	46	52	59	79	124	71	1,910	795	25	6.0	15
21	35	46	52	59	80	103	72	2,150	869	23	5.6	11
22	36	46	52	60	80	100	64	2,250	941	22	6.0	5.6
23	36	45	54	61	80	98	64	2,300	906	18	5.6	5.6
24	37	45	52	63	80	104	57	2,460	855	17	5.8	6.0
25	35	45	52	65	80	108	45	2,560	594	17	7.4	6.9
26	35	45	51	67	82	115	43	2,490	908	10	7.4	9.0
27	36	46	51	68	83	105	49	2,200	892	10	6.0	10
28	37	50	49	69	83	95	120	1,760	801	9.2	6.0	10
29	38	50	48	74	81	88	232	1,610	734	8.8	5.1	11
30	40	50	46	77	-	91	198	1,740	618	6.8	5.1	11
31	41	-	48	79	-	102	-	2,020	-	7.4	5.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	976	41	23	31.5	1,940
November.....	1,335	50	41	44.5	2,650
December.....	1,540	55	43	49.7	3,050
Calendar year 1943	35,820.1	1,080	6.8	98.1	71,060
January.....	1,922	79	48	62.0	3,810
February.....	2,352	84	79	81.1	4,870
March.....	3,434	165	81	111	6,810
April.....	3,796	257	43	127	7,630
May.....	56,770	3,090	216	1,831	112,600
June.....	33,623	2,800	618	1,121	66,690
July.....	6,866.2	653	7.4	221	13,620
August.....	185.8	7.4	4.6	6.35	329
September.....	311.7	16	5.6	10.4	618
Water year 1943-44	113,091.7	3,090	4.6	309	224,500

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for nearby stations.

Note.- Incomplete gage-height record Dec. 9-19, 28-31, Jan. 1-18 (stage-discharge relation affected by ice during part of period); discharge computed on basis of 3 discharge measurements and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## San Antonio River at Ortiz, Colo.

Location.- Water-stage recorder, lat. 37°00', long. 106°02', in New Mexico, in sec. 19, T. 32 N., R. 9 E., a quarter of a mile south of Colorado-New Mexico State line, half a mile south of Ortiz, and half a mile upstream from Los Pinos Creek.

Drainage area.- 110 square miles.

Records available.- October 1933 to September 1944 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 most years.)

Extremes.- Maximum discharge during year, 955 second-feet May 14 (gage height, 4.19 feet); no flow July 19, 20, Aug. 1-6, 17-20, Sept. 2-28.  
1915, 1919-20, 1924-44: Maximum discharge, 1,750 second-feet Apr. 15, 1937 (gage height, 5.38 feet), from rating curve extended above 1,100 second-feet; no flow at times in most years.

Remarks.- Records excellent except those below 10 second-feet, which are fair, and those for period of no gage-height record, which are poor. A few small diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.6	5.1	(*)			(*)	17	172	82	2.1	0	0.1
2	2.0	5.5			(*)		18	172	65	1.9	0	0
3	1.9	4.7					19	124	76	1.7	0	0
4	1.9	5.3					*21	101	68	1.7	0	0
5	1.9	3.0					24	165	48	18	0	0
6	2.0	2.6					25	226	45	18	0	0
7	1.9	1.9					29	303	41	12	.8	0
8	2.0	1.6					31	333	37	6.8	1.9	0
9	2.2	3.0					34	309	32	3.8	1.2	0
10	2.6	2.6					36	402	28	2.4	.4	0
11	1.6	3.0					32	356	26	1.5	.3	0
12	2.2	5.1					28	545	22	1.4	.4	0
13	3.6	6.3					30	640	20	.8	.2	0
14	4.7	7.4					32	620	18	.4	.1	0
15	3.4	6.9					28	604	16	.2	.1	0
16	2.6	3.0	2.2	2.0	2.6	7.6	25	541	14	.2	.1	0
17	2.2	*6.9					23	382	13	.2	0	0
18	2.2	6.9					*22	220	12	.1	0	0
19	2.2	5.9					45	260	11	0	0	0
20	6.9	5.9					34	256	9.9	0	0	0
21	6.3	5.9			(*)		28	259	9.2	1.2	.8	0
22	6.9	6.9					26	239	8.8	7.5	2.6	0
23	6.3	3.8					21	234	7.5	4.7	1.7	0
24	5.5	4.2		(*)			29	210	6.8	3.0	.8	0
25	4.7	7.4					49	180	6.2	3.8	.6	0
26	4.7	6.3					58	155	3.5	4.0	1.2	0
27	4.2	b2.6					140	140	2.8	2.3	2.1	0
28	4.2	b2.0					191	129	2.3	1.2	1.9	0
29	5.9	2.2					93	120	1.9	.5	1.0	0
30	11	2.5					86	111	1.9	.2	.6	.1
31	7.4	-					-	107	-	.1	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	124.7	11	1.6	4.02	247
November.....	142.4	8.0	1.6	4.75	282
December.....	68.2	-	-	2.2	135
Calendar year 1943 .....	6,800.1	256	-	18.6	13,480
January.....	62.0	-	-	2.0	123
February.....	75.4	-	-	2.6	150
March.....	235.6	-	-	7.6	467
April.....	1,274	191	17	42.5	2,530
May.....	8,605	640	101	278	17,070
June.....	734.8	82	1.9	24.5	1,460
July.....	101.7	18	0	3.28	202
August.....	19.0	2.6	0	.81	38
September.....	.2	.1	0	.01	.4
Water year 1943-44 .....	11,443.0	640	0	31.3	22,700

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Notes.- No gage-height record Nov. 29 to Apr. 18 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 7 discharge measurements and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## San Antonio River at mouth, near Manassa, Colo.

Location.- Water-stage recorder, lat. 37°11', long. 105°53', in sec. 21, T. 34 N., R. 10 E., 1 mile upstream from mouth and 2½ miles east of Manassa.

Drainage area.- 348 square miles.

Records available.- October 1933 to September 1944 in reports of Geological Survey. April 1923 to September 1944 in reports of State engineer.

Average discharge.- 21 years, 103 second-feet.

Extremes.- Maximum discharge during year, 1,690 second-feet May 16 (gage height, 6.02 feet), from rating curve extended above 1,200 second-feet; no flow Oct. 1-13, Aug. 9, Aug. 11 to Sept. 30.

1923-44: Maximum discharge, 2,620 second-feet May 14, 1941 (gage height, 6.26 feet), from rating curve extended above 2,200 second-feet; no flow at times in most years.

Remarks.- Records excellent except those for Oct. 1 to Apr. 8, July 17 to Aug. 10, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	0.8					29	169	892	123	0.8	
2	0	.8					26	328	788	116	.7	
3	0	.8					24	280	712	116	.5	
4	0	.8					20	212	618	132	.4	
5	0	.8					18	260	479	140	.2	
6	0	.8					28	482	419	160	.2	
7	0	.8					a50	940	416	142	.2	
8	0	.8					a90	1,250	375	120	.1	
9	0	.9					99	1,250	366	103	0	
10	0	1.1					70	1,360	398	91	.1	
11	0	1.1					42	1,380	422	85	0	
12	0	1.2					45	1,390	434	59	0	
13	0	1.2					66	1,470	383	40	0	
14	.1	1.2					61	1,570	362	21	0	
15	.2	1.6					41	1,660	325	21	0	
16	.2	1.8	a2.2	a3.3	a5.3	a26	37	1,600	300	14	0	
17	.3	a1.7					31	1,620	270	9.1	0	
18	.3	1.7					a23	1,250	255	6.6	0	
19	.4	1.7					32	1,180	246	4.3	0	
20	.4	1.7					40	1,260	237	4.7	0	
21	.5	1.8					31	1,310	239	4.7	0	
22	.5	1.7					29	1,280	232	4.2	0	
23	.6	1.8					31	1,310	219	3.8	0	
24	.6	1.8					28	1,310	212	5.4	0	
25	.6	1.6					31	1,250	214	7.0	0	
26	.6	1.6					41	1,140	221	5.6	0	
27	.6	1.6					75	980	190	4.2	0	
28	.6	1.7					165	884	160	2.8	0	
29	.6	1.7				(*)	137	905	137	1.8	0	
30	.6	1.7					107	935	130	2.0	0	
31	.6	-					-	970	-	1.4	0	

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8.3	0.8	0	0.27	18
November.....	40.3	1.8	.8	1.34	80
December.....	68.2	-	-	2.2	135
Calendar year 1943.....	19,774.6	782	0	54.2	39,230
January.....	102.3	-	-	3.3	203
February.....	153.7	-	-	5.3	305
March.....	809	-	-	28	1,600
April.....	1,547	165	18	51.6	3,070
May.....	32,915	1,600	169	1,062	65,290
June.....	10,641	892	130	365	21,110
July.....	1,558.6	160	1.4	50.3	3,090
August.....	3.2	.8	0	.10	6.3
September.....	0	0	0	0	0
Water year 1943-44.....	47,843.6	1,600	0	131	94,910

\* Winter discharge measurement made on this day.

a No gage-height record (stage-discharge relation affected by ice during part of period); discharge computed on basis of 1 discharge measurement, weather records, and records for Conejos River near La Sausa.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Los Pinos River near Ortiz, Colo.

Location.- Water-stage recorder, lat. 36°58', long. 106°03', in New Mexico, in N<sup>o</sup> sec. 34, T. 32 N., R. 8 E., 1 mile south of Colorado-New Mexico State line, 2 miles southwest of Ortiz, and 2½ miles upstream from mouth.

Drainage area.- 167 square miles.

Records available.- October 1933 to September 1944 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.)

Extremes.- Maximum discharge during year, 3,030 second-feet May 15 (gage height, 5.69 feet), from rating curve extended above 1,600 second-feet; minimum daily, 8 second-feet Nov. 30, but may have been less during period of no gage-height record. 1914-20, 1924-44: Maximum discharge, 3,160 second-feet May 12, 1941 (gage height, 5.77 feet), from rating curve extended above 1,600 second-feet; minimum daily, 5 second-feet Aug. 11, Sept. 19, 1934.

Remarks.- Records good except those for period of ice effect or no gage-height record, which are fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	25	24	(*)			(*)	29	290	922	221	22	13
2	22	21			(*)		30	342	920	206	19	12
3	21	22					31	877	790	204	18	11
4	20	25					*40	277	576	209	18	11
5	17	23					56	441	483	202	16	11
6	a17	20					84	585	519	218	20	11
7	a17	18					100	970	553	179	19	12
8	a16	20					115	1,080	548	148	18	13
9	a16	21					121	1,130	612	128	19	13
10	a16	32					95	1,170	630	116	23	12
11	16	23					84	1,080	616	102	21	12
12	25	22					98	1,430	562	86	21	12
13	21	20					130	1,830	519	75	19	12
14	18	21					102	1,830	479	87	18	12
15	17	22					91	1,920	471	60	16	12
16	16	20					89	1,910	447	57	15	14
17	15	a18					75	1,540	407	58	15	14
18	14	20					78	922	372	52	22	14
19	17	19					89	1,110	379	49	22	14
20	19	18					87	1,280	361	48	22	13
21	17	18					80	1,320	403	75	28	11
22	22	17					75	1,440	375	96	22	11
23	21	19					85	1,480	347	87	18	13
24	20	17					75	1,360	337	56	19	12
25	21	16					104	1,230	351	87	23	14
26	21	b15					119	1,030	319	45	22	16
27	21	b14					190	826	286	39	18	18
28	23	b10					215	862	253	33	18	19
29	38	b12					172	946	230	30	15	19
30	32	b8					172	998	236	26	14	17
31	26	-					-	1,000	-	26	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	627	38	14	20.2	1,240
November.....	575	32	8	12.2	1,140
December.....	418.5	-	-	13.5	830
Calendar year 1943.....	39,033.5	938	-	107	77,410
January.....	434	-	-	14	861
February.....	435	-	-	15	863
March.....	589	-	-	19	1,170
April.....	2,894	215	29	96.5	5,740
May.....	33,826	1,920	277	1,021	87,090
June.....	14,213	922	230	474	28,190
July.....	3,084	262	26	99.5	6,120
August.....	594	28	14	19.2	1,180
September.....	398	19	11	13.3	799
Water year 1943-44.....	56,087.5	1,920	-	159	115,200

\* Winter discharge measurement made on this day.

a No gage-height record; discharge interpolated.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Dec. 1 to Mar. 31 (stage-discharge relation affected by ice during most of period); discharge computed on basis of 6 discharge measurements and weather records.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Culebra Creek at San Luis, Colo.

Location.- Water-stage recorder and 12-foot Parshall flume, lat. 37°11', long. 105°26', in sec. 35, T. 3 N., R. 72 W., Beaubien Grant survey, 1 mile southeast of San Luis and 1½ miles upstream from Rito Seco.

Drainage area.- 220 square miles.

Records available.- January 1910 to December 1911 and October 1933 to September 1944 in reports of Geological Survey. May 1909 to December 1910 and April 1927 to September 1944 in reports of State engineer. 1911-19 (unpublished) in files of State engineer.

Average discharge.- 27 years (1909-19, 1927-44), 66.5 second-feet.

Extremes.- Maximum discharge during year, 448 second-feet July 5 (gage height, 3.93 feet), from rating curve extended above 300 second-feet; minimum daily, 9.5 second-feet Oct. 3.

1909-19, 1927-44: Maximum discharge, 595 second-feet May 30, 1942 (gage height, 4.84 feet), from rating curve extended above 300 second-feet; minimum daily, 5 second-feet Sept. 14-16, 1934.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are fair. Diversions above station for irrigation. Flow regulated by Sanchez Reservoir on Ventero Creek (capacity, 103,000 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	23	28	16	22	24	25	22	21	101	213	282	104
2	25	28	17	22	25	27	17	22	98	207	270	95
3	9.5	28	18	23	26	27	20	22	154	184	260	89
4	10	28	19	23	26	28	22	22	62	139	292	114
5	14	28	15	24	24	18	22	18	74	214	272	100
6	14	27	18	25	21	23	21	18	136	140	238	90
7	14	25	19	26	25	24	22	15	180	125	257	72
8	22	25	19	25	27	24	22	18	208	175	269	73
9	31	25	20	24	27	24	16	23	208	184	273	71
10	21	25	20	25	27	24	22	20	225	205	241	71
11	28	25	20	25	27	25	22	20	273	229	198	82
12	30	26	19	24	26	20	22	24	244	259	203	83
13	30	27	20	23	20	24	22	38	250	247	179	69
14	28	25	20	23	24	26	20	48	264	207	192	52
15	28	25	20	23	25	25	20	96	280	211	202	35
16	27	24	22	24	25	24	15	119	265	199	194	28
17	17	27	25	26	25	25	20	90	275	205	192	34
18	28	23	25	28	24	24	20	56	264	207	170	35
19	28	25	24	28	24	18	28	50	272	232	136	44
20	28	23	22	27	21	23	25	54	267	244	96	45
21	28	23	22	27	24	23	25	53	318	245	97	44
22	28	23	20	26	25	23	23	38	314	248	97	40
23	27	20	18	22	26	23	20	88	314	240	108	39
24	18	28	20	22	26	24	24	91	301	244	149	30
25	27	20	20	22	26	24	24	79	268	213	138	38
26	28	20	21	22	24	23	22	80	268	198	110	38
27	28	14	21	27	18	23	22	67	248	180	100	38
28	28	13	22	26	24	23	22	59	257	150	112	33
29	32	16	23	29	25	23	22	62	247	160	106	33
30	28	16	22	27	-	23	17	69	233	220	97	-
31	17	-	22	25	-	23	-	123	-	242	97	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	744.5	32	9.5	24.0	1,480
November.....	700	28	13	23.3	1,390
December.....	628	27	15	20.5	1,250
Calendar year 1943 .....	22,504.5	264	9.5	61.7	44,660
January.....	769	29	22	24.8	1,530
February.....	711	27	18	24.5	1,410
March.....	730	27	18	23.5	1,450
April.....	641	28	15	21.4	1,270
May.....	1,563	123	15	50.4	3,100
June.....	6,798	318	62	327	13,480
July.....	6,329	259	123	204	12,550
August.....	5,591	282	97	180	11,090
September.....	1,746	114	28	68.2	3,460
Water year 1943-44 .....	26,950.5	318	9.5	73.6	63,460

b Stage-discharge relation affected by ice.

Note.- No gage-height record Dec. 18, 19, Jan. 1-16, 20; discharge computed on basis of weather records. No gage-height record July 21, 23, 27-29, Aug. 1-6; discharge computed on basis of records for station below San Luis.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Culebra Creek below San Luis, Colo.

Location.- Water-stage recorder, lat.  $37^{\circ}12'$ , long.  $105^{\circ}26'$ , in sec. 27, T. 3 N., R. 72 W., Beaubien Grant survey, 500 feet downstream from bridge on State Highway 160, 600 feet downstream from Rito Seco and a quarter of a mile southwest of San Luis.

Drainage area.- 255 square miles.

Records available.- August 1938 to September 1944 (no winter records most years).

Extremes.- Maximum discharge during year, 650 second-feet July 5 (gage height, 3.75 feet), from rating curve extended above 400 second-feet; minimum daily, 25 second-feet Oct. 3, 1938-44: Maximum discharge, 866 second-feet May 30, 1942 (gage height, 4.54 feet), from rating curve extended above 400 second-feet; minimum daily, 15 second-feet Sept. 20, 1943.

Remarks.- Records excellent above and good below 80 second-feet except those for period of no gage-height record, which are fair. Diversions above station for irrigation.

Rating tables, water year 1943-44 (gage height, in feet, and discharge, in second-feet)  
(Shifting-control method used Oct. 1-29, Dec. 21 to Apr. 6, Apr. 14-29, July 25-31)

Oct. 1 to July 29

July 30 to Sept. 30

1.4	20	2.2	135
1.6	40	2.5	215
1.8	65	2.9	341
2.0	96		

1.5	25	2.2	120
1.7	45	2.4	168
1.9	70	2.8	293
2.1	102		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	36	32	36	37	39	44	40	101	198	263	87
2	38	37	32	36	36	41	38	38	100	193	270	76
3	25	37	34	36	37	44	41	38	65	182	267	74
4	27	38	33	37	38	42	41	38	77	103	283	97
5	28	39	27	38	36	39	40	35	77	245	276	84
6	29	39	33	39	33	39	39	36	114	142	258	79
7	30	37	34	40	37	39	35	35	165	109	260	65
8	36	36	34	37	39	38	37	37	182	168	283	67
9	39	38	34	36	39	38	32	42	201	142	290	66
10	29	39	35	37	39	38	35	42	235	209	287	67
11	40	38	35	37	38	45	38	41	306	227	188	80
12	40	37	35	36	36	45	38	50	248	287	194	84
13	40	38	34	36	32	53	37	64	233	255	163	73
14	39	36	34	35	35	65	33	70	242	201	174	57
15	40	33	34	36	37	58	33	110	271	184	182	40
16	38	33	36	38	37	55	27	189	258	187	168	34
17	29	32	44	43	37	58	33	116	267	193	174	40
18	38	32	42	43	36	63	30	78	251	184	147	39
19	40	32	40	43	34	46	39	71	245	221	115	49
20	40	32	39	42	30	50	40	74	264	236	85	51
21	40	32	38	42	34	60	39	76	315	233	82	51
22	40	33	33	40	36	60	38	57	319	239	88	47
23	39	33	31	34	37	60	36	64	312	230	98	45
24	29	37	33	34	36	50	40	94	296	248	124	38
25	38	34	34	34	39	48	38	88	267	209	116	44
26	40	36	35	34	39	48	37	93	258	190	90	45
27	40	27	35	38	35	48	37	83	230	163	82	49
28	40	27	36	40	35	46	37	77	236	148	90	45
29	46	34	37	41	38	46	37	68	236	155	86	44
30	38	32	38	42	-	46	35	70	230	163	80	41
31	27	-	36	40	-	46	-	114	-	222	80	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,119	46	25	36.1	2,220
November.....	1,044	39	27	34.8	2,070
December.....	1,085	44	27	35.0	2,150
Calendar year 1943 .....	25,409	276	15	69.6	50,390
January.....	1,179	43	34	38.0	2,340
February.....	1,064	39	30	36.3	2,092
March.....	1,453	65	38	46.9	2,880
April.....	1,103	44	27	36.8	2,190
May.....	2,068	129	35	66.7	4,100
June.....	6,619	319	77	221	13,130
July.....	6,016	267	103	194	11,930
August.....	5,289	290	80	171	10,490
September.....	1,768	97	34	58.6	3,490
Water year 1943-44 .....	29,787	319	25	81.4	59,080

Note.- No gage-height record Dec. 11 to Feb. 24; discharge computed on basis of 3 discharge measurements, weather records, and records for station at San Luis.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Costilla Creek above reservoir, near Costilla, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 36°54'25", long. 105°15'00", in Sangre de Cristo Grant, 2½ miles by road upstream from Costilla Dam and 17 miles southeast of Costilla, Taos County.

Records available.- April 1937 to September 1944 (irrigation seasons only).

Extremes.- Maximum discharge recorded during year, 346 second-feet May 11 (gage height, 1.80 feet); minimum daily recorded, 1.4 second-feet Sept. 20, 21.  
1937-44: Maximum discharge recorded, that of May 11, 1944; maximum gage height, 1.90 feet May 15, 1938 former site and datum; minimum daily recorded, that of Sept. 20, 21, 1944.

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

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.1	6.8						a15 66	66	13	3.4	1.9
2	4.6	3.2						a16 64	64	12	3.2	1.7
3	5.0	3.2						a17 59	59	12	2.9	1.7
4	4.1	b3						18	48	a12 2.9	1.9	1.9
5	3.4	b3						19	38	a13 3.2	1.9	1.9
6	3.6	2.4						46	38	13	3.6	2.2
7	3.6	b2.5						120	41	12	2.9	2.2
8	3.2	b3						129	41	11	3.2	2.2
9	2.9	b3						149	38	9.6	3.2	1.9
10	2.7	b3						129	39	8.9	3.2	2.4
11	2.7	b3						162	41	7.7	3.2	2.7
12	5.9	2.7						184	44	7.3	2.9	2.4
13	3.2	3.4						180	36	6.8	2.4	2.4
14	2.9	b3						180	32	6.4	2.2	2.2
15	2.9	b2.5						166	30	5.9	2.4	2.2
16	2.7	b2.5						174	27	6.4	2.7	2.9
17	2.7	b2.5						123	26	5.9	2.9	2.2
18	2.4	*b2.5						72	24	5.5	3.4	1.9
19	3.2	b2.5						87	22	5.5	3.6	1.7
20	2.9	b2.5						89	20	5.5	4.6	1.4
21	4.6	b2.5						84	19	5.9	3.2	1.4
22	3.4	2.7						92	18	5.9	2.9	1.7
23	2.9	b2.2						92	17	5.5	2.9	1.7
24	2.7	2.9						79	17	6.4	3.6	2.2
25	*2.4	b2.2						77	17	6.8	3.4	2.4
26	2.4	1.7						66	16	5.0	3.2	2.4
27	2.4	a1.5						55	16	4.1	3.4	2.7
28	3.4	a1.5						53	15	4.1	2.9	2.7
29	5.0	a1.5						53	15	4.1	2.4	2.2
30	1.9	a1.5						64	14	4.1	2.4	1.9
31	5.9	-						72	-	3.6	2.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	105.7	5.9	1.9	3.41	210
November.....	80.4	6.8	1.5	2.68	159
December.....	-	-	-	-	-
Calendar year	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	2,832	184	16	91.4	5,620
June.....	938	66	14	31.3	1,860
July.....	234.9	13	3.6	7.58	466
August.....	94.7	4.6	2.2	3.05	188
September.....	63.3	2.9	1.4	2.11	126
Water year	-	-	-	-	-

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Santisvean Creek near Costilla and Cobreto Creek near Questa.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Costilla Creek below reservoir, near Costilla, N. Mex.

Location.— Water-stage recorder and concrete control, lat. 36°52'25", long. 105°16'55"  
in Sangre de Cristo Grant, 125 feet downstream from outlet of reservoir at Costilla  
Dam and 18 miles southeast of Costilla, Taos County.

Records available.— April 1937 to September 1944 (irrigation seasons only).

Extremes.— Maximum discharge recorded during year, 218 second-feet July 12-14 (gage height, 2.15 feet); minimum daily recorded, 0.2 second-foot Oct. 30 to Nov. 18, 1937-44; Maximum discharge recorded, 286 second-feet May 9, 10, 1942 (gage height, 2.65 feet); no flow at times.

Remarks.— Records good. No diversion above station. Flow regulated by Costilla Reservoir (capacity, 15,700 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	16	0.2						-	127	32	167	15
2	16	.2						-	131	a 40	182	12
3	16	.2						-	129	a 100	189	54
4	16	.2						0.6	131	a 100	82	180
5	16	.2						-	133	102	15	123
6	13	.2						-	124	140	59	12
7	12	.2						-	116	158	168	12
8	12	.2						-	115	137	171	12
9	12	.2						-	133	228	178	12
10	12	.2						-	157	151	175	42
11	17	.2						-	131	188	74	109
12	22	.2						-	34	196	13	96
13	22	.2						-	27	218	51	12
14	20	.2						-	126	167	157	11
15	19	.2						-	124	141	142	11
16	19	.2						-	124	151	136	11
17	19	.2						-	122	167	114	11
18	14	*b .2						-	121	166	15	32
19	12	-						-	114	174	13	37
20	5.0	-						-	103	186	13	11
21	.2	-						-	114	81	13	11
22	.2	-						-	136	19	13	12
23	.4	-						-	137	66	13	12
24	.4	-						-	136	178	13	12
25	*.4	-						-	134	176	13	34
26	b .4	-						96	133	176	13	54
27	.4	-						127	133	175	56	12
28	.4	-						129	132	79	153	12
29	.4	-						131	132	19	71	9.4
30	.2	-						129	71	57	24	8.0
31	.2	-						128	-	155	24	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	313.6	22	0.2	10.1	622
November 1-18.....	3.6	.2	.2	.2	7.1
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May 26-31.....	740	131	96	123	1,470
June.....	3,580	157	27	119	7,100
July.....	4,002	218	19	129	7,940
August.....	2,516	189	13	81.2	4,990
September.....	941.4	150	8.0	31.4	1,870
Water year.....	-	-	-	-	-

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for station near Costilla.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Costilla Creek near Costilla, N. Mex.

Location.- Water-stage recorder, lat. 36°57'55", long. 105°30'50", in Sangre de Cristo Grant, 1 mile upstream from diversion dam and 2 miles southeast of Costilla, Taos County. Prior to June 18, 1944, water-stage recorder half a mile downstream at different datum.

Records available.- March 1936 to September 1944.

Extremes.- Maximum discharge recorded during year, 655 second-feet May 16 (gage height, 4.62 feet, site and datum then in use); minimum daily recorded, 6 second-feet (estimated) Feb. 21, Mar. 6.

1936-44: Maximum discharge, 1,150 second-feet May 11, 1942 (gage height, 5.37 feet, site and datum then in use); minimum daily discharge recorded, that of Feb. 21, Mar. 6, 1944.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	39	14	b11	9	11	10	20	69	366	87	158	30
2	33	11	b12	9	10	11	17	79	342	92	171	25
3	35	11	12	10	9	10	16	69	320	175	177	24
4	35	12	11	10	10	11	23	63	282	185	141	126
5	32	13	12	10	11	10	38	73	261	198	39	141
6	32	12	13	11	10	6	45	130	258	187	34	50
7	28	8.6	13	11	10	7	48	213	246	200	151	27
8	27	11	12	7	10	7	52	234	239	187	165	26
9	25	13	*12	9	11	8	54	236	239	171	173	25
10	24	13	11	12	10	10	29	271	246	175	177	24
11	25	13	11	12	10	15	38	261	244	191	140	96
12	43	12	11	12	*9	19	45	384	157	202	39	109
13	38	13	11	*12	9	18	52	387	146	226	31	52
14	37	12	9	11	7	19	45	417	203	204	138	27
15	33	11	8	10	7	17	38	554	213	175	143	25
16	33	11	7	9	7	14	38	559	205	175	134	25
17	32	11	8	10	7	18	32	518	197	187	143	24
18	50	*11	9	10	7	21	35	a450	188	183	64	22
19	31	11	9	10	7	16	51	260	181	185	36	58
20	29	11	9	11	7	18	41	270	169	206	35	25
21	18	11	9	11	6	12	42	275	169	161	30	23
22	17	12	10	11	7	14	33	280	189	57	27	22
23	15	12	10	11	7	14	34	282	187	50	27	21
24	14	14	10	11	7	16	38	287	185	181	29	20
25	14	11	10	11	9	16	47	258	187	187	30	20
26	14	11	10	11	*11	15	42	279	189	185	26	57
27	13	9.4	9	11	10	12	55	356	183	181	25	25
28	14	b9	9	11	9	13	68	362	181	142	131	24
29	20	b9	*9	12	9	11	61	352	181	48	113	24
30	19	*b10	9	*13	-	14	59	384	153	41	37	22
31	17	-	9	11	-	18	-	376	-	144	32	-

Month				Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....				814	45	13	26.3	1,610
November.....				343.0	14	8.6	11.4	680
December.....				315	13	7	10.2	625
Calendar year				-	-	-	-	-
January.....				329	13	7	10.6	653
February.....				254	11	6	8.8	504
March.....				420	21	6	13.5	333
April.....				1,234	68	16	41.1	2,450
May.....				8,968	559	63	259	17,790
June.....				6,506	366	146	217	12,900
July.....				4,968	226	41	160	9,850
August.....				2,796	177	25	90.2	5,550
September.....				1,219	141	20	40.6	2,420
Water year 1943-44				28,166.0	559	6	77.0	55,860

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Nov. 8, Dec. 3 to Feb. 11, Feb. 18 to Mar. 11, May 18-22; discharge computed on basis of 8 discharge measurements, weather records, and records for Costilla Creek below reservoir, near Costilla, and Rio Colorado near Questa and near Red River.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Costilla Creek at Garcia, Colo.

Location.— Water-stage recorder, lat. 36°59'40", long. 105°32'00", in Sangre de Cristo Grant, 300 feet upstream from New Mexico-Colorado State line and half a mile south of Garcia.

Records available.— June to September 1944.

Extremes.— Maximum discharge during period, 148 second-feet July 8 (gage height, 3.30 feet); no flow at times.

Remarks.— Records good except those for period of no gage-height record, which are poor. Diversions above station for irrigation. Flow regulated by Costilla Reservoir (capacity, 15,700 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1									-	25	a0	0.1
2									-	32	a0	0
3									-	35	a.5	0
4									-	34	a.5	9.1
5									-	72	a1	.6
6									-	92	1.0	.4
7									-	109	.7	0
8									-	131	2.1	0
9									-	109	15	0
10									-	67	5.0	0
11									-	57	2.6	3.6
12									-	53	1.7	.4
13									-	61	1.3	.2
14									-	57	.7	.3
15									-	76	1.4	0
16									-	77	2.1	0
17									37	40	5.8	.2
18									42	16	1.8	0
19									30	27	.6	1.8
20									18	37	.5	.1
21									11	24	.4	0
22									20	5.4	.2	0
23									19	4.7	0	.1
24									18	12	0	.2
25									20	20	0	0
26									24	20	0	0
27									27	19	0	0
28									14	13	.3	0
29									7.5	2.8	.3	0
30									13	.1	.2	0
31									-	0	.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....					
November.....					
December.....					
Calendar year					
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	-	-	-	-	-
June 17-30.....	300.5	42	7.5	21.5	596
July.....	1,328.0	131	0	42.8	2,630
August.....	46.2	15	0	1.49	92
September.....	17.1	9.1	0	.57	34
Water year	-	-	-	-	3,350

a No gage-height record; discharge computed on basis of records for station near Costilla.  
Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Casiás Creek near Costilla, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 36°54'05", long. 105°15'30", in Sangre de Cristo Grant, 200 feet downstream from road crossing, 2.5 miles by road upstream from Costilla Dam, and 17 miles southeast of Costilla, Taos County.

Records available.- April 1937 to September 1944 (irrigation seasons only).

Extremes.- Maximum discharge recorded during year, 95 second-feet May 26 (gage height, 1.49 feet); minimum daily recorded, 4 second-feet Nov. 26-30, 1937-44. Maximum discharge recorded, 121 second-feet Aug. 10, 1943, maximum gage height recorded, 1.90 feet June 14, 1938 (backwater from Costilla Reservoir); minimum daily recorded, 3.0 second-feet Aug. 14, 1939.

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

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	7.6	b6						a10	70	44	a13	6.7
2	9.1	b6						a10	69	44	a12	6.2
3	8.1	b7						a10	70	50	a12	6.2
4	7.1	b7						a11	65	55	a12	5.7
5	6.2	b7						b12	61	49	14	6.2
6	6.7	b6						b15	65	47	13	6.2
7	6.7	b6						b20	69	44	13	5.7
8	6.2	b6						19	65	42	12	5.7
9	5.7	b6						29	68	38	12	5.4
10	5.7	b6						26	72	36	13	5.7
11	6.2	b5.5						29	72	34	13	5.7
12	10	b5.5						30	70	33	a12	5.4
13	5.7	b5.5						35	70	31	a12	5.1
14	5.7	b5.5						41	67	27	a11	5.1
15	5.4	b5.5						50	64	26	a10	5.7
16	5.4	b5						62	64	25	a10	4.8
17	5.1	b5						57	65	24	a10	4.5
18	4.8	*b5						47	59	24	a10	4.5
19	5.7	b5						46	58	23	a10	4.5
20	6.7	b5						47	58	26	a10	4.2
21	b7.6	b5						50	61	22	9.5	4.2
22	b6.2	b5						55	61	22	9.1	4.2
23	5.4	b5						64	57	22	9.1	4.2
24	6.2	5.1						a70	57	23	10	4.8
25	*5.4	b5						a65	56	21	9.5	5.1
26	5.7	b4						61	52	18	8.6	4.8
27	6.2	*b4						53	47	17	8.6	5.1
28	7.6	a4						49	46	17	8.1	4.8
29	7.6	a4						48	45	17	7.6	4.5
30	6.7	a4						62	43	15	7.6	4.2
31	b6.7	-						68	-	13	7.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	201.1	10	4.8	6.49	399
November.....	180.6	7	4	5.35	319
December.....	-	-	-	-	-
Calendar year	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	1,251	70	10	40.4	2,490
June.....	1,842	72	43	61.4	3,650
July.....	929	55	13	30.0	1,840
August.....	328.8	14	7.1	10.6	652
September.....	155.1	6.7	4.2	5.17	308
Water year	-	-	-	-	-

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Costilla Creek above reservoir, near Costilla, and Santistevan Creek near Costilla.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Santistevan Creek near Costilla, N. Mex.

Location.- Water-stage recorder and metal Parshall flume, lat. 36°53'05", long. 105°16'50", in Sangre de Cristo Grant, 200 feet upstream from road crossing, 0.9 mile upstream from Costilla Dam, and 16 miles southeast of Costilla, Taos County.

Records available.- April 1937 to September 1944 (irrigation seasons only).

Extremes.- Maximum discharge during year, 9.7 second-foot June 2 (gage height, 1.15 feet); minimum daily recorded, 0.7 second-foot Oct. 20-21, May 1-4.

1937-44: Maximum discharge recorded, 18 second-foot Aug. 11, 1941 (gage height, 1.73 feet); minimum daily recorded, 0.5 second-foot Oct. 23, 1938, Apr. 13, 16, 1943.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.0	0.8						0.7	8.8	a6.5	2.3	1.2
2	1.0	1.0						.7	9.3	a7.0	2.2	1.1
3	1.0	.9						.7	9.3	a7.7	2.2	1.0
4	1.0	.9						.7	8.8	a8.4	2.1	1.0
5	.9	.9						.9	8.5	a6.6	2.1	1.1
6	.9	-						1.3	8.4	5.6	2.0	1.1
7	.9	-						1.8	8.6	5.2	1.9	1.0
8	.9	-						1.8	8.5	5.0	1.9	1.0
9	.9	-						2.2	8.6	5.0	1.8	1.0
10	.9	-						2.2	9.0	4.7	1.9	1.0
11	.9	-						2.6	9.4	4.4	1.8	1.0
12	1.0	-						2.9	9.5	4.3	1.7	.9
13	.9	-						3.4	9.3	4.1	1.6	.9
14	.9	-						4.0	9.0	3.9	1.6	.9
15	.9	-						5.0	8.8	3.9	1.6	.9
16	.9	-						5.7	8.6	3.8	1.6	.9
17	.9	-						5.2	8.4	3.6	1.6	.9
18	.8	†.8						4.9	8.0	3.6	1.6	.9
19	.9	-						4.8	7.8	3.4	1.5	.8
20	.7	-						5.0	7.5	3.8	1.5	.8
21	a.7	-						5.3	7.4	3.3	1.4	.9
22	a.8	-						5.8	7.3	3.2	1.4	.9
23	a.8	-						6.4	7.2	3.2	1.4	.9
24	a.9	-						6.8	7.1	3.3	1.5	.9
25	a.9	-						6.8	a6.9	3.1	1.4	.9
26	.9	-						6.9	a6.8	2.9	1.4	.9
27	.9	-						6.7	a6.6	2.8	1.4	.9
28	.9	-						6.7	a6.5	2.7	1.3	.9
29	.9	-						6.8	a6.4	2.6	1.2	.9
30	.8	-						7.6	a6.4	2.5	1.2	.9
31	.8	-						8.2	-	2.5	1.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	27.5	1.0	0.7	0.89	55
November 1-5.....	4.5	1.0	.8	.90	8.9
December.....	-	-	-	-	-
Calendar year.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	-	-	-	-	-
May.....	130.4	8.2	.7	4.21	259
June.....	242.7	9.5	6.4	8.09	481
July.....	132.6	8.4	2.5	4.28	263
August.....	51.3	2.3	1.2	1.65	102
September.....	28.4	1.2	.8	.95	56
Water year.....	-	-	-	-	-

† Result of discharge measurement.

a No gage-height record; discharge computed on basis of weather records, recorded range in stage, and records for nearby stations.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

## Diversions from Costilla Creek

## Cerro Canal near Costilla, N. Mex.

Location.- Water-stage recorder and concrete Parshall flume, lat. 36°57'50", long. 105°31'10", in Sangre de Cristo Grant, 1,400 feet downstream from diversion dam and 1½ miles southeast of Costilla, Taos County.

Records available.- May to September 1944 in reports of Geological Survey. May 8 to Sept. 3, 1942, unpublished records in office of State engineer.

Remarks.- Records good. Canal diverts from right bank of Costilla Creek for irrigation.

## Monthly discharge, May to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
May.....	71	2.8	23.8	1,460
June.....	95	50	83.1	4,950
July.....	107	5.1	58.2	3,580
August.....	102	2.3	42.1	2,590
September.....	84	2.5	16.3	971
The period.....	-	-	-	15,550

## Cerro Canal near Jaroso, Colo.

Location.- Water-stage recorder and 5-foot Parshall flume, lat. 36°59'35", long. 105°34'35", in Sangre de Cristo Grant, 2½ miles southeast of Jaroso, Costilla County.

Records available.- June to September 1944.

Remarks.- Records good. Diversions above station for irrigation.

## Monthly discharge, June to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
June 8-30.....	76	47	65.9	3,010
July.....	83	0	44.5	2,740
August.....	80	0	29.7	1,820
September.....	54	0	9.62	572
The period.....	-	-	-	8,140

## New Mexico Branch Cerro Canal near Jaroso, Colo.

Location.- Water-stage recorder and 2-foot metal Parshall flume, lat. 36°59'35", long. 105°34'45", in Sangre de Cristo Grant, 225 feet downstream from diversion gate in Cerro canal and 2½ miles southeast of Jaroso, Costilla County.

Records available.- June to September 1944.

Remarks.- Records good. Canal diverts from left bank of Cerro Canal for irrigation of lands in New Mexico; diversions above station for irrigation.

## Monthly discharge, June to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
June 10-30.....	26	4.8	15.1	651
July.....	22	0	12.1	743
August.....	28	0	11.1	685
September.....	18	0	5.08	183
The period.....	-	-	-	2,240

## Acequia Madre near Costilla, N. Mex.

Location.- Water-stage recorder and 3-foot Parshall flume, lat. 36°58'00", long. 105°30'50", in Sangre de Cristo Grant, 275 feet downstream from diversion dam and 1½ miles southeast of Costilla, Taos County.

Records available.- May to September 1944.

Remarks.- Records good. Acequia Madre diverts water from right bank of Costilla Creek for irrigation.

## Monthly discharge, May to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
May 7-31.....	34	1.5	13.1	652
June.....	50	28	41.6	2,480
July.....	47	8.7	32.0	1,970
August.....	48	20	35.0	2,150
September.....	39	2.4	15.4	917
The period.....	-	-	-	8,170

Time basis. Mountain war time. To convert war time to standard time, subtract 1 hour.



## Mesa ditch at Garcia, Colo.

Location.- Water-stage recorder and 3-foot Parshall flume, lat. 36°59'50", long. 105°30'45", in Sangre de Cristo Grant, 429 feet north of milepost No. 136 + 54 on New Mexico-Colorado State line and 2 miles east of Garcia, Costilla county.

Records available.- June to September 1944.

Remarks.- Records excellent. Ditch diverts from right bank of Acequia Madre for irrigation. Diversions for irrigation above station.

Monthly discharge, June to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
June 19-30.....	21	12	16.5	393
July.....	17	2.4	9.45	581
August.....	16	5.1	8.80	541
September.....	5.8	0	2.00	119
The period.....	-	-	-	1,630

## Cordillera ditch at Garcia, Colo.

Location.- Water-stage recorder and 1-foot Parshall flume, lat. 36°59'40", long. 105°31'40", in Sangre de Cristo Grant, 570 feet south of New Mexico-Colorado State line and three-quarters of a mile southeast of Garcia, Costilla County.

Records available.- June to September 1944.

Remarks.- Records good. Ditch diverts water from left bank of Acequia Madre for irrigation. Diversions above station for irrigation.

Monthly discharge, June to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
June 20-30.....	8.1	0	2.02	44
July.....	3.0	0	1.13	69
August.....	2.9	0	.61	32
September.....	6.4	.1	1.44	85
The period.....	-	-	-	230

## Alire ditch at Garcia, Colo.

Location.- Water-stage recorder and 1-foot concrete Parshall flume, lat. 36°59'45", long. 105°32'05", in Sangre de Cristo Grant, 430 feet southeast of milepost 137 + 64 on New Mexico-Colorado State line and half a mile south of Garcia, Costilla county.

Records available.- June to September 1944.

Remarks.- Records fair. Ditch diverts from left bank of Costilla Creek for irrigation in Colorado.

Monthly discharge, June to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
June 17-30.....	1.3	0.2	0.70	19
July.....	1.0	0	.27	17
August.....	1.2	0	.15	9.1
September.....	.4	0	.01	.8
The period.....	-	-	-	46

## Eastdale No. 1 intake canal near Jaroso, Colo.

Location.- Water-stage recorder and 5-foot concrete Parshall flume, lat. 37°02'40", long. 105°37'00", in Sangre de Cristo Grant, 1,100 feet downstream from head gate and 3 miles north of Jaroso, Costilla county.

Records available.- June to September 1944.

Remarks.- Records good. Canal diverts from right bank of Costilla Creek into Eastdale Reservoir No. 1. No diversions above station.

Monthly discharge, June to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
June 12-30.....	14	0	5.47	206
July.....	75	0	17.5	1,080
August.....	4.5	0	.56	34
September.....	9.1	0	.76	45
The period.....	-	-	-	1,360

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Latir Creek near Cerro, N. Mex.

Location.- Water-stage recorder and concrete Parshall flume, lat. 36°49'45", long. 105°32'45", in S4SW4 sec. 15, T. 30 N., R. 13 E., at mouth of canyon, 100 feet upstream from heading of Cerro community ditch and 6 miles northeast of Cerro.

Records available.- April 1937 to September 1944 (irrigation seasons only).

Extremes.- Maximum discharge recorded during year, 87 second-feet July 3 (gage height, 2.42 feet); minimum daily recorded, 2.2 second-feet Apr. 1.

1937-44: Maximum discharge recorded, 121 second-feet June 3, 1942 (gage height, 2.70 feet), from rating curve extended above 56 second-feet by logarithmic plotting; minimum daily recorded, 0.6 second-foot May 9, 1937.

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

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.0	3.3	2.8			-	2.2	a5	35	17	7.0	4.3
2	4.0	3.1	2.6			-	2.4	4.3	33	23	6.8	4.1
3	4.0	3.3	-			-	3.1	3.6	28	30	6.4	4.1
4	4.0	3.4	-			-	3.1	3.3	25	35	6.1	4.0
5	4.0	3.4	-			-	3.6	4.3	28	26	6.4	4.1
6	4.0	3.3	-			-	4.0	7.7	29	27	6.4	4.0
7	4.0	3.6	-			-	4.7	11	31	24	6.1	4.0
8	4.0	3.8	-			-	4.0	11	29	22	5.9	4.0
9	3.8	4.0	-			-	3.0	14	35	22	5.9	3.8
10	3.8	3.6	-			-	3.4	19	37	19	6.1	3.8
11	3.8	3.3	-			-	3.8	20	39	17	5.9	4.0
12	4.0	3.1	-			-	3.6	28	37	16	5.5	4.0
13	3.8	3.1	-			-	3.3	28	33	14	5.3	3.8
14	3.8	3.1	-			-	3.1	29	32	13	5.1	3.8
15	3.8	3.1	-			-	3.3	31	31	12	5.1	4.0
16	3.6	3.1	-			-	4.7	30	29	12	5.1	3.8
17	3.6	3.1	-			-	4.0	30	27	12	5.7	3.8
18	3.6	3.1	-			-	3.6	18	25	11	5.3	3.8
19	3.4	3.0	-			-	3.6	19	26	11	4.9	3.6
20	3.4	3.0	-			-	3.4	20	28	14	6.4	3.4
21	3.8	3.0	-			-	3.6	20	29	13	4.9	3.4
22	4.0	a3.0	-			-	3.8	20	28	12	4.9	3.4
23	3.8	a3.5	-			-	3.4	24	26	12	5.3	3.6
24	3.6	a3.5	-			-	4.9	25	25	12	5.5	3.8
25	3.6	a3.5	-			-	4.7	23	24	11	5.1	3.8
26	3.6	a3.5	-			-	a5	21	23	10	4.9	3.8
27	3.4	3.1	-			-	a5	20	22	9.2	4.7	3.8
28	3.6	3.6	-			-	a5	20	20	9.2	4.5	3.8
29	3.6	3.4	-			-	2.5	a5	22	18	5.4	3.8
30	3.8	2.8	-			-	2.4	a5	28	17	8.2	4.5
31	3.6	-	-			-	2.4	-	34	-	7.5	4.3

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	116.8	4.0	3.4	3.77	232
November.....	98.7	4.0	2.8	3.29	196
December.....	-	-	-	-	-
Calendar year 1943.....	-	-	-	-	-
January.....	-	-	-	-	-
February.....	-	-	-	-	-
March.....	-	-	-	-	-
April.....	115.3	5	2.2	3.84	229
May.....	583.2	34	3.3	18.8	1,180
June.....	847	39	17	28.2	1,680
July.....	489.5	35	7.5	15.8	971
August.....	170.3	7.0	4.3	5.49	338
September.....	115.0	4.3	3.4	3.83	228
Water year 1943-44.....	-	-	-	-	-

Peak discharge.- July 1 (11 p.m.) 38 sec.-ft.; July 2 (5 p.m.) 36 sec.-ft.; July 3 (4 p.m.) 87 sec.-ft.; July 4 (2 a.m.) 80 sec.-ft.; July 20 (6 p.m.) 21 sec.-ft.

a No gage-height record; discharge computed on basis of weather records and records for Costilla Creek near Costilla and Cabresto Creek near Questa.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Colorado near Red River, N. Mex.

Location.- Water-stage recorder, lat. 36°37'20", long. 105°23'30", in NE¼ sec. 36, T. 28 N., R. 14 E., 100 feet downstream from confluence of Middle and East Forks and 6 miles south of Red River.

Records available.- July 1940 to September 1944 (no winter records prior to 1944).

Extremes.- Maximum discharge recorded during year, 160 second-feet June 12 (gage height, 2.88 feet); minimum daily, 3.7 second-feet Feb. 10, 15, 16, 24.

1940-44: Maximum discharge recorded, 218 second-feet June 19, 1941 (gage height, 2.92 feet), from rating curve extended above 160 second-feet by logarithmic plotting; minimum daily, that of Feb. 10, 15, 16, 24, 1944.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	7.6	b5.3	b4.0	b5.2	b4.9	a4.7	8.4	a118	77	18	10
2	10	b7.2	b5.2	b5.9	b5.1	b4.9	a4.4	8.4	a111	77	17	9.6
3	9.6	6.9	b5.0	b4.0	b4.5	4.0	4.6	8.0	a100	77	16	9.2
4	9.2	6.8	b5.2	b4.4	b4.8	4.3	4.9	8.4	a95	85	16	8.8
5	9.2	6.8	b5.2	b4.9	b5.0	4.3	5.8	9.6	a78	78	16	9.2
6	9.2	6.1	b5.2	b5.1	b5.1	4.3	6.8	14	a93	73	16	8.8
7	9.2	b5.8	b5.1	b4.5	b5.1	4.6	7.6	20	a108	64	16	8.8
8	8.4	b5.7	b5.2	b3.9	4.0	b4.9	8.4	23	117	59	16	8.4
9	8.0	b5.8	b5.1	b4.3	4.0	4.3	8.8	27	125	53	16	8.4
10	7.6	6.1	b5.2	b4.3	3.7	4.3	9.6	33	141	49	17	8.8
11	8.0	5.8	b5.2	b4.3	4.0	4.3	8.0	38	153	43	16	8.8
12	9.6	5.8	b5.2	b4.1	b4.0	4.3	8.0	46	153	41	15	8.4
13	7.6	5.8	b5.2	b3.9	4.6	4.0	8.0	48	139	40	14	8.0
14	7.6	5.8	b5.1	b4.1	b4.0	4.0	7.6	48	132	38	13	7.6
15	7.2	5.5	b4.7	b3.9	b3.7	b4.0	7.2	63	130	36	13	7.6
16	7.6	5.5	b4.3	b4.2	b3.7	4.0	7.2	85	123	35	13	7.2
17	7.2	*5.5	b5.0	b4.6	b4.7	4.3	6.8	75	111	34	13	7.6
18	7.2	5.5	b5.4	b4.8	b4.7	4.3	6.8	83	103	33	13	7.2
19	8.4	5.5	b5.4	b4.8	b4.8	4.3	7.6	49	103	33	15	6.8
20	6.1	5.5	b5.2	b4.6	b4.5	*4.3	6.4	56	107	34	15	6.8
21	7.2	5.5	b4.9	b4.6	b4.0	a4.3	7.2	66	113	32	14	6.4
22	8.4	5.5	b4.8	b5.0	b4.3	a4.2	6.8	72	111	29	13	6.4
23	*8.0	5.5	b4.7	b5.4	b4.5	a4.5	6.8	78	109	28	13	6.8
24	7.2	5.5	b4.3	b6.0	3.7	a4.8	6.8	87	105	28	14	7.2
25	7.6	5.8	b4.3	b5.8	b4.0	a5.4	7.2	81	99	25	13	7.2
26	7.2	b5.4	b4.3	b5.5	b4.0	a5.8	7.2	66	99	23	12	7.2
27	7.2	b4.8	b4.2	b5.0	b4.9	a5.6	8.0	54	94	22	12	8.0
28	8.4	b5.1	b4.1	b5.1	b4.9	a5.4	8.4	52	85	21	12	8.0
29	8.8	b5.1	b4.2	b5.5	b4.9	a5.2	7.6	57	78	21	11	7.2
30	8.4	b5.2	b4.3	b5.1	-	a5.6	8.0	a70	77	20	10	6.4
31	8.4	-	b4.1	b5.1	-	a5.0	-	a94	-	18	10	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	253.7	10	6.1	8.18	503
November	174.3	7.6	4.8	5.81	348
December	150.6	5.4	4.1	4.86	299
Calendar year	-	-	-	-	-
January	144.7	6.0	3.9	4.67	287
February	128.4	5.2	3.7	4.43	255
March	142.4	5.8	4.0	4.59	282
April	213.2	9.6	4.4	7.11	423
May	1,497.8	94	8.0	48.3	2,970
June	3,300	153	77	110	6,550
July	1,326	85	18	42.8	2,630
August	438	18	10	14.1	969
September	236.8	10	6.4	7.89	470
Water year 1943-44	8,005.9	153	3.7	21.9	15,880

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Rio Hondo near Valdez and Rio Lucero near Arroyo Seco.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Rio Colorado near Questa, N. Mex.

Location.- Water-stage recorder and concrete control, lat.  $36^{\circ}42'10''$ , long.  $105^{\circ}34'00''$ , in SW $\frac{1}{4}$  sec. 33, T. 29 N., R. 13 E. (projected),  $\frac{1}{2}$  miles upstream from Cabresto Creek and 2 miles east of Questa. Datum of gage is 7,449.88 feet above mean sea level.

Drainage area.- 112 square miles.

Records available.- October 1912 to August 1915 (fragmentary) and October 1930 to September 1944 in reports of Geological Survey. October 1912 to December 1931 in reports of State engineer.

Average discharge.- 28 years (1915-25, 1926-44), 66.6 second-feet.

Extremes.- Maximum discharge during year, 424 second-feet May 15 (gage height, 1.81 feet); minimum daily, 15 second-feet Nov. 29 to Dec. 3, Jan. 10-14.

1930-44: Maximum discharge, 685 second-feet May 25, 1942 (gage height, 2.32 feet), from rating curve extended above 450 second-feet by logarithmic plotting; minimum daily, 6.3 second-feet Nov. 24, 25, 1931.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	23	a15	a17	a20	21	24	51	312	a160	51	28
2	23	22	a15	a17	a20	20	23	61	306	162	48	28
3	23	22	a15	a17	22	21	21	55	312	159	48	27
4	23	21	a17	a17	22	20	24	51	280	173	47	26
5	23	22	a18	a17	a23	22	27	55	300	162	47	26
6	23	22	19	a17	a23	a21	30	78	295	149	47	26
7	24	22	20	a17	a22	22	31	89	306	146	47	26
8	24	23	20	a17	a22	25	32	110	300	135	48	25
9	24	22	20	a16	a21	22	36	162	300	124	53	25
10	23	21	b19	b15	b20	22	31	189	317	116	58	24
11	22	21	b19	b15	b20	21	31	192	328	110	53	27
12	23	21	b19	b15	*b20	21	31	177	322	102	48	25
13	22	21	b19	*b15	b21	22	36	236	290	98	47	24
14	21	20	b18	b15	b21	22	36	250	260	93	45	24
15	21	20	b18	a16	b22	22	35	350	255	87	44	25
16	21	20	b18	a16	b21	21	32	380	255	84	42	25
17	21	20	b18	a17	a20	22	32	317	255	a80	41	24
18	21	21	b19	a17	a19	24	33	270	236	a78	42	24
19	24	20	*20	b17	b16	23	37	240	282	a76	44	23
20	22	20	21	b17	b16	23	36	245	218	84	42	22
21	21	20	21	a18	16	20	37	322	227	82	41	22
22	21	20	21	a19	17	20	36	317	204	80	41	22
23	21	20	20	a20	18	21	36	334	200	78	42	22
24	20	22	20	a19	19	23	36	350	185	76	45	22
25	20	21	a19	a19	17	22	38	296	177	72	42	22
26	20	20	b18	a18	*17	22	38	250	166	65	40	22
27	20	a18	b18	b18	16	21	41	236	156	61	36	22
28	20	a16	b17	b18	16	20	48	227	a160	58	33	22
29	23	a15	b17	a19	19	22	50	240	a160	55	32	24
30	24	*b15	*b17	*19	-	21	47	270	a160	55	31	24
31	23	-	b17	20	-	24	-	317	-	53	31	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	685	24	20	22.1	1,360
November.....	611	23	15	20.4	1,210
December.....	572	21	15	18.5	1,130
Calendar year 1943.....	13,675	122	15	37.5	27,110
January.....	534	20	16	17.2	1,060
February.....	566	23	16	19.5	1,120
March.....	673	26	20	21.7	1,330
April.....	1,023	50	21	34.1	2,030
May.....	6,716	380	51	217	13,320
June.....	7,454	328	150	248	14,780
July.....	3,099	173	53	100	6,150
August.....	1,356	58	31	43.7	2,690
September.....	728	28	22	24.3	1,440
Water year 1943-44.....	24,017	380	15	65.6	47,620

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of several discharge measurements, weather records, and records for Rio Colorado near Red River and Rio Hondo near Valdez and at Arroyo Hondo.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

235

Cabresto Creek near Questa, N. Mex.

Location.- Water-stage recorder and 3-foot concrete Parshall flume, lat. 36°43'45", long. 105°33'10", in SE 1/4 sec. 21, T. 29 N., R. 13 E., a quarter of a mile downstream from Llano ditch heading, 3 miles northeast of Questa, and 3 1/2 miles upstream from mouth.

Records available.- September 1943 to September 1944.

Extremes.- Maximum discharge during year, not determined (probably occurred in May or June during period of no gage-height record); minimum daily, 2.7 second-feet Feb. 11.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Llano ditch (see below) diverts water a quarter of a mile above station for irrigation.

Daily discharge for Sept. 21-30, 1943: 4.8, 4.8, 4.6, 4.4, 4.1, 4.2, 4.6, 5.9, 6.5, 5.9 second-feet.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.8	5.0	3.8	b4.5	4.0	a5	6	11	a50	a13	14	4.9
2	5.6	4.5	4.1	b4.5	3.1	a5	5.3	12	a50	13	13	4.8
3	5.3	4.4	3.7	b4.5	3.7	a5	5.0	11	a45	15	13	4.5
4	5.0	4.5	4.2	b4.5	4.1	a5	5.9	a10	a45	21	13	4.4
5	4.9	4.5	4.2	b4.5	4.0	a5	7.1	a12	a45	17	13	4.4
6												
7	4.8	4.6	4.0	b5	4.0	a4	9.1	a14	a50	15	13	4.5
8	4.8	4.2	3.8	b5	4.0	a4	11	a16	a55	16	12	4.5
9	4.6	3.8	3.7	b4	4.0	a4	12	a16	a55	16	11	4.4
10	4.5	4.0	a3.2	b4	3.7	a5	13	a22	51	16	10	4.1
11	4.4	4.1	3.6	b4	3.6	a6	12	a27	44	15	11	4.1
12												
13	4.1	a4.5	4.0	a5	2.7	a7	12	a30	40	14	11	4.6
14	a4	a4.5	b4	a5	a3.5	a7	12	a35	39	14	9.4	4.5
15	a4	a4.5	b4	a4.9	b3.5	a7	13	a40	37	14	8.6	4.4
16	a4	a4.5	b4	4.9	3.1	a7	12	a40	36	14	7.6	4.4
17	a4	a4.5	b3.5	4.9	b3	a7	11	a40	35	14	7.4	4.4
18												
19	a4	a4.5	b3	4.9	b3	a6	10	a40	34	14	7.3	4.4
20	a4	a4.5	b3.5	b4	a3	a7	7.9	a35	33	13	7.1	4.1
21	a4	a4.5	b4	b4	a3	a7	7.0	a30	33	13	7.0	4.0
22	a4	4.5	b4	b4	a3	a7	8.1	a30	32	13	7.1	4.0
23	a4	4.5	b4.5	b4	a3	a7	7.4	a30	32	13	7.4	3.8
24												
25	a4.5	4.5	b4.5	4.8	a3	a6	7.8	a30	a32	13	7.0	3.7
26	a5	4.5	b4.5	4.8	a3	a6	7.3	a30	a30	12	6.6	3.6
27	a5	4.5	b4.5	4.8	a3	a6	7.3	a35	a28	12	6.5	3.7
28	a5	4.9	4.5	4.8	a3	a6	7.6	a35	a25	13	7.0	4.1
29	a5	4.8	3.4	4.6	a3	a6	9.1	a35	a22	13	7.0	4.6
30												
31	4.6	4.8	4.2	4.8	a3.5	a6	8.6	a30	a20	13	6.4	4.8
32	4.6	3.6	b4	4.8	a5	a6	10	a30	a18	14	5.9	4.8
33	4.8	3.7	a4	4.8	a5	a6	12	a30	a16	15	5.8	4.8
34	5.6	3.7	a4	4.8	a5	a5	12	a35	a14	15	5.5	4.8
35	5.8	3.7	a4.5	4.8	-	a6	11	a45	a13	14	5.3	4.8
36	5.6	-	b4.5	4.1	-	a6	-	a50	-	14	5.0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	145.2	5.8	4.0	4.68	288
November.....	131.3	5.0	3.6	4.38	280
December.....	123.4	4.5	3	3.98	245
Calendar year	-	-	-	-	-
January.....	142	5	4	4.58	282
February.....	102.5	5	2.7	3.53	203
March.....	161	7	4	5.84	359
April.....	279.5	13	5.0	9.32	554
May.....	886	50	10	28.6	1,760
June.....	1,059	55	13	35.3	2,100
July.....	441	21	12	14.2	875
August.....	271.1	14	5.0	8.75	538
September.....	130.9	4.9	3.6	4.36	260
Water year 1943-44	3,892.9	55	2.7	10.6	7,720

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Latir Creek near Cerro and Costilla Creek near Costilla.

b Stage-discharge relation affected by ice.

Llano ditch near Questa, N. Mex.

Location.- Water-stage recorder and 3-foot Parshall flume, lat. 36°43'45", long. 105°33'00", in SE 1/4 sec. 21, T. 29 N., R. 13 E., 3 1/2 miles northeast of Questa and 3 1/2 miles upstream from mouth of Cabresto Creek.

Records available.- September 1943 to September 1944. No winter records.

Extremes.- Maximum recorded daily discharge, 27 second-feet June 16; no flow at times.

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

Ditch diverts water from right bank of Cabresto Creek for irrigation near Questa.

No flow Sept. 21-30, 1943.

Monthly discharge, in second-feet, September 1943 to September 1944

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0.2	0.1	0	0.01	0.4
November.....	2.8	.2	0	.09	5.6
December.....	0	0	0	0	0
January.....	163.2	20	0	5.26	324
February.....	660	27	11	22.0	1,310
March.....	418.9	24	2.1	13.5	831
April.....	7.4	2.0	.1	.24	15
May.....	3.7	.2	.1	.12	7.3
June.....					
July.....					
August.....					
September.....					
The period.....	-	-	-	-	2,490

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Hondo near Valdez, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 36°32'20", long. 105°33'30" in S<sup>4</sup> sec. 28, T. 27 N., R. 13 E. (projected), a quarter of a mile upstream from Forest Service gate, 1½ miles east of Valdez, and 9 miles upstream from mouth.

Records available.- August 1934 to September 1944. October 1930 to September 1934 at site half a mile downstream, below two diversions.

Average discharge.- 10 years (1934-1944), 45.4 second-feet.

Extremes.- Maximum discharge during year, not determined; minimum daily, 6 second-feet Jan. 4.

1934-44: Maximum discharge, 541 second-feet May 13, 1941, from rating curve extended above 300 second-feet by logarithmic plotting; maximum gage height, 5.59 feet, datum then in use, Dec. 15, 1936 (ice jam); minimum daily discharge, 3.0 second-feet Jan. 21, 1935.

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

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	18	14	b14	b11	11	11	15	31	290	100	35	20
2	18	12	14	b11	11	12	15	33	280	102	34	20
3	18	13	b13	b7	b10	13	15	32	270	102	33	19
4	17	14	12	6	11	12	18	31	250	108	31	19
5	17	14	12	b7	11	12	22	34	220	104	31	19
6	18	14	12	b8	11	b11	24	46	199	104	31	19
7	17	12	11	9	11	b11	26	87	212	98	32	19
8	17	b13	11	b9	12	b10	26	80	205	93	30	19
9	17	15	11	b9	12	13	27	70	225	89	33	18
10	16	16	*12	b9	*b12	*12	25	110	250	87	35	19
11	16	16	b12	9	b12	13	24	130	257	85	29	19
12	18	16	b12	b9	b11	14	24	150	250	78	28	18
13	17	15	12	b10	14	14	26	170	254	72	27	18
14	17	15	12	b11	12	13	26	230	235	67	24	16
15	17	15	b12	11	13	12	24	260	215	62	24	16
16	17	15	b11	11	12	12	23	290	192	60	24	16
17	15	15	b10	b11	12	13	*24	270	186	60	24	16
18	13	14	*b11	11	11	15	24	250	177	56	24	16
19	16	*14	12	11	13	14	23	200	189	55	26	16
20	16	14	12	11	13	14	24	210	160	56	26	15
21	16	14	12	11	11	14	25	230	160	54	24	15
22	16	14	12	11	11	b14	23	260	154	51	23	15
23	16	14	12	11	b11	14	22	250	149	48	23	14
24	*16	15	13	11	b11	13	22	260	149	48	24	15
25	16	14	b14	11	10	13	24	300	141	46	23	15
26	16	14	b11	11	10	13	24	280	138	44	22	15
27	15	b13	12	11	*11	13	31	250	123	41	21	15
28	15	b14	b12	11	11	*12	39	210	111	40	21	15
29	18	b14	b12	11	12	b11	37	210	104	39	21	15
30	17	b14	b12	11	-	b12	32	240	106	37	21	15
31	15	-	*b12	11	-	15	-	270	-	36	21	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	511	18	13	16.5	1,010
November.....	426	16	12	14.2	845
December.....	368	14	10	11.9	730
Calendar year 1943.....	10,599	132	10	29.0	21,030
January.....	312	11	6	10.1	619
February.....	333	14	10	11.5	660
March.....	395	15	10	12.7	783
April.....	734	39	15	24.5	1,460
May.....	5,454	300	31	176	10,820
June.....	5,801	290	104	193	11,510
July.....	2,120	108	36	68.4	4,200
August.....	226	35	21	26.6	1,640
September.....	505	20	14	16.8	1,000
Water year 1943-44.....	17,784	300	6	48.6	35,280

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record May 8 to June 5; discharge computed on basis of weather records and records for Rio Hondo at Arroyo Hondo, Rio Colorado near Red River, and Rio Lucero near Arroyo Seco.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Hondo at Arroyo Hondo, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 36°31'55", long. 105°41'05", in sec. 32, T. 27 N., R. 12 E., 1 mile downstream from Arroyo Hondo and 1½ miles upstream from mouth.

Records available.- April 1910 to August 1915 (at site 200 yards above mouth, published as Rio Hondo near Arroyo Hondo) and January 1932 to September 1944 in reports of Geological Survey. April 1910 to December 1928 in reports of State engineer.

Average discharge.- 12 years (1932-44), 33.1 second-feet.

Extremes.- Maximum discharge during year, 228 second-feet May 25 (gage height, 2.34 feet); minimum daily, 7.9 second-feet Sept. 21.

1932-44: Maximum discharge, 2,510 second-feet Aug. 23, 1935 (gage height, 5.45 feet, datum then in use), from rating curve extended above 170 second-feet by logarithmic plotting; minimum daily, 4.0 second-feet July 13-16, 1934.

Remarks.- Records good. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	11	14	17	16	18	20	11	200	58	10	9.0
2	12	11	14	17	16	20	19	12	196	56	9.7	8.7
3	12	11	14	16	15	20	18	12	197	56	9.7	8.7
4	11	11	17	16	16	20	18	11	160	60	9.7	8.7
5	11	12	16	16	16	19	18	12	146	55	10	8.7
6	11	12	16	16	16	17	19	14	143	57	11	8.5
7	11	12	16	16	16	16	21	44	149	51	10	8.5
8	11	13	16	15	16	15	23	62	146	50	10	8.5
9	11	13	16	15	16	18	25	56	145	50	11	8.3
10	10	14	18	15	15	17	26	81	152	46	10	8.1
11	11	13	18	15	16	18	27	101	157	38	11	8.1
12	13	13	18	a16	14	19	25	95	157	32	10	8.1
13	14	13	20	a17	16	19	25	162	152	33	10	8.1
14	14	13	21	a17	13	18	26	190	149	31	10	8.1
15	14	13	18	*17	16	18	26	160	141	30	9.7	8.1
16	14	13	17	17	11	18	25	193	133	29	9.5	8.1
17	14	13	16	17	11	18	24	180	126	27	9.2	8.3
18	14	13	17	17	11	19	24	165	120	24	9.0	8.1
19	16	13	19	17	13	18	24	129	107	24	10	8.1
20	14	13	*20	17	14	17	24	149	97	25	9.7	8.1
21	14	12	20	17	16	17	24	171	91	25	9.2	7.9
22	12	12	19	18	15	17	24	177	88	24	9.0	8.1
23	12	13	15	18	15	17	24	177	86	23	9.2	8.5
24	12	16	16	17	16	17	23	177	82	25	10	8.7
25	12	14	14	17	17	17	19	210	84	24	10	9.0
26	11	14	b14	17	16	17	14	193	82	21	10	9.0
27	11	13	b13	18	18	16	14	174	79	17	10	8.7
28	11	14	b13	18	18	17	14	162	72	15	10	8.7
29	13	14	14	16	17	16	14	149	65	14	9.7	8.7
30	12	14	*17	16	-	19	12	177	62	13	9.5	8.7
31	11	-	17	17	-	20	-	193	-	11	9.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	381	16	10	12.3	756
November.....	385	15	11	12.8	764
December.....	513	21	13	16.5	1,020
Calendar year 1943 .....	6,073	56	7.2	16.6	12,050
January.....	515	18	15	16.6	1,020
February.....	441	18	11	15.2	875
March.....	552	20	15	17.8	1,090
April.....	636	27	12	21.5	1,270
May.....	3,789	210	11	122	7,520
June.....	3,752	200	62	125	7,440
July.....	1,043	60	11	33.6	2,070
August.....	305.3	11	9.0	9.85	606
September.....	252.9	9.0	7.9	8.43	502
Water year 1943-44 .....	12,568.2	210	7.9	34.3	24,930

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Rio Hondo near Valdez and Rio Colorado near Questa.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Taos at Los Cordovas, N. Mex.

Location.- Water-stage recorder, lat. 36°23'20", long. 105°38'00", in N<sup>4</sup> sec. 23, T. 25 N., R. 12 E. (projected), in Martinez Grant, 50 feet downstream from Rio Ranchos de Taos and Arroyo Seco, half a mile northeast of Los Cordovas, and 3 $\frac{1}{2}$  miles west of Taos.

Drainage area.- 359 square miles.

Records available.- April 1910 to August 1915 and October 1930 to September 1944 in reports of Geological Survey. April 1910 to December 1931 in reports of State engineer.

Average discharge.- 33 years (1910-25, 1926-44), 65.4 second-feet.

Extremes.- Maximum discharge during year, 910 second-feet May 16 (gage height, 4.32 feet); minimum daily, 7.4 second-feet Aug. 5.  
1930-44: Maximum discharge, 1,830 second-feet May 14, 1941 (gage height, 5.81 feet), from rating curve extended above 1,300 second-feet by logarithmic plotting; minimum daily, 1.4 second-feet Aug. 5, 10, 1934.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	13	25	30	*25	*35	41	40	94	448	36	8.9	12
2	14	24	31	24	33	42	45	106	444	35	8.9	14
3	14	25	30	25	30	39	42	100	412	35	7.9	14
4	14	25	29	25	32	38	44	89	350	35	7.9	15
5	14	25	31	26	33	39	48	88	274	35	7.4	13
6	15	25	32	26	32	43	58	104	233	36	8.4	12
7	16	24	32	26	31	*48	67	153	238	34	8.4	11
8	16	23	33	25	30	47	71	217	228	34	9.4	12
9	15	24	32	22	29	55	78	215	217	35	12	11
10	14	26	29	24	28	59	80	312	223	32	11	11
11	16	26	*28	26	26	60	76	367	233	27	11	12
12	18	27	29	28	25	62	72	437	236	23	12	12
13	17	26	31	27	*27	55	83	525	200	24	11	11
14	18	27	29	*23	29	54	86	615	168	23	11	12
15	18	27	27	24	30	52	75	711	136	22	10	13
16	18	27	25	24	29	49	71	835	109	22	10	15
17	18	27	23	24	29	47	69	735	92	20	12	15
18	18	27	25	25	30	47	68	533	85	18	16	15
19	23	28	29	26	30	46	76	408	69	18	23	15
20	22	27	*31	27	29	48	73	412	57	19	17	14
21	20	27	28	27	32	44	69	433	54	19	17	14
22	20	28	29	29	35	44	72	444	54	18	16	14
23	19	29	31	32	*37	46	82	448	47	18	17	13
24	19	49	28	33	35	45	83	478	47	25	20	14
25	19	37	25	33	34	44	94	463	46	27	19	16
26	18	37	24	30	34	43	89	384	48	19	17	17
27	20	35	23	29	35	39	96	331	44	17	16	16
28	20	32	23	30	38	39	106	309	40	15	16	17
29	30	31	22	32	39	33	106	300	37	14	15	17
30	28	30	23	33	-	36	96	360	38	12	13	17
31	24	-	23	35	-	39	-	423	-	9.4	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	568	30	13	18.3	1,130
November.....	850	49	23	28.3	1,690
December.....	865	33	22	27.9	1,720
Calendar year 1943.....	14,348.7	193	5.6	39.3	28,480
January.....	845	35	22	27.2	1,670
February.....	916	39	25	31.6	1,820
March.....	1,421	62	33	45.8	2,820
April.....	2,211	106	40	73.7	4,390
May.....	11,479	835	88	370	22,770
June.....	4,907	448	37	164	9,760
July.....	758.4	36	9.4	24.5	1,510
August.....	401.2	23	7.4	12.9	798
September.....	414.0	17	11	13.8	821
Water year 1943-44.....	25,634.6	835	7.4	70.0	50,870

\* Winter discharge measurement made on this day.

Note.- No gage-height record Dec. 14 to Mar. 6, July 1-22; discharge computed on basis of 8 winter discharge measurements, weather records, and records for Rio Hondo near Valdez and Rio Hondo at Arroyo Hondo.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Rio Lucero near Arroyo Seco, N. Mex.

Location.- Water-stage recorder and wooden control, lat.  $36^{\circ}30'$ , long.  $105^{\circ}32'$ , in sec. 10, T. 26 N., R. 13 E., in Antoine Leroux Grant, 200 feet upstream from diversion dam for Tenorio and Indian ditches, 2 miles southeast of Arroyo Seco,  $4\frac{1}{2}$  miles north of Taos Pueblo, and  $7\frac{1}{2}$  miles northeast of Taos.

Records available.- April 1910 to December 1916 (published as Rio Lucero near Taos) and November 1933 to September 1944 in reports of Geological Survey. January 1911 to December 1915 in reports of State engineer.

Average discharge.- 10 years (1934-44), 27.6 second-feet.

Extremes.- 1941-42: Maximum discharge during year, 264 second-feet June 3 (gage height, 2.92 feet); minimum daily, 6 second-feet Mar. 8.

1942-43: Maximum discharge during year, 110 second-feet May 3 (gage height, 1.94 feet); minimum daily, 4.3 second-feet Jan. 19.

1943-44: Maximum discharge during year, 185 second-feet June 1 (gage height, 2.55 feet); minimum daily, 5 second-feet in January, February.

1933-44: Maximum discharge, 300 second-feet May 13, 1941 (gage height, 3.12 feet); minimum daily not determined.

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

## Discharge, in second-feet, 1941-44

1941-42

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	22	29	18	b10	11	6.4	16	38	208	75	21	20
2	21	27	18	b9	10	6.4	20	36	208	70	23	13
3	22	27	18	b10	*11	6.4	27	33	234	68	23	12
4	23	*27	17	b9	11	6.4	29	38	246	66	22	12
5	24	27	17	b8	10	6.4	29	50	207	63	20	11
6	23	27	17	b9	9.7	6.7	26	61	198	61	20	11
7	22	28	b17	9.7	9.3	6.7	21	75	194	58	20	11
8	23	27	17	*8.9	8.9	b6	20	87	225	60	19	11
9	23	27	*16	8.5	8.9	7.0	18	119	227	56	19	11
10	23	24	16	8.5	8.1	7.7	23	144	206	52	19	11
11	24	23	16	8.5	8.1	7.7	31	146	225	50	19	19
12	24	21	16	8.9	8.1	8.1	41	139	225	47	19	25
13	27	23	16	9.3	8.5	7.7	38	112	206	45	18	20
14	35	21	14	10	8.1	8.1	49	85	203	42	17	18
15	35	22	14	10	7.3	8.1	66	75	169	40	16	17
16	34	22	13	10	b7	6.7	67	75	163	36	15	17
17	33	23	13	10	b7	*b7	76	82	166	37	15	16
18	31	22	13	11	b7	b8	72	85	179	35	14	16
19	32	20	12	11	7.7	b7	48	88	184	35	14	16
20	30	b19	12	11	7.7	7.3	38	103	168	32	14	15
21	30	b17	12	*11	8.5	b7	38	123	154	31	13	15
22	30	b18	*12	11	7.3	7.7	53	140	138	30	12	15
23	29	b19	12	11	6.7	9.7	87	162	133	28	12	14
24	30	b16	12	11	6.7	11	63	187	126	26	12	14
25	30	*b15	11	11	6.7	11	47	216	115	26	12	13
26	30	b17	11	11	*6.4	11	40	232	106	26	12	13
27	30	18	10	11	6.4	10	38	223	98	24	11	13
28	32	18	10	11	6.4	10	38	214	92	23	11	12
29	30	18	10	11	-	10	42	209	84	22	11	12
30	31	18	10	11	-	12	43	214	80	22	10	11
31	30	-	10	11	-	*13	-	207	-	21	11	-

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

## RIO GRANDE BASIN

Discharge, in second-feet, of Rio Lucero near Arroyo Seco, N. Mex., 1941-44--Continued

1942-43

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	11	7.9	6.5	6.1	5.4	6.9	24	77	51	29	14	14
2	11	7.9	6.9	6.5	5.4	6.9	27	91	52	25	14	13
3	11	7.6	4.7	6.1	5.4	6.9	34	99	48	23	14	12
4	11	7.6	5.1	*6.1	b6	6.9	35	95	46	22	16	12
5	11	7.6	5.1	6.1	b6	6.5	35	81	44	20	15	12
6	11	7.2	5.1	6.1	5.1	6.1	38	67	42	19	14	11
7	11	7.2	5.1	6.1	5.8	6.1	30	61	42	18	13	12
8	11	7.2	b5.4	5.8	5.4	6.1	24	54	42	18	13	11
9	11	7.2	b5.7	b5.8	5.4	6.1	20	48	42	17	13	13
10	11	6.9	b5.9	b5.8	*5.4	6.1	18	42	42	16	13	12
11	11	6.5	b6	b5.9	5.4	6.1	16	41	48	15	12	12
12	11	6.5	b6	b6	5.1	6.1	15	42	44	15	12	11
13	12	6.5	b6	b6	5.1	6.1	16	43	41	15	17	11
14	11	6.9	*b6	b6.2	5.4	6.5	20	47	38	15	16	11
15	11	7.2	b6	6.1	b5.6	6.1	25	48	36	18	14	12
16	11	6.9	b6	5.4	b5.8	*5.8	26	46	33	17	13	11
17	11	6.9	b6	b5.0	b5.0	6.1	24	45	31	17	15	11
18	10	6.9	b4.6	b6.2	5.8	23	44	30	16	30	10	
19	10	7.2	b6	b4.3	b6.4	5.8	23	46	28	17	20	10
20	9.9	7.2	b6	b4.6	b6.4	5.8	25	46	26	16	18	10
21	9.9	6.9	b6	5.4	b6.5	6.1	27	46	25	16	17	9.9
22	9.5	5.8	6.1	5.8	b6.6	6.1	32	46	23	16	17	9.1
23	9.5	*7.2	6.1	5.4	b6.8	6.1	38	43	23	16	18	9.1
24	9.5	7.9	6.1	5.4	b6.8	6.1	45	45	22	16	16	9.1
25	9.1	7.5	6.9	*5.8	b6.2	6.9	48	46	21	16	15	9.1
26	8.7	6.9	6.5	5.8	b6	8.3	52	48	20	15	15	9.1
27	8.3	7.2	b5.7	5.4	b6.2	11	53	48	19	16	14	10
28	8.3	6.9	b5.7	5.8	b6.8	16	53	52	22	16	15	10
29	8.7	5.8	b5.8	5.8	-	23	56	56	22	15	14	9.5
30	8.3	6.9	6.1	5.4	-	27	61	53	35	15	15	11
31	8.3	-	6.1	5.4	-	22	-	51	-	15	15	-

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

1943-44

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	9.5	9.5	b8.5	b5.5	a6	5.8	6.1	16	168	a61	18	9.9
2	9.9	9.1	*b7	b5.5	a6	6.1	6.9	14	156	a58	17	9.5
3	9.9	9.1	b7	b6	a6	6.1	7.2	16	136	a57	16	9.1
4	9.1	9.5	b7	b6	a6	6.1	9.5	15	118	a61	16	8.7
5	9.1	9.5	b7	b6	a6.5	5.8	14	17	109	a67	16	9.1
6	9.1	9.1	b7.5	b6	a6.5	6.1	19	26	123	a58	17	8.3
7	9.1	8.7	b7.5	b6	a6.5	7.2	22	44	136	a56	17	8.3
8	8.7	8.3	b7.5	b5.5	a6.5	6.5	24	46	127	a54	16	8.3
9	8.7	11	b7	b5	a6.5	6.9	24	40	131	a54	17	8.7
10	8.3	10	b6.5	b5	a6	6.1	17	52	143	a51	17	8.7
11	8.3	9.9	*b6.5	b5	a5.5	6.5	15	60	140	a45	16	9.1
12	9.1	9.5	b6.5	b6	a5	7.2	15	76	137	a38	16	8.3
13	8.3	9.1	b6.5	b5	a5	7.2	18	106	124	a39	15	7.9
14	8.3	8.7	b7	*a5	a5	7.2	17	120	118	a37	14	7.6
15	8.3	9.1	b6.5	a5.5	a5	6.9	16	134	116	a36	14	7.9
16	7.9	9.1	b6	a5.5	a5.5	6.9	14	140	a107	a34	14	7.9
17	7.9	*9.1	b6	a5.5	a5.5	7.9	13	114	a104	a32	14	8.3
18	7.9	8.7	*b6.5	a6	a5.5	8.3	13	75	a100	30	15	7.6
19	9.5	8.7	b7	a6	a5	8.3	13	66	a95	22	18	7.2
20	7.9	8.7	b7.5	a6	a5	7.9	13	88	a90	32	14	6.5
21	8.7	8.7	b7.5	a6	a5	7.6	12	103	a85	30	14	6.1
22	9.5	8.7	b7.5	a6.5	a5	7.6	11	109	a80	27	13	6.1
23	9.1	8.7	b7.5	a7	a5	7.6	11	122	a78	26	13	6.5
24	9.1	9.1	b7	a7	a5	8.3	12	131	a76	27	14	7.2
25	9.1	9.1	b6.5	a7	a5	9.1	14	119	a78	25	13	7.6
26	8.7	8.7	b6	a7	a5	8.7	14	103	a76	25	12	7.2
27	8.7	8.7	b6	a6.5	a5	7.9	19	92	a72	22	11	7.6
28	9.1	9.9	b6	a6	*a5	7.6	22	82	a68	21	12	7.6
29	10	8.7	b6	a6	5.4	8.3	18	110	a63	20	11	6.9
30	9.5	9.9	b6	a6	-	6.9	16	134	a61	19	11	6.5
31	9.1	-	*b6	a6	-	5.8	-	163	-	18	10	-

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of available trace, discharge measurements, weather records, and records for Rio Hondo at Arroyo Hondo and near Valdez.

b Stage-discharge relation affected by ice.

Monthly discharge, in second-feet, of Rio Lucero near Arroyo Seco, N. Mex., 1941-44

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October 1941	863	35	21	27.8	1,710
November	660	29	15	22.0	1,310
December	429	18	10	13.8	861
Calendar year 1941	18,053.6	242	7.5	49.5	35,800
January 1942	311.3	11	8	10.0	617
February	229.5	11	6.4	8.20	455
March	254.2	13	6	8.20	504
April	1,244	87	16	41.5	2,470
May	3,796	232	33	122	7,530
June	5,166	246	80	172	10,250
July	1,306	75	21	42.1	2,590
August	494	23	10	16.9	960
September	434	25	11	14.5	861
Water year 1941-42	15,187.0	246	6	41.6	30,150
October 1942	316.0	12	8.3	10.2	627
November	212.1	7.9	5.8	7.07	421
December	182.6	6.9	4.7	5.89	362
Calendar year 1942	13,945.7	246	4.7	38.2	27,670
January 1943	178.0	6.5	4.3	5.68	349
February	182.6	6.8	5.0	5.81	323
March	263.4	27	5.8	8.50	522
April	961	61	15	32.0	1,910
May	1,697	99	41	54.7	3,370
June	1,036	52	19	34.5	2,060
July	540	29	15	17.4	1,070
August	477	30	12	16.4	946
September	326.9	14	9.1	10.9	648
Water year 1942-43	6,350.6	99	4.3	17.4	12,600
October 1943	275.4	10	7.9	8.88	546
November	274.6	11	8.3	9.15	545
December	210.5	8.5	6	6.79	418
Calendar year 1943	12,697	99	4.3	17.5	12,700
January 1944	182.0	7	5	5.87	361
February	159.9	6.5	5	5.51	317
March	223.2	9.1	5.8	7.20	443
April	445.7	24	6.1	14.9	884
May	2,533	163	14	81.7	5,020
June	3,215	168	61	107	6,380
July	1,177	61	18	38.0	2,330
August	451	18	10	14.5	895
September	236.2	9.9	6.1	7.87	468
Water year 1943-44	9,383.5	168	5	25.6	18,610

Time basis: Mountain standard time prior to 2 a.m., Feb. 9, 1942; mountain war time thereafter.  
To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Embudo Creek at Dixon, N. Mex.

Location.— Water-stage recorder, lat. 36°12'35", long. 105°54'35", in NW 1/4 sec. 20, T. 23 N., R. 10 E., at bridge on U. S. Highway 64, 0.5 mile upstream from mouth, three-quarters of a mile east of Embudo, and 1 1/4 miles northwest of Dixon.

Drainage area.— 305 square miles.

Records available.— October 1930 to September 1944 in reports of Geological Survey.  
October 1923 to December 1931 in reports of State engineer.

Average discharge.— 21 years (1923-44), 95.9 second-feet.

Extremes.— Maximum discharge during year, 1,050 second-feet May 16 (gage height, 5.62 feet), from rating curve extended above 1,100 second-feet by logarithmic plotting; minimum daily, 6 second-feet Sept. 23, 24.

1930-44: Maximum gage height, 6.95 feet, site and datum then in use, July 8, 1936 (discharge not determined); minimum daily discharge, 1 second-foot July 23, 24, 1932.

Remarks.— Records fair except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	32	42	27	b30	30	30	40	238	603	62	11	13
2	19	36	41	b30	28	36	41	252	597	62	10	11
3	16	35	25	b30	24	40	36	279	585	64	9	10
4	15	38	31	30	30	34	41	271	552	72	8	10
5	16	40	40	b35	32	34	47	255	510	66	8	9
6	27	38	40	b35	27	22	62	252	505	121	8	9
7	20	24	32	34	28	24	76	322	510	91	11	9
8	17	21	*35	b33	23	25	94	390	505	72	20	9
9	16	30	36	31	31	31	95	430	496	58	79	9
10	15	40	25	35	26	35	93	603	485	61	62	9
11	16	36	b20	32	31	50	80	705	505	47	a40	8
12	17	38	b20	*27	22	56	76	747	480	42	a30	8
13	20	35	b25	b25	26	54	93	800	440	38	a20	8
14	20	34	b25	b25	24	52	102	835	394	40	a15	8
15	22	32	28	b27	31	52	86	905	358	36	14	8
16	19	30	b30	b28	27	44	86	975	a300	36	15	9
17	18	28	*b30	b29	28	44	80	870	a250	32	13	9
18	18	30	b30	b29	27	56	76	705	a200	27	13	9
19	a27	28	31	b30	22	47	99	663	164	25	20	8
20	a26	27	b32	b30	25	46	93	657	150	28	42	8
21	a25	30	b32	b30	30	35	88	669	147	114	30	7
22	a26	31	b33	b30	25	31	96	669	139	78	15	7
23	a26	31	b34	31	24	36	96	681	121	64	17	6
24	a24	44	b35	31	27	41	126	693	118	73	16	6
25	a24	40	b34	31	31	44	164	663	111	66	16	8
26	a25	41	b34	32	27	40	170	609	134	47	30	9
27	28	31	b33	30	30	25	194	568	106	34	25	9
28	27	27	*b33	34	30	35	248	541	80	22	21	9
29	42	26	b32	*32	25	34	271	530	66	17	18	10
30	52	24	32	27	-	35	248	563	66	14	16	-
31	46	-	b30	27	-	36	-	585	-	13	14	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	740	52	15	23.9	1,470
November.....	987	44	21	32.9	1,960
December.....	965	41	20	31.1	1,910
Calendar year 1943 .....	20,354	329	6	55.8	40,370
January.....	940	35	25	30.3	1,860
February.....	796	32	22	27.4	1,560
March.....	1,204	56	22	36.8	2,390
April.....	3,167	271	36	106	6,280
May.....	17,925	975	238	578	35,580
June.....	9,686	603	66	323	19,210
July.....	1,631	121	13	52.6	3,240
August.....	668	78	8	21.5	1,320
September.....	262	13	6	8.7	520
Water year 1943-44 .....	38,971	975	6	106	77,290

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for Rio Grande below Taos Junction Bridge and at Embudo.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Rio Chama at Park View, N. Mex.

Location.- Water-stage recorder, lat. 36°44'15", long. 106°34'40", in Tierra Amarilla Grant, at bridge on State Highway 51, just below present mouth (shifts position) of Rio Brazos and half a mile northwest of Park View, Rio Arriba County.

Drainage area.- 405 square miles.

Records available.- November 1912 to September 1916 and October 1930 to September 1944 in reports of Geological Survey. November 1912 to September 1916 and August 1924 to December 1931 in reports of State engineer. Records include flow of Rio Brazos.

Average discharge.- 21 years (1913-15, 1925-44), 394 second-feet.

Extremes.- Maximum discharge during year, 4,490 second-feet May 15 (gage height, 6.28 feet); minimum daily, 5 second-feet Sept. 12-14.

1930-44: Maximum discharge, 8,530 second-feet Apr. 16, 1937; maximum gage height, 8.12 feet May 26, 1941, site and datum then in use; minimum daily discharge, 3 second-feet July 6, 7, 1934.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	37	41	24	35	a50	50	108	528	1,940	456	a80	32
2	35	34	33	35	a50	55	127	646	1,660	420	a70	29
3	35	34	27	40	a45	a55	143	528	1,660	420	a60	28
4	35	39	38	a35	a45	50	191	492	1,360	470	a50	26
5	35	40	42	30	50	45	271	691	1,190	513	a50	23
6	35	40	40	40	45	40	360	1,010	1,200	470	58	26
7	35	a30	38	40	45	40	414	1,480	1,220	377	53	23
8	36	a30	32	35	55	45	458	1,660	1,190	352	44	17
9	35	a40	34	a40	55	50	442	1,690	1,250	328	71	14
10	34	a40	33	a40	50	60	298	2,070	1,270	312	76	14
11	34	a35	28	a40	45	63	302	2,160	1,250	288	110	8
12	45	a35	39	a40	45	64	442	2,740	1,130	273	71	5
13	41	a35	38	a35	55	63	558	3,260	1,010	252	58	5
14	35	a35	40	a40	45	65	330	3,380	960	231	49	5
15	34	a35	38	a40	50	63	243	3,650	900	210	32	11
16	34	a35	36	a40	50	62	235	3,590	863	189	29	23
17	35	38	52	a40	50	a76	194	3,150	782	175	32	23
18	34	36	a44	a40	45	74	185	2,500	737	168	44	23
19	40	36	41	a40	a45	63	218	2,810	728	175	53	23
20	43	34	41	a40	45	55	207	3,190	737	182	58	20
21	36	34	38	40	50	58	200	3,060	746	231	48	20
22	38	38	40	a45	45	51	185	3,060	719	210	40	23
23	38	42	40	a45	45	54	224	3,330	674	182	35	29
24	37	42	36	45	45	55	403	3,120	656	210	44	17
25	39	40	39	40	45	63	510	2,740	647	217	71	26
26	40	40	40	40	45	58	376	2,420	638	189	53	32
27	40	27	40	45	50	48	558	2,120	557	154	44	35
28	42	21	38	45	50	51	672	2,120	504	147	40	35
29	68	23	47	45	45	55	552	2,240	462	140	35	35
30	60	23	40	45	-	65	414	2,300	462	116	32	29
31	47	-	30	45	-	86	-	2,180	-	a100	55	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,212	68	34	39.1	2,400
November.....	1,052	42	21	35.1	2,090
December.....	1,166	32	24	37.6	2,510
Calendar year 1943 .....	94,134	2,530	21	258	186,700
January.....	1,245	45	30	40.2	2,470
February.....	1,385	55	45	47.8	2,760
March.....	1,773	66	40	57.2	3,580
April.....	9,520	672	108	327	19,480
May.....	69,915	3,650	492	2,255	138,700
June.....	29,102	1,940	462	970	57,720
July.....	8,137	513	100	262	16,140
August.....	1,624	110	29	52.4	3,220
September.....	657	35	5	21.9	1,300
Water year 1943-44 .....	127,088	3,650	5	347	252,100

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for San Juan River at Pagosa Springs and Rio Ojo Caliente near La Madera.

Note.- Stage-discharge relation affected by ice Dec. 31 to Jan. 8, Jan. 23-27, Feb. 4 to Mar. 9.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Chama near Tierra Amarilla, N. Mex.

Location.- Water-stage recorder, lat. 36°34'50", long. 106°43'30", in NW $\frac{1}{4}$  sec. 15, T. 27 N., R. 2 E. (projected), 1.5 miles downstream from El Vado Dam, 2.7 miles upstream from Rio Nutrias, and 13 miles southwest of Tierra Amarilla.

Records available.- October 1935 to September 1944 in reports of Geological Survey. October 1913 to November 1916 at site 1.5 miles upstream (records of unregulated flow), published as Rio Chama near El Vado and near Tierra Amarilla in reports of Geological Survey. October 1913 to September 1916 and February 1920 to December 1924 in reports of State engineer. January 1941 to December 1944 in reports of Rio Grande Compact Commission.

Extremes (regulated).- Maximum discharge during year, 4,750 second-feet Aug. 1 (gage height, 6.4 feet); minimum daily, 1.2 second-feet Feb. 12.

1935-44: Maximum discharge, 6,010 second-feet May 17, 1941 (gage height, 6.89 feet); maximum gage height, 9.63 feet May 30, 1937, site and datum then in use; minimum daily discharge, 1.2 second-feet Dec. 3, 1939, Feb. 12, 1944.

Remarks.- Records good. Diversions above station for irrigation. Flow regulated by El Vado Reservoir (see p. 194).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	371	185	2.5	1.4	a2.1	2.3	2.8	8.4	2,050	472	1,650	752
2	371	185	2.5	1.4	a2.2	3.8	3.3	8.4	2,000	467	1,520	752
3	366	183	2.3	1.8	a2.2	4.3	3.3	8.4	1,550	467	1,450	752
4	366	100	1.8	1.8	2.3	2.8	3.8	8.4	1,550	467	1,210	745
5	366	2.3	1.8	1.4	2.3	2.3	3.8	8.4	1,130	462	1,010	789
6	361	1.4	1.8	a1.4	2.3	1.8	3.8	9.3	590	462	1,010	1,100
7	366	1.8	1.8	a1.4	2.3	2.3	3.8	9.3	395	451	998	1,100
8	260	1.8	1.8	a1.4	2.8	2.8	4.3	9.3	395	461	1,020	1,100
9	193	2.3	1.8	a1.4	1.8	4.3	4.8	9.3	400	446	1,240	1,100
10	190	3.5	1.8	a1.5	1.4	5.3	4.8	10	444	446	1,240	1,090
11	190	3.3	1.4	a1.5	1.8	5.8	5.3	10	1,000	441	1,230	1,090
12	186	3.3	1.4	a1.5	1.2	2.8	7.6	127	1,280	441	1,220	a1,080
13	186	3.3	1.8	a1.5	1.4	3.3	7.6	281	1,100	436	1,200	a1,080
14	186	3.3	1.8	a1.5	1.4	4.8	7.6	286	908	436	1,190	a1,070
15	186	3.3	1.8	a1.5	1.4	2.8	7.6	290	842	436	1,190	a1,070
16	186	2.8	1.4	a1.5	1.8	2.8	7.6	293	842	420	1,180	a770
17	186	2.3	1.4	a1.5	1.8	3.3	8.4	303	842	420	1,170	a590
18	186	2.3	1.8	a1.5	2.3	3.8	8.4	303	687	415	930	a590
19	186	2.3	1.8	a1.6	2.3	4.8	8.4	303	489	415	495	586
20	186	2.5	1.8	a1.6	1.8	3.8	8.4	307	489	395	307	586
21	183	2.3	1.8	a1.6	1.8	3.3	7.6	311	489	381	363	586
22	183	2.8	1.8	a1.6	1.8	3.8	7.6	311	489	376	807	586
23	183	2.8	1.8	a1.6	1.8	4.3	7.6	316	489	376	807	580
24	183	2.8	1.8	a1.7	2.3	5.3	7.6	606	484	302	800	580
25	183	2.8	1.8	a1.7	2.8	3.8	8.4	1,940	484	253	793	580
26	183	2.8	1.8	a1.8	2.3	3.3	8.4	2,000	484	249	786	321
27	186	2.3	1.4	a1.8	2.3	2.8	9.3	2,000	478	245	779	173
28	186	2.3	1.4	a1.9	2.3	2.8	8.4	2,000	478	241	765	169
29	186	2.3	1.4	a1.9	1.8	2.8	7.6	2,000	478	241	759	169
30	183	2.3	1.4	a2.0	-	2.8	8.4	2,000	472	305	759	166
31	183	-	1.4	a2.1	-	2.8	-	2,000	-	1,310	752	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	7,096	371	183	229	14,070
November	715.9	183	1.4	25.9	1,420
December	53.7	2.3	1.4	1.75	107
Calendar year 1943	112,822.4	1,520	1.4	309	225,800
January	49.8	2.1	1.4	1.61	99
February	58.1	2.8	1.2	2.00	115
March	107.8	5.8	1.8	3.48	214
April	196.3	9.5	2.8	5.54	339
May	18,081.2	2,000	8.4	583	55,860
June	24,118	2,050	395	804	47,840
July	13,125	1,310	241	423	26,030
August	30,610	1,650	307	987	60,710
September	21,702	1,100	166	723	45,050
Water year 1943-44	115,913.8	2,050	1.2	317	229,900

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 1 discharge measurement, recorded range in stage, and record of regulation at El Vado Dam.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Chama near Abiquiu, N. Mex.

Location.— Water-stage recorder, lat.  $36^{\circ}13'00''$ , long.  $106^{\circ}15'00''$ , at bridge on State Highway 98 in Juan Jose Lobato Grant, 1½ miles upstream from El Rito Creek, 5 miles downstream from Abiquiu, Rio Arriba County, and 13.5 miles downstream from Abiquiu dam site.

Records available.— January 1942 to September 1944.

Extremes.— Maximum discharge during year, 2,470 second-feet May 30 (gage height, 4.13 feet); minimum daily, 12 second-feet Dec. 29, Jan. 5, 1942–44. Maximum discharge, 6,330 second-feet Apr. 23, 1942 (gage height, 5.80 feet), from rating curve extended above 3,300 second-feet by logarithmic plotting; minimum daily, that of Dec. 29, 1943, Jan. 5, 1944.

Remarks.— Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above and below station for irrigation. Flow regulated by El Vado Reservoir (see p. 194).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	384	193	18	14	17	31	a20	211	2,140	474	1,480	744
2	384	189	21	14	a18	34	a40	306	2,100	460	1,480	744
3	384	193	18	14	17	127	a30	287	2,050	460	1,400	735
4	402	193	20	13	18	177	a35	202	1,760	530	1,250	726
5	384	174	21	a12	20	99	a40	253	1,520	516	1,070	735
6	384	a100	a21	15	23	57	47	407	1,090	690	1,040	988
7	384	a70	16	15	21	36	75	499	561	481	940	1,090
8	384	a50	15	14	23	36	67	507	481	460	979	1,070
9	282	a35	19	15	27	32	93	428	460	454	1,170	1,040
10	208	a30	16	15	24	43	167	428	447	447	1,210	1,030
11	204	a20	15	16	23	116	126	522	606	428	1,230	1,040
12	208	a24	14	16	25	253	123	454	1,220	421	1,250	1,040
13	204	a22	16	15	23	150	126	608	1,320	414	1,210	1,030
14	204	a23	17	14	25	93	123	850	1,060	408	1,200	1,030
15	201	a23	16	15	30	62	96	870	860	414	1,180	1,040
16	201	a24	15	16	34	75	70	870	860	414	1,180	1,040
17	197	a23	16	15	36	53	61	780	860	395	1,250	696
18	197	22	15	16	34	45	53	690	860	383	1,290	602
19	197	23	a15	15	28	57	90	602	602	462	560	594
20	221	23	16	16	31	75	110	618	498	608	449	594
21	a205	23	15	16	34	85	99	650	467	562	298	594
22	189	22	16	16	32	59	73	634	460	447	461	594
23	189	20	14	17	30	a55	55	634	460	408	300	594
24	189	24	15	a17	36	49	63	634	460	440	790	602
25	193	26	14	19	43	75	119	1,590	460	320	800	602
26	193	28	13	18	47	90	126	2,150	460	248	771	610
27	193	26	15	17	36	57	162	2,190	454	233	762	330
28	189	23	13	15	34	a45	238	2,380	460	224	763	235
29	201	21	12	17	32	a36	267	2,380	454	220	744	243
30	254	20	13	17	-	a25	181	2,380	460	215	763	189
31	197	-	14	16	-	a35	-	2,210	-	462	755	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	7,786	402	189	251	15,440
November.....	1,687	193	20	56.2	3,550
December.....	494	21	12	16.9	980
Calendar year 1943 .....	134,457	1,540	12	368	266,700
January.....	479	19	12	16.5	960
February.....	821	47	17	28.3	1,630
March.....	2,281	253	31	75.6	4,520
April.....	2,935	267	20	99.8	5,940
May.....	28,227	2,380	202	911	55,990
June.....	25,940	2,140	447	865	51,450
July.....	13,092	690	215	422	25,970
August.....	30,493	1,480	298	984	60,480
September.....	22,169	1,090	189	739	43,970
Water year 1943-44 .....	136,464	2,380	12	373	270,700

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for stations near Tierra Amarilla and near Chamita.

Note.— Stage-discharge relation affected by ice Dec. 7 to Feb. 15 (no gage-height record Jan. 11–23).

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Rio Chama near Chamita, N. Mex.

Location.- Water-stage recorder, lat. 36°04'20", long. 106°06'40", in NE¼ sec. 8, T. 21 N., R. 8 E., 200 feet downstream from Espanola-Ojo Caliente highway bridge, 2½ miles upstream from mouth, and 2½ miles northwest of Chamita.

Records available.- October 1912 to June 1915 and October 1930 to September 1944 in reports of Geological Survey. October 1912 to December 1931 in reports of State engineer.

Average discharge.- 30 years (1913-17, 1918-44), 701 second-feet.

Extremes.- Maximum discharge during year, 3,190 second-feet May 14 (gage height, 4.33 feet); minimum daily, 17 second-feet Nov. 22.

1930-44: Maximum discharge, 9,910 second-feet May 14, 1941; maximum gage height, 8.11 feet May 16, 1941; no flow at times.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation. Flow regulated by El Vado Reservoir (see p. 194).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	340	206	*34	*30	*52	*65	44	479	2,450	479	1,300	705
2	346	210	34	31	50	78	71	612	2,280	516	1,450	696
3	370	215	32	32	48	97	55	524	2,200	540	1,480	714
4	364	215	31	32	54	156	60	437	1,980	596	1,480	696
5	352	210	36	30	60	105	73	458	1,630	678	1,290	696
6	352	148	35	33	55	91	115	777	1,090	786	1,180	822
7	352	88	33	31	58	66	138	1,260	687	580	1,040	1,040
8	346	75	34	27	*70	66	163	1,440	540	532	900	1,020
9	354	60	32	28	62	66	182	1,360	493	486	1,080	1,020
10	245	46	31	*30	56	66	230	1,610	451	424	1,280	1,000
11	225	37	30	30	52	88	225	1,770	465	412	1,270	984
12	220	60	31	33	60	174	255	2,010	1,120	418	1,270	962
13	220	39	33	31	54	159	240	2,360	1,210	400	1,200	973
14	215	53	31	32	56	121	215	2,720	1,070	383	1,160	940
15	210	55	31	32	*60	112	215	2,010	920	406	1,140	930
16	215	53	*30	34	66	105	210	2,010	900	430	1,130	920
17	206	53	29	*33	64	88	174	1,590	890	394	1,130	768
18	202	39	31	36	60	91	163	1,170	*870	418	1,220	572
19	220	19	32	34	57	99	216	1,140	a750	382	1,060	580
20	230	19	32	37	60	105	235	1,210	532	612	595	564
21	225	32	32	39	64	108	220	1,230	508	590	334	564
22	215	17	34	41	*61	99	198	1,120	486	493	332	572
23	220	39	32	44	66	91	194	1,090	465	479	669	564
24	225	46	31	*44	72	91	170	1,040	479	458	696	604
25	235	48	28	41	88	88	245	1,630	479	418	714	596
26	225	48	30	39	72	99	285	2,360	458	358	705	804
27	225	44	*34	38	64	83	340	2,630	437	328	732	458
28	230	40	31	40	60	78	458	2,540	444	322	696	260
29	235	29	29	47	62	57	486	2,540	451	316	696	285
30	235	28	29	45	-	48	465	2,540	451	305	696	250
31	220	-	29	48	-	60	-	2,540	-	330	723	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	8,054	370	202	260	15,970
November.....	2,271	215	17	75.7	4,500
December.....	981	36	28	31.6	1,950
Calendar year 1943 .....	143,450	2,020	17	393	284,600
January.....	1,102	48	27	35.5	2,190
February.....	1,765	88	48	60.8	3,600
March.....	2,900	174	48	93.5	5,750
April.....	6,339	486	44	211	12,570
May.....	48,107	2,720	437	1,552	95,420
June.....	27,176	2,450	437	906	53,900
July.....	14,264	786	305	460	28,290
August.....	30,628	1,480	332	988	60,750
September.....	21,339	1,040	230	711	42,330
Water year 1943-44 .....	164,924	2,720	17	451	327,100

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for station near Abiquiu.

Note.- Stage-discharge relation affected by ice Dec. 8-9, Dec. 11 to Feb. 15, Feb. 17 to Mar. 1.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Willow Creek near Park View, N. Mex.

Location.— Water-stage recorder, lat.  $36^{\circ}40'20''$ , long.  $106^{\circ}42'10''$ , in Tierra Amarilla Grant, 400 feet upstream from Willow Creek dam site, 0.3 mile downstream from Horse Lake Creek, and 7 miles southwest of Park View, Rio Arriba County.

Records available.— May 1936 to September 1944.

Extremes.— Maximum discharge during year, 790 second-feet Apr. 4 (gage height, 4.90 feet); no flow at times.

1936-44: Maximum discharge, 4,500 second-feet Apr. 23, 1942 (gage height, 10.49 feet), by slope-area method; no flow at times.

Remarks.— Records good except those for period of ice effect or no gage-height record, and those below 1 second-foot, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	4.8	6.5				0.7	139	54	4.6	0.5	0	0
2	4.0	5.6			0.2	1.1	161	65	3.8	15	0	0
3	3.1	5.6				3.8	238	42	4.1	8.8	0	0
4	2.6	5.3			*.2	4.3	300	32	5.1	7.3	0	0
5	2.2	5.3	(*)		.4	4.1	297	32	5.8	16	0	0
6	2.2	5.6			.7	3.6	232	34	3.8	21	.1	0
7	2.2	4.3			.7	2.5	147	32	4.1	6.3	0	0
8	2.5	3.4			.7	2.1	111	29	4.6	4.8	0	0
9	1.8	2.8			.9	2.1	89	29	4.8	3.1	1.0	0
10	1.7	1.7			1.2	3.2	52	26	4.8	2.2	.7	0
11	1.7	1.5			1.1	9.9	50	51	5.3	1.5	.2	0
12	2.1	1.7			1	12	67	30	4.8	.9	.2	0
13	1.9	1.2			1	13	78	24	3.9	.7	.1	0
14	2.9	1.0			.5	17	64	22	3.9	.3	.1	0
15	2.2	.7			.5	21	46	20	3.8	.2	0	0
16	1.7	.5	0.5	0.2	.5	17	42	18	3.6	.1	0	0
17	1.6	*.5			.5	18	29	14	3.9	.1	0	0
18	1.6	.4	(*)		.5	25	23	14	3.2	.6	0	0
19	2.5				.5	23	43	11	2.4	.7	0	0
20	3.1				.4	16	81	8.5	1.1	2.4	0	0
21	3.6				.4	14	77	7.6	.9	1.9	0	0
22	2.8				.4	14	67	6.8	2.9	1	0	0
23	2.3				.5	15	44	5.6	3.4	.5	0	0
24	2.5	.5			.6	29	68	5.1	2.8	.2	.2	0
25	2.5				.5	31	66	4.3	2.4	0	.2	0
26	1.6				.7	20	51	3.9	2.8	0	.3	0
27	1.0				.8	17	70	4.8	1.9	0	.8	1.8
28	.9				.7	15	71	4.8	1.3	0	.4	3.9
29	1.8				.7	15	69	4.8	.8	0	.2	3.6
30	6.3				-	36	54	5.3	.4	0	.1	3.2
31	7.0				-	102	-	5.8	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	80.7	7.0	0.9	2.80	160
November.....	59.6	6.5	.4	1.99	118
December.....	15.5	-	-	.50	31
Calendar year 1943.....	3,611.1	181	.1	9.89	7,170
January.....	6.2	-	-	.20	12
February.....	17.2	1.2	.2	.59	34
March.....	507.4	102	.7	16.4	1,010
April.....	2,925	300	23	97.5	5,800
May.....	846.3	65	3.9	20.8	1,280
June.....	101.0	5.8	.4	3.37	200
July.....	96.1	21	0	3.10	191
August.....	4.6	1.0	0	.15	9.1
September.....	12.5	3.9	0	.42	25
Water year 1943-44.....	4,472.1	300	0	12.2	8,870

\* Winter discharge measurement made on this day.

Note.— Stage-discharge relation affected by ice Nov. 19 to Feb. 3 (no gage-height record Dec. 14-16, Jan. 6-13); discharge computed on basis of 2 discharge measurements, weather records, and records for Rio Ojo Caliente at La Madera and El Rito Creek near El Rito). No gage-height record Feb. 12-18, July 22 to Aug. 5; discharge computed on basis of weather records and records for Rio Ojo Caliente at La Madera and El Rito Creek near El Rito.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE RIVER

El Rito Creek near El Rito, N. Mex.

Location.— Water-stage recorder, lat. 36°23'30", long. 106°14'20", in NW¼ sec. 19, T. 25 N., R. 7 E., three-quarters of a mile upstream from boundary of Carson National Forest and 3 miles northwest of El Rito.

Records available.— May 1931 to September 1944.

Extremes.— Maximum discharge during year, 400 second-feet May 7 (gage height, 3.90 feet); minimum daily, 0.4 second-foot Sept. 3, 4, 10, 15, 21.

1931-44: Maximum discharge not determined; minimum daily recorded, 0.3 second-foot June 21-23, 1934.

Remarks.— Records fair except those for periods of ice effect or no gage-height record, which are poor. One diversion above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.3	1.6	a1.4	a1.5	a1.5	a2.2	4.5	65	48	3.6	1.1	0.5
2	1.3	1.3	a1.8	a1.5	a1.5	a2.4	5.4	80	41	4.8	1.0	.5
3	1.3	1.4	a1.5	a1.5	a1.5	a2.5	4.8	49	37	6.9	1.0	.4
4	1.3	1.7	a1.6	a1.5	*b1.4	a2.5	7.7	45	32	6.6	1.0	.4
5	1.5	1.6	a1.7	*b1.3	a1.5	a2.5	12	57	27	4.5	.9	.5
6	1.4	1.4	*a1.8	b1.5	a1.5	a2.4	18	156	26	5.2	1.3	.7
7	1.5	1.0	1.8	b1.3	a1.6	*b2.3	20	203	26	3.5	1.6	.6
8	1.6	1.0	1.8	a1.6	a1.6	b2.0	22	178	22	3.0	1.3	.7
9	1.5	1.0	b1.7	a1.6	a1.7	b2.3	21	147	20	2.8	1.7	.6
10	1.4	1.3	b1.7	a1.6	a1.5	b2.6	16	156	18	2.8	2.2	.4
11	1.3	1.4	b1.5	a1.6	a1.5	b2.9	16	181	17	2.5	1.6	.5
12	3.0	1.3	b1.7	a1.6	a1.4	b3.3	26	232	15	2.4	1.2	.6
13	2.1	1.5	b1.7	a1.5	a1.4	3.8	31	280	13	2.4	1.0	.5
14	1.6	1.5	b1.7	a1.8	a1.5	4.1	21	254	12	2.4	.8	.5
15	1.5	1.4	b1.7	a1.6	a1.5	3.6	18	259	10	2.2	.7	.4
16	1.4	1.4	a1.6	a1.6	a1.6	3.0	19	228	9.1	2.2	.7	.7
17	1.4	1.5	a1.8	a1.6	a1.6	*3.5	17	147	8.0	2.1	.7	.7
18	1.5	1.6	a1.7	a1.6	a1.7	5.0	20	110	7.7	3.3	1.0	.7
19	1.7	1.5	*b1.6	a1.8	a1.7	4.1	24	143	7.1	2.4	1.7	.6
20	2.1	1.4	a1.6	a1.6	a1.8	2.8	20	154	6.6	3.0	1.1	.5
21	1.7	1.4	a1.5	a1.6	*b2.0	5.0	17	135	6.3	6.6	.8	.4
22	1.8	1.7	a1.5	a1.8	a1.9	4.1	15	138	5.6	3.0	.8	.5
23	1.7	1.6	a1.5	a2.0	a1.9	3.9	16	133	5.2	2.1	.8	.6
24	1.6	1.8	a1.5	a2.1	a1.9	3.5	30	109	5.0	3.1	.9	1.0
25	1.5	1.6	a1.6	a1.9	a2.0	3.8	37	85	4.8	2.7	1.1	1.0
26	1.5	1.6	a1.6	a1.8	a2.0	3.6	37	82	5.0	2.1	1.0	a1.2
27	1.4	a1.2	a1.5	a1.7	a1.9	2.5	56	76	4.3	1.6	.8	a1.4
28	1.5	a1.1	a1.5	a1.5	a1.9	2.1	78	74	3.9	1.4	.8	a1.4
29	2.3	a1.2	a1.7	a1.6	a2.0	4.1	52	70	3.9	1.3	.7	a1.4
30	2.5	a1.3	a1.5	a1.6	-	3.3	44	68	3.8	1.3	.6	a1.2
31	2.0	-	a1.5	a1.6	-	3.6	-	59	-	1.2	.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	51.0	3.0	1.3	1.65	101
November.....	42.6	1.8	1.0	1.42	84
December.....	50.3	1.8	1.4	1.62	100
Calendar year 1943.....	4,235.7	160	.6	11.5	8,400
January.....	50.2	2.1	1.3	1.62	100
February.....	48.5	2.0	1.4	1.67	96
March.....	99.3	5.0	2.0	3.20	197
April.....	725.4	78	4.5	24.2	1,440
May.....	4,183	280	4.5	135	8,500
June.....	459.3	48	3.8	15.0	893
July.....	95.0	6.9	1.2	3.06	188
August.....	32.5	2.2	.6	1.05	64
September.....	21.1	1.4	.4	.70	42
Water year 1943-44.....	5,849.2	280	.4	16.0	11,600

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for San Juan River at Pagosa Springs, Colo. and Rio Chama at Park View, N. Mex.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Ojo Caliente at La Madera, N. Mex.

Location.- Water-stage recorder, lat.  $36^{\circ}20'45''$ , long.  $106^{\circ}02'50''$ , in NE $\frac{1}{4}$  sec. 1, T. 24 N., R. 8 E., 2.5 miles south of La Madera, 3 miles downstream from confluence of Rio Vallecitos and Rio Tusas, and 4 miles north of Ojo Caliente.

Records available.- April 1932 to September 1944.

Average discharge.- 12 years (1932-44), 87.2 second-feet.

Extremes.- Maximum discharge during year, 1,600 second-feet May 12 (gage height, 4.23 feet); minimum daily, 2.1 second-feet July 15, 1932.

1932-44: Maximum discharge, 2,980 second-feet Apr. 23, 1942, from rating curve extended above 1,300 second-feet by logarithmic plotting; maximum gage height, 7.60 feet (site and datum then in use) July 15, 1933; minimum daily discharge, 1 second-foot at times.

Remarks.- Records fair except those for period of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	18	13	13	19	22	26	284	192	3.6	3.6	4.2
2	15	15	17	13	19	25	32	377	155	6.7	3.4	4.2
3	14	14	13	13	17	26	34	234	134	5.3	3.4	4.0
4	13	15	14	13	18	24	45	152	128	6.7	3.4	4.0
5	13	15	15	*b10	22	25	50	211	101	12	4.0	4.0
6	13	14	17	a15	22	18	83	415	87	12	4.5	4.2
7	13	11	15	a15	23	18	112	600	106	10	4.7	4.2
8	13	11	14	a14	24	18	117	684	119	8.4	4.7	4.0
9	13	11	17	a15	25	21	149	666	117	8.0	3.8	4.0
10	13	13	13	a15	22	22	125	803	112	5.8	3.6	3.8
11	13	14	14	a16	22	28	117	834	104	4.7	3.4	4.0
12	13	14	13	a15	19	32	168	1,090	94	4.2	3.4	4.2
13	13	15	a14	19	35	207	1,230	70	2.6	3.4	4.2	4.2
14	13	13	16	a15	18	30	146	1,110	64	2.3	3.4	4.0
15	13	13	15	a15	21	31	109	1,090	61	2.1	3.4	4.0
16	13	12	14	a16	20	25	112	985	55	2.1	3.6	4.2
17	13	11	15	a15	21	28	83	744	50	2.2	3.6	4.2
18	11	11	15	a16	21	39	81	480	47	2.2	4.0	4.7
19	13	12	*17	a15	18	31	140	583	41	2.6	4.0	4.7
20	14	11	16	a16	19	34	152	622	25	14	4.0	4.7
21	15	13	15	a16	20	22	125	561	15	19	4.7	4.7
22	15	13	16	a17	19	25	104	495	11	11	4.2	4.7
23	15	13	16	a17	19	27	76	490	9.3	8.0	4.2	4.7
24	15	17	14	*20	20	32	140	435	12	6.7	4.2	4.7
25	15	16	11	18	23	35	178	354	11	5.8	4.2	4.9
26	14	19	13	18	22	30	182	301	7.1	6.2	4.5	10
27	13	15	15	15	21	25	282	314	4.9	4.9	4.5	20
28	13	13	13	17	19	27	372	271	4.7	4.9	4.5	10
29	15	13	12	17	19	20	275	266	4.5	4.7	4.5	8.9
30	18	14	13	15	-	22	196	254	3.8	4.2	4.5	8.4
31	19	-	13	17	-	24	-	234	-	3.8	4.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	430	19	11	13.9	853
November.....	409	19	11	13.6	811
December.....	449	17	11	14.5	891
Calendar year 1943.....	17,036	600	4	46.7	33,500
January.....	476	20	10	15.4	944
February.....	591	25	17	20.4	1,170
March.....	821	39	18	26.5	1,630
April.....	3,998	372	26	133	7,930
May.....	17,169	1,230	152	554	34,050
June.....	1,945.3	192	3.8	64.8	3,860
July.....	196.7	19	2.1	6.35	390
August.....	123.5	4.7	3.4	3.98	245
September.....	164.5	20	3.8	5.48	326
Water year 1943-44.....	26,773.0	1,230	2.1	73.2	53,100

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for San Juan River at Pagosa Springs, Colo.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Santa Cruz at Cundiyo, N. Mex.

Location.- Water-stage recorder, lat. 35°57'40", long. 105°54'10", in SE¼ sec. 17, T. 20 N., R. 10 E., 135 feet downstream from highway bridge at confluence of Rio Medio and Rio Frijoles and a quarter of a mile northwest of Cundiyo.

Records available.- September 1931 to September 1944 in reports of Geological Survey. September 1915 to December 1931 (published as Rio Medio at Cundiyo and Rio Santa Cruz above Chimaloy) in reports of State engineer.

Average discharge.- 27 years (1916-29, 1930-44), 35.0 second-feet.

Extremes.- Maximum discharge during year, 278 second-feet May 15 (gauge height, 2.79 feet); minimum daily, 5 second-feet (estimated) Nov. 7, 8.  
1931-44: Maximum discharge, 2,610 second-feet Sept. 24, 1931 (gauge height, 8.20 feet, datum then in use), from rating curve extended above 170 second-feet by logarithmic plotting; minimum daily, 3 second-feet Feb. 3, 1932, Jan. 21, 1935.

Remarks.- Records good except those for Nov. 2 to Mar. 10, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	12	9.8	b11	7	11	b9	18	55	156	50	17	11
2	12	b7	b11	7	11	11	20	62	154	48	17	12
3	12	b7	b10	8	11	*12	18	58	145	45	17	12
4	13	b7	b10	8	*12	11	22	53	136	45	18	11
5	14	b7	12	7	12	11	27	53	124	40	17	12
6	14	b7	11	*7	12	b8	34	70	120	50	22	12
7	13	b5	*10	7	12	b8	38	86	124	40	20	12
8	12	b5	11	7	12	b9	38	100	124	37	20	11
9	12	b6	10	6	12	b9	36	105	122	42	29	11
10	11	b6	b10	6	11	b10	32	124	122	38	22	10
11	11	b7	b10	7	10	12	32	140	124	33	22	9.6
12	14	b8	b10	7	b10	12	37	149	117	31	21	10
13	12	b8	10	6	b10	14	48	153	106	31	20	9.8
14	12	b8	10	6	b10	14	43	171	98	32	17	9.4
15	11	b8	10	6	11	14	37	209	97	28	15	9.2
16	11	b8	*10	6	10	12	36	247	88	28	15	9.8
17	11	b8	9	6	10	13	34	209	83	27	14	10
18	10	b8	8	7	*b10	19	33	179	79	27	15	9.6
19	13	b8	8	7	b9	15	40	166	74	30	17	10
20	12	b8	9	*7	b9	13	37	171	70	30	17	10
21	10	b9	9	7	9	12	35	181	68	56	16	9.8
22	11	b9	9	7	b9	12	31	189	64	34	15	9.6
23	11	b9	9	8	b9	*12	39	201	68	31	14	9.4
24	11	b10	8	9	10	13	53	209	63	36	15	10
25	11	10	7	10	9	16	65	192	60	31	15	11
26	11	*11	7	12	9	15	62	163	63	27	14	12
27	11	b9	7	12	9	14	70	140	54	24	13	12
28	11	b9	7	10	9	13	79	132	48	24	13	13
29	15	b9	7	10	b8	13	67	128	51	22	13	12
30	13	b10	7	11	-	16	57	140	56	20	12	11
31	12	-	7	11	-	16	-	154	-	19	12	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	369	15	10	11.9	732
November.....	240.8	11	5	8.03	478
December.....	284	12	7	9.2	563
Calendar year 1943.....	8,390.9	124	5	23.0	16,640
January.....	242	12	6	7.8	480
February.....	266	12	8	10.2	587
March.....	388	19	8	12.5	770
April.....	1,216	79	18	40.5	2,410
May.....	4,409	247	53	142	8,750
June.....	2,858	156	48	95.3	5,670
July.....	1,056	56	19	34.1	2,090
August.....	524	29	12	16.9	1,040
September.....	321.2	13	9.2	10.7	637
Water year 1943-44.....	12,204.0	247	5	33.3	24,210

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Dec. 13 to Feb. 11; discharge computed on basis of weather records, discharge measurements, engineer's notes, and records for Babudo Creek at Dixon.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Santa Cruz at Riverside, N. Mex.

Location.- Water-stage recorder, lat. 35°59'15", long. 106°04'05", in SW $\frac{1}{4}$  sec. 2, T. 20 N., R. 8 E., at bridge on U. S. Highway 285, at south edge of Riverside, half a mile upstream from mouth and three-quarters of a mile east of Espanola.

Records available.- January 1942 to September 1944.

Extremes.- Maximum discharge during year, 251 second-feet July 18; maximum gage height, 4.87 feet Jan. 22 (ice jam); no flow at times.

1942-44: Maximum discharge, 643 second-feet Apr. 24, 1942; maximum gage height, 4.86 feet June 7, 1942; no flow on many days.

Remarks.- Records poor. Diversions above station for irrigation. Flow partly regulated by Santa Cruz Reservoir (capacity, 4,614 acre-feet, original survey).

Discharge, in second-feet, water year October 1943 to September 1944.

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1				e3	(*)	*7	1	1	108	0	3	1
2				e3	*b9	6	0	0	103	0	0	0
3				a3		*4	0	1	89	0	0	0
4				a4	10	4	0	5	101	0	0	0
5				a4	10	4	0	13	80	4	0	0
6				a5	(*)	9	b4	0	1	70	2	0
7				*5	b4	9	b4	0	10	68	1	0
8				5		*9	b4	0	2	71	1	3
9				*6	7	9	6	0	3	52	2	6
10				6			*6	1	17	45	1	16
11				e6		6	1	44	62	0	0	1
12					a4	4	2	106	42	0	1	0
13						3	3	118	32	1	0	0
14				a5		2	5	121	25	2	1	0
15					(*)	2	5	148	18	1	0	0
16				(*)		8	1	176	10	1	1	18
17						7	2	3	170	9	1	3
18				b4	a5	*7	3	2	162	16	25	3
19						7	6	0	133	5	48	7
20					(*)	7	8	1	118	0	6	1
21						*7	7	2	128	0	2	17
22					b6	*7	7	2	125	17	1	1
23				e5		7	1	97	1	6	5	0
24						*6	6	5	99	2	17	9
25						7	6	a1	95	0	28	18
26						7	5	a1	91	3	6	12
27					a8	*4	1	87	1	1	14	6
28						7	4	1	91	1	0	25
29				a3	*e3	7	2	1	95	0	0	4
30						-	1	2	101	0	0	3
31						-	1	-	108	0	0	5

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	11	2	0	0.4	22
November.....	67	6	0	2.2	135
December.....	137	-	-	4.4	272
Calendar year 1943.....	879	53	0	2.4	1,740
January.....	162	-	-	5.2	321
February.....	230	10	6	7.9	456
March.....	135	8	1	4.4	268
April.....	48	7	0	1.6	95
May.....	2,466	176	0	79.5	4,880
June.....	1,041	108	0	34.7	2,080
July.....	157	48	0	5.1	311
August.....	156	25	0	5.0	309
September.....	156	42	0	4.5	270
Water year 1943-44.....	4,746	176	0	13.0	9,410

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records, recorded range in stage, and knowledge of local conditions.

b Stage-discharge relation affected by ice.

c Stage-discharge relation indefinite; discharge computed on basis of gage heights, weather records, and engineers' notes.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Santa Fe Creek near Santa Fe, N. Mex.

Location.— Water-stage recorder and sharp-crested concrete control, lat. 35°41'15", long. 105°50'10", in NW¼SW¼ sec. 24, T. 17 N., R. 10 E., 300 feet downstream from Granite Point Dam, and 6 miles east of Santa Fe.

Records available.— May to June 1910 (at site 3 miles downstream), April 1913 to December 1914 (at a site 2 miles downstream), and October 1930 to September 1944 in reports of Geological Survey. January 1913 to November 1930 (at a site 2 miles downstream) and November 1930 to December 1931 in reports of State engineer. January 1943 to December 1944 in reports of Rio Grande Compact Commission.

Extremes.— Maximum discharge during year, 37 second-feet May 16 (gage height, 1.00 feet); minimum daily, 0.2 second-foot Dec. 3-14, 16-29.  
1930-44: Maximum discharge, 418 second-feet Apr. 23, 1942 (gage height, 3.51 feet), from rating curve extended above 150 second-feet; minimum daily, 0.2 second-foot Dec. 3-14, 16-29, 1943.

Remarks.— Records good except those for periods of no gage-height record, which are fair. Flow regulated by Granite Point Reservoir (capacity, 648 acre-feet). No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	1.5	1.5	0.7	1.5	1.4	2.7	9.8	22	6.6	8.9	3.2
2	2.7	1.5	.6	a.7	1.5	1.4	4.1	5.5	22	6.3	8.0	3.2
3	2.7	1.5	.2	.7	1.5	1.4	4.5	6.6	23	6.3	7.1	3.2
4	2.7	1.5	.2	a.7	1.5	1.4	4.8	6.6	23	7.1	6.8	3.2
5	2.7	1.5	.2	1.0	1.5	1.4	5.5	7.1	23	7.7	7.1	3.0
6	2.5	1.5	.2	a1.5	1.5	1.4	6.6	7.4	23	16	8.0	3.2
7	2.5	1.5	.2	a1.5	1.5	1.4	8.0	6.0	23	10	6.6	3.2
8	2.5	1.5	.2	a1.5	1.5	1.4	8.6	5.3	24	9.5	7.4	3.2
9	2.5	1.5	.2	a1.5	1.5	1.4	9.5	5.5	24	9.9	a10	3.4
10	2.5	1.5	.2	1.5	1.5	1.4	9.2	5.8	24	10	a10	3.2
11	2.5	1.5	.2	a1.5	1.5	1.4	8.3	8.3	24	9.2	a10	3.4
12	2.5	1.5	.2	a1.5	1.5	1.5	8.0	23	23	8.6	a9.5	3.6
13	2.5	1.5	.2	a1.5	1.5	1.5	9.9	36	23	8.9	a9.0	3.9
14	2.5	1.5	.2	a1.5	1.5	1.7	11	36	12	8.6	8.9	4.1
15	2.5	1.5	.3	a1.5	a1.5	1.7	10	36	9.5	7.7	8.3	4.3
16	2.5	1.5	.2	a1.5	a1.5	1.7	9.5	36	13	8.0	7.1	4.1
17	2.5	1.5	.2	1.5	a1.4	1.7	8.9	36	12	7.1	6.6	4.1
18	2.5	1.5	.2	a1.5	a1.5	1.7	8.6	a36	11	6.8	6.8	4.1
19	2.5	1.5	.2	1.5	1.4	1.7	9.5	a36	9.9	8.6	6.8	4.1
20	2.5	1.5	.2	1.5	1.4	1.7	9.5	36	8.3	10	6.3	4.3
21	2.2	1.5	.2	1.5	1.4	1.7	9.9	35	8.6	20	5.5	4.1
22	1.5	1.5	a.2	1.5	1.4	1.7	9.9	35	8.3	14	8.0	4.1
23	1.5	1.5	a.2	1.7	1.4	1.7	9.9	35	8.0	23	5.3	4.3
24	1.5	1.5	a.2	1.7	1.4	1.7	10	35	8.0	18	5.3	4.3
25	1.5	1.5	a.2	1.7	1.4	1.7	10	35	6.8	20	5.6	4.6
26	1.5	1.5	a.2	1.7	1.4	1.7	11	34	8.3	17	5.5	4.1
27	1.5	1.5	a.2	1.5	1.4	1.7	12	34	7.1	14	4.8	4.3
28	1.5	1.5	.2	1.5	1.4	1.7	12	35	7.1	13	4.5	4.3
29	1.5	1.5	.2	1.5	1.4	1.7	13	22	6.0	12	4.1	4.6
30	1.5	1.5	.4	1.5	-	1.7	13	21	6.3	11	3.6	4.6
31	1.5	-	.7	1.5	-	1.9	-	22	-	9.9	3.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	68.2	2.7	1.5	2.20	135
November.....	45.0	1.5	1.5	1.50	89
December.....	8.7	1.5	.2	.28	17
Calendar year 1943 .....	2,101.2	41	.2	5.76	4,171
January.....	43.6	1.7	.7	1.41	86
February.....	42.3	1.5	1.4	1.45	84
March.....	49.2	1.9	1.4	1.59	98
April.....	287.4	13	2.7	8.91	530
May.....	725.9	36	5.3	23.4	1,440
June.....	451.2	24	6.0	15.0	895
July.....	334.8	20	6.3	10.8	864
August.....	211.9	10	3.6	6.94	420
September.....	115.0	4.5	3.0	3.83	228
Water year 1943-44 .....	2,363.2	36	.2	6.46	4,690

a No gage-height record; discharge computed on basis of operation record for Granite Point Dam.  
Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Galisteo Creek at Domingo, N. Mex.

Location.- Water-stage recorder, lat. 35°30'45", long. 106°18'55", in SW $\frac{1}{4}$  sec. 21, T. 15 N., R. 6 E., in Santo Domingo Pueblo Grant, at highway bridge, 0.3 mile northeast of Domingo, 2 $\frac{1}{2}$  miles east of Santo Domingo Pueblo, and 4 miles upstream from mouth.

Records available.- October 1941 to September 1944.

Extremes.- Maximum discharge during year, 5,420 second-feet July 5 (gage height, 5.27 feet), from rating curve extended above 740 second-feet by logarithmic plotting; no flow at times.

1941-44: Maximum discharge, 10,400 second-feet July 27, 1942 (gage height, 6.10 feet), from rating curve extended above 740 second-feet by logarithmic plotting; no flow at times.

Remarks.- Records poor. Several small diversions above station for irrigation.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	0	0	a0	1		0		0	0	0	0
2	1	0	0	a0	0		0		0	0	0	0
3	1	0	0	a0	0		0		0	0	0	0
4	0	0	0	a0	0		0		0	0	0	0
5	0	0	0	a0	1		0		0	11.4	0	0
6	0	0	0	a0	0		0		0	26	33.3	0
7	0	0	0	a0	*1		0		0	a15	6	0
8	0	1	0	a0	0		0		0	a10	28	0
9	0	0	1	a0	0		0		0	a5	87	0
10	0	1	0	a0	1		1		0	0	a10	0
11	0	1	0	*0	0		0		0	0	a6	0
12	0	0	0	0	0		0		0	0	a3	0
13	0	0	1	0	0		0		0	0	a2	0
14	0	0	1	0	0		0		0	19	0	0
15	0	0	3	0	0		0		0	2	0	0
16	1	0	a1	0	0		0		0	0	0	0
17	1	0	a1	0	0		0		0	1	0	2
18	1	0	a1	*0	0		0		0	0	39	1
19	2	0	a1	0	0		0		0	4	0	0
20	1	0	*1	0	0		0		0	61	0	0
21	1	0	1	0	0		0		0	11	0	0
22	1	0	1	a2	0		0		0	8	0	0
23	1	0	1	a2	0		0		0	6	0	0
24	0	1	1	a2	0		0		64	43	0	1
25	1	0	a1	a1	0		0		2	13	0	1
26	1	1	a1	0	0		0		1	7	1	1
27	1	0	a1	a0	1		0		0	4	0	3
28	1	0	*a1	a0	0		0		0	3	0	8
29	3	0	a0	a0	0		0		0	0	0	1
30	1	0	a0	a0	-		0		0	0	0	0
31	1	-	a0	*a1	-		-		-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	22	3	0	0.7	44
November.....	5	1	0	.2	10
December.....	19	3	0	.6	38
Calendar year 1943.....	416	49	0	1.1	826
January.....	8	2	0	.3	16
February.....	5	1	0	.2	10
March.....	0	0	0	0	0
April.....	1	1	0	.03	2.0
May.....	0	0	0	0	0
June.....	67	64	0	2.2	133
July.....	651	413	0	21.0	1,290
August.....	466	284	0	15.0	924
September.....	17	8	0	.6	34
Water year 1943-44.....	1,261	413	0	3.4	2,500

Peak discharge.- July 5 (9 p.m.) 5,420 sec.-ft.; Aug. 6 (5 a.m.) 2,520 sec.-ft.; Aug. 9 (12:30 a.m.) 837 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records or interpolated.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Jemez Creek near Bernalillo, N. Mex.

Location.— Water-stage recorders on right and left banks, lat.  $35^{\circ}23'40''$ , long.  $106^{\circ}32'25''$ , in  $8\frac{1}{2}$  sec. 32, T. 14 N., R. 4 E., about 2 miles upstream from mouth and 6.2 miles north of Bernalillo. Datum of gage is 5,120.11 feet above mean sea level, datum of 1929.

Records available.— March 1936 to January 1938 and March 1943 to September 1944.

Extremes.— Maximum discharge during year, 2,420 second-feet Aug. 19 (gage height, 3.05 feet); no flow at times.

1936-38, 1943-44: Maximum discharge, 11,000 second-feet Aug. 29, 1943 (gage height, 5.62 feet), computed on basis of records for Rio Grande at San Felipe and near Bernalillo; no flow on many days.

Remarks.— Records poor. Diversions for irrigation above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	38	36		36	34	60	214	117	0	0	0
2	0	35	30		34	40	75	142	114	0	0	0
3	0	40	30		28	46	99	134	88	0	0	0
4	2	35	32	(*)	*41	35	99	163	80	0	0	0
5	4	35	32		41	42	176	131	57	0	0	0
6		10	23	*29	40	36	440	117	50	0	0	0
7	13	30	b30		35	22	536	150	38	4	0	0
8	5	29	30		52	38	450	202	28	8	0	0
9	4	38	b30		47	45	278	172	18	8	0	0
10	5	45	33		28	34	250	544	17	4	4	0
11	5	43	b25		42	33	196	271	14	0	3	0
12	7	40	23		40	40	285	384	14	0	5	0
13	6	23	34		49	46	490	384	7	0	2	0
14	7	29	24		19	43	328	480	4	0	0	0
15	7	24	29		43	48	250	634	1	0	0	0
16	7	26	b40		22	53	176	704	1	0	0	0
17	4	29			23	64	244	608	0	0	0	0
18	7	26			30	75	299	308	0	0	81	0
19	8	23			17	71	368	313	0	0	291	0
20	7	24			9	67	264	278	0	0	24	0
21	6	25			11	60	328	238	0	109	8	0
22	18	20			36	48	181	176	0	50	4	0
23	24	28			29	40	104	202	0	39	3	0
24	20	45	*b35		29	52	93	172	0	52	69	0
25	18	41			34	46	145	142	0	34	9	0
26	32	45			43	39	196	244	0	23	4	0
27	24	36		(*)	35	39	202	232	0	11	0	0
28	26	38			35	40	220	163	0	7	0	64
29	32	38			43	34	360	128	0	2	0	19
30	36	36			-	39	271	126	0	0	0	12
31	45	-			-	48	-	150	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	389	45	0	12.5	772
November.....	989	45	20	33.0	1,980
December.....	1,007	-	-	32.5	2,000
Calendar year.....	-	-	-	-	2,460
January.....	1,240	-	-	-	-
February.....	1,270	52	9	40.0	2,460
March.....	1,395	75	22	33.4	1,920
April.....	7,443	536	60	46.0	2,770
May.....	8,108	704	117	248	14,760
June.....	649	117	0	261	16,080
July.....	351	109	0	21.6	1,290
August.....	507	291	0	11.3	696
September.....	95	64	0	16.4	1,010
Water year 1943-44.....	23,141	704	0	3.2	188
Water year 1943-44.....	23,141	704	0	63.2	45,910

Peak discharge.— May 16 (2 p.m.) 1,190 sec.-ft.; July 21 (12:30 p.m.) 344 sec.-ft.; Aug. 18

(7 a.m.) 808 sec.-ft.; Aug. 19 (12:15 a.m.) 2,420 sec.-ft.; Aug. 24 (8 a.m.) 285 sec.-ft.

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Tijeras Creek near Albuquerque, N. Mex.

Location.— Water-stage recorder and concrete control, lat. 35°03'40", long. 106°29'40", in SW¼ sec. 26, T. 10 N., R. 4 E., at Mann diversion dam and 9 miles east of Albuquerque.

Records available.— April 1943 to September 1944 in reports of Geological Survey. January 1921 to January 1922 in reports of State engineer.

Extremes.— Maximum discharge during year, 6,410 second-feet July 19 (gage height, 8.75 feet), from rating table extended above 1,100 second-feet; minimum daily, 0.3 second-foot July 26, Aug. 1.

1943-44: Maximum discharge, that of July 19, 1944; minimum daily, that of July 26 Aug. 1, 1944.

Remarks.— Records poor. Several diversions above station for irrigation.

Cooperation.— One discharge measurement furnished by Corps of Engineers, U. S. Army.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.9	1.4	1.4	b2.3	2.0	1.4	1.4	0.9	0.9	2.4	0.3	1.1
2	.9	1.4	1.4	2.4	*2.0	1.4	1.2	.7	.8	1.9	a.4	1.3
3	.9	1.4	1.5	2.3	2.0	1.6	1.1	1.0	.7	1.9	a.4	1.8
4	.9	1.2	1.5	2.2	1.9	1.6	1.3	1.0	.8	12	a.5	1.7
5	.9	1.2	1.4	b2.1	1.9	1.5	1.8	1.0	1.1	2.9	a.5	1.5
6	1.0	1.1	1.4	*b1.9	2.1	1.4	1.8	.9	6.0	1.9	a.7	1.6
7	1.0	1.3	1.4	2.2	2.0	1.5	1.9	1.1	3.0	1.3	.9	1.6
8	1.2	1.4	1.4	b1.5	1.9	1.4	1.9	.7	2.1	1.1	16	1.5
9	1.2	1.7	a5.0	b1.6	1.9	1.4	2.1	.7	2.0	1.1	6.3	1.4
10	.8	1.7	3.9	b1.9	*1.8	1.4	3.2	.7	2.2	1.1	.6	.9
11	.8	1.5	2.7	2.1	b1.7	1.5	2.4	.7	2.2	1.0	49	.5
12	.7	1.5	2.3	2.0	1.7	1.4	2.0	.6	1.8	.9	1.8	1.1
13	.7	1.7	2.6	*b1.6	1.6	1.4	2.2	.7	1.3	.9	1.7	1.5
14	.8	1.5	2.4	b1.6	b1.5	1.4	2.4	.8	1.4	2.8	1.5	1.7
15	1.0	1.6	2.4	b1.4	*1.6	1.5	2.1	1.4	1.4	1.8	1.2	1.8
16	1.1	1.5	2.3	1.7	1.6	1.5	2.0	1.4	.8	.9	1.4	3.0
17	1.3	1.1	2.3	1.7	1.6	1.5	2.1	1.2	.6	.9	1.7	4.8
18	1.4	2.0	2.3	*1.6	1.6	1.9	1.8	1.3	.6	.9	2.0	2.4
19	1.5	1.1	2.3	1.7	1.5	2.0	2.4	1.2	.5	200	2.7	2.2
20	1.1	1.2	*2.1	1.9	1.5	2.0	1.9	.7	.4	23	1.8	2.1
21	1.0	1.3	2.1	1.8	1.6	1.9	2.1	.6	.5	29	1.8	1.9
22	.9	1.2	2.4	1.7	1.4	1.9	2.6	1.1	.7	a2	1.6	1.7
23	.9	1.3	2.4	1.8	1.5	1.5	1.9	.9	1.0	a1	1.7	1.8
24	.9	1.4	2.4	1.9	1.4	1.6	1.8	.7	1.2	a1	3.8	1.5
25	.9	1.1	2.7	2.2	1.6	1.5	1.8	.6	1.5	.6	2.0	1.5
26	.9	1.2	2.6	2.5	1.7	1.8	1.8	.9	1.6	.3	1.8	1.6
27	.9	1.3	b2.1	*2.3	1.6	1.7	1.4	1.1	2.0	.4	1.7	240
28	.9	1.3	b2.4	2.2	1.6	1.8	1.4	.9	2.0	1.1	1.7	a5
29	5.7	1.2	*2.6	2.1	1.4	1.8	1.4	.7	2.1	1.4	1.6	a3
30	2.0	1.2	2.6	2.1	-	1.8	1.2	.7	2.2	.4	1.5	1.1
31	1.3	-	b2.1	2.1	-	1.6	-	.9	-	.4	1.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	36.4	5.7	0.7	1.17	72
November.....	40.0	1.7	1.0	1.53	79
December.....	70.4	5.0	1.4	2.27	140
Calendar year.....	-	-	-	-	-
January.....	60.2	2.4	1.4	1.94	119
February.....	49.2	2.1	1.4	1.70	98
March.....	49.1	2.0	1.4	1.68	97
April.....	56.2	3.2	1.1	1.87	111
May.....	27.8	1.4	.6	.90	55
June.....	45.4	6.0	.4	1.61	90
July.....	298.3	200	.3	9.62	592
August.....	111.9	49	.3	3.61	222
September.....	294.1	240	.5	9.80	583
Water year 1943-44.....	1,139.0	240	.3	3.11	2,260

Peak discharge.— July 19 (4 p.m.) 6,410 sec.-ft.; Aug. 11 (5 p.m.) 1,050 sec.-ft.; Sept. 27 (8:30 p.m.) 4,110 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge estimated on basis of weather records and available trace.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Rio Puerco near Cabezón, N. Mex.

Location.- Water-stage records, and concrete control, lat. 35°42'10", long. 107°00'40", in SE $\frac{1}{4}$  sec. 14, T. 17 N., R. 2 W., 1 $\frac{1}{2}$  miles downstream from San Luis diversion dam, 2 $\frac{1}{2}$  miles northeast of San Luis, 7 miles northeast of Cabezón, and 15 miles upstream from Chico Arroyo.

Drainage area.- 360 square miles.

Records available.- February 1943 to September 1944.

Extremes.- Maximum discharge during water year, 4,190 second-feet July 21 (gage height, 10.28 feet); no flow at times.

1943-44: Maximum discharge, 4,400 second-feet June 28, 1943 (gage height, 10.6 feet), by slope-area method; no flow at times each year.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a0.2	1.0	a0.2		b2	1.3	a0.2	6.8	45	0.1	0.2	0.1
2	13	a.5	*.2		3.7	6.2	a.1	1.2	40	.1	.2	.1
3	35	a.3	.2		5.9		a.1	.5	28	.6	.1	.1
4	31	a.2	.2		5.4	8.8	.1	.4	16	.2	.1	.1
5	24	a.2	.2		6.5	a3	.1	1.1	a6	.2	.1	0
6	6.6	a.2	.4		9.1	a2	.1	5.6	a1	.1	.1	0
7	21	a.2	1.0		*9.9	a1	.1	36	1.0	0	.1	.1
8	a6	a.2	1.0		6.6	1.0	.3	50	4.0	0	.2	0
9	a2	a.2	2.0		4.0	1.0	2.4	59	.8	.1	30	0
10	a1	a.2	2.5		1.4	.6	16	85	.1	0	22	0
11	a.3	a.2	*1.0		a.5	.8	57	108	.1	0	a1	.1
12	a.2	a.2	.8		*.2	4.2	26	85	.1	.1	a.2	.1
13	a.2	.2	.6		.8	3.2	21	97	.1	0	a.1	.1
14	.2	.2	1.0	b0.1	.3	a.3	25	125	.1	0	a.1	.1
15	.2	.1	b.4		.2	a.2	11	151	0	0	.1	.2
16	.2	.1	b.3		b.2	a.2	a5	163	0	0	.1	.1
17	.2	.1	b.2	(*)	*b.4	a.2	a2	139	0	0	.8	.1
18	.2	.1	b.1		.3	a.2	a1	105	0	0	195	.1
19	.2	.1	b.1		.5	a.5	1.7	81	0	.2	27-	.1
20	.2	.2	b.1		.4	1.3	3.1	91	0	3.8	26	.1
21	.2	.2	b.1		.3	a.5	6.4	87	0	747	.3	.1
22	.2	*.1	b.1		.3	a.3	4.5	72	0	25	.2	.1
23	.2	.2	b.1		.3	2.4	2.4	64	.1	7.4	.2	.1
24	.2	1.6	b.1		.3	15	a1.2	56	0	11	13	.1
25	.2	4.3	b.1		.6	16	.9	40	.1	5.9	3.6	.2
26	.2	2.4	.1		.4	6.9	1.3	28	0	2.1	1.1	7.1
27	.2	1.6	.1		.3	3.6	.8	36	0	.4	.8	3.8
28	.3	a.6	0		.3	1.6	1.5	21	0	.3	.3	47
29	.3	a.3	0	*b.1	.3	a.7	7.8	25	0	a.2	.1	8.8
30	3.5	a.2	*.1	b.2	-	a.5	9.9	73	.2	a.1	.1	a1
31	2.8	-	.1	b.8	-	a.3	-	68	-	.1	.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	150.2	35	0.2	4.85	298
November.....	16.2	4.3	.1	.54	32
December.....	13.4	2.5	0	.43	27
Calendar year.....	-	-	-	-	5,220
January.....	3.9	0.8	-	.13	7.7
February.....	61.4	9.9	.2	2.12	122
March.....	103.8	20	.2	3.36	206
April.....	209.0	57	.1	6.97	415
May.....	1,960.6	163	.4	63.2	3,890
June.....	142.7	45	0	4.76	283
July.....	805.0	747	0	26.0	1,600
August.....	323.3	195	.1	10.4	641
September.....	69.9	47	0	2.33	139
Water year 1943-44.....	3,859.4	747	0	10.5	7,660

Peak discharge.- Oct. 7 (10 p.m.) 444 sec.-ft.; July 21 (3 a.m.) 4,190 sec.-ft.; Aug. 9 (5 p.m.) 524 sec.-ft.; Aug. 18 (7 p.m.) 1,800 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of available records and knowledge of local conditions.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Puerco at Rio Puerco, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 34°47'35", long. 106°59'15", in W<sup>1</sup>/<sub>4</sub> sec. 31, T. 7 N., R. 1 W. (projected), in hamlet of Rio Puerco in San Clemente Grant, at Atchison, Topeka & Santa Fe Railway bridge, 7 miles downstream from San Jose River.

Drainage area.- 5,160 square miles.

Records available.- September 1910 to October 1911, August 1912 to December 1914 (records fragmentary, gage heights only prior to March 1913) and March 1934 to September 1944 in reports of Geological Survey. January 1913 to December 1925 and September 1926 to December 1927 in reports of State engineer.

Average discharge.- 19 years (1913-17, 1919-20, 1921-24, 1926-27, 1934-44), 102 second-feet.

Extremes.- Maximum discharge during year, 14,600 second-feet July 21 (gage height, 4.88 feet), from rating curve extended above 2,500 second-feet by logarithmic plotting on basis of computation of flow over dam at gage height 7.24 feet; no flow at times. 1934-44: Maximum discharge, 28,000 second-feet Aug. 21, 1935 (gage height, 7.24 feet), by computation of flow over dam; no flow at times.

Remarks.- Records good above 100 second-feet, poor below. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2	1	1	0	15	4	0	0	a60	0	a5	0
2	1	1	2	0	16	4	0	0	36	0	a1	0
3	0	1	1	0	14	3	0	0	a20	0	a0	0
4	0	1	0	0	12	3	0	0	a15	327	a0	0
5	40	1	2	0	15	1	0	0	a5	436	a0	0
6	52	1	1	0	14	0	0	0	a2	a550	a0	0
7	36	0	1	0	14	1	0	0	a1	a120	a0	0
8	20	0	1	1	14	0	0	0	a0	a60	52	0
9	24	0	2	1	9	0	0	0	a0	a35	209	0
10	11	1	6	1	16	0	0	0	a0	a15	1,130	0
11	28	1	1	1	15	0	0	0	a0	a5	528	0
12	14	1	1	1	11	0	0	14	0	a1	204	0
13	3	1	1	1	15	0	0	45	0	a0	280	0
14	1	1	0	0	6	0	0	36	0	0	196	0
15	1	1	0	0	6	0	0	52	0	0	93	0
16	1	1	0	0	16	0	0	100	0	0	31	36
17	1	1	0	0	12	0	0	119	0	0	a10	28
18	1	1	0	0	7	0	2	170	0	0	1,620	3
19	1	1	0	0	6	0	2	108	0	59	874	39
20	1	1	0	0	3	0	1	a75	0	24	646	11
21	1	1	0	2	4	0	0	42	0	5,580	55	3
22	1	1	0	8	2	0	0	58	0	1,770	22	0
23	1	1	0	16	1	2	0	70	0	179	6	0
24	1	1	0	36	1	5	0	75	0	290	1	0
25	1	2	0	75	4	2	0	70	0	280	0	0
26	1	3	0	70	2	2	0	70	0	230	4	1
27	1	3	0	36	3	1	0	589	0	179	3	1
28	1	1	0	28	7	0	0	a250	0	93	2	157
29	1	1	0	26	3	0	0	a200	0	a50	0	720
30	2	1	0	18	-	0	0	a150	0	a20	0	182
31	2	-	0	20	-	0	-	a100	-	a10	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	251	52	0	8.1	498
November.....	32	3	0	1.1	63
December.....	21	6	0	.7	42
Calendar year 1943.....	12,924	1,590	0	35.4	25,640
January.....	339	75	0	10.9	672
February.....	263	16	1	9.1	522
March.....	28	5	0	.9	56
April.....	5	2	0	.2	9.9
May.....	2,371	569	0	76.5	4,700
June.....	139	60	0	4.6	276
July.....	10,013	5,580	0	323	19,860
August.....	5,972	1,820	0	193	11,850
September.....	1,161	720	0	38.7	2,300
Water year 1943-44.....	20,595	5,580	0	56.3	40,850

Peak discharge.- May 27 (4 a.m.) 4,530 sec.-ft.; July 4 (9 p.m.) 3,140 sec.-ft.; July 21 (10 p.m.) 14,600 sec.-ft.; Aug. 8 (11:45 p.m.) 2,610 sec.-ft.; Aug. 18 (11 a.m.) 11,600 sec.-ft.; Sept. 28 (10:45 p.m.) 3,750 sec.-ft.

a No gage-height record; discharge computed on basis of records for stations near Bernardo and near Cabeson.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Puerco near Bernardo, N. Mex.

Location.- Water-stage recorder, lat. 34°24'30", long. 106°51'10", in Sevilleta Grant, at bridge on U. S. Highway 85, 1.2 miles southwest of Bernardo, 3 miles upstream from mouth, and 16 miles south of Belen.

Records available.- November 1939 to September 1944. September 1910 to August 1914 (fragmentary gage heights only), at site  $\frac{1}{2}$  miles downstream, published as Rio Puerco near La Joya.

Extremes.- Maximum discharge during year, 18,300 second-feet July 22 (gage height, 10.00 feet), from rating curve extended above 600 second-feet by logarithmic plotting; no flow for extended periods.

1939-44: Maximum discharge, 18,800 second-feet Sept. 23, 1941, from rating curve extended above 7,800 second-feet by logarithmic plotting: No flow for extended periods.

Remarks.- Records poor. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0		0	0	6			0	1	0	0	0
2	0		0	0	5			0	27	0	0	0
3	0		0	0	4			0	25	0	0	0
4	0		0	0	3			0	14	0	0	0
5	0		0	0	2			0	7	1,160	0	0
6	0		0	0	2			0	3	a260	0	0
7	0		0	0	3			0	2	25	0	0
8	1		0	0	3			0	2	6	0	0
9	1		3	0	2			0	0	4	73	0
10	0		0	0	2			0	0	3	405	0
11	0		0	0	2			0	0	2	729	0
12	0		0	0	0			0	0	0	309	0
13	0		0	0	0			0	0	0	80	0
14	0		0	0	0			2	0	0	98	0
15	0		0	0	0			8	0	0	33	0
16	0		0	0	0			15	0	0	12	0
17	0		0	0	0			37	0	0	4	0
18	0		0	0	0			42	0	0	1,160	0
19	0		0	0	0			37	0	121	1,060	1
20	0		0	0	0			14	0	134	682	6
21	0		0	0	0			4	0	4,050	a340	4
22	0		0	0	0			2	0	6,730	a50	1
23	0		0	0	0			5	0	391	a20	0
24	0		0	0	0			2	0	193	a10	0
25	0		0	0	0			2	0	73	a2	0
26	0		0	42	0			19	0	122	a0	0
27	0		0	51	0			993	0	22	a0	0
28	0		0	19	0			175	0	2	0	1
29	0		0	11	0			12	0	0	0	763
30	0		0	10	0			2	0	0	0	308
31	0		0	8	-			1	-	0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2	1	0	0.1	4.0
November.....	0	0	0	0	0
December.....	5	3	0	.1	6.0
Calendar Year 1943.....	15,190	2,510	0	41.6	30,130
January.....	141	51	0	4.5	280
February.....	34	6	0	1.2	67
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	1,372	993	0	44.3	2,720
June.....	81	27	0	2.7	161
July.....	13,298	6,730	0	429	26,380
August.....	5,067	1,160	0	163	10,050
September.....	2,084	763	0	36.1	2,160
Water year 1943-44.....	21,082	6,730	0	57.6	41,820

Peak discharge.- May 27 (2:15 p.m.) 4,700 sec.-ft.; July 5 (9 a.m.) 4,360 sec.-ft.; July 21 (10 p.m.) 12,700 sec.-ft.; July 22 (7 a.m.) 18,300 sec.-ft.; Aug. 18 (7:30 p.m.) 15,400 sec.-ft.; Sept. 29 (10 a.m.) 3,730 sec.-ft.

a No gage-height record; discharge computed on basis of records for station near Rio Puerco.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Chico Arroyo near Guadalupe, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 33°35'30", long. 107°11'05", in W<sup>1</sup>/<sub>4</sub> Sec. 29, T. 16 N., R. 3 W., a quarter of a mile upstream from mouth, 5 miles northwest of Guadalupe, and 8.1 miles by road west of Cabezón.

Drainage area.- 1,390 square miles.

Records available.- November 1943 to September 1944.

Extremes.- Maximum discharge during period, 12,700 second-feet July 21 (gage height, 12.72 feet), from rating curve extended above 2,500 second-feet by logarithmic plotting; no flow at times.

Remarks.- Records poor. No diversions above station.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1		-	a0	0	2			0		0	0	0
2		-	0	b0	2			0		3	0	0
3		-	0	0	1			0		33	0	0
4		-	0	0	1			0		327	0	0
5		-	0	0	1			0		12	1	0
6		-	0	0	1			0		0	3	0
7		-	0	b0	1			0		0	1	0
8		-	0	b0	0			0		0	2	0
9		-	1	b0	0			0		0	778	0
10		-	0	b0	1			0		0	381	0
11		-	0	b0	0			0		0	19	0
12		-	0	0	0			0		5	257	0
13		-	0	0	0			0		1	a15	0
14		-	0	b0	0			0		0	a1	0
15		-	0	b0	0			5		0	0	0
16		-	0	0	0			0		0	0	3
17		-	0	*b0	0			0		a0	22	181
18		-	0	b0	0			0		0	249	17
19		-	0	b0	0			0		7	61	a2
20		-	0	b0	0			0		36	35	0
21		-	0	b0	0			0		2,490	8	0
22		-	0	b0	0			0		32	1	0
23		-	0	b0	0			0		13	0	0
24		-	0	b0	0			0		268	8	0
25		0	0	0	0			0		86	5	0
26		0	0	0	0			0		5	1	57
27		0	0	b0	0			0		2	0	90
28		0	0	1	0			1		1	0	868
29		0	0	*0	0			1		0	0	a40
30		a0	*0	1	-			5		0	0	a10
31		-	0	3	-			a1		0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	-	-	-	-	-
November 25-30.....	0	0	0	0	0
December.....	1	1	0	.03	2.0
Calendar year.....	-	-	-	-	-
January.....	5	3	0	.2	9.9
February.....	10	2	0	.3	20
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	13	5	0	.4	26
June.....	0	0	0	0	0
July.....	3,321	2,490	0	107	6,590
August.....	1,848	778	0	59.6	3,870
September.....	1,266	866	0	42.2	2,510
The period.....	-	-	-	-	12,830

Peak discharge.- July 4 (1 a.m.) 4,060 sec.-ft.; July 21 (3 a.m.) 12,700 sec.-ft.; July 24 (5 a.m.) 1,890 sec.-ft.; Aug. 9 (3 a.m.) 2,510 sec.-ft.; Sept. 28 (5 a.m.) 2,460 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge estimated.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

## Bluewater Creek near Bluewater, N. Mex.

Location.— Water-stage recorder, lat. 35°17'50", long. 108°01'40", in W&SW¼ sec. 5, T. 12 N., R. 11 W., 2½ miles northwest of Bluewater and 8 miles downstream from storage reservoir of Bluewater-Toltec Irrigation District.

Drainage area.— 235 square miles.

Records available.— May 1912 to December 1914 and October 1930 to September 1944 in reports of Geological Survey. May 1912 to June 1919 and April 1921 to December 1931 in reports of State engineer.

Average discharge.— 14 years (1930-44), 16.8 second-feet (unadjusted).

Extremes.— Maximum discharge during year, 128 second-feet Sept. 16 (gage height, 3.92 feet); minimum daily, 0.8 second-foot Sept. 12.

1930-44: Maximum discharge, 1,010 second-feet Sept. 1, 1936 (gage height, 6.15 feet, site and datum then in use), from rating curve extended above 65 second-feet by logarithmic plotting; no flow Mar. 9, 1931, Feb. 3, 1935.

Remarks.— Records good except those for periods of ice effect, which are fair. Flow regulated by Bluewater-Toltec Reservoir (capacity, 46,000 acre-feet).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	10	6.7	b6.2			2.5	8.1	22	38	28	27	6.0
2	11	6.7	b6.2			2.5	8.1	25	38	28	29	8.1
3	11	6.5	b6.2			2.5	13	27	38	28	28	6.9
4	11	6.5	b6.2		(*)	2.4	15	26	38	28	35	4.9
5	10	a6.7	4.3			2.5	15	26	38	a24	36	4.2
6	10	6.5	3.2			2.4	15	22	38	a24	30	3.3
7	10	6.3	3.2			2.4	11	20	36	a24	29	2.6
8	10	b6.3	3.0	(*)		2.4	7.6	20	33	a24	28	2.1
9	10	6.5				2.4	4.3	20	38	a24	26	1.6
10	11	6.5		(*)		a2.4	3.2	20	39	a24	22	1.1
11	14	6.5				2.4	2.9	20	39	a24	21	.9
12	15	6.3				2.4	2.7	20	37	24	26	.8
13	14	6.3				2.4	2.8	22	36	28	24	.9
14	14	6.3				2.4	15	23	36	29	22	13
15	15	6.2			b2.5	2.6	20	23	36	30	24	3.0
16	15	6.2				2.4	20	27	36	32	22	8.4
17	14	6.2				2.4	18	32	36	33	10	15
18	14	6.2				2.7	15	32	36	32	3.4	14
19	15	6.2				2.7	15	36	39	30	2.5	13
20	15	6.2				2.6	15	41	39	5.6	1.8	3.2
21	15	6.2				2.5	15	48	39	3.0	1.4	1.4
22	14	6.2				2.4	15	49	40	2.3	1.2	1.1
23	14	6.3				2.4	15	49	43	2.0	1.1	9.2
24	14	6.3				4.4	15	48	43	2.0	1.2	3.1
25	14	6.2				5.6	15	48	43	1.7	9.6	1.5
26	7.8	6.2				5.6	15	44	35	1.4	10	5.2
27	6.9	6.2				7.6	15	39	23	15	9.5	1.6
28	6.9	b6.2				8.1	15	38	20	17	2.8	3.8
29	7.3	b6.2			2.5	8.3	17	39	24	22	1.2	3.2
30	6.9	b6.2			2.5	8.3	22	39	28	22	4.1	1.3
31	6.9	-			-	8.1	-	38	-	22	7.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	362.7	15	6.9	11.7	719
November.....	190	6.7	6.2	6.33	377
December.....	107.5	6.2	-	3.47	213
Calendar year 1943.....	9,748.5	79	-	26.7	19,340
January.....	77.5	-	-	2.50	154
February.....	72.5	-	-	2.50	144
March.....	112.7	8.5	2.4	3.64	224
April.....	383.7	22	2.7	12.8	761
May.....	983	49	20	31.7	1,950
June.....	1,082	43	20	36.1	2,180
July.....	632	35	1.4	20.4	1,250
August.....	496.4	36	1.1	16.0	985
September.....	144.4	15	.8	4.81	286
Water year 1943-44.....	4,644.4	49	.8	12.7	9,210

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of recorded range in stage and knowledge of operation of reservoir.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## San Jose River at Correo, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 34°58'00", long. 107°10'10", in NE¼ sec. 32, T. 9 N., R. 3 W., 0.6 mile upstream from U. S. Highway 66, 0.7 mile northeast of Correo, and 13 miles upstream from mouth.

Records available.- April 1943 to September 1944.

Extremes.- Maximum discharge during year, 8,010 second-feet May 26 (gage height, 9.20 feet); from rating curve extended above 1,700 second-feet by logarithmic plotting; no flow at times.

1943-44: Maximum discharge, that of May 26, 1944; no flow at times.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Several diversions above station for irrigation.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					b15	3.8		0		0	0	0
2					*13	3.3		0		0	0	0
3					12	3.0		0		0	0	0
4					14	2.6		0		0	0	0
5					14	2.8		0		1	0	0
6					12	.6		0		23	0	0
7					12	*.2		0		0	0	0
8				(*)	12	.3		0		0	.1	0
9					9.5	.5		0		0	.8	0
10					7.4	.9		0		0	129	0
11				b1	7.9	*1.0		0		0	48	0
12					7.0	.7		0		0	138	0
13					7.0	.6		0		0	63	0
14					b5	.3		0		0	46	0
15				(*)	*b5	0		0		0	38	0
16					7.4	0		0		0	25	0
17					5.7	0		0		0	1.0	0
18					4.7	.9		0		0	91	0
19					3.5	b3		0		29	280	0
20					3.1	b2		0		65	209	0
21				b3	*2.6	b2		0		936	22	0
22				b10	1.9	b1		0		328	10	0
23				b20	b1.5	*b1		0		62	5	0
24				b50	2.6	4.7		0		147	0	0
25				*b60	3.1	4.5				19	22	0
26				b50	3.8	1.9		412		5	6.7	0
27				*b30	4.3	.4		252		0	2.6	0
28				b20	*3.5	0		20		0	0	0
29				b20	3.8	0		5		0	0	73
30				b16	-	0		1		0	0	17
31				b18	-	0		0		0	0	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year .....	-	-	-	-	-
January.....	317	60	1	10.2	629
February.....	204.3	15	1.5	7.04	405
March.....	42	4.7	0	1.35	83
April.....	0	0	0	0	0
May.....	690	412	0	22.3	1,370
June.....	0	0	0	0	0
July.....	1,593.4	936	0	51.4	3,180
August.....	1,137.2	280	0	36.7	2,280
September.....	90.0	73	0	8.0	179
Water year 1943-44.....	4,073.9	936	0	11.1	8,090

Peak discharge.- May 26 (10:30 p.m.) 8,010 sec.-ft.; July 21 (2:30 a.m.) 2,770 sec.-ft.; Aug. 12 (11 p.m.) 748 sec.-ft.

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Note.- No gage-height record Dec. 28 to Jan. 14 (stage discharge relation affected by ice during most of period), May 28-31, July 26, Aug. 23, 28, 29.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Socorro main canal north at San Acacia, N. Mex.

Location.- Water-stage recorder, lat.  $34^{\circ}15'15''$ , long.  $106^{\circ}53'50''$ , in SE  $\frac{1}{4}$  sec. 1, T. 1 S., R. 1 W., at San Acacia, half a mile downstream from point of diversion from Rio Grande. Zero of gage is 4,659.74 feet above mean sea level, datum of 1929.

Records available.- April 1936 to September 1944.

Extremes.- Maximum daily discharge during year, 177 second-feet Oct. 8; no flow at times. 1937-44: Maximum discharge, 315 second-feet sometime during July 22-24, 1940 (gage height, 5.67 feet, from recorded range in stage); no flow at times.

Remarks.- Records fair. Canal diverts water from right bank of Rio Grande for irrigation. Three acequias, together irrigating about 300 acres, divert water from canal above station.

Monthly discharge, in second-feet, 1943-44

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,475	177	33	144	8,890
November.....	3,389	161	76	113	6,720
December.....	299	93	0	9.6	593
Calendar year 1943 .....	46,050	208	0	126	91,330
January.....	0	0	0	0	0
February.....	1,067	99	0	36.8	2,120
March.....	3,545	158	58	114	7,030
April.....	4,551	167	107	151	8,990
May.....	4,714	175	47	162	9,350
June.....	4,357	174	83	145	8,640
July.....	4,520	171	45	146	8,970
August.....	3,746	175	0	121	7,430
September.....	4,199	155	115	140	8,330
Water year 1943-44 .....	38,842	177	0	106	77,050

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Pecos River near Pecos, N. Mex.

Location.- Water-stage recorder, lat. 35°42'25", long. 105°41'00", in NE1/4 sec. 17, T. 17 N., R. 12 E., at bridge on private road, 800 feet upstream from Indian Creek, 2 miles downstream from Holy Ghost Creek, and 11 miles north of Pecos.

Drainage area.- 189 square miles (contributing area).

Records available.- March 1910 to December 1914 (published as Pecos River near Cowles) and October 1930 to September 1944 in reports of Geological Survey. March 1910 to December 1931 (published as Pecos River near Cowles prior to 1926) in reports of State engineer.

Average discharge.- 14 years (1930-44), 115 second-feet.

Extremes.- Maximum discharge during year, 778 second-feet May 15 (gage height, 3.64 feet); minimum daily, not determined.  
1930-44: Maximum discharge, 1,960 second-feet May 14, 1941 (gage height, 4.57 feet); minimum daily, 6.1 second-feet Jan. 16, 1934.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	31	b27				41	105	596	175	94	46
2	37	26	b28				41	138	590	175	88	43
3	43	30	b29			a25	39	128	578	184	82	42
4	41	30	b29				46	107	530	194	81	41
5	39	30	b30				*55	116	486	216	84	42
6	39	29	*30				73	178	466	330	118	42
7	41	23					82	256	524	260	88	40
8	39	b23		a25			88	283	497	a220	81	39
9	37	b27					82	300	480	200	103	38
10	34	b28	b30				70	370	492	181	95	37
11	34	b29				a30	64	420	492	184	90	37
12	37	*30					70	470	453	153	81	35
13	37	30					95	475	400	161	78	34
14	37	30					82	514	356	170	68	34
15	35	28			a25		71	636	325	153	65	33
16	34	30		(*)			71	690	300	153	62	35
17	33	30				*32	67	596	275	150	82	48
18	32	29				38	62	492	252	140	68	39
19	38	*28				32	82	456	234	153	68	35
20	36	29				31	79	506	223	161	62	35
21	32	29	a25	a30		32	71	542	223	307	58	32
22	35	29				b32	65	566	223	203	55	32
23	34	27				b32	61	596	203	184	58	31
24	31	30				32	64	616	194	197	61	33
25	32	28				35	68	578	197	167	61	35
26	*32	30				31	70	508	212	148	58	39
27	30	30				30	82	453	175	135	55	38
28	32	b29				29	110	426	158	121	55	47
29	36	b28		a25		30	103	464	156	114	54	40
30	36	b28				32	94	542	181	103	49	35
31	33	-				36	-	590	-	97	47	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,107	43	30	35.7	2,200
November.....	858	31	23	28.6	1,700
December.....	828	-	-	26.7	1,640
Calendar year 1943 .....	27,715	432	-	75.9	54,970
January.....	835	-	-	28.9	1,660
February.....	725	-	-	25.0	1,440
March.....	939	38	-	30.3	1,880
April.....	2,148	110	39	71.6	4,260
May.....	13,149	690	105	424	26,080
June.....	10,481	596	156	350	20,810
July.....	5,469	330	97	176	10,850
August.....	2,227	118	47	71.8	4,420
September.....	1,135	48	31	37.8	2,850
Water year 1943-44 .....	39,911	690	-	109	79,170

Peak discharge.- May 15 (12 p.m.) 788 sec.-ft.; July 6 (4 a.m.) 448 sec.-ft.; July 21 (2 a.m.)

497 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of discharge measurements, weather records, and records for station near Anton Chico.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Pecos River near Anton Chico, N. Mex.

Location.- Water-stage recorder, lat. 35°10'50", long. 105°06'20", in Anton Chico Grant, 2 miles upstream from Canyon Blanco, 2½ miles southeast of Anton Chico, and 10 miles downstream from Tecolote Creek.

Drainage area.- 1,050 square miles (contributing area).

Records available.- April 1910 to December 1914 and October 1930 to September 1944 in reports of Geological Survey. April 1910 to December 1931 in reports of State engineer. Prior to July 2, 1937, station was at five different sites during successive periods ranging from a sixth of a mile to 5 miles upstream from present site.

Average discharge.- 14 years (1930-44), 163 second-feet.

Extremes.- Maximum discharge during year, 2,240 second-feet July 21 (gage height, 4.78 feet); minimum daily, 7.5 second-feet Sept. 19.

1930-44: Maximum discharge, 40,300 second-feet June 1, 1937 (gage height, 20.34 feet, present site and datum), by slope-area method; 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.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	132	19	18	a18	19	29	45	148	517	91	42	16
2	35	19	14		20	31	53	138	524	119	35	16
3	29	18	b13		21	31	63	170	510	164	29	16
4	26	14	b14		18	34	66	196	492	148	24	16
5	28	12	16		16	38	57	170	468	252	20	15
6	31	13	16	a17	16	38	70	150	432	238	a70	12
7	31	15	19		18	36	91	159	474	380	a190	9.2
8	30	15	*18		17	*37	128	291	492	248	81	9.2
9	42	14	28		17	37	145	336	462	210	66	10
10	26	11			b11	36	161	365	438	538	84	11
11	23	11	b20	a17	b11	37	140	498	438	188	553	12
12	20	14			b11	38	110	566	438	135	193	13
13	19	15			b12	40	89	566	385	119	78	11
14	19	*15			b12	41	112	597	526	148	67	12
15	19	14			b13	45	135	629	287	176	54	12
16	19	14	b19	a18	b12	46	106	730	263	132	42	13
17	19	15			b12	47	87	690	244	121	27	13
18	18	14			18	47	79	573	227	117	23	12
19	17	12			b18	20	49	78	492	206	123	156
20	16	13			b18	19	59	91	498	164	130	96
21	16	13	b18	20	17	54	112	524	150	235	51	8.5
22	19	13		21	19	52	108	524	135	479	40	8.0
23	18	13		*22	28	44	106	538	138	238	28	11
24	17	14		24	28	44	91	552	145	238	24	14
25	18	16		21	28	44	78	559	150	275	35	9.9
26	16	20	a16	26	28	49	78	517	140	210	36	11
27	15	21		24	31	55	97	480	135	152	30	14
28	15	18		13	32	52	119	433	106	117	51	15
29	15	16		b16	31	49	150	420	86	86	21	18
30	15	18		b17	-	48	167	420	66	69	19	18
31	17	-		b18	-	40	-	492	-	57	17	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	780	132	15	25.2	1,560
November.....	449	21	11	15.0	891
December.....	561	28	13	18.1	1,110
Calendar year 1943	26,488.5	398	5.6*	72.6	52,540
January.....	572	26	13	18.5	1,130
February.....	555	32	11	19.1	1,100
March.....	1,327	59	29	42.8	2,630
April.....	3,002	167	45	100	5,950
May.....	13,456	730	138	434	26,690
June.....	9,038	524	66	301	17,950
July.....	5,736	479	57	185	11,380
August.....	2,262	555	17	78.0	4,490
September.....	371.5	18	7.5	12.4	737
Water year 1943-44	38,109.5	730	7.5	104	75,590

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of 1 discharge measurement, weather records, and records for stations at Santa Rosa and near Puerto de Luna.

b Stage-discharge relation affected by ice; discharge computed on basis of recorder graph, weather records, and records for stations at Santa Rosa and near Puerto de Luna.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Pecos River at Santa Rosa, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 34°56'05", long. 104°41'25", in SW 1/4 sec. 2, T. 8 N., R. 21 E., at bridge on U. S. Highway 66, at Santa Rosa, 1 mile upstream from Rio Agua Negra Chiquita.

Drainage area.- 2,650 square miles (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 1944 in reports of Geological Survey. February 1910 to July 1911 and September 1912 to December 1931 in reports of State engineer.

Average discharge.- 25 years (1912-14, 1916-23, 1928-44), 182 second-feet.

Extremes.- Maximum discharge during year, 1,520 second-feet June 7 (gage height, 4.09 feet); minimum daily, 28 second-feet (estimated) Dec. 28, 29.

1930-44: Maximum discharge, 55,200 second-feet June 2, 1937 (gage height, 25.7 feet), from rating curve extended above 35,000 second-feet by logarithmic plotting; minimum daily, 2.7 second-feet June 25, 1937.

Remarks.- Records good except those for periods of ice effect, which are fair. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	166	37	36	b53	29	33	35	50	280	41	41	41
2	106	37	37	b54	29	33	37	50	301	69	43	43
3	60	37	38	35	30	31	38	44	275	80	43	43
4	51	37	38	34	33	31	35	47	265	129	41	45
5	50	36	41	b32	35	30	33	71	270	67	50	51
6	48	37	41	31	33	30	34	74	255	218	48	45
7	50	40	41	30	33	32	35	51	611	92	43	46
8	51	38	*41	*31	33	33	32	51	250	231	41	47
9	45	38	40	b50	33	34	33	159	280	128	50	44
10	45	36	50	b50	34	34	67	231	226	301	51	40
11	43	36	60	b51	32	33	87	285	312	195	51	41
12	43	36	48	b51	31	34	80	405	260	121	384	41
13	40	35	44	b52	30	34	53	412	226	69	163	38
14	41	36	45	b52	30	34	36	405	179	48	67	37
15	43	36	45	b53	30	34	37	381	128	45	51	36
16	44	36	43	34	30	35	53	412	85	67	45	36
17	44	37	38	35	31	35	50	505	60	58	45	38
18	41	36	36	35	31	40	40	428	50	48	18	78
19	43	35	36	35	32	43	33	328	40	40	60	35
20	43	36	35	37	31	37	31	265	33	41	45	35
21	41	37	36	37	30	35	30	260	32	43	65	36
22	41	38	37	37	30	36	35	290	33	223	44	36
23	43	38	37	*36	30	35	45	270	34	231	41	37
24	45	38	37	36	30	33	40	328	38	135	45	40
25	45	38	37	34	30	33	34	381	37	92	53	43
26	44	40	38	40	30	34	30	340	41	115	51	43
27	45	41	30	40	34	34	29	285	37	78	44	111
28	44	38	b28	35	35	34	32	260	40	55	43	105
29	44	38	b28	33	33	35	32	250	38	40	41	43
30	41	37	b30	29	-	36	38	245	40	40	41	37
31	38	-	b31	29	-	36	-	236	-	40	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,568	166	38	50.6	3,110
November.....	1,115	41	35	37.2	2,210
December.....	1,198	60	28	38.6	2,380
Calendar year 1943.....	24,241	406	28	66.4	48,070
January.....	1,041	40	29	33.6	2,060
February.....	910	35	29	31.4	1,800
March.....	1,062	45	30	34.3	2,110
April.....	1,224	87	29	40.8	2,430
May.....	7,797	505	44	252	15,470
June.....	4,756	611	32	159	9,430
July.....	3,178	301	40	103	6,300
August.....	1,919	384	41	61.9	3,810
September.....	1,591	111	35	46.4	2,760
Water year 1943-44.....	27,159	611	28	74.2	53,870

\* Winter discharge measurement made on this day.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Pecos River near Puerto de Luna, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 34°43', long. 104°32', in sec. 29, T. 6 N., R. 23 E., 10 miles southeast of Puerto de Luna and 14 miles upstream from Alamogordo Dam.

Drainage area.- 3,970 square miles (contributing area).

Records available.- April 1938 to September 1944.

Extremes.- Maximum discharge during year, 2,920 second-feet June 7 (gage height, 2.82 feet); minimum daily, 78 second-feet Apr. 21, 27, 28.  
1938-44: Maximum discharge, 48,600 second-feet Sept. 1, 1942 (gage height, 17.00 feet), from rating curve extended above 7,400 second-feet on basis of flow at Santa Rosa; minimum daily, 59 second-feet Aug. 23, 1938.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Many diversions above station for irrigation. Discharge represents inflow to Alamogordo Reservoir (capacity, 157,000 acre-feet).

Cooperation.- Gage-height record collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	112	126	132	118	106	88	94	378	103	a95	103
2	300	122	115	126	118	109	97	106	394	109	a100	88
3	186	122	122	129	112	112	100	106	402	170	103	85
4	154	115	126	132	112	109	91	100	394	126	91	91
5	146	109	126	118	112	112	85	100	370	205	103	97
6	136	109	129	*118	109	100	88	122	349	174	166	100
7	129	112	129	118	106	103	88	126	1,810	225	112	94
8	126	109	129	106	109	103	88	100	a800	200	100	97
9	126	112	195	103	109	109	94	115	a900	368	112	91
10	122	112	156	115	106	109	112	210	a700	195	118	94
11	122	112	*150	118	106	106	140	252	a800	342	112	94
12	122	109	150	118	106	106	143	370	a600	190	309	100
13	118	112	162	115	112	109	156	510	a400	154	264	100
14	118	112	158	112	103	109	115	510	a356	122	170	106
15	118	115	146	118	109	109	103	562	a300	100	112	103
16	118	115	150	122	118	106	97	622	a250	109	103	109
17	115	115	140	122	118	97	106	814	a200	115	103	122
18	115	115	136	122	115	97	103	774	a160	100	103	136
19	118	112	132	118	122	118	88	500	a130	97	122	118
20	122	109	132	115	122	112	82	402	a110	80	126	103
21	118	115	129	122	115	103	78	378	112	82	97	103
22	118	112	132	118	112	97	85	378	115	88	126	100
23	122	122	132	118	112	100	100	378	132	394	103	97
24	122	129	132	118	115	97	100	394	132	246	118	115
25	122	129	132	118	115	100	94	426	126	a170	143	a130
26	129	136	126	136	109	106	82	530	122	a200	181	a140
27	122	136	b115	143	115	100	78	410	115	a160	174	a280
28	118	129	b120	132	129	97	78	386	118	a120	122	a400
29	118	126	b125	122	122	103	82	386	126	a90	109	a180
30	118	132	b125	118	-	94	80	370	122	a90	109	a130
31	118	-	126	115	-	97	-	471	-	a90	109	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,076	300	115	131	8,080
November.....	3,526	136	109	118	6,990
December.....	4,183	195	115	136	8,500
Calendar year 1943 .....	55,658	660	108	152	110,400
January.....	3,737	143	103	121	7,410
February.....	3,286	129	103	113	6,520
March.....	3,235	118	94	104	6,420
April.....	2,801	143	75	96.7	5,760
May.....	11,002	814	94	355	23,920
June.....	11,017	1,810	110	367	21,850
July.....	5,014	394	80	162	9,950
August.....	4,015	309	91	130	7,960
September.....	3,706	400	85	124	7,550
Water year 1943-44 .....	59,698	1,810	78	163	118,400

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for station at Santa Rosa.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Pecos River below Alamogordo Dam, N. Mex.  
(Formerly published as Pecos River near Guadalupe, N. Mex.)

Location.— Water-stage recorder, lat. 34°36'20", long. 104°23'10", in lot 1 sec. 2, T. 4 N., R. 24 E., 1,200 feet downstream from Alamogordo Dam, 1½ miles downstream from Alamogordo Creek, and 4½ miles northeast of Guadalupe. Datum of gage is 4,142.67 feet above mean sea level (Bureau of Reclamation datum).

Drainage area.— 4,390 square miles (contributing area).

Records available.— October 1912 to December 1914, October 1930 to September 1936 (at site 1½ miles upstream), and September 1936 to September 1944 in reports of Geological Survey. October 1912 to December 1931 in reports of State engineer.

Average discharge.— 21 years (1913-16, 1918-25, 1926-37), 284 second-feet (prior to completion of Alamogordo Dam).

Extremes.— Maximum discharge during year, 2,140 second-feet June 1 (gage height, 3.50 feet); no flow Feb. 18, 27-29, Mar. 1.  
1930-44: Maximum discharge, 42,800 second-feet Sept. 1, 1942; maximum gage height, 13.58 feet Sept. 22, 1941, from floodmark; no flow at times.

Remarks.— Records good. Diversions above station for irrigation. Flow regulated by Alamogordo Reservoir (see p. 194). Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Cooperation.— Gage-height record collected in cooperation with and four discharge measurements furnished by Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	98	2.1	1.5	1.9	0	103	91	1,410	94	90	103
2	107	98	2.1	1.5	2.1	20	109	91	2,110	93	91	103
3	107	98	1.9	1.5	2.1	63	109	91	2,080	93	103	103
4	109	98	2.1	1.5	2.6	27	102	91	2,040	91	104	843
5	109	98	2.1	1.5	2.6	27	96	91	2,010	91	104	1,410
6	112	98	2.1	1.5	2.1	27	97	91	2,010	90	104	1,270
7	109	98	1.9	1.5	2.1	26	97	91	1,980	89	104	219
8	112	76	2.1	1.5	2.3	27	97	91	1,950	89	105	109
9	112	2.1	2.1	1.5	2.1	26	98	92	1,920	89	106	108
10	103	1.9	1.9	1.5	2.1	461	98	93	1,920	91	109	97
11	102	1.9	1.9	1.5	1.9	1,030	100	93	1,890	91	96	89
12	100	1.9	1.7	1.5	2.1	1,950	100	94	1,820	91	97	90
13	100	2.1	1.7	1.5	2.1	1,880	90	95	1,700	91	98	91
14	100	2.1	1.7	1.7	2.1	1,820	94	95	527	91	99	91
15	100	1.9	1.7	1.7	1.9	1,790	92	98	131	91	111	91
16	100	1.9	1.7	1.5	.6	1,760	92	98	132	1,110	120	91
17	102	2.1	1.7	1.5	.2	1,730	92	99	117	1,520	121	91
18	102	1.9	1.9	1.5	0	1,670	92	99	113	1,460	116	91
19	102	1.9	1.5	1.7	.2	1,610	92	99	104	1,410	116	91
20	102	1.9	1.5	1.7	.4	1,580	92	99	99	1,300	110	91
21	102	1.9	1.5	1.9	.8	949	92	99	106	107	94	91
22	100	1.9	1.5	1.9	.6	74	92	99	101	92	95	92
23	100	1.9	1.5	1.9	.6	26	92	99	96	87	96	92
24	100	2.1	1.3	1.9	.8	.5	93	99	96	88	97	93
25	102	1.9	1.3	1.9	.6	.5	92	99	97	98	96	93
26	100	1.9	1.3	2.1	.2	.5	92	99	97	103	96	93
27	100	1.7	1.3	1.9	0	.5	92	99	95	108	99	93
28	100	1.7	1.3	1.7	0	.5	92	99	95	110	99	93
29	98	1.9	1.3	1.5	0	.6	91	100	94	104	100	93
30	98	1.9	1.3	1.5	-	63	91	100	94	91	102	93
31	98	-	1.5	2.1	-	101	-	100	-	91	103	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,195	112	98	103	6,340
November.....	804.4	98	1.7	26.8	1,600
December.....	52.5	2.1	1.3	1.89	104
Calendar year 1943.....	81,013.3	1,890	1.3	222	160,700
January.....	51.1	2.1	1.5	1.65	101
February.....	37.1	2.6	0	1.28	74
March.....	18,740.1	1,950	0	605	37,170
April.....	2,861	109	91	95.4	5,670
May.....	2,974	100	91	95.9	5,900
June.....	27,044	2,110	94	901	53,640
July.....	9,244	1,520	87	298	18,340
August.....	3,133	121	90	103	6,310
September.....	6,198	1,410	89	207	12,290
Water year 1943-44.....	74,384.2	2,110	0	203	147,600

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Pecos River near Acme, N. Mex.

Location.- Water-stage recorder, lat. 33°32'10", long. 104°22'40", in NW¼ sec. 14, T. 9 S., R. 25 E., 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 square miles (contributing area).

Records available.- July 1937 to September 1944 in reports of Geological Survey. August 1921 to July 1923 in reports of State engineer.

Extremes.- Maximum discharge during year, 3,240 second-feet Aug. 25 (gage height, 6.05 feet); no flow July 31 to Aug. 23.

1937-44: Maximum discharge, 45,000 second-feet Sept. 23, 1941 (gage height, 13.71 feet), from rating curve extended above 15,000 second-feet by logarithmic plotting; no flow at times.

Maximum discharge during flood of May 28, 1937, 53,000 second-feet (gage height, 14.82 feet, from floodmarks, site and datum then in use), by slope-area method.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Divisions above station for irrigation. Flow regulated by Alamogordo Reservoir (see p. 194). Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	a48	44	35	41	29	22	32	26	9.8	9.0	0	13
2	46	41	27	40	28	26	34	25	a7	8.2	0	8.6
3	55	48	24	46	25	27	34	19	685	3.4	0	5.2
4	44	40	24	52	22	22	34	22	1,120	1.9	0	2.2
5	44	41	25	46	21	17	54	24	1,240	43	0	2.5
6	46	52	24	44	20	12	44	20	1,210	105	0	419
7	42	48	22	38	20	7.0	42	19	1,280	65	0	810
8	40	54	24	20	22	5.8	36	17	1,230	17	0	783
9	40	48	107	20	17	4.9	27	13	1,150	4.9	0	212
10	36	50	123	32	16	4.0	35	10	1,270	.7	0	156
11	59	54	113	22	11	5.5	25	11	1,300	1.3	0	89
12	41	54	102	14	12	328	20	9.8	1,190	4.3	0	50
13	29	52	69	19	13	1,020	16	15	1,040	4.6	0	30
14	29	52	79	17	12	1,420	20	27	1,010	.5	0	30
15	22	44	68	27	12	1,420	20	29	873	6.8	0	42
16	21	38	57	34	12	1,420	20	20	265	36	0	41
17	20	30	48	38	13	1,410	13	17	126	21	0	19
18	17	30	40	40	14	1,410	13	14	68	298	0	110
19	18	27	38	36	17	1,410	13	a10	61	672	0	285
20	21	26	35	29	21	1,340	10	6.7	52	747	0	113
21	24	25	34	25	22	1,380	14	6.7	29	891	0	50
22	22	25	29	24	21	1,460	17	6.7	17	712	0	38
23	27	24	27	20	17	800	17	6.4	14	310	0	32
24	35	22	25	18	17	a320	19	6.4	25	170	30	272
25	35	22	25	19	18	110	17	5.8	26	74	799	320
26	36	42	25	28	16	68	21	4.9	15	34	188	145
27	42	40	38	34	17	68	27	7.4	10	14	252	126
28	59	32	29	34	29	57	24	11	103	8.2	105	156
29	63	34	18	34	20	46	26	19	91	4.0	40	89
30	46	38	17	32	-	42	26	17	19	.2	18	79
31	42	-	30	29	-	36	-	12	-	0	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,149	63	17	37.1	2,280
November.....	1,177	54	22	39.2	2,330
December.....	1,401	123	17	45.2	2,780
Calendar year 1943.....	60,840	1,490	0	167	120,700
January.....	952	62	14	30.7	1,890
February.....	534	29	11	18.4	1,060
March.....	15,718.2	1,460	4.0	507	31,180
April.....	750	54	10	25.0	1,490
May.....	457.8	29	4.9	14.8	908
June.....	15,535.8	1,300	7	518	30,810
July.....	4,267.0	891	0	138	8,460
August.....	1,448	799	0	45.7	2,870
September.....	4,507.5	810	2.2	150	8,940
Water year 1943-44.....	47,897.3	1,460	0	131	95,000

a No gage-height record; discharge computed on basis of records for stations below Alamogordo Dam near Lake Arthur, and near Artesia.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Pecos River near Lake Arthur, N. Mex.

Location.- Water-stage recorder, lat. 32°59'25", long. 104°19'10", on line between secs. 26 and 27, T. 15 S., R. 26 E., 1,100 feet upstream from highway bridge, 3 miles east of Lake Arthur, 10 miles upstream from Cottonwood Creek, and 11 miles northeast of Artesia.

Drainage area.- 14,760 square miles (contributing area).

Records available.- August 1938 to September 1944.

Extremes.- Maximum discharge during year, 1,700 second-feet Aug. 25 (gage height, 5.19 feet); minimum daily, 1.3 second-feet Aug. 15.  
1938-44: Maximum discharge, 49,600 second-feet Sept. 24, 1941 (gage height, 21.90 feet), from rating curve extended above 16,100 second-feet on basis of slope-area determination at gage height 21.77 feet and logarithmic plotting; minimum daily, that of Aug. 15, 1944.  
Flood of May 30, 1937, reached a stage of 21.77 feet (discharge, 51,500 second-feet, by slope-area method); may have been exceeded by floods of 1904 and 1919.

Remarks.- Records excellent except those for periods of no gage-height record, which are fair. Diversions above station for irrigation. Flow partly regulated by Alamogordo Reservoir, 150 miles above station (see p. 194).

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	113	100	116	178	182	116	109	87	46	122	18	72
2	140	105	120	178	178	116	111	84	50	82	14	65
3	111	107	128	189	175	109	122	77	50	71	16	82
4	100	107	125	182	154	109	102	77	498	56	17	58
5	94	111	120	200	142	105	107	78	1,030	52	17	102
6	100	113	116	214	140	102	98	76	1,080	40	a13	80
7	96	116	113	214	140	94	107	80	1,120	40	a10	293
8	98	122	111	206	140	89	98	80	1,240	78	a6	752
9	94	128	148	200	132	85	107	70	1,240	74	3.2	674
10	93	118	189	169	120	84	109	78	1,120	64	3.1	290
11	93	120	312	163	116	80	93	76	1,280	43	1.9	218
12	93	118	256	172	107	82	85	71	1,330	30	3.7	169
13	93	122	258	175	113	124	74	72	1,150	26	2.7	128
14	93	122	250	169	111	1,100	68	71	1,080	39	2.4	107
15	84	122	230	169	113	1,380	66	72	1,040	36	1.3	94
16	78	116	218	169	102	1,420	70	80	893	39	2.0	98
17	77	111	200	169	100	1,420	74	72	353	37	4.8	100
18	74	109	178	178	102	1,420	72	72	234	50	6.8	113
19	66	105	172	182	105	1,450	72	65	163	162	4.4	84
20	64	102	166	203	109	1,420	58	65	111	680	11	242
21	62	102	160	192	109	1,380	61	71	87	822	18	172
22	66	100	187	182	109	1,380	65	71	76	a750	6.0	130
23	70	98	154	175	107	1,280	76	56	57	a700	4.8	109
24	77	98	154	169	107	609	78	46	55	a600	76	109
25	85	98	151	169	105	348	68	39	65	196	232	240
26	94	111	151	169	105	238	65	43	58	116	708	374
27	94	118	157	175	109	182	65	44	46	80	266	246
28	91	128	154	178	109	163	58	50	50	53	335	206
29	93	128	160	178	116	163	70	57	105	37	169	258
30	96	120	160	178	-	142	78	45	186	43	138	196
31	98	-	157	175	-	118	-	41	-	41	100	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,780	140	62	89.7	5,610
November.....	3,375	128	98	112	6,690
December.....	5,271	312	111	170	10,450
Calendar year 1943 .....	85,918	1,480	12	235	170,400
January.....	5,619	214	163	181	11,150
February.....	3,557	132	100	123	7,060
March.....	16,918	1,460	80	546	33,560
April.....	2,486	122	58	82.9	4,930
May.....	2,066	87	39	66.6	4,100
June.....	13,903	1,330	46	530	31,540
July.....	5,249	822	26	169	10,410
August.....	2,210.1	708	1.3	71.3	4,380
September.....	5,841	752	58	195	11,590
Water year 1943-44 .....	71,275.1	1,460	1.3	195	141,400

a No gage-height record; discharge computed on basis of records for station near Artesia.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Pecos River near Artesia, N. Mex.

Location.- Water-stage recorder, lat.  $32^{\circ}50'10''$ , long.  $104^{\circ}19'30''$ , in  $\frac{1}{4}$  sec. 18, T. 17 S., R. 27 E., at bridge on Artesia-Lovington highway, 4.2 miles east of Artesia, 6.5 miles north of mouth of Rio Pecos, and 16.5 miles north of McMillan Dam.

Drainage area.- 15,300 square miles (contributing area).

Records available.- March 1905 to September 1925 and October 1931 to February 1936 (published as Pecos River near Dayton), and February 1936 to September 1944 in reports of Geological Survey. March 1905 to December 1931 in reports of State engineer.

Extremes.- Maximum discharge during year, 1,520 second-feet Mar. 20 (gage height, 7.98 feet); minimum daily, 0.5 second-foot Aug. 21.

1905-44: Maximum gage height, 15.9 feet Sept. 18, 1919, site and datum then in use (discharge not determined). Flood of May 30, 1937, reached a gage height of 14.7 feet (discharge, 51,500 second-feet, by slope-area method); no flow Aug. 17-24, 1934.

Remarks.- Records good except those for periods of no gage-height record, which are fair. Diversions above station for irrigation. Flow partly regulated by Alamogordo Reservoir (see p. 194). Discharge represents inflow to Lake McMillan, which stores water for irrigation of about 25,000 acres of Carlsbad project. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Cooperation.- Gage-height record collected by Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	119	109	140	189	208	140	120	103	44	156	40	96
2	134	110	155	208	206	141	114	100	49	100	22	69
3	140	112	143	204	202	134	129	93	52	78	18	62
4	122	113	146	210	197	128	117	89	147	67	16	64
5	110	110	141	204	174	126	109	92	870	58	18	88
6	110	113	137	229	169	124	112	83	1,070	52	18	106
7	109	120	134	231	164	114	102	84	1,140	42	12	93
8	110	126	132	229	169	109	106	88	1,230	52	9.1	654
9	106	138	154	220	161	103	103	80	1,220	78	7.7	755
10	108	132	202	210	148	98	119	76	1,090	72	5.4	381
11	108	134	260	204	141	99	106	82	1,200	56	3.5	254
12	99	130	230	198	132	84	92	76	1,280	42	3.0	204
13	99	134	290	210	134	92	91	77	1,170	39	2.4	662
14	106	137	266	208	137	672	79	77	1,060	59	2.1	132
15	100	138	260	204	135	1,340	77	82	999	52	1.2	117
16	89	137	247	202	129	1,460	78	77	938	47	1.0	112
17	89	132	235	198	120	1,480	85	80	424	51	1.4	116
18	87	128	217	208	117	1,450	74	79	249	50	1.2	126
19	79	123	202	208	126	1,460	77	76	131	68	1.0	117
20	73	122	193	219	128	1,480	71	68	143	429	.9	169
21	71	120	189	223	130	1,410	66	72	109	685	.5	219
22	72	119	188	217	130	1,380	67	79	93	798	3.5	153
23	79	116	184	210	126	1,420	74	69	78	738	1.6	135
24	84	116	181	206	122	788	87	58	63	370	30	151
25	98	117	179	200	128	400	78	48	64	245	128	120
26	100	130	179	198	123	272	73	44	67	162	579	429
27	106	137	188	200	124	213	72	47	53	116	320	310
28	103	143	184	202	134	176	77	50	48	84	355	254
29	96	149	184	202	130	172	79	57	109	58	233	256
30	99	146	186	202	-	159	89	55	148	45	162	264
31	103	-	186	202	-	137	-	45	-	49	128	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,102	140	71	100	6,150
November.....	3,791	149	109	126	7,520
December.....	5,970	310	132	193	11,840
Calendar year 1943.....	92,722	1,870	23	254	183,900
January.....	6,449	231	189	208	12,790
February.....	4,242	206	117	146	8,410
March.....	17,351	1,480	84	560	34,420
April.....	2,721	129	66	90.7	5,400
May.....	2,283	103	44	73.6	4,530
June.....	16,398	1,280	44	513	30,540
July.....	4,996	793	39	161	9,910
August.....	2,122.5	579	.5	69.5	4,210
September.....	6,168	755	62	206	12,230
Water year 1943-44.....	74,593.5	1,480	.5	204	148,000

a No gage-height record; discharge computed on basis of records for station near Lake Arthur.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.



## Pecos River at Carlsbad, N. Mex.

Location.— Water-stage recorder, lat.  $32^{\circ}24'50''$ , long.  $104^{\circ}13'20''$ , in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 6, T. 22 S., R. 27 E., at Green Street Bridge in Carlsbad and half a mile upstream from Dark Canyon. Datum of gage is 3,080.38 feet above mean sea level, datum of 1929.

Drainage area.— 18,100 square miles (contributing area).

Records available.— May 1903 to March 1908, May 1914 to September 1925, October 1928 to September 1930, and October 1931 to September 1944 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.

Extremes.— Maximum discharge during year, 632 second-feet Jan. 3 (gage height, 2.37 feet); minimum daily estimated, 70 second-feet Sept. 28-30.

1903-8, 1914-44: Maximum discharge, 85,700 second-feet Aug. 7, 1916 (gage height, about 21.0 feet), from rating curve extended above 34,000 second-feet by logarithmic plotting; no flow May 9, 1904.

Remarks.— Records good except those for periods of no gage-height record, which are fair. Flow regulated by Alamogordo Reservoir, Lake McMillan, Lake Avalon, and by several small diversion dams that divert for power and irrigation. Many diversions above station for irrigation. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Cooperation.— Gage-height record obtained in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	89	87	141	202	227	206	89	92	80	80	82	75
2	89	87	145	221	227	170	89	92	82	90	84	75
3	89	87	141	392	227	89	89	89	82	80	80	75
4	89	87	137	253	227	188	92	86	82	82	77	77
5	89	87	133	197	151	183	92	89	82	82	80	84
6	89	87	129	188	173	103	92	89	82	80	80	77
7	89	84	125	193	202	87	89	89	84	77	80	77
8	89	87	129	193	202	87	89	89	82	77	80	75
9	89	87	145	193	202	87	92	89	84	80	80	75
10	89	87	a160	188	202	87	87	89	84	82	77	75
11	89	87	a200	188	170	89	87	89	82	82	77	72
12	87	87	a160	188	170	89	89	89	82	80	75	72
13	87	87	a155	188	174	92	89	89	82	82	75	72
14	87	87	a150	188	170	92	87	87	82	82	75	72
15	87	87	a150	188	174	92	87	87	82	82	75	72
16	87	84	145	193	174	94	87	87	82	82	75	75
17	87	189	145	202	174	92	87	87	82	82	75	72
18	87	174	149	202	179	94	89	84	80	82	77	75
19	87	139	170	183	183	89	89	84	80	82	77	72
20	84	94	170	183	183	89	89	84	77	82	77	72
21	84	94	174	188	183	89	89	87	75	82	75	78
22	87	114	170	193	183	89	87	82	77	82	75	75
23	87	149	165	193	183	89	89	82	75	87	75	75
24	84	141	165	188	216	92	89	82	75	84	82	72
25	87	145	165	188	216	89	89	82	75	84	77	a72
26	87	149	165	188	211	89	87	82	75	82	75	a75
27	87	129	161	188	211	89	87	82	75	82	75	a75
28	87	122	161	188	211	87	89	82	96	82	75	a70
29	89	149	161	188	211	87	89	82	119	82	75	a70
30	87	145	170	188	-	87	89	80	80	82	75	a70
31	87	-	170	197	-	87	-	80	-	82	72	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,712	89	84	87.5	5,380
November.....	3,319	189	84	111	6,580
December.....	4,806	200	125	155	9,530
Calendar year 1943.....	49,469	588	84	136	98,110
January.....	6,210	392	185	200	12,320
February.....	5,616	227	151	194	11,340
March.....	3,173	206	87	102	6,290
April.....	2,664	92	87	88.8	5,280
May.....	2,666	92	80	86.0	5,290
June.....	2,457	119	75	81.9	4,870
July.....	2,529	87	77	81.6	5,020
August.....	2,369	84	72	77.1	4,740
September.....	2,217	84	70	73.9	4,400
Water year 1943-44.....	40,758	392	70	111	80,840

a No gage-height record; discharge computed on basis of recorded range in stage, record of release at Avalon Dam, and records for station near Malaga.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Pecos River near Malaga, N. Mex.

Location.- Water-stage recorder, lat.  $32^{\circ}12'30''$ , long.  $104^{\circ}01'30''$ , in NW $\frac{1}{4}$  sec. 19, T. 24 S., R. 29 E., 3 miles southeast of Malaga and 3 miles downstream from Black River. Datum of gage is 2,898.68 feet above mean sea level, datum of 1929.

Drainage area.- 19,190 square miles (contributing area).

Records available.- May 1920 to September 1925 and October 1931 to September 1944 in reports of Geological Survey. January 1921 to December 1931 in reports of State engineer.

Extremes.- Maximum discharge during year, 595 second-feet Jan. 4 and Sept. 18; maximum gage height, 1.53 feet Jan. 4; minimum daily, .55 second-feet July 3.

1920-44: Maximum discharge, 63,700 second-feet Sept. 21, 1941, from rating curve extended above 22,500 second-feet by logarithmic plotting; maximum gage height, 32.1 feet May 22, 1941, from floodmark; no flow Aug. 20-22, 1934.

Remarks.- Records excellent. Flow regulated by Alamogordo Reservoir, Lake McMillan, Lake Avalon, and by several small diversion dams that divert for power and irrigation. Many diversions above station for irrigation. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Cooperation.- Gage-height record collected in cooperation with Bureau of Reclamation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	200	192	250	259	266	262	146	115	126	87	132	79
2	210	262	241	265	301	259	136	95	128	92	144	88
3	212	250	202	266	292	218	150	102	111	55	154	82
4	165	230	230	418	292	142	135	116	111	136	90	109
5	178	175	210	304	292	230	120	116	118	65	106	188
6	175	188	241	256	192	241	116	116	126	111	152	247
7	188	192	198	256	180	128	124	94	95	130	152	
8	156	168	195	253	274	178	140	130	115	97	120	158
9	165	165	262	253	265	202	158	118	109	99	116	134
10	180	186	247	253	265	192	146	128	107	111	109	166
11	152	182	277	256	253	203	138	136	106	69	111	150
12	154	178	313	259	241	172	134	150	106	115	106	150
13	190	178	259	253	222	162	118	140	90	113	128	160
14	172	195	232	241	241	156	118	168	102	115	134	146
15	136	162	232	247	225	175	142	162	90	106	126	148
16	208	154	230	247	269	185	156	144	102	106	132	158
17	202	185	198	247	250	208	100	120	109	111	140	138
18	154	265	259	268	222	142	130	138	97	94	140	295
19	198	259	222	253	247	172	126	138	107	107	126	180
20	188	244	230	235	228	178	111	126	106	111	109	148
21	202	185	256	244	250	160	118	136	120	109	109	136
22	200	185	262	244	228	122	118	134	134	122	87	138
23	226	200	235	250	241	138	126	124	119	124	90	136
24	256	259	238	244	268	152	140	128	113	116	106	136
25	200	241	247	259	296	126	115	115	162	102	303	148
26	200	262	256	268	262	120	118	113	94	116	148	140
27	228	253	256	265	271	122	120	116	178	109	94	232
28	215	220	220	265	280	148	124	126	106	107	150	200
29	263	218	225	262	265	144	124	132	158	115	95	132
30	185	232	238	265	-	160	120	120	156	109	104	144
31	220	-	222	262	-	162	-	122	-	138	90	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,957	256	136	192	11,820
November.....	6,264	265	154	209	12,420
December.....	7,583	313	195	238	14,640
Calendar year 1943 .....	76,394	670	67	209	151,500
January.....	8,137	418	235	262	16,140
February.....	7,434	301	192	256	14,750
March.....	5,406	262	120	174	10,720
April.....	3,854	158	100	128	7,640
May.....	3,958	162	95	123	7,050
June.....	3,499	173	90	117	6,940
July.....	3,262	138	55	105	6,470
August.....	3,861	303	87	125	7,660
September.....	4,598	295	79	153	9,120
Water year 1943-44 .....	63,613	418	55	174	126,200

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Pecos River at Red Bluff, N. Mex.

Location.— Water-stage recorder, lat. 32°04'40", long. 104°02'20", at Red Bluff, Eddy County, just downstream from Red Bluff Creek and 5½ miles upstream from Delaware River. Datum of gage is 2,850.0 feet above mean sea level, datum of 1929.

Drainage area.— 19,540 square miles (contributing area).

Records available.— October 1937 to September 1944. May 1914 to September 1937 at site 6 miles downstream near Angeles, Tex.; records comparable to combined flow of Pecos River at Red Bluff and Delaware River near Red Bluff.

Extremes.— Maximum discharge during year, 535 second-feet Jan. 4 (gage height, 4.70 feet); minimum, 60 second-feet July 4.  
1937-44: Maximum discharge, 52,600 second-feet May 24, 1941 (gage height, 23.3 feet), by slope-area method; minimum, 34 second-feet Aug. 13, 1938.  
Maximum stage known prior to 1941, 28.0 feet in October 1904, from information by chief engineer of Panhandle & Santa Fe Railway.

Remarks.— Records excellent. Flow regulated to large extent by reservoirs above Carlsbad. Many diversions above station for irrigation. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	188	211	226	240	247	279	154	127	122	131	116	98
2	217	180	220	247	294	264	131	104	120	95	127	84
3	182	257	205	254	287	254	154	106	114	96	129	106
4	211	214	199	391	279	202	138	108	110	79	108	212
5	154	205	208	317	287	167	131	120	121	123	99	355
6	177	164	211	276	272	264	122	118	114	90	158	303
7	174	164	205	223	203	217	122	118	120	106	152	187
8	169	166	205	247	254	174	131	131	100	98	106	168
9	152	169	188	230	279	205	138	114	108	102	118	144
10	149	161	254	250	272	193	144	122	102	109	114	159
11	174	169	240	226	250	220	135	129	106	102	111	146
12	135	169	283	250	261	195	129	135	106	96	108	149
13	159	164	279	240	214	188	124	149	100	116	100	149
14	161	161	233	233	247	147	106	144	98	112	133	146
15	147	190	287	226	217	166	114	173	98	102	101	140
16	135	147	214	220	257	174	131	132	87	95	112	149
17	193	154	208	243	254	169	135	133	100	102	118	152
18	186	188	214	253	193	186	107	127	98	95	135	169
19	135	247	211	254	264	147	121	129	93	87	127	282
20	190	250	223	237	230	159	98	131	96	95	110	186
21	177	190	208	214	214	177	100	122	96	93	113	139
22	174	190	254	243	250	152	108	140	116	95	89	142
23	199	171	237	223	214	131	106	117	127	127	82	132
24	199	190	208	240	247	154	125	127	102	112	94	139
25	233	226	240	223	261	152	110	127	138	91	142	143
26	171	237	237	264	279	124	108	114	117	87	271	146
27	205	247	243	254	250	124	102	112	122	91	116	282
28	193	211	211	230	279	140	112	112	136	93	138	228
29	205	208	226	261	264	144	124	136	106	95	125	160
30	220	193	211	233	-	152	122	118	190	100	106	147
31	166	-	199	257	-	164	-	124	-	108	104	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	5,529	233	135	178	10,970
November.....	5,793	257	147	193	11,490
December.....	6,937	283	188	224	13,760
Calendar year 1943.....	74,906	675	58	205	148,600
January.....	7,679	391	214	248	15,230
February.....	7,319	294	193	252	14,520
March.....	5,581	279	124	180	11,070
April.....	3,682	154	98	123	7,300
May.....	3,899	173	104	126	7,730
June.....	3,363	190	87	112	6,670
July.....	3,113	131	79	100	6,170
August.....	3,750	271	82	120	7,400
September.....	5,042	335	84	168	10,000
Water year 1943-44.....	61,667	391	79	168	122,300

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Pecos River near Orla, Tex.

Location.— Water-stage recorder, lat. 31°49', long. 103°48', 600 feet upstream from Pasotex pipe line crossing, 6 miles southeast of Orla, Reeves County, 11 miles downstream from Salt (Screwbean) Draw, and 14 miles downstream from Red Bluff Dam. Datum of gage is 2,718.0 feet above mean sea level, datum of 1929.

Drainage area.— 21,300 square miles (contributing area).

Records available.— May 1937 to September 1944.

Extremes (regulated).— Maximum discharge during year, 2,470 second-feet Aug. 18 (gage height, 5.41 feet); minimum daily, 8.8 second-feet Feb. 11, Mar. 12-17. 1937-44: Maximum discharge, 23,700 second-feet Sept. 29, 1941 (gage height, 20.74 feet); minimum daily, 2.0 second-feet June 3, 1937, Dec. 27, 1940.

Remarks.— Records excellent. Flow regulated by Red Bluff Reservoir (see p. 194). Occasional runoff from draws between dam and station. Many diversions above station for irrigation. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	56	45	11	14	10	14	520	495	314	562	572	98
2	53	16	10	14	10	12	520	500	362	551	572	97
3	48	46	10	12	9.4	12	533	495	309	449	572	99
4	44	17	10	12	9.4	10	588	495	301	470	572	99
5	46	42	11	12	9.4	10	588	495	301	567	572	165
6	42	16	11	12	9.4	9.4	516	495	305	557	572	81
7	16	31	23	12	10	9.4	994	495	309	567	583	42
8	18	31	13	12	11	9.4	604	490	289	594	599	33
9	14	32	26	12	10	9.4	588	490	305	594	572	24
10	13	29	14	12	9.4	10	583	495	301	588	567	20
11	14	26	25	12	8.8	9.4	495	400	367	572	567	17
12	39	26	12	13	9.4	8.8	490	395	326	588	567	17
13	48	26	11	13	9.4	8.9	495	322	273	588	567	32
14	50	104	23	13	9.4	8.8	495	281	273	588	567	24
15	49	43	11	13	9.4	8.8	490	281	273	588	567	98
16	49	13	24	12	9.4	8.8	495	277	293	598	572	94
17	50	12	12	12	9.4	9.8	495	277	357	583	543	67
18	49	12	23	12	19	145	495	265	357	583	1,580	64
19	50	12	12	12	148	202	500	277	357	583	436	64
20	47	11	11	12	121	515	449	277	405	583	344	65
21	43	11	23	12	121	520	515	277	475	578	331	65
22	48	11	12	12	130	520	500	277	480	594	326	73
23	46	11	24	12	217	520	500	277	317	415	322	72
24	47	11	12	12	217	526	495	286	464	449	314	72
25	46	11	17	12	206	520	490	318	390	396	241	72
26	19	12	12	12	206	526	495	318	390	396	237	82
27	18	12	12	12	206	520	490	318	390	396	233	106
28	46	12	21	48	187	520	495	318	420	395	109	93
29	18	11	12	26	34	526	475	318	587	500	99	75
30	46	11	12	12	-	526	495	318	562	572	95	38
31	17	-	12	9.4	-	526	-	318	-	572	66	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,185	55	13	38.2	2,360
November.....	702	104	11	23.4	1,390
December.....	472	26	10	15.2	936
Calendar year 1943.....	101,400	942	10	278	201,100
January.....	427.4	48	9.4	13.8	848
February.....	1,975.2	217	8.8	68.1	3,920
March.....	6,779.8	526	8.8	219	13,450
April.....	15,913	964	449	530	31,590
May.....	11,329	500	265	366	22,470
June.....	10,822	567	361	361	21,470
July.....	16,546	594	396	534	32,820
August.....	14,436	1,580	66	466	28,630
September.....	2,048	165	17	68.3	4,060
Water year 1943-44.....	82,635.4	1,580	8.8	286	163,900

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Pecos River at Pecos, Tex.

Location.— Water-stage recorder, lat. 31°26', long. 103°28', 70 feet upstream from Texas & Pacific Railway bridge, 1.7 miles east of Pecos, Reeves County, and 11 miles upstream from Toyah Creek. Datum of gage is 2,554.0 feet above mean sea level, datum of 1929.

Drainage area.— 22,100 square miles (contributing area).

Records available.— August 1839 to September 1944. January 1898 to June 1907, at flume of Barstow Irrigation Co. (old Marguerretta Canal Co.), 6.4 miles upstream, published as Pecos River near Pecos. April 1914 to August 1915 at site 7 miles downstream, published as Pecos River near Barstow. March 1922 to July 1926, at site about 10 miles upstream, published as Pecos River above Barstow.

Extremes.— Maximum discharge during year, 1,220 second-feet (regulated) Aug. 19 (gage height, 9.22 feet); minimum daily, 11 second-feet (regulated) Jan. 5-11, 14-16, 18-20. 1898-1907, 1914-15, 1922-26, 1938-44: Maximum gage height, about 18 feet, present site and datum, Oct. 5, 1904 (discharge not determined); flood of Sept. 30, 1941, reached a stage of 17.68 feet (discharge, 22,200 second-feet); minimum daily not determined, affected by diversions.

Flood of August 1893 reached approximately the same stage as that of Oct. 5, 1904, from information by local residents.

Remarks.— Records excellent. Flow regulated to large extent by reservoirs above Orla. Several diversions between Orla and this station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	25	27	12	18	17	370	290	174	306	314	116
2	56	22	25	12	15	12	378	298	170	314	306	89
3	39	18	16	12	13	12	378	306	185	314	306	61
4	64	18	14	12	13	12	418	298	205	274	298	60
5	51	18	14	11	13	16	454	298	190	242	274	88
6	42	15	13	11	13	14	454	322	182	258	274	190
7	42	15	13	11	13	15	404	350	184	258	332	185
8	40	15	13	11	14	14	518	322	178	250	338	148
9	55	14	13	11	13	14	491	322	156	274	354	100
10	29	17	13	11	12	12	408	322	162	282	338	84
11	26	18	12	11	12	12	378	314	180	274	322	74
12	25	18	12	12	12	13	322	266	215	250	314	60
13	23	18	12	12	12	15	290	250	220	234	314	49
14	23	18	12	11	13	13	290	298	234	221	314	46
15	27	18	12	11	13	12	282	258	226	213	306	41
16	33	18	12	11	13	14	274	250	224	212	298	40
17	34	18	12	12	13	15	290	254	226	215	298	86
18	34	13	12	11	13	15	282	274	199	274	408	70
19	32	13	12	11	13	14	274	198	274	192	1,140	27
20	29	13	12	11	13	37	282	194	258	190	430	25
21	23	13	12	12	53	229	266	197	274	190	204	22
22	20	13	12	12	27	314	266	191	290	204	173	23
23	21	12	12	12	29	314	266	179	290	226	180	21
24	24	12	12	12	40	350	282	172	263	218	234	21
25	23	12	12	12	18	354	290	170	246	298	266	20
26	21	13	12	12	20	346	282	190	266	242	242	20
27	17	14	12	12	21	346	282	161	242	234	234	23
28	16	25	12	12	20	362	282	167	234	224	242	44
29	16	26	12	12	21	362	298	173	212	221	208	49
30	18	27	12	12	-	370	298	182	282	278	149	54
31	22	-	12	16	-	370	-	180	-	338	127	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	924	64	16	29.8	1,830
November.....	507	27	12	16.9	1,010
December.....	418	27	12	13.5	819
Calendar year 1943.....	63,241	511	12	173	125,400
January.....	363	16	11	11.7	720
February.....	513	53	12	17.7	1,020
March.....	3,995	370	12	129	7,920
April.....	10,003	518	266	333	19,840
May.....	7,530	330	161	243	14,940
June.....	6,718	290	158	224	13,320
July.....	7,645	358	190	247	15,160
August.....	9,537	1,140	127	308	18,920
September.....	1,936	190	20	64.5	3,840
Water year 1943-44.....	50,064	1,140	11	137	99,340

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Pecos River below Grandfalls, Tex.

Location.- Water-stage recorder, lat.  $31^{\circ}18'$ , long.  $102^{\circ}46'$ , at bridge on county road between Grandfalls and Imperial, 7.1 miles southeast of Grandfalls, Ward County, and 10 miles downstream from Chacatori Draw. Datum of gage is 2,373.0 feet above mean sea level, datum of 1929 (levels by Corps of Engineers, U. S. Army).

Drainage area.- 27,820 square miles (contributing area).

Records available.- August 1939 to September 1944. December, 1921 to July 1926 at site about 12 miles downstream, published as Pecos River near Buena Vista.

Extremes (regulated).- Maximum discharge during year, 595 second-feet Aug. 21 (gage height, 5.65 feet); minimum daily, 29 second-feet June 30.  
1921-26, 1939-44: Maximum discharge, 22,000 second-feet Oct. 2, 1941 (gage height, 20.98 feet); minimum daily, 8.0 second-feet July 27, 1925.  
Flood of 1915 was the largest known, and that of September or October 1932 reached a stage of 18 feet, from information by local residents.

Remarks.- Records excellent. Flow regulated to large extent by reservoirs above Orla. Many diversions between Orla and this station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	117	68	80	81	70	110	49	59	42	30	33	48
2	108	68	81	82	75	108	55	43	54	32	34	42
3	104	72	80	81	75	127	64	44	45	32	37	41
4	100	74	63	73	74	110	59	42	36	32	38	40
5	105	62	85	77	72	69	53	41	45	35	41	42
6	101	75	78	75	72	87	58	42	35	35	44	78
7	100	68	75	74	73	81	81	40	35	35	42	222
8	98	67	76	73	80	70	63	40	40	35	43	105
9	97	67	77	73	80	70	58	42	36	38	45	73
10	94	68	76	72	72	74	153	47	35	57	45	59
11	94	68	72	72	69	72	110	62	42	64	46	51
12	92	68	72	73	66	67	56	60	42	74	45	48
13	105	62	74	76	66	64	50	50	37	75	45	46
14	92	73	77	74	66	63	51	47	36	57	48	52
15	83	75	78	72	66	64	51	45	35	50	47	125
16	80	73	82	70	61	65	50	38	34	56	47	127
17	77	73	73	69	49	65	50	39	33	51	49	117
18	81	72	75	69	77	63	52	39	33	44	69	110
19	81	72	63	69	67	62	55	40	32	39	98	130
20	82	72	80	69	66	58	49	41	32	38	220	137
21	81	70	84	69	65	48	48	42	31	37	512	108
22	81	60	77	69	65	64	45	42	47	41	155	81
23	81	74	77	69	68	177	50	42	42	41	61	70
24	82	72	73	70	97	182	56	36	36	38	74	67
25	82	69	82	62	86	125	52	36	37	40	81	65
26	73	74	81	66	80	62	53	37	35	36	78	66
27	75	75	80	80	84	54	49	39	31	34	69	64
28	72	73	77	70	82	49	53	40	30	34	98	69
29	70	72	76	69	108	50	50	38	30	35	96	74
30	69	73	76	69	-	52	60	37	29	33	67	77
31	69	-	76	69	-	51	-	41	-	35	58	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,704	117	62	87.2	5,360
November.....	2,109	75	60	70.3	4,180
December.....	2,361	85	63	76.8	4,720
Calendar year 1943.....	58,387	578	34	105	76,130
January.....	2,241	82	62	72.3	4,440
February.....	2,128	108	48	73.3	4,220
March.....	2,465	182	48	79.5	4,890
April.....	1,761	133	45	58.7	3,490
May.....	1,350	62	35	42.9	2,640
June.....	1,094	54	29	36.5	2,170
July.....	1,307	75	30	42.2	2,590
August.....	2,485	512	33	80.2	4,930
September.....	2,432	222	40	81.1	4,820
Water year 1943-44.....	24,435	512	29	66.8	48,450

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Pecos River near Girvin, Tex.

Location.- Water-stage recorder, lat. 31°05', long. 102°22', at bridge on U. S. Highway 67, about half a mile downstream from Panhandle & Santa Fe Railway bridge, 2.1 miles east of Girvin, Pecos County, and 6½ miles downstream from Comanche Creek. Datum of gage is 2,269.7 feet above mean sea level, unadjusted.

Drainage area.- 29,560 square miles (contributing area).

Records available.- August 1939 to September 1944.

Extremes (regulated).- Maximum discharge during year, 450 second-feet Aug. 22 (gage height, 3.89 feet); minimum daily, 33 second-feet July 1.

1939-44: Maximum discharge, 20,000 second-feet Oct. 5, 1941 (gage height, 20.49 feet); minimum daily, 30 second-feet July 31, 1940.

Remarks.- Records good except those below 50 second-feet and those for period of no gage-height record, which are fair. Flow regulated to large extent by reservoirs above Orla. Many diversions above station for irrigation. Some water from drain and two wasteways returns to river between station below Grandfalls and this station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	146	94	96	109	101	112	76	75	62	33	55	88
2	151	95	98	110	102	132	75	85	61	34	56	76
3	144	94	102	114	101	133	72	85	60	34	35	66
4	159	94	104	112	104	135	77	89	75	38	38	80
5	135	99	106	109	107	148	88	66	63	38	41	87
6	132	99	95	106	107	128	85	69	54	34	44	93
7	132	91	107	102	106	98	79	65	53	36	46	85
8	128	98	102	101	106	112	85	65	72	39	54	125
9	128	95	101	101	110	104	102	62	58	39	55	197
10	126	95	102	101	115	98	86	65	56	41	62	142
11	125	95	101	99	107	96	85	65	78	60	54	118
12	123	94	99	102	102	96	159	74	99	99	57	104
13	123	96	96	106	99	94	117	88	74	86	57	98
14	123	98	94	106	98	93	83	98	66	104	56	91
15	132	90	96	106	99	90	76	77	56	96	54	86
16	118	104	99	104	98	88	74	72	49	82	57	94
17	112	102	101	104	98	88	72	67	46	65	79	141
18	109	102	102	101	90	90	70	61	41	70	110	144
19	106	99	96	101	80	88	70	57	40	69	74	159
20	110	101	98	99	102	86	75	60	40	60	75	137
21	110	101	88	99	101	85	70	62	39	50	101	148
22	110	99	104	98	99	80	72	65	38	46	547	144
23	128	98	106	98	94	75	67	63	38	49	313	a120
24	112	88	106	98	96	95	67	65	49	52	162	a107
25	107	99	104	99	101	210	75	65	54	53	110	a100
26	98	104	106	99	120	178	79	58	45	49	110	a100
27	110	106	107	93	114	132	77	57	41	48	107	a95
28	102	104	106	99	110	93	79	57	40	44	107	a92
29	102	102	106	106	110	80	83	61	38	39	114	a91
30	101	99	102	101	-	74	83	60	34	38	117	a94
31	98	-	101	99	-	74	-	60	-	36	110	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3,725	151	98	120	7,380
November.....	2,927	106	88	97.6	5,810
December.....	3,129	107	88	101	6,210
Calendar year 1943.....	62,612	620	58	144	104,400
January.....	3,182	114	93	103	6,310
February.....	2,977	120	80	103	5,900
March.....	3,279	210	73	106	6,500
April.....	2,452	159	67	81.7	4,860
May.....	2,080	88	57	67.1	4,130
June.....	1,617	99	34	53.9	3,210
July.....	1,661	104	35	55.6	3,290
August.....	2,905	347	55	90.5	5,560
September.....	3,232	197	57	103	6,410
Water year 1943-44.....	53,064	347	33	90.3	65,570

a No gage-height record; discharge computed on basis of weather records and records for stations below Grandfalls and near Sheffield.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Pecos River near Sheffield, Tex.

Location.- Water-stage recorder, lat. 30°39', long. 101°45', at bridge on U. S. Highway 290, 3½ miles southeast of Sheffield, Pecos County, and 4 miles upstream from Liveoak Creek. Datum of gage is 2,026.3 feet above mean sea level, datum of 1929.

Drainage area.- 31,660 square miles (contributing area).

Records available.- October 1921 to April 1925, October 1939 to September 1944.

Extremes.- Maximum discharge during year, 1,330 second-feet Aug. 26 (gage height, 5.05 feet); minimum, 53 second-feet (partly regulated) Aug. 6. 1921-25, 1939-44: Maximum discharge, 13,800 second-feet Oct. 8, 1941 (gage height, 16.75 feet); minimum, 15 second-feet Aug. 15, 1923. Maximum stage known, about 23.5 feet in September 1916, at site and datum used prior to May 1, 1925, from information by local residents.

Remarks.- Records good except those for periods of no gage-height record, which are poor. Flow regulated to large extent by reservoirs above Orla. Many diversions between Orla and this station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	140	115	124	118	123	126	100	101	82	64	57	124
2	148	115	121	118	123	126	97	171	81	62	55	118
3	155	114	120	129	120	127	97	181	80	60	54	103
4	158	114	121	137	121	139	97	105	79	58	54	97
5	150	114	135	143	121	140	96	102	79	58	54	91
6	145	114	135	139	123	142	97	94	81	58	54	132
7	140	114	129	134	126	145	103	91	81	58	57	132
8	139	114	131	127	127	154	102	89	78	56	58	116
9	137	109	129	123	124	118	97	88	79	62	58	115
10	135	114	116	123	121	124	97	88	90	90	59	143
11	137	112	114	124	121	120	106	88	155	81	60	166
12	137	110	116	126	126	115	102	88	176	81	61	132
13	137	112	116	131	123	115	101	88	99	81	62	116
14	135	114	115	129	120	118	140	91	125	88	63	105
15	132	114	112	127	118	115	121	95	96	91	62	96
16	131	114	109	127	118	110	105	97	88	86	61	89
17	135	112	109	127	116	109	97	93	83	81	62	86
18	131	120	112	126	115	108	94	172	79	78	70	88
19	127	118	115	124	115	103	83	136	77	68	63	127
20	124	118	116	123	112	105	94	91	73	70	168	132
21	123	118	112	121	108	103	83	85	71	72	137	129
22	126	118	110	121	118	101	83	179	69	85	102	129
23	126	118	103	121	118	101	81	123	68	146	110	142
24	126	116	106	121	118	100	81	87	66	74	328	139
25	134	115	121	121	116	94	89	86	66	69	226	126
26	126	121	123	124	115	117	88	113	64	68	285	115
27	121	129	121	127	120	179	88	94	69	68	346	120
28	116	126	124	120	137	161	94	87	67	67	126	118
29	121	124	127	116	134	129	83	64	63	63	127	112
30	118	124	123	121	-	112	100	82	64	60	118	110
31	116	-	123	126	-	106	-	82	-	58	120	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	4,126	158	116	133	8,180
November.....	3,490	129	109	116.	6,920
December.....	3,688	135	103	119	7,320
Calendar year 1943.....	62,073	640	83	170	123,100
January.....	3,894	145	116	126	7,720
February.....	3,497	137	108	121	6,940
March.....	3,742	179	94	121	7,420
April.....	2,956	140	88	98.5	5,860
May.....	3,251	181	82	105	6,450
June.....	2,529	176	64	84.3	5,020
July.....	2,263	146	56	73.0	4,490
August.....	3,317	346	54	107	6,580
September.....	3,548	166	86	118	7,040
Water year 1943-44.....	40,301	346	54	110	79,940

Note.- No gage-height record Dec. 8 to Jan. 10, July 10-19, Aug. 8-14, 18-22; discharge computed on basis of weather records, engineer's notes, and records for station near Girvin.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Gallinas River near Montezuma, N. Mex.

Location.- Water-stage recorder, lat. 35°39'00", long. 105°19'10", in Las Vegas Grant, 2 miles west of Montezuma, San Miguel County, and 6 miles northwest of Las Vegas.

Drainage area.- 84 square miles.

Records available.- October 1930 to September 1944 in reports of Geological Survey.

March 1915 to December 1931 (1915-26, no winter records) in reports of State engineer.

Average discharge.- 18 years (1926-44), 22.6 second-feet.

Extremes.- Maximum discharge during year, 131 second-feet May 11 (gage height, 1.99 feet); minimum daily, 1.8 second-feet Nov. 9.

1930-44: Maximum discharge, 3,310 second-feet Sept. 23, 1941 (gage height, 7.78 feet); from rating curve extended above 350 second-feet by logarithmic plotting; minimum daily, 0.8 second-foot Aug. 15-18, 21, 25, 26, 30, 1934, Jan. 20, 1938.

Remarks.- Records good except those for periods of ice effect or no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	2.7	3.2	b2.2		b3.0	4.6	13	48	53	7.9	7.4	4.4
2	2.7	b2.5	b2.6		b3.0	4.8	14	51	49	14	7.1	3.9
3	2.7	b2.1	b2.7	a3.5	b3.5	5.0	13	46	44	15	6.4	3.5
4	2.9	b2.5	b2.7		b3.5	4.8	17	38	41	16	4.3	3.4
5	2.9	2.7	b2.8		3.4	5.0	21	33	36	15	3.9	3.7
6	3.2	2.9	*3.0		3.4	4.6	25	41	34	42	6.6	3.5
7	3.4	b2.0	3.0		3.2	4.6	28	59	34	26	8.5	3.4
8	4.6	*b2.0	2.6		3.4	*5.0	29	65	34	19	7.1	3.2
9	4.1	1.8	7.1		3.9	5.0	28	66	28	16	9.3	3.4
10	3.5	2.1	b5.0	a3	b5.6	5.3	24	87	24	15	9.1	3.5
11	3.2	2.6			b3.7	5.7	22	116	23	12	8.5	3.5
12	3.2	*2.9			b3.7	6.4	22	104	21	7.9	7.9	3.5
13	3.2	2.9			5.7	7.4	29	100	20	13	8.2	3.2
14	3.2	3.0			b4.0	7.7	29	97	17	21	6.0	2.6
15	3.0	3.0			b3.8	8.2	24	106	14	18	4.4	2.7
16	3.0	3.0	b4		b5.9	7.7	24	108	11	15	4.4	2.7
17	2.9	3.5	b4		*b4.0	8.5	21	92	12	12	4.6	3.2
18	2.9	2.9			5.9	11	21	76	13	7.7	6.9	3.2
19	2.9	2.7	a4		5.7	8.8	25	66	11	12	7.9	2.7
20	3.2	2.9			b4.0	9.9	25	64	7.7	14	6.6	2.7
21	3.0	2.7			4.3	7.7	23	63	7.1	48	6.2	2.6
22	a3.1	2.9			4.3	8.2	23	60	8.2	40	6.0	2.2
23	3.2	3.0	a3.5		4.1	7.4	21	59	7.9	29	5.0	2.4
24	3.2	3.2		b4.5	4.3	8.8	23	55	14	27	5.0	2.6
25	3.2	3.0		b5	4.6	11	23	54	12	20	5.7	3.2
26	3.0	3.4		b4	4.4	11	23	57	13	15	5.3	3.4
27	2.9	b2.5			4.4	9.1	28	56	8.8	15	5.5	3.2
28	*2.7	b2.1			4.6	9.6	42	56	6.2	13	6.0	3.9
29	2.7	b2.0	a3		4.4	9.1	53	54	7.7	11	6.0	3.7
30	3.0	b2.2		b3	-	9.0	45	56	7.4	10	5.3	3.0
31	3.2	-			-	12	-	59	-	8.8	4.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	96.6	4.6	2.7	3.12	192
November.....	80.2	3.5	1.8	2.67	159
December.....	107.7	-	2.2	3.47	214
Calendar year 1943 .....	3,111.7	39	1.7	8.55	6,190
January.....	107.5	-	-	3.47	215
February.....	111.7	4.6	3.0	3.85	232
March.....	232.9	12	4.6	7.51	462
April.....	758	53	13	25.3	1,500
May.....	2,091	116	33	67.5	4,150
June.....	619	53	6.2	20.6	1,230
July.....	555.3	48	7.7	17.9	1,100
August.....	194.9	9.3	3.9	6.29	387
September.....	96.1	4.4	2.2	3.20	191
Water year 1943-44 .....	5,050.9	116	1.8	13.8	10,020

Peak discharge.- May 11 (2 to 3 a.m.) 131 sec.-ft.; July 2 (4 p.m.) 111 sec.-ft.; July 6 (9 to 9 a.m.) 58 sec.-ft.; July 21 (9 p.m.) 48 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records and records for station at Montezuma.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Gallinas River at Montezuma, N. Mex.

Location.- Water-stage recorder, lat. 35°39'15", long. 105°16'30", in Las Vegas Grant, at highway bridge half a mile downstream from Montezuma, San Miguel County, and 5 miles northwest of Las Vegas.

Drainage area.- 87 square miles.

Records available.- August 1903 to December 1914 (prior to October 1904, gage heights only) and October 1930 to September 1944 in reports of Geological Survey; October 1904 to December 1931 in reports of State engineer (prior to 1930, published as Gallinas River near Las Vegas).

Average discharge.- 37 years (1905-11, 1913-44), 22.4 second-feet.

Extremes.- Maximum discharge during year, 147 second-feet May 11 (gage height, 3.75 feet); minimum daily, 0.4 second-foot Feb. 22.  
1930-44: Maximum discharge, 2,590 second-feet Sept. 23, 1941 (gage height, 6.23 feet), from rating curve extended above 1,000 second-feet by logarithmic plotting; no flow (result of regulation) Oct. 4-7, 1934.

Remarks.- Records fair except those for periods of no gage-height record, which are poor. Flow regulated by reservoirs owned by New Mexico Power Co. Several diversions above station for irrigation and municipal water supply.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.6	0.8	0.6		0.6	2.9	10	37	50	3.6	2.8	2.1
2	.6	.9	.6		.7	3.3	12	39	45	6.7	1.8	1.7
3	.6	.9	.6		1.8	4.0	10	34	41	17	1.7	1.4
4	.6	.8	.6		1.8	4.0	14	30	39	17	1.0	1.5
5	.6	.8	.6		1.9	4.2	18	24	32	18	.6	1.8
6	.6	.9	.6		2.1	3.8	22	29	30	35	1.4	1.8
7	.6	.9	.6	a0.6	2.2	3.1	25	42	29	29	2.9	1.7
8	.6	.9	.5		2.1	2.8	26	53	33	16	.9	1.7
9	.6	.9	.6		1.9	3.1	26	59	26	11	3.3	1.5
10	.6	.9	.6		1.5	3.3	22	76	22	10	5.2	1.5
11	.6	.7	.6		1.0	4.0	20	127	19	7.4	7.7	1.4
12	.6	.8	.7		.8	4.7	19	108	17	5.1	7.1	.9
13	.6	.8	.8		.7	6.1	26	101	16	2.9	6.7	.8
14	.6	.9	.8	.6	1.5	7.1	28	95	14	14	3.6	.8
15	.6	.8	.8	.6	2.9	7.4	23	106	12	14	2.4	.8
16	.6	.9	.9	.6	3.6	6.7	22	112	6.7	9.7	2.1	.9
17	.6	.9	1.0	.7	3.1	6.7	18	86	5.5	9.3	2.1	.8
18	.7	.9	1.1	.7	2.8	9.3	19	65	5.5	4.7	2.1	.8
19	.8	.8	1.1	.8	2.2	7.7	23	51	5.5	7.4	2.2	.8
20	.6	.8	1.3	.7	2.2	9.3	23	51	5.2	14	2.1	.8
21	.6	.8	1.5	.6	1.1	5.8	21	48	2.1	44	2.1	.8
22	.6	.7	1.0	.7	.4	6.1	22	47	1.3	42	2.8	.8
23	.7	.7	1.3	.9	1.4	5.8	20	53	2.9	30	2.8	.9
24	.6	.8	1.3	.9	2.4	6.4	22	52	5.8	26	2.4	.8
25	.8	.7	.6	.8	4.2	8.1	21	45	8.1	19	2.8	.8
26	.7	.8	.6	.6	2.8	8.9	21	45	8.9	10	2.2	.8
27	.7	.7	.6	.6	2.8	7.1	26	51	6.4	10	2.2	.8
28	.7	.6	.6	.6	2.8	7.1	40	52	2.1	8.5	2.2	.8
29	.7	.6		2.6	5.2	5.2	52	52	1.4	6.4	2.2	.8
30	.7	.6	a.6	.6	-	7.7	38	52	2.6	5.5	1.9	.7
31	.8	-		.6	-	9.3	-	55	-	4.2	2.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	19.9	0.8	0.6	0.64	39
November.....	24.0	.9	.6	.80	48
December.....	24.1	1.3	-	.78	48
Calendar year.....	1,968.9	34	.3	5.39	3,900
January.....	20.0	.9	-	.65	40
February.....	57.9	4.2	.4	2.00	115
March.....	181.0	9.3	2.8	5.94	359
April.....	689	52	10	23.0	1,370
May.....	1,877	127	24	60.5	3,720
June.....	498.0	50	1.3	16.6	988
July.....	453.4	44	2.9	14.7	903
August.....	85.7	7.7	.6	2.76	170
September.....	33.5	2.1	.7	1.12	68
Water year 1943-44.....	3,965.5	127	.4	10.8	7,870

a No gage-height record; discharge computed on basis of weather records and records for station near Montezuma.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Ruidoso at Hondo, N. Mex.

Location.- Water-stage recorder, lat. 33°23'00", long. 105°16'30", in NE¼SW¼ sec. 4, T. 11 S., R. 17 E., a quarter of a mile upstream from confluence with Rio Bonito and half a mile southwest of Hondo.

Drainage area.- 307 square miles.

Records available.- October 1930 to September 1944 in reports of Geological Survey.  
August 1930 to December 1931 in reports of State engineer.

Average discharge.- 14 years (1930-44), 27.3 second-feet.

Extremes.- Maximum discharge during year, 1,290 second-feet June 23 (gage height, 5.54 feet), from rating curve extended above 130 second-feet by logarithmic plotting; minimum daily, 0.8 second-foot June 3.

1930-44: Maximum discharge, 12,400 second-feet Sept. 29, 1941 (gage height, 21.13 feet), from rating curve extended above 130 second-feet on basis of velocity-area studies; no flow Aug. 15, 16, 1935.

Remarks.- Records good except those for period of no gage-height record, which are poor.  
Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.6	9.8	9.4	20	21	20	7.0	9.8	1.5	10	1.5	17
2	5.9	11	10	21	20	19	9.8	7.7	1.0	16	1.2	15
3	5.9	12	9.8	21	20	20	10	5.6	.8	19	1.2	14
4	5.2	12	10	21	21	22	9.4	7.3	1.2	25	1.0	12
5	5.6	11	12	20	21	20	11	4.8	1.5	24	1.0	21
6	5.9	11	12	21	21	22	13	6.6	1.2	26	1.2	20
7	6.2	12	12	21	22	22	13	10	2.2	18	1.0	17
8	6.2	11	12	19	20	20	14	5.6	2.8	19	1.0	17
9	6.6	10	14	20	20	20	17	11	2.2	19	1.0	16
10	6.2	9.0	12	21	21	21	16	9.8	5.5	23	1.7	16
11	7.3	9.8	13	21	21	21	15	11	4.5	12	1.5	17
12	7.3	9.4	15	21	21	21	13	13	4.5	8.6	8.3	14
13	7.7	9.0	16	19	22	20	11	18	3.5	71	64	11
14	7.0	9.4	18	20	21	18	12	18	2.8	39	30	12
15	6.6	9.4	20	20	22	15	14	15	2.2	19	44	13
16	6.2	9.8	20	21	22	15	13	17	2.0	17	32	18
17	5.2	9.4	20	22	23	17	16	18	2.8	19	56	18
18	4.2	9.8	20	23	22	18	16	13	2.5	17	a20	17
19	4.8	9.0	20	22	22	18	16	5.6	2.5	13	a20	16
20	4.2	9.0	20	21	23	17	16	3.0	2.2	29	a35	14
21	4.5	8.6	19	22	22	18	16	5.6	1.7	21	a30	12
22	5.2	9.0	20	22	21	19	19	5.6	1.5	35	a20	12
23	7.0	9.0	21	22	20	18	18	6.2	64	24	a18	11
24	7.0	9.0	22	22	20	18	14	2.8	12	23	a17	12
25	5.9	8.6	22	21	22	18	9.8	2.5	7.3	25	a25	11
26	5.6	10	22	22	22	16	7.0	2.2	16	17	a23	22
27	4.8	9.8	25	21	23	17	9.4	2.2	11	6.2	a20	18
28	4.5	9.4	21	20	23	17	9.8	4.5	9.4	3.5	a20	17
29	5.9	9.0	22	20	21	15	7.7	3.8	12	2.8	a20	18
30	7.3	8.6	22	20	-	13	6.6	2.5	9.8	1.7	a20	17
31	9.0	-	20	20	-	11	-	2.2	-	1.5	19	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	186.5	9.0	4.2	6.02	370
November.....	293.8	12	8.6	9.79	583
December.....	531.2	25	9.4	17.1	1,050
Calendar year 1943.....	5,586.3	54	.1	15.3	11,080
January.....	647	23	19	20.9	1,280
February.....	618	23	20	21.3	1,230
March.....	564	22	11	19.2	1,120
April.....	379.5	19	6.6	12.6	753
May.....	252.9	18	2.2	8.16	502
June.....	194.1	64	.8	6.47	385
July.....	603.3	71	1.5	19.5	1,200
August.....	554.6	64	1.0	17.9	1,100
September.....	465	22	11	15.5	922
Water year 1943-44.....	5,289.9	71	.8	14.5	10,500

Peak discharge.- June 23 (3:30 p.m.) 1,290 sec.-ft.; July 13 (4 p.m.) 418 sec.-ft.; July 22 (6:30 p.m.) 255 sec.-ft.; Aug. 13 (4:30 p.m.) 822 sec.-ft.; Aug. 15 (9:30 p.m.) 213 sec.-ft.; Aug. 17 (4 p.m.) 585 sec.-ft.

a No gage-height record; discharge computed on basis of weather records and records for Rio Hondo at Diamond A Ranch, near Roswell, and Rio Bonito at Hondo.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

Rio Hondo at Diamond A Ranch, near Roswell, N. Mex.

Location.— Water-stage recorder, lat. 33°20'40", long. 104°51'10", in NE¼ sec. 20, T. 11 S., R. 21 E., at Diamond A Ranch, 8 miles upstream from Rocky Arroyo and 18 miles west of Roswell.

Drainage area.— 960 square miles (contributing area).

Records available.— May 1939 to September 1944 in reports of Geological Survey. May 1906 to August 1909 in reports of State engineer.

Extremes.— Maximum discharge during year, 558 second-feet Aug. 18 (gage height, 8.82 feet), from rating curve extended above 60 second-feet by slope-area method; no flow at times. 1939-44: Maximum discharge, 27,000 second-feet Sept. 22, 1941 (gage height, 28.78 feet), by slope-area method; no flow at times.

Remarks.— Records fair except those over 100 second-feet, which are poor. Many diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	4.1	16	27	26	24	3.9	2.3	0.6	0.8	0	5.6
2	0	4.4	15	28	26	22	2.8	3.3	.8	.2	0	4.1
3	0	4.4	16	28	26	20	2.8	1.8	0	1.2	0	4.1
4	1.5	4.6	17	28	26	20	3.1	1.2	0	4.4	0	3.7
5	4.2	4.6	17	28	26	22	2.8	0	0	3.2	0	7.9
6	4.1	4.1	15	*27	25	20	2.3	0	0	1.8	0	35
7	3.2	6.8	17	29	25	21	2.0	0	0	28	.6	15
8	3.9	9.7	18	b28	25	19	1.6	0	.1	8.2	0	11
9	4.1	13	25	b28	24	17	2.5	0	4	11	0	10
10	4.1	15	28	29	24	18	3.2	0	0	34	0	9.7
11	3.3	17	21	28	24	17	8.8	2.2	0	9.7	.1	8.8
12	2.4	18	21	*30	26	20	6.8	3.9	0	4.1	46	8.2
13	2.4	17	22	29	26	15	3.9	7.9	0	15	29	7.3
14	2.0	16	22	27	26	14	2.8	8.8	0	59	64	7.0
15	2.1	15	23	27	26	10	2.8	4.0	0	30	24	7.9
16	2.2	13	24	27	25	8.8	2.8	0	0	14	29	12
17	2.7	15	24	28	26	9.7	1.2	.5	0	7.5	26	86
18	1.5	15	24	28	26	9.4	0	1.8	0	11	130	16
19	1.7	15	24	29	27	9.7	0	0	0	11	53	9.4
20	3.0	16	24	29	26	12	0	0	0	a15	50	7.6
21	3.9	17	25	29	26	13	0	0	0	49	27	5.3
22	3.0	16	*25	30	25	13	.9	0	0	56	20	3.9
23	3.5	16	26	30	24	14	18	0	0	44	18	7.7
24	3.7	15	27	30	24	14	18	0	1.8	33	44	21
25	3.2	14	28	30	28	13	16	0	.1	a20	40	14
26	3.3	17	28	33	25	14	9.1	0	1.0	0	21	92
27	3.5	16	b35	32	26	13	4.6	0	1.2	0	16	51
28	2.5	16	*b30	29	29	11	5.1	0	1.0	0	18	32
29	2.1	15	b30	29	26	11	7.6	0	1.4	0	14	26
30	2.2	15	29	27	-	6.8	7.6	0	1.1	0	9.7	23
31	3.9	-	29	26	-	4.6	-	0	-	0	8.5	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	83.2	4.2	0	2.68	165
November	384.7	18	4.1	12.8	763
December	723	35	15	23.3	1,430
Calendar year 1943	5,297.2	401	0	14.5	10,480
January	886	33	26	28.6	1,760
February	744	29	24	25.7	1,480
March	456	24	4.6	14.7	904
April	143.0	18	0	4.77	284
May	37.7	8.8	0	1.22	76
June	9.5	1.8	0	1.28	17
July	468.9	59	0	15.1	930
August	685.9	130	0	22.1	1,380
September	623.3	92	3.7	20.8	1,240
Water year 1943-44	5,244.2	130	0	14.3	10,410

Peak discharge.— Aug. 14 (6 a.m.) 194 sec.-ft.; Aug. 18 (2 a.m.) 558 sec.-ft.; Sept. 5 (12:30 a.m.) 255 sec.-ft.; Sept. 17 (3 a.m.) 377 sec.-ft.; Sept. 26 (10 a.m.) 248 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of records for Rio Bonito at Hondo and Rio Ruidoso at Hondo.

b Stage-discharge relation affected by ice.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Bonito at Hondo, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 33°23'20", long. 105°16'30", in NE 1/4 sec. 4, T. 11 S., R. 17 E., at Hondo, half a mile upstream from confluence with Rio Ruidoso.

Drainage area.- 306 square miles (contributing area).

Records available.- October 1930 to September 1944 in reports of Geological Survey.  
August 1930 to December 1931 in reports of State engineer.

Average discharge.- 14 years (1930-44), 14.0 second-feet.

Extremes.- Maximum discharge during year, 1,160 second-feet Sept. 25 (gage height, 4.80 feet, from high-water mark); no flow at times.  
1930-44: Maximum discharge, 11,000 second-feet Sept. 28 or 29, 1941 (gage height, 20.92 feet), from rating curve extended above 214 second-feet on basis of slope-area determination at gage-height 19.0 feet; no flow at times.

Remarks.- Records fair except those for periods of ice effect or no gage-height record, which are poor. Many diversions above station for irrigation.

## Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0	3.4	0.3	1.0	4.6	5.5	1.6	0	0	a0	0.6	3.2
2	0	4.2	0	b1.0	5.9	5.9	1.5	0	0	a5	.5	3.0
3	0	3.4	0	1.0	5.9	5.5	1.1	0	0	a2	.4	2.0
4	0	3.4	0	1.1	6.3	5.9	.5	.1	0	a15	.2	2.0
5	0	3.6	0	b1.1	6.3	5.5	.5	.5	0	a15	12	11
6	0	3.8	.1	b1.8	5.9	5.1	.6	.4	0	a1	8.0	10
7	0	3.6	.2	3.8	5.9	5.5	.6	.2	0	.2	2.6	7.2
8	0	3.6	0	*3.6	5.5	5.5	-	0	0	.1	1.6	6.7
9	0	1.6	.7	b5.7	5.5	5.5	.6	0	0	22	2.0	4.6
10	0	0	1.1	b5.8	5.1	5.5	.6	0	.5	1.2	1.7	3.4
11	0	0	.7	3.8	4.6	5.1	.6	11	0	.3	13	3.4
12	0	0	.7	4.2	5.1	4.3	.5	18	0	.1	48	3.6
13	0	0	.9	b4.0	5.5	5.1	.5	7.2	0	.2	12	3.2
14	0	0	a.9	b4.1	4.2	5.1	.5	a2.0	0	.8	a5	3.0
15	0	0	a.9	4.2	4.6	5.1	.6	.4	0	.4	a6	2.6
16	0	0	a1.0	4.2	5.1	2.4	.4	.3	a0	.2	a5	2.8
17	0	0	a1.0	3.8	5.5	0	.4	0	a0	1.0	5.9	2.8
18	0	0	a1.0	5.1	5.5	0	.2	0	0	7.0	19	3.0
19	.1	0	a1.0	4.6	5.9	0	0	0	0	16	21	2.6
20	1.4	0	a1.0	*4.6	5.9	0	0	0	0	24	12	2.2
21	1.8	.1	a.9	5.5	5.5	.5	0	0	0	31	9.8	2.2
22	1.5	.3	a.9	5.5	5.5	2.6	0	0	0	14	9.8	2.0
23	1.2	.5	*.9	5.9	5.5	2.4	0	0	0	12	9.2	2.2
24	.6	.8	.8	5.9	5.9	2.2	0	0	a0	13	10	5.9
25	.6	.5	b.8	5.5	5.9	1.6	0	0	a0	9.2	9.2	60
26	.4	.8	.8	6.3	5.5	1.8	0	0	a0	8.6	7.6	38
27	0	.7	1.5	4.6	5.9	1.3	.3	0	a0	6.7	7.6	11
28	0	.6	b1.1	4.2	5.9	1.8	.3	0	0	3.6	7.6	8.6
29	.1	.6	b1.2	4.6	5.5	2.2	0	0	0	.9	6.3	8.0
30	1.2	.6	b1.2	4.6	-	1.5	0	0	a0	.6	4.2	6.7
31	2.6	-	b1.0	4.2	-	1.6	-	0	-	.5	3.8	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	11.3	2.6	0	0.36	22
November.....	36.1	4.2	0	1.20	72
December.....	22.8	1.6	0	.74	45
Calendar year 1943.....	991.3	150	0	2.72	1,970
January.....	121.3	6.3	1.0	3.91	241
February.....	159.9	6.3	4.2	5.51	317
March.....	102.8	5.9	0	3.32	204
April.....	12.5	1.6	0	.42	26
May.....	40.1	18	0	1.29	80
June.....	.5	.5	0	.02	1.0
July.....	211.6	31	0	6.88	420
August.....	261.6	48	.2	8.44	519
September.....	226.9	60	2.0	7.58	450
Water year 1943-44.....	1,207.4	60	0	5.30	2,400

Peak discharge.- July 4 (recorded range in stage) 245 sec.-ft.; July 9 (5 p.m.) 440 sec.-ft.; Aug. 6 (10 p.m.) 143 sec.-ft.; Aug. 11 (12 p.m.) 407 sec.-ft.; Aug. 18 (6 p.m.) 117 sec.-ft.; Sept. 25 (10 p.m.) 1,160 sec.-ft.

\* Winter discharge measurement made on this day.

a No gage-height record; discharge computed on basis of weather records, engineer's and observer's notes, recorded range in stage, and records for Rio Ruidoso at Hondo.

b Stage-discharge relation affected by ice.

Time basis. Mountain war time. To convert war time to standard time, subtract 1 hour.

Rio Felix at old highway bridge, near Hagerman, N. Mex.

Location.— Water-stage recorder, lat. 33°07'30", long. 104°20'40", in SW $\frac{1}{4}$  sec. 4, T. 14 S., R. 26 E., on downstream side of bridge,  $1\frac{1}{2}$  miles northwest of Hagerman and 2 $\frac{1}{2}$  miles upstream from mouth.

Drainage area.— 932 square miles (contributing area).

Records available.— April 1939 to September 1944. March 1932 to April 1939 at site 1 mile downstream. Records for periods of low flow not equivalent.

Extremes.— Maximum discharge during year, 76 second-feet Nov. 8 (gage height, 2.35 feet); minimum daily, 0.7 second-foot Feb. 25, 26, Mar. 4-9, July 4, Aug. 5.  
1939-44: Maximum discharge, 20,000 second-feet Sept. 22, 1941 (gage height, 23.0 feet), from rating curve extended above 5,100 second-feet by logarithmic plotting; minimum daily, 0.4 second-feet Sept. 21, 1940.

Remarks.— Records fair. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1.8	14	6.1	37	1.3	0.9	1.6	1.1	1.1	0.9	0.9	1.1
2	1.8	13	15	38	1.6	1.8	1.1	1.1	.9	.9	.9	1.1
3	1.8	13	13	37	1.6	.9	1.3	1.1	1.1	.9	.9	1.3
4	1.8	13	11	25	8.5	.7	2.7	1.1	1.3	.7	1.1	1.3
5	1.8	16	11	8.5	13	.7	1.3	1.1	.9	.9	.7	1.3
6	2.1	20	10	a6	13	.7	1.3	1.3	1.3	.9	.9	1.3
7	2.1	22	8.5	a4	15	.7	1.6	1.3	1.3	1.1	.9	1.3
8	2.1	26	4.4	a3	8.0	.7	1.3	1.1	1.1	1.1	.9	1.6
9	2.1	10	9.0	a2	2.7	.7	1.3	1.3	1.3	1.1	.9	1.3
10	2.7	9.0	36	2.1	14	.9	1.6	1.3	1.1	1.1	1.1	1.3
11	3.7	8.0	40	2.1	5.2	.9	1.6	1.6	1.1	1.1	1.1	1.3
12	5.2	6.1	39	2.1	3.0	.9	1.6	1.3	1.1	1.3	.9	1.8
13	2.7	4.8	39	1.8	1.6	.9	1.8	1.3	1.6	1.3	.9	1.8
14	2.7	3.7	38	1.6	1.1	.9	2.1	1.3	1.3	1.1	.9	1.6
15	2.1	3.5	34	1.6	1.1	.9	1.6	1.1	1.1	1.3	1.1	.9
16	2.1	2.7	35	1.6	1.1	1.1	1.6	1.1	1.1	1.3	1.1	1.1
17	2.1	2.7	33	1.3	1.1	1.1	1.6	1.1	1.3	1.3	1.1	1.1
18	2.1	2.7	30	1.3	.9	1.1	1.6	.9	1.3	1.6	1.3	1.1
19	2.4	2.4	31	1.3	.9	1.1	1.6	.9	1.3	1.3	1.3	1.1
20	3.3	2.4	31	1.3	.9	.9	1.6	1.1	1.3	1.3	1.3	1.1
21	6.1	2.4	30	1.6	.9	.9	1.6	1.1	1.3	1.1	1.3	1.1
22	6.1	2.1	30	1.6	.9	1.1	1.6	1.1	1.1	1.1	1.3	1.6
23	8.0	2.1	29	1.6	.9	1.6	1.6	1.3	1.1	.9	1.1	1.6
24	16	2.4	29	1.3	.9	1.6	1.6	1.1	.9	1.1	1.6	1.1
25	18	2.4	30	1.3	.7	1.6	1.8	.9	.9	.9	1.3	1.1
26	12	3.3	28	1.1	.7	1.6	1.8	.9	.9	.9	1.3	3.7
27	5.6	8.0	26	1.1	.9	1.6	1.6	.9	.9	.9	1.3	4.0
28	5.2	8.5	24	1.1	.9	2.1	1.3	1.1	1.1	.9	1.3	4.8
29	5.2	4.8	25	1.1	.9	1.3	1.6	1.1	1.1	.9	1.3	6.6
30	4.8	4.0	34	.9	-	1.6	1.1	1.3	.9	.9	1.3	6.6
31	6.1	-	36	1.1	-	1.6	-	2.1	-	.9	1.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	141.6	18	1.8	4.57	281
November.....	234.8	26	2.1	7.83	466
December.....	795.0	40	4.4	25.6	1,580
Calendar year 1943 .....	3,716.9	915	1.1	10.2	7,370
January.....	192.4	38	.9	6.21	392
February.....	103.3	15	.7	3.56	205
March.....	34.2	2.1	.7	1.10	58
April.....	48.1	2.7	1.1	1.60	95
May.....	35.4	2.1	.9	1.17	72
June.....	34.1	1.6	.9	1.14	68
July.....	35.0	1.6	.7	1.06	65
August.....	34.6	1.6	.7	1.12	69
September.....	57.8	6.5	.9	1.93	115
Water year 1943-44 .....	1,745.3	40	.7	4.77	3,470

a No gage-height record; discharge computed on basis of weather records, fragmentary recorder graph, and records for Rio Ruidoso at Honda.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Cottonwood Creek near Lake Arthur, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 32°55'00", long. 104°22'00", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 15, T. 16 S., R. 26 E., 1 $\frac{1}{2}$  miles upstream from mouth and 6 miles south of town of Lake Arthur.

Drainage area.- 199 square miles (contributing area).

Records available.- March 1932 to September 1944.

Average discharge.- 12 years (1932-1944), 11.0 second-feet.

Extremes.- Maximum discharge during year, 43 second-feet June 29 (gage height, 4.67 feet); minimum daily, 0.4 second-foot Aug. 17.

1932-44: Maximum discharge, 1,100 second-feet June 13, 1935, from rating curve extended above 15 second-feet by logarithmic plotting; maximum gage height, 13.5 feet May 30, 1937 (present datum, from floodmarks), affected by backwater from Pecos River; no flow at times.

Remarks.- Records fair except those for period of no gage-height record, which are poor. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3.0	6.8	15	18	22	16	3.5	9.1	1.7	9.1	6.2	4.4
2	3.9	4.0	15	21	22	18	2.0	9.3	1.6	6.2	5.6	2.2
3	4.4	4.6	16	21	21	16	2.3	9.1	1.4	5.8	3.7	2.4
4	4.8	4.6	16	20	21	16	.6	9.1	1.7	5.0	1.7	2.4
5	5.2	3.1	17	17	22	16	4.0	6.2	1.4	4.8	2.3	7.7
6												
7	5.4	3.9	17	18	22	10	4.4	3.5	3.0	4.8	5.0	9.5
8	5.6	7.9	18	20	22	11	.8	3.0	4.7	5.8	4.8	9.1
9	5.8	8.2	19	21	22	12	2.3	1.7	2.2	6.8	4.6	9.1
10	6.2	8.2	23	21	17	12	1.1	1.4	1.2	6.2	4.0	9.8
11	7.7	8.4	24	21	14	12	1.5	1.6	5.6	5.0	3.9	10
12												
13	8.2	8.6	22	21	14	8.2	1.1	1.8	8.2	6.2	3.8	10
14	8.4	8.4	22	22	16	8.8	1.2	2.6	3.1	5.8	3.1	11
15	8.4	8.6	20	22	16	10	6.4	2.3	2.8	8.4	2.2	11
16	8.8	8.6	20	22	17	10	3.0	5.0	3.0	11	1.6	10
17	8.8	8.6	20	23	17	7.9	2.4	5.0	3.0	9.8	1.0	10
18												
19	8.2	8.8	20	23	17	7.9	6.2	1.7	4.2	9.1	1.8	11
20	8.4	9.3	20	24	17	10	3.7	1.7	3.7	a9.1	.4	12
21	8.2	9.3	20	23	17	10	1.2	2.8	6.6	a9.1	.9	13
22	8.2	9.5	20	24	17	8.8	1.4	1.7	6.8	9.1	.7	13
23	8.2	9.5	20	24	17	15	2.0	1.7	6.4	9.3	1.1	13
24												
25	8.4	10	22	25	18	15	4.4	3.7	5.6	10	3.5	13
26	8.6	10	24	24	15	8.8	5.4	7.7	5.8	9.6	1.8	13
27	8.6	10	24	25	12	6.8	7.5	6.2	5.8	8.4	1.4	13
28	9.1	10	21	25	9.8	7.1	5.1	2.3	5.6	8.2	6.8	16
29	9.1	12	20	25	15	6.8	1.6	1.8	5.6	7.7	11	15
30												
31	7.1	14	20	23	13	7.7	2.8	1.7	5.4	7.5	8.2	15
2	3.7	15	20	22	13	7.9	4.2	1.7	5.0	7.5	7.9	17
3	6.0	15	21	22	15	6.6	5.6	1.8	5.2	7.5	7.9	16
4	4.6	15	18	22	14	6.2	9.1	2.4	25	7.3	7.3	16
5	4.8	15	15	22	-	6.0	5.6	1.7	17	7.1	6.4	16
6	6.8	-	14	22	-	6.4	-	2.3	-	7.1	6.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	212.6	9.1	3.0	6.86	422
November.....	275.1	15	3.1	9.17	546
December.....	605	24	14	19.5	1,200
Calendar year 1943.....	3,839.9	266	.3	10.5	7,620
January.....	683	25	17	22.0	1,350
February.....	494.6	22	9.8	17.1	961
March.....	322.9	18	6.0	10.4	640
April.....	105.4	9.1	.6	3.51	209
May.....	113.6	9.3	1.4	3.66	225
June.....	189.9	25	1.4	6.33	377
July.....	233.3	11	4.8	7.53	463
August.....	127.0	11	.4	4.10	282
September.....	330.6	17	2.2	11.0	656
Water year 1943-44.....	3,691.2	25	.4	10.1	7,320

a No gage-height record; discharge computed on basis of recorded range in stage.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Delaware River near Red Bluff, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 32°01', long. 104°03', sec. 23, T. 26 S., R. 28 E., at bridge on U. S. Highway 285,  $\frac{3}{4}$  miles upstream from mouth and 4 miles south of Red Bluff, Eddy County. Datum of gage is 2,900.7 feet above mean sea level, datum of 1929.

Drainage area.- 967 square miles.

Records available.- October 1937 to September 1944. April 1912 to September 1913 at site 3 miles upstream (published as Delaware River near Malaga, N. Mex.). May 1914 to June 1915 at site  $2\frac{1}{2}$  miles downstream (published as Delaware River near Angóles, Tex.).

Extremes.- Maximum discharge during year, 3,450 second-feet Aug. 17 (gage height, 5.96 feet); minimum, 0.2 second-foot Aug. 5.

1912-13, 1914-15, 1937-44: Maximum discharge, 34,600 second-feet June 27, 1938 (gage height, 18.00 feet, from floodmarks), by slope-area method; no flow at times.

Remarks.- Records good. No diversion above station.

Rating tables, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

Oct. 1 to Apr. 29				Apr. 30 to Sept. 30							
1.1	2.40	1.4	7.04	0.70	0.23	1.2	3.91	1.6	11.7	2.4	72.0
1.2	3.70	1.5	9.20	.90	1.06	1.3	5.40	1.8	17.5	2.6	130
1.3	5.28			1.0	1.73	1.4	7.10	2.0	26.7	2.9	245
Note.- Same as following table above 1.5 feet.				1.1	2.66	1.5	9.20	2.2	43.7	3.2	390

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	5.5	3.3	5.0	6.5	5.8	4.8	3.8	3.0	1.4	4.3	0.5	2.6
2	3.7	3.4	5.0	6.9	5.6	4.8	3.6	2.9	1.3	2.7	.5	2.4
3	3.6	3.6	4.8	6.3	5.3	4.6	4.0	2.7	1.1	2.1	.5	21
4	3.6	3.8	4.8	5.6	5.0	4.3	4.0	3.0	.9	1.6	.3	3.1
5	3.6	3.7	5.6	5.3	5.1	4.2	3.8	3.1	1.0	1.4	2.1	323
6	3.4	3.3	5.4	5.3	5.3	4.0	3.7	3.1	1.1	1.2	3.7	218
7	3.3	3.3	5.3	5.4	5.4	4.3	3.6	2.9	2.2	1.1	2.4	29
8	3.3	3.6	5.1	4.1	6.1	4.3	3.4	2.6	3.0	1.0	21	14
9	3.3	4.0	5.8	6.6	5.6	4.5	3.1	2.6	2.4	1.2	24	8.7
10	3.1	4.2	8.0	6.1	4.8	4.5	3.1	2.6	13	1.2	7.5	6.7
11	3.1	4.3	7.4	5.4	4.6	4.3	3.3	2.8	127	1.3	5.6	6.6
12	3.3	4.5	6.1	5.8	4.8	4.2	3.4	2.8	10	1.0	6.8	5.1
13	3.0	4.5	5.4	6.0	5.0	4.2	3.4	2.8	5.1	1.1	2.9	4.6
14	3.0	4.6	5.1	5.8	5.1	4.2	3.0	2.6	5.4	1.2	1.8	4.2
15	2.9	4.6	5.0	5.4	5.0	4.0	2.9	2.4	2.6	1.2	15	3.6
16	3.0	4.5	5.0	5.3	5.0	3.8	2.9	2.2	2.1	1.0	31	3.6
17	3.1	4.5	5.1	5.3	5.0	4.0	2.8	2.1	1.7	.8	375	16
18	3.3	4.5	5.1	5.1	5.0	4.0	2.8	1.9	1.6	.7	95	26
19	3.0	4.5	5.1	5.1	5.1	3.7	3.0	1.8	31	9.4	27	5.2
20	2.8	4.5	5.1	5.1	5.4	3.8	3.1	1.8	10	2.4	10	4.3
21	2.9	4.5	5.1	5.1	5.4	3.7	3.0	1.8	4.0	1.3	7.7	3.6
22	3.0	4.6	5.1	5.1	5.1	3.7	2.8	1.7	2.4	1.2	7.7	3.2
23	3.1	4.6	5.1	5.1	5.0	3.8	2.8	1.5	2.1	1.7	4.6	3.1
24	3.1	4.8	5.3	5.1	4.8	3.8	3.0	1.5	3.5	4.3	8.6	4.8
25	3.3	4.8	5.3	5.1	5.0	3.7	3.3	1.6	2.4	15	63	6.7
26	3.4	6.0	5.3	5.0	4.8	3.7	3.0	1.6	2.1	7.7	20	6.6
27	3.6	6.1	5.3	5.1	5.0	3.6	3.0	1.9	1.7	3.4	8.7	29
28	3.6	5.8	5.1	5.3	5.1	3.4	3.0	1.9	1.4	1.8	5.9	12
29	3.6	5.3	5.4	5.3	5.1	3.6	3.1	2.2	15	1.2	4.5	7.9
30	3.4	5.1	5.4	5.1	-	3.8	3.1	2.2	7.9	.9	3.5	5.9
31	3.1	-	5.4	5.1	-	4.0	-	1.8	-	.6	2.9	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	103.0	5.5	2.8	3.32	204
November.....	132.8	6.1	3.3	4.43	263
December.....	167.0	8.0	4.8	5.39	331
Calendar year 1943 .....	2,211.7	151	1.0	6.06	4,390
January.....	168.8	6.9	4.1	5.45	335
February.....	149.3	6.1	4.6	5.15	296
March.....	125.3	4.8	3.4	4.04	249
April.....	96.8	4.0	2.8	3.23	192
May.....	71.4	3.1	1.5	2.30	142
June.....	264.4	127	.9	8.81	524
July.....	77.0	15	.6	2.48	153
August.....	769.7	375	1.3	24.8	1,530
September.....	789.5	323	2.4	26.3	1,570
Water year 1943-44 .....	2,915.0	375	.3	7.96	5,790

Peak discharge.- June 11 (12:30 a.m.) 1,210 sec.-ft.; Aug. 17 (6:30 p.m.) 3,450 sec.-ft.; Sept. 5 (4 a.m.) 1,200 sec.-ft.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.



## Salt (Screwbean) Draw near Orla, Tex.

Location.-- Water-stage recorder and low-water control, lat. 31°52'40", long. 103°56'50", at bridge on U. S. Highway 285, 157 feet upstream from Panhandle & Santa Fe Railway bridge, 2.7 miles southwest of Red Bluff Dam, 4.1 miles northwest of Orla, Reeves County, and 5 miles upstream from mouth. Station is at same site and datum as that which was discontinued Dec. 31, 1940. Datum of gage is 2,804.2 feet above mean sea level, datum of 1929. From Oct. 1 to Nov. 15, staff gage at same site and datum.

Drainage area.-- 455 square miles (contributing area).

Records available.-- August 1939 to December 1940, October 1943 to September 1944.

Extremes.-- Maximum discharge during year, 3,040 second-feet Aug. 18 (gage height, 13.63 feet), from rating curve extended above 460 second-feet; no flow at times.

1939-40, 1943-44: Maximum discharge, that of Aug. 18, 1944; no flow at times.

Floods have reached a stage of 18 or 19 feet, from information by local residents.

Remarks.-- Records fair. Staff gage read intermittently Oct. 1 to Nov. 16. No diversions.

Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1			0	1.2	0.4	0.3	0.1		0		0	0.3
2			0	1.0	.4	.2	0		0		0	.2
3			0	.7	.4	.3	.1		0		0	.1
4			0	.6	.5	.2	.1		0		0	.1
5			0	.6	.4	.2	.1		0		0	.50
6			0	.6	.4	.1	.1		0		0	.26
7			.1	.6	.4	.2	0		0		.47	.15
8			.3	.6	.4	.2	0		0		.27	.8.5
9			.5	.5	.5	.2	0		0		2.6	3.7
10			1.2	.4	.5	.2	0		0		1.0	2.4
11			1.6	.5	.4	.2	0		45		.5	1.5
12			1.6	.6	.4	.2	0		4.7		.2	1.1
13			1.2	.9	.4	.2	0		1.2		0	.9
14			.9	1.2	.3	.2	0		.6		0	.7
15			.7	1.3	.3	.2	0		.3		0	.5
16			.7	.8	.3	.2	0		0		0	.4
17			.6	.5	.3	.2	0		0		.283	.4
18			.5	.4	.2	.2	0		0		1.120	.3
19			.5	.4	.2	.1	0		0		.37	.2
20			.4	.4	.3	.1	0		0		9.4	.2
21			.4	.4	.3	0	0		0		5.0	.1
22			.4	.4	.3	0	0		0		2.8	.1
23			.3	.4	.3	0	0		0		1.8	.1
24			.9	.3	.3	0	0		0		5.8	.1
25			1.3	.3	.3	0	0		0		4.2	.1
26			1.0	.3	.2	0	0		0		2.0	.3
27			.9	.4	.2	0	0		0		1.1	.37
28			.9	.4	.3	0	0		0		.9	.14
29			.8	.4	.3	.1	0		0		.8	.7.2
30			.7	.3	-	.1	0		0		.5	3.4
31			.6	.4	-	.1	-		-		.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0.	0	0	0
November.....	0	0	0	0	0
December.....	19.0	1.6		.61	.38
Calendar year.....	-	-	-	-	-
January.....	17.8	1.3	.3	.57	35
February.....	9.9	.5	.2	.34	20
March.....	4.2	.3	0	.14	8.3
April.....	.5	.1	0	.02	1.0
May.....	0	0	0	0	0
June.....	51.8	45	0	1.73	103
July.....	0	0	0	0	0
August.....	1,552.9	1,120	0	50.1	3,080
September.....	174.9	50	.1	5.83	347
Water year 1943-44.....	1,831.0	1,120	0	5.0	3,830

Note.-- Discharge computed from graph based on intermittent readings of reference gage Dec. 16 to Jan. 24, Mar. 7-16.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

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 head gate 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). Gage-height records collected in cooperation with Red Bluff Water Power Control District, Pecos, Tex.

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 (published as Farmers Independent Canal near Porterville, Tex.) and August 1939 to September 1944.

Ward County Water Improvement District No. 3 Canal near Barstow, diverts from left bank, lat. 31°36', long. 103°31'. Records available, August 1939 to September 1944.

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, at site about half a mile upstream (published as Barstow Canal near Barstow, Tex.), and August 1939 to September 1944.

Grandfalls-Big Valley Canal near Barstow, diverts from left bank, lat. 31°25', long. 103°15'. Records available, March 1922 to November 1925, September 1939 to September 1944. 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°18', long. 102°55' (gage 15 miles downstream from head gates). Records available, March 1922 to July 1925 at site 11 miles upstream (published as Imperial High-line Canal near Grandfalls, Tex.), and August 1939 to September 1944.

Pecos County Water Improvement District No. 2 Canal near Imperial, diverts from right bank, lat. 31°16', long. 102°45' (gage 7½ miles below outlet head gate at Imperial Reservoir). Records available, April 1940 to September 1944.

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 1944.

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°16', long. 102°45'. Records available, March 1940 to September 1944.

Several smaller diversions (pumps) divert water between Red Bluff Reservoir and Imperial for irrigation of lands adjacent to Pecos River, but no records for them were obtained.

Diversions, in acre-feet, water year October 1943 to September 1944

Month	Reeves County District 2 Canal near Mentone	Ward County District 3 Canal near Barstow	Ward County District 1 Canal near Barstow	Grandfalls- Big Valley Canal near Barstow
October.....	679	23	1,240	a278
November.....	322	90	1,010	7.7
December.....	0	3.0	1,120	26
Calendar year 1943	15,590	17,000	52,710	9,750
January.....	0	0	952	13
February.....	115	140	2,680	25
March.....	551	1,220	1,680	26
April.....	1,740	1,960	6,540	1,410
May.....	1,810	1,250	5,000	1,510
June.....	1,390	1,310	3,540	1,090
July.....	2,950	3,830	9,020	1,620
August.....	2,410	2,620	7,180	1,270
September.....	646	380	al,650	38
Water year 1943-44	12,610	12,920	41,610	7,470
Month	Pecos County District 2 Canal (upper diver.) near Grandfalls	Pecos County District 2 Canal near Imperial*	Ward County District 2 Canal near Grandfalls	Pecos County District 3 Canal near Imperial*
October.....	7.7	0	268	al.6
November.....	0	0	9.9	0
December.....	.2	0	0	0
Calendar year 1943	51,610	25,120	39,770	23,820
January.....	2.2	0	0	0
February.....	2.2	111	0	0
March.....	2,910	824	2,110	73
April.....	9,040	4,220	8,420	5,280
May.....	9,220	4,720	5,330	4,150
June.....	11,090	819	2,010	909
July.....	6,040	5,220	7,600	5,030
August.....	9,270	4,460	7,730	4,650
September.....	4,310	1,290	1,250	853
Water year 1943-44	51,690	21,520	34,730	20,950

\* 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) plus water diverted from Pecos River by Pecos County Water Improvement District No. 2 lower diversion canal.

a No record part of month; discharge computed on basis of recorded range in stage, head-gate operation, and engineer's notes.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Madera Canyon near Toyahvale, Tex.

Location.- Water-stage recorder, lat. 30°52', long. 103°58', in Jeff Davis County, 11 miles upstream from Aguja Canyon and 12 miles southwest of Toyahvale, Reeves County.

Drainage area.- 54 square miles.

Records available.- July 1932 to September 1944.

Average discharge.- 12 years, 5.20 second-feet.

Extremes.- Maximum discharge during year, 1,560 second-feet Sept. 5 (gage height, 4.61 feet), from rating curve extended above 100 second-feet on basis of slope-area determination at gage height 6.8 feet; no flow at times.  
1932-44: Maximum discharge, 5,120 second-feet Sept. 29, 1932 (gage height, 8.00 feet, from floodmark), from rating curve extended above 200 second-feet on basis of slope-area determination at gage height 6.8 feet; no flow at times.

Remarks.- Records fair. No diversion.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1										0	0	5.4
2										0	0	4.2
3										0	0	3.3
4										0	0	3.1
5										0	0	198
6										0	0	639
7										0	0	464
8										0	.1	164
9										0	2.1	105
10										0	.8	77
11										0	.1	58
12										0	.1	45
13										0	0	34
14										0	0	27
15										0	.1	20
16										0	.3	16
17										0	.9	12
18										0	8.6	9.6
19										0	2.0	12
20										0	1.3	14
21										0	1.8	8.8
22										0	1.4	6.0
23										2.2	1.1	5.1
24										1.9	317	27
25										0	178	14
26										0	59	17
27										0	35	95
28										0	21	79
29										0	14	56
30										0	10	45
31										0	7.1	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943 .....	717.2	78	0	1.96	1,420
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	0	0	0	0	0
June.....	0	0	0	0	0
July.....	4.1	2.2	0	.13	8.1
August.....	661.8	317	0	21.3	1,310
September.....	2,261.5	639	3.1	75.4	4,490
Water year 1943-44 .....	2,927.4	639	0	8.00	5,810

Peak discharge.- Aug. 24 (1:45 p.m.) 1,400 sec.-ft.; Sept. 5 (8 p.m.) 1,560 sec.-ft.  
Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Toyah Creek near Pecos, Tex.

Location.— Water-stage recorder and low-water wooden control, lat. 31°17', long. 103°28', at bridge on U. S. Highway 285, 0.8 mile upstream from Toyah Lake and 10 miles southeast of Pecos, Reeves County. Station is at same site and datum as that which was discontinued Dec. 31, 1940. From Oct. 1 to Nov. 5, 1943, staff gage at same site and datum.

Drainage area.— 1,024 square miles (contributing area).

Records available.— August 1939 to December 1940, October 1943 to September 1944.

Extremes.— Maximum discharge during year, 780 second-foot Sept. 8 (gage height, 9.30

feet); minimum, 0.1 second-foot Aug. 2-8, 11-17, 22, 23.

1939-40, 1943-44: Maximum discharge, that of Sept. 8, 1944; no flow at times.

Flood of October 1941 reached a stage of 12.4 feet by levels to floodmark identified by State Highway Department employee.

Remarks.— Records good except those for period Oct. 1 to Nov. 7, which are fair. Several diversions for irrigation above station. Flood flow materially affected by spread-out dams above station. Staff gage read once daily. Records of water analyses for water year 1944, are given in Water-Supply Paper 1022.

Rating table, water year 1943-44 (gage height, in feet, and discharge, in second-feet)

(Shifting-control method used Feb. 14, 15, May 14, 15, Sept. 9, 11, 12)

1.08	0.09	1.5	4.30	2.4	18.2	4.6	51.8	6.3	110	8.2	310
1.1	.14	1.6	8.04	2.7	21.7	4.9	57.8	6.5	120	8.5	362
1.2	.47	1.7	10.6	3.0	25.8	5.1	62.6	6.7	134	8.7	422
1.3	.92	1.9	13.2	3.8	38.6	5.5	76.4	7.0	162	9.0	568
1.4	1.82	2.1	15.2	4.3	46.7	6.0	96.4	7.7	246		

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.3	0.3	0.5	0.7	1.0	1.0	0.8	0.8	3.2	0.4	0.2	0.2
2	.3	.3	.4	.7	1.1	1.1	.8	.5	2.7	.4	.1	.2
3	.2	.3	.5	.6	1.0	1.1	.8	.5	1.5	.4	.1	.2
4	.3	.3	.5	.6	.9	.9	.8	.5	.7	.4	.1	.2
5	.3	.3	.5	.6	1.0	.9	.8	.6	.6	.3	.1	1.4
6	.3	.3	.5	.6	1.0	.8	.8	.6	.5	.3	.1	3.0
7	.3	.3	.5	.6	1.0	.8	.8	.6	.5	.3	.1	285
8	.3	.3	.5	.6	1.2	.8	.8	.6	.5	.2	.1	514
9	.3	.3	.6	.6	1.1	.8	.8	.6	.5	.3	.2	132
10	.3	.4	.6	.6	1.0	.8	.7	.9	.6	.4	.2	29
11	.3	.4	.6	.6	.8	.9	.7	1.0	.6	.4	.1	12
12	.3	.4	.6	.7	.8	.9	.7	.6	.8	.3	.1	6.4
13	.3	.4	.6	.7	.8	.9	.8	.6	13	.2	.1	4.0
14	.3	.4	.6	.6	.8	.9	.7	.7	3.6	.2	.1	3.2
15	.3	.4	.5	.6	.8	.9	.6	.8	4.1	.2	.1	2.4
16	.3	.4	.5	.6	.9	.9	.6	.8	4.6	.2	.1	2.0
17	.3	.4	.5	.6	.9	.9	.6	.8	2.9	.2	.1	1.8
18	.3	.4	.5	.6	.8	.9	.6	.7	2.2	.2	.3	2.0
19	.3	.4	.5	.7	.9	.8	.6	.7	1.0	.2	.6	1.8
20	.3	.4	.5	.7	1.0	.8	.6	.7	.6	.2	.2	1.6
21	.3	.4	.5	.7	1.2	.7	.6	.8	.6	.2	.2	1.6
22	.3	.4	.5	.7	1.1	.7	.6	.8	.6	.2	.1	1.6
23	.3	.4	.5	.7	1.1	.7	.6	.8	.6	.2	.1	1.6
24	.3	.4	.6	.8	1.1	.7	.6	.7	.6	.9	.2	1.6
25	.3	.4	.6	.9	1.1	.7	.6	.6	.5	.4	.2	1.8
26	.3	.6	.6	.7	1.0	.7	.6	.7	.5	.3	.3	3.2
27	.3	.6	.6	.7	1.0	.7	.6	.7	.4	.2	1.9	5.0
28	.3	.5	.6	.7	1.1	.7	.5	.6	.4	.2	.4	3.2
29	.3	.5	.6	.7	1.0	.7	.5	.5	.4	.2	.3	11
30	.3	.5	.6	.8	-	.7	.9	.8	.4	.2	.2	5.7
31	.3	-	.6	.8	-	.7	-	3.4	-	.2	.2	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October	9.2	0.3	0.2	0.30	18
November	11.8	.6	.3	.39	23
December	16.8	.6	.4	.64	33
Calendar year 1943	-	-	-	-	-
January	20.8	.9	.6	.67	41
February	28.5	1.2	.8	.98	57
March	25.5	1.1	.7	.82	51
April	20.5	.9	.5	.68	41
May	24.0	3.4	.5	.77	48
June	49.7	13	.4	1.66	99
July	8.9	.9	.2	.29	18
August	7.2	1.9	.1	.23	14
September	1,038.7	514	.2	34.6	2,060
Water year 1943-44	1,261.6	514	.1	3.45	2,500

Peak discharge.— June 13 (7 p.m.) 84 sec.-ft.; Sept. 7 (3:30 a.m.) 270 sec.-ft.; Sept. 8 (3 a.m.) 780 sec.-ft.

Notes.— Discharge Oct. 1 to Nov. 7 computed on basis of once-daily reading of outside staff gage and 1 discharge measurement. Discharge Mar. 30 to May 11 computed from graph based on once-daily readings of outside staff gage.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

Toyah Creek below Toyah Lake, near Pecos, Tex.

Location.- Water-stage recorder, lat. 31°21', long. 103°24', at bridge on county road between Pecos and Grandfalls, at lower end of Toyah Lake, 6 miles upstream from mouth and 7.4 miles southeast of Pecos, Reeves County.

Drainage area.- 3,709 square miles (contributing area).

Records available.- August 1939 to September 1944.

Extremes.- Maximum discharge during year, 425 second-feet May 30 (gage height, 2.42 feet); no flow at times.

1939-44: Maximum discharge, 5,850 second-feet Aug. 7, 1940 (gage height, 4.17 feet); no flow at times.

Flood of September 1932 reached a stage of 7.7 feet from information by local residents.

Remarks.- Records good. Several diversions above station for irrigation. Flood flow materially affected by use of spread-out dams above station. Records of water analyses for water year 1944 are given in Water-Supply Paper 1022.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1								0	76		0	0.5
2								0	51		0	.2
3								0	39		0	.1
4								0	16		0	.3
5								0	13		0	6.7
6								0	5.2		0	35
7								0	4.2		0	37
8								0	4.2		0	37
9								0	1.0		0	31
10								0	1.2		0	25
11								0	.9		0	16
12								0	1.1		0	14
13								0	.5		0	10
14								0	1.0		0	6.4
15								0	.5		0	3.1
16								0	.3		0	1.4
17								0	.2		0	.6
18								0	0		0	.7
19								0	0		0	.5
20								0	0		0	.3
21								0	0		0	.2
22								0	0		0	.1
23								0	.3		0	0
24								0	.4		0	0
25								0	.6		0	0
26								0	2.7		.1	0
27								0	.6		12	0
28								0	.3		10	0
29								0	.1		7.4	0
30								50	0		2.6	0
31								181	-		1.4	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943.....	2.2	1.8	0	.01	4.4
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	231	181	0	7.45	458
June.....	220.3	76	0	7.54	437
July.....	0	0	0	0	0
August.....	33.5	12	0	1.08	66
September.....	226.1	37	0	7.54	448
Water year 1943-44.....	710.9	181	0	1.94	1,410

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## San Solomon Springs at Toyahvale, Tex.

Location.- Water-stage recorder and sharp-crested weir, lat. 30°56', long. 103°47', on South Canal at Toyahvale, Reeves County, and 540 feet downstream from spring pool. Datum of gage is 3,310.0 feet above mean sea level, datum of 1929.

Records available.- October 1931 to December 1933, March 1941 to September 1944. 1900, 1904, 1919, 1922-25, 1934-36 (occasional discharge measurements published as miscellaneous measurements).

Extremes.- Maximum daily discharge during year, 56 second-feet Sept. 11-13; minimum daily, 32 second-feet Apr. 10 to May 7.

1931-33, 1941-44: Maximum daily discharge, 71 second-feet Oct. 7-9, 1932, Oct. 26-30, 1941; minimum daily, 30 second-feet Nov. 5-11, 1931, Jan. 22 to Feb. 23, 1932.

Maximum discharge measured during years when occasional measurements were made, 46 second-feet Sept. 5, 1900, July 21, 1904.

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 head gates. Water used for irrigation in vicinity of Balmorhea.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	36	35	34	33	34	34	33	32	33	33	34	40
2	36	35	33	33	34	34	33	32	33	33	34	40
3	36	35	33	33	34	34	33	32	33	33	34	39
4	36	35	33	34	34	34	33	32	33	33	34	39
5	36	35	33	34	34	34	33	32	33	33	35	41
6	36	35	33	34	34	34	33	32	33	33	35	44
7	36	35	33	34	34	34	33	32	33	33	35	43
8	36	35	33	34	34	34	33	33	33	34	35	50
9	36	35	33	34	34	34	33	33	33	34	35	53
10	36	35	33	34	35	33	32	33	33	34	35	55
11	36	35	33	34	35	33	32	33	33	34	35	56
12	36	35	33	34	35	33	32	33	33	34	35	56
13	36	35	33	34	35	33	32	33	33	34	35	56
14	36	35	33	34	35	33	32	33	33	34	35	55
15	36	35	33	34	34	33	32	33	33	34	35	55
16	36	34	33	34	34	33	32	33	33	34	35	55
17	36	34	33	34	34	33	32	33	33	34	35	55
18	37	34	33	34	34	33	32	33	33	34	35	55
19	37	34	33	34	34	33	32	33	33	34	35	54
20	37	34	33	34	34	33	32	33	33	34	35	54
21	37	34	33	34	34	33	32	33	33	34	35	54
22	37	34	33	34	34	33	32	33	33	34	35	54
23	37	34	33	34	34	33	32	33	33	34	35	54
24	37	34	33	34	34	33	32	33	33	34	35	54
25	37	33	33	34	34	33	32	33	33	34	35	54
26	37	33	33	34	34	33	32	33	33	34	40	54
27	36	33	33	34	34	33	32	33	33	34	41	54
28	36	33	33	34	34	33	32	33	33	34	42	54
29	36	34	33	34	34	33	32	33	33	34	42	54
30	36	34	33	34	-	33	32	33	33	34	41	54
31	36	-	33	34	-	33	-	33	-	34	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,125	37	36	36.3	2,230
November.....	1,031	35	33	34.4	2,040
December.....	1,024	34	33	33.0	2,030
Calendar year 1943.....	13,662	43	33	37.4	27,100
January.....	1,051	34	33	33.9	2,080
February.....	991	35	34	34.2	1,970
March.....	1,032	34	33	33.3	2,050
April.....	969	33	32	32.3	1,920
May.....	1,016	33	32	32.8	2,020
June.....	990	33	33	33.0	1,960
July.....	1,047	34	33	33.8	2,080
August.....	1,128	42	34	36.4	2,240
September.....	1,540	56	39	51.3	3,050
Water year 1943-44.....	12,944	56	32	35.4	25,670

Note.- No gage-height record Nov. 8-26, Dec. 24 to Jan. 14, Jan. 27 to Feb. 20, Mar. 5-26, Apr. 23 to May 23, May 26, 27; discharge computed on basis of discharge measurements, trend of flow, recorded range in stage, and engineer's notes.

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## Comanche Springs at Fort Stockton, Tex.

Location.- Water-stage recorder, lat.  $30^{\circ}53'$ , long.  $102^{\circ}52'$ , on outlet canal of Pecos County Water Improvement District No. 1, in eastern outskirts of Fort Stockton, Pecos County, a quarter of a mile upstream from bridge on U. S. Highway 290 and 0.5 mile downstream from head of springs. Datum of gage is 2,922.8 feet above mean sea level, datum of 1929.

Records available.- February 1941 to September 1944. 1899, 1904, 1919, 1922, 1924-25, 1932-41 (occasional discharge measurements published as miscellaneous measurements).

Extremes.- Maximum daily discharge during year, 47 second-feet Mar. 10-18; minimum daily, 40 second-feet July 26 to Aug. 22.  
1941-44: Maximum daily discharge, 54 second-feet Jan. 30, 1942; minimum daily, 40 second-feet Nov. 30 to Dec. 2, Dec. 5-13, 1941, June 30 to July 2, July 21, 1942, July 26 to Aug. 22, 1944.

Maximum discharge measured prior to 1941, 66 second-feet June 23, 1899; minimum measured, 38.7 second-feet July 14, 1936.

Remarks.- Records good. Discharge represents total flow of springs exclusive of surface runoff from precipitation. Spring flow fluctuates slowly; aquatic growth changes stage-discharge relation frequently and daily discharge interpolated between measurements. About 6,000 acres of land irrigated below station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	42	43	44	45	46	45	42	41	41	40	41
2	42	42	43	44	45	46	45	42	41	41	40	41
3	42	42	43	45	45	46	45	42	42	41	40	41
4	42	42	43	45	45	46	45	42	42	41	40	41
5	42	42	45	45	45	46	44	42	42	41	40	41
6	42	42	43	45	45	46	44	42	42	41	40	41
7	42	42	43	45	45	46	44	42	42	41	40	41
8	42	42	43	45	45	46	44	42	42	41	40	41
9	42	42	43	45	45	46	44	42	42	41	40	42
10	42	42	43	45	45	47	44	42	42	41	40	42
11	42	42	43	45	45	47	44	42	42	41	40	42
12	42	42	43	45	45	47	44	41	42	41	40	42
13	42	42	43	45	45	47	44	41	42	41	40	42
14	42	42	44	45	45	47	43	41	42	41	40	42
15	42	42	44	45	45	47	43	41	42	41	40	42
16	42	42	44	45	45	47	43	41	42	41	40	42
17	42	42	44	45	45	47	43	41	42	41	40	42
18	42	42	44	45	45	47	43	41	42	41	40	42
19	42	42	44	45	45	46	43	41	42	41	40	42
20	42	42	44	45	45	46	43	41	42	41	40	42
21	42	43	44	45	45	46	43	41	42	41	40	42
22	42	43	44	45	45	46	43	41	42	41	40	42
23	42	43	44	45	45	46	43	41	42	41	41	42
24	42	43	44	45	45	46	43	41	42	41	41	42
25	42	43	44	45	45	46	43	41	42	41	41	42
26	42	43	44	45	45	46	42	41	42	40	41	42
27	42	43	44	45	45	46	42	41	42	40	41	42
28	42	43	44	45	45	46	42	41	41	40	41	42
29	42	43	44	45	45	46	42	41	41	40	41	42
30	42	43	44	45	-	45	42	41	41	40	41	42
31	42	-	44	45	-	45	-	41	-	40	41	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	1,301	42	41	42.0	2,580
November.....	1,270	43	42	42.3	2,520
December.....	1,351	44	43	43.6	2,680
Calendar year 1943.....	15,657	45	41	42.9	31,060
January.....	1,393	45	44	44.9	2,760
February.....	1,312	46	45	45.2	2,600
March.....	1,431	47	45	46.2	2,840
April.....	1,302	45	42	43.4	2,580
May.....	1,282	42	41	41.4	2,540
June.....	1,255	42	41	41.8	2,490
July.....	1,265	41	40	40.8	2,510
August.....	1,249	41	40	40.3	2,480
September.....	1,252	42	41	41.7	2,480
Water year 1943-44.....	15,663	47	40	42.8	31,060

Time basis: Central war time. To convert war time to standard time, subtract 1 hour.

## RIO GRANDE BASIN

Devils River near Juno, Tex.

Location.— Water-stage recorder, lat. 29°58', 101°09', long. 101°09', 500 feet downstream from Baker ranch house, 2 miles upstream from Phillips Creek, and 13½ miles southwest of Juno, Val Verde County. Datum of gage is 1,489.7 feet above mean sea level, datum of 1929 (Corps of Engineers, U. S. Army, bench mark).

Drainage area.— 2,733 square miles.

Records available.— May 1925 to September 1944.

Average discharge.— 19 years, 201 second-feet.

Extremes.— Maximum discharge during year, 18,700 second-feet Sept. 6 (gage height, 11.63 feet); minimum, 58 second-feet July 29, 30.

1925-44: Maximum discharge, 370,000 second-feet Sept. 1, 1932 (gage height, 31.3 feet, from floodmarks), by slope-area method; minimum, 48 second-feet June 4-6, 1930.

Remarks.— Records good except those above 150 second-feet, which are fair. No diversion above station.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	95	89	89	99	86	79	77	77	71	68	61	69
2	93	91	89	97	86	79	79	76	71	66	61	69
3	95	91	89	95	86	79	77	76	71	66	61	67
4	93	91	93	95	84	79	77	76	71	66	61	67
5	93	91	99	93	84	79	77	76	69	64	64	67
6	91	89	91	91	84	79	77	74	69	64	64	5,410
7	91	89	91	89	82	79	77	72	68	66	63	2,980
8	91	89	89	88	84	79	79	72	69	64	61	593
9	91	89	91	88	82	79	77	72	69	64	61	236
10	91	89	107	88	82	79	77	72	69	64	61	184
11	91	89	97	88	81	79	77	74	69	64	63	182
12	91	89	95	88	81	77	77	74	71	64	63	149
13	91	89	93	89	82	77	77	72	71	63	63	140
14	91	91	91	88	84	79	77	71	69	63	63	129
15	91	91	89	88	82	79	77	71	69	63	63	123
16	89	91	89	88	82	77	77	71	68	63	63	119
17	89	89	89	88	81	79	77	69	68	63	63	117
18	89	89	88	88	81	81	77	69	66	63	63	113
19	91	91	88	88	81	81	77	76	66	63	63	109
20	91	91	88	88	81	77	79	72	66	63	63	107
21	89	91	88	88	88	79	77	81	71	64	63	106
22	89	91	88	88	88	79	79	77	69	64	63	103
23	89	91	88	88	88	79	77	76	69	64	66	101
24	89	91	88	88	88	79	77	76	69	64	64	101
25	88	91	88	88	88	79	77	76	74	63	64	97
26	88	91	88	91	79	77	76	91	63	64	68	101
27	88	99	88	88	82	77	76	76	63	63	77	101
28	88	93	86	86	82	77	74	74	64	61	79	97
29	89	91	86	84	79	76	76	71	66	61	76	96
30	88	89	86	84	-	77	76	71	68	61	74	95
31	88	-	86	86	-	77	-	71	-	61	72	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	2,801	95	88	90.4	5,560
November.....	2,716	99	89	90.5	5,390
December.....	2,795	107	86	90.2	5,640
Calendar year 1943.....	41,567	1,430	86	114	82,430
January.....	2,763	99	84	89.1	5,480
February.....	2,373	86	79	81.8	4,710
March.....	2,424	81	76	78.2	4,810
April.....	2,310	81	74	77.0	4,580
May.....	2,268	91	69	73.2	4,800
June.....	2,023	71	63	67.4	4,010
July.....	1,976	68	61	63.7	3,920
August.....	2,023	79	61	65.3	4,010
September.....	12,006	5,410	67	400	23,810
Water year 1943-44.....	38,477	5,410	61	105	76,320

Time basis. Central war time. To convert war time to standard time, subtract 1 hour.

## Las Moras Springs at Brackettville, Tex.

Location.— Staff gage, lat. 29°18', long. 100°25', in spring pool at Brackettville, Kinney County, a quarter of a mile upstream from bridge on Brackettville-Fort Clark road.

Datum of gage is 1,095.0 feet above mean sea level (Texas Highway Department bench mark).

Records available.— December 1935 to August 1938 (occasional miscellaneous discharge measurements), September 1938 to September 1944 (discharge measurements only).

Extremes.— 1895-1944: Maximum discharge measured, 5.8 second-feet July 30, 1928.

Remarks.— Discharge measurements represent total flow of springs. Springs issue from limestone in the Balcones fault zone and respond to rainfall on Edwards Plateau. Elevation of pool is regulated by outlet gate which materially affects discharge. City of Brackettville and U. S. Army (about 1 second-foot for Fort Clark) divert water from spring pool for domestic and recreational uses.



Discharge measurements, in second-feet, of Las Moras Springs at Brackettville, Tex., water year October 1943 to September 1944

Date	Gage height (feet)	Discharge (second-feet)	Date	Gage height (feet)	Discharge (second-feet)
Oct. 12.....	†5.14	23.2	May 5.....	†5.91	13.4
Dec. 2.....	†4.90	11.6	June 20.....	†3.84	33.2
Jan. 17.....	†5.09	18.9	July 6.....	†5.14	18.6
Feb. 23.....	†4.99	13.6	Aug. 11.....	†5.80	9.56
Mar. 30.....	†3.63	22.6	Sept. 20.....	†5.42	31.7

† Outlet gate closed; water flowing over top of gate.

‡ Outlet gate open, water flowing under gate and effective head on springs increased.

†† In addition to the gate being closed 2 1/2-inch by 6-inch boards were under the gate.

Note.- Gage heights indicate elevation of water surface in spring pool. Variation of head on spring pool has a material effect on spring discharge.

## MIMBRES RIVER BASIN

Mimbres River near Mimbres, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 32°52'20", long. 107°59'00", in NE 1/4 sec. 33, T. 16 S., R. 11 W., a quarter of a mile downstream from Bear Canyon and 1 1/2 miles northwest of Mimbres.

Drainage area.- 183 square miles.

Records available.- October 1930 to September 1944 in reports of Geological Survey. May 1921 to December 1931 in reports of State engineer.

Average discharge.- 21 years (1921-24, 1926-44), 12.6 second-feet.

Extremes.- Maximum discharge during year, 2,230 second-feet Aug. 19 (gage height, 5.54 feet), from rating curve extended above 120 second-feet by logarithmic plotting; minimum daily, 1.3 second-feet June 20.

1930-44: Maximum discharge, that of Aug. 19, from rating curve extended above 120 second-feet by logarithmic plotting; minimum daily discharge, that of June 20.

Remarks.- Records good. Flow partly regulated by Bear Canyon reservoir (capacity, 700 acre-feet). Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	6.7	6.4	5.5	4.3	4.7	5.0	2.2	2.8	2.8	3.3	2.0	8.0
2	6.4	6.4	5.5	4.3	4.5	5.0	2.2	2.4	2.0	2.4	2.2	7.0
3	6.0	6.4	6.7	4.3	4.3	5.0	2.2	2.6	2.0	1.9	1.9	6.7
4	6.0	6.4	5.7	4.3	4.3	5.0	2.4	3.1	4.3	1.9	1.9	6.4
5	6.0	6.0	5.7	4.3	4.5	4.7	2.8	3.1	11	2.4	2.4	5.0
6	6.0	6.0	5.7	4.3	4.3	4.7	2.4	2.2	18	3.1	3.5	3.8
7	6.0	6.0	5.7	4.0	4.3	4.0	2.2	2.4	5.2	2.0	2.9	4.0
8	5.7	6.0	6.0	4.0	4.3	2.8	2.0	2.6	2.6	2.2	2.9	4.3
9	5.7	6.0	6.7	4.0	4.3	2.6	2.2	2.3	1.7	3.1	4.0	4.5
10	5.7	6.0	6.0	4.0	4.3	2.8	2.4	2.2	1.8	2.2	4.7	4.7
11	6.0	6.0	6.0	4.0	4.3	2.4	2.4	2.2	1.7	1.7	135	5.5
12	5.7	6.0	5.7	4.0	4.3	2.4	2.2	2.0	2.0	1.9	9.9	6.7
13	6.0	6.0	5.5	4.0	4.3	2.6	2.2	1.9	2.0	1.9	4.3	7.0
14	5.7	6.0	5.5	4.0	4.3	2.2	2.6	2.0	2.6	2.0	3.1	7.0
15	5.7	6.0	5.5	4.0	4.3	2.2	2.8	4.0	1.9	2.0	2.8	8.3
16	6.0	6.0	5.5	4.0	4.3	2.8	2.9	9.9	1.7	3.1	3.1	9.9
17	5.7	6.0	5.5	h4.0	4.3	3.1	2.9	4.0	1.5	4.5	3.5	9.0
18	5.7	6.0	5.2	h4.0	4.3	3.3	2.8	5.7	1.5	5.7	30	7.6
19	6.0	6.0	h4.0	4.3	3.5	2.2	11	1.5	5.0	320	7.4	7.4
20	6.0	6.0	4.7	h4.0	4.3	3.5	2.0	15	1.3	4.5	324	7.4
21	6.0	6.0	4.7	h4.3	4.3	3.5	2.4	9.9	1.5	4.3	63	8.4
22	6.4	5.7	4.7	h4.3	4.5	3.5	6.0	8.7	1.5	4.3	30	16
23	6.4	6.0	4.7	h4.4	4.5	3.5	6.7	8.3	1.5	7.0	19	16
24	6.4	6.0	4.7	h4.5	5.0	3.1	8.7	8.0	1.9	25	16	19
25	6.4	6.0	4.5	h4.6	5.0	2.8	6.0	4.7	1.9	8.3	13	33
26	6.4	6.4	4.5	h4.7	5.0	2.6	4.3	2.0	1.9	4.5	11	33
27	6.4	6.0	4.5	h5.0	5.0	2.2	3.1	2.4	2.9	3.5	10	28
28	6.4	5.7	4.5	h4.7	5.0	2.2	3.3	5.0	3.5	3.3	9.4	25
29	6.4	5.7	4.5	h4.7	5.0	2.6	2.9	10	3.5	3.3	8.3	22
30	6.4	5.7	4.5	h4.8	-	2.2	3.3	5.7	3.1	4.3	8.7	17
31	6.4	-	4.5	5.0	-	2.0	-	3.5	-	2.9	8.3	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	188.7	6.7	5.7	6.09	374
November.....	180.8	6.4	5.7	6.03	359
December.....	162.6	6.7	4.5	5.25	323
Calendar year 1943.....	2,279.1	25	1.9	6.24	4,520
January.....	132.8	5.0	4.0	4.28	263
February.....	129.9	5.0	4.3	4.48	258
March.....	99.8	5.0	2.0	3.22	198
April.....	94.7	8.7	2.0	3.16	188
May.....	151.6	15	1.9	4.89	301
June.....	92.3	18	1.3	3.08	185
July.....	125.5	25	1.7	4.05	249
August.....	1,330.8	324	1.9	42.9	2,640
September.....	346.6	33	3.8	11.6	687
Water year 1943-44.....	3,036.1	324	1.3	8.30	6,080

Peak discharge.- Aug. 11 (7 p.m.) 2,070 sec.-ft.; Aug. 18 (4 p.m.) 812 sec.-ft.; Aug. 19 (10 p.m.) 2,230 sec.-ft.

a No gage-height record; discharge interpolated.

b Computed from staff-gage readings.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Mimbres River near Paywood, N. Mex.

Location.-- Water-stage recorder, lat. 32°35'10", long. 107°55'10", in NW 1/4 sec. 7, T. 20 S., R. 10 W., 6 miles northeast of Paywood Hot Springs, 10 miles northeast of Paywood, and 12 miles upstream from San Vicente Arroyo.

Drainage area.-- 485 square miles.

Records available.-- April 1908 to December 1914 and October 1930 to September 1944 in reports of Geological Survey. April 1908 to December 1931 in reports of State engineer.

Average discharge.-- 28 years (1908-10, 1912-17, 1919-24, 1926-27, 1929-44), 22.2 second-feet.

Extremes.-- Maximum discharge during year, 6,130 second-feet Aug. 18 (gage height, 7.20 feet), from rating curve extended above 320 second-feet by logarithmic plotting; no flow at times.

1930-44: Maximum discharge, not determined; maximum gage height, 11.0 feet, present datum, Aug. 4, 1939; no flow at times.

Remarks.-- Records fair except those for periods of missing gage-height record, which are poor. Several diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.4		0	2.2	3.0	3.8	3.4	2.4	2.0	0.4	0.2	8.0
2	0.4		0	2.1	3.0	3.2	3.4	2.4	2.0	.4	.2	7.6
3	0.4		0	2.3	3.0	4.1	3.4	2.4	2.0	.4	.1	7.6
4	0.4		0	2.4	2.6	3.8	3.2	2.3	1.8	.4	.1	8.0
5	.4		0	2.5	3.4	3.4	2.8	2.4	1.8	4.0	.1	6.8
6	.4		0	2.7	3.8	3.2	2.8	2.6	1.8	1.0	.1	6.2
7	.4		0	2.3	4.1	3.2	3.4	2.4	2.0	.7	.1	5.8
8	.3		0	2.4	3.4	3.6	3.4	2.3	2.0	.5	8.2	5.3
9	.3		0	2.9	3.2	3.6	2.6	2.4	2.0	.3	13	5.0
10	.2		0	2.9	2.3	4.8	3.0	2.3	2.0	.2	.5	4.3
11	.2		0	2.8	2.3	5.0	2.4	2.3	2.0	.2	47	3.8
12	.2		0	3.0	3.0	4.1	2.4	2.1	2.0	.2	77	3.4
13	.2		0	3.2	2.4	2.8	2.4	2.0	1.7	.2	1.1	3.2
14	.2		0	3.5	2.3	2.8	3.0	1.8	1.0	4.1	1.0	3.0
15	.2		0	3.4	2.3	2.6	2.8	1.8	.9	.4	52	2.8
16	.2		0	2.8	2.3	3.0	2.6	1.8	1.0	.2	7.2	2.8
17	.2		.1	3.0	2.1	2.6	2.8	1.8	1.0	.1	10	2.6
18	.2		.1	2.8	2.1	3.4	2.1	1.8	1.0	.65	1,440	2.8
19	.2		.2	2.6	2.1	5.0	2.1	1.7	.8	7.3	438	3.0
20	.2		.2	2.3	2.3	4.6	2.3	1.7	.7	13	367	2.8
21	.2		.2	2.4	2.4	3.8	3.2	1.7	.7	18	a70	2.8
22	.2		.3	2.8	2.6	3.6	2.8	1.7	.7	.4	51	3.0
23	.2		.4	2.4	2.6	3.0	2.8	1.7	.7	17	28	2.8
24	.2		.7	3.6	2.8	3.0	2.4	1.8	.6	22	25	3.2
25	.2		.5	3.8	2.6	3.6	2.8	1.8	.7	3.2	31	28
26	.1		1.5	3.2	2.6	2.6	2.3	2.0	.5	a.5	29	80
27	0		2.4	2.8	2.8	2.3	2.3	2.0	.4	.4	29	56
28	0		1.6	2.8	3.6	2.6	2.3	2.3	.4	.3	21	58
29	.1		2.0	2.4	3.2	2.4	2.4	2.1	.4	.3	16	58
30	0		1.9	2.4	-	2.4	2.4	2.1	.4	.3	13	a40
31	0		2.1	2.4	-	3.0	-	2.0	-	.2	9.6	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	6.8	0.4	0	0.22	13
November.....	0	0	0	0	0
December.....	14.2	2.4	0	.46	28
Calendar year 1943.....	2,181.1	870	0	5.98	4,530
January.....	85.1	3.8	2.1	2.75	169
February.....	80.2	4.1	2.1	2.77	159
March.....	104.7	5.0	2.3	3.38	208
April.....	82.0	3.4	2.1	2.73	163
May.....	63.9	2.6	1.7	2.06	127
June.....	37.0	2.0	.4	1.23	73
July.....	161.6	.65	.1	5.21	321
August.....	2,785.5	1,440	.1	89.9	5,520
September.....	426.6	80	2.6	14.2	846
Water year 1943-44.....	3,847.6	1,440	0	10.5	7,630

Peak discharge.-- July 18 (8 p.m.) 877 sec.-ft.; Aug. 11 (11 p.m.) 1,220 sec.-ft.; Aug. 15 (4 p.m.) 1,540 sec.-ft.; Aug. 18 (1 a.m.) 6,130 sec.-ft.; Aug. 19 (6 p.m.) 1,590 sec.-ft.; Sept. 25 (11 p.m.) 387 sec.-ft.

a No gage height record; discharge computed on basis of weather records, available trace, and records for station near Mimbres.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Bear Canyon near Mimbres, N. Mex.

Location.- Water-stage recorder and concrete Parshall flume, lat. 32°53', long. 107°59', in NW 1/4 sec. 28, T. 16 S., R. 11 W., 100 feet downstream from bridge on State Highway 167, 200 feet downstream from Bear Canyon Dam, and 2 miles northwest of Mimbres.

Records available.- October 1937 to September 1944.

Extremes (regulated).- Maximum discharge during year, 31 second-feet Sept. 21 (gage height, 1.83 feet); no flow for long periods.  
1937-44: Maximum discharge, 76 second-feet Sept. 29, 1941 (gage height, 2.88 feet), from rating curve extended above 21 second-feet by logarithmic plotting; no flow for long periods.

Remarks.- Records good. Flow regulated by Bear Canyon Reservoir (capacity, 700 acre-feet). One small diversion above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

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			1.6	0
6								0			2.9	0
7								0			3.0	0
8								0			1.4	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								5.0			0	0
19								11			0	0
20								10			0	0
21								9.9			0	1.6
22								9.7			0	7.9
23								9.3			0	8.0
24								8.9			0	8.0
25								4.5			0	4.1
26								1.3			0	.8
27								1.2			0	.9
28								.6			0	.9
29								0			0	.9
30								0			0	.9
31								0			0	.9

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	0	0	0	0	0
November.....	0	0	0	0	0
December.....	0	0	0	0	0
Calendar year 1943.....	138.4	7.9	0	.38	274
January.....	0	0	0	0	0
February.....	0	0	0	0	0
March.....	0	0	0	0	0
April.....	0	0	0	0	0
May.....	72.4	11	0	2.34	144
June.....	0	0	0	0	0
July.....	0	0	0	0	0
August.....	8.9	3.0	0	.29	18
September.....	34.0	8.0	0	1.13	67
Water year 1943-44.....	115.3	11	0	.32	229

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Rio Tularosa near Tularosa, N. Mex.

Location.- Water-stage recorder and concrete control, lat. 33°05'35", long. 105°58'35", in SE $\frac{1}{4}$  sec. 16, T. 14 S., R. 10 E., 200 feet upstream from diversion dam for Tularosa Community ditch and 3 miles northeast of Tularosa.

Records available.- December 1912 to December 1914 and October 1931 to September 1944 in Reports of Geological Survey. December 1912 to December 1914 and October 1916 to July 1917 in reports of State engineer.

Average discharge.- 11 years (1932-37, 1938-44), 14.4 second-feet.

Extremes.- Maximum discharge during year, 640 second-feet Aug. 5 (gage height, 2.10 feet), from rating curve extended above 23 second-feet on basis of slope-area determination at gage heights 3.4 and 8.5 feet; minimum daily, 8.6 second-feet June 18-19.

1931-44: Maximum discharge, 9,640 second-feet Sept. 3, 1938 (gage height, 8.50 feet, from floodmarks), by slope-area method; minimum daily, 1 second-foot July 31, Aug. 1, 1934.

Remarks.- Records good. Diversions above station for irrigation.

Discharge, in second-feet, water year October 1943 to September 1944

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	14	17	17	17	20	19	18	16	12	13	14	16
2	14	17	17	16	20	19	18	15	12	9.3	15	16
3	15	17	17	16	20	20	19	16	12	10	14	16
4	16	17	18	17	20	20	19	16	8.9	16	13	22
5	16	17	20	16	20	19	18	16	10	16	22	18
6	15	17	18	17	20	19	18	16	14	15	15	17
7	15	17	18	16	20	19	18	11	15	16	14	17
8	15	17	18	13	20	19	17	12	15	16	18	17
9	15	17	25	14	18	19	15	17	14	20	16	17
10	14	17	19	16	19	19	20	17	15	16	17	15
11	16	16	19	17	20	20	20	17	15	13	16	12
12	15	17	18	17	19	19	18	16	12	13	15	14
13	15	17	18	17	19	18	18	16	12	12	10	14
14	14	17	18	16	18	19	18	16	12	13	12	14
15	15	16	18	17	19	20	19	14	12	15	15	17
16	16	15	18	17	20	20	17	12	13	14	16	16
17	16	16	18	17	20	20	17	12	13	12	16	16
18	16	16	18	19	20	20	17	12	8.6	15	17	16
19	17	16	18	19	20	21	17	13	8.6	16	21	15
20	17	16	18	19	20	18	17	14	13	17	17	14
21	17	16	18	19	20	20	17	8.9	14	17	15	15
22	17	16	18	19	18	20	18	11	15	18	15	14
23	18	16	18	19	19	20	14	15	16	20	17	13
24	18	15	17	20	21	20	14	15	16	22	18	12
25	18	14	17	22	20	19	17	14	16	16	17	21
26	17	21	18	25	20	19	17	14	16	15	16	17
27	18	18	19	21	21	17	17	15	13	14	22	17
28	18	17	20	20	17	16	14	12	15	12	12	17
29	18	16	17	21	19	17	17	12	13	14	16	16
30	18	17	18	21	-	14	17	12	13	9.8	16	16
31	17	-	16	21	-	16	-	12	-	8.9	16	-

Month	Second-foot-days	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	500	18	14	16.1	992
November.....	498	21	14	16.6	988
December.....	561	25	16	18.1	1,110
Calendar year 1943.....	5,970.4	57	7.0	16.4	11,840
January.....	561	25	13	18.1	1,110
February.....	570	21	18	19.7	1,130
March.....	585	21	14	18.9	1,180
April.....	522	20	14	17.4	1,040
May.....	437.9	17	8.9	14.1	869
June.....	391.1	16	8.6	13.0	776
July.....	457.0	22	8.9	14.7	906
August.....	493	22	10	15.9	978
September.....	475	22	12	15.8	942
Water year 1943-44.....	6,051.0	25	8.6	16.5	12,000

Peak discharge.- July 9 (5:30 p.m.) 116 sec.-ft.; July 24 (1 a.m.) 200 sec.-ft.; Aug. 5 (2:30 p.m.) 640 sec.-ft.; Aug. 27 (7 p.m.) 472 sec.-ft.; Sept. 4 (4:30 p.m.) 139 sec.-ft.; Sept. 25 (7:30 p.m.) 180 sec.-ft.

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## Alamogordo-La Luz ditch at La Luz, N. Mex.

Location.- Water-stage recorder and concrete Parshall flume, lat.  $32^{\circ}58'50''$ , long.  $106^{\circ}58'15''$ , in SW $\frac{1}{4}$  sec. 25, T. 15 S., R. 10 E., a quarter of a mile upstream from La Luz and half a mile downstream from head gate.

Records available.- October 1934 to September 1944.

Average discharge.- 10 years, 6.90 second-feet.

Extremes.- Maximum daily discharge during year, 19 second-feet Apr. 10-13; minimum daily, 0.2 second-foot Oct. 1-4.

1934-44: Maximum daily discharge, 22 second-foot Feb. 2, 3, 5-13, 1942; no flow at times.

Remarks.- Records good. Ditch diverts water from left bank of Rio La Luz for irrigation.

Monthly discharge, in second-feet, water year  
October 1943 to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	16	0.2	11.7	720
November.....	15	3	7.96	474
December.....	15	7.8	9.45	581
Calendar year 1943.....	19	.2	11.3	8,200
January.....	12	2.5	9.85	805
February.....	17	1.7	12.4	718
March.....	18	4.6	12.5	770
April.....	19	12	15.5	922
May.....	13	8.7	10.5	644
June.....	8.8	6.6	7.60	482
July.....	14	8.0	10.6	651
August.....	12	2.4	9.12	561
September.....	13	.4	9.48	564
Water year 1943-44.	19	.2	10.5	7,660

## Alamogordo water supply near Alamogordo, N. Mex.

Location.- Water-stage recorder and rectangular contracted weir, lat.  $32^{\circ}52'25''$ , long.  $106^{\circ}55'40''$ , in NW $\frac{1}{4}$  sec. 33, T. 16 S., R. 10 E., at lower end of pipe line, about 1 mile downstream from Alamo Canyon and 2 miles southeast of Alamogordo.

Records available.- October 1932 to September 1944.

Average discharge.- 12 years, 1.93 second-feet.

Extremes.- Maximum discharge during year, 3.2 second-feet Dec. 9 (gage height, 0.64 foot); minimum daily, 2.4 second-feet Sept. 20-30.

1932-44: Maximum discharge, 6.2 second-feet July 8, 1936 (gage height, 0.89 foot, site and datum then in use); no flow July 7, 1933, Sept. 29, 1941.

Remarks.- Records good. Water is diverted from Alamo Creek for municipal supply of Alamogordo by pipe line having one intake on Alamo Creek just above former gaging station at Wood Ranch and a second intake at Fleming Springs in Duncan Arroyo, which is tributary to Alamo Creek about 2 miles below first intake.

Monthly discharge, in second-feet, water year  
October 1943 to September 1944

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October.....	3.0	2.9	3.00	184
November.....	3.1	3.0	3.00	179
December.....	3.1	2.6	3.05	188
Calendar year 1943.....	3.5	.9	3.18	2,300
January.....	3.0	2.8	2.87	177
February.....	2.8	2.8	2.80	161
March.....	2.8	2.6	2.62	161
April.....	2.8	2.6	2.72	162
May.....	2.8	2.6	2.70	166
June.....	2.7	2.6	2.62	156
July.....	2.6	2.5	2.51	155
August.....	2.6	2.5	2.52	155
September.....	2.6	2.4	2.48	148
Water year 1943-44.	3.1	2.4	2.74	1,990

Time basis: Mountain war time. To convert war time to standard time, subtract 1 hour.

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Measurements of stream flow in the western Gulf of Mexico basins made at points other than gaging stations are given in the following table:

Miscellaneous discharge measurements in western Gulf of Mexico basins during water year October 1943 to September 1944 \*

## Mermentau River Basin

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
✓ Nov. 17	Bayou Queue de Tortue.	Mermentau River..	Sec. 18, T. 11 S., R. 1 W., Louisiana meridian, at bridge on State Highway 128, 100 feet downstream from Southern Pacific R. R. bridge and half a mile northeast of Riceville, La.	567
Dec. 16	.....do.....	.....do.....	.....do.....	230
Jan. 27	.....do.....	.....do.....	.....do.....	556
Feb. 22	.....do.....	.....do.....	.....do.....	1,710
Apr. 5	.....do.....	.....do.....	.....do.....	81
Aug. 7	.....do.....	.....do.....	.....do.....	280

## Sabine River Basin

✓ Oct. 22	Little Cow Creek	Sabine River.....	At bridge on State Highway 87, above McGraw Creek and $\frac{1}{2}$ mile south of Burkeville, Tex.	31.1
Jan. 28	.....do.....	.....do.....	.....do.....	60.5
Mar. 4	.....do.....	.....do.....	.....do.....	39.1
Apr. 8	.....do.....	.....do.....	.....do.....	37.2
July 8	.....do.....	.....do.....	.....do.....	30.6
Aug. 9	.....do.....	.....do.....	.....do.....	27.5
Sept. 14	.....do.....	.....do.....	.....do.....	32.3
✓ Oct. 22	McGraw Creek	Little Cow Creek..	1 mile above mouth and 2 miles southeast of Burkeville, Tex.	14.3
Jan. 28	.....do.....	.....do.....	.....do.....	35.2
Mar. 4	.....do.....	.....do.....	.....do.....	al9.3
Apr. 8	.....do.....	.....do.....	.....do.....	20.1
July 8	.....do.....	.....do.....	.....do.....	15.6
Aug. 9	.....do.....	.....do.....	.....do.....	13.1
Sept. 14	.....do.....	.....do.....	.....do.....	17.4
✓ Oct. 22	Quicksand Creek	Sabine River.....	At crossing of U. S. Highway 190, 0.7 mile above mouth, and $\frac{1}{2}$ mile east of Bon Wier, Tex.	15.8
Dec. 7	.....do.....	.....do.....	.....do.....	23.2
Apr. 7	.....do.....	.....do.....	.....do.....	88.0
July 7	.....do.....	.....do.....	.....do.....	26.6
Aug. 10	.....do.....	.....do.....	.....do.....	26.1
Sept. 15	.....do.....	.....do.....	.....do.....	25.6
✓ Jan. 27	Caney Creek	.....do.....	At crossing of U. S. Highway 190, 0.6 mile east of Bon Wier, Tex.	30.7
Mar. 3	.....do.....	.....do.....	.....do.....	25.6

a Affected by regulation upstream.

## Neches River Basin

✓ Nov. 22	Alazan Creek...	Morrall Creek.....	Just below Blounts Lake, 0.5 mile above mouth and 6.7 miles southwest of Macogdoches, Tex.	2.1
✓ 22	Lanana Creek....	Angelina River....	At county highway, $\frac{1}{2}$ mile above mouth and 6 miles south of Macogdoches, Tex.	2.9

## San Jacinto River Basin

✓ Oct. 29	Luce Bayou.....	East Fork San Jacinto River..	Lat. 30°30'02", long. 95°06'00", at county road bridge, 2.1 miles above East Fork San Jacinto River and 2.5 miles north-northeast of Huffman, Tex.	b0.25
Nov. 22	.....do.....	.....do.....	.....do.....	b1.5
Dec. 14	.....do.....	.....do.....	.....do.....	b8.0
Mar. 6	.....do.....	.....do.....	.....do.....	b14
July 17	.....do.....	.....do.....	.....do.....	b.5
✓ Nov. 2	South Mayde Creek.	Buffalo Bayou....	Lat. 29°47', long. 95°37', at bridge on U. S. Highway 90, 0.6 mile above Buffalo Bayou, and 1 mile east of Addicks, Tex.	575

b Result of field estimate.

## Brazos River Basin

✓ Jan. 18	Walnut Creek...	Leon River.....	50 feet above Leon River and 2.1 miles north-east of Hasse, Tex.	2.79
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## Colorado River Basin

✓ Apr. 26	Spring Creek....	Middle Concho River.	Lat. 31°13', long. 100°49', just above spring and 3 miles south of Mertzon, Tex.	b0.25
26	.....do.....	.....do.....	Lat. 31°14', long. 100°49', $\frac{1}{2}$ mile below spring, and 1 $\frac{3}{4}$ miles south of Mertzon, Tex.	14.9
✓ 26	Dove Creek.....	Spring Creek....	Lat. 31°11', long. 100°44', just above Dove Creek Springs at W. G. Rawles ranch house, about $\frac{1}{2}$ miles southwest of Knickerbocker, Tex.	0
Aug. 23	.....do.....	.....do.....	.....do.....	0
23	.....do.....	.....do.....	Just below Stilson Dam, $\frac{1}{2}$ mile below Dove Creek Springs, and 7 miles southwest of Knickerbocker, Tex.	00

\* Includes measurements of La Luz ditch in water year 1939 and Rio Salado in water years 1941-43.

b Result of field estimate.

c Total flow of Dove Creek diverted to canal at Stilson Dam.

Miscellaneous discharge measurements in western Gulf of Mexico basins during water year October 1943 to September 1944--Continued

## Colorado River Basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
✓ Aug. 23	Dove Creek....	Spring Creek....	At Knickerbocker-Bawles ranch road crossing, $\frac{1}{2}$ mile below Stillson Dam, $1\frac{3}{4}$ miles below Dove Creek Springs, and $\frac{7}{8}$ miles southwest of Knickerbocker, Tex.	b0.1
23	....do.....	....do.....	$\frac{1}{2}$ mile above Kepler Creek at upper end of A. M. Tweedy Ranch, $1\frac{1}{2}$ miles above San Jose Dam, 2 miles below Dove Creek Springs, and $6\frac{3}{4}$ miles southwest of Knickerbocker, Tex.	0
23	....do.....	....do.....	At rock outcrop, $\frac{1}{2}$ mile below Kepler Creek, 1 mile above San Jose Dam, $2\frac{1}{2}$ miles below Dove Creek Springs, and 6 miles southwest of Knickerbocker, Tex.	b.75
23	....do.....	....do.....	300 feet below San Jose Dam, $1\frac{1}{2}$ miles below Kepler Creek, $3\frac{1}{2}$ miles below Dove Creek Springs, and $5\frac{1}{2}$ miles southwest of Knickerbocker, Tex.	.20
23	....do.....	....do.....	At Knickerbocker-Tankersley highway bridge, $\frac{3}{4}$ mile northwest of Knickerbocker, Tex., and $9\frac{1}{2}$ miles below Dove Creek Springs.	b.80
✓ Apr. 26	Dove Creek Springs.	Dove Creek....	Lat. $31^{\circ}11'$ , long. $100^{\circ}44'$ , at W. G. Bawles ranch house, 400 feet below Springs and $8\frac{1}{2}$ miles southwest of Knickerbocker, Tex.	16.2
✓ Aug. 23	....do.....	....do.....	....do.....	17.2
✓ 23	Kepler Creek...	....do.....	At mouth, $1\frac{1}{2}$ miles above San Jose Dam, 2.3 miles below Dove Creek Springs, and $8\frac{1}{2}$ miles southwest of Knickerbocker, Tex.	.10
✓ 23	San Jose Irrigation Co. canal.	....do.....	100 feet below San Jose Dam and $5\frac{1}{2}$ miles southwest of Knickerbocker, Tex.	.68
✓ Jan. 25	North Concho River.	Concho River....	At Panhandle & Santa Fe Ry. bridge in San Angelo, Tex., 4,000 feet above confluence with Concho River.	.59
Feb. 26	....do.....	....do.....	....do.....	2.27
Mar. 21	....do.....	....do.....	....do.....	3.89
May 30	....do.....	....do.....	....do.....	5.13

b Result of field estimate.

## Guadalupe River Basin

✓ July 27	Guadalupe River	Gulf of Mexico...	Lat. $29^{\circ}53'55''$ , long. $98^{\circ}14'40''$ , 100 feet below Sorrel Creek and $1\frac{1}{2}$ miles southwest of Hancock, Tex.	133
Aug. 3	....do.....	....do.....	....do.....	102
Sept. 18	....do.....	....do.....	....do.....	214
18	....do.....	....do.....	Lat. $29^{\circ}52'45''$ , long. $98^{\circ}14'30''$ , 1,000 feet above old Heckel crossing, $\frac{1}{2}$ mile above Tom Creek, and $2\frac{1}{2}$ miles south-southwest of Hancock, Tex.	228
July 27	....do.....	....do.....	Lat. $29^{\circ}52'10''$ , long. $98^{\circ}14'45''$ , 3,000 feet below Tom Creek and 3 miles south-southwest of Hancock, Tex.	146
Aug. 3	....do.....	....do.....	Lat. $29^{\circ}52'10''$ , long. $98^{\circ}11'25''$ , 500 feet below Hidden Valley crossing and 1.8 miles northwest of Sattler, Tex.	113
3	....do.....	....do.....	Lat. $29^{\circ}48'35''$ , long. $98^{\circ}10'40''$ , $\frac{1}{2}$ mile below Bear Creek and 2.7 miles south-southwest of Sattler, Tex.	119
4	....do.....	....do.....	Lat. $29^{\circ}45'50''$ , long. $98^{\circ}09'10''$ , 0.7 mile above Isaac Creek, 0.8 mile above first crossing on New Braunfels-Sattler road, and 4.6 miles northwest of New Braunfels, Tex.	124
✓ 4	Huesco Springs..	Guadalupe River..	Lat. $29^{\circ}45'35''$ , long. $98^{\circ}08'25''$ , 3.8 miles north of New Braunfels, Tex.	61.0
Sept. 18	....do.....	....do.....	....do.....	56.8
✓ Oct. 19	San Marcos Springs (San Marcos River)	....do.....	At San Marcos, Tex.	d125
Nov. 22	....do.....	....do.....	....do.....	d115
Jan. 17	....do.....	....do.....	....do.....	d114
Feb. 23	....do.....	....do.....	....do.....	d165
Mar. 31	....do.....	....do.....	....do.....	d237
Apr. 29	....do.....	....do.....	....do.....	d202
June 13	....do.....	....do.....	....do.....	d246
July 15	....do.....	....do.....	....do.....	d215
Aug. 19	....do.....	....do.....	....do.....	d190
Sept. 23	....do.....	....do.....	....do.....	d187

d Total flow of springs.

## Nueces River Basin

✓ Oct. 11	Frio River....	Nueces River....	Near Texas & New Orleans R. R. bridge, 0.6 mile above Dry Frio and 10 miles northeast of Uvalde, Tex.	e0
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e Observation of no flow also made on following dates: Dec. 3, Jan. 15, Feb. 22, Mar. 28, May 3, 29, July 10, Aug. 14, Sept. 22.

## Rio Grande Basin

1943				
✓ Oct. 25	Allen Creek....	Costilla Creek...	Lat. $36^{\circ}58'$ , long. $105^{\circ}15'$ , above Costilla Dam and Reservoir, 16 miles east of Costilla, N. Mex.	0

Miscellaneous discharge measurements in western Gulf of Mexico basins during water year  
October 1943 to September 1944--Continued

## Rio Grande Basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
✓ 1944 July 22	Allen Creek....	Costilla Creek...	Lat. 36°58', long. 105°15', above Costilla Dam and Reservoir, 18 miles east of Costilla, N. Mex.	60.4
✓ 1943 Oct. 11	Santa Fe Creek.	Rio Grande.....	Lat. 35°41', long. 105°50', in sec. 24, T. 17 N., R. 10 E., above upper reservoir, 5½ miles east of Santa Fe, N. Mex.	1.97
Nov. 23	.....do.....	.....do.....	.....do.....	1.31
Dec. 14	.....do.....	.....do.....	.....do.....	1.95
1944	.....do.....	.....do.....	.....do.....	.....
Feb. 19	.....do.....	.....do.....	.....do.....	1.22
Apr. 26	.....do.....	.....do.....	.....do.....	8.04
June 23	.....do.....	.....do.....	.....do.....	7.84
July 26	.....do.....	.....do.....	.....do.....	16.5
Aug. 14	.....do.....	.....do.....	.....do.....	8.15
Sept. 23	.....do.....	.....do.....	.....do.....	1.82
1943	.....do.....	.....do.....	.....do.....	.....
✓ Nov. 18	Pena Blanca riverside drain.	.....do.....	Lat. 35°32', long. 106°22', in SW¼ sec. 12, T. 15 N., R. 5 E., 600 feet above outlet to Rio Grande, 3 miles northwest of Domingo, N. Mex.	10.8
✓ 18	Santo Domingo east river- side drain.	.....do.....	Lat. 35°25', long. 106°24', in S¼ sec. 34, T. 15 N., R. 5 E., 50 feet below junction with Santo Domingo interior drain, 200 yards above outlet to Rio Grande, and 5 miles southwest of Domingo, N. Mex.	2.79
✓ 24	Lower Santo Domingo east riverside drain.	.....do.....	Lat. 35°27', long. 106°26', in NW¼ sec. 9, T. 14 N., R. 5 E., at outlet to Rio Grande, 2½ miles northeast of San Felipe, N. Mex.	10.1
✓ 24	Algodones riverside drain.	.....do.....	Lat. 35°23', long. 106°30', in SE¼ sec. 3, T. 13 N., R. 4 E., 0.4 mile above outlet to Rio Grande and 1 mile west of Algodones, N. Mex.	30.0
✓ 20	Bernalillo riverside drain.	.....do.....	SW¼ sec. 25, T. 12 N., R. 3 E., ½ mile above outlet to Rio Grande and 4½ miles southwest of Bernalillo, N. Mex.	87.6
✓ 19	Upper Corrales riverside drain.	.....do.....	SW¼ sec. 4, T. 11 N., R. 3 E., 1 mile above outlet to Rio Grande, and 1½ miles north- west of Alameda, N. Mex.	53.6
✓ 19	Lower Corrales riverside drain.	.....do.....	SW¼ sec. 19, T. 11 N., R. 3 E., 3½ miles southwest of Alameda, N. Mex.	27.1
✓ 19	Albuquerque riverside drain.	.....do.....	SE¼ sec. 8, T. 11 N., R. 3 E., 1 mile west of Alameda, N. Mex.	42.7
19	.....do.....	.....do.....	Lat. 35°06'00", long. 106°41'10", in NW¼ sec. 13, T. 10 N., R. 2 E., ½ mile above outlet to Rio Grande and 1½ miles west of Albuquerque, N. Mex.	131
✓ 23	Albuquerque- Barr river- side drain.	.....do.....	Lat. 34°56', long. 106°41', in NE¼ sec. 12, T. 8 N., R. 2 E., 0.6 mile above outlet to Rio Grande and 2½ miles northeast of Isleta, N. Mex.	113
✓ 23	Atrisco river- side drain.	.....do.....	S¼ sec. 12, T. 8 N., R. 2 E., 500 feet above outlet to Rio Grande and 1½ miles north of Isleta, N. Mex.	54.1
✓ Dec. 23	Upper Peralta riverside drain.	.....do.....	Lat. 34°48', long. 106°42', in NW¼ sec. 26, T. 7 N., R. 2 E., 0.5 mile above outlet to Rio Grande and 1½ miles east of Los Lunas, N. Mex.	13.6
✓ 23	Upper Belen riverside drain.	.....do.....	NW¼ sec. 16, T. 6 N., R. 2 E., 1,000 feet above outlet to Rio Grande and 4 miles south of Los Lunas, N. Mex.	40.1
✓ 22	Lower Peralta riverside drain.	.....do.....	Lat. 34°40', long. 106°44', in NW¼ sec. 16, T. 5 N., R. 2 E., 3/4 mile above outlet to Rio Grande and 1½ miles east of Belen, N. Mex.	110
1944 Jan. 1	.....do.....	.....do.....	.....do.....	93.5
1943 Dec. 22	Lower Belen riverside drain.	.....do.....	Lat. 34°38', long. 106°45', in SE¼ sec. 20, T. 5 N., R. 2 E., 0.5 mile above outlet to Rio Grande, 1 mile downstream from highway bridge over Rio Grande, and 2 miles southeast of Belen, N. Mex.	51.1
✓ 23	Upper San Juan riverside drain.	.....do.....	Lat. 34°32', long. 106°46', in W¼ sec. 29, T. 4 N., R. 2 E., at downstream end of highway culvert, 250 feet east of Bosque over Rio Grande, 0.5 mile above outlet to Rio Grande, and 2 miles southeast of Bosque, N. Mex.	9.89
✓ 22	Sabinal river- side drain.	.....do.....	Lat. 34°32', long. 106°47', in NE¼ sec. 36, T. 4 N., R. 1 E., 20 feet below junction with Bosque interior drain, 3/4 mile above outlet into Rio Grande, and 2½ miles south of Bosque, N. Mex.	19.5
✓ 22	Lower San Juan riverside drain.	.....do.....	NW¼ sec. 12, T. 2 N., R. 1 E., 1,500 feet above outlet to Rio Grande and 2½ miles east of Bernardo, N. Mex.	30.5

b Result of field estimate.



Miscellaneous discharge measurements in western Gulf of Mexico basins during water year  
October 1943 to September 1944--Continued

## Rio Grande Basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
1940				
June 22	Rio Salado....	Rio Grande.....	Lat. 34°17'50", long. 106°54'05", in Sevilleta Grant on bridge on U. S. Highways 60 and 85, 3 miles above mouth and 3 miles north of San Acacia, N. Mex.	66.8
July 30	.....do.....	.....do.....	.....do.....	165
July 1	.....do.....	.....do.....	.....do.....	b1.0
18	.....do.....	.....do.....	.....do.....	610
18	.....do.....	.....do.....	.....do.....	227
19	.....do.....	.....do.....	.....do.....	123
20	.....do.....	.....do.....	.....do.....	b3.0
29	.....do.....	.....do.....	.....do.....	163
Aug. 3	.....do.....	.....do.....	.....do.....	114
6	.....do.....	.....do.....	.....do.....	250
8	.....do.....	.....do.....	.....do.....	b.15
18	.....do.....	.....do.....	.....do.....	b.5
20	.....do.....	.....do.....	.....do.....	10.9
21	.....do.....	.....do.....	.....do.....	47.7
22	.....do.....	.....do.....	.....do.....	619
26	.....do.....	.....do.....	.....do.....	62.0
Sept. 12	.....do.....	.....do.....	.....do.....	254
13	.....do.....	.....do.....	.....do.....	64.0
14	.....do.....	.....do.....	.....do.....	b.25
16	.....do.....	.....do.....	.....do.....	b.25
Nov. 12	.....do.....	.....do.....	.....do.....	0
26	.....do.....	.....do.....	.....do.....	0
Dec. 30	.....do.....	.....do.....	.....do.....	0
1941				
May 2	.....do.....	.....do.....	.....do.....	b0.5
20	.....do.....	.....do.....	Lat. 34°16'05", long. 106°52'10", in Sevilleta Grant, on right abutment of Atchison, Topeka & Santa Fe Ry. bridge, 1,000 feet above mouth and 2 miles northeast of San Acacia, N. Mex.	0
21	.....do.....	.....do.....	.....do.....	b5.0
28	.....do.....	.....do.....	.....do.....	0
June 5	.....do.....	.....do.....	.....do.....	b60
July 2	.....do.....	.....do.....	.....do.....	0
Aug. 9	.....do.....	.....do.....	.....do.....	210
14	.....do.....	.....do.....	.....do.....	5.93
16	.....do.....	.....do.....	.....do.....	110
19	.....do.....	.....do.....	.....do.....	b1.0
Sept. 11	.....do.....	.....do.....	.....do.....	0
Nov. 19	.....do.....	.....do.....	.....do.....	0
1942				
Jan. 30	.....do.....	.....do.....	.....do.....	0
Feb. 28	.....do.....	.....do.....	.....do.....	0
Mar. 6	.....do.....	.....do.....	.....do.....	0
Aug. 8	.....do.....	.....do.....	.....do.....	b4.0
Sept. 8	.....do.....	.....do.....	.....do.....	b20
12	.....do.....	.....do.....	.....do.....	43.5
15	.....do.....	.....do.....	.....do.....	b1.0
26	.....do.....	.....do.....	.....do.....	0
Oct. 8	.....do.....	.....do.....	.....do.....	0
10	.....do.....	.....do.....	.....do.....	b.5
14	.....do.....	.....do.....	.....do.....	0
16	.....do.....	.....do.....	.....do.....	b.05
21	.....do.....	.....do.....	.....do.....	0
29	.....do.....	.....do.....	.....do.....	0
Nov. 13	.....do.....	.....do.....	.....do.....	0
Dec. 4	.....do.....	.....do.....	.....do.....	0
21	.....do.....	.....do.....	.....do.....	0
1943				
Feb. 4	.....do.....	.....do.....	.....do.....	0
Mar. 30	.....do.....	.....do.....	.....do.....	0
Apr. 19	.....do.....	.....do.....	.....do.....	0
May 18	.....do.....	.....do.....	.....do.....	0
21	.....do.....	.....do.....	.....do.....	85.4
22	.....do.....	.....do.....	.....do.....	b.25
June 12	.....do.....	.....do.....	.....do.....	b.1
19	.....do.....	.....do.....	.....do.....	0
29	.....do.....	.....do.....	.....do.....	605
July 1	.....do.....	.....do.....	.....do.....	b2.0
10	.....do.....	.....do.....	.....do.....	0
19	.....do.....	.....do.....	.....do.....	0
20	.....do.....	.....do.....	.....do.....	23.1
21	.....do.....	.....do.....	.....do.....	163
23	.....do.....	.....do.....	.....do.....	0
Aug. 4	.....do.....	.....do.....	.....do.....	73.7
5	.....do.....	.....do.....	.....do.....	22.0
6	.....do.....	.....do.....	.....do.....	307
7	.....do.....	.....do.....	.....do.....	b3.0
13	.....do.....	.....do.....	.....do.....	44.3
26	.....do.....	.....do.....	.....do.....	136
Sept. 1	.....do.....	.....do.....	.....do.....	0
13	.....do.....	.....do.....	.....do.....	0
Oct. 2	.....do.....	.....do.....	.....do.....	0
11	.....do.....	.....do.....	.....do.....	0
18	.....do.....	.....do.....	.....do.....	0

b Result of field estimate.

## MISCELLANEOUS DISCHARGE MEASUREMENTS

Miscellaneous discharge measurements in western Gulf of Mexico basins during water year  
October 1943 to September 1944--Continued

## Rio Grande Basin--Continued

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
✓ 1943 Nov. 2	Rio Salado.....	Rio Grande.....	Lat. 34°16'05", long. 106°52'10", in Sevilleta Grant, on right abutment of Atchison, Topeka & Santa Fe Ry. bridge, 1,000 feet above mouth and 2 miles northeast of San Acacia, N. Mex.	0
19	do.....	do.....	do.....	0
29	do.....	do.....	do.....	0
Dec. 13	do.....	do.....	do.....	b.2
1944				
Jan. 5	do.....	do.....	do.....	0
21	do.....	do.....	do.....	0
Feb. 5	do.....	do.....	do.....	0
14	do.....	do.....	do.....	0
22	do.....	do.....	do.....	0
29	do.....	do.....	do.....	0
Mar. 1	do.....	do.....	do.....	0
16	do.....	do.....	do.....	0
28	do.....	do.....	do.....	0
Apr. 10	do.....	do.....	do.....	0
29	do.....	do.....	do.....	0
May 28	do.....	do.....	do.....	0
June 9	do.....	do.....	do.....	0
July 10	do.....	do.....	do.....	0
18	do.....	do.....	do.....	b.1
20	do.....	do.....	do.....	b3.0
24	do.....	do.....	do.....	b.25
Aug. 10	do.....	do.....	do.....	59.6
16	do.....	do.....	do.....	0
21	do.....	do.....	do.....	b.75
Sept. 6	do.....	do.....	do.....	0
21	do.....	do.....	do.....	0
30	do.....	do.....	do.....	0
✓ 1943 Dec. 28	Lemitar river- side drain.	do.....	SW $\frac{1}{4}$ sec. 18, T. 2 S., R. 1 E., 500 feet above outlet to Rio Grande and 2 $\frac{1}{2}$ miles southeast of Lemitar, N. Mex.	20.1
✓ 8	Socorro river- side drain.	do.....	E $\frac{1}{2}$ sec. 31, T. 3 S., R. 1 E., 500 feet above outlet to Rio Grande and 4 miles south of Socorro, N. Mex.	36.8
✓ 22	San Antonio riverside drain.	do.....	Sec. 5, T. 4 S., R. 1 E., 5 miles south of Socorro, N. Mex.	3.19
✓ 22	do.....	do.....	NW $\frac{1}{4}$ sec. 35, T. 5 S., R. 1 E., 1,000 feet above outlet to Rio Grande and 5 $\frac{1}{2}$ miles south of San Antonio, N. Mex.	50.1
✓ Nov. 7	Phantom Lake Spring.	Phantom Lake Irrigation System canal.	Lat. 30°56', long. 103°61', at source (mouth of cave), 5.7 miles west-southwest of Toyahvale, Tex.	12.3
Dec. 6	do.....	do.....	do.....	11.2
1944				
Jan. 15	do.....	do.....	do.....	11.8
Feb. 22	do.....	do.....	do.....	12.9
Mar. 28	do.....	do.....	do.....	12.1
Apr. 21	do.....	do.....	do.....	12.6
May 24	do.....	do.....	do.....	12.5
June 21	do.....	do.....	do.....	12.7
July 20	do.....	do.....	do.....	12.9
Aug. 17	do.....	do.....	do.....	12.2
Sept. 23	do.....	do.....	do.....	33.4
✓ 1943 Nov. 7	Giffin Springs..	Main canal of Reeves County Water Improve- ment District No. 1.	In middle of northeast boundary, sec. 20, block 13, Houston & Great Northern R. R. Survey, at Toyahvale, Tex.	4.98
1944				
Jan. 15	do.....	do.....	do.....	5.46
Mar. 28	do.....	do.....	do.....	4.94
May 24	do.....	do.....	do.....	5.06
July 21	do.....	do.....	do.....	4.71
Sept. 23	do.....	do.....	do.....	b.10
✓ 1943 Nov. 7	West Sandia Spring.	Canal of Reeves County Water Improvement District No. 1.	At head of feeder canal, 800 feet south of U. S. Highway 290, at Balmorhea, Tex.	1.24
1944				
Jan. 15	do.....	do.....	do.....	1.22
Mar. 27	do.....	do.....	do.....	1.07
May 23	do.....	do.....	do.....	1.12
July 20	do.....	do.....	do.....	1.34
Sept. 23	do.....	do.....	do.....	1.75
✓ 1943 Nov. 7	East Sandia Spring.	do.....	At former gaging station just below small dam, 1 mile east of Balmorhea, Tex.	.94
1944				
Jan. 15	do.....	do.....	do.....	.99
Mar. 27	do.....	do.....	do.....	.81
May 23	do.....	do.....	do.....	.81
July 20	do.....	do.....	do.....	.94
Sept. 23	do.....	do.....	do.....	1.02

b Result of field estimate. Control gate below springs closed forming pool with about 10-foot head on springs, which retards flow.

## MISCELLANEOUS DISCHARGE MEASUREMENTS

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Miscellaneous discharge measurements in western Gulf of Mexico basins during water year  
October 1943 to September 1944--Continued

## Tularosa Valley

Date	Stream	Tributary to or diverting from--	Locality	Discharge (sec.-ft.)
✓ 1938				
Oct. 17	La Luz ditch	Alamogordo-La Luz ditch.	Lat. 32°58'45", long. 105°56'20", in SW $\frac{1}{4}$ sec. 25, T. 15 S., R. 10 E., at head, 1 mile above La Luz and 6 miles north of Alamogordo, N. Mex.	0.66
Nov. 6	....do.....	....do.....	....do.....	.60
1939				
Jan. 14	....do.....	....do.....	....do.....	.94
26	....do.....	....do.....	....do.....	.59
Feb. 18	....do.....	....do.....	....do.....	.89
Mar. 19	....do.....	....do.....	....do.....	1.11
Apr. 20	....do.....	....do.....	....do.....	.92
May 9	....do.....	....do.....	....do.....	.98
June 8	....do.....	....do.....	....do.....	.89
20	....do.....	....do.....	....do.....	.78
July 20	....do.....	....do.....	....do.....	.74
Aug. 2	....do.....	....do.....	....do.....	.87
23	....do.....	....do.....	....do.....	.59
Sept. 9	....do.....	....do.....	....do.....	.85
24	....do.....	....do.....	....do.....	1.00
1943				
Oct. 7	....do.....	....do.....	....do.....	1.16
21	....do.....	....do.....	....do.....	1.14
28	....do.....	....do.....	....do.....	1.33
Nov. 12	....do.....	....do.....	....do.....	1.14
26	....do.....	....do.....	....do.....	1.26
Dec. 11	....do.....	....do.....	....do.....	1.23
23	....do.....	....do.....	....do.....	1.11
1944				
Jan. 8	....do.....	....do.....	....do.....	1.17
20	....do.....	....do.....	....do.....	1.05
Feb. 3	....do.....	....do.....	....do.....	1.07
17	....do.....	....do.....	....do.....	1.25
Mar. 1	....do.....	....do.....	....do.....	1.07
16	....do.....	....do.....	....do.....	1.32
30	....do.....	....do.....	....do.....	1.32
Apr. 13	....do.....	....do.....	....do.....	1.41
28	....do.....	....do.....	....do.....	1.16
May 12	....do.....	....do.....	....do.....	1.05
22	....do.....	....do.....	....do.....	1.00
June 8	....do.....	....do.....	....do.....	.89
22	....do.....	....do.....	....do.....	.99
July 7	....do.....	....do.....	....do.....	.96
20	....do.....	....do.....	....do.....	.99
Aug. 4	....do.....	....do.....	....do.....	.93
17	....do.....	....do.....	....do.....	.97
31	....do.....	....do.....	....do.....	1.04
Sept. 14	....do.....	....do.....	....do.....	.94
26	....do.....	....do.....	....do.....	1.06

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