DEPARTMENT OF THE INTERIOR
Ray Lyman Wilbur, Secretary

U. S. GEOLOGICAL SURVEY
George Otis Smith, Director

WATER-SUPPLY PAPER 607

SURFACE WATER SUPPLY OF THE UNITED STATES

1925

PART VII. LOWER MISSISSIPPI RIVER BASIN

NATHAN C. GROVER, Chief Hydraulic Engineer
H. C. BECKMAN, ROBERT FOLLANSBEE, H. B. KINNISON
and C. E. ELLSWORTH, District Engineers

Prepared in cooperation with the States of
MISSOURI, COLORADO, KANSAS, AND TEXAS

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1929

DEPARTMENT OF THE INTERIOR
Ray Lyman Wilbur, Secretary

U. S. GEOLOGICAL SURVEY
George Otis Smith, Director

Water-Supply Paper 607

SURFACE WATER SUPPLY OF THE UNITED STATES
1925

PART VII. LOWER MISSISSIPPI RIVER BASIN

NATHAN C. GROVER, Chief Hydraulic Engineer
H. C. BECKMAN, ROBERT FOLLANSBEE, H. B. KINNISON
and C. E. ELLSWORTH, District Engineers

Prepared in cooperation with the States of
MISSOURI, COLORADO, KANSAS, AND TEXAS

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1929

ADDITIONAL COPIES
OF THIS PUBLICATION MAY BE PROCURED FROM
THE SUPERINTENDENT OF DOCUMENTS
U.S.GOVERNMENT PRINTING OFFICE
WASHINGTON, D. C.
AT
20 CENTS PER COPY

CONTENTS

	Page
Authorization and scope of work	1
Definition of terms	2
Explanation of data	2
Accuracy of field data and computed results	4
Publications	5
Cooperation	9
Division of work	9
Gaging-station records	10
Meramec River basin	10
Meramec River near Steelville, Mo	10
Meramec River near Sullivan, Mo	11
Meramec River near Eureka, Mo	13
Meramec Spring near St. James, Mo	15
Bourbeuse River at Union, Mo	16
Big River at Byrnesville, Mo	18
Headwater diversion channel basin	19
Castor River at Zalma, Mo	19
Whitewater River at Whitewater, Mo	21
St. Francis River basin	22
St. Francis River near Patterson, Mo	22
Little River ditch No. 1 at Kirk, Mo	24
Little River ditch No. 81 at Kirk, Mo	25
Little River ditch No. 66 at Kirk, Mo	27
White River basin	28
White River at Beaver, Ark	28
James River at Galena, Mo	30
North Fork of White River at Tecumseh, Mo	31
Black River at Leeper, Mo	33
Current River near Eminence, Mo	35
Current River at Van Buren, Mo	39
Current River at Doniphan, Mo	40
Jacks Fork at Eminence, Mo	42
Big Spring near Van Buren, Mo	43
Eleven Point River near Bardley, Mo	45
Greer Spring at Greer, Mo	46
Arkansas River basin	48
Arkansas River at Granite, Colo	48
Arkansas River at Salida, Colo	49
Arkansas River at Canon City, Colo	50
Arkansas River near Pueblo, Colo	52
Arkansas River at Holly, Colo	53
Arkansas River at Syracuse, Kans	54
Arkansas River at Garden City, Kans	56
Arkansas River at Larned, Kans	57
Arkansas River near Wichita, Kans	59
Arkansas River at Arkansas City, Kans	60

Gaging-station records—Continued.
Arkansas River basin—Continued. Page
Grape Creek near Westcliffe, Colo. 62
West Beaver Creek near Victor, Colo. 63
Boehmer Creek near Pikes Peak, Colo. 64
Little Beaver Creek near Pikes Peak, Colo. 65
Sackett Creek near Pikes Peak, Colo. 66
Lion Creek near Halfway, Colo. 66
Sheep Creek near Halfway, Colo. 67
South Ruxton Creek at Halfway, Colo. 68
Cabin Creek near Halfway, Colo. 68
Sutherland Creek near Manitou, Colo. 69
Bear Creek near Colorado Springs, Colo. 70
Pawnee River near Larned, Kans. 71
Little Arkansas River at Valley Center, Kans. 72
Walnut River at Winfield, Kans. 73
Verdigris River at Independence, Kans. 75
Neosho River near Iola, Kans. 76
Neosho River near Parsons, Kans. 78
Neosho River near Grove, Okla. 79
Neosho River near Wagoner, Okla. 81
Cottonwood River at Elmdale, Kans. 82
Spring River near Waco, Mo. 84
Shoal Creek near Joplin, Mo. 85
Illinois River near Gore, Okla. 87
Canadian River near Amarillo, Tex. 88
Canadian River near Canadian, Tex. 89
Red River basin. 91
Prairie Dog Town Fork of Red River near Canyon, Tex. 91
Prairie Dog Town Fork of Red River near Estelline, Tex. 92
Red River near Burkburnett, Tex. 94
Red River near Denison, Tex. 95
Pease River near Crowell, Tex. 96
Washita River near Anadarko, Okla. 97
Washita River near Berwyn, Okla. 99
Mountain Fork River near Broken Bow, Okla. 100
Sulphur River near Darden, Tex. 102
Cypress Creek near Jefferson, Tex. 103
Ouachita River near Hot Springs, Ark. 104
Ouachita River at Remmel Dam, near Malvern, Ark. 106
Mississippi River Delta. 107
Bayou Cocodrie near Meeker, La. 107
Miscellaneous discharge measurements. 109
Index. 111

ILLUSTRATION

Page
FIGURE 1. Typical gaging station. 3

SURFACE WATER SUPPLY OF LOWER MISSISSIPPI RIVER BASIN, 1925

AUTHORIZATION AND SCOPE OF WORK

This volume is one of a series of 14 reports presenting results of measurements of flow made on streams in the United States during the year ending September 30, 1925.

The data presented in these reports were collected by the United States Geological Survey under the following authority contained in the organic law (20 Stat. L., p. 394):

Provided, That this officer [the Director] shall have the direction of the Geological Survey and the classification of public lands and examination of the geological structure, mineral resources, and products of the national domain.

The work was begun in 1888 in connection with special studies relating to irrigation in the arid West. Since the fiscal year ending June 30, 1895, successive appropriation bills passed by Congress have carried the following items:

For gaging the streams and determining the water supply of the United States, and for the investigation of underground currents and artesian wells, and for the preparation of reports upon the best methods of utilizing the water resources.

Annual appropriations for the fiscal years ending June 30, 1895–1926

1895	$12,500.00	1911–1917	$150,000.00
1896	24,500.00	1918	175,000.00
1897–1899	50,000.00	1919	148,244.10
1900	70,000.00	1920	175,000.00
1901–1902	100,000.00	1921–1923	180,000.00
1903–1906	200,000.00	1924–1925	170,000.00
1907	150,000.00	1926	165,000.00
1908–1910	100,000.00		

In this work many private and State organizations have cooperated, either by furnishing records or by assisting in collecting data. Acknowledgments for cooperation of the first kind are made in connection with the description of each station affected; cooperation of the second kind is acknowledged on page 9.

Measurements of stream flow have been made at about 5,120 points in the United States and also at many points in Alaska and the Hawaiian Islands. In July, 1925, 1,710 gaging stations were being maintained by the Survey and the cooperating organizations. Many miscellaneous discharge measurements were made at other points. In connection with this work data were also collected in regard to

precipitation, evaporation, storage reservoirs, river profiles, and water power in many sections of the country and will be made available in water-supply papers from time to time.

DEFINITION OF TERMS

The volume of water flowing in a stream—the "run-off" or "discharge"—is expressed in various terms, each of which has become associated with a certain class of work. These terms may be divided into two groups—(1) those that represent a rate of flow, as second-feet, gallons per minute, miner's inches, and discharge in second-feet per square mile, and (2) those that represent the actual quantity of water, as run-off in inches, acre-feet, and millions of cubic feet. The principal terms used in this series of reports are second-feet, second-feet per square mile, run-off in inches, acre-feet, and millions of cubic feet. They may be defined as follows:

"Second-feet" is an abbreviation for "cubic feet per second." A second-foot is the rate of discharge of water flowing in a channel of rectangular cross section 1 foot wide and 1 foot deep at an average velocity of 1 foot per second. It is generally used as a fundamental unit from which others are computed.

"Second-feet 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 run-off is distributed uniformly both as regards time and area.

"Run-off in inches" is the depth to which an area would be covered if all the water flowing from it in a given period were uniformly distributed on the surface. It is used for comparing run-off with rainfall, which is usually expressed in inches.

An "acre-foot," equivalent to 43,560 cubic feet, is the quantity required to cover an acre to the depth of 1 foot. The term is commonly used in connection with storage for irrigation.

The following terms not in common use are here defined:

"Stage-discharge relation," an abbreviation for the term "relation of gage height to discharge."

"Control," a term used to designate the section or sections of the stream channel below the gage which determine the stage-discharge relation at the gage. It should be noted that the control may not be the same section or sections at all stages.

The "point of zero flow" for a gaging station is that point on the gage—the gage height—at which water ceases to flow over the control.

EXPLANATION OF DATA

The data presented in this report cover the year beginning October 1, 1924, and ending September 30, 1925. At the beginning of January in most parts of the United States much of the precipitation in

the preceding three months is stored in the form of snow or ice, or in ponds, lakes, and swamps, or as ground water, and this stored water passes off in the streams during the spring break-up. At the end of September, on the other hand, the only stored water available for run-off is possibly a small quantity in the ground; therefore the run-off for the year beginning October 1 is practically all derived from precipitation within that year.

The base data collected at gaging stations consist of records of stage, measurements of discharge, and general information used to supplement the gage heights and discharge measurements in determining the daily flow. The records of stage are obtained either from direct readings on a staff gage or from a water-stage recorder that

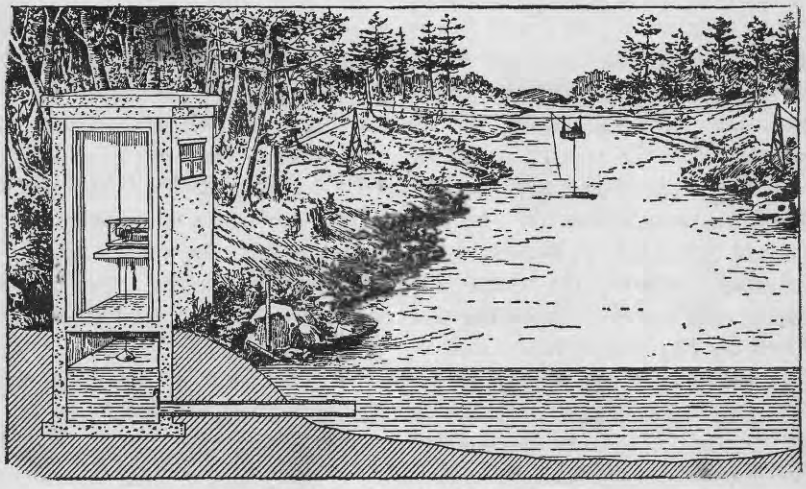

FIGURE 1.—Typical gaging station

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. A typical gaging station, equipped with water-stage recorder and measuring cable and car, is shown in Figure 1.

From the discharge measurements rating tables are prepared that give the discharge for any stage. The application of the daily gage heights to these rating tables gives the daily discharge from which the monthly and yearly mean discharge is determined.

The data presented for each gaging station in the area covered by this report comprise a description of the station, a table giving records of discharge measurements, a table showing the daily discharge of the stream, and a table of monthly and yearly discharge and run-off.

If the base data are insufficient to determine the daily discharge, tables giving daily gage height and records of discharge measurements are published.

The description of the station gives, in addition to statements regarding location and equipment, information in regard to any conditions that may affect the permanence of the stage-discharge relation, covering such subjects as the occurrence of ice, the use of the stream for log driving, shifting of control, and the cause and effect of backwater. It gives also information as to diversions that decrease the flow at the gage, artificial regulation, maximum and minimum recorded stages, and the accuracy of the records.

The table of daily discharge gives, in general, the discharge in second-feet corresponding to the mean of the gage heights read each day. At stations on streams subject to sudden or rapid diurnal fluctuation the discharge obtained from the rating table and the mean daily gage height may not be the true mean discharge for the day. If such stations are equipped with water-stage recorders the mean daily discharge may be obtained by averaging discharge at regular intervals during the day or by use of the discharge integrator, an instrument operating on the principle of the planimeter and containing as an essential element the rating curve of the station.

In the table of monthly discharge the column headed "Maximum" gives the mean flow for the day when the mean gage height was highest. As the gage height is the mean for the day it does not indicate correctly the stage when the water surface was at crest height and the corresponding discharge was consequently larger than given in the maximum column. Likewise, in the column headed "Minimum" the quantity given is the mean flow for the day when the mean gage height was lowest. The column headed "Mean" is the average flow in cubic feet per second during the month. On this average flow are based computations recorded in the remaining columns which are defined on page 2.

ACCURACY OF FIELD DATA AND COMPUTED RESULTS

The accuracy of stream-flow data depends primarily (1) on the permanence of the stage-discharge relation, and (2) on the accuracy of observation of stage, measurements of flow, and interpretation of records.

A paragraph in the description of the station gives information regarding the (1) permanence of the stage-discharge relation, (2) precision with which the discharge rating curve is defined, (3) refinement of gage readings, (4) frequency of gage readings, and (5) methods of applying daily gage height to the rating table to obtain the daily discharge.

For the rating tables "well defined" indicates, in general, that the rating is probably accurate within 5 per cent; "fairly well defined," within 10 per cent; "poorly defined," within 15 to 25 per cent. These

notes are very general and are based on the plotting of the individual measurements with reference to the mean rating curve.

The monthly means for any station may represent with high accuracy the quantity of water flowing past the gage, but the figures showing discharge per square mile and depth in inches may be misleading owing to the inclusion of large noncontributing districts in the measured drainage area, and they may also be subject to gross errors caused by lack of information concerning water diverted for irrigation or other use, or by inability to interpret the effect of artificial regulation of the flow of the river above the station. "Second-feet per square mile" and "run-off in inches" are therefore not computed if such errors appear probable. The computations are also omitted for stations on streams draining areas in which the annual rainfall is less than 20 inches. All figures representing "second-feet per square mile" and "run-off in inches" previously published by the Geological Survey should be used with caution because of possible inherent but unknown sources of error.

The table of monthly discharge gives only a general idea of the flow at the station and should not be used for other than preliminary estimates; the tables of daily discharge allow more detailed studies of the variation in flow. It should be borne in mind, also, that the observations in each succeeding year may be expected to throw new light on data previously published.

PUBLICATIONS

Investigation of water resources by the United States Geological Survey has consisted in large part of measurements of the volume of flow in streams and studies of the conditions affecting that flow, but it has comprised also investigation of such closely allied subjects as irrigation, water storage, water powers, ground waters, and quality of waters. Most of the results of these investigations have been published in the series of water-supply papers, but some have appeared in the monographs, bulletins, professional papers, and annual reports.

The results of stream-flow measurements are now published annually in 12 parts, each part covering an area whose boundaries coincide with natural drainage features as indicated below:

Part I. North Atlantic slope basins.
II. South Atlantic slope and eastern Gulf of Mexico basins.
III. Ohio River basin.
IV. St. Lawrence River basin.
V. Upper Mississippi River and Hudson Bay basins.
VI. Missouri River basin.
VII. Lower Mississippi River basin.
VIII. Western Gulf of Mexico basins.
IX. Colorado River basin.

Part X. Great Basin.
XI. Pacific slope basins in California.
XII. North Pacific slope basins in three parts:
A, Pacific slope basins in Washington and upper Columbia River basin.
B, Snake River basin.
C, Lower Columbia River basin and Pacific slope basins in Oregon.

Water-supply papers and other publications of the United States Geological Survey containing data in regard to the water resources of the United States may be obtained or consulted as indicated 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. Complete sets are available for consultation in the local offices of the water-resources branch of the Geological Survey, as follows:

Boston, Mass., 2500 Customhouse.
Albany, N. Y., 904 Home Savings Bank Building.
Trenton, N. J., Statehouse.
Charlottesville, Va., care of University of Virginia.
Asheville, N. C., 608 City Hall.
Chattanooga, Tenn., 830 Power Building.
Columbus, Ohio, Engineering Experiment Station, Ohio State University.
Chicago, Ill., 1510 Consumers Building.
Madison, Wis., care of Railroad Commission of Wisconsin.
Rolla, Mo., Rolla Building, School of Mines and Metallurgy.
Helena, Mont., 45–46 Federal Building.
Denver, Colo., 403 Post Office Building.
Salt Lake City, Utah, 313 Federal Building.
Idaho Falls, Idaho, 228 Federal Building.
Boise, Idaho, Federal Building.
Tacoma, Wash., 406 Federal Building.
Portland, Oreg., 606 Post Office Building.
San Francisco, Calif., 303 Customhouse.
Los Angeles, Calif., 600 Federal Building.
Tucson, Ariz., 106 College of Law Building, University of Arizona.
Austin, Tex., State Capitol.
Honolulu, Hawaii, Territorial Office Building.

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

Stream-flow records have been obtained at about 5,120 points in the United States, and the data obtained have been published in the reports tabulated on the following page.

Stream-flow data in reports of the United States Geological Survey

Report	Character of data	Year
10th A, pt. 2	Descriptive information only	1884 to Sept., 1890.
11th A, pt. 2	Monthly discharge and descriptive information	1884 to June 30, 1891.
12th A, pt. 2	do	1884 to Dec. 31, 1892.
13th A, pt. 3	Mean discharge in second-feet	
14th A, pt. 2	Monthly discharge (long-time records, 1871 to 1893)	1888 to Dec. 31, 1893.
B 131	Descriptions, measurements, gage heights, and ratings	1893 and 1894.
16th A, pt. 2	Descriptive information only	
B 140	Descriptions, measurements, gage heights, ratings, and monthly discharge (also many data covering earlier years).	1895.
W 11	Gage heights (also gage heights for earlier years)	1896.
18th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also similar data for some earlier years).	1895 and 1896.
W 15	Descriptions, measurements, and gage heights, eastern United States, eastern Mississippi River, and Missouri River above junction with Kansas.	1897.
W 16	Descriptions, measurements, and gage heights, western Mississippi River below junction of Missouri and Platte, and western United States.	1897.
19th A, pt. 4	Descriptions, measurements, ratings, and monthly discharge (also some long-time records), 1897.	1897.
W 27	Measurements, ratings, and gage heights, eastern United States, eastern Mississippi River, and Missouri River.	1898.
W 28	Measurements, ratings, and gage heights, Arkansas River and western United States.	1898.
20th A, pt. 4	Monthly discharge (also for many earlier years)	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 65, 66	Descriptions, measurements, gage heights, and ratings	1901.
W 75	Monthly discharge	1901.
W 82 to 85	Complete data	1902.
W 97 to 100	do	1903.
W 124 to 135	do	1904.
W 165 to 178	do	1905.
W 201 to 214	do	1906.
W 241 to 252	do	1907–8.
W 261 to 272	do	1909.
W 281 to 292	do	1910.
W 301 to 312	do	1911.
W 321 to 332	do	1912.
W 351 to 362	do	1913.
W 381 to 394	do	1914.
W 401 to 414	do	1915.
W 431 to 444	do	1916.
W 451 to 464	do	1917.
W 471 to 484	do	1918.
W 501 to 514	do	1919 and 1920.
W 521 to 534	do	1921.
W 541 to 554	do	1922.
W 561 to 574	do	1923.
W 581 to 594	do	1924.
W 601 to 614	do	1925.

NOTE.—No stream-flow data are given in the Fifteenth and Seventeenth Annual Reports.

The records at most of the stations discussed in these reports extend over a series of years, and miscellaneous measurements at many points other than regular gaging stations have been made each year. An index of the reports containing records obtained prior to 1904 has been published in Water-Supply Paper 119.

The following table gives, by years and drainage basins, the numbers of the papers on surface-water supply published from 1899 to 1925. The data for any particular station will be found in the reports covering the years during which the station was maintained. For example, data from 1902 to 1925 for any station in the area covered by Part III are published in Water-Supply Papers 83, 98, 128, 169, 205, 243, 263, 283, 303, 323, 353, 383, 403, 433, 453, 473, 503, 523, 543, 563, 583, and 603, which contained records for the Ohio River basin for those years.

Numbers of water-supply papers containing results of stream measurements, 1899-1925

[For basins included see pp. 5–6]

Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII		
												A	B	C
1899 [a]	35	[b] 35, 36	36	36	36	[c] 36, 37	37	37	[d] 37, 38	38, [e] 39	38, [f] 39	38	38	38
1900 [g]	47, [h] 48	48	48, [i] 49	49	49	49, [j] 50	50	50	50	51	51	51	51	51
1901	65, 75	65, 75	65, 75	65, 75	[k] 65, 66, 75	66, 75	[k] 65, 66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75	66, 75
1902	82	[b] 82, 83	83	[l] 82, 83	[k] 83, 85	84	[k] 83, 84	84	85	85	85	85	85	85
1903	97	[b] 97, 98	98	97	[k] 98, 99, [m] 100	99	[k] 98, 99	99	100	100	100	100	100	100
1904	[n] 124, [o] 125, [p] 126	[p] 126, 127	128	129	[k] 128, 130	130, [q] 131	[k] 128, 130	132	133	133, [r] 134	134	135	135	135
1905	[n] 165, [o] 166, [p] 167	[p] 167, 168	169	170	171	172	[k] 169, 173	174	175, [s] 177	176, [r] 177	177	178	178	[t] 177, 178
1906	[n] 201, [o] 202, [p] 203	[p] 203, 204	205	206	207	208	[k] 205, 209	210	211	212, [r] 213	213	214	214	214
1907–8	241	242	243	244	245	246	247	248	249	250, [r] 251	251	252	252	252
1909	261	262	263	264	265	266	267	268	269	270, [r] 271	271	272	272	272
1910	281	282	283	284	285	286	287	288	289	290	291	292	292	292
1911	301	302	303	304	305	306	307	308	309	310	311	312	312	312
1912	321	322	323	324	325	326	327	328	329	330	331	332A	332B	332C
1913	351	352	353	354	355	356	357	358	359	360	361	362A	362B	362C
1914	381	382	383	384	385	386	387	388	389	390	391	392	393	394
1915	401	402	403	404	405	406	407	408	409	410	411	412	413	414
1916	431	432	433	434	435	436	437	438	439	440	441	442	443	444
1917	451	452	453	454	455	456	457	458	459	460	461	462	463	464
1918	471	472	473	474	475	476	477	478	479	480	481	482	483	484
1919–20	501	502	503	504	505	506	507	508	509	510	511	512	513	514
1921	521	522	523	524	525	526	527	528	529	530	531	532	533	534
1922	541	542	543	544	545	546	547	548	549	550	551	552	553	554
1923	561	562	563	564	565	566	567	568	569	570	571	572	573	574
1924	581	582	583	584	585	586	587	588	589	590	591	592	593	594
1925	601	602	603	604	605	606	607	608	609	610	611	612	613	614

[a] Rating tables and index to Water-Supply Papers 35–39 contained in Water-Supply Paper 39. Tables of monthly discharge for 1899 in Twenty-first Annual Report, Part IV.
[b] James River only.
[c] Gallatin River.
[d] Green and Gunnison Rivers and Grand River above junction with Gunnison.
[e] Mohave River only.
[f] Kings and Kern Rivers and south Pacific slope basins.
[g] Rating tables and index to Water-Supply Papers 47–52 and data on precipitation, wells, and irrigation in California and Utah contained in Water-Supply Paper 52. Tables of monthly discharge for 1900 in Twenty-second Annual Report, Part IV.
[h] Wissahickon and Schuylkill Rivers to James River.
[i] Scioto River.
[j] Loup and Platte Rivers near Columbus, Nebr., and all tributaries below junction with Platte.
[k] Tributaries of Mississippi from east.
[l] Lake Ontario and tributaries to St. Lawrence River.
[m] Hudson Bay only.
[n] New England rivers only.
[o] Hudson River to Delaware River, inclusive.
[p] Susquehanna River to Yadkin River, inclusive.
[q] Platte and Kansas Rivers.
[r] Great Basin in California except Truckee and Carson River basins.
[s] Below junction with Gila.
[t] Rogue, Umpqua, and Siletz Rivers only.

COOPERATION

In Missouri the work was done in cooperation with the Missouri Bureau of Geology and Mines, through H. A. Buehler, State geologist. Financial assistance was also rendered by the United States Weather Bureau, Little River Drainage District, Ozark Power & Water Co., and Empire District Electric Co.

In Arkansas the station on White River at Beaver, Ark., was maintained in cooperation with the Ozark Power & Water Co., and the stations on Ouachita River near Hot Springs and Malvern, Ark., were maintained in cooperation with the Arkansas Light & Power Co.

In Kansas the work was done in cooperation with the Kansas Water Commission, Gov. Ben S. Paulen, chairman; H. A. Rice, secretary; and H. B. Walker. Financial assistance was also rendered by George S. Knapp, State irrigation commissioner; city of Wichita, P. L. Brockway, city engineer; and Kansas Gas & Electric Co.

In Oklahoma the station on Neosho River near Grove was maintained in cooperation with the Public Service Co. of Oklahoma. The other stations were maintained in cooperation with the Oklahoma Gas & Electric Co.

In Texas the work was done in cooperation with the State through the Board of Water Engineers, John A. Norris, chairman, C. S. Clark, and A. H. Dunlap. Financial assistance was also rendered by the city of Amarillo through the Board of City Development.

In Louisiana the station on Bayou Cocodrie near Meeker was maintained in cooperation with the Louisiana Gravity Canal Co.

DIVISION OF WORK

Data for stations in Missouri and Arkansas were collected and prepared for publication under the direction of H. C. Beckman, district engineer, assisted by V. L. Austin, W. S. Frame, W. A. Werner, and E. C. Biffle.

Data for stations in Colorado were collected and prepared for publication under the direction of Robert Follansbee, district engineer, assisted by P. V. Hodges and Mrs. Florence H. Scott.

Data for stations in Kansas and Oklahoma were collected and prepared for publication under the direction of H. B. Kinnison, district engineer, assisted by J. H. Hoffman.

Data for stations in Texas were collected and prepared for publication under the direction of C. E. Ellsworth, district engineer, assisted by Clarence E. McCashin, A. G. Fiedler, W. E. Armstrong, R. G. West, Trigg Twichell, H. Carr Pritchett, Thomas A. Slack, C. C. Crosnoe, E. A. Schlaudt, A. C. Cook, John L. Saunders, L. M. Hamby,

Seth D. Breeding, Tate Dalrymple, N. C. Magnuson, H. W. McCue, Morris Reedy, Kate Casparis, and Katherine E. Hickey.

The manuscript was assembled and reviewed by W. S. Frame.

GAGING-STATION RECORDS

MERAMEC RIVER BASIN

MERAMEC RIVER NEAR STEELVILLE, MO.

LOCATION.—In NE. ¼ sec. 21, T. 38 N., R. 4 W., at highway bridge on Steelville-Cuba road, 400 feet below St. Louis-San Francisco Railway bridge, half a mile above Whittenberg Creek, and 2½ miles north of Steelville, Crawford County.

DRAINAGE AREA.—About 830 square miles (measured on topographic and soil-survey maps).

RECORDS AVAILABLE.—December 21, 1922, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by William Weis and Sarah Fockler.

DISCHARGE MEASUREMENTS.—Made from highway or railroad bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of clean, coarse gravel. Left bank high and rocky. Right bank thinly wooded; subject to overflow at extremely high stages. Control is a gravel bar extending 200 feet downstream from bridge; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.00 feet December 19 (discharge, 9,120 second-feet); minimum discharge, somewhat less than 120 second-feet in September.

1923–1925: Maximum stage recorded, 12.43 feet May 29, 1924 (discharge, 11,900 second-feet); minimum discharge, that of September, 1925.

Maximum stage of 26.5 feet (determined from records of United States Weather Bureau) occurred August 20, 1915.

ICE.—Stage-discharge relation not affected by ice.

REGULATION.—Natural regulation by large springs.

ACCURACY.—Stage-discharge relation practically permanent during year. Rating curve fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table except as described in footnote to table of daily discharge. Records good except for estimated periods.

Discharge measurements of Meramec River near Steelville, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 21	0.77	187	Dec. 6	0.80	181	June 27	0.80	198
Oct. 23	.75	164	Feb. 21	1.24	344	Sept. 16	e.80	130

Stage-discharge relation affected by backwater from small temporary dam below gage.

Daily discharge, in second-feet, of Meramec River near Steelville, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	273	174	265	300	390	365	209	570	241	200	169	
2	273	174	265	282	420	365	198	510	209	195	169	
3	269	174	174	273	420	365	216	480	206	195	165	
4	265	174	181	252	450	335	241	420	206	195	160	
5	256	174	192	237	450	315	252	365	206	195	160	
6	248	174	181	295	390	295	237	340	206	195	160	
7	234	174	195	295	365	277	223	325	203	200	160	
8	234	174	195	273	450	261	209	305	223	195	160	
9	226	174	216	273	710	244	570	365	209	195	160	
10	215	174	198	273	1,160	230	935	822	209	195	160	
												120
11	204	174	200	273	972	216	860	898	209	195	160	
12	193	174	200	269	860	203	640	710	209	183	160	
13	183	174	195	265	748	192	540	570	209	183	160	
14	172	183	200	265	710	181	480	480	209	216	160	
15	172	206	195	265	605	172	420	450	203	269	160	
16	174	234	195	450	570	169	390	785	203	230	203	
17	174	234	189	570	510	169	450	785	203	212	269	
18	152	230	540	710	480	186	1,080	480	216	212	305	
19	174	212	9,120	710	450	570	822	365	209	200	256	
20	174	183	6,280	450	420	605	640	320	203	195	212	
21	174	183	1,560	420	365	450	510	286	186	195	198	340
22	174	183	1,240	365	390	365	450	269	186	189	189	1,010
23	174	174	1,010	340	365	335	420	241	186	189	189	480
24	174	174	860	340	450	269	450	570	186	183	178	265
25	174	174	640	340	480	252	420	420	186	183	169	223
26	174	174	510	340	450	282	390	320	203	183	165	244
27	174	174	420	320	390	282	390	282	198	183	156	898
28	174	174	390	295	365	290	710	256	206	178	152	785
29	174	174	365	277	-------	252	898	365	206	174	152	325
30	174	174	390	300	-------	237	675	510	195	174	152	282
31	183	-------	320	340	-------	223	-------	269	-------	174	152	-------

NOTE.—Discharge estimated Oct. 10–13; gage not read. Mean discharge Sept. 1–20 estimated from discharge of Meramec Spring and Meramec River near Sullivan on account of backwater from small temporary dam; braced figures give mean discharge for period indicated.

Monthly discharge of Meramec River near Steelville, Mo., for the year ending September 30, 1925

[Drainage area, 830 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	273	152	200	0.241	0.28
November	234	174	183	.220	.25
December	9,120	174	874	1.05	1.21
January	710	237	344	.414	.48
February	1,160	365	528	.636	.66
March	605	169	289	.348	.40
April	1,080	198	498	.600	.67
May	898	241	456	.549	.63
June	241	186	204	.246	.27
July	269	174	195	.235	.27
August	305	152	178	.214	.25
September	1,010	-------	241	.290	.32
The year	9,120	-------	348	.419	5.69

MERAMEC RIVER NEAR SULLIVAN, MO.

LOCATION.—In N. ½ SW. ¼ sec. 35, T. 40 N., R. 2 W., at Sappington highway bridge, 3½ miles below Brazil Creek, 4½ miles below Thickety Creek, and 6 miles southeast of Sullivan, Franklin County.

DRAINAGE AREA.—1,550 square miles (measured on topographic and soil-survey maps).

RECORDS AVAILABLE.—September 9, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream side of bridge; read by John V. Sappington.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of silt, gravel, and rock; clean and fairly permanent. Right bank high, rocky, and not subject to overflow. Left bank is wooded and is overflowed at stage of about 20 feet. Control is bar of gravel and boulders 400 feet below gage; practically permanent. Small trees and brush grow on high parts of bar.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 16.00 feet at 5 p. m. December 20 (discharge, 13,700 second-feet); minimum stage, 1.50 feet August 31 and September 8 and 9 (discharge, 200 second-feet).

1921–1925: Maximum stage recorded, 17.25 feet April 9, 1924 (discharge, 15,400 second-feet); minimum stage, that of August and September, 1925.

The flood of August, 1915, reached a stage of about 30.7 feet, determined by levels to somewhat indefinite floodmarks.

ICE.—Stage-discharge relation not affected by ice.

REGULATION.—Natural regulation by large springs.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined below and fairly well defined above 11,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Meramec River near Sullivan, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 21	1.82	326	June 27	2.10	467
Mar. 19	3.02	850	Sept. 3	1.66	256

Daily discharge, in second-feet, of Meramec River near Sullivan, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	468	320	300	670	670	765	468	1,390	422	360	264	216
2	445	320	300	670	715	765	468	1,120	422	360	256	232
3	422	320	320	625	815	715	490	965	400	340	256	264
4	422	320	320	625	865	715	490	865	400	320	248	256
5	422	320	360	580	865	670	490	765	360	300	248	232
6	422	320	367	580	765	670	512	715	360	300	240	224
7	422	320	374	580	765	625	535	670	360	490	256	216
8	400	320	381	580	815	625	535	625	340	445	248	200
9	400	320	388	580	1,020	580	558	765	340	380	240	200
10	380	320	394	558	1,390	580	1,390	1,280	340	360	248	208
11	360	320	400	558	1,860	558	1,500	1,620	340	320	240	216
12	360	320	400	535	1,560	535	1,390	1,390	320	320	280	208
13	360	340	400	535	1,390	558	1,220	1,170	340	300	280	208
14	340	360	360	512	1,280	558	1,120	1,120	360	280	272	216
15	340	422	360	490	1,170	580	915	965	400	865	264	224
16	340	445	360	580	1,120	558	815	965	468	625	272	232
17	340	445	360	815	965	535	2,430	865	445	422	360	232
18	340	422	715	865	915	535	2,850	815	400	380	400	224
19	340	400	10,500	1,020	865	915	2,220	715	380	320	445	224
20	320	380	13,400	915	765	1,060	1,980	670	360	300	400	232
21	320	360	4,530	815	715	965	1,390	625	340	320	300	400
22	320	360	2,360	815	715	865	1,170	580	320	320	280	3,400
23	320	340	1,860	765	715	715	1,020	558	340	300	264	1,980
24	320	340	1,620	715	765	670	915	765	360	280	240	1,280
25	320	320	1,390	670	765	625	865	865	625	272	232	715
26	300	320	1,120	670	865	625	815	715	490	264	224	765
27	320	320	915	670	865	580	865	558	445	264	216	965
28	320	320	865	625	865	558	1,170	512	400	272	216	915
29	320	320	765	625	-------	535	1,980	490	422	280	208	915
30	320	320	765	625	-------	512	1,620	468	400	272	208	715
31	340	-------	715	580	-------	490	-------	445	-------	272	200	-------

NOTE.—Discharge estimated Dec. 6–10; gage not read.

Monthly discharge of Meramec River near Sullivan, Mo., for the year ending September 30, 1925

[Drainage area, 1,550 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	468	300	360	0.232	0.27
November	445	320	346	.223	.25
December	13,400	300	1,540	.994	1.15
January	1,020	490	660	.426	.49
February	1,860	670	959	.619	.64
March	1,060	490	653	.421	.49
April	2,850	468	1,140	.735	.82
May	1,620	445	840	.542	.62
June	625	320	390	.252	.28
July	865	264	352	.227	.26
August	445	200	268	.173	.20
September	3,400	200	550	.355	.40
The year	13,400	200	670	.432	5.87

MERAMEC RIVER NEAR EUREKA, MO.

LOCATION.—In SE. ¼ sec. 32, T. 44 N., R. 4 E., at Votaw Ford highway bridge on Eureka-Valley Park road, one-fourth mile below Antire Creek, 1½ miles above St. Louis-San Francisco Railway bridge, 2 miles east of Eureka, St. Louis County, and 3 miles below Big River.

DRAINAGE AREA.—3,800 square miles (measured on topographic and soil-survey maps.)

RECORDS AVAILABLE.—August 26, 1903, to July 21, 1906, and October 6, 1921, to September 30, 1925.

GAGE.—Chain gage bolted to handrail on downstream side of bridge; read by J. W. Paul.

DISCHARGE MEASUREMENTS.—Made from downstream side of highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and boulders. Right bank high, rocky, and wooded. Left bank wooded at edge and cultivated beyond; is overflowed at stage of about 27 feet. Control is a short section of river channel of rock and gravel just below gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.38 feet at 5 p. m. December 20 (discharge, 16,100 second-feet); minimum stage, 0.52 foot September 2 (discharge measured with current meter, 377 second-feet).

1922–1925: Maximum stage recorded, 24.45 feet April 19, 1922 (discharge, 38,600 second-feet); minimum discharge, 320 second-feet September 28, 1922.

The flood of August 22, 1915, reached a stage of 38.8 feet, and the flood of February 1, 1916, a stage of 35.6 feet, determined by levels to high-water marks.

ICE.—Stage-discharge relation not affected by ice.

ACCURACY.—Stage-discharge relation changed slightly during the year. Rating curve used October 1 to July 16 fairly well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table until July 16 and by shifting-control method after that date. Records good.

Discharge measurements of Meramec River near Eureka, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 20	1.00	572	Mar. 21	6.48	6,820	Aug. 6	0.78	566
Nov. 27	1.08	664	June 26	3.32	2,820	Sept. 2	.52	377

Daily discharge, in second-feet, of Meramec River near Eureka, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug	Sept.
1	890	560	490	4,430	1,410	2,080	1,120	3,560	820	1,100	612	410
2	820	560	512	4,430	1,520	2,200	1,040	2,800	820	990	612	377
3	820	560	585	4,430	1,740	1,850	1,040	2,320	1,000	890	612	384
4	790	560	640	2,930	1,850	1,740	1,040	1,960	855	760	595	390
5	760	560	700	1,960	2,080	1,630	1,040	1,740	790	1,050	578	390
6	760	560	760	890	2,080	1,520	1,040	1,520	730	1,340	560	390
7	790	560	760	1,040	2,080	1,310	1,000	1,410	700	1,630	560	390
8	790	560	820	1,120	2,760	1,210	1,000	1,310	670	2,280	535	390
9	730	560	820	1,120	3,430	1,210	1,040	1,310	670	2,930	512	390
10	925	535	820	1,120	4,690	1,210	1,310	1,210	670	1,000	512	390
11	890	535	790	1,120	5,470	1,210	2,500	2,320	670	960	490	390
12	790	535	820	1,120	4,060	1,120	3,680	2,320	670	855	490	390
13	730	585	700	1,120	2,930	1,120	2,680	2,320	700	760	3,560	410
14	700	640	700	1,120	2,800	1,740	2,200	2,080	700	700	890	410
15	670	760	700	1,120	2,930	2,080	1,960	1,850	760	5,860	612	450
16	670	760	670	1,410	2,800	2,320	1,850	2,680	820	5,990	585	430
17	640	790	670	1,410	2,680	2,930	4,900	4,180	1,850	3,180	585	410
18	640	820	1,650	1,630	2,320	3,680	7,940	5,210	3,560	1,960	560	410
19	612	890	13,900	1,850	2,080	4,430	10,400	2,930	2,200	960	560	410
20	612	855	16,100	2,320	1,960	6,900	6,510	2,440	890	1,120	585	4,560
21	585	820	10,300	2,200	1,630	7,160	4,060	1,630	855	1,000	640	5,990
22	560	760	4,430	1,850	1,630	3,680	3,300	1,520	3,880	960	612	7,420
23	560	640	2,440	1,630	1,740	3,560	2,680	1,310	6,900	890	585	7,550
24	535	640	2,680	1,630	2,080	2,200	2,200	1,310	5,990	820	535	3,180
25	560	670	3,060	1,520	2,320	2,080	1,960	1,310	6,380	760	490	3,930
26	560	640	2,930	1,520	2,320	1,630	1,960	1,310	3,060	890	450	1,630
27	535	640	3,300	1,520	2,080	1,520	1,960	1,210	2,240	670	450	2,600
28	560	612	3,680	1,520	2,200	1,410	1,850	1,040	1,410	670	450	3,560
29	585	612	5,470	1,520	-------	1,410	3,180	960	1,520	670	450	4,950
30	560	535	4,300	1,520	-------	1,210	3,930	960	1,210	670	410	2,560
31	560	-------	4,430	1,410	-------	1,160	-------	855	-------	640	410	-------

NOTE.—Discharge estimated Dec. 18; interpolated Dec. 21, Jan. 27, Feb. 8, Mar. 18, 31, Apr. 11, 17, June 22, July 1, 2, 5, 6, 8, Aug. 4, 5, 22, 27, Sept. 3, and 27; gage not read except Dec. 21, when reading was in error.

Monthly discharge of Meramec River near Eureka, Mo., for the year ending September 30, 1925

[Drainage area, 3,800 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	925	535	684	0.180	0.21
November	890	535	644	.169	.19
December	16,100	490	2,920	.768	.89
January	4,430	890	1,790	.471	.54
February	5,470	1,410	2,490	.655	.68
March	7,160	1,120	2,270	.597	.69
April	10,400	1,000	2,750	.724	.81
May	5,210	855	1,960	.516	.59
June	6,900	670	1,800	.474	.53
July	5,990	640	1,450	.382	.44
August	3,560	410	648	.171	.20
September	7,550	377	1,850	.487	.54
The year	16,100	377	1,770	.466	6.31

MERAMEC SPRING NEAR ST. JAMES, MO.

LOCATION.—In SE. ¼ sec. 1, T. 37 N., R. 6 W., 600 feet below outlet of spring, 1 mile above mouth of Spring Branch, and 6 miles southeast of St. James, Phelps County.

RECORDS AVAILABLE.—March 1, 1903, to July 21, 1906,[1] and November 11, 1921, to September 30, 1925.

GAGE.—Vertical staff gage in two sections fastened to overhanging oak tree on right bank about 100 feet downstream from gage used 1903 to 1906 and set at different datum; read by F. E. Beezley.

DISCHARGE MEASUREMENTS.—Made by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel; small growth of aquatic plants in channel. Control is a coarse gravel bar 200 feet below gage; clean and practically permanent. Stage-discharge relation affected by backwater from Meramec River during high stages.

EXTREMES OF DISCHARGE.—Maximum discharge during year, estimated on account of backwater from Meramec River, 418 second-feet December 19 and 20; minimum stage recorded, 0.97 foot December 17 (discharge, 79 second-feet).

1903–1906: Maximum discharge uncertain owing to backwater from Meramec River; minimum discharge, 73 second-feet during periods in January and February, 1905.

1922–1925: Maximum discharge, 420 second-feet March 17, 1923; minimum discharge, 73 second-feet November 27–28, 1923.

ICE.—Stage-discharge relation never affected by ice.

ACCURACY.—Stage-discharge relation practically permanent, except as affected by backwater from Meramec River whenever river is more than about 6 feet above low-water stage. Rating curve fairly well defined. Gage read to hundredths once daily except Sundays and holidays. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of Meramec Spring near St. James, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 23	1.02	99	Apr. 9	1.54	233	June 27	1.11	111
Dec. 6	1.00	87	Apr. 9	1.54	244	Sept. 16	.98	76
Feb. 21	1.14	129						

[1] Published as "Meramec Spring near Meramec, Mo.," in Water-Supply Papers 99, 131, 173, and 209. High discharges given in those reports are probably much too large, as no allowance was made for backwater from Meramec River in determining discharge from gage heights.

Daily discharge, in second-feet, of Meramec Spring near St. James, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	116	94	84	a 115	a 116	a 110	94	164	111	106	94	132
2	116	a 94	84	111	124	108	94	150	108	106	a 94	108
3	116	94	84	111	119	108	94	a 142	111	106	94	98
4	114	94	a 85	a 110	116	a 108	96	134	106	a 105	94	94
5	a 113	94	86	108	116	108	a 95	127	104	a 105	94	a 93
6	a 112	94	86	108	116	108	94	121	104	104	94	a 92
7	a 110	91	a 90	108	114	108	94	119	a 104	a 106	94	a 91
8	a 109	91	94	108	a 152	a 108	94	116	a 104	a 107	94	a 90
9	108	a 92	86	106	190	108	203	145	104	108	a 94	a 89
10	108	94	84	104	193	106	229	a 166	104	108	94	a 87
11	108	91	84	a 104	176	101	203	187	104	106	94	a 86
12	a 106	91	84	104	161	98	a 180	167	104	a 105	96	a 85
13	104	91	84	98	164	98	156	156	119	104	94	a 84
14	104	91	a 82	96	156	98	142	145	111	104	91	a 83
15	104	96	81	94	a 148	a 97	134	140	108	121	94	a 82
16	101	a 95	81	134	140	96	124	150	108	108	a 116	81
17	98	94	79	161	129	96	124	a 144	108	104	137	81
18	98	91	104	a 150	124	98	203	137	108	104	127	81
19	a 100	91	b 418	140	124	124	a 181	132	106	a 102	119	81
20	101	91	b 418	129	121	124	159	127	106	101	a 115	a 105
21	98	91	a 361	121	121	119	148	124	a 106	101	a 110	129
22	98	91	a 304	119	a 120	a 114	a 138	121	106	104	a 105	132
23	96	a 88	a 247	114	a 120	108	129	119	106	98	a 100	127
24	96	86	190	114	119	108	124	a 134	114	98	96	111
25	96	86	a 173	a 115	121	108	121	150	119	98	94	104
26	a 96	86	156	116	114	104	a 122	134	114	a 98	94	145
27	96	a 86	145	111	111	98	124	127	114	98	94	a 145
28	96	86	a 137	108	111	98	237	121	a 111	96	94	145
29	94	86	129	108	-------	a 97	215	114	108	96	94	129
30	94	a 85	124	104	-------	96	178	a 113	106	96	a 91	119
31	94	-------	119	108	-------	94	-------	a 112	-------	94	88	-------

a Gage not read; discharge interpolated.
b Stage-discharge relation affected by backwater from Meramec River; discharge estimated.

Monthly discharge of Meramec Spring near St. James, Mo., for the year ending September 30, 1925

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	116	94	103	May	187	112	137
November	96	85	90.8	June	119	104	108
December	418	79	144	July	121	94	103
January	161	94	114	August	137	88	99.5
February	193	111	133	September	145	81	104
March	124	94	105				
April	237	94	144	The year	418	79	115

BOURBEUSE RIVER AT UNION, MO.

LOCATION.—In SW. ¼ sec. 26, T. 43 N., R. 1 W., at highway bridge on St. Clair-Union Road, 800 feet above Flat Creek, 1 mile east of Union, Franklin County, and 4 miles below Hamilton Creek.

DRAINAGE AREA.—767 square miles (measured on topographic maps and base map of Missouri).

RECORDS AVAILABLE.—June 7, 1921, to September 30, 1925. The United States Weather Bureau has records of stage since October 19, 1916.

GAGE.—Chain gage on downstream side of bridge; read by J. W. Keller. Prior to September 24, 1921, a vertical staff gage on left bank 150 feet upstream; set to same datum.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL—Bed composed of clay and coarse gravel. Control is a coarse gravel bar 800 feet below gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.40 feet at 7 a. m. December 21 (discharge, 10,700 second-feet); minimum stage, 1.03 feet at 7 a. m. September 20 (discharge, 27 second-feet).

1921–1925: Maximum stage recorded, 14.70 feet April 2, 1922 (discharge, 14,600 second-feet); minimum discharge, that of September 20, 1925.

United States Weather Bureau reports a maximum stage of 27.3 feet August 22, 1915.

ICE.—Stage-discharge relation affected by ice only during very severe winters.

ACCURACY.—Stage-discharge relation changed slightly during year; not affected by ice. Rating curve fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by shifting-control method until December 9 and by applying mean daily gage height to rating table after that date. Records good.

Discharge measurements of Bourbeuse River at Union, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 20	1.39	55	Jan. 5	1.72	152	June 27	2.14	265
Dec. 9	1.68	108	Mar. 19	6.00	3,190	Sept. 2	1.15	39

Daily discharge, in second-feet, of Bourbeuse River at Union, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	107	44	55	176	280	262	165	532	100	111	91	42
2	100	41	49	163	360	214	148	360	186	92	78	36
3	89	39	58	155	620	200	155	280	186	89	68	39
4	91	39	70	155	590	178	163	230	128	83	64	39
5	83	41	85	146	455	178	146	186	115	76	63	36
6	78	39	98	137	340	165	133	163	89	75	60	34
7	76	40	115	146	320	151	122	142	80	245	58	34
8	320	39	117	146	382	139	130	133	70	130	58	36
9	320	39	111	151	620	128	200	133	63	214	55	35
10	262	39	102	165	1,280	124	245	124	58	214	60	35
11	163	44	92	173	1,520	119	1,780	117	50	148	61	34
12	115	48	92	186	965	107	1,280	178	49	111	80	34
13	100	56	82	181	852	300	590	142	78	96	183	31
14	104	68	78	153	815	230	430	200	58	94	155	32
15	85	98	70	151	852	890	340	165	64	2,500	124	34
16	78	98	68	200	650	965	300	1,440	60	2,590	85	34
17	71	151	71	214	505	590	320	3,140	64	560	98	32
18	68	214	780	560	405	1,120	3,540	2,680	532	382	83	30
19	64	200	6,650	712	320	3,340	2,770	815	405	280	73	29
20	58	170	9,060	532	262	6,650	1,120	505	155	230	94	28
21	55	142	10,400	430	230	3,540	620	360	107	230	214	52
22	49	119	1,610	360	245	1,200	430	300	96	200	170	61
23	45	107	965	320	300	745	340	230	2,320	168	130	55
24	46	96	620	320	480	560	262	200	2,050	155	109	1,120
25	44	89	430	320	480	455	245	165	590	163	91	965
26	41	85	360	300	430	382	200	144	360	135	73	480
27	35	78	320	340	382	320	186	124	245	111	61	340
28	34	75	245	340	300	280	186	115	186	100	56	1,780
29	39	68	214	360	------	245	320	128	165	96	55	1,700
30	41	64	214	280	------	230	965	126	126	102	50	745
31	42	------	186	262	------	176	------	107	------	102	49	------

Monthly discharge of Bourbeuse River at Union, Mo., for the year ending September 30, 1925.

[Drainage area 767 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	320	34	93.6	0.122	0.14
November	214	39	82.3	.107	.12
December	10,400	49	1,080	1.41	1.63
January	712	137	266	.347	.40
February	1,520	230	544	.709	.74
March	6,650	107	780	1.02	1.18
April	3,540	122	594	.774	.86
May	3,140	107	441	.575	.66
June	2,320	49	294	.383	.43
July	2,590	75	319	.416	.48
August	214	49	88.7	.116	.13
September	1,780	28	266	.347	.39
The year	10,400	28	404	.527	7.16

BIG RIVER AT BYRNESVILLE, MO.

LOCATION.—In SE. ¼ sec. 12, T. 42 N., R. 3 E., at highway bridge in Byrnesville, Jefferson County, 200 feet below dam and mill and 4 miles above Heads Creek and Rockford Dam.

DRAINAGE AREA.—892 square miles (measured on topographic and soil-survey maps).

RECORDS AVAILABLE.—May 10, 1922, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by Charles Steidle.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of silt, gravel, and rock. Control is a bar of clean, coarse gravel 500 feet below gage; practically permanent. Brush grows on bar above low-water line.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.58 feet at 7 a. m. December 20 (discharge, 6,200 second-feet); minimum stage, 2.08 feet at 6 a. m. September 1 (discharge, 72 second-feet).

1922–1925: Maximum stage recorded, 17.40 feet May 17, 1923 (discharge, 11,100 second-feet); minimum stage, 2.00 feet October 1, 1922 (discharge, 64 second-feet).

REGULATION.—Slight diurnal fluctuation in flow at low stages is caused by gristmills above.

ICE.—Stage-discharge relation affected by ice during severe winters.

ACCURACY.—Stage-discharge relation permanent during year, except as affected by ice. Rating curve fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, except for period December 22 to January 4, when gage heights were first corrected for ice effect by means of observer's notes and weather records. Records good for discharges above 200 second-feet and fair for those below.

Discharge measurements of Big River at Byrnesville, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 20	2.86	143	Mar. 20	4.22	535	Aug. 6	2.58	127
Nov. 26	2.90	149	June 26	5.60	1,100	Sept. 2	2.18	77
Jan. 6	3.56	256						

Daily discharge, in second-feet, of Big River at Byrnesville, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	209	157	157	256	294	480	209	825	170	370	128	72
2	200	157	151	256	370	560	209	690	164	280	128	76
3	185	157	151	256	480	645	200	560	164	218	116	86
4	185	157	157	256	520	560	209	480	157	200	111	90
5	185	157	164	256	480	480	218	404	145	178	106	81
6	236	157	185	256	440	460	218	338	145	170	106	86
7	227	151	185	256	404	422	209	308	139	1,050	95	95
8	209	151	185	280	520	480	200	280	128	560	100	100
9	200	170	192	280	1,200	440	218	280	122	308	95	106
10	178	170	227	256	1,640	370	236	338	122	236	100	128
11	185	145	218	256	1,260	308	280	915	122	256	100	128
12	178	157	209	246	1,200	294	308	780	116	227	236	116
13	170	151	192	236	1,000	280	308	600	128	185	280	90
14	164	164	185	218	915	354	280	460	133	157	151	90
15	164	185	178	227	735	338	294	404	151	3,120	139	95
16	157	200	170	294	600	308	338	1,260	151	870	128	90
17	157	209	170	338	560	280	560	480	145	480	128	90
18	157	192	645	480	480	338	3,190	323	1,580	294	116	95
19	157	185	5,170	440	440	600	2,580	256	370	209	111	86
20	151	178	4,990	387	404	480	1,310	256	209	185	111	116
21	145	164	2,280	338	370	404	1,050	236	170	185	111	246
22	151	164	1,310	323	404	338	870	227	151	354	106	1,260
23	151	164	1,100	308	460	280	520	209	2,400	157	106	4,990
24	157	164	560	294	825	280	440	200	1,480	145	100	1,050
25	157	164	440	280	825	280	404	268	3,860	139	100	600
26	157	157	404	280	735	280	404	338	1,480	133	95	690
27	151	157	370	280	600	256	440	280	780	128	86	1,640
28	157	157	338	280	520	246	825	218	440	128	90	1,640
29	170	151	308	218	-------	236	1,700	200	404	128	86	735
30	151	157	280	227	-------	227	1,100	185	404	133	86	560
31	151	-------	256	280	-------	218	-------	178	-------	128	86	-------

Monthly discharge of Big River at Byrnesville, Mo., for the year ending September 30, 1925

[Drainage area, 892 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	236	145	173	0.194	0.22
November	209	145	165	.185	.21
December	5,170	151	694	.778	.90
January	480	218	285	.320	.37
February	1,640	294	667	.748	.78
March	645	218	372	.417	.48
April	3,190	200	644	.722	.81
May	1,260	178	412	.462	.53
June	3,860	116	538	.603	.67
July	3,120	128	365	.409	.47
August	280	86	117	.131	.15
September	4,990	72	511	.573	.64
The year	5,170	72	409	.459	6.23

HEADWATER DIVERSION CHANNEL BASIN

CASTOR RIVER AT ZALMA, MO.

LOCATION.—In S. ½ sec. 29, T. 29 N., R. 9 E., at highway bridge in Zalma, Bollinger County, 2 miles below Perkins Creek, 4 miles above Cato slough, and 7 miles above headwater diversion levee of Little River Drainage District.

DRAINAGE AREA.—395 square miles (measured on topographic maps, soil-survey maps, and base map of Missouri).

RECORDS AVAILABLE.—September 12, 1921, to September 30, 1925. The Little River Drainage District, Cape Girardeau, Mo., has records of stage since July 1, 1919.

GAGE.—Chain gage on downstream side of bridge; read by John Carr. Zero of gage is 300 feet above mean sea level.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of silt, sand, and gravel; fairly permanent. No well-defined control. Banks are wooded and are overflowed at stage of about 74 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 63.32 feet at 8 a. m. June 14 (discharge, 2,670 second-feet); minimum stage, 51.16 feet at 8 a. m. September 9 (discharge, 34 second-feet).

1921–1925: Maximum stage, 74.0 feet November 20, 1921, and February 2, 1923 (discharge, 8,100 second-feet); minimum stage, 51.10 feet August 31, 1924 (discharge, 30 second-feet).

ICE.—Stage-discharge relation affected by ice during severe winters.

DIVERSIONS.—Entire flow is diverted 7 miles below gage into headwater diversion channel, which empties into Mississippi River 3½ miles south of Cape Girardeau.

ACCURACY.—Stage-discharge relation changed during year; not affected by ice. Rating curve well defined above 50 second-feet. Gage read to hundredths once daily. Daily discharge ascertained by shifting-control method until June 13 and by applying daily gage height to rating table after that date. Records good.

Discharge measurements of Castor River at Zalma, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 19	52.09	90	June 2	51.56	70
Feb. 4	53.70	317	Aug. 4	51.60	63

Daily discharge, in second-feet, of Castor River at Zalma, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	78	65	73	150	184	584	208	292	73	221	57	37
2	78	65	73	139	292	491	161	248	82	184	56	43
3	78	65	69	150	322	437	184	234	61	109	57	44
4	73	69	78	150	337	402	208	234	65	128	57	42
5	73	69	82	128	307	353	196	221	57	134	57	43
6	69	73	78	139	292	353	184	184	61	109	61	36
7	73	73	109	123	292	307	161	184	57	109	56	42
8	73	73	353	123	277	277	150	184	56	104	57	36
9	69	73	509	123	292	262	437	161	57	104	51	34
10	69	73	322	118	419	248	437	150	61	100	50	36
11	65	73	292	118	455	700	150	150	49	100	50	42
12	69	73	248	114	455	720	139	150	69	96	56	43
13	65	69	234	109	385	546	134	139	1,120	91	57	44
14	69	78	208	114	353	1,310	161	139	2,670	82	57	46
15	69	100	196	109	337	1,240	161	128	2,290	82	57	50
16	65	172	150	118	353	862	139	118	622	82	73	57
17	65	161	172	184	337	720	139	114	565	78	73	109
18	65	150	161	172	353	622	172	100	277	69	73	86
19	65	100	184	184	234	584	161	69	262	57	78	82
20	69	82	322	208	221	700	292	96	221	61	73	73
21	65	82	221	221	262	565	292	96	208	57	73	128
22	65	82	248	221	337	491	234	91	150	50	73	292
23	65	69	221	208	2,290	437	208	86	527	54	65	277
24	61	69	234	221	2,420	402	196	86	720	54	65	208
25	61	73	196	208	1,400	369	196	86	1,730	53	50	91
26	69	73	96	208	988	385	172	78	1,360	50	44	369
27	69	78	221	221	740	307	172	73	437	56	36	2,630
28	73	73	221	184	946	307	277	82	322	61	39	2,560
29	73	69	150	208	-------	234	292	73	353	57	42	284
30	73	73	161	208	-------	221	292	78	262	57	42	109
31	73	-------	150	184	-------	161	-------	73	-------	57	36	-------

Monthly discharge of Castor River at Zalma, Mo., for the year ending September 30, 1925

[Drainage area, 395 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	78	61	69.2	0.175	0.20
November	172	65	83.2	.211	.24
December	509	69	195	.494	.57
January	221	109	163	.413	.48
February	2,420	184	567	1.44	1.50
March	1,310	161	503	1.27	1.46
April	437	134	210	.532	.59
May	292	69	135	.342	.39
June	2,670	49	495	1.25	1.40
July	221	50	87.3	.221	.25
August	78	36	57.1	.145	.17
September	2,630	34	264	.668	.75
The year	2,670	34	233	.590	8.00

WHITEWATER RIVER AT WHITEWATER, MO.

LOCATION.—In grant No. 2271, T. 30 N., R. 11 E., at Missouri Pacific Railway bridge, 1,000 feet northwest of depot in Whitewater, Cape Girardeau County, 1 mile above Crooked Creek, 3 miles above headwater diversion channel, and 10 miles below Byrds Creek.

DRAINAGE AREA.—326 square miles (measured on soil-survey maps).

RECORDS AVAILABLE.—September 12, 1921, to September 30, 1925. The Little River Drainage District, Cape Girardeau, has records of stage from February to September, 1921.

GAGE.—Chain gage fastened to guardrail on upstream side of railroad bridge; read by William Fingerhut. Prior to November 30, 1921, a vertical staff gage in two sections, from 32 to 59 feet, fastened to downstream side of bridge piers. Zero of both gages 300 feet above mean sea level.

DISCHARGE MEASUREMENTS.—Made from upstream side of highway bridge 2,000 feet below gage or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and silt; shifting; obstructed at times by driftwood at railroad bridge. Control is a section of rocks and boulders just above highway bridge; practically permanent.

EXTREMES OF STAGE.—Maximum stage recorded during year, 43.50 feet June 14; minimum stage, 31.30 feet September 11.

1921–1925: Maximum stage recorded, 55.5 feet November 20, 1922; minimum stage, 31.08 feet August 10, 1922.

ICE.—Stage-discharge relation not affected by ice.

ACCURACY.—Stage-discharge relation not permanent; affected by backwater from headwater diversion channel during high stages of the channel. Gage read to hundredths once daily. Daily discharge not determined.

Discharge measurements of Whitewater River at Whitewater, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 19	31.96	47	June 2	31.76	40
Feb. 4	33.32	174	Aug. 4	31.65	36

Daily gage height, in feet, of Whitewater River at Whitewater, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept
1	31.92	31.78	31.82	32.16	32.48	33.85	32.57	32.60	31.74	32.32	32.93	31.36
2	31.90	31.82	31.84	32.14	34.40	33.73	32.50	32.50	31.73	32.24	32.00	31.34
3	31.88	31.81	31.84	32.08	34.10	33.35	32.48	32.42	31.70	32.07	31.79	31.34
4	31.88	31.78	31.85	32.10	33.40	33.18	32.46	32.38	31.64	32.00	31.68	31.39
5	31.86	31.87	32.00	32.21	33.17	33.08	32.46	32.33	31.67	31.92	31.61	31.34
6	31.84	31.83	32.20	32.14	33.01	32.95	32.37	32.22	31.63	31.88	31.58	31.36
7	31.90	31.88	32.33	32.08	32.89	32.85	32.32	32.17	31.58	31.88	31.56	31.34
8	31.84	31.84	36.20	32.08	32.80	32.76	32.28	32.16	31.55	31.80	31.65	31.35
9	31.88	31.84	36.84	32.10	36.40	32.70	32.38	32.18	31.56	31.76	31.80	31.35
10	31.80	31.83	33.44	32.06	34.80	32.63	33.00	32.21	31.57	31.76	31.55	31.33
11	31.82	31.85	32.85	32.06	33.95	35.26	32.47	32.34	31.52	32.38	31.50	31.30
12	31.80	31.95	32.61	32.04	33.60	36.20	32.40	32.20	31.52	31.80	31.56	31.34
13	31.74	32.02	32.50	32.01	33.34	34.50	32.32	32.11	33.95	31.74	31.86	31.68
14	31.76	32.22	32.38	31.98	33.20	41.02	32.46	32.07	43.50	31.74	31.86	31.65
15	31.78	32.22	32.30	31.95	33.04	39.97	32.90	32.06	36.77	31.68	31.62	31.84
16	31.76	33.00	32.23	32.04	32.91	36.10	31.90	32.00	34.70	31.74	31.52	33.04
17	31.76	32.30	32.20	33.08	32.76	34.93	32.54	31.96	32.68	31.62	31.48	32.15
18	31.78	32.06	32.18	32.92	32.66	34.35	38.33	31.92	32.12	31.56	31.49	31.82
19	31.73	32.02	32.36	32.75	32.58	36.17	35.50	31.93	31.96	31.54	31.49	31.68
20	31.75	31.92	33.63	32.80	32.53	35.16	34.23	31.88	31.89	31.48	33.27	31.60
21	31.74	31.95	32.65	32.97	32.78	34.50	33.53	31.86	31.86	31.48	32.12	32.04
22	31.74	31.90	32.50	32.89	38.27	34.03	33.22	31.86	31.80	31.50	31.84	33.26
23	31.68	31.90	32.52	32.80	43.08	33.68	33.00	31.84	31.80	31.51	31.70	33.95
24	31.71	31.87	32.40	32.67	41.06	33.45	32.80	31.80	32.90	31.46	31.63	32.20
25	31.72	31.85	32.18	32.58	38.32	33.35	32.66	31.76	40.02	31.46	31.58	31.96
26	31.72	31.86	32.14	32.56	36.70	33.26	32.55	31.80	35.04	31.50	31.52	31.92
27	31.74	31.90	32.14	32.52	35.05	33.08	32.56	31.76	33.29	31.56	31.51	33.77
28	31.77	31.84	32.12	32.46	34.23	32.90	32.80	31.78	32.94	31.62	31.51	37.50
29	31.76	31.84	31.94	32.34	-------	32.78	33.22	31.75	32.78	31.62	31.44	35.60
30	31.79	31.84	32.08	32.18	-------	32.70	32.80	31.80	32.42	31.53	31.42	34.55
31	31.83	-------	32.12	32.42	-------	32.60	-------	31.73	-------	32.15	31.36	-------

NOTE.—Stage-discharge relation affected by backwater from headwater diversion channel during high stages of the channel.

ST. FRANCIS RIVER BASIN

ST. FRANCIS RIVER NEAR PATTERSON, MO.

LOCATION.—In N. ½ sec. 16, T. 29 N., R. 5 E., at Black's highway bridge, 1½ miles above Clark Creek, 4 miles below Big Creek, and 3 miles east of Patterson, Wayne County.

DRAINAGE AREA.—956 square miles (measured on topographic maps and base map of Missouri).

RECORDS AVAILABLE.—June 16, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream side of bridge; read by William Harris.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of clean sand and gravel; fairly permanent. Right bank high and rocky. Left bank sandy, thinly wooded, and subject to overflow at stage of 20 feet. Control is heavy gravel bar 1,000 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.85 feet at 11 a. m. April 18 (discharge, 6,880 second-feet); minimum stage, 1.92 feet September 9 and 10 (discharge, 30 second-feet).

1921–1925: Maximum stage estimated from floodmarks, 20.0 feet November 19, 1921 (discharge, 36,600 second-feet); minimum discharge, 6 second-feet August 21, 1922.

ICE.—Stage-discharge relation not affected by ice.

ACCURACY.—Stage-discharge relation changed slightly during December. Rating curves fairly well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of St. Francis River near Patterson, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 20	2.69	162	Aug. 2	2.54	153
Feb. 2	3.60	755	Aug. 10	2.16	53
June 2	2.47	113			

Daily discharge, in second-feet, of St. Francis River near Patterson, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	176	85	99	305	605	955	330	1,180	118	145	118	38
2	169	81	95	265	745	1,180	295	885	112	124	112	36
3	184	78	99	255	1,510	815	325	745	100	112	106	34
4	176	75	108	236	1,180	780	305	675	90	100	90	33
5	169	78	112	217	1,100	745	290	540	75	95	75	36
6	577	81	103	217	955	710	275	445	72	100	65	34
7	197	78	169	208	815	640	246	379	68	95	61	33
8	176	75	356	217	780	572	208	335	66	90	58	31
9	184	78	1,030	227	1,030	508	325	345	68	72	57	30
10	142	81	750	236	2,700	475	285	1,600	65	68	56	30
11	137	85	610	246	1,880	675	403	1,340	61	75	58	31
12	126	92	482	255	1,600	572	445	1,180	58	68	167	40
13	114	132	345	265	1,420	475	508	885	3,640	65	115	38
14	106	184	295	255	1,100	815	475	540	350	75	95	40
15	99	324	276	265	955	745	745	445	285	65	68	98
16	95	276	261	335	850	815	675	391	200	68	65	137
17	99	193	242	391	745	780	885	325	175	65	68	152
18	92	176	237	780	675	745	6,880	265	137	61	61	100
19	90	169	366	815	605	1,880	2,180	208	118	58	61	85
20	88	184	1,420	745	508	1,510	1,690	200	95	57	60	70
21	85	176	1,260	745	955	1,260	1,100	192	90	56	58	196
22	86	179	885	675	1,340	1,030	955	152	85	53	56	397
23	85	156	745	640	6,080	885	850	137	100	48	51	445
24	81	137	605	605	3,920	815	710	130	955	46	48	508
25	81	121	475	540	2,280	710	572	367	2,700	44	46	885
26	83	108	367	508	1,690	605	605	285	675	46	42	1,180
27	85	99	355	475	1,340	540	605	200	415	80	40	5,460
28	81	95	335	445	1,100	475	1,260	183	325	68	38	2,280
29	78	99	315	415	-------	415	2,080	145	285	61	34	1,260
30	77	103	285	391	-------	367	1,420	137	217	58	31	815
31	78	-------	295	379	-------	367	-------	130	-------	160	36	-------

Monthly discharge of St. Francis River near Patterson, Mo., for the year ending September 30, 1925

[Drainage area, 956 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	577	77	132	0.138	0.16
November	324	75	129	.135	.15
December	1,420	95	432	.452	.52
January	815	208	405	.424	.49
February	6,080	508	1,450	1.52	1.58
March	1,880	367	770	.805	.93
April	6,880	208	931	.974	1.09
May	1,600	130	483	.505	.58
June	3,640	58	393	.411	.46
July	160	44	76.7	.080	.09
August	167	31	67.6	.071	.08
September	5,460	30	485	.507	.57
The year	6,880	30	471	.493	6.70

LITTLE RIVER DITCH NO. 1 AT KIRK, MO.

LOCATION.—In sec. 27, T. 19 N., R. 10 E., at St. Louis-San Francisco Railway bridge at Kirk, Dunklin County, 9½ miles below ditch No. 63, the nearest lateral, and 20 miles above Arkansas State line where ditch empties into Big Lake.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 13, 1921, to September 30, 1925. The Little River Drainage District, Cape Girardeau, Mo., has records of stage since May, 1920.

GAGE.—Chain gage bolted to downstream guardrail of railroad pile trestle; read by B. F. Brewer. Prior to December 2, 1921, a painted vertical staff gage fastened to pile trestle on downstream side. Zeros of both gages 200 feet above mean sea level.

CHANNEL AND CONTROL.—Bed composed of clean sand and small gravel; fairly permanent. No well-defined control.

DISCHARGE MEASUREMENTS.—Made at highway bridge 1½ miles below gage, either from bridge or by wading.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 50.6 feet June 16 (discharge, 2,220 second-feet); minimum stage, 44.2 feet September 5, 8, and 11 (discharge, 39 second-feet).

1921–1925: Maximum stage recorded, 56.25 feet April 4, 1922 (discharge, 5,940 second-feet); minimum stage, that of September, 1925.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Entire flow of Castor and Whitewater Rivers, and other small streams formerly flowing into Little River, are now diverted into Mississippi River 70 miles north of the station. The drainage west and south of ditch No. 44 which enters 17 miles above, is diverted into ditch No. 81; the drainage south of ditch No. 63, which enters 9½ miles above, is diverted into ditch No. 66. The three main ditches, Nos. 1, 66, and 81, run parallel from 9 miles above station to Arkansas State line, where the drainage district ends.

ACCURACY.—Stage-discharge relation practically permanent during the year. Rating curve well defined above 100 second-feet. Gage read to half-tenths once daily; readings not entirely reliable. Daily discharge ascertained by applying daily gage height to rating table except as explained in footnote to table of daily discharge. Records fair.

Discharge measurements of Little River ditch No. 1 at Kirk, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 18	5.25	232	June 1	5.18	228
Feb. 6	5.92	417	Aug. 6	4.62	98

Daily discharge, in second-feet, of Little River ditch No. 1 at Kirk, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	144	133	201	390	405	1,190	775	510	201	331	155	64
2	144	133	190	390	420	1,050	740	480	225	331	155	51
3	144	133	190	360	480	1,020	705	510	225	303	133	58
4	144	133	178	360	420	950	740	480	201	276	155	58
5	144	133		331	420	915	685	420	225	276	155	39
6	144	133		360	420	810	670	420	225	250	93	51
7	133	133		346	420	845	635	420	178	201	102	51
8	122	133		317	480	810	600	390	201	225	93	39
9	122	133		346	480	740	635	390	201	250	77	51
10	122	133		331	450	740	635	390	178	250	93	51
11	122	133		303	510	740	600	360	201	276	93	39
12	122	166		331	510	670	635	390	201	250	77	77
13	122	178		331	510	845	635	390	178	225	93	133
14	122	178		317	510	915	570	331	480	225	93	93
15	122	201		390	510	1,260	600	360	2,020	201	77	133
16	122	225		390	480	1,580	510	360	2,220	155	93	250
17	122	225		346	480	1,380	480	331	1,660	178	93	225
18	122	238	550	375	480	1,300	570	360	950	178	77	250
19	122	238		405	450	1,790	510	360	915	155	77	201
20	122	238		420	480	1,580	480	331	670	178	85	155
21	122	213		450	570	1,340	510	303	570	178	85	166
22	122	213		450	775	1,190	510	276	480	155	85	155
23	122	213		420	1,190	1,160	450	201	450	178	85	178
24	122	213		450	1,920	1,050	450	225	450	178	58	360
25	122	213		450	1,700	1,020	450	225	480	155	70	225
26	122	213		420	1,790	985	480	201	540	155	70	201
27	122	213		450	1,500	950	510	225	420	155	58	540
28	122	213		420	1,260	915	510	225	390	133	70	1,380
29	122	213		405	-------	880	480	201	420	155	64	1,300
30	122	213		420	-------	810	510	225	390	155	51	1,020
31	122	-------		420	-------	810	-------	225	-------	133	64	------

NOTE.—Discharge estimated Dec. 5 to Jan. 2; gage not read. Braced figure shows mean discharge for period indicated.

Monthly discharge of Little River ditch No. 1 at Kirk, Mo., for the year ending September 30, 1925

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	144	122	127	May	510	201	339
November	238	133	183	June	2,220	178	538
December	----------	----------	504	July	331	133	208
January	450	303	384	August	155	51	91.3
February	1,920	405	715	September	1,380	39	253
March	1,790	670	1,040				
April	775	450	574	The year	2,220	39	411

LITTLE RIVER DITCH NO. 81 AT KIRK, MO.

LOCATION.—In sec. 27, T. 19 N., R. 10 E., at St. Louis-San Francisco Railway bridge at Kirk, Dunklin County, 1 mile below ditch No. 85 and 20 miles above outlet into Big Lake at Arkansas State line.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 13, 1921, to September 30, 1925. The Little River Drainage District, Cape Girardeau, Mo., has records of stage since May, 1920.

GAGE.—Chain gage bolted to guard timber on downstream side of railroad pile bridge; read by B. F. Brewer. Prior to Dec. 2, 1921, a painted vertical staff gage fastened to downstream side of pile bent of railroad bridge. Zeros of both gages 200 feet above mean sea level.

DISCHARGE MEASUREMENTS.—Made at highway bridge 1½ miles below gage, either from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of clean sand and small gravel; fairly permanent. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 49.1 feet February 24 (discharge, 1,030 second-feet); minimum stage, 43.4 feet September 5 and 8–11 (discharge, 17 second-feet).

1921–1925: Maximum stage recorded, 54.05 feet April 4–5, 1922 (discharge, 2,390 second-feet); minimum stage, that of September, 1925.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—This ditch drains all the area west and south of ditch No. 44 in Little River basin and diverts natural flow from ditch No. 1, which is now the main stream. (See Little River ditch No. 1 at Kirk, Mo.)

ACCURACY.—Stage-discharge relation changed slightly during year. Rating curves fairly well defined. Gage read to half-tenths once daily; readings not entirely reliable. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Discharge measurements of Little River ditch No. 81 at Kirk, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 18	4.13	81	June 1	4.08	70
Feb. 6	4.81	157	Aug. 6	3.55	23

Daily discharge, in second-feet, of Little River ditch No. 81 at Kirk, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	57	46	68	125	139	564	224	146	57	57	23	20
2	57	46	62	118	146	507	257	146	46	46	30	20
3	57	46	62	112	154	469	208	132	57	57	23	20
4	57	46	62	112	154	451	240	146	46	46	30	20
5	57	46	68	112	154	433	224	132	57	57	23	17
6	57	46	68	112	154	415	224	146	46	46	37	20
7	57	46	92	112	154	379	192	132	57	57	23	20
8	52	46	397	112	154	361	208	146	46	46	23	17
9	52	46	700	112	154	361	192	118	57	57	30	17
10	52	46	379	112	168	325	308	132	46	46	23	17
11	52	46	308	105	168	325	161	118	57	57	23	17
12	46	57	240	112	168	291	176	118	46	46	23	37
13	46	62	224	125	168	325	161	105	57	57	23	92
14	46	80	224	132	161	343	161	118	146	37	23	86
15	46	92	184	139	154	397	161	92	274	37	23	105
16	46	132	132	139	154	308	161	92	176	23	23	176
17	46	105	98	139	146	308	176	80	161	30	23	161
18	46	86	86	139	146	343	192	92	132	23	23	118
19	46	74	80	146	139	545	176	80	118	30	20	86
20	46	68	74	154	139	488	176	92	80	23	20	80
21	46	68	86	146	240	433	161	68	80	30	42	74
22	46	68	98	139	343	379	161	68	68	23	30	74
23	46	68	146	139	760	379	132	57	68	30	30	80
24	46	68	161	139	1,030	343	146	68	57	23	26	80
25	46	68	161	139	760	325	132	57	68	30	23	74
26	46	68	154	139	826	308	146	68	57	23	23	86
27	46	68	146	139	680	308	132	57	57	30	23	308
28	46	68	146	132	602	291	161	68	46	23	23	621
29	46	68	132	132	-------	291	146	57	57	30	23	564
30	46	68	125	125	-------	257	161	68	46	23	20	397
31	46	-------	125	125	-------	240	-------	46	-------	30	20	-------

Monthly discharge of Little River ditch No. 81 at Kirk, Mo., for the year ending September 30, 1925

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	57	46	49.3	May	146	46	98.2
November	132	46	64.7	June	274	46	78.9
December	700	62	164	July	57	23	37.8
January	154	105	128	August	42	20	24.9
February	1,030	139	297	September	621	17	117
March	564	240	371				
April	308	132	182	The year	1,030	17	133

LITTLE RIVER DITCH NO. 66 AT KIRK, MO.

LOCATION.—In sec. 27, T. 19 N., R. 10 E., at St. Louis-San Francisco Railway bridge at Kirk, Dunklin County, half a mile below ditch No. 72, half a mile above ditch No. 73, and 20 miles above outlet into Big Lake at Arkansas State line.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 13, 1921, to September 30, 1925. The Little River Drainage District, Cape Girardeau, Mo., has records of stage since May, 1920.

GAGE.—Chain gage bolted to downstream guardrail of railroad pile bridge; read by B. F. Brewer. Prior to December 2, 1921, a painted vertical staff gage fastened to downstream side of pile trestle. Zeros of both gages 200 feet above mean sea level.

DISCHARGE MEASUREMENTS.—Made at highway bridge 1½ miles below gage, either from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of clean sand and small gravel; fairly permanent. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 48.3 feet March 19 (discharge, 567 second-feet); minimum discharge, 1 second-foot July 16, 19–31, and August 1–5.

1921–1925: Maximum stage recorded, 53.85 feet May 21, 1923 (discharge, 1,580 second-feet); minimum discharge, 1 second-foot numerous days during October and November, 1921, and July and August, 1925.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—This ditch drains the old Little River channel below ditch No. 51, the last diversion into ditch No. 1, and all the Little River basin south and east of ditch No. 63. (See Little River ditch No. 1 at Kirk, Mo.)

ACCURACY.—Stage-discharge relation practically permanent during year. Rating curve fairly well defined. Gage read to half-tenths once daily; readings not entirely reliable. Daily discharge ascertained by applying daily gage height to rating table except as described in footnote to table of daily discharge. Records fair for medium and high stages and poor for low stages.

Discharge measurements of Little River ditch No. 66 at Kirk, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 18	3.65	7.6	June 1	3.79	14
Feb. 6	4.05	33	Aug. 6	3.59	4.1

Daily discharge, in second-feet, of Little River ditch No. 66 at Kirk, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	8	4	5	15	51	247	142	51		3	1	4
2	8	4	5	14	59	209	122	28		5	1	4
3	8	4	5	13	59	185	122	35		5	1	4
4	8	4	5	13	51	185	152	35		3	1	4
5	8	4	5	8	28	162	132	22		5	1	3
6	8	4	5	13	28	142	132	28		5	4	3
7	8	4	16	13	25	152	112	28	10	3	4	3
8	8	4	28	8	35	173	93	22		5	4	3
9	5	4	84	13	43	142	102	22		5	5	3
10	5	4	67	13	35	122	102	22		3	4	3
11	5	4	51	8	43	122	93	16		5	4	3
12	5	5	28	13	43	112	102	22		5	4	5
13	5	8	28	16	35	122	102	22		3	4	13
14	5	8	28	13	43	152	93	16	10	3	4	13
15	5	8	25	22	43	162	93	22	43	3	4	16
16	4	10	19	22	35	162	75	22	16	1	4	22
17	4	8	13	16	43	152	75	16	22	2	4	22
18	4	8	10	22	43	197	84	22	22	2	4	22
19	4	8	8	22	35	567	84	22	16	1	4	16
20	4	5	8	16	43	516	67	16	22	1	4	16
21	4	5	8	22	67	363	67	16	16	1	10	19
22	4	5	5	22	185	348	59	10	10	1	5	22
23	4	5		16	378	303	43	5	10	1	4	22
24	4	5		22	500	197	43	10	10	1	4	22
25	4	5		22	408	185	43	10	5	1	4	28
26	4	5	17	16	423	209	35	5	10	1	4	28
27	4	5		22	393	221	43	10	5	1	4	102
28	4	5		22	288	197	75	10	3	1	4	122
29	4	5		16	-------	173	59	5	5	1	3	122
30	4	5		22	-------	152	59	10	5	1	4	112
31	4	-------		22	-------	152	-------	5	-------	1	4	-------

NOTE.—Discharge estimated Dec. 23 to Jan. 2, on account of no gage readings, and June 1–13, on account of unreliable gage readings. Braced figures show mean discharge for periods indicated.

Monthly discharge of Little River ditch No. 66 at Kirk, Mo., for the year ending September 30, 1925

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	8	4	5.26	May	51	5	18.9
November	10	4	5.40	June	43	3	12.0
December	84	5	20.2	July	5	1	2.55
January	22	8	16.7	August	10	1	3.74
February	500	25	124	September	122	3	26.0
March	567	112	209				
April	152	35	86.8	The year	567	1	43.7

WHITE RIVER BASIN

WHITE RIVER AT BEAVER, ARK.

LOCATION.—In sec. 20, T. 21 N., R. 26 W., at Missouri & North Arkansas Railroad bridge, one-fourth mile east of depot at Beaver, Carroll County, 3 miles above Leatherwood Creek, and 6 miles below Cedar Creek.

DRAINAGE AREA.—1,270 square miles (measured on topographic maps and base map of Arkansas).

RECORDS AVAILABLE.—July 17, 1909, to December 31, 1910, and May 16, 1923, to September 30, 1925.

GAGE.—Chain gage on upstream side of bridge; read by Harvey Skelton. During 1909–1910 a chain gage on upstream side of bridge with datum 1.50 feet lower than present datum.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of clean sand and gravel. Right bank high and rocky; left bank thinly wooded and subject to overflow at extremely high stages. Control is clean gravel bar half a mile below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 18.12 feet at 5 p. m. December 20 (discharge, 22,900 second-feet); minimum stage, 2.37 feet September 10 (discharge, (33 second-feet).

1909–10; 1923–1925: Maximum stage recorded, 18.35 feet May 1, 1924 (discharge, 23,500 second-feet); minimum discharge, that of September 10, 1925.

ICE.—Stage-discharge relation not effected by ice.

ACCURACY.—Stage-discharge relation changed during high water in December, Rating curves well defined above 2,000 second-feet and fairly well defined below. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of White River at Beaver, Ark., during the year ending September, 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 14	2.42	82	Apr. 23	3.49	493	June 10	2.71	132
Jan. 20	4.52	1,150	June 10	2.71	135	Sept. 3	2.41	39

Daily discharge, in second-feet, of White River at Beaver, Ark., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	251	98	154	700	602	1,150	278	3,640	237	92	103	52
2	229	95	148	635	602	1,030	274	2,680	224	86	92	48
3	214	92	148	635	668	910	274	2,130	210	80	92	40
4	193	92	160	602	668	835	269	1,730	194	74	86	43
5	455	90	229	570	668	765	269	1,430	178	106	117	45
6	455	90	244	510	602	700	259	1,150	166	151	114	43
7	336	92	336	510	602	668	371	990	155	124	110	38
8	336	87	430	480	602	635	423	872	147	269	174	36
9	382	85	1,240	450	800	570	510	800	136	244	151	35
10	314	85	835	450	835	540	2,680	800	128	190	1,730	33
11	274	82	635	423	990	510	3,900	1,150	124	162	950	38
12	244	82	510	396	950	480	2,460	1,330	174	162	510	38
13	214	87	430	396	872	488	1,830	1,070	371	166	396	38
14	200	92	405	371	800	450	1,430	2,240	255	288	312	92
15	186	222	358	371	765	423	1,240	3,250	241	269	259	174
16	173	259	336	570	732	423	1,070	2,240	215	206	219	283
17	160	732	314	668	668	423	910	1,430	182	170	198	297
18	157	570	1,830	1,330	635	423	800	1,070	151	151	174	250
19	151	430	9,560	1,530	602	423	732	872	206	139	151	250
20	145	336	22,500	1,240	570	396	668	765	396	132	136	241
21	136	314	7,480	1,150	540	396	602	668	510	510	190	210
22	125	266	3,900	990	602	371	570	570	396	190	155	174
23	119	236	2,680	910	700	346	510	510	288	151	147	158
24	114	218	2,130	800	3,640	346	450	423	224	143	143	162
25	108	200	1,630	765	2,680	336	3,510	423	190	136	132	170
26	105	186	1,330	700	2,030	336	1,980	371	158	158	121	224
27	105	180	1,070	700	1,630	326	4,480	346	139	158	106	217
28	105	173	950	635	1,430	307	8,440	326	128	151	86	635
29	105	166	835	635	-------	297	13,200	302	114	122	74	635
30	103	160	732	540	-------	288	5,680	283	99	121	62	570
31	100	-------	700	570	-------	283	-------	255	-------	110	57	------

Monthly discharge of White River at Beaver, Ark., for the year ending September 30, 1925

[Drainage area, 1,270 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	455	100	203	0.160	0.18
November	732	82	197	.155	.17
December	22,500	148	2,070	.63	1.88
January	1,530	371	685	.539	.62
February	3,640	540	982	.772	.80
March	1,150	283	512	1.403	.46
April	13,200	259	2,000	9.57	1.75
May	3,640	255	1,170	.21	1.06
June	510	99	211	.166	.19
July	510	74	168	.132	.15
August	1,730	57	237	.187	.22
September	635	33	176	.139	.16
The year	22,500	33	716	.564	7.64

JAMES RIVER AT GALENA, MO.

LOCATION.—In NW. ¼ sec. 7, T. 24 N., R. 23 W., at highway bridge in Galena, Stone County, one-fourth mile above Missouri Pacific Railway bridge, half a mile above Railey Creek, and 8 miles below Crane Creek.

DRAINAGE AREA.—1,000 square miles (measured on topographic and soil-survey maps).

RECORDS AVAILABLE.—October 28, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream side of bridge; read by M. H. Stewart.

DISCHARGE MEASUREMENTS.—Made from highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. Small trees and brush grow on gravel bars which are exposed at low stages. Low-water control is a heavy gravel riffle 100 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.77 feet at 4 p. m. December 19 (discharge, 18,000 second-feet); minimum stage, 0.56 foot September 6, 7, 9, and 10 (discharge 52 second-feet).

1922–1925: Maximum and minimum stages and discharges, those of 1925.

ICE.—Stage-discharge relation never affected by ice.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of James River at Galena, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 12	1.41	199	Jan. 21	3.76	1,440	June 11	1.31	186
Nov. 15	2.09	408	Mar. 13	2.06	424	Sept. 4	.65	61

Daily discharge, in second-feet, of James River at Galena, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	555	202	214	810	810	870	269	580	133	112	108	62
2	505	190	214	720	810	720	284	555	131	112	99	60
3	455	190	202	660	930	660	300	480	133	108	90	57
4	430	190	240	605	1,410	630	300	430	144	104	85	59
5	410	177	240	555	1,350	605	300	390	131	108	82	56
6	410	177	227	605	1,170	605	269	350	131	154	79	53
7	410	190	227	690	1,110	580	269	300	129	154	72	52
8	455	190	227	750	1,050	555	284	269	133	166	85	54
9	430	177	214	750	1,110	530	300	269	129	177	90	52
10	410	177	214	750	1,290	480	350	300	144	177	85	53
11	410	190	240	720	1,540	455	750	300	166	154	85	56
12	390	190	240	690	1,410	430	750	284	154	144	84	57
13	370	214	254	660	1,290	410	605	254	177	125	177	58
14	350	300	254	630	1,170	410	580	269	177	112	240	65
15	316	410	269	630	1,110	390	480	316	166	108	190	81
16	300	505	333	750	1,050	370	455	284	154	120	166	81
17	284	555	254	1,920	930	370	530	269	154	127	154	75
18	284	530	505	2,100	930	390	555	254	144	125	144	69
19	269	480	14,600	1,680	870	370	605	240	370	125	133	62
20	254	410	10,000	1,470	690	370	605	214	202	118	127	58
21	240	390	3,470	1,350	660	410	480	202	166	112	120	82
22	227	370	2,850	1,290	660	390	390	190	144	108	114	1,170
23	214	333	1,680	1,290	660	370	370	190	133	116	106	1,050
24	190	300	1,610	1,230	750	350	370	202	144	110	92	660
25	166	269	1,610	1,170	810	333	390	190	133	108	81	555
26	154	269	1,540	1,110	810	350	410	190	133	120	74	930
27	154	254	1,410	1,050	930	350	455	190	129	118	66	6,600
28	166	240	1,350	990	930	333	455	177	127	114	67	2,200
29	190	227	1,170	990	-------	333	480	166	124	112	64	1,350
30	190	227	930	930	-------	316	555	154	118	116	65	990
31	202	-------	870	870	-------	300	-------	144	-------	110	64	-------

Monthly discharge of James River at Galena, Mo., for the year ending September 30, 1925

[Drainage area, 1,000 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	555	154	316	0.316	0.36
November	555	177	284	.284	.32
December	14,600	202	1,540	1.54	1.78
January	2,100	555	981	.981	1.13
February	1,540	660	1,010	1.01	1.05
March	870	300	453	.453	.52
April	750	269	440	.440	.49
May	580	144	277	.277	.32
June	370	118	152	.152	.17
July	177	104	125	.125	.14
August	240	64	106	.106	.12
September	6,600	52	560	.560	.62
The year	14,600	52	518	.518	7.02

NORTH FORK OF WHITE RIVER AT TECUMSEH, MO.

LOCATION.—In sec. 16, T. 22 N., R. 12 W., at bridge on State highway No. 80 at west edge of Tecumseh, Ozark County, half a mile below Bryant Creek, 3 miles above Lick Creek, and 8 miles above Missouri-Arkansas line.

DRAINAGE AREA.—1,180 square miles (measured on soil-survey maps).

RECORDS AVAILABLE.—October 24, 1921, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by Edward Hodo.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and boulders. Control is a bar composed of outcropping rock and coarse gravel 400 feet below gage; clean and practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.50 feet at 4.20 p. m. December 19 (discharge, 14,600 second-feet); minimum stage, 0.39 foot at 5.30 p. m. September 5 (discharge, 363 second-feet).

1922–1925: Maximum stage recorded, 20.0 feet, June 11, 1924 (discharge, 38,300 second-feet); minimum discharge, that of September 5, 1925.

REGULATION.—Natural regulation due to flow from large springs.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of North Fork of White River at Tecumseh, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 9	0.68	564	May 27	0.74	630
Mar. 19	.91	768	Sept. 5	.43	392

Daily discharge, in second-feet, of North Fork of White River at Tecumseh, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	560	560	520	808	808	1,030	680	2,000	640	490	438	400
2	560	560	475	765	850	940	680	1,690	600	482	445	400
3	600	560	520	722	895	940	680	1,490	600	482	438	392
4	640	560	560	722	940	895	680	1,400	600	505	445	400
5	600	560	600	722	940	895	680	1,300	560	468	445	370
6	640	520	600	722	895	850	640	1,160	600	468	445	385
7	600	560	600	722	895	808	640	1,080	560	475	438	385
8	600	505	600	722	940	850	640	1,030	560	430	452	385
9	600	520	600	722	1,080	765	765	1,030	560	460	460	378
10	600	520	560	722	1,300	850	985	1,030	560	505	445	385
11	600	520	560	680	1,210	808	985	985	560	600	640	385
12	600	560	560	680	1,080	765	895	895	560	512	600	385
13	560	560	560	680	1,080	765	850	895	640	600	505	385
14	560	560	560	680	1,030	808	850	895	640	985	560	560
15	520	722	560	680	985	765	808	850	600	850	498	640
16	560	722	560	1,120	895	765	808	808	600	722	482	560
17	560	680	560	1,400	895	765	808	808	600	600	482	505
18	560	680	560	1,300	850	765	850	765	560	560	460	452
19	560	640	9,620	1,160	808	765	850	765	560	1,210	430	445
20	560	600	2,840	1,120	808	765	850	722	520	765	452	498
21	520	600	1,790	985	850	765	808	722	520	640	452	680
22	560	600	1,490	940	940	765	765	722	505	600	438	940
23	512	600	1,300	895	1,120	722	765	722	505	560	415	850
24	520	560	1,160	895	1,210	722	765	680	640	520	415	722
25	520	520	1,030	850	1,210	722	1,900	680	560	520	415	3,050
26	560	520	940	850	1,120	722	2,940	680	520	512	408	7,360
27	520	520	895	850	1,080	722	3,050	640	520	505	400	6,120
28	560	520	808	808	1,030	680	4,580	640	498	490	408	2,740
29	560	520	808	765	-------	680	3,050	640	512	445	408	1,900
30	560	520	808	765	-------	680	2,320	640	490	475	400	1,590
31	560	-------	808	765	-------	680	-------	640	-------	475	400	-------

Monthly discharge of North Fork of White River at Tecumseh, Mo., for the year ending September 30, 1925

[Drainage area, 1,180 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	640	512	567	0.481	0.55
November	722	505	572	.485	.54
December	9,620	475	1,110	.941	1.08
January	1,400	680	846	.717	.83
February	1,300	808	991	.840	.87
March	1,030	680	788	.668	.77
April	4,580	640	1,220	1.03	1.15
May	2,000	640	936	.793	.91
June	640	490	565	.479	.53
July	1,210	430	578	.490	.56
August	640	400	455	.386	.44
September	7,360	370	1,150	.975	1.04
The year	9,620	370	813	.689	9.32

BLACK RIVER AT LEEPER, MO.

LOCATION.—In SW. ¼ NE. ¼ sec. 27, T. 28 N., R. 3 E., at Missouri Southern Railway Co.'s bridge at Leeper, Wayne County, 1½ miles above Greenwood Valley Creek and 3 miles below McKenzie Creek.

DRAINAGE AREA.—957 square miles (measured on soil-survey maps).

RECORDS AVAILABLE.—June 15, 1921, to September 30, 1925.

GAGE.—Chain gage fastened to guard timber on downstream side of railroad bridge; read by Pearl Church.

DISCHARGE MEASUREMENTS.—Made from downstream side of railroad or highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse sand and gravel. Control is a bar of coarse gravel and boulders 800 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.90 feet at 4.30 p. m. December 20 (discharge, 2,520 second-feet); minimum discharge, 194 second-feet September 9–11.

1921–1925: Maximum stage recorded, 13.4 feet November 19, 1921 (discharge, 24,000 second-feet); minimum discharge, that of September 9–11, 1925.

A stage of 21.3 feet was reached in August, 1915, determined by levels to high-water marks by United States Weather Bureau.

ACCURACY.—Stage-discharge relation permanent during the year; not affected by ice. Rating curve fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Black River at Leeper, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 20	2.54	349	Feb. 3	3.30	886	Aug. 2	2.42	307
Feb. 2	2.85	564	June 3	2.41	303	Aug. 10	2.21	224

Daily discharge, in second-feet, of Black River at Leeper, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	415	295	315	445	478	980	478	1,190	295	315	295	218
2	415	295	295	385	575	940	445	1,060	295	315	278	218
3	385	315	315	385	890	902	415	940	295	295	278	218
4	385	295	335	385	890	890	415	828	295	295	295	218
5	478	315	335	335	828	828	415	790	295	295	278	205
6	478	315	335	385	828	828	415	680	278	278	260	205
7	445	315	335	385	790	790	415	610	278	260	245	205
8	445	315	510	385	828	790	415	575	278	260	245	205
9	415	295	510	385	1,020	790	415	542	260	260	230	194
10	385	295	385	385	1,680	752	385	752	260	260	230	194
11	385	315	445	385	1,480	790	385	940	260	260	260	194
12	335	315	510	360	1,060	828	445	980	260	260	278	205
13	335	315	478	360	940	890	575	828	1,280	260	478	218
14	335	335	445	360	890	890	575	680	445	260	510	245
15	335	385	445	415	790	715	645	575	385	245	478	295
16	335	385	445	445	715	610	645	575	360	230	510	315
17	335	385	415	415	715	575	680	542	335	230	575	335
18	315	360	415	415	715	575	680	478	315	218	575	295
19	315	360	385	478	680	575	1,100	445	295	245	575	278
20	315	360	2,390	510	645	575	1,190	445	295	245	542	260
21	315	360	2,020	575	610	575	940	415	295	230	542	295
22	315	335	1,280	575	828	542	752	385	278	230	510	360
23	315	335	980	575	1,790	542	680	360	278	230	445	478
24	295	335	890	542	1,480	542	645	360	278	230	335	500
25	315	315	715	542	1,480	542	645	360	335	230	295	521
26	295	315	645	510	1,280	510	715	315	478	230	245	542
27	295	315	575	510	1,140	510	890	315	445	230	245	715
28	295	315	575	478	1,020	445	1,190	335	385	245	245	680
29	315	295	510	478	-------	478	1,900	335	360	260	230	645
30	315	315	445	478	-------	445	1,480	315	360	278	230	575
31	295	-------	445	445	-------	445	-------	315	-------	295	230	-------

NOTE.—Gage not read Mar. 18, 19, Sept. 24, and 25, 1925; discharge interpolated.

Monthly discharge of Black River at Leeper, Mo., for the year ending September 30, 1925

[Drainage area, 957 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	478	295	353	0.369	0.43
November	385	295	327	.342	.38
December	2,390	295	617	.645	.74
January	575	335	442	.462	.53
February	1,790	478	967	1.01	1.05
March	980	445	680	.711	.82
April	1,900	385	699	.730	.81
May	1,190	315	589	.615	.71
June	1,280	260	352	.368	.41
July	315	218	257	.269	.31
August	575	230	354	.370	.43
September	715	194	334	.349	.39
The year	2,390	194	495	.517	7.01

CURRENT RIVER NEAR EMINENCE, MO.

LOCATION.—In SE. ¼ NW. ¼ sec. 15, T. 29 N., R. 3 W., at foot of Coot Mountain, 1 mile below Jack's Fork, and 8 miles northeast of Eminence, Shannon County.

DRAINAGE AREA.—1,230 square miles (measured on soil-survey maps).

RECORDS AVAILABLE.—August 24, 1921, to September 30, 1925.

GAGE.—Vertical staff gage from 0 to 10 feet bolted to outcropping ledge on right bank, and another section from 10 to 26 feet fastened to near-by tree.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Bed composed of clean, coarse gravel. Control is a coarse gravel bar below gage; clean and practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year ending September 30, 1925, 7.00 feet at 11.30 a. m. April 28 (discharge, 8,000 second-feet); minimum stage, 0.8 foot August 28 to September 13 (discharge, 415 second-feet).

1921–1925: Maximum stage recorded, 14.20 feet November 19, 1921 (discharge, 25,800 second-feet); minimum discharge, 415 second-feet August 28 to September 13, 1925.

During 1905 river reached stage of 37.5 feet, determined by levels to high-water mark.

REGULATION.—Natural regulation through large tributary springs.

ACCURACY.—Stage-discharge relation practically permanent; not affected by ice. Rating curve used up to September 30, 1922, fairly well defined below 12,000 second-feet and curve used after that date well defined below 12,000 second-feet; both curves extended above. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good except those for high stages, which are fair.

Discharge measurements of Current River near Eminence, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 13	1.20	568	May 17	1.51	749
Mar. 22	1.68	829	Aug. 17	1.18	548

Daily discharge, in second-feet, of Current River near Eminence, Mo., for the years ending September 30, 1921–1925

Day	Aug.	Sept.	Day	Aug.	Sept.	Day	Aug.	Sept.
1921								
1		695	11		755	21		1,220
2		755	12		755	22		1,060
3		755	13		755	23		1,810
4		755	14		2,830	24	755	8,260
5		695	15		4,650	25	755	2,260
6		695	16		1,810	26	695	1,810
7		695	17		1,460	27	695	1,630
8		755	18		1,380	28	755	1,380
9		755	19		1,630	29	755	1,220
10		755	20		1,220	30	695	1,220
						31	695	

Daily discharge, in second-feet, of Current River near Eminence, Mo., for the years ending September 30, 1921–1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1921-22												
1	1,220	755	2,080	1,300	1,900	1,810	15,400	3,790	1,140	2,830	825	755
2	1,220	755	3,410	1,300	2,530	1,630	7,310	3,290	1,140	2,350	695	755
3	2,260	695	3,410	1,220	2,170	1,540	5,310	3,050	1,140	1,630	650	755
4	1,720	695	3,050	1,300	1,900	1,540	4,050	2,830	1,140	1,380	695	1,720
5	1,540	695	2,830	1,300	1,720	1,720	4,500	2,630	1,060	1,060	695	1,220
6	1,380	695	2,440	1,220	1,630	1,990	4,800	2,440	1,060	1,060	695	1,060
7	1,220	695	2,260	1,220	1,380	2,260	4,350	2,260	1,060	1,060	695	755
8	1,220	695	1,900	1,300	1,300	1,900	3,790	2,170	1,220	980	695	755
9	1,060	695	1,900	1,220	1,220	1,900	5,310	2,080	1,060	980	650	695
10	1,060	695	1,720	1,220	1,220	2,630	4,350	1,990	1,060	900	650	695
11	1,060	695	1,630	1,220	1,220	3,790	10,200	1,900	1,060	900	650	695
12	980	695	1,540	1,140	1,140	3,050	5,650	1,810	980	980	650	650
13	900	695	1,540	1,140	1,140	2,630	4,500	1,720	980	900	650	650
14	900	695	1,460	1,140	1,060	2,830	4,200	1,630	900	900	650	650
15	825	695	1,380	1,060	980	5,310	4,650	1,580	900	825	650	608
16	825	695	1,300	1,060	980	4,300	4,050	1,540	900	825	695	608
17	825	755	1,380	1,900	980	3,290	13,900	1,540	900	825	695	608
18	825	1,060	1,300	1,900	980	3,050	5,310	1,540	900	825	755	608
19	755	25,800	1,220	980	980	3,050	4,050	1,460	900	755	755	608
20	755	5,650	1,220	980	1,300	4,800	3,530	1,460	900	755	695	608
21	755	4,200	1,140	980	1,380	3,920	3,050	1,460	825	755	695	608
22	755	3,050	1,140	980	1,460	3,290	2,830	1,630	825	755	825	608
23	755	2,530	1,220	900	2,530	2,830	2,630	1,460	825	755	755	608
24	755	4,050	1,540	900	4,050	2,630	2,630	1,380	825	1,720	695	608
25	755	4,800	2,080	900	3,050	2,440	2,730	1,380	825	1,300	695	608
26	755	2,830	1,810	900	2,630	2,630	2,730	1,300	1,060	1,060	650	608
27	755	2,730	1,720	900	2,170	7,120	2,930	1,300	900	980	650	608
28	755	2,440	1,630	900	1,900	4,650	10,800	1,300	1,220	825	650	608
29	755	2,170	1,540	900	------	4,350	5,480	1,220	1,060	825	650	572
30	755	1,990	1,380	900	------	9,210	4,050	1,220	980	825	650	572
31	755	------	1,380	900	------	19,800	------	1,140	------	825	825	------
1922-23												
1	582	685	685	4,130	21,800	1,240	1,480	1,560	3,170	1,320	1,010	655
2	582	715	685	2,450	22,100	1,240	1,400	1,560	2,850	1,240	935	860
3	582	685	685	1,890	9,200	1,160	1,560	1,560	13,800	1,240	935	822
4	560	655	715	1,720	6,200	1,400	1,400	2,850	9,200	1,240	972	785
5	560	655	655	1,480	4,450	1,560	1,640	3,970	5,680	1,160	898	935
6	560	655	750	1,400	3,810	1,720	1,720	3,010	3,970	1,160	822	898
7	972	655	750	1,320	2,750	2,070	1,640	2,750	3,490	1,080	715	860
8	972	630	750	1,160	2,550	1,980	1,640	2,250	2,750	1,080	715	715
9	785	630	750	1,160	2,250	1,890	1,480	1,980	2,350	1,050	1,050	715
10	685	630	715	1,160	2,070	1,720	1,480	1,890	2,250	1,050	898	715
11	685	630	715	1,080	1,980	3,810	1,400	1,800	2,160	935	860	685
12	655	605	715	935	1,890	10,900	1,320	1,720	2,160	860	822	655
13	655	655	715	935	1,890	6,740	1,640	1,640	1,890	1,080	785	655
14	655	935	685	1,010	1,800	4,290	1,720	1,560	1,800	1,160	785	655
15	655	860	655	1,160	1,720	10,900	1,720	8,600	5,850	1,080	750	630
16	685	860	655	1,080	1,640	21,500	1,720	21,200	6,200	1,080	750	630
17	655	860	630	1,080	1,560	8,000	1,640	8,800	3,810	1,160	750	630
18	655	822	630	1,010	1,480	6,220	1,480	5,500	3,010	1,160	715	685
19	630	822	605	972	1,400	4,450	1,480	4,620	2,450	1,010	715	655
20	630	785	605	935	1,400	3,650	1,480	3,810	2,350	972	715	655
21	630	715	605	4,450	1,400	2,650	1,480	3,010	2,070	935	715	655
22	630	715	605	2,850	1,320	2,650	1,480	2,650	1,890	935	750	655
23	605	685	605	2,650	1,240	2,450	1,480	2,450	1,720	898	715	630
24	605	655	605	2,160	1,240	2,220	1,400	2,160	1,640	860	715	630
25	582	655	582	1,890	1,240	1,980	1,320	2,160	1,560	860	715	630
26	582	655	582	1,800	1,320	1,890	1,320	2,650	1,480	860	685	630
27	582	630	1,080	1,890	1,320	1,800	1,240	2,650	1,480	860	685	630
28	582	605	2,160	2,250	1,240	1,720	1,640	2,350	1,640	860	655	630
29	560	605	1,720	2,070	------	1,640	1,980	2,070	1,480	860	655	630
30	560	655	1,640	2,850	------	1,640	1,800	3,810	1,400	935	655	605
31	560	------	4,130	4,450	------	1,560	------	2,450	------	1,320	655	------

Daily discharge, in second-feet, of Current River near Eminence, Mo., for the years ending September 30, 1921–1925—Continued

Date	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1923–24												
1	605	655	655	1,080	715	785	1,560	1,160	2,650	1,640	785	715
2	605	630	655	1,010	715	750	1,480	1,080	2,070	1,480	898	750
3	605	715	655	935	788	750	1,400	935	1,800	1,400	860	785
4	605	732	685	935	860	750	1,320	898	1,640	1,240	822	715
5	605	750	785	860	1,010	750	1,240	715	1,400	1,240	785	655
6	605	715	785	785	1,050	750	1,160	715	1,400	1,080	785	605
7	605	715	822	822	1,010	715	1,080	822	1,240	1,080	715	605
8	605	685	822	785	935	685	1,050	860	1,160	1,050	685	605
9	605	655	1,890	785	860	715	1,010	750	1,080	1,010	655	605
10	605	655	2,250	860	822	685	1,080	715	1,080	1,050	655	605
11	605	630	2,650	860	785	685	1,080	685	1,080	1,010	715	582
12	605	630	1,980	822	750	655	1,010	655	1,890	1,160	1,010	582
13	582	630	2,650	785	785	685	1,010	655	1,400	1,080	1,050	582
14	582	630	2,250	715	785	785	935	655	1,320	1,080	1,320	560
15	605	630	2,070	715	715	785	898	655	1,240	1,160	1,320	560
16	655	605	1,980	750	685	785	860	630	1,240	1,160	1,240	540
17	860	605	1,720	715	715	860	860	605	1,240	1,160	1,160	560
18	935	605	1,480	715	1,010	860	822	605	1,320	1,080	1,080	582
19	785	605	1,400	685	1,050	860	785	605	1,320	1,050	1,010	582
20	750	605	1,400	685	1,010	1,010	785	685	1,890	1,080	935	3,810
21	685	605	1,640	655	972	972	785	715	6,920	1,160	860	2,650
22	655	605	1,800	655	935	1,160	750	685	4,800	1,080	860	1,800
23	655	605	2,070	655	935	1,240	715	685	2,850	1,050	785	1,010
24	630	605	1,980	685	935	1,480	685	715	2,350	1,050	822	935
25	630	605	1,800	655	860	1,400	685	898	1,890	1,010	785	785
26	630	605	1,640	655	822	1,240	685	898	5,150	972	715	715
27	630	605	1,480	655	785	1,160	685	898	3,490	935	715	715
28	630	605	1,400	655	785	1,160	685	1,320	2,850	898	685	685
29	630	630	1,320	685	785	3,170	785	5,150	2,650	822	655	655
30	685	655	1,240	685	-------	2,450	898	6,200	1,890	785	655	655
31	655	-------	1,160	685	-------	1,980	-------	3,170	-------	785	655	-------
1924–25												
1	630	540	520	750	715	1,160	630	1,890	560	500	480	415
2	605	540	520	715	972	1,160	630	1,640	560	500	462	415
3	605	520	520	685	1,240	1,080	655	1,560	540	480	445	415
4	605	520	520	655	1,160	1,050	655	1,400	540	480	445	415
5	630	540	520	655	1,080	1,010	630	1,400	520	480	445	415
6	655	540	520	655	1,050	972	605	1,160	520	480	445	415
7	630	520	588	655	935	935	605	1,050	540	490	430	415
8	605	520	655	655	935	898	605	1,010	520	500	430	415
9	605	520	655	655	1,240	860	715	972	520	520	438	415
10	605	520	630	655	1,720	860	1,080	1,010	520	540	445	415
11	605	540	605	630	1,640	860	1,080	1,050	520	520	480	415
12	605	582	560	630	1,400	785	972	972	520	500	462	415
13	582	582	560	630	1,320	785	935	898	540	480	462	415
14	582	605	560	630	1,240	860	860	860	582	480	480	655
15	560	685	540	630	1,160	785	822	785	605	520	445	540
16	560	655	540	785	1,080	750	785	750	605	520	492	540
17	560	655	560	1,320	1,010	750	785	715	582	480	540	480
18	560	655	560	1,320	935	785	1,980	715	560	462	540	462
19	560	605	2,020	1,160	898	822	1,650	685	520	462	500	445
20	560	605	3,490	1,080	860	935	1,320	655	520	480	462	445
21	560	605	2,250	972	898	860	1,160	655	500	462	462	972
22	540	582	2,070	898	935	860	1,010	630	520	462	445	1,080
23	540	560	1,800	898	1,640	822	898	630	655	462	445	1,080
24	540	540	1,400	860	1,720	785	822	605	655	462	430	1,010
25	540	540	1,080	750	1,560	750	860	605	605	445	430	1,080
26	540	540	1,010	750	1,400	750	2,070	605	582	445	430	1,080
27	540	520	972	715	1,320	715	4,130	582	520	445	430	2,850
28	540	520	685	685	1,160	715	7,460	582	520	445	415	1,640
29	540	520	685	685	-------	685	5,150	560	520	445	415	1,080
30	540	520	785	685	-------	655	4,130	560	520	500	415	935
31	540	-------	785	655	-------	655	-------	560	-------	480	415	-------

NOTE.—Gage not read and daily discharge estimated Mar. 16, May 15, 1922; Mar. 18, 24, June 24, July 1, Aug. 12, Oct. 2, Nov. 4, Dec. 19, 1923; Feb. 3, Aug. 3, 17, Oct. 5, Dec. 7, 19, 1924; Apr. 19, May 24–31, July 4, Aug. 9 and 16, 1925.

Monthly discharge of Current River near Eminence, Mo., for the years ending September 30, 1921–1925

[Drainage area, 1,230 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
1921					
August 24–31	755	695	725	0.589	0.18
September	8,260	695	1,550	1.26	1.41
1921–22					
October	1,720	755	995	.809	.93
November	25,800	695	2,510	2.04	2.28
December	3,410	1,140	1,790	1.46	1.68
January	1,300	900	1,130	.919	1.06
February	4,050	980	1,680	1.37	1.43
March	19,800	1,540	3,800	3.09	3.56
April	15,400	2,630	5,300	4.31	4.81
May	3,790	1,140	1,850	1.50	1.73
June	1,220	825	992	.807	.90
July	2,830	755	1,080	.878	1.01
August	825	650	695	.566	.65
September	1,720	572	715	.581	.65
The year	25,800	572	1,880	1.53	20.69
1922–23					
October	972	560	641	.521	.60
November	935	605	700	.569	.63
December	4,130	582	905	.736	.85
January	4,450	935	1,850	1.50	1.73
February	22,100	1,240	3,720	3.02	3.15
March	21,500	1,160	3,830	3.11	3.58
April	1,980	1,240	1,540	1.25	1.40
May	21,200	1,560	3,580	2.91	3.36
June	13,800	1,400	3,250	2.64	2.94
July	1,320	860	1,040	.846	.98
August	1,050	655	781	.635	.73
September	935	605	694	.564	.63
The year	22,100	560	1,870	1.52	20.58
1923–24					
October	935	582	649	.528	.61
November	750	605	640	.520	.58
December	2,650	655	1,520	1.24	1.43
January	1,080	655	762	.620	.72
February	1,050	685	858	.698	.75
March	3,170	655	1,060	.862	.99
April	1,560	685	959	.780	.87
May	6,200	605	1,170	.951	1.10
June	6,920	1,080	2,140	1.74	1.94
July	1,640	785	1,090	.886	1.02
August	1,320	655	861	.700	.81
September	3,810	540	873	.710	.79
The year	6,920	540	1,050	.854	11.61
1924–25					
October	655	540	576	.468	.54
November	685	520	563	.458	.51
December	3,490	520	941	.765	.88
January	1,320	630	778	.633	.73
February	1,720	715	1,190	.967	1.01
March	1,160	655	850	.691	.80
April	7,460	605	1,520	1.24	1.38
May	1,890	560	895	.728	.84
June	655	500	550	.447	.50
July	540	445	481	.391	.45
August	540	415	454	.369	.43
September	2,350	415	726	.590	.66
The year	7,460	415	790	.642	8.73

CURRENT RIVER AT VAN BUREN, MO.

LOCATION.—In NE. ¼ NW. ¼ sec. 25, T. 27 N., R. 1 W., at highway bridge in Van Buren, Carter County, half a mile below Davis Creek, 3 miles above Carlos Creek, and 4 miles above Big Spring.

DRAINAGE AREA.—1,640 square miles (measured on soil-survey maps).

RECORDS AVAILABLE.—June 18, 1921, to September 30, 1925. The Engineering Experiment Station, University of Missouri, has collected records at the same site from August 25, 1912, to July 30, 1921.[2]

GAGE.—Chain gage on downstream side of bridge; read by Bernice Rose and J. G. Lester.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel. No well-defined control; low-water control probably at constricted section of channel at former bridge site 800 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.17 feet at 8.15 a. m. April 29 (discharge, 5,800 second-feet); minimum discharge, 542 second-feet September 6, 8, 9, and 12.

1921–1925: Maximum stage recorded, 10.25 feet November 20, 1921 (discharge, 22,100 second-feet); minimum discharge, that of September, 1925.

Flood of March 26, 1904, reached a stage of 26.0 feet; that of August 21, 1915, a stage of 22.9 feet (estimated discharge, 125,000 second-feet).

ICE.—Stage-discharge relation never seriously affected by ice.

REGULATION.—Natural regulation through large springs.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve well defined above 3,500 second-feet and fairly well defined below. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Current River at Van Buren, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 12	1.65	735	Mar. 21	2.10	1,290	June 3	1.58	715
Do	1.64	726	May 19	1.77	973	Aug. 15	1.38	621

Daily discharge, in second-feet, of Current River at Van Buren, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	840	748	695	1,000	1,140	1,720	880	3,360	765	695	662	570
2	840	730	695	960	1,300	1,500	880	3,360	730	695	695	570
3	840	730	695	920	1,400	1,400	840	2,780	730	695	630	570
4	840	730	765	920	1,400	1,400	840	1,970	730	695	600	570
5	840	730	802	880	1,300	1,350	840	1,610	695	695	630	570
6	880	730	802	880	1,300	1,300	840	1,500	730	695	630	542
7	840	730	802	880	1,240	1,240	840	1,400	695	695	630	570
8	840	730	920	840	1,190	1,190	840	1,350	695	695	662	542
9	840	730	880	880	1,610	1,190	880	1,240	695	730	600	542
10	802	730	840	880	2,100	1,190	960	1,300	695	695	600	570
11	802	730	840	880	2,230	1,190	1,240	1,240	730	662	600	570
12	802	765	802	880	1,720	1,090	1,240	1,190	730	662	600	570
13	765	765	802	840	1,610	1,140	1,090	1,140	1,040	630	662	570
14	730	765	765	840	1,500	1,190	1,040	1,090	802	662	630	630
15	730	802	765	840	1,400	1,190	1,040	1,000	765	662	600	765

[2] See Missouri Univ. Eng. Exper. Sta. Bull. 35, ser. 22, vol. 21.

Daily discharge, in second-feet, of Current River at Van Buren, Mo., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	765	765	765	960	1,350	1,140	1,040	1,000	662	662	662	695
17	765	840	765	1,140	1,300	1,090	1,040	920	695	695	765	695
18	765	840	765	1,400	1,190	1,140	1,500	960	730	662	730	630
19	765	802	1,400	1,400	1,140	1,140	1,840	920	695	662	695	600
20	765	765	1,610	1,300	1,090	1,190	1,840	880	695	630	662	570
21	765	765	2,640	1,190	1,090	1,190	1,500	880	695	630	630	765
22	765	730	2,100	1,140	1,500	1,190	1,350	880	695	630	630	1,000
23	730	730	1,840	1,040	1,970	1,140	1,300	840	695	630	600	1,190
24	730	730	1,720	1,000	2,360	1,090	1,090	840	695	630	600	990
25	730	730	1,300	1,000	2,360	1,090	1,000	840	695	630	600	880
26	730	695	1,240	960	2,230	1,090	1,240	802	695	630	600	1,090
27	730	695	1,190	960	1,840	1,000	2,780	765	695	662	600	2,100
28	765	695	1,140	920	1,720	1,000	4,840	765	695	662	570	2,640
29	730	695	1,040	920	-------	960	5,400	765	695	662	600	1,610
30	765	695	1,000	920	-------	920	3,510	765	695	695	600	1,240
31	765	-------	1,000	960	-------	920	-------	765	-------	695	570	------

NOTE.—Discharge interpolated Nov. 1; gage not read.

Monthly discharge of Current River at Van Buren, Mo., for the year ending September 30, 1925

[Drainage area, 1,640 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	880	730	783	0.477	0.55
November	840	695	744	.454	.51
December	2,640	695	1,080	.659	.76
January	1,400	840	985	.601	.69
February	2,360	1,090	1,560	.951	.99
March	1,720	920	1,180	.720	.83
April	5,400	840	1,520	.927	1.03
May	3,360	765	1,260	.768	.89
June	1,040	662	722	.440	.49
July	730	630	669	.408	.47
August	765	570	630	.384	.44
September	2,640	542	846	.516	.58
The year	5,400	542	994	.606	8.23

CURRENT RIVER AT DONIPHAN, MO.

LOCATION.—In N. ½ sec. 27, T. 23 N., R. 2 E., at highway bridge three-fourths of a mile west of Doniphan, Ripley County, 2 miles above Briar Creek and 12 miles below Buffalo Creek.

DRAINAGE AREA.—2,030 square miles (measured on soil-survey maps).

RECORDS AVAILABLE.—June 14, 1921, to September 30, 1925. The United States Engineer Corps, Memphis, Tenn., has records of stage from August, 1918, to June, 1921.

GAGE.—Chain gage on upstream side of bridge; read by T. B. Swindel. Prior to May 10, 1922, a painted staff gage on bridge pier and auxiliary staff gage from 0 to 4 feet on right bank.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge.

CHANNEL AND CONTROL.—Bed composed of clean, coarse gravel; practically permanent. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year ending September 30, 1925, 4.50 feet at 7 a. m. June 13 (discharge, 6,540 second-feet); minimum discharge, 1,020 second-feet August 27 to September 14.

1921–1925: Maximum stage recorded, 13.0 feet February 3, 1923 (discharge, 29,600 second-feet); minimum discharge, that of August 27 to September 14, 1925.

The flood of August, 1915, reached a stage of 25.5 feet (determined by levels to floodmarks by United States Engineer Corps).

REGULATION.—Natural regulation through numerous large springs.

ACCURACY.—Stage-discharge relation changed during October, November, and part of December; not affected by ice. Rating curve fairly well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table; shifting-control method used October 1 to December 10. Records good.

Discharge measurements of Current River at Doniphan, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 11	0.56	1,380	May 21	0.71	1,580	Aug. 11	0.18	1,080
Mar. 20	1.14	1,920	May 29	.52	1,310			

Daily discharge, in second-feet, of Current River at Doniphan, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	1,490	1,360	1,310	1,500	1,410	2,760	1,500	4,370	1,320	1,230	1,150	1,020
2	1,490	1,360	1,310	1,500	1,410	2,640	1,500	3,660	1,320	1,230	1,080	1,020
3	1,490	1,360	1,310	1,500	1,800	2,530	1,500	3,130	1,320	1,230	1,080	1,020
4	1,490	1,360	1,310	1,410	2,000	2,420	1,500	2,880	1,230	1,230	1,080	1,020
5	1,560	1,360	1,310	1,410	2,000	2,310	1,410	2,760	1,230	1,230	1,080	1,020
6	1,560	1,360	1,310	1,410	2,000	2,200	1,410	2,580	1,230	1,150	1,080	1,020
7	1,560	1,360	1,310	1,410	1,900	2,000	1,410	2,310	1,230	1,150	1,080	1,020
8	1,490	1,360	1,560	1,410	1,900	2,000	1,410	2,200	1,230	1,150	1,080	1,020
9	1,490	1,360	1,490	1,320	2,100	1,900	1,500	2,100	1,230	1,230	1,080	1,020
10	1,490	1,360	1,490	1,320	2,310	1,900	1,600	2,100	1,230	1,230	1,080	1,020
11	1,490	1,360	1,410	1,320	2,420	1,900	1,600	2,000	1,150	1,230	1,080	1,020
12	1,420	1,360	1,410	1,320	2,640	1,900	1,800	2,000	1,150	1,320	1,080	1,020
13	1,420	1,360	1,410	1,320	2,530	1,900	1,800	2,000	6,540	1,230	1,080	1,020
14	1,420	1,360	1,320	1,320	2,310	2,000	1,800	1,900	4,220	1,230	1,080	1,020
15	1,420	1,360	1,320	1,320	2,310	2,000	1,600	1,900	2,530	1,230	1,080	1,150
16	1,360	1,420	1,230	1,410	2,200	2,000	1,600	1,800	2,100	1,230	1,150	1,230
17	1,360	1,420	1,230	1,600	2,200	2,000	1,600	1,700	2,000	1,230	1,150	1,230
18	1,360	1,420	1,230	1,900	2,100	1,900	1,600	1,700	1,800	1,150	1,230	1,230
19	1,360	1,420	1,410	2,000	1,900	1,900	1,800	1,600	1,700	1,150	1,230	1,230
20	1,360	1,420	3,800	2,000	1,800	1,900	2,530	1,600	1,600	1,150	1,150	1,150
21	1,360	1,420	3,520	1,900	1,800	1,900	2,420	1,500	1,600	1,150	1,150	1,150
22	1,360	1,360	3,000	1,800	1,700	1,900	2,200	1,500	1,500	1,150	1,080	1,410
23	1,360	1,360	2,760	1,700	1,900	1,900	2,000	1,500	1,500	1,150	1,080	1,600
24	1,360	1,360	2,640	1,600	3,000	1,800	1,900	1,410	1,500	1,080	1,080	1,800
25	1,360	1,360	2,420	1,600	3,130	1,800	1,900	1,410	1,500	1,080	1,080	1,700
26	1,360	1,310	2,200	1,600	3,260	1,800	3,660	1,320	1,500	1,080	1,080	1,800
27	1,360	1,310	1,900	1,600	3,130	1,800	3,800	1,320	1,410	1,080	1,020	2,000
28	1,360	1,310	1,800	1,600	3,000	1,800	4,520	1,410	1,410	1,080	1,020	2,880
29	1,360	1,310	1,700	1,500	-------	1,700	6,200	1,320	1,320	1,080	1,020	2,880
30	1,360	1,310	1,600	1,500	-------	1,700	5,570	1,320	1,320	1,080	1,020	2,310
31	1,360	-------	1,600	1,500	-------	1,600	-------	1,320	-------	1,150	1,020	------

Monthly discharge of Current River at Doniphan, Mo., for the year ending September 30, 1925

[Drainage area, 2,030 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	1,560	1,360	1,420	0.700	0.81
November	1,420	1,310	1,360	.670	.75
December	3,800	1,230	1,760	.867	1.00
January	2,000	1,320	1,540	.759	.88
February	3,260	1,410	2,220	1.09	1.14
March	2,760	1,600	1,990	.980	1.13
April	6,200	1,410	2,220	1.09	1.22
May	4,370	1,320	1,990	.980	1.13
June	6,540	1,150	1,730	.852	.95
July	1,320	1,080	1,170	.576	.66
August	1,230	1,020	1,090	.537	.62
September	2,880	1,020	1,370	.675	.75
The year	6,540	1,020	1,650	.813	11.04

JACKS FORK AT EMINENCE, MO.

LOCATION.—In W. ½ sec. 26, T. 29 N., R. 4 W., at highway bridge half a mile north of Eminence, Shannon County, 1 mile below Mahans Creek, and 8 miles above mouth.

DRAINAGE AREA.—376 square miles (measured on soil-survey maps); somewhat indefinite on account of large tributary springs.

RECORDS AVAILABLE.—October 18, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream side of bridge; read by A. P. Bales.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and boulders; control is a coarse gravel bar 300 feet below gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 6.10 feet at 7.30 a. m. April 28 (discharge, 5,070 second-feet); minimum stage, 0.68 foot September 1 and 6–11 (discharge, 86 second-feet).

1922–1925; Maximum stage recorded, 10.00 feet February 1, 1923 (discharge, 12,200 second-feet); minimum discharge, that of September, 1925.

ICE.—Stage-discharge relation never seriously affected by ice.

REGULATION.—Natural regulation through flow from several large springs.

ACCURACY.—Stage-discharge relation changed slightly during high water in April. Rating curve used until April 28 well defined; curve used after that date well defined above 220 second-feet and fairly well defined below. Gage read to hundredths once daily during low stages and twice daily during high stages. Daily discharge ascertained by applying daily or mean daily gage height to rating table. Records good.

Discharge measurements of Jacks Fork at Eminence, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 13	0.98	148	May 19	1.09	198	Aug. 16	0.80	114
Mar. 22	1.28	249	June 3	.92	138			

Daily discharge, in second-feet, of Jacks Fork at Eminence, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	133	123	123	161	202	290	167	770	144	108	103	86
2	131	120	123	161	272	290	164	605	146	108	103	90
3	128	123	125	161	330	272	167	530	141	108	99	90
4	133	123	139	155	330	272	161	482	136	108	99	90
5	133	128	147	155	310	255	161	415	131	108	99	90
6	125	128	144	155	290	248	155	370	126	108	99	86
7	131	128	152	155	272	244	152	350	126	108	94	86
8	128	125	185	152	272	234	152	310	131	103	103	86
9	123	125	167	161	330	227	176	310	126	117	99	86
10	125	128	161	167	555	227	210	290	124	136	99	86
11	128	128	155	161	482	241	310	290	122	131	122	86
12	123	136	155	164	392	210	272	272	122	112	108	90
13	123	136	150	158	350	202	241	248	141	112	126	90
14	123	144	144	155	330	220	234	234	146	131	117	94
15	120	192	144	155	310	210	213	238	131	131	112	157
16	123	210	139	227	272	206	206	224	131	126	112	141
17	123	199	136	438	255	202	234	211	126	117	108	136
18	123	173	139	415	238	216	1,120	199	126	103	103	131
19	123	155	370	350	227	227	710	190	126	112	99	122
20	128	150	770	330	216	255	505	184	122	108	99	103
21	120	150	460	290	227	272	415	179	117	103	108	152
22	118	144	350	255	255	255	350	173	117	103	103	214
23	118	139	290	234	415	238	290	173	122	103	103	214
24	118	136	255	220	505	227	272	168	131	103	99	255
25	120	133	224	210	482	216	350	162	126	103	94	255
26	118	131	182	213	392	206	1,280	157	122	103	90	900
27	120	128	185	206	350	199	1,200	152	117	99	90	1,730
28	123	128	155	206	310	192	4,110	152	112	99	90	830
29	123	128	167	196	-------	192	1,630	152	112	94	90	505
30	125	128	161	192	-------	182	1,040	152	112	94	90	350
31	123	-------	161	185	-------	173	-------	146	-------	108	90	-------

Monthly discharge of Jacks Fork at Eminence, Mo., for the year ending September 30, 1925

[Drainage area, 376 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	133	118	124	0.330	0.38
November	210	120	141	.375	.42
December	770	123	205	.545	.63
January	438	152	211	.561	.65
February	555	202	328	.872	.91
March	290	173	229	.609	.70
April	4,110	152	555	1.48	1.65
May	770	146	274	.729	.84
June	146	112	127	.338	.38
July	136	94	110	.293	.34
August	126	90	102	.271	.31
September	1,730	86	248	.660	.74
The year	4,110	86	220	.585	7.95

BIG SPRING NEAR VAN BUREN,[3] MO.

LOCATION.—In sec. 6, T. 26 N., R. 1 E., 1,000 feet above mouth of Spring Branch, 4,000 feet below St. Louis-San Francisco Railway bridge over Current River, and 4 miles southeast of Van Buren, Carter County.

RECORDS AVAILABLE.—January 8 to June 30, 1922, and April 1, 1923, to September 30, 1925.

GAGE.—Vertical staff bolted to face of large rock on right bank of Spring Branch, 150 feet below outlet of spring.

DISCHARGE MEASUREMENTS.—Made from temporary wagon bridge 500 feet below gage or by wading.

[3] Published as Big Spring near Chicopee, Mo., in Water-Supply Papers 547 and 567.

CHANNEL AND CONTROL.—Bed composed of sand and coarse gravel; practically permanent; moss and weeds grow in bed of stream. Gravel ford across branch 400 feet below gage controls low flow to some extent. Stage-discharge relation is affected part of the time by backwater from Current River.

EXTREMES OF DISCHARGE.—Maximum discharge during year, 500 second-feet June 13; minimum discharge, 269 second-feet August 28 to September 7.

1922–1925: Maximum discharge during periods of records, 840 second-feet May 27, 1923; minimum discharge, that of August 28 to September 7, 1925.

ICE.—Stage-discharge relation never affected by ice.

REGULATION.—Entire flow from the naturally regulated spring.

ACCURACY.—Stage-discharge relation permanent except for backwater effect from Current River whenever the river was above gage height 2.8 feet at Van Buren. Rating curve fairly well defined; constructed by subtracting from gage heights for discharge measurements the amount that Current River was above 2.8 feet. Gage read to hundredths two or three times a week. Daily discharge ascertained by applying to rating table gage heights corrected for backwater by amount that Current River was above 2.8 feet, whenever that occurred, and interpolating discharge for days when gage was not read. Records fair.

Discharge measurements of Big Spring near Van Buren, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 12	0.56	279	May 20	0.79	320
Mar. 21	.88	361	Aug. 15	.47	281

Daily discharge, in second-feet, of Big Spring near Van Buren, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	295	283	299	283	368	308	424	316	316	299	269
2	309	291	283	299	290	368	303	424	316	316	294	269
3	299	287	283	295	296	356	299	424	316	316	288	269
4	299	283	283	291	303	345	299	424	316	308	283	269
5	299	283	283	287	309	333	299	417	316	299	283	269
6	299	283	283	283	316	327	302	411	316	304	283	269
7	299	283	283	283	318	322	305	404	316	310	283	269
8	299	287	283	283	319	316	309	395	316	316	283	276
9	299	291	283	283	321	322	313	386	353	316	283	283
10	299	295	283	287	323	327	316	377	390	316	283	283
11	299	299	283	291	324	333	316	368	426	316	283	283
12	299	299	283	295	326	342	316	368	463	310	283	283
13	299	299	283	299	328	350	319	368	500	304	283	283
14	299	299	283	299	330	368	323	368	404	299	283	283
15	299	299	283	299	331	386	326	368	380	299	288	283
16	299	299	283	303	333	368	330	368	356	299	283	283
17	299	299	283	308	327	350	333	356	333	299	283	283
18	299	299	283	312	322	350	350	345	328	299	283	283
19	299	299	283	316	316	350	368	333	322	299	283	291
20	299	299	308	312	334	350	386	333	316	299	283	299
21	299	299	334	308	351	344	375	333	316	299	283	304
22	299	299	360	303	369	339	365	333	316	299	283	310
23	299	299	386	299	386	333	354	324	316	299	283	316
24	299	299	360	299	404	329	344	316	316	299	283	316
25	299	299	333	299	395	324	333	316	316	299	280	316
26	299	299	324	299	386	320	351	316	316	299	276	316
27	299	294	316	299	377	316	369	316	316	299	272	322
28	299	288	307	299	368	316	387	316	316	299	269	328
29	299	283	299	291	-------	316	406	316	316	299	269	333
30	299	283	299	283	-------	316	424	316	316	299	269	346
31	299	-------	299	283	-------	312	-------	316	-------	299	269	------

NOTE.—Stage-discharge relation affected by backwater from Current River Feb. 24–26 and Apr. 27 to May 4.

Monthly discharge of Big Spring near Van Buren, Mo., for the year ending September 30, 1925

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	320	299	300	May	424	316	361
November	299	283	294	June	500	316	342
December	386	283	300	July	316	299	304
January	316	283	296	August	299	269	282
February	404	283	335	September	346	269	293
March	386	312	339				
April	424	299	338	The year	500	269	315

ELEVEN POINT RIVER NEAR BARDLEY, MO.

LOCATION.—In NW. ¼ sec. 20, T. 23 N., R. 2 W., at bridge on State highway No. 42, 7 miles southwest of Bardley, Ripley County, 7 miles above Fredericks Fork, and 12 miles above Missouri-Arkansas line.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—October 22, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream side of bridge; read by J. S. Johnson.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and some outcropping rock. Low-water control is a contracted section of clean, coarse gravel 300 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year ending September 30, 1925, 7.20 feet at 7 a. m. June 13 (discharge, 4,400 second-feet); minimum stage, 1.06 feet September 6–11 (discharge, 210 second-feet).

1922–1925: Maximum stage recorded, 10.64 feet March 16, 1923 (discharge, 9,450 second-feet); minimum stage, that of September 6–11, 1925.

REGULATION.—Natural regulation through flow from large springs.

ACCURACY.—Stage-discharge relation practically permanent; not affected by ice. Rating curves well defined below 4,000 second-feet and fairly well defined above. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records good.

Discharge measurements of Eleven Point River near Bardley, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 10	1.40	286	May 28	1.51	340
Mar. 20	1.76	417	Aug. 12	1.13	224

Daily discharge, in second-feet, of Eleven Point River near Bardley, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	320	290	265	278	290	445	320	750	320	290	240	220
2	320	290	252	278	290	425	320	700	320	290	240	220
3	320	290	252	278	290	425	320	700	320	290	240	220
4	320	278	252	265	290	425	320	650	320	290	230	220
5	320	278	265	265	305	405	320	650	305	278	230	220
6	320	278	265	265	320	385	320	600	305	278	230	210
7	320	278	278	265	305	368	305	550	305	278	230	210
8	320	278	320	265	305	350	305	550	305	265	240	210
9	320	278	320	265	368	350	305	505	290	265	230	210
10	305	278	305	265	425	350	320	505	290	265	230	210
11	305	278	305	265	445	350	320	505	290	265	230	210
12	305	278	278	265	425	350	320	465	290	252	230	220
13	305	278	278	265	405	350	320	465	3,690	252	230	220
14	305	278	278	252	385	405	320	445	1,960	278	220	220
15	305	278	265	252	385	425	305	425	750	278	220	240
16	305	305	265	265	368	445	305	425	600	265	220	385
17	290	305	265	385	350	445	305	425	550	278	220	240
18	290	278	265	405	335	465	305	425	485	290	220	230
19	290	265	290	385	335	445	320	405	465	278	220	220
20	290	265	290	385	320	405	335	385	425	265	220	220
21	290	265	290	368	320	385	335	385	405	265	230	240
22	290	265	320	350	350	385	320	385	385	265	230	290
23	290	265	320	350	600	385	320	445	368	265	220	305
24	290	265	320	320	550	368	305	368	350	265	220	290
25	290	265	305	305	550	350	305	368	350	265	220	290
26	290	265	290	305	550	350	368	350	335	252	220	385
27	290	265	290	290	445	350	485	335	320	252	220	465
28	290	265	278	290	445	350	800	335	335	252	220	485
29	290	265	278	290	-------	335	800	320	305	252	220	485
30	290	265	278	290	-------	335	800	320	305	240	220	465
31	290	-------	278	290	-------	320	-------	320	-------	240	220	------

Monthly discharge of Eleven Point River near Bardley, Mo., for the year ending September 30, 1925

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	320	290	302	May	750	320	466
November	305	265	276	June	3,690	290	535
December	320	252	284	July	290	240	268
January	405	252	299	August	240	220	226
February	600	290	384	September	485	210	275
March	465	320	385				
April	800	305	372	The year	3,690	210	339

GREER SPRING AT GREER, MO.

LOCATION.—In SE. ¼ SW. ¼ sec. 36, T. 25 N., R. 4 W., 500 feet below lower outlet of spring, 1 mile north of Greer, Oregon County, and 1¼ miles above mouth of Spring Branch.

RECORDS AVAILABLE.—August 10 to December 31, 1904, and November 18, 1921, to September 30, 1925.

GAGE.—Vertical staff gage fastened to tree on right bank at same site as gage used in 1904; read by J. C. Dunigan. Gages not set to same datum.

DISCHARGE MEASUREMENTS.—Made by wading 500 feet below gage.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and boulders. Control is a section of boulders and rocks below gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum discharge during year, 464 second-feet April 28 to May 2; minimum discharge, 151 second-feet August 19.

1922–1925: Maximum stage recorded, 1.68 feet April 11, 1922 (discharge, 835 second-feet); minimum discharge, that of August 19, 1925.

ICE.—Stage-discharge relation never affected by ice.

ACCURACY.—Stage-discharge relation changed considerably during year. Rating curves fairly well defined. Gage read to hundredths once daily until April 1 and three times a week thereafter. Daily discharge ascertained by shifting-control method, except as described in footnote to table of daily discharge. Records poor.

Discharge measurements of Greer Spring at Greer, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 10	0.86	194	Mar. 20	0.88	286	May 28	0.70	253
Mar. 19	.87	291	May 22	.74	251	Aug. 13	.64	158

Daily discharge, in second-feet, of Greer Spring at Greer, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	210	210	206	226	206	294	248	464	237	197	162	162
2	210	210	206	226	206	294	248	464	237	197	162	162
3	210	210	206	226	206	294	248	425	237	197	162	168
4	210	210	206	215	215	294	248	386	237	191	162	174
5	210	199	206	206	226	282	237	379	237	185	162	174
6	210	199	206	206	237	282	232	372	237	179	160	174
7	210	210	206	206	248	282	226	345	237	179	159	174
8	210	199	206	206	259	259	226	318	237	179	159	174
9	210	199	206	197	282	259	226	314	237	174	159	174
10	210	199	206	197	282	259	226	310	237	170	159	169
11	210	199	206	197	282	259	226	306	232	170	159	164
12	210	199	206	197	270	259	226	306	226	170	159	167
13	210	199	206	197	270	248	220	306	237	170	159	171
14	210	199	206	197	259	248	215	294	237	170	159	174
15	210	199	206	197	259	248	215	282	237	170	159	174
16	210	199	206	206	259	294	215	282	237	170	159	174
17	210	199	206	259	259	294	215	282	237	170	159	181
18	210	199	206	259	259	294	215	282	237	170	155	188
19	210	210	206	259	259	291	215	270	237	170	151	204
20	210	199	206	259	259	286	215	259	237	170	156	221
21	210	199	206	259	259	282	215	259	237	170	162	237
22	210	199	206	248	282	282	215	259	237	170	162	248
23	210	199	206	248	282	282	215	259	237	166	162	259
24	210	199	206	237	282	270	215	259	237	162	162	259
25	210	210	206	237	282	215	293	259	232	162	162	259
26	210	210	206	226	294	215	370	259	226	162	162	292
27	210	210	206	226	294	215	448	259	226	162	162	325
28	210	210	206	215	294	215	464	259	226	162	162	358
29	210	199	206	215	------	206	464	259	226	162	162	358
30	210	199	206	206	------	206	464	252	226	162	162	358
31	199	------	215	206	------	206	------	244	------	162	162	------

NOTE.—Daily discharge Jan. 23 to Feb. 8 and Mar. 21–31 estimated from discharge of Eleven Point River; interpolated for numerous days after Apr. 1, when gage was read only three times a week.

Monthly discharge of Greer Spring at Greer, Mo., for the year ending September 30, 1925

Month	Discharge in second-feet			Month	Discharge in second-feet		
	Maximum	Minimum	Mean		Maximum	Minimum	Mean
October	210	199	210	May	464	244	306
November	210	199	203	June	237	226	234
December	215	206	206	July	197	162	173
January	259	197	221	August	162	151	160
February	294	206	260	September	358	162	216
March	294	206	262				
April	464	215	264	The year	464	151	226

ARKANSAS RIVER BASIN

ARKANSAS RIVER AT GRANITE, COLO.

LOCATION.—In sec. 31, T. 11 S., R. 79 W., at Granite, Lake County, below mouth of Lake Creek and above Lost Canyon and Clear Creeks.

DRAINAGE AREA.—431 square miles (measured on topographic map).

RECORDS AVAILABLE.—May 1, 1897, to September 10, 1899; April 6, 1910, to September 30, 1925.

GAGE.—Bristol water-stage recorder of float type on right bank 200 feet below highway bridge at Granite. Prior to October 26, 1917, inclined gage on left bank half a mile upstream. Relation between gages not determined.

DISCHARGE MEASUREMENTS.—Made from highway bridge near railroad station or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and small boulders. Control shifting. Banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 3.32 feet at 8 a. m. June 21 (discharge, 1,160 second-feet); minimum discharge, from current-meter measurement, 62 second-feet February 4.

1910–1925: Maximum discharge, 2,900 second-feet June 16, 1924; minimum discharge, 11 second-feet March 15, 1918.

ICE.—Stage-discharge relation not seriously affected by ice.

DIVERSIONS.—Water diverted from Arkansas River for irrigation of 1,800 acres between this station and junction of Tennessee and East Forks.

REGULATION.—Discharge affected by operation of Twin Lakes Reservoir, which has a storage decree for 54,450 acre-feet.

COOPERATION.—Complete records furnished by State engineer.

Daily discharge, in second-feet, of Arkansas River at Granite, Colo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	121	107	145	------	70	153	169	1,040	879	235	249
2	155	109	145	------	70	138	190	1,010	872	222	249
3	185	106	145	------	70	153	202	953	857	279	347
4	185	104	145	62	70	178	212	916	857	279	393
5	179	129	140	------	70	167	222	879	864	228	374
6	152	129	130	------	70	156	228	800	778	202	316
7	117	117	110	------	70	120	264	743	695	184	267
8	145	111	100	------	70	92	338	682	682	225	249
9	140	138	100	------	70	95	304	636	604	296	209
10	140	145	95	------	70	102	338	636	623	308	205
11	140	134	95	------	72	125	474	642	723	347	202
12	119	127	95	------	107	145	452	591	695	312	202
13	109	134	100	------	95	142	407	531	623	242	209
14	129	134	100	------	88	142	447	507	591	292	209
15	140	140	100	------	79	158	458	642	554	296	181
16	143	145	100	------	67	181	458	736	531	474	178
17	150	145	95	------	58	196	432	778	560	610	196
18	174	117	90	------	58	175	442	835	662	560	202
19	155	109	80	------	59	130	519	923	636	531	209
20	150	109	85	------	66	109	623	1,050	730	502	202
21	138	117	95	------	67	109	750	1,120	507	496	187
22	136	123	110	------	79	125	764	1,120	407	442	132
23	134	129	100	------	85	120	800	1,080	361	402	158
24	129	131	90	------	98	190	864	1,120	316	397	172
25	125	127	75	------	107	209	893	1,100	412	388	158
26	125	138	70	------	102	209	923	1,070	531	365	150
27	125	136	76	------	92	209	938	1,030	496	330	148
28	121	138	80	------	95	205	1,020	998	452	264	140
29	123	140	90	------	125	184	1,060	968	407	205	172
30	131	143	100	------	145	172	1,080	908	422	202	175
31	115	------	110	------	125	------	1,080	------	365	249	------

NOTE.—No gage-height record Dec. 1–31 and Mar. 1–11; discharge based on two discharge measurements and comparison with records of flow of Arkansas River at Salida.

Monthly discharge of Arkansas River at Granite, Colo., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	185	109	140	8,610
November	145	104	127	7,560
December	----------	----------	103	6,330
January	----------	----------	85	5,230
February	----------	----------	65	3,610
March	----------	----------	82.9	5,100
April	209	92	153	9,100
May	1,080	169	560	34,400
June	1,120	507	868	51,600
July	879	316	603	37,100
August	610	184	334	20,500
September	393	132	215	12,800
The year	1,120	----------	279	202,000

NOTE.—Estimated mean discharge for January and February based on one discharge measurement and comparison with records of flow of Arkansas River at Salida.

ARKANSAS RIVER AT SALIDA, COLO.

LOCATION.—In sec. 32, T. 50 N., R. 9 E., at Salida, Chaffee County, some distance above mouth of South Fork of Arkansas River, the nearest important tributary.

DRAINAGE AREA.—1,210 square miles (measured on base map of Colorado).

RECORDS AVAILABLE.—April 11, 1895, to October 31, 1903; November 3, 1909, to September 30, 1925.

GAGE.—Bristol water-stage recorder on right bank in City Park 400 feet below highway bridge; inspected by water commissioner. Datum lowered 1.0 foot January 1, 1922.

DISCHARGE MEASUREMENTS.—Made from highway bridge.

CHANNEL AND CONTROL.—Bed composed of coarse gravel; shifts at intervals. No well-defined control. Banks not subject to overflow.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.4 feet at 9 a. m. June 22 (discharge, 1,920 second-feet); minimum discharge, 190 second-feet on March 12.

1909–1925: Maximum stage recorded, 7.2 feet June 16, 1924 (discharge, 5,100 second-feet); minimum discharge, 155 second-feet January 28, 1915.

ICE.—Stage-discharge relation not affected by ice as river is kept open by springs.

DIVERSIONS.—Water diverted from Arkansas River between Granite and Salida for irrigation of 2,800 acres.

REGULATION.—Flow at station regulated to some extent by Twin Lakes and Clear Creek Reservoirs which have storage decrees for 54,450 and 11,500 acre-feet, respectively.

COOPERATION.—Complete records furnished by State engineer.

Daily discharge, in second-feet, of Arkansas River at Salida, Colo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	264	272	290	252	245	200	223	284	1,510	1,330	621	631
2	272	272	294	248	245	206	234	276	1,400	1,270	396	631
3	322	272	298	238	223	210	238	300	1,300	1,300	556	661
4	344	257	294	245	230	210	276	387	1,220	1,280	621	718
5	348	261	290	245	223	216	292	452	1,190	1,410	470	729
6	348	279	286	260	216	220	256	415	1,130	1,290	433	702
7	298	275	257	252	216	227	234	374	1,030	1,150	401	586
8	286	257	240	220	206	234	216	452	994	1,090	406	542
9	294	272	244	234	213	216	197	470	904	1,160	601	484
10	294	314	234	223	203	197	203	470	843	1,050	646	452
11	314	306	240	230	200	197	210	616	904	1,160	616	438
12	302	290	234	216	216	190	234	651	916	1,170	671	447
13	279	310	250	227	220	203	238	591	837	1,050	542	433
14	272	322	261	230	210	200	230	586	772	994	489	442
15	306	322	254	234	197	197	230	616	910	938	566	429
16	318	326	247	241	197	206	252	626	1,170	882	542	410
17	310	330	244	223	197	213	264	646	1,220	955	848	396
18	344	313	240	234	200	206	272	651	1,250	972	788	410
19	370	318	218	227	200	203	264	767	1,310	932	772	415
20	357	310	209	230	210	206	248	904	1,540	983	761	419
21	339	314	224	234	210	213	234	1,110	1,790	1,070	729	401
22	326	322	257	241	200	216	245	1,210	1,820	687	692	383
23	318	302	268	245	203	227	256	1,220	1,680	656	666	406
24	310	286	247	234	210	230	260	1,300	1,660	547	702	442
25	298	268	215	252	197	227	300	1,320	1,570	513	821	424
26	302	290	209	245	206	223	313	1,350	1,530	772	876	415
27	302	294	218	238	203	223	300	1,370	1,490	718	810	387
28	298	294	237	238	203	220	300	1,540	1,420	682	767	365
29	290	286	261	230	------	223	300	1,600	1,370	723	656	369
30	298	294	261	252	------	234	296	1,630	1,410	702	616	365
31	282	------	264	248	------	220	------	1,600	------	666	606	------

Monthly discharge of Arkansas River at Salida, Colo., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	370	264	310	19,100
November	330	257	294	17,500
December	298	209	251	15,400
January	260	216	238	14,600
February	245	197	211	11,700
March	234	190	213	13,100
April	313	197	254	15,100
May	1,630	276	832	51,200
June	1,820	772	1,270	75,600
July	1,410	513	971	59,700
August	876	396	635	39,000
September	729	365	478	28,400
The year	1,820	190	498	360,000

ARKANSAS RIVER AT CANON CITY, COLO.

LOCATION.—Just below Hot Springs Hotel at mouth of canyon and 1 mile above Canon City, Fremont County. Nearest important tributary, Grape Creek, enters some distance above.

DRAINAGE AREA.—3,090 square miles (measured on base map of Colorado).

RECORDS AVAILABLE.—May 1, 1888, to September 30, 1925.

GAGE.—Bristol float-type water-stage recorder.

DISCHARGE MEASUREMENTS.—Made from car and cable.

CHANNEL AND CONTROL.—Bed composed of gravel; very shifting. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage during year, 5.7 feet July 21 (discharge, 7,800 second-feet); minimum discharge, 157 second-feet April 22. 1888–1925: Maximum stage recorded, 10.7 feet at 8 p. m. August 2, 1921 (discharge, 19,000 second-feet); minimum discharge, 108 second-feet April 10, 1897.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—South Canon, Canon City Hydraulic & Irrigation Co.'s ditch, city pipe line, and Southern Colorado Power Co.'s water supply for steam plant divert water above gaging station.

REGULATION.—Flow regulated to slight extent by operation of reservoirs on headwaters.

COOPERATION.—Complete records furnished by State engineer.

Daily discharge, in second-feet, of Arkansas River at Canon City, Colo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	240	321	372	390	350	278	222	206	1,400	1,310	651	563
2	266	321	372	366	355	313	234	184	1,270	1,240	529	563
3	277	315	372	366	339	328	230	184	1,230	1,280	653	563
4	310	310	378	315	350	313	222	202	1,130	1,450	988	628
5	315	304	366	372	344	339	255	274	1,070	1,500	970	651
6	321	299	396	366	287	339	242	334	1,040	1,330	503	620
7	315	310	372	343	297	344	242	292	946	1,160	378	556
8	272	293	338	288	260	355	230	283	905	1,070	361	484
9	299	282	321	304	264	394	188	366	844	1,240	412	471
10	310	293	326	321	274	334	167	344	733	1,230	628	417
11	304	332	372	310	264	302	160	435	700	1,150	733	458
12	304	315	378	288	292	274	167	556	788	1,200	691	435
13	293	326	354	250	302	292	188	556	759	1,140	628	429
14	293	338	360	321	297	278	177	484	658	967	503	400
15	326	354	338	338	283	274	167	477	666	885	496	400
16	354	349	332	349	283	283	164	496	885	875	458	378
17	354	349	349	315	278	274	184	458	1,090	844	549	366
18	360	349	332	282	269	246	210	458	1,120	806	683	366
19	402	360	293	349	269	242	230	484	1,170	885	643	366
20	384	360	240	378	283	251	192	651	1,330	1,260	628	361
21	402	343	220	366	297	255	167	806	1,590	1,720	674	344
22	402	338	315	354	287	260	157	988	1,780	864	613	344
23	384	326	349	360	264	283	167	988	1,670	708	605	378
24	360	315	255	343	269	287	170	1,090	1,590	636	549	417
25	360	310	288	366	264	251	184	1,160	1,600	490	674	400
26	360	326	300	354	274	246	230	1,160	1,510	542	769	389
27	349	338	288	282	287	278	238	1,220	1,440	778	725	366
28	338	360	343	338	269	255	214	1,260	1,380	651	691	350
29	349	378	384	349	-------	238	214	1,370	1,370	716	628	339
30	338	384	402	338	-------	234	226	1,400	1,380	708	570	350
31	354	-------	408	354	-------	242	-------	1,440	-------	716	542	-------

Monthly discharge of Arkansas River at Canon City, Colo., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	402	240	332	20,400
November	384	282	330	19,600
December	408	220	339	20,800
January	390	250	336	20,700
February	355	260	291	16,200
March	394	234	287	17,600
April	255	157	201	12,000
May	1,440	184	665	40,900
June	1,780	658	1,170	69,600
July	1,720	490	1,010	62,100
August	988	361	617	37,900
September	651	339	438	26,100
The year	1,780	157	503	364,000

ARKANSAS RIVER NEAR PUEBLO, COLO.

LOCATION.—In sec. 34, T. 20 S., R. 65 W., at south side waterworks dam, 2½ miles west of Pueblo, Pueblo County. Nearest tributary, Dry Creek, enters 1 mile below.

DRAINAGE AREA.—4,730 square miles (measured on base map of Colorado).

RECORDS AVAILABLE.—May 26 to September 30, 1925, at present site; May 1, 1885, to September 30, 1886, and September 19, 1894, to May 25, 1925, for site at Main Street Bridge in Pueblo. Except for run-off in Dry Creek following infrequent heavy rains, discharge at two points comparable. From June 1 to September 30, 1887, and May 1 to August 31, 1889, station maintained at point 9 miles above Pueblo.

GAGE.—Bristol water-stage recorder on right wing wall of dam 20 feet upstream from crest.

DISCHARGE MEASUREMENTS.—Made by wading 200 feet below dam or from Denver & Rio Grande Western Railroad bridge just above Dry Creek and one-half mile below dam.

CHANNEL AND CONTROL.—Bed composed of sand. Control formed by dam. Stage-discharge relation affected during low water by intake canal for waterworks.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.05 feet at new station at 10.30 p. m. July 3 (discharge, 4,930 second-feet); minimum discharge, 48 second-feet April 12 and 16.

1894–1925: Maximum stage from high-water mark, 24.66 feet at midnight, June 3, 1921 (discharge estimated at 100,000 second-feet); minimum discharge, 25 second-feet September 11, 1908.

ICE.—Stage-discharge relation slightly affected by ice.

DIVERSIONS.—Water diverted from Arkansas River between Canon City and Pueblo for irrigation of 23,000 acres.

COOPERATION.—Complete records furnished by State engineer.

Daily discharge, in second-feet, of Arkansas River near Pueblo, Colo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	160	264	345	340	376	202	134	134	1,180	1,110	537	546
2	199	233	356	349	354	226	114	106	1,120	1,070	364	502
3	250	241	337	395	404	251	119	74	1,010	1,270	343	372
4	252	252	326	409	433	278	121	85	948	1,150	696	422
5	298	261	333	39 [illegible]	433	310	119	109	900	1,430	1,180	486
6	305	244	315	390	409	345	153	219	912	1,120	1,140	494
7	319	250	330	409	340	336	170	244	889	1,120	446	462
8	315	258	288	363	302	310	129	244	780	960	272	379
9	273	255	244	340	270	363	104	216	717	999	224	350
10	302	326	333	290	236	358	85	314	696	1,600	555	486
11	302	356	285	302	233	286	64	212	600	867	628	644
12	298	389	326	310	240	226	48	229	667	1,070	546	754
13	302	434	315	255	251	219	50	414	728	1,060	486	462
14	295	398	322	226	259	226	56	399	676	878	408	454
15	298	385	322	318	226	216	54	386	555	738	379	430
16	319	394	291	314	219	196	48	414	628	667	486	379
17	295	385	291	334	212	209	50	457	801	707	438	357
18	276	385	341	318	180	192	58	473	1,050	667	609	350
19	270	398	238	354	173	173	83	442	1,030	1,050	686	350
20	305	407	137	386	145	176	114	499	1,080	1,130	676	297
21	319	385	156	376	153	159	121	580	1,190	1,820	609	317
22	330	368	178	358	116	164	104	751	1,550	2,370	628	310
23	319	368	227	367	106	167	97	941	1,640	878	581	317
24	288	356	194	395	88	173	102	966	1,490	470	564	372
25	291	270	158	409	77	162	111	1,160	1,490	357	572	379
26	276	244	192	433	70	148	102	1,050	1,290	430	769	364
27	276	258	250	345	64	134	164	1,230	1,250	564	738	291
28	270	295	209	390	192	159	142	1,140	1,190	478	676	291
29	273	330	273	390	-------	156	124	1,160	1,140	430	657	278
30	252	337	368	399	-------	139	139	1,180	1,110	537	638	291
31	241	-------	368	414	-------	124	-------	1,160	-------	564	528	-------

NOTE.—Station established at new site May 26.

Monthly discharge of Arkansas River near Pueblo, Colo., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	330	160	283	17,400
November	434	233	324	19,300
December	368	137	279	17,200
January	433	226	357	22,000
February	433	64	234	13,000
March	363	124	219	13,500
April	170	48	103	6,130
May	1,230	74	548	33,700
June	1,640	555	1,010	60,100
July	2,370	357	954	58,700
August	1,180	224	583	35,800
September	754	278	406	24,200
The year	2,370	48	443	321,000

ARKANSAS RIVER AT HOLLY, COLO.

LOCATION.—Between secs. 14 and 15, T. 23 S., R. 42 W., at highway bridge half a mile south of Holly, Prowers County. Nearest tributary, Wildhorse Creek, an intermittent stream, enters 1 mile upstream.

DRAINAGE AREA.—25,000 square miles (measured on base map of Colorado).

RECORDS AVAILABLE.—October 15, 1907, to September 30, 1925.

GAGE.—Bristol float-type water-stage recorder on upstream side of bridge.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and gravel; shifting. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 7.0 feet July 21 (discharge, 23,000 second-feet); river dry May 27 to June 6 and June 26 to July 3.

1907–1925: Maximum stage recorded, 11 feet at noon October 20, 1908 (discharge determined from slope measurements, 136,000 second-feet); minimum discharge, river dry.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Water diverted from Arkansas River between Pueblo and Holly for irrigation of 300,000 acres.

COOPERATION.—Complete records furnished by State engineer.

Daily discharge, in second-feet, of Arkansas River at Holly, Colo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	31	81	173	245	84	30	10	0	0	2,160	3
2	17	31	75	205	232	70	24	19	0	0	971	3
3	19	32	58	205	232	74	30	14	0	0	572	3
4	19	32	58	205	232	77	35	13	0	1,550	374	2
5	19	33	35	205	232	70	19	16	0	3,870	624	3
6	19	33	78	205	277	88	27	12	0	1,960	4,990	2
7	19	34	136	203	277	58	10	14	[b]3,090	639	3,850	3
8	19	34	280	203	310	58	8	43	3,060	318	1,680	3
9	19	35	230	205	231	70	22	30	693	122	786	2
10	19	35	230	220	222	51	19	[a]1,190	136	29	390	14
11	19	36	280	210	189	58	19	758	136	137	230	101
12	19	37	180	213	156	68	19	1,090	80	142	192	125
13	19	37	230	213	116	58	19	501	47	110	160	98
14	19	38	230	216	131	46	15	132	24	95	882	136
15	19	38	230	209	151	53	12	56	22	82	390	184

[a] Maximum discharge, 2,760 second-feet. [b] Maximum discharge, 11,600 second-feet.

Daily discharge, in second-feet, of Arkansas River at Holly, Colo., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
16	19	39	230	219	136	53	14	78	2	38	172	390
17	19	39	180	208	182	41	9	56	1	28	142	192
18	19	40	110	216	146	51	10	56	2	20	122	122
19	19	40	108	216	126	46	9	17	4	15	101	98
20	19	41	125	219	106	38	10	6	13	10	68	85
21	19	41	130	229	58	30	9	2	123	[c]7,450	52	90
22	19	42	125	224	99	30	19	2	47	4,440	46	93
23	26	42	125	219	146	33	14	6	52	1,680	90	119
24	26	42	125	219	111	28	12	2	14	6,050	58	95
25	27	44	125	219	99	30	10	8	4	3,560	47	90
26	27	46	125	219	116	23	10	6	0	1,560	32	93
27	28	48	140	221	156	21	12	0	0	1,290	22	85
28	28	152	140	226	131	26	15	0	0	[d]7,570	15	66
29	29	118	140	224	-------	19	10	0	0	4,990	5	72
30	29	106	140	251	-------	30	12	0	0	4,730	3	68
31	30	-------	140	251	-------	30	-------	0	-------	3,920	4	------

[c] Maximum discharge, 23,000 second-feet. [d] Maximum discharge, 14,600 second-feet.

NOTE.—No gage-height record Oct. 5 to Nov. 22; discharge interpolated. Stage-discharge relation affected by ice Dec. 8 to Feb. 7; discharge based on discharge measurements and comparison with flow of Arkansas River at Lamar. Recorder washed out July 21. Discharge July 21 to Aug. 4 based on one daily gage reading and comparison with flow of Arkansas River at Lamar.

Monthly discharge of Arkansas River at Holly, Colo., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	----------	----------	21.4	1,320
November	----------	----------	46.5	2,770
December	----------	----------	149	9,160
January	----------	----------	215	13,200
February	----------	----------	173	9,610
March	88	19	48.8	3,000
April	35	8	16.1	958
May	1,190	0	133	8,180
June	3,090	0	252	15,000
July	7,570	0	1,820	112,000
August	4,990	3	620	38,100
September	390	2	81.3	4,840
The year	7,570	0	301	218,000

ARKANSAS RIVER AT SYRACUSE, KANS.

LOCATION.—In NW. ¼ sec. 18, T. 24 S., R. 40 W., at highway bridge half a mile south of Syracuse, Hamilton County.

DRAINAGE AREA.—25,500 square miles (measured by State irrigation commissioner).

RECORDS AVAILABLE.—August 21, 1902, to November 30, 1905; April 1 to July 31, 1906; June 20, 1921, to September 30, 1925.

GAGE.—Gurley water-stage recorder on downstream side of bridge pier near center of channel. From 1902 to 1906 a vertical staff gage fastened to downstream pile of one of the bents of the bridge was used; not referred to same datum.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of loose, clean sand; shifting. Control not well defined.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 4.70 feet July 24 (discharge, 10,900 second-feet); minimum discharge, 6 second-feet April 21.

1902–1906; 1921–1925: Maximum stage about 9.75 feet on June 6, 1921 (discharge, about 45,000 second-feet); minimum discharge, 3 second-feet in January, 1905.

ICE.—Stage-discharge relation occasionally affected by ice.

DIVERSIONS.—Nearly all low-water flow is diverted for irrigation upstream.

COOPERATION.—Complete records furnished by the Kansas Board of Agriculture through George S. Knapp, State irrigation commissioner.

Discharge measurements of Arkansas River at Syracuse, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 10	1.43	76.8	May 5	1.18	7.7	July 24	4.60	14,100
Feb. 27	1.74	192	July 13	1.81	122	Aug. 6	3.27	4,330

Daily discharge, in second-feet, of Arkansas River at Syracuse, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	17	50	210	------	280	177	31	7	7	16	4,400	24
2	23	20	181	280	290	155	28	7	7	15	2,000	21
3	31	42	168	------	285	135	26	7	7	15	1,410	20
4	34	52	56	------	270	132	24	8	7	34	905	20
5	34	68	88	------	250	132	18	8	7	2,140	735	18
6	34	66	107	------	250	132	18	8	7	1,510	4,530	18
7	42	61	172	------	250	128	18	14	177	653	4,600	17
8	76	61	186	------	230	124	23	24	854	260	3,230	17
9	59	66	260	------	220	117	20	20	1,020	168	2,030	16
10	50	76	273	------	215	114	17	142	340	124	1,340	15
11	46	66	225	------	200	114	15	260	200	84	888	29
12	54	42	273	------	195	114	15	220	172	76	555	32
13	46	23	397	------	190	107	13	292	139	110	397	46
14	46	21	397	------	200	104	13	159	94	76	420	78
15	44	18	499	------	200	94	10	110	56	38	983	124
16	44	18	340	------	215	76	9	71	48	32	480	220
17	42	24	292	------	210	68	10	56	38	34	299	286
18	42	40	292	------	205	68	9	48	42	31	215	235
19	42	42	------	------	205	68	8	42	46	28	164	159
20	46	78	270	------	190	68	8	26	42	31	132	135
21	52	84	------	------	165	68	6	11	38	3,540	114	114
22	54	88	------	------	160	71	10	8	84	7,140	91	114
23	56	88	------	------	195	61	7	7	71	6,220	84	110
24	52	76	------	------	210	34	7	9	52	5,850	100	110
25	59	84	------	------	195	29	7	13	40	4,800	88	110
26	64	110	------	------	180	24	7	8	29	3,270	78	100
27	64	114	280	------	190	24	7	7	24	2,780	68	94
28	68	139	------	------	190	23	7	7	20	4,800	56	94
29	66	235	------	------	------	21	7	7	18	5,250	48	84
30	66	253	------	------	------	24	7	7	17	5,600	40	78
31	54	------	------	------	------	24	------	7	------	6,200	29	------

Monthly discharge of Arkansas River at Syracuse, Kans, for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	76	17	48.6	2,990
November	253	18	73.5	4,370
December			[a] 244	15,000
January			[a] 244	15,000
February	290	160	216	12,000
March	177	21	84.8	5,210
April	31	6	13.5	803
May	292	7	52.3	3,220
June	1,020	7	123	7,320
July	7,140	15	1,970	121,000
August	4,600	29	984	60,500
September	286	15	84.4	5,020
The year				252,000

[a] Estimated.

ARKANSAS RIVER AT GARDEN CITY, KANS.

LOCATION.—In NW. ¼ sec. 19, T. 24 S., R. 32 W., at highway bridge half a mile south of Garden City, Finney County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 21, 1922, to September 30, 1925.

GAGE.—Stevens water-stage recorder on downstream side of concrete bridge pier near center of channel; inspected by irrigation commissioner. Gage records height of ground water after surface flow ceases.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of loose, clean sand and gravel; shifting. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 6.60 feet at 11 p. m. July 24 (discharge, 11,600 second-feet); no flow on days in May, June, July, August, and September.

1922–1925: Maximum stage recorded, 7.86 feet June 18, 1923 (discharge, 19,500 second-feet); no flow during several periods.

ICE.—Stage-discharge relation affected by ice.

DIVERSIONS.—Large portion of flow diverted in western Kansas and eastern Colorado for irrigation.

ACCURACY.—Stage-discharge relation not permanent. Rating curves fairly well defined. Mean daily gage height determined to hundredths from recorder graph by inspection. Daily discharge ascertained by applying mean daily gage height to rating table or as explained in footnote to table of daily discharge. Records fair.

Discharge measurements of Arkansas River at Garden City, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 15	2.94	0.9	Apr. 21	2.89	0.1	July 7	3.45	24.4
Dec. 15	4.02	357	May 1	3.08	5.4	July 23	4.91	2,170
Feb. 26	3.26	34.0	June 10	3.40	40.2	July 25	5.27	4,720

Daily discharge, in second-feet, of Arkansas River at Garden City, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	3	8	69	------	164	71	38	5	0	0	2,850	0
2	3	9	74	------	164	56	40	1.2	0	0	1,820	0
3	1.5	10	66	48	206	41	29	1.0	0	0	832	0
4	1.5	10	74	------	242	31	24	.6	0	0	390	0
5	1.2	12	------	------	308	24	17	.9	0	0	206	0
6	.9	12	------	------	324	20	12	1.4	0	31	120	0
7	.6	13	------	------	308	20	7	2	0	24	2,100	0
8	.7	13	------	------	360	17	45	17	0	18	2,850	0
9	.6	13	------	------	350	15	53	20	41	12	2,050	0
10	.2	14	------	81	158	14	34	20	77	8	1,240	0
11	.2	14	------	------	107	15	27	18	18	5	875	0
12	.3	15	------	------	66	18	21	21	8	3	450	1
13	.9	15	------	------	53	25	17	30	.3	2	102	0
14	1.2	15	------	------	51	24	12	19	0	0	27	0
15	1.2	15	370	------	46	26	8	77	0	0	14	4
16	1.5	16	260	------	41	23	5	31	0	0	12	7
17	1.7	16	------	------	41	19	3	24	0	0	13	1
18	1.5	16	------	------	64	17	2	20	0	0	3	2
19	.7	16	------	------	56	15	1.5	17	0	0	1	5
20	.4	18	------	------	51	11	.3	12	0	0	1	3
21	7	20	------	------	45	8	.2	8	0	0	1	11
22	7	21	------	------	77	7	.9	6	0	3,720	0	15
23	7	24	------	------	66	7	9	1.8	0	2,130	0	11
24	7	25	------	100	48	7	3	.9	0	1,110	0	9
25	7	23	------	132	40	6	1.4	.4	0	4,400	0	6
26	8	24	29	132	38	7	1.4	.3	0	3,020	0	5
27	7	25	------	128	81	7	1.7	.3	0	2,560	0	4
28	7	26	------	123	115	8	11	.3	0	1,690	0	2
29	7	31	------	119	------	8	12	.1	0	3,560	0	0
30	8	40	------	119	------	8	13	0	0	2,790	0	0
31	8	------	------	136	------	10	------	0	------	3,280	0	------

NOTE.—No gage-height record July 6–11; discharge based on one discharge measurement made July 7. Discharge for periods Jan. 24 to Mar. 5, Apr. 13 to May 7, and Sept. 12–30 obtained by shifting-control method.

Monthly discharge of Arkansas River at Garden City, Kans., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	8	0.2	3.32	204
November	40	8	17.6	1,050
February	360	38	131	7,280
March	71	6	18.9	1,160
April	53	.2	15.0	893
May	77	0	11.5	707
June	77	0	4.81	286
July	4,400	0	915	56,300
August	2,850	0	515	31,700
September	15	0	2.87	171

ARKANSAS RIVER AT LARNED, KANS.

LOCATION.—In NE. ¼ sec. 5, T. 22 S., R. 16 W., at highway bridge half a mile above Pawnee River and half a mile south of Larned, Pawnee County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 22, 1922, to September 30, 1925.

GAGE.—Stevens water-stage recorder on downstream side of cylinder bridge pier near center of channel. Gage records height of ground water after surface flow ceases.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of loose, clean sand and gravel; shifting. No definite control.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 6.56 feet at 10.30 p. m. July 26 (discharge, 3,920 second-feet); no flow October 1 to February 3, June 2 to July 24, September 8 and 9. 1922–1925: Maximum stage recorded, 9.5 feet August 25, 1923 (discharge, 14,300 second-feet); no flow during several periods.

ICE.—Stage-discharge relation not affected by ice.

DIVERSIONS.—Large part of flow diverted in western Kansas and eastern Colorado for irrigation.

ACCURACY.—Stage-discharge relation not permanent. Rating curves fairly well defined. Mean daily gage height determined from recorder graph. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

Discharge measurements of Arkansas River at Larned, Kans., during the year ending September 30, 1925.

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 5	3.95	78.3	Apr. 27	3.87	56.6	Aug. 12	5.02	1,230
Mar. 11	3.81	36.5	July 27	5.84	2,370	Aug. 20	3.82	80.5

Daily discharge, in second-feet, of Arkansas River at Larned, Kans., for the year ending September 30, 1925

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	65	31	73	1	------	1,800	33
2	------	56	39	65	------	------	2,540	28
3	------	73	51	56	------	------	2,080	21
4	160	62	58	44	------	------	1,740	15
5	371	76	65	36	------	------	1,160	10
6	326	73	48	34	------	------	912	7
7	317	56	39	29	------	------	630	4
8	274	48	28	32	------	------	504	------
9	266	46	26	48	------	------	522	------
10	290	34	24	51	------	------	1,700	12
11	326	32	18	41	------	------	1,480	7
12	380	36	18	44	------	------	1,250	6
13	380	56	16	39	------	------	1,080	7
14	335	34	15	32	------	------	763	35
15	274	46	12	171	------	------	531	44
16	218	41	10	164	------	------	414	40
17	164	41	10	274	------	------	306	34
18	130	46	10	274	------	------	214	21
19	140	41	7	178	------	------	138	13
20	120	41	6	158	------	------	85	7
21	95	34	6	110	------	------	66	10
22	84	29	7	69	------	------	56	22
23	80	26	16	41	------	------	47	36
24	80	20	6	34	------	------	46	288
25	73	17	6	17	------	1,370	29	170
26	80	11	34	12	------	2,560	22	75
27	88	8	51	6	------	2,400	14	54
28	76	7	88	8	------	1,810	11	38
29	------	6	100	6	------	1,360	10	25
30	------	6	80	2	------	1,070	80	23
31	------	8	------	2	------	1,970	42	------

NOTE.—No flow for months and days for which no discharge is given.

Monthly discharge of Arkansas River at Larned, Kans., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February	380	0	183	10,200
March	76	6	37.9	2,330
April	100	6	30.8	1,830
May	274	2	69.4	4,270
June	1	0	.03	2
July	2,560	0	405	24,900
August	2,540	10	654	40,200
September	288	0	36.2	2,150
The year	2,560	0	119	85,800

NOTE.—No flow during October, November, December, and January.

ARKANSAS RIVER NEAR WICHITA, KANS.

LOCATION.—Near center of line between secs. 7 and 18, T. 27 S., R. 1 E., at Thirteenth Avenue highway bridge, 1½ miles above Little Arkansas River, and 2 miles northwest of Wichita, Sedgwick County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—June 11, 1921, to September 30, 1925.

GAGE.—Gurley water-stage recorder on downstream side of bridge pier. Prior to January 13, 1922, chain gage on upstream handrail of bridge; read by P. L. Brockway, city engineer.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Wide, flat bed composed of clean sand; shifting. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 11.56 feet at 10 a. m. and 6 p. m. April 7 and August 2, respectively (discharge, 1,670 second-feet); no flow for periods October 1–8, December 21 to February 2, and July 15–28.

1921–1925: Maximum discharge, 8,510 second-feet June 10, 1923; no flow during several periods.

ICE.—Stage-discharge relation occasionally slightly affected by ice.

DIVERSIONS.—Most of low-water flow is diverted for irrigation in western Kansas and eastern Colorado.

ACCURACY.—Stage-discharge relation not permanent. Two rating curves fairly well defined below 4,000 second-feet. Mean daily gage height determined from recorder graph by inspection. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

Discharge measurements of Arkansas River at Wichita, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 10	9.25	6.5	June 3	9.81	172	Sept. 30	9.20	104
Mar. 24	9.72	116	Aug. 12	10.08	362			

Daily discharge, in second-feet, of Arkansas River at Wichita, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	3	14	------	171	90	204	220	8	940	90
2	------	3	15	------	154	130	217	200	5	1,360	90
3	------	4	18	150	148	180	204	178	6	1,330	100
4	------	4	28	178	137	210	204	178	6	1,370	110
5	------	4	42	230	126	210	210	100	5	1,190	121
6	------	4	49	265	115	375	198	37	5	1,150	112
7	------	4		258	101	1,610	191	40	5	958	104
8	------	4		330	105	1,310	191	40	5	770	96
9	4	5		360	120	855	230	40	30	645	87
10	6	6	75	338	115	613	237	40	25	502	78
11	8	7		293	120	510	210	50	20	412	69
12	8	6		272	131	442	184	100	16	352	60
13	7	12	58	286	159	420	172	154	6	1,220	54
14	5	12	61	330	165	382	165	131	2	1,180	52
15	5	12	61	322	184	338	165	101	------	1,180	57
16	4	9	61	300	178	300	178	67	------	1,180	40
17	4	9	40	272	165	286	178	55	------	1,260	30
18	4	10	35	258	159	272	191	40	------	1,180	24
19	4	9	22	210	148	240	198	35	------	1,300	18
20	2	10	5	184	154	230	198	52	------	1,180	9
21	2	11	------	159	137	210	272	46	------	1,000	26
22	2	12	------	148	131	200	510	42	------	695	66
23	2	12	------	131	131	185	480	46	------	350	156
24	2	12	------	148	109	175	770	33	------	200	288
25	3	13	------	148	96	165	272	26	------	150	282
26	4	13	------	184	88	159	251	37	------	125	229
27	4	14	------	178	81	165	244	10	------	125	217
28	3	12	------	178	67	159	244	9	------	150	126
29	3	14	------	------	60	165	251	11	525	294	115
30	3	13	------	------	60	184	272	9	1,030	150	104
31	3	------	------	------	70	------	235	------	1,090	100	------

NOTE.—Stage-discharge relation affected by ice Dec. 19 and 20; discharge estimated. No gage height record Oct. 1-3, 5, Dec. 7-12, 21-26, Jan. 4-9, 11-16, 18-23, 27-30, Feb. 1-2, Mar. 29-31, April 1-3, 19-24, May 31, June 1-2, 5, 7-12, July 5-10, 19-24, Aug. 23-28, 30, 31, Sept. 1-4, and 6-11; discharge based on flow at Arkansas City, Kans. No flow for periods for which no discharge is given.

Monthly discharge of Arkansas River at Wichita, Kans., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	8	0	2.97	184
November	14	3	8.77	522
December	------	0	30.9	1,900
January	0	0	0	0
February	360	0	218	12,100
March	184	60	125	7,690
April	1,610	90	359	21,400
May	770	165	249	15,300
Jnne	220	9	709	4,220
July	1,090	0	90	5,530
August	1,370	100	774	47,600
September	288	9	100	5,950
The year	1,610	0	169	122,000

ARKANSAS RIVER AT ARKANSAS CITY, KANS.

LOCATION.— In NW. ¼ sec. 25, T. 34 S., R. 3 E., at Chestnut Avenue highway bridge, half a mile west of Arkansas City, Cowley County, 2 miles below diversion dam for Kansas Gas & Electric Co.'s canal, 5 miles above mouth of Walnut River, and 8 miles below Ninnescah River.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—September 23, 1902, to July 31, 1906; September 10, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream handrail of bridge; read by S. S. Farrar.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of clean sand; shifting. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 9.96 feet at 7.10 a. m. September 23 (discharge, 2,710 second-feet); minimum stage, 6.62 feet at 7.20 a. m. July 9 (discharge, 76 second-feet).

1902–1906; 1921–1925: Maximum stage recorded, 25.46 feet June 11, 1923 (discharge not determined); minimum discharge, 12 second-feet in March and April, 1923.

ICE.—Stage-discharge relation occasionally affected by ice.

DIVERSIONS AND REGULATION.—Diversions in western Kansas and eastern Colorado for irrigation takes large part of the natural flow.

ACCURACY.—Stage-discharge relation not permanent; affected by ice and shifting control. Rating curve well defined below 10,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table; shifting-control method used October 1–10 and February 5 to June 13. Records good.

Discharge measurements of Arkansas River at Arkansas City, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 11	7.31	350	June 4	7.30	322
Mar. 24	7.47	382	Aug. 13	7.78	685

Daily discharge, in second-feet, of Arkansas River at Arkansas City, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	155	200	350		200	410	339	718	345	142	870	159
2	146	189	295		100	442	362	642	339	123	718	162
3	152	185	306		190	410	442	605	306	118	792	155
4	136	200	368		330	410	475	572	280	101	1,250	120
5	152	185	362		572	380	475	572	270	108	1,120	136
6	150	200	339	200	605	350	508	605	322	114	1,160	155
7	300	209	410		718	380	508	540	270	118	990	185
8	410	214	410		755	380	950	475	260	92	990	162
9	540	232	410		830	380	1,850	475	232	81	854	104
10	540	192	380		830	350	1,700	990	255	95	718	104
11	380	275	350		755	350	1,450	950	240	107	755	170
12	380	285	306		680	410	1,080	755	285	129	680	185
13	350	508	306		680	410	910	680	540	145	605	227
14	322	442	350		680	410	755	642	1,550	145	540	260
15	280	442	362		642	410	755	572	1,160	142	1,160	227
16	285	380			605	410	680	508	830	152	1,250	209
17	275	339			605	380	680	475	605	142	1,080	218
18	275	317		150	572	475	572	508	475	114	1,080	285
19	245	328			540	380	540	642	380	114	1,030	240
20	240	306			540	380	508	642	334	122	910	218
21	250	295	300		540	380	442	572	306	173	890	218
22	236	317			540	350	442	508	236	227	792	718
23	240	280			570	350	475	508	200	192	680	2,450
24	214	280			475	356	572	540	232	142	475	1,250
25	236	300			508	339	1,250	540	255	142	380	830
26	236	295		90	442	362	1,000	605	196	145	322	718
27	218	285		100	410	306	755	475	218	136	295	642
28	214	265		190	410	328	792	475	209	232	240	605
29	204	295	250	275	-------	350	910	380	185	192	214	508
30	227	295		300	-------	317	755	380	173	255	192	442
31	222	-------		240	-------	317	-------	380	-------	442	159	-------

NOTE.—Stage-discharge relation affected by ice Dec. 16 to Feb. 4; discharge based on weather records and observer's notes. Gage not read Apr. 26, July 5, and Aug. 9; discharge interpolated.

Monthly discharge of Arkansas River at Arkansas City, Kans., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	540	136	265	16,300
November	508	185	284	16,900
December	410	----------	316	19,400
January	300	----------	176	10,800
February	830	100	547	30,400
March	475	306	376	23,100
April	1,850	339	764	45,500
May	990	380	578	35,500
June	1,550	173	383	22,800
July	442	81	151	9,280
August	1,250	159	751	46,200
September	2,450	104	402	23,900
The year	2,450	----------	415	300,000

GRAPE CREEK NEAR WESTCLIFFE, COLO.

LOCATION.—In sec. 30, T. 21 S., R. 72 W., at concrete weir 1 mile above high-water line of DeWeese-Dye Reservoir, 3 miles northwest of Westcliffe, Custer County. Nearest tributary enters from west, half a mile upstream.

DRAINAGE AREA.—346 square miles (measured on Forest Service map).

RECORDS AVAILABLE.—December 1, 1924, to September 30, 1925.

GAGE.—Bristol float-type water-stage recorder on left bank 50 feet upstream from weir; inspected by George Batchelor.

DISCHARGE MEASUREMENTS.—Made by wading or from bridge some distance upstream.

CHANNEL AND CONTROL.—Bed composed of sand and gravel. Control is concrete weir; permanent. Banks subject to overflow at stage of 3 feet.

EXTREMES OF DISCHARGE.—Maximum stage during period of record, from water-stage recorder, 3.1 feet at 1 a. m. August 5 (discharge, 422 second-feet); minimum stage from water-stage recorder, 0.17 foot at 10 a. m. June 19 (discharge, 2.4 second-feet).

ICE.—Stage-discharge relation affected by ice.

REGULATION.—None.

ACCURACY.—Stage-discharge relation slightly shifting. Rating curve well defined below 200 second-feet. Operation of water-stage recorder satisfactory. Daily discharge ascertained by applying to rating table mean daily gage height obtained by inspection of recorder graph except April 1 to May 31 and August 16 to September 30, when shifting-control method was used. Records good.

COOPERATION.—Field data furnished by State engineer and Southern Colorado Power Co.

Discharge measurements of Grape Creek near Westcliffe, Colo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Mar. 13	0.73	28.7	May 5	0.32	7.0	Aug. 11	1.57	135
Do	.73	25.6	June 2	.47	15.4	Sept. 4	.55	22.1
Apr. 4	.50	16.2						

Daily discharge, in second-feet, of Grape Creek near Westcliffe, Colo., for the year ending September 30, 1925

Day	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					18	7.7	16	4.8	46	28
2					18	6.8	16	3.6	37	25
3					17	6.8	12	3.2	127	24
4					16	7.7	9.1	19	255	22
5		24			16	8.2	6.4	22	244	21
6			29		13	14	5.6	43	94	21
7					13	11	4.8	18	71	23
8					15	7.7	4.4	13	55	23
9					14	6.4	4.0	21	51	22
10					12	9.1	4.4	46	138	24
11					12	39	3.2	20	131	24
12					11	32	4.0	15	89	23
13				27	10	17	4.4	12	68	21
14					10	11	3.6	9.1	56	21
15	27				10	7.2	3.6	8.2	44	19
16					10	7.7	3.2	7.2	36	18
17					9.0	7.2	3.6	14	30	16
18					8.6	6.8	3.2	14	25	15
19					8.6	7.2	2.7	12	24	16
20					8.2	11	3.2	18	22	17
21					7.2	14	3.6	159	45	17
22					7.7	14	2.9	92	35	17
23					6.8	16	4.0	45	28	23
24					6.8	14	4.8	28	26	33
25					7.2	16	16	21	31	24
26					7.7	16	14	18	36	21
27			24		8.2	16	10	18	33	19
28					8.2	18	6.8	21	29	17
29					8.2	19	6.4	26	25	16
30					7.7	20	5.6	26	24	14
31						18		44	39	

Monthly discharge of Grape Creek near Westcliffe, Colo., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
December			27	1,660
January			26	1,600
February			26	1,440
March			26	1,600
April	18	6.8	10.8	643
May	39	6.4	13.3	818
June	16	2.7	6.38	380
July	159	3.2	26.5	1,630
August	255	22	64.3	3,950
September	28	14	20.	1,240
The period				15,000

NOTE.—Estimated mean discharge for December, January, February, and March based on five discharge measurements.

WEST BEAVER CREEK NEAR VICTOR, COLO.

LOCATION.—In sec. 30, T. 16 S., R. 68 W., at Skaguay power station of Southern Colorado Power Co., 7 miles southeast of Victor, Fremont County. Nearest tributary, East Beaver Creek, enters 2 miles downstream.

DRAINAGE AREA.—66 square miles (drainage area above outlet of reservoir).

RECORDS AVAILABLE.—January 1, 1905, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Water used through power house is brought by pipe line from reservoir 3½ miles upstream; quantity measured hourly by weir, and a quantity representing the gain or loss in the reservoir during the period is added or subtracted. To determine the natural flow of the stream the seepage through the dam is measured by weir and added to the total quantity thus obtained. This method takes no account of evaporation from the surface of the reservoir.

DIVERSIONS.—Above the power reservoir are three reservoirs from which the town of Victor obtains its municipal supply. In the upper basin are four reservoirs from which water is diverted through St. John Tunnel into Lake Moraine, and thence by natural channels to Colorado Springs, where it is used as municipal supply. During 1925, 2,770 acre-feet were diverted through St. John Tunnel. Below the power plant, adjudicated decrees for diversions of 126 second-feet from Beaver Creek, which is formed by East and West Beaver Creeks. In addition, there is an irrigation reservoir in operation which has a filing for 4,760 acre-feet.

COOPERATION.—Records are furnished through courtesy of Southern Colorado Power Co.

Monthly discharge of West Beaver Creek near Victor, Colo., for the year ending September 30, 1925

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
October	7.24	445	March	8.78	540	August	14.2	873
November	5.33	317	April	9.67	575	September	12.2	726
December	4.02	247	May	5.11	314			
January	9.83	604	June	3.51	209	The year	7.94	5,740
February	9.49	527	July	5.96	366			

BOEHMER CREEK NEAR PIKES PEAK, COLO.

LOCATION.—In NW. ¼ sec. 32, T. 14 S., R. 68 W., 3½ miles south of Pikes Peak, El Paso County, above Little Beaver and Sackett Creeks. Elevation of station, 11,000 feet.

DRAINAGE AREA.—7.2 square miles (measured on topographic map). About 75 per cent of this area is above timber line. To the natural drainage has been added that of West Beaver Creek above intake of Strickler tunnel.

RECORDS AVAILABLE.—October 1, 1909, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by sharp-crested weir, 60 inches long, with complete end contraction. A stake is driven into bed of stream in pool above weir, so that its head is level with crest of weir; depth of water over stake is measured by steel scale. Discharge is computed by Francis formula.

REGULATION.—Flow regulated by series of three reservoirs having an aggregate capacity of 1,400 acre-feet; reservoirs operated by Colorado Springs Water Department.

DIVERSIONS.—Water diverted above weir for use in Victor is measured and is added to flow over Boehmer Creek weir to show total run-off.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Boehmer Creek near Pikes Peak, Colo., for the year ending September 30, 1925

[Drainage area, 7.2 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1.35	0.73	1.06	0.147	0.17	65.2
November	.73	.73	.73	.101	.11	43.4
December	.73	.40	.63	.088	.10	38.7
January	.40	.40	.40	.056	.06	24.6
February	.40	.40	.40	.056	.06	22.2
March	.82	.40	.45	.062	.07	27.7
April	1.70	.82	.98	.136	.15	58.3
May	2.07	1.58	1.80	.250	.29	111
June	1.58	1.13	1.41	.196	.22	83.9
July	3.20	1.35	2.12	.294	.34	130
August	5.33	3.20	4.57	.635	.73	281
September	22.0	2.34	13.7	1.90	2.12	815
The year	22.0	.40	2.35	.326	4.42	1,700

LITTLE BEAVER CREEK NEAR PIKES PEAK, COLO.

LOCATION.—In NW. ¼ NW. ¼ sec. 32, T. 14 S., R. 68 W., just above mouth of creek and 3½ miles south of Pikes Peak, El Paso County. Little Beaver Creek enters Boehmer Creek from west 0.3 mile above reservoir No. 4. Elevation of station, 11,000 feet.

DRAINAGE AREA.—1.00 square mile (measured on topographic map). About 25 per cent of area above timber line; remainder sparsely timbered.

RECORDS AVAILABLE.—October 1, 1909, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by sharp-crested weir, 24 inches long, with complete end contraction. A stake is driven into bed of stream in pool above weir, so that its head is level with crest of weir; depth of water over stake is measured by steel scale. Discharge is computed by Francis formula.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Little Beaver Creek near Pikes Peak, Colo., for the year ending September 30, 1925

[Drainage area, 1.00 square mile]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	0.29	0.16	0.25	0.25	0.29	15.4
November	.16	.07	.11	.11	.12	6.5
December	.07	.03	.058	.058	.07	3.6
January	.04	.04	.04	.04	.05	2.5
February	.02	.02	.02	.02	.02	1.1
March	.02	.02	.02	.02	.02	1.2
April	.18	.04	.067	.067	.07	4.0
May	.36	.16	.26	.26	.30	16.0
June	.36	.29	.31	.31	.35	18.4
July	.45	.29	.35	.35	.40	21.5
August	.82	.45	.70	.70	.81	43.0
September	.72	.45	.61	.61	.68	36.3
The year	.82	.02	.23	.23	3.18	170

SACKETT CREEK NEAR PIKES PEAK, COLO.

LOCATION.—In SE. ¼ NW. ¼ sec. 32, T. 14 S., R. 68 W., just above mouth of creek and 4 miles southeast of Pikes Peak, El Paso County. Sackett Creek enters Boehmer Creek from north a short distance above reservoir No. 4. Elevation of station, 11,000 feet.

DRAINAGE AREA.—0.65 square mile (measured on topographic map). About 30 per cent of area above timber line; remainder sparsely timbered.

RECORDS AVAILABLE.—October 1, 1909, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by sharp-crested weir, 24 inches long, with complete end contraction. A stake is driven into bed of stream in pool above weir so that its head is level with crest of weir; depth of water over stake is measured by steel scale. Discharge is computed by Francis formula.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Sackett Creek near Pikes Peak, Colo., for the year ending September 30, 1925

[Drainage area, 0.65 square mile]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	0.16	0.02	0.047	0.072	0.08	2.9
November	.02	0	.009	.014	.02	.5
December	0	0	0	0	0	0
January	0	0	0	0	0	0
February	0	0	0	0	0	0
March	0	0	0	0	0	0
April	.16	.01	.036	.055	.06	2.1
May	.18	.05	.112	.172	.20	6.9
June	.10	.03	.060	.092	.10	3.6
July	.18	.04	.100	.154	.18	6.1
August	.45	.18	.325	.500	.58	20.0
September	.36	.18	.230	.354	.40	13.7
The year	.45	0	.077	.118	1.62	55.8

LION CREEK NEAR HALFWAY, COLO.

LOCATION.—In NE. ¼ sec. 15, T. 14 S., R. 68 W., at mouth of creek, half a mile southwest of Halfway, El Paso County. Lion Creek enters Ruxton Creek from west. Elevation of station, 9,250 feet.

DRAINAGE AREA.—2.00 square miles (measured on topographic map). Includes all area above The Crater apparently tributary to Sheep Creek. About 30 per cent of area above timber line; remainder sparsely timbered.

RECORDS AVAILABLE.—April 1, 1908, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by sharp-crested weir, 30 inches long, with complete end contraction. A stake is driven into bed of stream in pool above weir, so that its head is level with crest of weir; depth of water over stake is measured by steel scale. Discharge is computed by Francis formula.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Lion Creek near Halfway, Colo., for the year ending September 30, 1925

[Drainage area, 2.00 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1.30	0.97	1.10	0.550	0.63	67.6
November	.97	.79	.88	.440	.49	52.4
December	.79	.27	.40	.200	.23	24.6
January	.27	.20	.21	.105	.12	12.9
February	.13	.06	.079	.040	.04	4.4
March	.67	.05	.32	.160	.18	19.7
April	.61	.41	.51	.255	.28	30.3
May	1.03	.46	.59	.295	.34	36.3
June	.46	.27	.37	.185	.21	22.0
July	.61	.27	.44	.220	.25	27.1
August	1.03	.32	.72	.360	.42	44.3
September	1.52	.56	1.02	.510	.57	60.7
The year	1.52	.05	.56	.280	3.76	402

SHEEP CREEK NEAR HALFWAY, COLO.

LOCATION.—In SW. ¼ sec. 11, T. 14 S., R. 68 W., a quarter of a mile west of Halfway, El Paso County. No tributary between station and mouth, a short distance below. Sheep Creek enters Ruxton Creek from west a short distance above Halfway. Elevation of station, 9,100 feet.

DRAINAGE AREA.—0.73 square mile (measured on topographic map). Does not include any area above The Crater as this is most probably tributary to Lion Creek. Practically all below timber line, but sparsely timbered.

RECORDS AVAILABLE.—April 1, 1908, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by sharp-crested weir, 30 inches long, with complete end contraction. A stake is driven into bed of stream in pool above weir, so that its head is level with crest of weir; depth of water over stake is measured by steel scale. Discharge is computed by Francis formula.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Sheep Creek near Halfway, Colo., for the year ending September 30, 1925

[Drainage area, 0.73 square mile]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	0.36	0.20	0.23	0.315	0.36	14.1
November	.23	.20	.21	.288	.32	12.5
December	.16	.10	.13	.178	.21	8.0
January	.10	.07	.081	.111	.13	5.0
February	.08	.08	.080	.110	.11	4.4
March	.23	.05	.101	.138	.16	6.2
April	.23	.08	.13	.178	.20	7.7
May	.41	.08	.19	.260	.30	11.7
June	.13	.02	.081	.111	.12	4.8
July	.46	.03	.21	.288	.33	12.9
August	.79	.20	.51	.699	.81	31.4
September	.67	.36	.49	.671	.75	29.2
The year	.79	.02	.20	.279	3.80	148

SOUTH RUXTON CREEK AT HALFWAY, COLO.

LOCATION.—In SW. ¼ sec. 11, T. 14 S., R. 68 W., just above hydroelectric intake at Halfway, El Paso County. No tributary between station and mouth, a short distance below. South Ruxton Creek enters Ruxton Creek from south of Halfway. Elevation of station, 9,000 feet.

DRAINAGE AREA.—3.95 square miles (measured on topographic map). Practically all below timber line and heavily timbered.

RECORDS AVAILABLE.—June 1, 1906, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by two sharp-crested weirs with complete end contraction. Discharge is computed by Francis formula. Main weir is one-third mile above mouth of creek and a short distance above hydroelectric intake which has a capacity of 4.63 second-feet. The second weir is halfway between main weir and mouth of creek and measures inflow chiefly from springs below intake and a small amount of seepage. At all times except during high water capacity of intake is sufficient to take entire flow passing main weir, and flow at two weirs is combined to give total run-off of the basin. During high water excess passing intake and recorded at the lower weir does not represent increased flow between weirs and is discarded. In its place is used a constant quantity based on inflow and seepage at other times.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of South Ruxton Creek at Halfway, Colo., for the year ending September 30, 1925

[Drainage area, 3.95 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1.75	1.38	1.57	0.397	0.46	96.5
November	1.38	1.10	1.22	.309	.34	72.6
December	1.10	.91	1.02	.258	.30	62.7
January	.91	.73	.86	.218	.25	52.9
February	.85	.73	.79	.200	.21	43.9
March	.97	.79	.84	.213	.25	51.6
April	1.10	.85	.90	.228	.25	53.6
May	1.24	.85	1.00	.253	.29	61.5
June	1.03	.67	.84	.213	.24	50.0
July	1.90	.56	1.05	.266	.31	64.6
August	3.31	1.75	2.45	.620	.71	151
September	3.70	1.52	2.47	.625	.70	147
The year	3.70	.56	1.25	.316	4.31	908

CABIN CREEK NEAR HALFWAY, COLO.

LOCATION.—In SW. ¼ NW. ¼ sec. 11, T. 14 S., R. 68 W., just above hydroelectric intake, three-eighths of a mile north of Halfway, El Paso County. Cabin Creek enters Ruxton Creek half a mile below Halfway. Elevation of station, 9,000 feet.

DRAINAGE AREA.—2.4 square miles (measured on topographic map). About 15 per cent of area above timber line; remainder sparsely timbered.

RECORDS AVAILABLE.—October 1, 1906, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by two sharp-crested weirs with complete end contraction. Discharge computed by Francis formula. The main weir is about one-third of a mile above mouth of creek and just above hydroelectric intake. The second weir is 50 feet above mouth of creek and measures flow from springs and small tributaries entering below intake. Except during high water measured flow at weirs is combined to give the run-off from basin. During high water, record from lower weir is discarded and inflow estimated. (See description of South Ruxton Creek at Halfway, Colo.)

DIVERSIONS.—None.

REGULATIONS.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Cabin Creek near Halfway, Colo., for the year ending September 30, 1925

[Drainage area, 2.4 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	1.17	0.79	0.99	0.412	0.48	60.9
November	.85	.56	.72	.300	.33	42.8
December	.56	.32	.41	.171	.20	25.2
January	.32	.16	.21	.088	.10	12.9
February	.16	.08	.094	.039	.04	5.2
March	.67	.08	.21	.088	.10	12.9
April	.56	.41	.49	.204	.23	29.2
May	1.03	.46	.68	.283	.33	41.8
June	.56	.32	.39	.162	.18	23.2
July	.91	.27	.52	.217	.25	32.0
August	3.12	.56	1.72	.717	.83	106
September	2.93	1.75	2.24	.933	1.04	133
The year	3.12	.08	.73	.304	4.11	525

SUTHERLAND CREEK NEAR MANITOU, COLO.

LOCATION.—In SW. ¼ sec. 9, T. 14 S., R. 67 W., 1½ miles southeast of Manitou, El Paso County. No large tributary between station and mouth, 1 mile below. Elevation of station, 6,600 feet.

DRAINAGE AREA.—4.4 square miles (measured on topographic map). Practically all below timber line.

RECORDS AVAILABLE.—January 1, 1918, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by sharp-crested weir, 30 inches long, with complete end contraction. A stake is driven into bed of stream in pool above weir, so that its head is level with crest of weir; depth of water over stake is measured by steel scale. Discharge is computed by Francis formula.

DIVERSIONS.—None.

REGULATION.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Sutherland Creek near Manitou, Colo., for the year ending September 30, 1925

[Drainage area, 4.4 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	0.79	0.61	0.66	0.150	0.17	40.6
November	.61	.36	.53	.120	.13	31.5
December	.61	.36	.48	.109	.13	29.5
January	.46	.46	.46	.105	.12	28.3
February	.46	.36	.43	.098	.10	23.9
March	.51	.46	.47	.107	.12	28.9
April	.56	.36	.44	.100	.11	26.2
May	1.60	.36	.66	.150	.17	40.6
June	.56	.20	.38	.086	.10	22.6
July	.46	.16	.25	.057	.07	15.4
August	.67	.36	.51	.116	.13	31.4
September	.67	.46	.55	.125	.14	32.7
The year	1.60	.16	.49	.111	1.49	352

BEAR CREEK NEAR COLORADO SPRINGS, COLO.

LOCATION.—In NE. ¼ sec. 21, T. 14 S., R. 67 W., 3½ miles west of Colorado Springs, El Paso County. Nearest tributary, Hunters Run, enters a short distance above. Elevation of station, 6,615 feet.

DRAINAGE AREA.—6.9 square miles (measured on topographic map). Practically all below timber line.

RECORDS AVAILABLE.—March 1, 1918, to September 30, 1925.

DETERMINATION OF DISCHARGE.—Flow measured by sharp-crested weir, 30 inches long, with complete end contraction. A stake is driven into bed of stream in pool above weir so that its head is level with crest of weir; depth of water over stake is measured by steel scale. Discharge is computed by Francis formula.

DIVERSIONS.—None.

REGULATIONS.—None.

COOPERATION.—Monthly discharge computed from records furnished by Colorado Springs Water Department.

Monthly discharge of Bear Creek near Colorado Springs, Colo., for the year ending September 30, 1925

[Drainage area, 6.9 square miles]

Month	Discharge in second-feet				Run-off	
	Maximum	Minimum	Mean	Per square mile	Inches	Acre-feet
October	0.97	0.73	0.86	0.125	0.14	52.9
November	.97	.79	.91	.132	.15	54.1
December	.97	.56	.81	.117	.13	49.8
January	.79	.61	.69	.100	.12	42.4
February	.79	.61	.69	.100	.10	38.3
March	1.10	.67	.76	.110	.13	46.7
April	.79	.51	.60	.087	.10	35.7
May	2.38	.51	.86	.125	.14	52.9
June	1.38	.27	.47	.068	.08	28.0
July	3.80	.32	.93	.135	.16	57.2
August	3.60	.79	1.42	.206	.24	87.3
September	1.90	.85	1.19	.172	.19	70.8
The year	3.80	.27	.85	.123	1.68	616

PAWNEE RIVER NEAR LARNED, KANS.

LOCATION.—In sec. 33, T. 22 S., R. 10 W., at Moffet Dam, 11½ miles west of Larned.

DRAINAGE AREA.—2,300 square miles.

RECORDS AVAILABLE.—November 21, 1924, to September 30, 1925.

GAGE.—Au water-stage recorder on downstream side of right abutment of Moffet Dam.

DISCHARGE MEASUREMENTS.—Made from highway bridge 200 feet below gage or by wading.

CHANNEL AND CONTROL.—Channel straight for 200 feet above and below gage. banks high. A low-water control has been constructed 150 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage from water-stage recorder, 17.94 feet at 1 a. m. April 14 (discharge, 2,140 second-feet); minimum discharge, 1 second-foot August 25–28.

DIVERSIONS.—Small amounts pumped from river for irrigating adjacent lands;

REGULATION.—Moffet Dam used for impounding water within river banks.

ACCURACY.—Stage-discharge relation fairly permanent. Rating curve fairly well defined below 900 second-feet. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

Discharge measurements of Pawnee River near Larned, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Dec. 3	2.44	3.4	June 18	2.99	39.8	Aug. 12	4.88	253
Mar. 2	2.60	7.9	July 10	2.39	2.7	Aug. 19	2.59	9.2
Apr. 28	2.70	13.7	July 28	5.60	324			
June 15	4.12	163	Aug. 11	4.18	198			

Daily discharge, in second-feet, of Pawnee River near Larned, Kans., for the year ending September 30, 1925

Day	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1					10	8	44		7	53	59
2					9	12	31		8	112	45
3		4	4		9	1,090	26		5	96	27
4			6		10	1,790	25		4	71	17
5			7		10	521	22		4	59	9
6			20		9	91	17		4	52	9
7			20		9	53	14	15	3	41	7
8			21		9	43	15		3	38	4
9			17		10	36	14		2	52	5
10			15		9	32	13		3	51	8
11			12		8	43	14		2	111	8
12					8	36	14		2	217	8
13					9	29	13	20	3	67	34
14					7	29	13	50	3	57	22
15					8	28	56	104	2	58	13
16					9	25	169	64	34	41	9
17					9	23	582	49	19	29	9
18					9	22	878	39	8	20	9
19					9	20	284	33	5	9	9
20					9	19	57	36	9	7	7
21	6				9	18	47	22	42	7	6
22	5				9	16	41	17	20	5	5
23	5				9	15	33	13	9	4	5
24	5			10	9	15		10	7	3	5
25	4			10	8	12		8	32	1	33
26	4			10	7	12		8	32	1	34
27	4			10	5	14	20	9	352	1	22
28	4			11	9	20		9	512	1	15
29	2		20		11	312		7	254	4	8
30	3				9	104		7	105	6	5
31					9				68	10	

Monthly discharge of Pawnee River near Larned, Kans., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
March	11	5	8.81	542
April	1,790	8	150	8,930
May	878	13	83.3	5,120
June	104	7	22.8	1,360
July	512	2	50.4	3,100
August	217	1	4.14	2,550
September	59	4	15.2	905
The period				22,500

LITTLE ARKANSAS RIVER AT VALLEY CENTER, KANS.

LOCATION.—In SW. ¼ sec. 1, T. 26 S., R. 1 W., at highway bridge half a mile west of Goodrich station on Arkansas Valley Interurban Railroad, 1 mile south of Valley Center, Sedgwick County, and 14 miles above mouth.

DRAINAGE AREA.—1,340 square miles (measured on topographic map).

RECORDS AVAILABLE.—June 10, 1922, to September 30, 1925.

GAGE.—Chain gage on upstream handrail of bridge; read by Clarence H. Corr.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of silt and gravel; shifting. Lodged snags and driftwood are frequent. Control is sand and gravel bar under bridge; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 3.60 feet at 6.15 a. m. May 24 (discharge, 331 second-feet); minimum stage, 0.72 foot September 1–10 (discharge, 17 second-feet).

1922–1925: Maximum stage recorded, 18.02 feet June 10, 1923 (discharge, 10,500 second-feet); minimum discharge, 4 second-feet December 17, 1922.

ICE.—Stage-discharge relation occasionally affected by ice.

ACCURACY.—Stage-discharge relation permanent. Rating curve fairly well defined. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Discharge measurements of Little Arkansas River at Valley Center, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 10	1.19	33.6	June 2	1.32	53.3	Sept. 30	0.84	23.4
Mar. 23	1.22	33.7	Aug. 12	.77	17.4			

Daily discharge, in second-feet, of Little Arkansas River at Valley Center, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	30	33	38		30	44	38	50	33	26	20	17
2	30	33	41		30	44	41	47	30	24	19	17
3	30	33	41		47	44	44	44	33	23	18	17
4	28	33	41		47	44	44	44	113	22	19	17
5	28	33	47		50	44	175	38	54	22	19	17
6	28	33	47	25	54	47	88	36	38	22	18	17
7	33	33	44		54	47	61	36	30	21	18	17
8	38	36	41		54	47	54	36	28	22	21	17
9	41	36	41		54	47	50	44	26	23	20	17
10	36	36	41		54	44	47	108	25	22	19	17
11	36	36	41		54	44	47	70	24	22	19	21
12	36	36	41		50	41	44	54	47	23	19	21
13	36	38	41		47	44	44	47	103	22	27	30
14	33	41	41		47	44	44	44	83	22	21	22
15	33	38	41		47	41	44	44	61	22	19	21
16	33	38	41		47	41	41	41	47	22	19	20
17	33	38	40		47	41	54	88	38	21	19	18
18	33	38	41		47	41	74	74	33	21	19	18
19	33	38			47	41	70	57	26	21	19	17
20	33	38			47	41	61	47	25	20	19	17
21	33	38	35	20	47	41	50	44	23	22	19	22
22	33	38			47	38	44	41	25	21	19	16
23	33	41			47	41	41	36	27	20	18	28
24	33	38			47	38	41	331	33	20	18	30
25	33	36			47	38	103	61	26	21	18	33
26	33	38			47	38	65	50	36	22	18	24
27	33	38			44	38	61	41	98	25	18	33
28	33	38	30		44	36	98	38	54	22	18	24
29	33	38			-------	36	78	36	36	22	17	22
30	33	38			-------	36	57	36	28	22	18	22
31	33	-------			-------	38	-------	36	-------	21	17	-------

NOTE.—Stage-discharge relation affected by ice Dec. 19 to Feb. 2. Braced figures show estimated mean daily discharge for periods indicated.

Monthly discharge of Little Arkansas River at Valley Center, Kans., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	41	28	32.9	2,020
November	41	33	36.6	2,180
December	47	----------	37.9	2,330
January	----------	----------	21.6	1,330
February	54	30	47.3	2,630
March	47	36	41.6	2,560
April	175	38	60.1	3,580
May	331	36	58.0	3,450
June	113	23	428	2,630
July	26	20	22.0	1,350
August	27	17	19.0	1,170
September	33	17	21.3	1,270
The year	331	----------	36.6	26,500

WALNUT RIVER AT WINFIELD, KANS.

LOCATION.—In NE. ¼ sec. 33, T. 32 S., R. 4 E., at concrete highway bridge 1 mile south of Winfield, Cowley County, 1 mile above Black Creek, and 3 miles below Timber Creek.

DRAINAGE AREA.—1,860 square miles.

RECORDS AVAILABLE.—November 14, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream handrail of bridge; read by William Mason.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of silt, sand, and rock; shifting. Control is gravel bar 500 feet below gage; shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.20 feet at 7 a. m. May 10 (discharge, 4,360 second-feet); minimum discharge, 0.5 second-foot September 5–11, 13, 20, and 21.

1921–1925: Maximum stage recorded, 38.7 feet on June 10, 1923 (discharge, about 76,000 second-feet; revised); minimum discharge, that of September, 1925.

ICE.—Stage-discharge relation not affected by ice.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Three rating curves used; all fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table, using shifting-control method, October 1 to May 9. Records fair.

Discharge measurements of Walnut River near Winfield, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 11	4.04	45.4	Mar. 24	4.22	83.6	Aug. 12	2.79	1.3
Dec. 15	4.46	97.2	June 3	4.04	86			

Daily discharge, in second-feet, of Walnut River at Winfield, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	41	40	40	70	160	56	70	150	83	34	10	1
2	35	28	83	37	120	74	97	116	106	36	10	1
3	38	26	83	63	160	57	116	128	75	32	13	1
4	35	25	55	44	160	77	288	116	99	27	12	1
5	45	28	67	74	150	54	262	116	450	25	12	.5
6	33	24	71	64	118	60	230	97	195	23	10	.5
7	355	20	42	76	112	48	150	89	130	23	10	.5
8	375	20	39	81	118	49	150	89	99	23	20	.5
9	480	10	50	90	150	104	1,520	298	80	23	5	.5
10	615	24	54	81	122	108	355	4,060	80	20	27	.5
11	415	46	35	76	108	69	548	1,140	68	25	27	.5
12	200	9	73	66	114	76	160	410	82	22	2	1
13	160	134	66	92	108	69	150	270	625	27	1	.5
14	108	298	49	87	114	74	160	208	1,080	23	1	13
15	86	245	59	98	80	110	116	190	920	32	2	19
16	86	215	62	150	108	84	106	170	220	34	130	2
17	80	172	70	185	89	63	262	150	130	32	2	2
18	67	150	59	140	69	56	315	130	99	27	32	1
19	32	132	67	132	69	95	172	121	85	25	38	1
20	42	102	42	126	83	78	150	112	76	23	17	.5
21	44	114	48	120	86	78	112	121	76	30	6	.5
22	44	95	50	126	69	57	90	110	68	23	4	535
23	42	95	81	120	100	64	81	95	36	22	2	1,200
24	37	95	81	705	100	55	81	99	44	22	2	193
25	42	66	33	1,480	70	48	795	121	44	22	2	183
26	20	77	51	1,420	59	56	122	130	40	16	1	93
27	60	120	46	570	70	42	480	109	38	22	2	77
28	54	62	46	395	73	51	315	93	36	50	2	70
29	51	118	33	315	-------	37	375	102	38	15	1	49
30	40	40	38	245	-------	44	262	93	32	14	1	48
31	42	-------	63	215	-------	56	-------	90	-------	12	2	-------

Monthly discharge of Walnut River at Winfield, Kans., for the year ending September 30, 1925

[Drainage area, 1,860 square miles]

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	615	20	123	7,560
November	298	9	87.7	5,220
December	83	33	56.0	3,440
January	1,480	37	243	14,900
February	160	59	105	5,830
March	116	37	66.0	4,060
April	1,520	70	269	16,000
May	4,060	89	301	18,500
June	1,080	32	174	10,400
July	50	12	25.3	1,560
August	130	1	13.1	806
September	1,200	.5	83.2	4,950
The year	4,060	.5	129	93,200

VERDIGRIS RIVER AT INDEPENDENCE, KANS.

LOCATION.—In NE. ¼ sec. 31, T. 32 S., R. 16 E., at highway bridge 1 mile east of Independence, Montgomery County, 2½ miles below Elk River and 4½ miles above Drum Creek.

DRAINAGE AREA.—2,800 square miles.

RECORDS AVAILABLE.—November 14, 1921, to September 30, 1925. Intermittent records of stage were obtained April 24 to September 24, 1904.

GAGE.—Chain gage on upstream side of bridge; read by Ben Wainscott.

DISCHARGE MEASUREMENTS.—Made from upstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of silt and rock; permanent. Control is rock riffle 30 feet below gage; permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 22.58 feet at 10 a. m. November 15 (discharge, 13,500 second-feet); minimum stage, 0.90 foot at 2.30 p. m. September 11 (discharge, 2 second-feet).

1921–1925: Maximum stage recorded, 44.11 feet June 12, 1923 (discharge, about 73,900 second-feet; revised); minimum stage, that of September 11, 1925.

Maximum stage recorded in 1904 and referred to present datum was 46.7 feet on July 8.

ICE.—Stage-discharge relation not affected by ice.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined throughout. Gage read to hundredths once daily. Daily discharge ascertained by applying daily gage height to rating table. Records fair.

Discharge measurements of Verdigris River at Independence, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 11	2.58	246	June 4	2.20	155	Aug. 13	1.42	33.2
Mar. 25	2.78	319						

Daily discharge, in second-feet, of Verdigris River at Independence, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	510	108	288	162	1,470	300	175	1,240	200	40	27	44
2	330	94	288	162	1,280	275	315	1,110	188	40	48	42
3	275	90	288	150	1,570	275	1,240	635	175	36	41	40
4	225	90	570	162	1,110	275	3,040	570	150	42	19	38
5	600	94	1,890	175	950	262	3,160	480	2,220	28	12	32
6	390	87	990	188	990	250	1,570	420	740	17	24	30
7	1,520	238	635	450	1,070	250	845	360	330	24	14	28
8	1,570	950	570	670	1,110	250	880	360	262	10	23	27
9	3,220	570	480	810	1,110	238	3,100	360	420	21	15	19
10	6,010	390	360	990	990	225	11,500	390	175	75	20	18
11	3,700	260	330	845	880	212	2,880	1,330	114	42	390	2
12	2,760	200	330	480	775	200	1,520	845	130	122	74	11
13	740	420	330	225	670	315	1,110	635	275	102	43	12
14	525	12,600	300	225	600	250	1,240	480	670	87	15	34
15	420	13,500	288	360	540	200	1,420	390	810	54	11	28
16	360	4,050	288	2,760	540	200	1,420	5,450	450	238	12	25
17	300	1,890	288	2,100	510	188	2,820	4,820	300	140	98	16
18	275	1,200	275	810	480	188	1,720	880	238	122	66	11
19	250	880	250	670	450	400	990	635	200	69	18	15
20	225	740	225	570	420	600	775	540	150	60	63	22
21	212	635	200	1,520	390	740	635	450	140	84	60	18
22	188	600	200	2,490	450	540	540	360	114	63	81	5,800
23	162	540	188	3,160	480	420	510	360	98	48	81	6,150
24	150	450	175	4,400	480	300	800	3,910	90	34	102	2,540
25	140	420	150	5,100	480	275	1,000	1,420	60	40	98	670
26	140	390	162	6,580	420	262	2,000	480	58	20	98	480
27	130	360	150	3,910	360	238	3,580	510	56	38	84	300
28	140	330	122	2,220	330	225	1,620	360	48	32	81	225
29	140	345	130	1,280	------	188	1,240	288	52	28	69	200
30	122	300	140	950	------	188	1,070	225	32	46	63	140
31	110	------	150	1,030	------	188	------	175	------	38	58	------

NOTE.—No gage-height record Mar. 18, 19, Apr. 16, and 24–26; discharge estimated.

Monthly discharge of Verdigris River at Independence, Kans., for the year ending September 30, 1925

[Drainage area, 2,800 square miles]

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	6,010	110	834	51,300
November	13,500	87	1,430	85,100
December	1,890	122	356	21,900
January	6,580	150	1,470	90,400
February	1,570	330	747	41,500
March	740	188	288	17,700
April	11,500	175	1,820	108,000
May	5,450	175	983	60,400
June	2,220	32	298	17,700
July	238	10	59.4	3,650
August	390	11	61.5	3,780
September	6,150	2	567	33,700
The year	13,500	2	700	535,000

NEOSHO RIVER NEAR IOLA, KANS.

LOCATION.—In NE. ¼ sec. 9, T. 25 S., R. 18 E., 2½ miles south and 1½ miles west of Iola, Allen County, 1 mile below Elm Creek, and 8 miles above Owl Creek.

DRAINAGE AREA.—3,800 square miles.

RECORDS AVAILABLE.—October 12, 1917, to September 30, 1925. August 1, 1895, to November 30, 1903, at city water and power dam 4 miles upstream.

GAGE.—Stevens water-stage recorder on left bank three-fourths mile above Pipe Line ford; inspected by D. B. Bremer.

DISCHARGE MEASUREMENTS.—Made from cable at gage or by wading.

CHANNEL AND CONTROL.—Bed composed of shale, gravel, and silt; permanent. Control is a long shale riffle half a mile below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage during year from water-stage recorder, 14.4 feet at 7.15 a. m. June 5 (discharge, 11,600 second-feet); minimum stage, 2.62 feet September 3 and 4 (discharge, 7 second-feet).

1917–1925: Maximum stage recorded, 27.33 feet June 15, 1923 (discharge, 31,400 second-feet); minimum stage recorded, 1.9 feet June 23, 1920 (discharge, 1 second-foot).

1895–1903: Maximum stage recorded, 22.0 feet on June 3, 1903 (discharge, 39,100 second-feet); no flow on several days in September and October, 1897.

ICE.—Stage-discharge relation seldom affected by ice.

REGULATION.—Low-water flow regulated by dams upstream.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice. Two rating curves used during year; well defined throughout. Operation of water-stage recorder satisfactory except July 30 to August 13, September 9 and 19. Mean daily gage heights determined from recorder graph by inspection. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for estimated periods, for which they are fair.

Discharge measurements of Neosho River near Iola, Kans., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 14	7.42	2,880	Mar. 27	3.26	178
Jan. 13	3.14	98	June 6	11.32	7,250

Daily discharge, in second-feet, of Neosho River near Iola, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	448	11	82	118	885	188	167	470	300	120	50	13
2	282	9	84	112	850	185	920	416	1,400	118	48	9
3	209	11	84	110	728	191	4,720	364	2,050	115	46	7
4	173	18	90	108	590	176	6,640	340	10,300	115	44	7
5	143	28	179	100	530	154	3,320	300	11,300	115	42	9
6	132	36	248	112	540	159	2,860	293	7,030	95	40	10
7	600	110	206	108	550	167	1,470	279	1,510	88	38	13
8	1,700	90	179	105	555	162	2,230	290	765	86	36	13
9	1,540	84	161	95	612	148	6,250	1,050	495	132	34	13
10	2,410	80	135	88	634	167	1,870	1,470	376	164	32	30
11	888	80	120	102	545	164	888	636	390	155	30	27
12	452	68	115	84	440	162	675	466	282	164	28	30
13	354	372	120	88	397	151	565	462	520	132	26	27
14	258	2,320	118	88	370	143	520	340	3,220	115	24	27
15	215	1,050	105	88	334	154	470	293	3,420	394	40	22
16	188	490	110	92	293	148	448	265	1,320	625	40	27
17	164	402	125	95	289	143	1,120	248	765	610	30	30
18	149	360	128	88	241	194	1,020	237	735	448	22	27
19	140	234	122	86	237	955	570	218	2,050	276	22	24
20	120	197	118	68	237	550	416	203	948	188	22	22
21	108	164	120	92	230	365	340	208	272	161	20	86
22	92	146	105	308	227	282	300	191	224	138	20	2,100
23	84	149	100	443	237	234	293	176	221	122	21	1,050
24	68	146	100	2,180	241	227	4,720	176	206	102	21	265
25	64	128	105	3,220	227	210	3,320	900	188	78	16	140
26	62	118	102	2,200	223	170	1,580	1,120	173	74	15	176
27	58	108	102	1,640	204	167	1,400	510	164	72	15	282
28	48	110	102	1,060	194	170	985	282	158	68	15	215
29	26	102	108	990	------	132	795	221	140	58	15	200
30	20	86	100	955	------	129	570	200	125	55	15	293
31	18	------	105	815	------	156	------	416	------	52	15	------

NOTE.—No gage heights July 30 to Aug. 13, Sept. 9, and 19; discharge based on flow of Neosho River near Parsons, Kans.

Monthly discharge of Neosho River near Iola, Kans., for the year ending September 30, 1925

[Drainage area, 3,800 square miles]

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,410	18	362	22,300
November	2,320	9	242	14,400
December	248	82	122	7,500
January	3,220	68	511	31,400
February	885	194	416	23,100
March	955	129	216	13,300
April	6,640	167	1,710	102,000
May	1,470	176	419	25,800
June	11,300	125	1,680	100,000
July	625	52	169	10,400
August	50	15	28.5	1,750
September	2,100	7	173	10,300
The year	11,300	7	500	362,000

NEOSHO RIVER NEAR PARSONS, KANS.

LOCATION.—In NW. ¼ sec. 22, T. 31 S., R. 21 E., at bridge on Parsons-Pittsburg highway, 500 feet above St. Louis-San Francisco Railroad bridge, 800 feet below Hickory Creek, 10 miles east of Parsons, Labette County, and 18 miles above Lightning Creek.

DRAINAGE AREA.—4,860 square miles.

RECORDS AVAILABLE.—October 18, 1921, to September 30, 1925.

GAGE.—Chain gage on upstream handrail of bridge; read by C. O. Stewart.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of flat solid rock; permanent. No well-defined control. Bank-full stage, 24 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.60 feet at 6.30 a. m. April 10 (discharge, 11,400 second-feet); minimum stage, 1.16 feet September 5–10 (discharge, 22 second-feet).

1921–1925: Maximum stage recorded, 24.9 feet April 13 and 14, 1922 (discharge, 28,400 second-feet); minimum stage, 1.12 feet December 3, 1921 (discharge, 18 second-feet).

ICE.—Stage-discharge relation not seriously affected by ice.

REGULATION.—Flow apparently not affected by operation of power plants upstream.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined throughout. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

March 27, 1925: Gage height, 2.44 feet; discharge, 306 second-feet.

June 5, 1925: Gage height, 12.23 feet; discharge, 8,700 second-feet.

August 13, 1925: Gage height, 1.70 feet; discharge, 107 second-feet.

Daily discharge, in second-feet, of Neosho River near Parsons, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	735	113	216		2,160	260	216	905	276	202	140	26
2	580	100	216		1,890	260	245	795	447	189	102	26
3	560	79	202		1,320	260	2,860	630	1,760	176	102	24
4	387	81	276		1,260	230	9,760	535	2,230	176	92	24
5	348	79	1,080	150	1,080	216	9,400	490	8,560	189	88	22
6	311	70	905		960	230	4,720	468	11,000	147	81	22
7	535	66	685		490	216	3,500	447	8,680	130	68	22
8	2,940	164	535		1,200	202	2,230	427	2,540	128	57	22
9	2,620	387	468		2,780	216	6,780	427	1,200	130	48	22
10	3,100	276	329	145	1,630	216	10,900	535	740	130	81	22
11	4,360	216	276	140	1,200	202	4,900	2,020	580	133	58	26
12	2,020	189	260	140	960	189	1,820	1,080	468	150	94	36
13	960	216	245	150	795	447	1,440	740	427	387	142	39
14	580	4,090	260	165	685	387	1,080	580	427	245	73	38
15	512	10,100	245	176	580	245	1,020	490	2,700	230	77	31
16	407	4,720	260	1,140	512	216	1,890	1,890	3,820	216	75	28
17	348	1,820	260	1,320	468	202	1,380	1,020	1,960	580	68	27
18	311	1,080	245	740	447	960	1,200	580	1,200	795	65	26
19	276	795	216	367	407	2,460	1,440	387	1,140	630	65	26
20	245	630	202	276	387	1,440	1,080	387	1,380	447	60	26
21	216	512		245	387	1,080	795	427	630	329	62	48
22	202	427		2,300	490	685	630	367	490	260	58	2,860
23	202	387	180	3,740	447	512	512	329	367	216	46	5,500
24	189	329		5,700	407	387	490	311	535	189	39	3,260
25	176	293		7,600	407	348	4,180	535	407	176	32	1,080
26	176	276		7,000	407	329	6,560	630	293	142	25	427
27	164	276		4,270	329	311	2,460	1,560	260	126	22	293
28	293	260		1,890	293	311	1,960	905	230	106	26	230
29	164	230	160	1,380	-------	293	1,500	512	216	102	25	293
30	63	216		1,380	-------	276	1,200	367	216	119	26	293
31	94	-------		1,630	-------	230	-------	276	-------	152	26	------

NOTE.—Stage-discharge relation affected by ice Dec. 21 to Jan. 14; discharge based on weather records and observer's notes.

Monthly discharge of Neosho River near Parsons, Kans., for the year ending September 30, 1925

[Drainage area, 4,860 square miles]

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	4,360	63	780	48,000
November	10,100	66	949	56,500
December	1,080	----------	298	18,300
January	7,600	----------	1,390	85,500
February	2,780	293	871	48,400
March	2,460	189	446	27,400
April	10,900	216	2,940	175,000
May	2,020	276	679	41,800
June	11,000	216	1,840	110,000
July	795	102	236	14,500
August	142	22	65.3	4,020
September	5,500	22	494	29,400
The year	11,000	22	909	659,000

NEOSHO RIVER NEAR GROVE, OKLA.

LOCATION.—In SE. ¼ sec. 27, T. 25 N., R. 23 E., at highway toll bridge 3 miles below Spring Branch and 3½ miles northwest of Grove, Delaware County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—February 21 to September 30, 1925.

GAGE.—Chain gage attached to guardrail of upstream side of bridge; read by W. M. Freeman.

DISCHARGE MEASUREMENTS.—Made from downstream side of highway bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of coarse gravel and boulders; banks lined with heavy growth of timber and underbrush. Bank-full stage, 24 feet. Control is rock riffle half a mile below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of record, 9.30 feet at 6 p. m. April 10 (discharge, 17,300 second-feet); minimum discharge, about 250 second-feet, occurred during first week in September (no gage-height record.)

Highest stage, 33.0 feet (discharge about 130,000 second-feet).

ICE.—Stage-discharge relation seldom affected by ice.

REGULATION.—Low-water flow is partly regulated by operation of hydroelectric plant on Spring River at Baxter Springs, Kans.

ACCURACY.—Stage-discharge relation permanent; not affected by ice. Rating curve well defined above 500 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

February 21, 1925: Gage height, 2.60 feet; discharge, 2,760 second-feet.

March 26, 1925: Gage height, 2.25 feet; discharge, 2,360 second-feet.

August 24, 1925: Gage height, 0.53 foot; discharge, 578 second-feet.

Daily discharge, in second-feet, of Neosho River near Grove, Okla., for the year ending September 30, 1925

Day	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	------	2,890	1,500	4,880	1,500	1,050	1,100	
2	------	1,820	1,600	4,000	1,100	910	910	
3	------	2,160	1,710	3,700	3,850	865	775	
4	------	2,280	3,850	2,890	1,930	865	1,000	
5	------	2,520	14,000	2,890	3,020	775	1,000	290
6	------	2,160	14,300	2,520	7,280	730	910	
7	------	1,350	8,340	2,280	10,900	775	820	
8	------	1,600	5,640	2,160	10,700	1,100	910	
9	------	1,820	9,000	1,930	4,880	1,000	865	
10	------	1,600	16,700	2,520	2,640	865	910	295
11	------	1,710	15,600	2,040	1,820	640	910	309
12	------	1,600	9,700	3,280	1,600	730	685	295
13	------	1,600	4,880	3,020	1,350	600	955	288
14	------	4,160	4,690	2,400	1,500	600	1,820	309
15	------	7,280	3,150	2,520	2,160	910	2,040	400
16	------	4,880	3,560	2,400	1,820	820	1,710	560
17	------	2,760	5,840	2,760	5,070	865	1,000	316
18	------	2,040	6,040	4,000	3,560	685	1,100	330
19	------	9,000	4,510	3,280	4,000	600	1,050	330
20	------	14,800	4,330	1,930	9,000	1,000	910	365
21	2,760	8,340	3,150	1,600	6,860	1,300	730	330
22	2,760	4,330	2,760	1,500	3,020	1,200	560	242
23	4,000	2,890	2,400	1,350	2,400	2,160	600	9,000
24	4,510	2,280	2,280	1,350	1,930	2,040	600	15,300
25	4,000	2,400	3,560	1,930	5,450	1,400	440	11,100
26	3,560	2,280	9,460	1,930	4,330	1,200	365	5,260
27	3,020	1,820	12,300	1,710	2,760	1,300	365	2,520
28	2,640	2,040	11,900	1,930	2,040	1,300	400	1,500
29	------	1,710	8,120	2,280	1,200	1,710	365	1,500
30	------	1,510	6,440	1,600	1,250	1,820	330	1,250
31	------	1,600	------	1,400	------	2,520	288	------

NOTE.—Braced figure shows estimated mean daily discharge for period indicated, based on a comparison of flow at Wagoner, Okla.

Monthly discharge of Neosho River near Grove, Okla., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
February 21–28	4,510	2,640	3,410	54,100
March	14,800	1,510	3,270	201,000
April	16,700	1,500	6,710	399,000
May	4,880	1,350	2,450	151,000
June	10,900	1,100	3,700	220,000
July	2,520	600	1,110	68,200
August	2,040	288	850	52,300
September	15,300		1,810	108,000
The period				1,250,000

NEOSHO RIVER NEAR WAGONER, OKLA.

LOCATION.—Between lots 1 and 2 on section line on north side of sec. 33, T. 17 N., R. 19 E., at highway bridge 4½ miles above Double Springs Creek, 3 miles south and 5 miles east of Wagoner, Wagoner County, and 14 miles above mouth.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 26, 1924, to December 19, 1925, when station was discontinued.

GAGE.—Chain gage on upstream handrail of bridge; read by B. Spencer.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge.

CHANNEL AND CONTROL.—Bed composed of silt, sand, and heavy gravel. Control is long, low riffle half a mile below gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during October 1, 1924, to December 19, 1925, 12.44 feet at 7.45 a. m. November 10, 1925 (discharge, 27,700 second-feet); minimum stage, 0.04 foot at 7 a. m. September 9 and 10 (discharge, 360 second-feet).

1924–25: Maximum stage recorded, 21.27 feet at 6 p. m. May 31, 1924 (discharge estimated, 55,400 second-feet); minimum discharge, that of September, 1925.

REGULATION.—Low-water flow is partly regulated by operation of hydroelectric plant on Spring River at Baxter Springs, Kans.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 500 and 35,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

October 27, 1924: Gage height, 1.32 feet; discharge, 960 second-feet.

February 4, 1925: Gage height, 5.74 feet; discharge, 7,950 second-feet.

August 25, 1925: Gage height, 0.65 foot; discharge, 532 second-feet.

Daily discharge, in second-feet, of Neosho River near Wagoner, Okla., for the period October 1, 1924, to December 19, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1	4,010	920	1,370	------	4,890	3,390	1,700	9,800	1,700	1,260	1,940	465
2	3,090	880	1,150	------	4,890	3,390	1,820	7,620	1,370	920	2,060	420
3	2,690	960	1,150	------	9,060	2,950	1,940	6,090	1,480	960	1,370	405
4	2,560	880	------	------	8,580	2,300	1,700	5,280	1,050	800	920	405
5	2,690	730	------	------	6,510	2,820	2,180	4,520	2,950	800	880	370
6	2,060	730	------	------	5,080	2,690	12,600	3,690	2,180	800	880	370
7	4,180	840	------	------	4,520	2,820	15,100	3,690	2,690	800	1,000	390
8	3,540	840	------	------	4,350	2,690	10,600	3,240	10,300	765	920	390
9	3,240	880	------	------	4,700	2,560	6,510	3,090	11,100	730	765	360
10	2,690	840	------	------	9,800	2,180	8,100	2,820	6,950	880	960	360
11	3,690	800	------	5,080	17,400	2,180	17,100	4,520	3,540	920	960	420
12	4,350	730	------	4,700	11,600	2,060	16,800	3,690	2,430	800	960	405
13	5,280	730	------	3,850	8,100	2,180	12,600	2,560	1,940	730	960	420
14	4,890	1,000	------	3,540	6,510	3,850	6,950	3,540	1,820	635	920	560
15	3,390	1,590	------	3,090	5,080	4,010	5,080	3,240	1,370	730	765	560
16	2,430	2,430	------	3,240	4,890	7,620	4,350	2,820	1,820	610	1,590	480
17	2,180	17,400	------	6,300	4,350	6,090	3,390	2,690	2,300	610	1,940	420
18	1,940	13,200	------	14,600	3,690	4,010	3,540	2,690	2,820	765	1,590	405
19	1,820	6,950	------	10,800	3,690	2,950	6,950	3,350	4,180	730	1,050	500
20	1,700	3,850	------	8,100	3,390	3,240	5,080	3,690	2,950	730	1,150	465
21	1,700	2,820	------	6,730	3,090	16,500	4,180	2,690	8,340	585	960	435
22	1,260	2,690	------	5,280	4,010	9,800	3,690	2,180	8,100	880	920	450
23	1,050	2,300	------	4,700	4,010	6,510	2,950	1,940	4,890	1,050	660	450
24	1,320	2,180	------	7,170	4,350	3,850	2,820	2,060	2,690	1,200	660	465
25	1,100	1,940	------	11,800	5,680	3,240	8,820	1,700	2,300	4,350	560	16,500
26	1,100	1,820	------	15,700	5,480	2,690	4,010	1,700	2,060	2,060	610	12,900
27	960	1,480	------	17,400	4,180	2,560	17,100	2,180	5,680	1,480	560	6,950
28	840	1,590	------	16,000	3,850	2,430	24,100	2,180	3,690	1,050	500	3,690
29	730	1,590	------	11,600	------	2,300	18,000	1,940	2,300	1,700	465	2,180
30	800	1,370	------	7,860	------	2,180	13,700	2,180	2,060	1,370	435	1,480
31	920	------	------	4,890	------	1,940	------	2,300	------	1,820	465	------

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1925				1925				1925			
1	2,690	1,590	1,200	11	1,820	24,400	1,480	21	1,700	2,560	------
2	1,590	1,200	1,050	12	1,480	18,600	1,050	22	1,370	2,180	------
3	1,320	960	1,050	13	1,320	7,620	1,260	23	1,480	1,940	------
4	7,390	800	1,150	14	1,000	4,180	1,590	24	1,480	1,700	------
5	5,680	800	1,050	15	1,590	3,540	1,480	25	1,480	1,480	------
6	3,540	840	1,100	16	1,370	3,540	1,820	26	1,370	1,370	------
7	2,690	4,010	1,480	17	1,320	2,950	1,590	27	1,940	1,370	------
8	6,300	1,700	1,370	18	1,260	2,690	1,000	28	1,100	1,370	------
9	3,460	2,560	920	19	1,320	3,690	1,000	29	960	1,260	------
10	2,560	27,700	840	20	1,940	2,820	------	30	1,000	1,260	------
								31	920	------	------

Monthly discharge of Neosho River near Wagoner, Okla., for the period October 1, 1924, to December 19, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1924-25				
October	5,280	730	2,390	147,000
November	17,400	730	2,570	153,000
January 11-31	17,400	3,090	8,210	342,000
February	17,400	3,090	5,920	329,000
March	16,500	1,940	3,870	238,000
April	24,100	1,700	8,120	483,000
May	9,800	1,700	3,430	211,000
June	11,100	1,050	3,640	217,000
July	4,350	585	1,080	66,400
August	2,060	435	980	60,300
September	16,500	360	1,800	107,000
1925				
October	7,390	920	2,140	132,000
November	27,700	800	4,420	263,000
December 1-19	1,820	840	1,240	46,700

COTTONWOOD RIVER AT ELMDALE, KANS.

LOCATION.—In NW. ¼ sec. 26, T. 19 S., R. 7 E., at highway bridge one-fourth mile above Middle Creek, 1 mile east of Elmdale, Chase County, and 2 miles above Diamond Creek.

DRAINAGE AREA.—1,040 square miles (measured on topographic map).

RECORDS AVAILABLE.—May 9, 1922, to September 30, 1925.

GAGE.—Chain gage on upstream handrail of bridge; read by Miss Rowena Starkey.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of clean coarse sand, gravel, and rock; practically permanent. Control is gravel and rock riffle extending from 200 feet above to 100 feet below gage. Dam at Cottonwood Falls may affect stage-discharge relation at medium and high stages. Bank-full stage, 32 feet.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 17.9 feet at 6 p. m. June 3 (discharge, 4,940 second-feet); minimum discharge of about 3 second-feet occurred during winter.

1922–1925: Maximum stage recorded, 35.5 feet at 4 p. m. June 11, 1923 (discharge, 14,800 second-feet; revised); minimum discharge occurred during winter, 1925.

REGULATION.—None.

ICE.—Stage-discharge relation affected by ice during extremely cold weather.

ACCURACY.—Stage-discharge relation permanent, except as affected by ice. Rating curve well defined below 200 second-feet and fairly well defined from 200 to 3,000 second-feet. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good for low stages and fair for medium and high stages.

The following discharge measurements were made:

November 10, 1924: Gage height, 3.51 feet; discharge, 30.2 second-feet.

March 23, 1925: Gage height, 3.58 feet; discharge, 36.2 second-feet.

June 2, 1925: Gage height, 10.48 feet[4]; discharge, 505 second-feet.

Daily discharge, in second-feet, of Cottonwood River at Elmdale, Kans., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	28	20	20		82	47	47	77	25	34	38	7
2	28	20	20		43	47	40	62	505	34	30	7
3	26	20	20		47	47	41	47	4,240	30	26	7
4	24	20	20		51	47	40	47	1,140	28	24	7
5	24	20	20		47	47	40	47	164	34	20	7
6	28	20	20		47	47	40	47	63	24	22	8
7	43	20	20		47	47	40	47	24	28	22	7
8	92	20	20		47	63	182	63	34	24	16	7
9	97	20	20		48	118	434	105	24	24	12	10
10	76	18	20		47	105	521	63	22	24	38	463
11	72	16	20		47	88	373	51	20	24	29	463
12	63	16	20	3	47	76	132	47	1,220	118	28	434
13	54	16	20		47	118	118	47	1,200	795	24	356
14	51	16	20		47	118	113	47	322	147	18	259
15	43	16	20		47	118	82	47	124	118	22	204
16	40	16			47	105	82	47	97	118	20	182
17	38	20			47	72	118	47	90	105	20	195
18	20	16			47	118	124	47	70	204	18	182
19	20	17			47	105	97	47	58	132	16	118
20	20	20			47	68	92	47	51	63	14	118
21	20	20	10		47	47	82	47	48	54	12	182
22	20	20			47	43	54	47	54	26	12	463
23	20	20			47	40	47	47	54	22	12	246
24	20	20		10	47	40	356	47	54	28	11	118
25	20	20		92	47	40	246	38	54	34	8	72
26	20	20		118	47	40	97	40	63	34	7	54
27	20	20		182	47	40	118	40	61	34	7	47
28	20	20		268	47	40	124	47	51	26	7	40
29	20	20	5	132	-------	43	108	30	40	34	7	39
30	20	20		141	-------	43	92	47	34	40	7	34
31	20	-------		132	-------	47	-------	24	-------	40	7	------

NOTE.—Stage-discharge relation affected by ice Dec. 16 to Jan. 24; discharge estimated from observer's notes and a study of climatic data. Gage not read Apr. 29 to May 2 and July 11; discharge estimated. Discharge for June 2 based on current-meter measurement.

[4] Stage-discharge relation affected by backwater from Diamond Creek.

Monthly discharge of Cottonwood River at Elmdale, Kans., for the year ending September 30, 1925

[Drainage area, 1,040 square miles]

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	97	20	35.7	2,200
November	20	16	18.9	1,120
December	20	----------	13.9	855
January	268	----------	36.9	2,270
February	82	43	48.3	2,680
March	118	40	66.6	4,100
April	521	40	136	8,090
May	105	24	49.5	3,040
June	4,240	20	334	19,900
July	795	22	80.0	4,920
August	38	7	17.9	1,100
September	463	7	145	8,630
The year	4,240	----------	81.2	58,900

SPRING RIVER NEAR WACO, MO.

LOCATION.—On line between SE. ¼ sec. 7 and NE. ¼ sec. 18, T. 29 N., R. 33 W., at highway bridge on Joplin-Waco road, 700 feet below Brier Branch, 1 mile below Blackberry Creek, and 1½ miles east of Waco, Jasper County.

DRAINAGE AREA.—1,160 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 25, 1924, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by Mrs. W. F. Hollingsworth.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and rock. Left bank is overflowed at stage of 19 feet; overflow on right bank is slight. Control is coarse gravel bar 1,000 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 10.37 feet at 5 p. m. September 22 (discharge, 6,550 second-feet); minimum stage, 0.90 foot at 7.30 a. m. September 8 (discharge, 22 second-feet).

1924–1925: Maximum stage recorded, 20.12 feet May 29, 1924 (discharge, 18,200 second-feet); minimum stage, that of September 8, 1925.

REGULATION.—Flow during low stages is subject to slight diurnal fluctuation from gristmills above.

ACCURACY.—Stage-discharge relation permanent during year; not affected by ice. Rating curve well defined above 120 second-feet and fairly well defined below. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good except for discharge below 60 second-feet, for which they are fair.

Discharge measurements of Spring River near Waco, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 13	1.76	146	Jan. 19	3.68	910	June 9	1.78	164
Nov. 28	1.82	170	Apr. 22	2.39	368	Sept. 2	1.07	32

Daily discharge, in second-feet, of Spring River near Waco, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	224	122	137	690	2,470	400	256	360	240	156	110	46
2	218	124	148	640	1,150	380	256	324	1,040	134	56	45
3	214	112	140	540	940	380	1,590	290	690	145	53	38
4	192	120	168	324	690	360	3,440	273	256	124	76	43
5	208	117	422	273	690	324	3,270	256	168	100	76	50
6	224	117	324	290	740	324	890	256	115	88	66	47
7	240	120	224	380	790	307	445	240	117	106	68	38
8	224	124	172	615	1,040	290	342	240	177	120	66	23
9	273	115	180	615	2,870	273	2,080	290	162	110	56	30
10	273	102	162	790	1,800	273	1,520	360	140	98	45	43
11	290	127	137	690	990	240	940	468	137	104	36	47
12	256	115	137	590	790	240	640	290	124	94	324	53
13	218	137	124	515	690	400	540	273	145	66	256	45
14	208	154	124	422	690	2,150	590	202	307	102	168	40
15	198	1,940	108	468	590	1,330	490	290	273	81	180	43
16	189	1,660	148	2,470	540	565	790	290	198	76	208	47
17	180	740	307	1,940	515	400	1,390	224	156	79	145	31
18	156	400	468	1,450	468	3,030	940	273	148	68	124	41
19	162	290	740	990	468	5,450	790	180	790	102	96	40
20	151	256	1,660	840	422	3,890	445	195	990	98	104	40
21	156	211	1,270	1,270	400	1,450	360	174	490	81	72	840
22	140	192	990	1,870	640	690	324	168	307	74	64	6,250
23	154	183	740	2,230	1,450	565	290	156	224	68	58	5,060
24	140	174	840	3,350	1,150	490	273	290	2,630	65	45	4,250
25	156	174	1,040	3,190	740	422	273	445	1,520	65	88	1,730
26	151	171	1,040	2,870	540	380	273	256	690	66	53	940
27	142	148	990	1,660	445	342	307	192	290	72	48	640
28	140	129	990	890	422	342	565	162	205	81	38	468
29	142	145	915	740	------	290	615	137	183	58	42	290
30	134	140	840	640	------	290	468	127	165	92	34	240
31	134	------	690	890	------	273	------	115	------	96	43	------

NOTE.—Discharge interpolated Dec. 29; gage not read.

Monthly discharge of Spring River near Waco, Mo., for the year ending September 30, 1925

[Drainage area, 1,160 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	290	134	190	0.164	0.19
November	1,940	102	289	.249	.28
December	1,660	108	528	.455	.52
January	3,350	273	1,130	.974	1.12
February	2,870	400	898	.774	.81
March	5,450	240	856	.738	.85
April	3,440	256	846	.729	.81
May	468	115	251	.216	.25
June	2,630	115	436	.376	.42
July	156	58	92.5	.080	.09
August	324	34	93.5	.081	.09
September	6,250	23	718	.619	.69
The year	6,250	23	524	.452	6.12

SHOAL CREEK NEAR JOPLIN, MO.

LOCATION.—In S. ½ sec. 28, T. 27 N., R. 33 W., at Grand Falls hydroelectric plant of Empire District Electric Co., 2 miles below Silver Creek and 4 miles south of Joplin, Jasper County.

DRAINAGE AREA.—458 square miles (measured on topographic maps).

RECORDS AVAILABLE.—April 1, 1924, to September 30, 1925.

GAGE.—Float in tailrace connected with indicator on scaleboard in power plant; read by plant engineer.

DISCHARGE MEASUREMENTS.—Made by wading 300 feet below gage during ordinary stages and from highway bridge 2½ miles above gage during high stages.

CHANNEL AND CONTROL.—Bed composed of clean gravel. Control is a coarse gravel bar 400 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 4.83 feet at 5 a. m. April 9 (discharge, 2,580 second-feet); minimum stage, 0.0 foot during numerous short periods when plant was shut down and water stored (discharge, 13 second-feet).

1924–1925: Maximum stage recorded, 13.1 feet July 13, 1924 (discharge determined from extension of rating curve, 10,400 second-feet); minimum discharge, 13 second-feet during numerous short periods in 1924 and 1925.

REGULATION.—During ordinary stages the flow is controlled completely by the plant. Plant is run until pond is drawn down to a certain elevation and then shut down until pond is filled, when operation is resumed. During high stages water flows over dam and regulation is small.

ACCURACY.—Stage-discharge relation changed slightly during year; not affected by ice. Rating curve fairly well defined. Gage read to inches hourly. Daily discharge ascertained by averaging results obtained by applying hourly gage heights to rating rable. Records fair.

COOPERATION.—Gage-height record furnished by Empire District Electric Co., P. J. Sergeant, chief engineer.

Discharge measurements of Shoal Creek near Joplin, Mo., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 28	1.71	432	Mar. 14	1.45	383	June 9	0.17	23
Nov. 28	.25	25	Apr. 22	1.64	443	Sept. 1	.25	22
Jan. 19	1.66	445	June 9	1.61	450			

Daily discharge, in second-feet, of Shoal Creek near Joplin, Mo., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	248	154	109	414	318	320	189	355	149	133	217	90
2	260	137	156	390	361	312	260	321	143	133	211	79
3	239	99	124	331	352	282	215	280	142	101	139	89
4	210	149	155	397	398	289	250	337	158	150	154	88
5	293	156	138	326	350	294	247	276	144	119	124	75
6	312	126	151	403	341	273	202	384	229	247	150	88
7	301	127	127	387	360	295	246	295	348	218	117	72
8	254	149	160	343	374	292	272	238	162	158	141	63
9	270	139	145	372	384	258	1,170	241	138	133	145	74
10	256	127	141	292	458	285	603	249	122	134	123	72
11	226	155	114	382	431	249	475	224	146	150	112	105
12	242	107	114	325	373	239	448	175	125	133	128	86
13	234	145	103	307	444	315	419	273	200	101	318	90
14	257	196	135	283	373	378	351	367	416	131	515	142
15	191	226	132	210	392	329	321	278	192	141	286	78
16	220	250	131	413	359	308	382	312	174	119	261	89
17	171	250	111	520	322	296	420	246	139	88	214	87
18	236	226	152	490	390	340	390	210	195	106	188	92
19	176	229	911	473	293	288	356	178	234	100	154	100
20	155	221	1,110	457	306	289	309	174	704	122	154	54
21	198	190	1,040	414	309	281	343	324	293	86	146	130
22	176	186	947	408	338	263	297	295	216	105	128	50
23	158	209	443	420	337	252	293	182	178	118	130	103
24	150	155	388	371	349	255	273	197	328	130	72	86
25	187	175	344	381	354	265	313	188	220	84	117	118
26	197	120	345	377	360	272	328	354	217	124	80	118
27	150	153	297	403	327	245	328	204	151	323	94	100
28	183	144	280	332	344	269	342	192	164	666	79	86
29	158	146	241	333	-------	213	394	154	128	246	107	69
30	142	139	533	314	-------	255	362	161	131	575	90	87
31	139	-------	512	333	-------	298	-------	154	-------	327	59	-------

Monthly discharge of Shoal Creek near Joplin, Mo., for the year ending September 30, 1925

[Drainage area, 458 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
October	312	139	213	0.465	0.54
November	250	99	166	.362	.40
December	1,110	103	316	.690	.80
January	520	210	374	.817	.94
February	458	293	361	.788	.82
March	378	213	283	.618	.71
April	1,170	189	360	.786	.88
May	384	154	252	.550	.63
June	704	122	210	.450	.51
July	666	84	177	.386	.44
August	515	59	160	.349	.40
September	142	50	88.7	.194	.22
The year	1,170	50	246	.537	7.29

ILLINOIS RIVER NEAR GORE, OKLA.

LOCATION.—At NE. corner of lot 4, sec. 4, T. 12 N., R. 21 E., 500 feet below Smith's ferryboat, 2½ miles northeast of Gore, Sequoyah County, 3¼ miles above Deep Creek, and 3¾ miles above Missouri Pacific Railroad bridge.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 25, 1924, to September 30, 1925.

GAGE.—Staff gage fastened to sycamore tree at edge of water on right bank 500 feet below ferryboat; read by B. C. Prater.

DISCHARGE MEASUREMENTS.—Made from ferryboat, highway bridge, or by wading.

CHANNEL AND CONTROL.—Bed composed of silt, sand, and small rock. Control is riffle 500 feet below gage; fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.1 feet at 7 a. m. December 21 (discharge, 6,990 second-feet); minimum discharge, estimated about 20 second-feet in the period September 8–14 (no gage-height record).

1924–1925: Maximum stage recorded, 9.4 feet April 27, 1924 (discharge, from extension of rating curve, 16,400 second-feet); minimum discharge, that of September, 1925.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined below 4,000 second-feet. Gage read to hundredths twice daily. Daily discharge determined by applying mean daily gage height to rating table. Records good.

The following discharge measurements were made:

October 27, 1924: Gage height, −0.28 foot; discharge, 179 second-feet.

February 20, 1925: Gage height, 0.93 foot; discharge, 960 second-feet.

August 25, 1925: Gage height, −0.59 foot; discharge, 104 second-feet.

Daily discharge, in second-feet, of Illinois River near Gore, Okla., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	373	176	219	725	515	920	354	2,190	241	137	124	79
2	343	176	206	690	515	840	360	1,800	224	132	110	73
3	311	176	206	655	515	800	354	1,450	203	121	104	62
4	290	171	311	655	515	690	391	1,260	188	115	100	58
5	343	179	338	620	515	725	366	1,080	176	108	103	57
6	343	179	332	620	515	690	354	960	176	119	98	40
7	290	185	366	585	480	655	343	880	171	130	100	30
8	260	194	448	550	1,260	620	373	800	171	141	141	
9	265	194	448	515	2,580	585	1,350	840	160	188	725	
10	300	194	448	515	4,160	585	960	760	146	171	760	
11	280	200	416	480	3,280	550	920	690	130	155	550	62
12	270	200	410	480	2,450	515	920	760	124	146	550	
13	265	200	391	448	2,060	515	920	725	146	137	480	
14	275	224	366	448	1,680	480	800	690	150	128	385	
15	260	241	343	448	1,450	448	690	620	143	124	338	960
16	246	311	332	448	1,350	448	690	585	146	124	270	550
17	232	354	322	480	1,170	448	585	515	150	115	228	840
18	224	448	880	480	1,080	416	550	480	155	104	194	725
19	215	480	2,190	585	1,000	410	515	480	150	100	171	585
20	206	416	3,280	725	920	404	480	448	143	93	158	
21	203	391	6,260	725	800	385	448	397	137	101	139	
22	194	349	3,000	725	1,000	366	404	391	173	124	124	
23	194	327	2,190	690	1,000	354	373	379	354	119	126	670
24	188	305	1,680	690	1,080	338	349	366	311	135	119	
25	188	280	1,450	655	1,170	343	416	397	260	128	110	
26	182	270	1,260	620	1,080	338	448	416	219	124	106	
27	182	250	1,080	620	1,000	332	1,000	366	191	119	103	760
28	179	241	1,000	620	960	332	3,000	327	171	117	103	760
29	176	232	920	585	------	354	3,280	305	158	110	103	655
30	179	232	840	550	------	343	2,860	280	148	110	90	585
31	176	------	760	550	------	343	------	255	------	119	84	------

NOTE.—No gage-height record Sept. 8-10, 12-14, 20-22, 24-26. Braced figures show estimated mean daily discharge for periods indicated.

Monthly discharge of Illinois River near Gore, Okla, for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	373	176	246	15,100
November	480	171	259	15,400
December	6,260	206	1,050	64,600
January	725	448	587	36,100
February	4,160	480	1,290	71,600
March	920	332	502	30,900
April	3,280	343	828	49,300
May	2,190	255	706	43,400
June	354	124	180	10,700
July	188	93	126	7,750
August	760	84	222	13,600
September	------	------	398	23,700
The year	------	------	528	382,000

CANADIAN RIVER NEAR AMARILLO, TEX.

LOCATION.—At highway bridge on Colorado-to-Gulf Highway, 1½ miles below Amarillo Creek, 20 miles north of Amarillo, Potter County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 16, 1924, to December 31, 1925, when station was discontinued.

GAGE.—Chain gage attached to downstream handrail of bridge; read by D. L. Snider.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand; shifting. Channel straight for half a mile below and one-fourth mile above gage. Left bank steep and not subject to overflow; right bank subject to overflow at stage of 14 feet. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of record, 9.15 feet at 6 a. m. August 7, 1925 (discharge not determined); no flow during several periods.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice. Rating curve poorly defined below 1,200 second-feet and extended above to cover range of stage for the year. Gage read to hundredths twice daily. Daily discharge determined by shifting-control method but is not sufficiently accurate for publication. Monthly records poor.

Discharge measurements of Canadian River near Amarillo, Tex., during the period October 1, 1924, to December 31, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
1924	*Feet*	*Sec.-ft.*	1925	*Feet*	*Sec.-ft.*	1925	*Feet*	*Sec.-ft.*
Oct. 16	3.41	7.51	Jan. 10	3.54	4.05	June 4	3.49	15.3
Oct. 17	3.32	5.04	Jan. 13	3.71	9.48	June 25	4.10	115
Oct. 21	3.50	19.6	Mar. 3	3.30	14.4	July 16	3.07	[a].5
Nov. 26	3.20	7.21	Mar. 18	3.19	[a]1.5	July 31	4.68	3,710
Nov. 27	3.18	5.92	Apr. 10	3.06	1.23	Aug. 14	4.35	1,100
Dec. 26	3.19	3.47	May 2	3.10	1.27	Aug. 24	3.95	310
Dec. 27	3.10	2.01	May 15	4.88	1,270	Nov. 11	3.87	63.7
						Dec. 31	3.87	[a]5

[a] Estimated.

Monthly discharge of Canadian River near Amarillo, Tex., for the period October 1, 1924, to December 31, 1925

Month	Mean discharge in second-feet	Run-off in acre-feet	Month	Mean discharge in second-feet	Run-off in acre-feet
1924–25			1924–25		
October	10.0	615	August	2,810	173,000
November	6.83	406	September	2,510	150,000
December	5.16	317			
January	13.2	812	The year	707	513,000
February	29.7	1,650			
March	4.10	252	1925		
April	.90	53.6	October	1,570	96,400
May	453	27,900	November	46.8	2,790
June	145	8,630	December	16.1	987
July	2,420	149,000			

CANADIAN RIVER NEAR CANADIAN, TEX.

LOCATION.—At highway bridge on Denver-to-Dallas highway, 1½ miles northeast of Canadian, Hemphill County, and 1 mile below mouth of Red Deer Creek.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—Records of stage July 1, 1924, to August 31, 1925, when station was discontinued.

GAGE.—Chain gage attached to downstream handrail of bridge; read by Charles or W. H. Peet.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of deep sand; shifting. Channel curved above and straight for 1½ miles below station. Numerous and changing channels at low stages. One channel at high stages. Left bank is of sand; slightly wooded; shifting; subject to overflow at stage of 8 feet. Right bank of clay; slightly wooded; fairly permanent; subject to overflow at stage of 17 feet. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 7.10 feet at 1 p. m. July 5, 1924 (discharge not determined); no flow during several periods.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice. No rating curve defined. Gage read to hundredths twice daily. Owing to the changing channel of river, gage was reset several times; maintained at same datum but gage readings varied with location. Daily discharge not determined.

Discharge measurements of Canadian River near Canadian, Tex., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 23	4.35	386	Apr. 9	4.62	2.0	June 23	3.40	[a] 1.0
Jan. 7	4.42	264	Apr. 30	4.72	1.7	June 24	4.68	786
Jan. 8	4.60	360	May 13	5.08	3,660	July 15	3.62	[a] 1.0
Mar. 5	4.35	24.8	May 14	4.56	2,000	July 25	4.96	4,380
Mar. 17	4.18	6.0	June 3	3.92	232	Aug. 22	3.89	60.6

[a] Estimated.

Daily gage height, in feet, of Canadian River near Canadian, Tex., for the period October 1, 1924, to August 31, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
1	3.80	3.62	4.30	4.36	4.49	3.90	4.44	4.70	5.30	3.54	5.18
2	3.81	3.52	4.45	4.41	4.42	3.88	4.42	4.72	4.45	3.52	5.02
3	3.80	3.50	4.40	4.45	4.41	3.85	4.40	4.70	3.85	3.54	4.98
4	3.80	3.48	4.36	4.32	4.36	3.82	4.42	4.68	3.70	3.54	5.13
5	3.80	------	4.32	4.39	4.29	4.35	4.45	4.65	3.64	3.51	5.55
6	3.80	------	4.30	4.42	4.22	4.38	4.48	4.66	3.55	3.51	6.07
7	4.18	------	4.28	4.44	4.12	4.34	4.51	4.68	------	3.51	6.55
8	4.75	------	4.25	4.62	3.99	4.30	4.56	4.70	------	3.51	5.28
9	4.18	------	4.22	4.62	3.95	4.26	4.62	5.54	------	3.51	4.66
10	4.18	------	4.20	4.59	3.96	4.24	4.60	4.40	------	3.51	5.53
11	4.22	------	4.32	4.68	3.95	4.19	4.58	4.40	------	3.51	5.20
12	4.00	------	4.38	4.62	3.94	4.16	4.58	4.39	3.85	3.51	5.60
13	3.90	------	4.40	4.68	3.95	4.14	4.55	5.10	3.72	3.51	5.15
14	3.90	------	4.45	4.72	3.91	4.12	4.58	4.61	------	3.51	4.60
15	3.90	4.65	4.50	4.69	3.91	4.14	4.58	4.39	------	3.51	4.64
16	4.05	4.42	4.52	4.68	3.95	4.15	4.58	4.77	------	3.62	4.40
17	3.82	4.36	4.48	4.72	3.92	4.17	4.58	4.51	------	3.61	4.30
18	3.78	4.32	4.40	4.58	3.96	4.08	4.55	4.36	------	3.61	4.20
19	3.75	4.26	4.35	4.68	3.96	4.06	4.56	4.35	------	3.63	4.12
20	3.75	4.50	4.25	4.72	3.94	4.05	4.58	4.32	------	3.63	4.02
21	3.80	4.46	4.30	4.74	3.95	4.06	4.58	4.30	4.55	3.63	3.88
22	4.28	4.39	4.22	4.76	3.96	4.05	4.58	4.28	3.75	3.95	3.86
23	4.28	4.32	4.28	4.79	3.99	4.05	4.72	4.25	------	4.20	3.70
24	4.15	4.22	4.25	4.84	4.04	4.09	4.65	4.22	4.55	5.42	3.50
25	4.10	4.16	4.20	4.84	3.96	4.09	4.62	4.24	4.08	5.64	3.50
26	4.05	4.15	4.16	4.74	3.91	4.06	4.65	4.22	3.68	5.46	3.51
27	4.00	4.16	4.16	4.60	3.90	4.06	4.68	4.22	3.55	5.10	3.72
28	3.95	4.12	4.21	4.58	3.90	4.08	4.68	4.26	3.54	5.80	4.18
29	3.90	4.32	4.25	4.58	------	4.11	4.70	4.28	3.54	5.62	4.04
30	3.90	4.30	4.32	4.52	------	4.22	4.70	4.26	3.54	6.05	4.69
31	3.70	------	4.40	4.51	------	4.38	------	5.18	------	5.38	4.39

NOTE.—Gage not read June 14–20 and 23. No flow Nov. 5–14 and June 7–11.

RED RIVER BASIN

PRAIRIE DOG TOWN FORK OF RED RIVER NEAR CANYON, TEX.

LOCATION.—4 miles northeast of Canyon, Randall County, and 5 miles below confluence of Paloduro and Tule Creeks.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 15, 1924, to September 30, 1925.

GAGE.—Au 60-day recorder in timber house over concrete well on left bank. Attended by E. S. Hancock.

DISCHARGE MEASUREMENTS.—Made from cable half a mile upstream or by wading.

CHANNEL AND CONTROL.—Channel straight for 150 feet above and below station. Bed composed of compact earth; permanent. Right bank not subject to overflow. Left bank of earth and sand, sodded with grass; subject to overflow. Low-water control is concrete road crossing, 170 feet below gage and high-water control is 10-foot dam, 1½ miles downstream.

EXTREMES OF DISCHARGE.—Maximum stage during year, from water-stage recorder, 2.62 feet at 2 a. m. June 24 (discharge, not determined); no flow for part of day June 9 and July 18–21.

1924–1925: Maximum stage, that of June 24, 1925; no flow for several periods.

ICE.—Stage-discharge relation seldom affected by ice.

DIVERSIONS.—None.

REGULATION.—During summer, the Palo Duro Club fills its swimming pool from wells and drains it into the river above once every two weeks. This only affects extremely low stages, for the capacity of the pool is only 10,000 cubic feet and it drains slowly.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice. Rating curve well defined below 200 second-feet. Operation of water-stage recorder not satisfactory, as shown by breaks in record. Daily discharge determined by shifting-control method, by averaging discharge for parts of a day for days of considerable fluctuation, or as noted in footnote to daily-discharge table. Records fair.

Discharge measurements of Prairie Dog Town Fork of Red River near Canyon, Tex., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 18	0.88	[a] 0.25	Jan. 12	1.17	2.8	June 25	1.41	37.0
Oct. 20	.88	[a] .25	Mar. 3	1.14	4.8	July 16	1.03	.41
Oct. 21	.90	[a] .35	Mar. 18	1.16	3.3	July 31	1.94	189
Nov. 26	1.08	[a] .6	Apr. 10	1.14	2.4	Aug. 14	1.66	88.9
Nov. 27	1.13	[a] .8	May 2	.95	1.47	Aug. 24	1.20	3.88
Dec. 29	1.15	[a] 1.35	May 15	1.20	6.57			
Dec. 30	1.14	[a] .9	June 5	.70	[a] .30			

[a] Estimated.

Daily discharge, in second-feet, of Prairie Dog Town Fork of Red River near Canyon, Tex., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	0.5	0.3	0.7	1.1	6.4	4.8	3.3	4.3	0.5	3.3	115	2.6
2	.4	.2	.9	1.1	6.4		2.8	1.8		2.2	55	2.2
3	.4	.3	.6	1.2	6.4	4.8	2.0	3.8		1.4	37	4.3
4	.4	.3	.6	1.3	6.4	4.8	2.2	2.6			115	3.8
5	.3	.5	.8	1.6	6.4	4.8	2.4	2.4	.3		88	2.8
6	.4	.3	.7	2.0	6.4	5.5	2.4	2.8	.2		23	2.6
7	.5	.3	.8	2.4	7.5	4.8	2.2	3.8	.2			2.6
8	.6	.4	.7	3.3	6.4	4.8	2.4	3.3	.1			2.2
9	.4	.5		3.3	10	4.8	2.4		6.5	15		1.8
10	.4	.5		3.3	8.7		2.4		11		34	1.6
11	.4	.5		3.3	7.5		2.4	4.2	4.3			2.8
12	.5	.4		3.3	7.5		2.2		3.8			2.8
13	.3	.3	1.0	3.3	7.5	4.0	2.2		2.2			6.4
14	.3	.7		3.8	6.4		2.0		1.2		112	12
15	.3	.8		3.8	6.4		2.0	6.4	1.0		57	7.5
16	.3	.6		3.8	6.4		1.8	5.5	.6	.4	31	5.5
17	.3	.6	1.0	3.8	6.4		1.6	4.3	.4	.2	21	3.3
18	.3	.8		4.3	5.5	3.3	1.3	3.3	.3	.0	14	6.4
19	.3	.9		4.8	5.5	2.8	1.1	4.3	.2	.0	8.7	43
20	.3	.8		4.8	6.4	2.8	2.6	4.3	.2	.0	7.5	70
21	.3	.6		6.4		2.6	1.2	3.3	.2	.0	5.5	29
22	.4	.6		7.5		3.3	1.1	2.0	.2	54	4.8	115
23	.5	.8	1.3	8.7		2.6	1.8	1.2	.1	43	4.3	124
24	.6	.8		10		2.6	1.2	.9	210	19	3.8	133
25	.6	.4		12	5.6	3.8	1.0	.8	39	23	3.3	100
26	.6	.5		10		3.3	7.5	.9	8.7	12	2.8	118
27	.5	.8		7.5		3.3	50	.9	41	5.5	2.8	62
28	.5	.7		8.7		3.3	21		25	72	2.6	37
29	.4	.7	1.3	7.5	-------	3.3	15	.7	12	43	2.4	27
30	.2	.8	.8	7.5	-------	2.6	12		4.8	17	2.2	19
31	.1	-------	1.0	6.4	-------	2.8	-------		-------	160	3.3	-------

NOTE.—Braced figures show estimated mean discharge for periods included. Owing to incomplete record, discharge partly estimated Dec. 3–8, 17, 29, Mar. 18, May 15, June 5, and Aug. 14.

Monthly discharge of Prairie Dog Town Fork of Red River near Canyon, Tex., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	0.6	0.1	0.40	24.4
November	.9	.2	.56	33.1
December	-------	-------	1.04	63.9
January	12.0	1.1	4.90	301
February	10.0	-------	6.48	360
March	-------	2.6	3.82	235
April	50	1.0	5.18	308
May	-------	-------	2.93	180
June	210	.1	12.5	745
July	-------	0	20.5	1,260
August	-------	2.2	31.0	1,900
September	133	1.6	31.7	1,880
The year	-------	0	10.1	7,290

PRAIRIE DOG TOWN FORK OF RED RIVER NEAR ESTELLINE, TEX.

LOCATION.—At highway bridge on Colorado-to-Gulf Highway, 1½ miles north of Estelline, Hall County, and 6 miles above Baylor Creek.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 10, 1924, to September 30, 1925, when station was discontinued.

GAGE.—Chain gage attached to downstream handrail of bridge; read by J. R. Lawrence.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel straight for half a mile above and below gage. Bed composed of sand; shifting. Banks not subject to overflow. Many channels at low and medium stages. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 5.60 feet at 10.30 a. m. July 30 (discharge, 21,500 second-feet); no flow for several periods.

1924–1925: Maximum stage that of July 30, 1925; no flow for several periods.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent; not affected by ice. Rating curve poorly defined from 0 to 21,500 second-feet. Gage read to hundredths twice daily. Daily discharge determined by shifting-control method, but not sufficiently accurate for publication. Monthly records poor.

Discharge measurements of Prairie Dog Town Fork of Red River near Estelline, Tex., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 9	5.03	12,200	June 1	3.74	386	July 30	5.50	19,300
Oct. 11	3.70	135	June 8	3.47	24.2	Aug. 1	3.33	107
Oct. 14	3.12	*1.5	June 26	3.59	29.2	Aug. 10	4.68	3,270
Jan. 4	2.75	*1.2	July 13	4.01	286	Aug. 10	4.32	2,070
Apr. 27	3.84	149	July 13	3.99	234	Sept. 16	3.65	223
May 10	4.09	977	July 29	3.83	136	Nov. 11	4.71	21.3

*Estimated.

NOTE.—The station was also visited on the following days when there was no flow: Oct. 4, 31, Nov. 6, 11, 24, Dec. 8, 11, 24, Jan. 29, 30, Mar. 2, 19, Apr. 11, 23, May 3, 16, June 5, July 9, 17, and Aug. 25.

Monthly discharge of Prairie Dog Town Fork of Red River near Estelline, Tex., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	8,530	0	524	32,200
November	138	0	4.60	274
December	0	0	0	0
January	13	0	2.69	165
February	.2	0	.01	.4
March	0	0	0	0
April	830	0	50.2	2,980
May	4,890	0	227	13,900
June	2,030	0	73.2	4,360
July	9,500	0	361	22,200
August	16,400	0	1,690	104,000
September	18,000	0	994	59,100
The year	18,000	0	330	239,000

NOTE.—No flow Oct. 1–5, 15–20, Oct. 23 to Nov. 14, Nov. 16 to Jan. 3, Jan. 7–14, 28, 29, Feb. 2 to Apr. 22, 25, 29, 30, May 1–8, 14–31, June 4–6, 9, 11–14, 16–25, June 27 to July 3, 9–12, 14–28, Aug. 12 to Sept. 10, 12, 13, 17–21, 25, 26, 29, and 30.

RED RIVER NEAR BURKBURNETT, TEX.

LOCATION.—At toll bridge between Burkburnett and Raudlett, Okla., 2¼ miles northeast of Burkburnett, Wichita County.

DRAINAGE AREA.—20,200 square miles, a large part of which is noncontributing (measured on post-route map of Oklahoma and base maps of Texas and New Mexico).

RECORDS AVAILABLE.—July 11, 1924, to August 31, 1925, when station was discontinued.

GAGE.—Chain gage attached to downstream handrail of bridge; read by Gilbert Maples. Gage moved to several locations on bridge, owing to the changing of the river channel.

DISCHARGE MEASUREMENTS.—Made from bridge to which gage is attached, from Devol Bridge, or by wading near gage.

CHANNEL AND CONTROL.—Channel straight for 1 mile above and below gage. Bed composed of sand; shifting. At low stages, channel changes frequently necessitating resetting of gage. Right bank not subject to overflow; left bank subject to overflow at stage of 9 feet. Control indefinite and shifting.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 8.80 feet May 15, 1925 (discharge, 38,000 second-feet, determined from extension of rating curve and subject to considerable error); no flow for several periods.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Rating curve used October 1 to November 12, poorly defined; one from November 13 to August 31, poorly defined below 16,000 second-feet, extended above. Gage read to hundredths twice daily. Daily discharge determined by shifting-control method but not sufficiently accurate for publication. Monthly records fair.

Discharge measurements of Red River near Burkburnett, Tex., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 29	4.48	299	Apr. 7	4.77	42.8	July 21	4.52	7.7
Nov. 14	4.36	27.1	Apr. 25	7.67	15,000	Aug. 6	7.08	8,620
Nov. 15	4.40	36.3	Apr. 28	7.32	15,200	Aug. 11	7.16	10,800
Jan. 6	5.12	196	May 19	6.27	1,410	Aug. 12	6.83	8,910
Feb. 27	4.95	128	June 12	5.87	625			
Mar. 15	4.34	18.8	July 3	4.95	75.9			

Monthly discharge of Red River near Burkburnett, Tex., for the period October 1, 1924, to August 31, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	3,520	2.8	735	45,200
November	650	1.5	124	7,400
December	113	74	93.0	5,720
January	500	79	261	16,000
February	335	74	156	8,660
March	440	.8	81.4	5,010
April	18,900	2.0	2,150	128,000
May	38,000	116	3,570	220,000
June	9,480	44	985	58,600
July	9,120	0	352	21,700
August	26,400	0	3,170	195,000
The period				711,000

NOTE.—No flow July 22-30 and Aug. 16-31.

RED RIVER NEAR DENISON, TEX.

LOCATION.—At Denison-Colbert toll bridge, half a mile below Missouri, Kansas & Texas Railway bridge, 4½ miles northeast of Denison, Grayson County, and 10 miles below mouth of Washita River.

DRAINAGE AREA.—39,400 square miles, a large part of which is noncontributing (measured on topographic maps, post-route map of Oklahoma, and base maps of Texas and New Mexico.

RECORDS AVAILABLE.—October 9, 1923, to September 30, 1925. United States Weather Bureau has records of stage from gage on Missouri, Kansas & Texas Railway bridge since January 1, 1906. Relation between gages not known.

GAGE.—Chain gage attached to downstream side of bridge.

DISCHARGE MEASUREMENTS.—Made from bridge to which gage is attached or from Missouri, Kansas & Texas Railway bridge.

CHANNEL AND CONTROL.—Channel straight for half a mile above and below gage. Bed composed of sand; shifts. Banks of sand and subject to shift. Left bank, not subject to overflow. Right bank covered with trees and brush and subject to overflow at extremely high stages. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 17.65 feet at 6 p. m. September 16 (discharge, 99,300 second-feet); minimum stage, 0.94 foot at 7 a. m. July 26 (discharge, 370 second-feet).

1923–1925: Maximum stage recorded, 19.4 feet at 8.15 a. m. October 17, 1923 (discharge, 132,000 second-feet); minimum stage, that of July 26, 1925.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Rating curve well defined from 500 to 140,000 second-feet; extended below to cover range of stage for year. Gage read to hundredths twice daily. Daily discharge determined by shifting-control method. Records fair.

Discharge measurements of Red River near Denison, Tex., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 15	3.22	2,340	Aug. 4	4.59	6,010	Sept. 20	9.56	24,200
Feb. 11	1.73	782	Aug. 28	1.58	737	Sept. 21	7.77	14,300
June 30	1.45	573	Sept. 18	11.76	39,100	Sept. 22	6.90	10,900

Daily discharge, in second-feet, of Red River near Denison, Tex., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	625	1,390	795	675	865	830	535	14,700	980	535	450	675
2	625	980	795	675	795	795	580	11,800	980	512	432	535
3	650	902	795	675	795	795	558	10,100	865	512	558	512
4	625	865	730	650	795	762	535	8,260	730	535	4,720	512
5	625	795	702	625	795	730	512	6,620	625	535	4,940	512
6	602	762	730	625	762	730	490	4,940	1,150	902	3,530	490
7	830	762	880	625	762	702	490	3,720	2,680	1,720	3,100	490
8	702	675	762	625	795	650	980	3,180	3,180	1,840	3,840	490
9	625	650	730	625	795	602	3,000	3,530	2,520	865	5,400	490
10	650	650	702	650	762	602	2,100	3,900	2,840	675	5,640	490
11	625	625	675	675	795	580	1,150	3,720	2,840	602	6,120	675
12	1,150	625	650	730	762	558	865	3,900	1,600	580	22,200	558
13	1,390	602	650	830	730	535	730	5,400	1,100	490	16,000	512
14	1,390	602	650	795	730	512	762	10,400	940	450	8,840	2,840
15	1,960	602	650	830	730	512	865	13,800	940	398	6,880	24,400
16	2,520	580	650	830	702	512	1,100	15,600	1,150	380	5,170	77,500
17	1,960	602	675	830	702	512	1,840	18,300	1,200	398	3,530	70,200
18	1,600	602	730	830	702	512	2,520	18,300	1,150	398	2,520	36,600
19	1,390	558	675	830	702	512	3,900	15,600	1,100	380	2,230	28,400
20	1,290	602	650	795	702	535	3,530	12,600	1,150	380	1,840	22,800

Daily discharge, in second-feet, of Red River near Denison, Tex., for the year ending September 30, 1925—Continued

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
21	1,150	580	650	795	702	512	2,840	9,760	1,150	380	1,390	14,700
22	1,060	580	650	795	795	490	2,840	7,150	1,620	380	1,200	10,800
23	940	558	625	795	730	490	2,680	4,720	795	380	1,060	8,260
24	865	558	625	762	702	470	2,100	3,720	702	380	902	6,880
25	830	702	625	762	702	470	2,520	3,720	625	380	830	5,640
26	762	1,020	625	730	702	470	4,100	2,520	580	380	795	4,940
27	702	1,020	625	730	675	512	23,300	2,230	558	380	730	22,800
28	730	980	602	702	675	490	21,700	1,840	535	398	730	13,400
29	1,840	865	580	702	-------	535	22,200	1,500	512	512	730	10,100
30	1,720	830	625	902	-------	535	19,200	1,150	535	730	675	8,260
31	1,600	-------	675	865	-------	535	-------	1,020	-------	432	675	-------

Monthly discharge of Red River near Denison, Tex., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	2,520	602	1,100	67,500
November	1,390	558	737	43,900
December	830	580	682	41,900
January	902	625	741	45,600
February	865	675	745	41,400
March	830	470	580	35,700
April	23,300	490	4,350	259,000
May	18,300	1,020	7,350	452,000
June	3,180	512	1,220	72,900
July	1,840	380	575	35,300
August	22,200	432	3,990	245,000
September	77,500	490	12,500	745,000
The year	77,500	380	2,880	2,090,000

PEASE RIVER NEAR CROWELL, TEX.

LOCATION.—At toll bridge on the Quanah-Crowell highway, 1 mile below mouth of Devils Creek and 8 miles north of Crowell, Foard County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—January 8, 1924, to September 30, 1925.

GAGE.—Chain gage attached to the downstream handrail of bridge; read by W. H. Roberts and H. B. Nelson.

DISCHARGE MEASUREMENTS.—Made by wading or from bridge. Measurements at low stages are poor, owing to poor measuring section.

CHANNEL AND CONTROL.—Channel straight for half a mile above and below gage. Bed composed of sand; shifting. Banks not subject to overflow. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 8.50 feet at 2 a. m. September 14 (discharge not determined); no flow for numerous periods.

1924–25: Maximum stage that of September 14, 1925; no flow for several periods.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation not permanent. Rating curve poorly defined below 4,000 second-feet; extended above. Gage read to hundredths twice daily. Daily discharge determined by shifting-control method. Owing to shifting channel and infrequency of measurements daily discharge not sufficiently accurate for publication. Monthly records fair.

Discharge measurements of Pease River near Crowell, Tex., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 7	3.60	24.7	Feb. 23	3.20	[a] 0.5	May 27	3.38	16.8
Oct. 28	3.55	17.1	Apr. 24	5.80	4,280	June 12	4.00	98.2
Jan. 5	3.05	1.5	Apr. 24	5.21	1,260	Aug. 5	4.74	1,270
Feb. 4	4.10	10.8	Apr. 25	4.51	356	Sept. 15	4.45	2,249
Feb. 7	4.07	7.6	May 7	4.13	175			
Feb. 11	3.30	[a] 1.0	May 18	4.08	178			

[a] Estimated.

NOTE.—The station was also visited on the following days when there was no flow: Oct. 3, Nov. 7, 12, 29, Dec. 9, Feb. 26, Mar. 13, Apr. 6, May 5, July 2, 21, and Aug. 19.

Monthly discharge of Pease River near Crowell, Tex., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	165	0	19.4	1,190
November	4.2	0	.35	20.8
December	4.2	0	1.63	100
January	43	1.4	19.4	1,190
February	20	0	4.99	277
March	5.6	0	.62	38.1
April	4,880	0	267	15,900
May	12,800	0	805	49,500
June	552	0	51.4	3,060
July	1,020	0	85.3	5,250
August	15,000	0	928	57,100
September	10,700	0	983	58,500
The year	15,000	0	265	192,000

NOTE.—No flow Oct. 1–5, 15–18, Nov. 5–15, Nov. 19 to Dec. 11, Feb. 14–21, Feb. 26 to Mar. 13, Mar. 22–31, Apr. 3–6, 12–22, May 5, June 4–9, 17, 18, June 24 to July 3, July 10–28, and August 17 to Sept. 10. Maximum discharge for May, August, and September from extension of rating curve and subject to considerable error.

WASHITA RIVER NEAR ANADARKO, OKLA.

LOCATION.—In SW. ¼ sec. 10, T. 7 N., R. 9 W., at highway bridge 5½ miles east of Anadarko, McCurtain County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—May 25, 1924, to June 30, 1925, when station was discontinued. Records were obtained at a station at Anadarko from October 25, 1902, to June 30, 1908. For reference to records and description of station see Water-Supply Paper 173, page 95.

GAGE.—Chain gage on upstream handrail of bridge; read by S. J. McLane.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand and silt; not permanent. No well-defined control.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period 1924–1925, 14.1 feet at 8 a. m. April 26 (discharge, estimated from extension of rating curve, 2,910 second-feet); minimum stage, 0.29 foot September 15 (discharge, 53 second-feet).

REGULATION.—Low-water flow regulated by operation of dam at Anadarko.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 100 and 700 second-feet, extended above and below. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

The following discharge measurements were made:
October 30, 1924: Gage height, 0.79 foot; discharge, 146 second-feet.
August 28, 1925: Gage height, 0.32 foot; discharge, 98.3 second-feet.

Daily discharge, in second-feet, of Washita River near Anadarko, Okla., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1	316	160	210	-------	249	210	172	622	210
2	262	148	197	-------	249	197	160	562	1,210
3	249	107	197	-------	236	160	160	487	2,100
4	197	160	184	-------	236	172	160	442	904
5	197	137	184	-------	223	210	160	414	868
6	172	122	172	-------	236	172	160	400	850
7	137	137	172	288	236	172	160	358	517
8	122	148	184	249	236	172	160	330	487
9	148	132	210	197	223	160	400	330	472
10	148	122	223	210	223	160	1,650	798	428
11	184	127	223	197	210	148	2,420	764	370
12	249	122	223	210	197	137	2,280	1,390	330
13	442	112	223	197	197	148	1,720	1,070	275
14	414	127	223	197	210	137	592	607	275
15	275	148	236	197	172	137	815	517	262
16	223	316	249	197	160	148	2,180	487	344
17	197	502	223	197	172	137	1,600	472	275
18	160	414	223	210	210	148	577	428	249
19	172	316	210	197	172	148	358	358	236
20	137	316	210	184	184	160	386	302	228
21	132	302	-------	223	197	210	442	302	223
22	148	275	-------	223	236	197	798	288	223
23	148	249	-------	223	249	160	592	288	210
24	122	236	-------	236	249	160	781	302	210
25	117	223	-------	249	236	160	2,050	302	137
26	148	210	-------	236	197	172	2,880	302	148
27	148	210	-------	223	197	160	2,760	288	148
28	197	210	-------	210	197	148	2,530	288	172
29	172	184	-------	210	-------	148	1,720	184	210
30	148	197	-------	197	-------	148	976	210	275
31	184	-------	-------	249	-------	160	-------	197	-------

NOTE.—No gage-height record Dec. 21 to Jan. 6.

Monthly discharge of Washita River near Anadarko, Okla., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	442	117	196	12,100
November	502	107	206	12,300
December 1-20	249	172	209	8,290
January 7-31	288	184	216	10,700
February	249	160	214	11,900
March	210	137	163	10,000
April	2,880	160	1,060	63,100
May	1,390	184	454	27,900
June	2,100	137	428	25,500

WASHITA RIVER NEAR BERWYN, OKLA.

LOCATION.—In W. ½ sec. 16, T. 3 S., R. 3 E., at highway bridge 3 miles northeast of Berwyn, Carter County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 27, 1924, to December 13, 1925, when station was discontinued.

GAGE.—Chain gage on upstream handrail of bridge; read by O. C. Oaks.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of sand, gravel, and rock; fairly permanent. Control is low riffle 1,000 feet below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 15.24 feet at 6.35 a. m. September 16, 1925 (discharge, 10,900 second-feet, from extension of rating curve); minimum stage, 0.20 foot at 6.30 a. m. September 5, 1925 (discharge, 87 second-feet).

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve well defined between 150 and 6,000 second-feet; extended above and below these limits. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair.

The following discharge measurements were made:

October 29, 1924: Gage height, 0.96 foot; discharge, 239 second-feet.

May 12, 1925: Gage height, 8.20 feet; discharge, 4,850 second-feet.

August 27, 1925: Gage height, 0.76 foot; discharge, 205 second-feet.

Daily discharge, in second-feet, of Washita River near Berwyn, Okla., for the period October 1, 1924, to December 13, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1	292	221	309	262	326	326	262	4,690	628	262	628	106
2	309	221	326	262	326	345	262	4,390	584	234	496	129
3	234	234	326	234	326	326	248	2,790	764	248	326	120
4	718	234	326	277	326	326	262	1,740	1,330	810	234	109
5	764	234	364	292	326	292	262	1,270	1,440	1,330	208	94
6	496	234	386	309	326	277	262	1,060	2,180	1,060	182	116
7	408	234	386	309	345	292	248	954	2,110	584	221	107
8	386	234	364	326	345	292	326	810	1,330	408	672	106
9	364	221	364	386	345	292	309	718	954	309	584	107
10	364	234	326	474	326	292	309	718	718	292	1,390	111
11	345	248	309	562	326	277	452	2,940	628	292	2,940	430
12	672	234	309	518	326	262	518	4,690	562	262	1,620	1,990
13	584	234	326	496	326	262	628	4,770	540	309	764	1,800
14	364	234	309	430	309	277	628	4,690	562	408	628	7,800
15	292	234	309	364	309	277	1,680	3,510	518	345	584	9,410
16	262	248	292	326	292	292	1,860	4,100	496	277	452	10,700
17	277	248	292	309	309	292	1,440	7,630	452	277	452	10,400
18	326	262	364	326	309	277	1,160	6,100	430	364	386	9,410
19	430	309	386	345	309	262	1,010	5,150	386	408	309	4,920
20	386	326	345	345	309	262	1,620	5,000	364	309	292	3,150
21	386	309	364	326	326	277	1,860	3,300	628	309	277	2,940
22	292	474	309	345	345	262	1,270	1,390	386	326	248	2,240
23	262	584	277	326	430	277	902	1,060	386	277	248	1,680
24	262	496	292	309	474	277	1,010	954	364	292	248	1,330
25	234	452	292	309	408	277	1,220	1,110	345	474	195	1,060
26	234	408	292	326	386	277	1,440	902	326	518	195	1,060
27	234	408	248	309	364	262	5,620	764	386	496	182	1,500
28	221	364	408	326	345	277	5,860	718	309	345	182	1,560
29	234	326	309	309	-------	262	5,220	672	292	248	129	1,990
30	234	326	292	326	-------	262	5,070	672	277	262	104	1,500
31	221	-------	292	326	-------	248	-------	672	-------	345	99	------

Daily discharge, in second-feet, of Washita River near Berwyn, Okla., for the period October 1, 1924, to December 13, 1925—Continued

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1925				1925				1925			
1	1,740	345	364	11	1,060	1,220	326	21	672	452	------
2	2,240	345	364	12	1,220	1,010	326	22	764	452	------
3	1,060	277	364	13	810	1,620	345	23	810	430	------
4	810	326	345	14	718	1,330	------	24	672	408	------
5	718	326	364	15	5,300	902	------	25	562	386	------
6	628	386	326	16	4,240	672	------	26	452	364	------
7	584	810	345	17	2,510	562	------	27	430	408	------
8	562	3,370	345	18	1,990	496	------	28	430	386	------
9	562	1,740	345	19	1,740	474	------	29	408	364	------
10	628	1,620	326	20	902	496	------	30	364	364	------
								31	345	------	------

Monthly discharge of Washita River near Berwyn, Okla., for the period October 1, 1924, to December 13, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1924-25				
October	764	221	358	22,000
November	584	221	301	17,900
December	408	248	326	20,000
January	562	234	345	21,200
February	474	292	340	18,900
March	345	248	283	17,400
April	5,860	248	1,440	85,700
May	7,630	672	2,580	159,000
June	2,180	277	689	41,000
July	1,330	234	409	25,100
August	2,940	99	499	30,700
September	10,700	94	2,600	155,000
The year	10,700	94	847	614,000
1925				
October	5,300	345	1,160	71,300
November	3,370	277	745	44,300
December 1–13	364	326	345	8,890
The period				124,000

MOUNTAIN FORK RIVER NEAR BROKEN BOW, OKLA.

LOCATION.—In SE. ¼ sec. 7, T. 6 S., R. 26 W., on highway bridge 7 miles east of Broken Bow, McCurtain County.

DRAINAGE AREA.—Not measured.

RECORDS AVAILABLE.—March 30, 1924, to December 31, 1925, when station was discontinued.

GAGE.—Chain gage on upstream handrail of bridge; read by J. A. Spencer.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and rock; permanent. Control is at rapids 2½ miles below gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period of records, 16.90 feet at 6 a. m. June 13, 1925 (discharge not determined); minimum discharge, 1 second-foot September 7–11 and 21–23, 1925.

REGULATION.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve poorly defined below 2,000 second-feet; extended above. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records fair for discharge below 2,000 second-feet, poor above.

The following discharge measurements were made:
October 28, 1924: Gage height, 0.48 foot; discharge, 2.7 second-feet.
March 8, 1925: Gage height, 2.10 feet; discharge, 276 second-feet.
August 26, 1925: Gage height, 0.61 foot; discharge, 9.8 second-feet.

Daily discharge, in second-feet, of Mountain Fork River near Broken Bow, Okla., for the period October 1, 1924, to December 31, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1924-25												
1	20	3	61	113	259	792	308	1,380	52	107	955	3
2	20	2	58	110	230	582	430	1,090	46	92	528	3
3	19	2	58	110	216	454	478	825	40	85	259	2
4	17	2	69	106	216	408	503	668	34	74	216	2
5	16	2	88	101	203	366	478	555	30	68	166	2
6	15	2	88	95	203	346	430	430	27	62	144	2
7	15	2	92	95	178	308	386	366	26	57	117	1
8	15	2	95	92	178	274	308	308	1,230	53	101	1
9	15	2	610	92	203	259	274	274	2,380	51	92	1
10	15	3	327	92	259	230	259	244	1,020	51	82	1
11	13	3	274	106	430	230	244	244	503	52	78	1
12		5	178	134	386	216	259	259	366	48	69	2
13		5	144	244	346	203	230	308	7,180	46	61	2
14		6	110	386	308	203	244	291	8,430	45	56	6
15	10	7	106	386	259	203	346	259	2,470	44	50	8
16		12	101	386	244	216	478	230	1,620	42	44	7
17		12	97	1,300	216	216	408	178	1,160	38	39	5
18		12	92	1,380	216	216	327	166	792	34	34	3
19	5	15	92	1,460	203	203	291	166	582	34	29	2
20	5	22	124	1,620	190	203	259	144	478	32	27	2
21	4	48	729	1,540	178	178	230	120	386	30	24	1
22	6	61	528	1,380	274	178	203	108	327	30	22	1
23	7	61	366	1,090	4,210	166	190	104	259	274	22	1
24	6	62	291	955	2,650	166	178	99	230	178	10	3
25	5	64	230	825	1,940	155	1,160	88	190	124	14	13
26	4	64	190	760	1,460	155	2,650	82	166	97	10	115
27	3	64	178	668	1,230	144	3,400	72	144	86	11	178
28	3	65	166	528	955	134	4,210	64	134	478	9	178
29	3	64	144	408	-------	134	2,650	61	124	366	8	178
30	3	62	124	327	-------	155	1,940	58	113	327	6	144
31	3	-------	119	274	-------	190	-------	56	-------	1,380	4	-------

Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.	Day	Oct.	Nov.	Dec.
1925				1925				1925			
1	124	166	430	11	51	1,620	259	21	890	825	528
2	120	166	386	12	64	1,230	244	22	760	760	503
3	117	166	366	13	120	1,090	244	23	668	668	454
4	178	178	366	14	1,860	798	244	24	582	610	408
5	155	190	346	15	1,700	698	346	25	503	454	346
6	134	698	327	16	6,350	1,300	825	26	366	478	327
7	108	2,920	308	17	6,460	1,300	792	27	327	582	291
8	77	6,350	291	18	2,740	1,160	729	28	274	555	274
9	62	2,920	274	19	1,620	1,020	638	29	230	528	259
10	54	2,020	259	20	1,230	955	610	30	203	478	668
								31	178	-------	668

NOTE.—Gage not read Oct. 12-18; discharge estimated on basis of Weather Bureau record. Braced figure gives mean daily discharge for period.

Monthly discharge of Mountain Fork River near Broken Bow, Okla., for the period October 1, 1924, to December 31, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
1924-25				
October	20	3	9.9	608
November	65	2	24.5	1,460
December	729	58	191	11,700
January	1,620	92	554	34,100
February	4,210	178	637	35,400
March	454	134	254	15,600
April	4,210	178	792	47,100
May	1,380	56	300	18,400
June	8,430	26	1,020	60,700
July	1,380	30	145	8,920
August	955	4	106	6,520
September	178	1	28.9	1,720
The year	8,430	1	334	242,000
1925				
October	6,460	51	913	56,100
November	6,350	166	1,100	65,500
December	825	244	420	25,800
The period				147,000

SULPHUR RIVER NEAR DARDEN, TEX.

LOCATION.—At St. Louis Southwestern Railway bridge, 1 mile south of Darden, Bowie County, and 2 miles below White Oak Creek.

DRAINAGE AREA.—2,750 square miles (measured on base map of Texas).

RECORDS AVAILABLE.—From October 1, 1923, to September 30, 1925. Records of stage have been obtained by the United States Weather Bureau since December 1, 1909.

GAGE.—United States Weather Bureau staff gage attached to the downstream side of center pile bent of bridge.

DISCHARGE MEASUREMENTS.—Made by wading 1,000 feet above gage or from bridge.

CHANNEL AND CONTROL.—Bed composed of silt and sunken logs; fairly permanent. Channel curved above and straight for short distance below gage. Banks subject to overflow at high stages. Low-water control consists of old piles and drift immediately below gage; shifts during floods. Medium and high-stage control is bed and banks of stream and will probably shift. Above a 22-foot stage, the river overflows its banks for 4,000 feet, dividing into two channels 4 or 5 miles above gage.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 25.0 feet May 4 and 5 (discharge, 9,370 second-feet); minimum stage, 0.20 foot September 10–13 (discharge, 0.5 second-foot.)

19,100 1923–1925: Maximum stage, 27.8 feet at 7 a. m. December 18, 1923 (discharge, ~~13,600~~ second-feet); minimum stage, 0.1 foot August 12–18, 31, and September 1–13, 1924 (discharge, 0.2 second-foot).

DIVERSIONS.—None.

REGULATIONS.—None.

ACCURACY.—Stage-discharge relation permanent. Rating curve poorly defined. Gage read to tenths once daily. Daily discharge determined by applying daily gage height to rating table, but daily records not sufficiently accurate for publication. Monthly records fair.

COOPERATION.—Records of stage furnished by United States Weather Bureau.

The following discharge measurement was made:

October 23, 1924: Gage height, 0.51 foot; discharge, 3.0 second-feet.

Monthly discharge of Sulphur River near Darden, Tex., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	166	1.8	22.7	1,400
November	17	1.0	5.54	330
December	21	11	14.7	902
January	292	8.0	65.2	4,010
February	592	21	98.0	5,440
March	496	14	108	6,650
April	4,160	124	1,130	67,000
May	9,370	76	2,710	166,000
June	4,890	21	740	44,000
July	382	6.0	51.1	3,140
August	424	2.8	96.3	5,920
September	11	.5	4.44	264
The year	9,370	.5	422	305,000

CYPRESS CREEK NEAR JEFFERSON, TEX.

LOCATION.—At Farrell Bridge on Jefferson-Harleton highway, 8 miles west of Jefferson, Marion County, and 14 miles above Black Cypress Creek.

DRAINAGE AREA.—848 square miles (measured on base map of Texas).

RECORDS AVAILABLE.—July 19, 1924, to September 30, 1925.

GAGE.—Staff gage in two sections on right bank, attached to tree and to trestle of bridge; read by Leonard Pierson.

DISCHARGE MEASUREMENTS.—Made from bridge or by wading.

CHANNEL AND CONTROL.—Channel straight for 250 feet above and half a mile below gage. Bed composed of earth and large gravel. One channel at all stages. Left bank does not overflow. Right bank covered with grass and trees; overflows at stage of 10 feet for a distance of 300 feet. Control is earth rapids half a mile below gage. Fairly permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 12.80 feet at 2.30 p. m. May 5 (discharge, 1,820 second-feet); no flow August 26 to September 19.

1924–1925: Maximum and minimum stages, those of 1925.

DIVERSIONS.—None.

REGULATION.—None.

ACCURACY.—Stage-discharge relation changed slightly in May. Rating curves well defined for all stages. Gage read to hundredths once daily and oftener during floods. Daily discharge determined by applying daily gage height to rating table. Records good.

Discharge measurements of Cypress Creek near Jefferson, Tex., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 3	2.85	67.2	Apr. 8	7.28	526	May 5	12.74	1,810
Feb. 12	3.82	131	Apr. 16	8.89	871	July 18	.54	1.7
Mar. 21	3.10	85.9	May 2	10.32	1,180	Aug. 13	1.20	10.2
Apr. 6	7.73	606						

Daily discharge, in second-feet, of Cypress Creek near Jefferson, Tex., for the year ending September 30, 1925

Day	Oct	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	24	5.8	24	29	129	151	502	824	35	4.4	6.4	------
2	18	6.4	24	31	122	143	623	1,180	35	4.4	3.7	------
3	16	7.4	24	56	122	143	641	1,560	35	4.4	2.8	------
4	14	8.0	26	82	122	143	700	1,800	31	4.4	2.8	------
5	11	8.0	27	82	115	143	680	1,820	28	4.4	2.5	------
6	10	7.4	27	88	115	129	605	1,690	25	4.5	2.1	------
7	9.4	7.4	27	88	115	129	570	1,360	22	4.5	11	------
8	8.7	6.4	29	88	122	122	536	1,440	20	4.4	12	------
9	8.0	12	31	88	122	122	587	1,410	18	4.4	7.5	------
10	7.7	14	31	88	129	115	700	660	20	5.8	10	------
11	7.4	19	39	115	129	115	740	720	22	7.2	9.6	------
12	6.4	24	43	122	129	115	760	700	20	7.2	11	------
13	6.1	26	48	129	136	108	781	740	18	5.8	11	------
14	5.3	27	39	136	160	108	781	740	16	6.1	11	------
15	5.0	27	31	160	151	108	802	760	14	4.4	11	------
16	4.7	27	31	220	115	101	847	781	14	3.6	11	------
17	4.5	27	29	290	108	101	870	740	12	2.5	7.5	------
18	4.5	29	35	384	108	101	942	740	10	1.8	4.4	------
19	4.5	31	39	423	108	101	870	519	10	14	4.2	------
20	4.5	39	43	397	101	101	781	502	10	19	2.7	4.2
21	3.3	43	31	384	82	88	485	143	8.6	9.2	2.1	2.9
22	3.3	43	27	372	115	82	230	76	8.6	5.7	1.8	1.9
23	3.1	27	27	360	122	76	129	108	8.6	4.7	1.2	1.8
24	2.6	27	26	348	129	73	115	88	8.6	3.1	.8	1.6
25	2.2	26	24	324	143	70	82	108	10	2.1	.5	.9
26	3.3	26	24	280	143	70	397	94	10	1.2	------	.9
27	4.0	24	22	240	160	67	360	82	10	1.0	------	.9
28	3.7	24	22	210	160	64	372	88	5.8	.9	------	.8
29	4.0	22	24	180	------	151	384	101	4.4	1.8	------	.5
30	4.5	22	27	160	------	301	519	115	4.4	2.5	------	.4
31	5.0	------	27	143	------	485	------	70	------	5.5	------	------

NOTE.—No flow on days for which no discharge is given.

Monthly discharge of Cypress Creek near Jefferson, Tex., for the year ending September 30, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	24	2.2	7.05	434
November	43	5.8	21.4	1,270
December	48	22	29.9	1,840
January	423	29	197	12,100
February	160	82	125	6,970
March	485	64	127	7,790
April	942	82	580	34,500
May	1,820	70	702	43,200
June	35	4.4	16.5	980
July	19	.9	5.00	307
August	12	0	4.86	299
September	4.2	0	.56	33.3
The year	1,820	0	151	110,000

OUACHITA RIVER NEAR HOT SPRINGS, ARK.

LOCATION.—In SW. ¼ sec. 29, T. 3 S., R. 19 W., at Smith Ferry highway bridge half a mile below Fourche a Loup Creek, 1 mile above Hot Springs Creek, and 5 miles south of Hot Springs, Garland County.

DRAINAGE AREA.—1,420 square miles (measured on base map of Arkansas).

RECORDS AVAILABLE.—June 27, 1922, to September 30, 1925.

GAGE.—Chain gage on downstream side of bridge; read by Charles Lawson, Mrs. H. O. Moon, and D. P. Campbell.

DISCHARGE MEASUREMENTS.—Made from downstream side of bridge or by wading.

CHANNEL AND CONTROL.—Bed composed of gravel and rock. Channel obstructed by outcropping rock dikes on which small trees grow. Control is a series of outcropping rock dikes 400, 1,000, and 1,500 feet below gage; the upper dike forms the low-water control, and lower dike the high-water control; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage recorded during year, 14.62 feet at 7.50 p. m. February 23 (discharge, 13,500 second-feet); minimum stage, 5.15 feet September 12, 13, and 14 (discharge, 54 second-feet).

1922–1925: Maximum stage, determined by levels to floodmarks, 43.9 feet May 15, 1923 (discharge determined by extending rating curve for main channel and computing overflow by Kutter's formula, 143,000 second-feet, revised); minimum discharge, 42 second-feet, several periods in September, 1922.

ACCURACY.—Stage-discharge relation permanent during year. Rating curve fairly well defined. Gage read to hundredths twice daily. Daily discharge ascertained by applying mean daily gage height to rating table. Records good.

Discharge measurements of Ouachita River near Hot Springs, Ark., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Nov. 22	5.70	196	May 31	5.46	106	Aug. 7	5.55	135
Jan. 31	6.25	478						

Daily discharge, in second-feet, of Ouachita River near Hot Springs, Ark., for the year ending September 30, 1925

Day	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
1	228	71	116	208	459	1,440	159	1,620	86	428	625	76
2	228	63	108	188	662	1,170	152	490	86	428	428	76
3	181	68	108	188	662	1,010	208	700	80	625	296	76
4	146	71	136	188	662	890	700	625	73	700	146	76
5	130	71	208	170	662	812	459	346	68	296	136	76
6	121	70	263	170	625	700	372	320	68	220	121	68
7	118	78	2,690	170	555	625	330	346	68	208	136	68
8	114	78	4,040	170	522	590	282	263	92	220	136	68
9	101	78	1,720	159	700	490	272	228	86	188	127	63
10	108	78	1,170	170	850	428	250	208	76	188	127	60
11	90	78	890	237	1,010	400	228	2,470	76	181	121	60
12	80	310	700	346	930	372	220	1,920	96	146	121	63
13	80	277	555	372	775	341	196	1,820	208	136	108	58
14	74	459	490	428	700	320	188	1,620	196	127	108	68
15	74	625	400	625	625	306	181	1,010	170	121	108	80
16	71	428	362	700	522	291	170	428	159	101	96	76
17	71	310	320	1,010	459	282	170	320	282	96	96	152
18	71	254	296	1,350	428	259	170	282	362	96	96	272
19	71	220	296	1,530	400	259	208	263	490	296	96	263
20	71	246	282	1,530	372	246	196	250	459	346	96	237
21	71	204	263	1,440	1,920	237	188	170	372	320	96	152
22	68	181	250	1,350	3,150	237	159	127	346	590	96	136
23	63	170	250	1,170	13,100	216	152	108	296	930	96	76
24	59	152	296	1,010	8,030	216	188	121	272	890	96	296
25	63	146	296	850	4,170	216	181	136	250	738	86	2,030
26	59	136	272	775	2,800	196	96	127	250	555	86	3,780
27	59	127	228	700	2,030	196	170	121	237	428	86	5,830
28	63	121	228	625	1,620	196	188	108	228	625	86	2,360
29	63	121	228	555	-------	177	2,250	96	181	662	86	1,440
30	68	116	220	490	-------	177	2,360	96	181	700	76	1,010
31	71	-------	208	490	-------	177	-------	106	-------	625	76	-------

Monthly discharge of Ouachita River near Hot Springs, Ark., for the year ending September 30, 1925

[Drainage area, 1,420 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per. square mile	
October	228	59	94.7	0.067	0.08
November	625	63	180	.127	.14
December	4,040	108	577	.406	.47
January	1,530	159	625	.440	.51
February	13,100	372	1,760	1.24	1.29
March	1,440	177	435	.306	.35
April	2,360	96	368	.259	.29
May	2,470	96	543	.382	.44
June	490	68	196	.138	.15
July	930	96	394	.277	.32
August	625	76	138	.097	.11
September	5,830	58	638	.449	.50
The year	13,100	58	487	.343	4.65

OUACHITA RIVER AT REMMEL DAM, NEAR MALVERN, ARK.

LOCATION.—In SW. ¼ NW. ¼ sec. 36, T. 3 S., R. 18 W., 700 feet below Remmel Dam of Arkansas Power & Light Co., three-fourths mile above Cove Creek, and 9 miles northwest of Malvern, Hot Spring County.

DRAINAGE AREA.—1,540 square miles (measured on base map of Arkansas).

RECORDS AVAILABLE.—January 30 to September 30, 1925.

GAGE.—Gurley 7-day water-stage recorder; inspected by G. R. Murray.

DISCHARGE MEASUREMENTS.—Made from cable or by wading.

CHANNEL AND CONTROL.—Bed composed of clean gravel. Control is coarse gravel bar 1,000 feet below gage; practically permanent.

EXTREMES OF DISCHARGE.—Maximum stage from recorder graph during period of records, 13.05 feet at noon February 3 (discharge, 15,300 second-feet); minimum stage, 1.52 feet September 12 and 13 (discharge, 15 second feet).

Flood of May 16, 1923, reached a stage of 36.3 feet, as determined by levels to floodmarks (discharge determined from extension of rating curve, 113,000 second-feet).

REGULATION.—Flow is regulated almost completely by power plant 700 feet above gage.

ACCURACY.—Stage-discharge relation permanent during the period. Rating curve well defined above 450 second-feet. Operation of water-stage recorder satisfactory for days for which records are given. Daily discharge ascertained by averaging the results obtained by applying hourly gage height to rating table. Records good.

Discharge measurements of Ouachita River at Remmel Dam, near Malvern, Ark., during the year ending September 30, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Jan. 28	5.07	1,740	Feb. 1	1.78	36	Feb. 25	8.04	5,750
Jan. 28	5.12	1,850	Feb. 1	1.78	30	Feb. 25	5.67	2,410
Jan. 29	4.15	983	Feb. 1	3.34	533	May 30	1.79	27
Jan. 31	4.35	1,210	Feb. 24	9.95	9,490	May 30	3.94	907
Jan. 31	3.72	604	Feb. 24	11.19	12,000	Aug. 7	1.68	25

Daily discharge, in second-feet, of Ouachita River at Remmel Dam, near Malvern, Ark., for the year ending September 30, 1925

Day	Jan.	Feb.	Mar.	May	June	July	Aug.	Sept.
1	-------	180	1,350	-------	54	152	-------	226
2	-------	1,220	2,060	-------	120	221	-------	134
3	-------	921	1,950	-------	75	122	-------	130
4	-------	919	1,610	-------	53	85	-------	153
5	-------	998	1,520	-------	324	168	-------	155
6	-------	1,160	1,600	-------	200	148	-------	104
7	-------	1,120	1,580	-------	129	150	-------	137
8	-------	38	860	400	84	152	-------	120
9	-------	597	1,720	418	147	133	94	172
10	-------	986	1,090	180	199	110	115	110
11	-------	-------	596	1,040	310	155	128	164
12	-------	-------	634	1,150	100	185	142	156
13	-------	-------	695	1,310	76	180	206	165
14	-------	-------	562	1,330	172	141	136	240
15	-------	134	184	1,400	166	340	147	248
16	-------	806	710	1,510	115	132	136	1,090
17	-------	658	662	811	144	130	228	1,270
18	-------	548	482	1,240	180	214	321	130
19	-------	770	536	933	150	174	422	107
20	-------	508	496	228	149	120	124	126
21	-------	1,140	336	192	282	120	176	204
22	-------	-------	90	140	163	-------	155	116
23	-------	-------	259	104	129	-------	133	257
24	-------	9,410	301	86	150	-------	118	220
25	-------	4,480	304	352	150	-------	132	288
26	-------	3,670	326	402	171	-------	240	864
27	-------	2,320	350	178	153	-------	127	1,520
28	-------	2,550	359	182	151	-------	113	2,050
29	-------	-------	100	173	98	-------	139	2,480
30	1,310	-------	202	162	127	-------	82	2,170
31	888	-------	88	114	-------	-------	98	-------

NOTE.—Operation of water-stage recorder not satisfactory for days of missing records.

Monthly discharge of Ouachita River at Remmel Dam, near Malvern, Ark., for the year ending September 30, 1925

[Drainage area, 1,540 square miles]

Month	Discharge in second-feet				Run-off in inches
	Maximum	Minimum	Mean	Per square mile	
March	2,060	88	762	0.495	0.57
May 8–31	1,510	86	585	.380	.34
June	324	53	151	.098	.11
July 1–21	340	85	159	.103	.08
August 9–31	422	82	161	.105	.09
September	2,480	104	510	.331	.37

MISSISSIPPI RIVER DELTA

BAYOU COCODRIE NEAR MEEKER, LA.

LOCATION.—On line between secs. 4 and 5, T. 1. S., R. 1 E. at Meeker-Meridian highway bridge, three-eighths mile east of Rock Island Railroad crossing, three-fourths mile below Lake Cocodrie, and 4 miles southwest of Meeker, Rapides Parish.

DRAINAGE AREA.—278 square miles (measured on post-route map and project map of Louisiana Gravity Canal Co.

RECORDS AVAILABLE.—May 12, 1922, to January 31, 1925, when station was discontinued.

GAGE.—Vertical staff attached to downstream end of pile bent of bridge; read by Hart Johnson.

DISCHARGE MEASUREMENTS.—Made from bridge at gage.

CHANNEL AND CONTROL.—Channel curved at station and general course is very crooked. Bed composed of leaves, twigs, sinkers, and mud; subject to shift. Right bank composed of clay and is not subject to overflow. Left bank of clay, wooded, and subject to overflow above a gage height of about 12.5 feet. Control not well defined.

EXTREMES OF DISCHARGE.—Maximum stage recorded during period, 13.1 feet January 19 (discharge, 1,390 second-feet); minimum discharge, 55 second-feet, October 7 to November 9.

1922–1925: Maximum stage recorded, 14.7 feet at 6 a. m. April 14, 1923 (discharge, 1,790 second-feet); negative flow November 13–15, 1922, when direction of current was reversed.

DIVERSIONS.—None.

REGULATION.—Flow regulated by swampy areas and Lake Cocodrie, about three-fourths mile above station.

ACCURACY.—Stage-discharge relation not permanent. Rating curve fairly well defined above 100 second-feet; extended below and subject to error. Gage read to half-tenths twice daily. Daily discharge determined by shifting-control method. Records poor.

Discharge measurements of Bayou Cocodrie near Meeker, La., during the period October 1, 1924, to November 12, 1925

Date	Gage height	Discharge	Date	Gage height	Discharge
	Feet	*Sec.-ft.*		*Feet*	*Sec.-ft.*
Oct. 8	0.45	54.8	Aug. 8	0.25	[a] 78.6
Jan. 13	9.49	830	Nov. 12	8.66	599

[a] Float measurement.

Daily discharge, in second-feet, of Bayou Cocodrie near Meeker, La., for the period October 1, 1924, to January 31, 1925

Day	Oct.	Nov.	Dec.	Jan.	Day	Oct.	Nov.	Dec.	Jan.
1	58	55	57	114	16	55	55	59	842
2	57	55	57	123	17	55	55	59	1,020
3	57	55	57	123	18	55	55	59	1,310
4	57	55	57	123	19	55	55	59	1,390
5	56	55	57	123	20	55	56	60	1,380
6	56	55	58	123	21	55	56	61	1,360
7	55	55	58	126	22	55	57	63	1,310
8	55	55	58	135	23	55	59	67	1,270
9	55	55	58	175	24	55	59	71	1,240
10	55	55	58	447	25	55	59	75	1,210
11	55	55	59	702	26	55	59	81	1,160
12	55	55	59	814	27	55	59	85	1,130
13	55	55	59	828	28	55	58	89	1,090
14	55	55	59	814	29	55	57	93	1,050
15	55	55	59	786	30	55	57	99	1,020
					31	55	------	107	985

Monthly discharge of Bayou Cocodrie near Meeker, La., for the period October 1, 1924, to January 31, 1925

Month	Discharge in second-feet			Run-off in acre-feet
	Maximum	Minimum	Mean	
October	58	55	55.4	3,400
November	59	55	56.0	3,330
December	107	57	66.4	4,080
January	1,390	114	785	48,200
The period				59,000

MISCELLANEOUS DISCHARGE MEASUREMENTS

In addition to the records of stream flow obtained at gaging stations and reported in the preceding pages, measurements of flow were made at a number of other points as shown by the following table:

Miscellaneous discharge measurements in lower Mississippi River basin during the year ending September 30, 1925

Date	Stream	Tributary to—	Locality	Discharge
				Sec.-ft.
July 6	Beaver Spring	Meramec River	6 miles west of Steelville, Mo.	0.2
Sept. 3	Blue Spring	do	2 miles southeast of Bourbon, Mo.	4.9
3	Roaring Spring	do	2 miles east of Stanton, Mo.	1.0
3	Kratz Spring	Spring Creek	5 miles west of Stanton, Mo.	6.8
7	Double Spring	North Fork of White River	12 miles west of Pottersville, Mo.	82
July 31	Warner Bay Spring	Black River	6 miles south of Lesterville, Reynolds County, Mo.	16
Aug. 2	Mill Spring	do	At Mill Spring, Mo.	11
3	Markham Spring	do	3 miles west of Williamsville, Mo.	7.4
3	Keener Spring	do	1 mile northwest of Keener, Mo.	19
July 31	Reeds Spring	West Fork of Black River	At Centerville, Mo.	7.5
Aug. 1	Amsden Spring	Sinking Creek	6 miles south of Centerville, Mo.	2.5
1	Randolph Spring	Logan Creek	2½ miles north of Ellington, Mo.	1.0
1	Carter Spring	Webb Creek	7 miles west of Piedmont, Mo.	1.5
17	Round Spring	Current River	9 miles northwest of Eminence, Mo.	18
15	Phillips Spring	do	12 miles southeast of Van Buren, Mo.	8.8
May 18	Alley Spring	Jacks Fork	Alley, Shannon County, Mo.	89
Aug. 17	do	do	do	68
Dec. 11	Mammoth Spring	Spring River	Mammoth Spring, Ark.	240
Aug. 13	Turner Mill Spring	Eleven Point River	10 miles northeast of Alton, Mo.	2.4
13	Boze Mill Spring	do	12 miles east of Alton, Mo.	13
12	Thomasson Mill Spring.	do	18 miles southeast of Alton, Mo.	26
12	Blue Spring	do	do	67
Sept. 1	Big Spring	Spring River	4 miles west of Mount Vernon, Mo.	8.6
1	Clarkton Spring	Center Creek	7 miles north of Pierce City, Mo.	7.9
Apr. 6	Grape Creek	Arkansas River	In sec. 16, T. 19 S., R. 71 W., near Canon City, Colo.	34.1
June 29	do	do	do	14.1
July 9	do	do	do	[a]2,670
15	do	do	do	15.1
21	do	do	do	[a]14,500
Aug. 3	do	do	do	[a]1,630
4	do	do	do	72
Oct. 16	Pitcher Creek	Canadian River	Near Amarillo, Tex.	1.10
Jan. 6	Salt Fork of Red River	Mississippi River	Near Wellington, Tex.	48.6

[a] Discharge obtained from slope measurements.

INDEX

Page

A

Accuracy of data and results, degrees of 4–5
Acre-foot, definition of 2
Alley Spring, Mo., discharge measurements of 109
Amarillo, Tex., Canadian River near 88–89
cooperation by 9
Amsden Spring, Mo., discharge measurement of 109
Anadarko, Okla., Washita River near 97–98
Appropriations, record of 1
Arkansas City, Kans., Arkansas River at 60–62
Arkansas Light & Power Co., cooperation by 9
Arkansas River at Arkansas City, Kans. 60–62
at Canon City, Colo. 50–51
at Garden City, Kans. 56–57
at Granite, Colo. 48–49
at Holly, Colo. 53–54
at Larned, Kans. 57–59
at Salida, Colo. 49–50
at Syracuse, Kans. 54–56
near Pueblo, Colo. 52–53
near Wichita, Kans. 59–60
Arkansas River Basin, Colo.-Kans.-Mo.-Okla.-Tex., gaging-station records in 48–90

B

Bardley, Mo., Eleven Point River near 45–46
Bayou Cocodrie near Meeker, La. 107–109
Bear Creek near Colorado Springs, Colo. 70
Beaver, Ark., White River at 28–30
Beaver Spring, Mo., discharge measurement of 109
Beckman, H. C., and assistants, work of 9
Berwyn, Okla., Washita River near 99–100
Big River at Byrnesville, Mo. 18–19
Big Spring near Mount Vernon, Mo. 109
Big Spring near Van Buren, Mo. 43–45
Black River at Leeper, Mo. 33–34
Blue Spring, Mo., discharge measurement of 109
Boehmer Creek near Pikes Peak, Colo. 64–65
Bourbeuse River at Union, Mo. 16–18
Boze Mill Spring, Mo., discharge measurement of 109
Broken Bow., Okla., Mountain Fork River near 100–102
Burkburnett, Tex., Red River near 94
Byrnesville, Mo., Big River at 18–19

C

Cabin Creek near Halfway, Colo. 68–69
Canadian River near Amarillo, Tex. 88–89
near Canadian, Tex. 89–90

Page

Canon City, Colo., Arkansas River at 50–51
Canyon, Tex., Prairie Dog Town Fork of Red River near 91–92
Carter Spring, Mo., discharge measurement of 109
Castor River at Zalma, Mo. 19–21
Clarkton Spring, Mo., discharge measurement of 109
Colorado Springs, Colo., Bear Creek near 70
Computations, results of, accuracy of 4–5
Control, definition of 2
Cooperation, record of 9
Cottonwood River at Elmdale, Kans. 82–84
Crowell, Tex., Pease River near 96–97
Current River at Doniphan, Mo. 40–42
at Van Buren, Mo. 39–40
near Eminence, Mo. 35–38
Cypress Creek near Jefferson, Tex. 103–104

D

Darden, Tex., Sulphur River near 102–103
Data, accuracy of 4–5
explanation of 2–4
Denison, Tex., Red River near 95–96
Doniphan, Mo., Current River at 40–42
Double Spring, Mo., discharge measurement of 109

E

Eleven Point River near Bardley, Mo. 45–46
Ellsworth, C. E., and assistants, work of 9–10
Elmdale, Kans., Cottonwood River at 82–84
Eminence, Mo., Current River near 35–38
Jacks Fork at 42–43
Empire District Electric Co., cooperation by 9
Estelline, Tex., Prairie Dog Town Fork of Red River near 92–93
Eureka, Mo., Meramec River near 13–14

F

Follansbee, Robert, and assistants, work of 9
Frame, W. S., work of 10

G

Galena, Mo., James River at 30–31
Garden City, Kans., Arkansas River at 56–57
Gore, Okla., Illinois River near 87–88
Granite, Colo., Arkansas River at 48–49
Grape Creek, Colo., discharge measurements of 109
near Westcliffe, Colo. 62–63
Greer Spring at Greer, Mo. 46–47
Grove, Okla., Neosho River near 79–81

Page

H

Halfway, Colo., Cabin Creek near ... 68-69
Lion Creek near ... 66-67
Sheep Creek near ... 67
South Ruxton Creek at ... 68
Headwater diversion channel basin, Mo., gaging-station records in ... 19-22
Holly, Colo., Arkansas River at ... 53-54
Hot Springs, Ark., Ouachita River near ... 104-106

I

Illinois River near Gore, Okla ... 87-88
Independence, Kans, Verdigris River at ... 75-76
Iola, Kans., Neosho River near ... 76-78

J

Jacks Fork at Eminence, Mo ... 42-43
James River at Galena, Mo ... 30-31
Jefferson, Tex., Cypress Creek near ... 103-104
Joplin, Mo., Shoal Creek near ... 85-87

K

Kansas, cooperation by ... 9
Kansas Gas & Electric Co., cooperation by ... 9
Keener Spring, Mo., discharge measurement of ... 109
Kinnison, H. B., and assistant, work of ... 9
Kirk, Mo., Little River ditch No. 81 at ... 25-27
Little River ditch No. 1 at ... 24-25
Little River ditch No. 66 at ... 27-28
Kratz Spring, Mo., discharge measurement of ... 109

L

Larned, Kans., Arkansas River at ... 57-59
Pawnee River near ... 71-72
Leeper, Mo., Black River at ... 33-34
Lion Creek near Halfway, Colo ... 66-67
Little Arkansas River at Valley Center, Kans ... 72-73
Little Beaver Creek near Pikes Peak, Colo ... 65
Little River ditch No. 81 at Kirk, Mo ... 25-27
Little River ditch No. 1 at Kirk, Mo ... 24-25
Little River ditch No. 66 at Kirk, Mo ... 27-28
Little River Drainage District, cooperation by ... 9
Louisiana Gravity Canal Co., cooperation by ... 9

M

Malvern, Ark., Ouachita River near ... 106-107
Mammoth Spring, Ark., discharge measurement of ... 109
Manitou, Colo., Sutherland Creek near ... 69-70
Markham Spring, Mo., discharge measurement of ... 109
Meeker, La., Bayou Cocodrie near ... 107-109
Meramec River near Eureka, Mo ... 13-14
near St. James, Mo ... 15-16
near Steelville, Mo ... 10-11
near Sullivan, Mo ... 11-13
Meramec River Basin, Mo., gaging-station records in ... 10-19
Mill Spring, Mo., discharge measurement of ... 109

Page

Mississippi River Delta, La., gaging-station record in ... 107-109
Missouri, cooperation by ... 9
Mountain Fork River near Broken Bow, Okla ... 100-102

N

Neosho River near Grove, Okla ... 79-81
near Iola, Kans ... 76-78
near Parsons, Kans ... 78-79
near Wagoner, Okla ... 81-82

O

Oklahoma Gas & Electric Co., cooperation by ... 9
Ouachita River at Remmel Dam, near Malvern, Ark ... 106-107
near Hot Springs, Ark ... 104-106
Ozark Power & Water Co., cooperation by ... 9

P

Parsons, Kans., Neosho River near ... 78-79
Patterson, Mo., St. Francis River near ... 22-23
Pawnee River near Larned, Kans ... 71-72
Pease River near Crowell, Tex ... 96-97
Phillips Spring, Mo., discharge measurement of ... 109
Pikes Peak, Colo., Boehmer Creek near ... 64-65
Little Beaver Creek near ... 65
Sackett Creek near ... 66
Pitcher Creek, Tex., discharge measurement of ... 109
Public Service Co. of Oklahoma, cooperation by ... 9
Publications, information concerning ... 5-8
obtaining or consulting of ... 6
on stream flow, lists of ... 7, 8
Pueblo, Colo., Arkansas River near ... 52-53

R

Randolph Spring, Mo., discharge measurement of ... 109
Red River near Burkburnett, Tex ... 94
near Denison, Tex ... 95-96
Prairie Dog Town Fork of, near Canyon, Tex ... 91-92
near Estelline, Tex ... 92-93
Salt Fork of, Tex., discharge measurement of ... 109
Red River Basin, Tex.-Okla.-Ark., gaging-station records in ... 48-90
Reeds Spring, Mo., discharge measurement of ... 109
Roaring Spring, Mo., discharge measurement of ... 109
Round Spring, Mo., discharge measurement of ... 109
Run-off in inches, definition of ... 2

S

Sackett Creek near Pikes Peak, Colo ... 66
St. Francis River near Patterson, Mo ... 22-23
St. Francis River Basin, Mo., gaging-station records in ... 22-28
St. James, Mo., Meramec River near ... 15-16

	Page
Salida, Colo., Arkansas River at	49–50
Second-feet, definition of	2
Second-feet per square mile, definition of	2
Sheep Creek near Halfway, Colo	67
Shoal Creek near Joplin, Mo	85–87
South Ruxton Creek at Halfway, Colo	68
Spring River near Waco, Mo	84–85
Stage-discharge relation, definition of	2
Steelville, Mo., Meramec River near	10–11
Sullivan, Mo., Meramec River near	11–13
Sulphur River near Darden, Tex	102–103
Sutherland Creek near Manitou, Colo	69–70
Syracuse, Kans., Arkansas River at	54–56
T	
Tecumseh, Mo., North Fork of White River at	31–33
Terms, definition of	2
Texas, cooperation by	9
Thomasson Mill Spring, Mo., discharge measurement of	109
Turner Mill Spring, Mo., discharge measurement of	109
U	
Union, Mo., Bourbeuse River at	16–18
United States Weather Bureau, cooperation by	9
V	
Valley Center, Kans., Little Arkansas River at	72–73
Van Buren, Mo., Big Spring near	43–45
Current River at	39–40
Verdigris River at Independence, Kans	75–76
Victor, Colo. West Beaver Creek near	63–64
W	
Waco, Mo., Spring River near	84–85
Wagoner, Okla., Neosho River near	81–82
Walnut River at Winfield, Kans	73–75
Warner Bay Spring, Mo., discharge measurement of	109
Washita River near Anadarko, Okla	97–98
near Berwyn, Okla	99–100
West Beaver Creek near Victor, Colo	63–64
Westcliffe, Colo., Grape Creek near	62–63
White River at Beaver, Ark	28–30
North Fork of, at Tecumseh, Mo	31–33
White River Basin, Ark.-Mo., gaging-station records in	28–47
Whitewater River at Whitewater, Mo	21–22
Wichita, Kans., Arkansas River near	59–60
cooperation by	9
Winfield, Kans., Walnut River at	73–75
Work, authorization of	1
division of	9–10
scope of	1–2
Z	
Zalma, Mo., Castor River at	19–21
Zero flow, point of, definition of	2

○