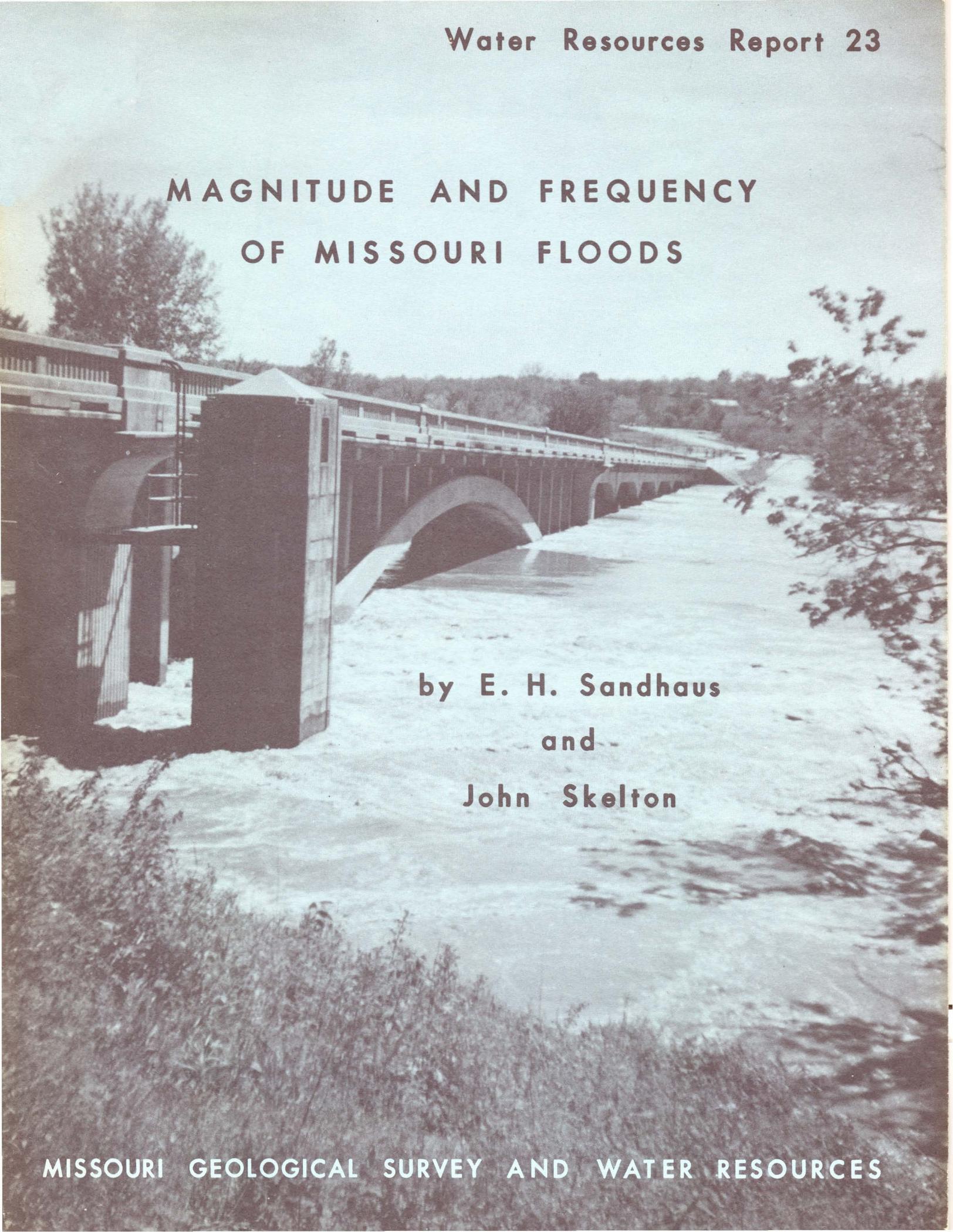


MAGNITUDE AND FREQUENCY  
OF MISSOURI FLOODS



by E. H. Sandhaus  
and  
John Skelton

WATER RESOURCES

REPORT 23

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OF

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Water Resources Division, U. S. Geological Survey

Prepared in cooperation

with

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## ABSTRACT

This report presents the results of a statistical analysis of available floodflow information from streams in the State of Missouri.

Equations are presented for estimating the magnitude of future floods with recurrence intervals of 1.2, 2.33, 5, 10, 25, and 50 years at ungaged sites on most Missouri streams. Only two basin characteristics, drainage area and the average slope of the stream, are required to solve the equations.

The appendices to the report contain information on peak stages and discharges at gaging stations and miscellaneous sites, and flood-frequency data for gaging stations.

## INTRODUCTION

A knowledge of the magnitude and probable frequency of flooding is necessary in flood plain zoning and in the design and location of structures such as dams, bridges, culverts, levees, water-supply and sewage-disposal plants, and industrial buildings. For many projects, the most practical structural design is based on floods that may be exceeded at intervals averaging 10, 25, or 50 years. The method of flood-frequency analysis presented in this report will provide data which are sufficient for many of these design problems where loss of life is not involved and data which are useful for comparative purposes when other methods of design are employed.

The purpose of the report is to present, for the State of Missouri, (1) a method for determining the frequency and magnitude of floods on ungaged streams, (2) a tabulation of observed peak stages and discharges, and (3) a tabulation of flood-frequency data for stream-gaging stations.

The report was prepared by the Water Resources Division of the U. S. Geological Survey under the supervision of Anthony Homyk, District Chief; in cooperation with the Missouri Geological Survey and Water Resources, Dr. W. C. Hayes, State Geologist; the Missouri State Highway Commission, M. J. Snider, Chief Engineer; and U. S. Bureau of Public Roads. M. A. Benson, A. R. Green, and D. M. Thomas, hydraulic engineers of the Washington, D. C. office of the U. S. Geological Survey, provided valuable technical advice and assistance during the preparation of the report.

This report is a revision and extension of Geological Survey Circular 370 "Floods in Missouri, Magnitude and Frequency" by Searcy (1955). It contains the analysis of an additional 13 years of streamflow record, collected in cooperation with the Missouri Geological Survey, the Corps of Engineers, the Missouri Highway Commission, and other agencies and includes

station records which were too short for publication in Circular 370.

The opinions, findings, and conclusions expressed in this publication are not necessarily those of the Bureau of Public Roads.

#### DEFINITION OF TERMS AND CONVERSION OF UNITS

Hydrologists often use terms and concepts that are unfamiliar to others. A few of the terms used in this report are defined here.

1. Continuous-record station.-- A site on a stream where continuous records of discharge are obtained.
2. Cubic feet per second (cfs).-- The unit expressing rate of discharge. One cfs is the rate of discharge of a stream having a cross-sectional area of 1 square foot and an average velocity of 1 foot per second.  
     1 cfs = 0.646 million of U. S. gallons per day
3. Miscellaneous site.-- A site on a stream where data are collected during floods or droughts to give better areal coverage to those events. There is no systematic data collection at these sites.
4. Partial-record station.-- A site on a stream where flood-peak and/or low-flow data are collected systematically over a period of years.
5. Recurrence interval.-- The average interval of time within which the given flood will be exceeded once. Recurrence intervals are averages and do not imply regularity of occurrence; an event of 50-year recurrence interval might be exceeded in consecutive years or it might not be exceeded in a 100-year period. Putting it another way, a 50-year flood has a 2-percent chance of being exceeded in any one year.
6. Water year.-- The 12-month period October 1 to September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1966 is called the 1966 water year.

#### DESCRIPTION OF AREA

##### Topography

Missouri has four distinct topographic divisions: in the north, glaciated plains; in the west, plains or prairie; in the extreme southeast, lowlands; and between them, the Missouri Ozarks, part of the Ozark uplift.

The plains section, including glaciated plains in the north and unglaciated plains in the west, comprise nearly all the area north of the Missouri River, and a large area south of the river in the western part of the State. The eastern part of the area is generally an undulating prairie with rolling hills, while the western part is more hilly. Elevations range from 450 feet above sea level near the Mississippi River to 800-1,000 feet above sea level on the western plains. The region has numerous wide, flat valleys cut by the rivers that drain it.

The Ozarks comprise about half the State. It is a rugged area of deep, narrow valleys, with sharp ridges separating the valleys. Elevations range from 1,000 to more than 1,600 feet above sea level.

The Southeastern Lowlands is a relatively flat region of about 3,000 square miles. Elevations range from 230 to 300 feet above sea level over most of the area. Crowley's Ridge, about 500 feet above sea level, lies diagonally across the area. The region is well drained

for the most part by a system of drainage ditches and canals and contains excellent farmland.

#### Climate

Missouri is an inland state with a continental climate; that is, the weather is changeable with large variations in temperature and precipitation. The average annual precipitation ranges from 32 inches in the northwest to 48 inches in the southeast, and the average annual temperature range from northwest to southeast is 12.2 to 15.0 degrees Celsius (Centigrade).

The state's total seasonal snowfall from year to year ranges from 5 to nearly 40 inches and averages about 18 inches, but it seldom plays an important part in the occurrence of floods.

Summer rainfall frequently occurs as thundershowers which are occasionally severe. At times, more than 10 inches of rainfall have been recorded in 24 consecutive hours. The world's most severe recorded rainfall, a total of 12 inches in 42 minutes, was measured at Holt, Missouri, on June 22, 1947 (U. S. Department of Commerce, Weather Bureau, 1960).

#### SEASONAL DISTRIBUTION OF FLOODS

A knowledge of the seasonal distribution of floods is necessary for many purposes, including planning for construction in an area subject to flooding. A study of seasonal flood distribution in Missouri revealed that the state receives more rainfall and experiences more flood peaks in June than in any other month. The study also revealed that spring rainfall produces greater flood peaks than equivalent amounts of rain in the fall. In the spring, the ground is more saturated, resulting in more rejection of rainfall and more runoff.

In general, floods in Missouri are more likely to occur during June, with March and April in second and third place respectively. Floods are least likely to occur during the 3 month period, November through January.

#### METHODS OF ANALYSIS

##### Analysis of Flood Records

The flood-frequency analysis used in this report involved three distinct operations.

The first step in the statewide flood-frequency analysis was the compilation of flood records collected from the network of streamgaging stations throughout the state. Appendix I contains a complete listing of these records for 280 gaging stations and miscellaneous sites, and Plate 1 shows the geographic distribution of the sites.

The next step in the analysis was the determination of flood-frequency data from the flood records of gaging stations throughout the state. These data were computed for 208 gaging stations in Missouri which met the following criteria:

1. Ten or more annual peak discharges available.
2. More than 25-percent difference in drainage area between gaging stations located on the same stream.
3. Flood peaks not materially affected by regulation. Flood record prior to regulation by reservoirs was used for some stations.
4. Adequate definition of the stage-discharge relation.

For each of the 208 sites a flood-frequency curve was defined using methods suggested by Dalrymple (1960, pp. 7-24):

1. Annual peak discharges were listed for each station selected for frequency analysis.

2. The peaks were arranged in order of magnitude and recurrence intervals computed by the formula  $RI = \frac{N+1}{M}$ , where RI is recurrence interval in years, N is the number of years of record, and M is the rank, starting with the highest as 1.
3. Each peak flow was plotted against its respective recurrence interval on a special graph paper, and a relation line drawn through the plot as shown in Figure 1. The graph paper is designed to produce a straight-line relation if the flood peaks conform to an extreme-value distribution (Gumbel, 1958) but for the Missouri flood records, many relations were found to be curves. Recurrence intervals are less accurately computed for the extreme floods than for average floods in each record. For this reason, extreme floods were given less weight than average floods when drawing the curves.

Magnitudes of the 1.2, 2.33, 5, and 10-year recurrence interval floods were determined from each of the 208 frequency curves and tabulated for use in the next step of the analysis. For those sites where the flood record was of adequate length so that the frequency curve could confidently be drawn to the 25-year and 50-year recurrence interval, the magnitude of these floods was also tabulated. Appendix II contains the tabulation of flood-frequency data for unregulated gaging stations in Missouri.

#### Reliability of Station Frequency Curves

Flood-frequency data at streamgaging stations are the basis for a regional analysis. The reader may well ask, "How reliable is the foundation upon which every premise in this report is based?"

Obviously, flood magnitudes or frequencies computed from short-time records may vary from the true, long-term value. Benson (1960) made a study of the variations in frequency curves computed from short records and reached the conclusions shown in Table 1.

Table 1. Length of record necessary to define a flood within 25 percent of the correct value 95 and 80 percent of the time.

| Recurrence interval of flood<br>(years) | Length of record necessary<br>(years) |                           |
|---|---------------------------------------|---------------------------|
|   | 95 percent of<br>the time             | 80 percent of<br>the time |
| 2.33 -----                              | 12                                    | --                        |
| 10 -----                                | 18                                    | 8                         |
| 25 -----                                | 31                                    | 12                        |
| 50 -----                                | 39                                    | 15                        |

The data in Table 1 are based on an array of 1,000 hypothetical annual floods rather than actual flood events, and they indicate the variations resulting from chance alone where frequency data are based on records from a single station.

The length of flood records from small drainage areas in Missouri range from 12 to 25 years; therefore, the prediction of rare flood events from these limited data could be considerably in error. However, these records are the best hydrologic tools available for small drainage area studies in the state. Collection of flood data from small drainage areas and the search for simpler, more accurate methods of frequency analysis are continuing.

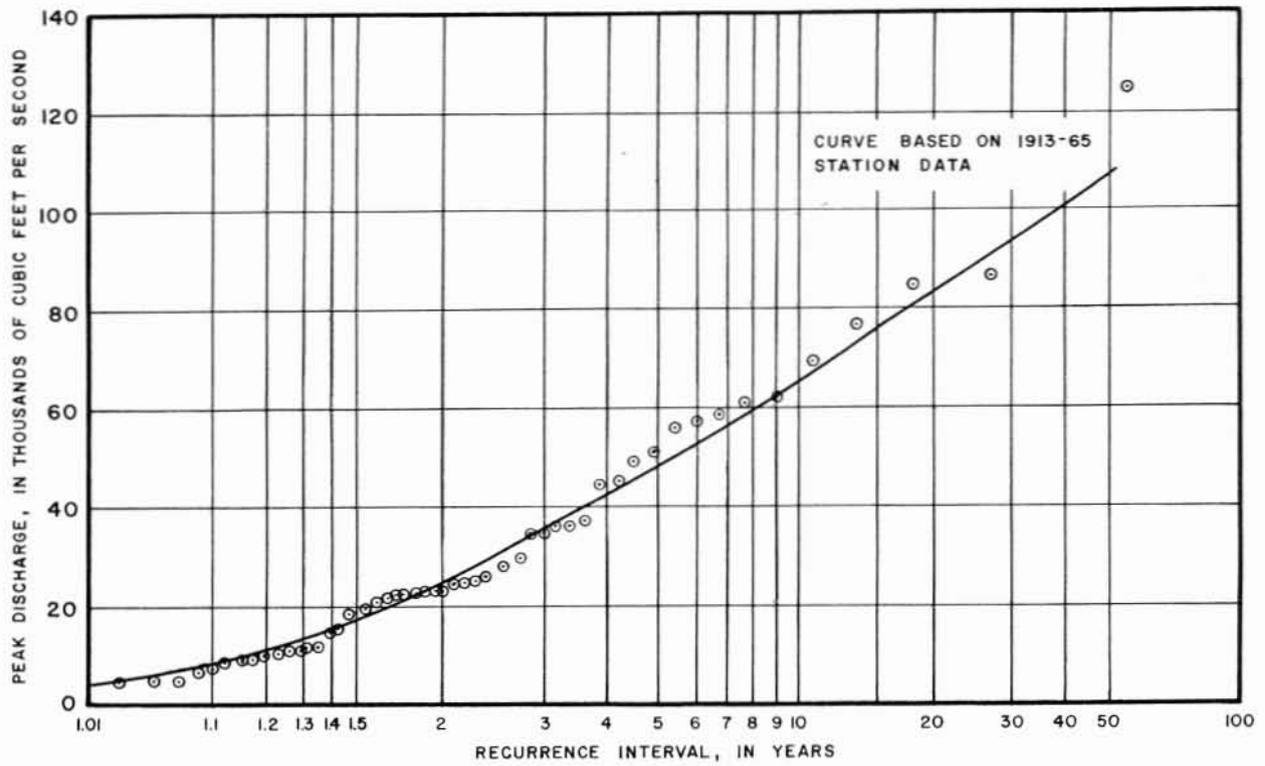


Figure 1. Flood-frequency curve for Current River at Van Buren, Missouri.

Collection of flood records in Missouri began with large drainage areas; as a result, long-time flood records in the state have been collected from drainage areas greater than 50 square miles. Estimates of flood frequency at these stations, as shown by Benson's study, are sufficiently accurate for most design purposes where loss of life or great property damage are not involved.

#### Definition of Statewide Flood-Frequency Equations

Statewide flood-frequency equations were defined for this report by multiple regression techniques similar to those described by Benson (1962). These equations are a composite of hydrologic experience in Missouri and should be used to compute estimates of flood magnitude and frequency at ungaged sites in the state.

Multiple regression is a statistical technique for evaluating the relation between a dependent variable and one or more independent variables. For this analysis of Missouri floods, the dependent variable was a characteristic selected from each of the 208 frequency curves, and the independent variables were measures of the differences between the 208 drainage basins. Results of a regression analysis are a mathematical expression of the best possible relation between the variables along with several statistics that evaluate both the overall accuracy of the relation and the usefulness of each independent variable used.

#### Basin Characteristics

There are many possible measures for the differences between drainage basins. Six selected for use as independent variables in this study are as follows:

1. Drainage area (A), in square miles.
2. Slope (S), in feet per mile (average slope between points 10 and 85 percent of total main stem distance upstream from the gage).
3. Mean annual precipitation (P), in inches.
4. Elevation (E), in feet (mean sea level at gaging station).
5. Forest cover (F), in percent of basin.
6. Length of main channel (L), in miles, from gage to divide.

Values of these six indices were computed for each of the 208 stations.

#### Regression Analysis

The many calculations required for regression analysis were performed on an electronic digital computer. The procedure used was to submit to the computer a dependent variable, for example the 1.2 year flood for each of the 208 sites, along with the six basin characteristics for these sites. The mathematical relation along with the evaluation statistics were determined for this set of data. The computer then automatically recomputed another relation and evaluation statistics that omitted the least effective basin characteristic. This process of recomputation, omitting the least effective basin characteristic, was repeated until only one basin characteristic remained. At this point the computer began computations on a new set of data, for example the 2.33 year floods as dependent variables, along with the six basin characteristics as independent variables. The entire set of calculations produced six relations for each of the six independent variables.

Analysis of the statistics obtained from the computer program revealed that only two independent variables, area and average slope, should be included in the equations defining the frequency and magnitude of floods in Missouri. These two factors were found to be statistically significant at the 99 percent effectiveness level for all relations. Two other basin characteristics, mean annual precipitation and elevation, were significant in two of the equations, but were eliminated from consideration because their inclusion only slightly improved the accuracy of the relations as indicated by the standard error of estimate.

Statewide Flood-Frequency Equations

The equations defined from the statistical analysis are presented in Table 2 and can be used to estimate magnitude and frequency of floods on most streams in Missouri (for exceptions, see subsequent section "Limitations of Equations").

The interpretation of the standard error of estimate column in Table 2 should be made in the following ways, using the equation for the 50-year flood as an example.

1. A statement that the actual value for the 50-year flood lies within 1 standard error (36.9 percent) of that obtained from the equation will be correct 2 out of 3 times, on the average.
2. A statement that the actual value for the 50-year flood lies within two standard errors (73.8 percent) of that obtained from the equations will be correct 19 times out of 20, on the average.

The values of the standard error are given so that the user will be able to evaluate the accuracy of results from the equations.

Table 2. Equations for determining magnitude and frequency of Missouri floods.

| Frequency of flood<br>(years) | Magnitude of flood<br>(cfs)              | Standard error<br>of estimate<br>(percent) |
|-------------------------------|--|--|
| 1.2 -----                     | 61.5 A <sup>.651</sup> S <sup>.191</sup> | 50.7                                       |
| 2.33 -----                    | 72.3 A <sup>.719</sup> S <sup>.330</sup> | 44.1                                       |
| 5 -----                       | 82.3 A <sup>.743</sup> S <sup>.411</sup> | 44.8                                       |
| 10 -----                      | 90.1 A <sup>.757</sup> S <sup>.462</sup> | 45.6                                       |
| 25 -----                      | 74.8 A <sup>.776</sup> S <sup>.654</sup> | 36.9                                       |
| *50 -----                     | 70.4 A <sup>.804</sup> S <sup>.680</sup> | 36.9                                       |

\*Fifty-year flood-frequency estimates at gaging stations were obtained from data for drainage areas in excess of 50 square miles. There is no evidence to support the use of the 50-year equation for drainage areas less than 50 square miles.

The solution of the flood-frequency equations is somewhat laborious; therefore, graphical solutions to the equations are presented in Figure 2.

Analysis of residual errors. Residual errors are defined as the ratio of observed values to the values computed from the equations. A ratio of 1.00 indicates an exact agreement

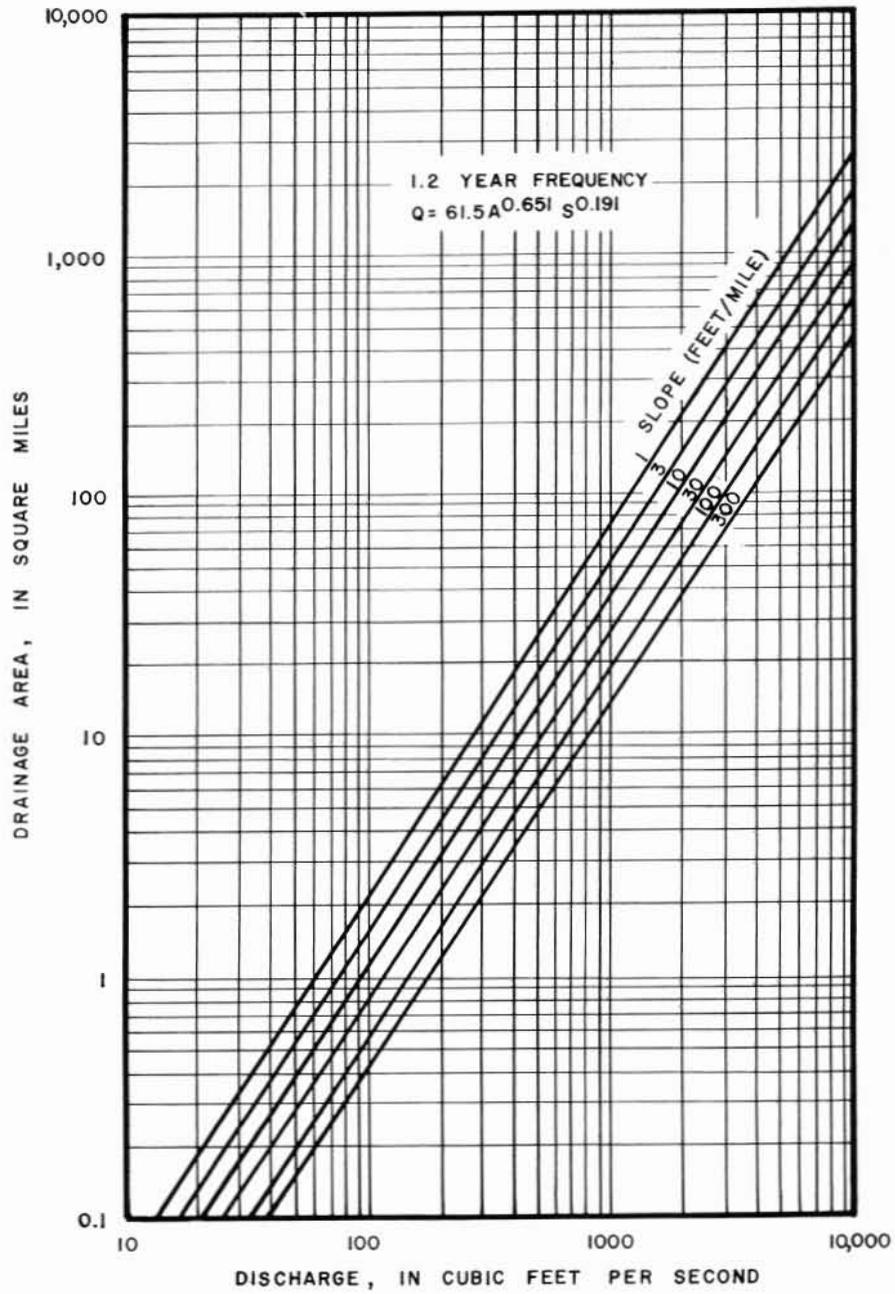


Figure 2a. Graphical solution of 1.2-year equation.

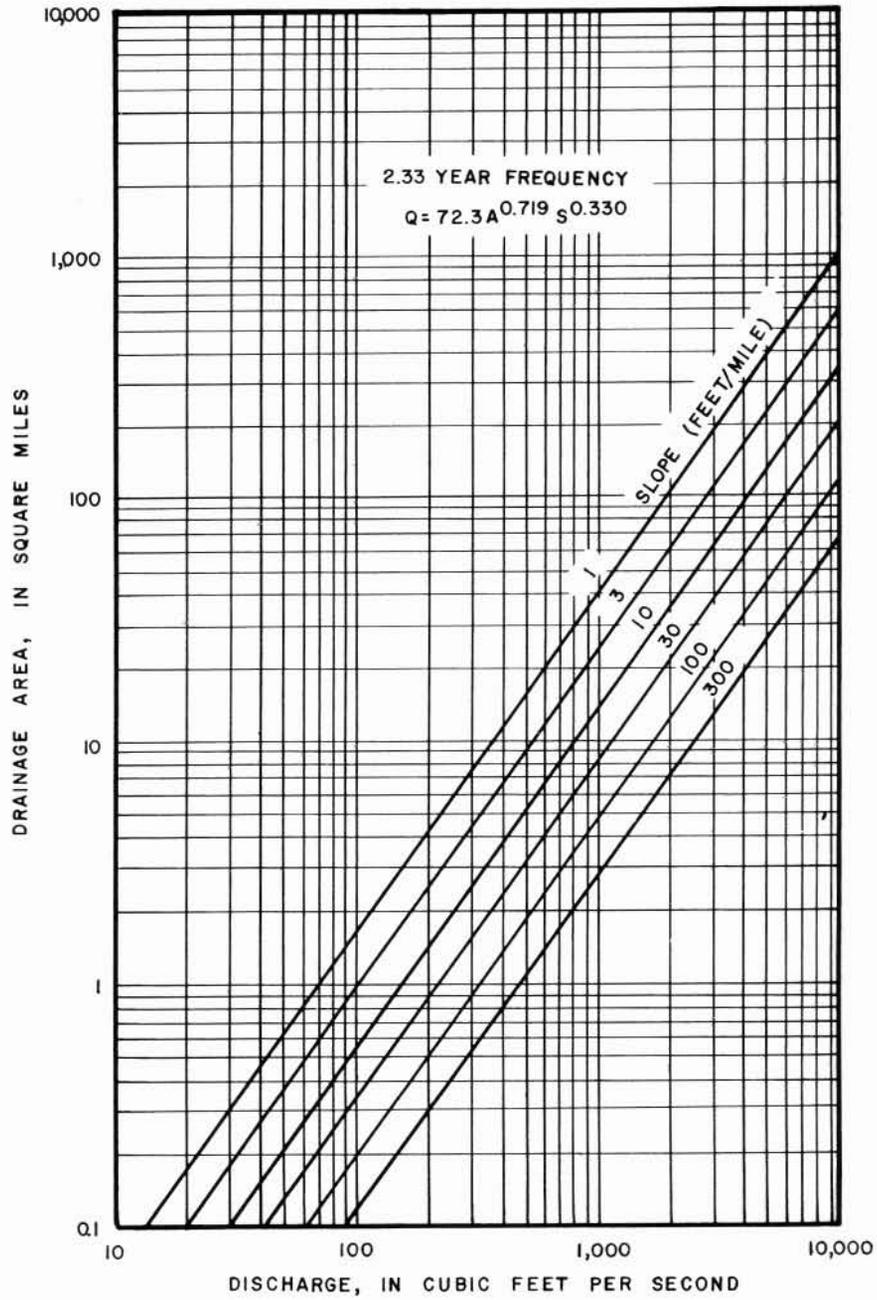


Figure 2b. Graphical solution of the 2.33-year equation.

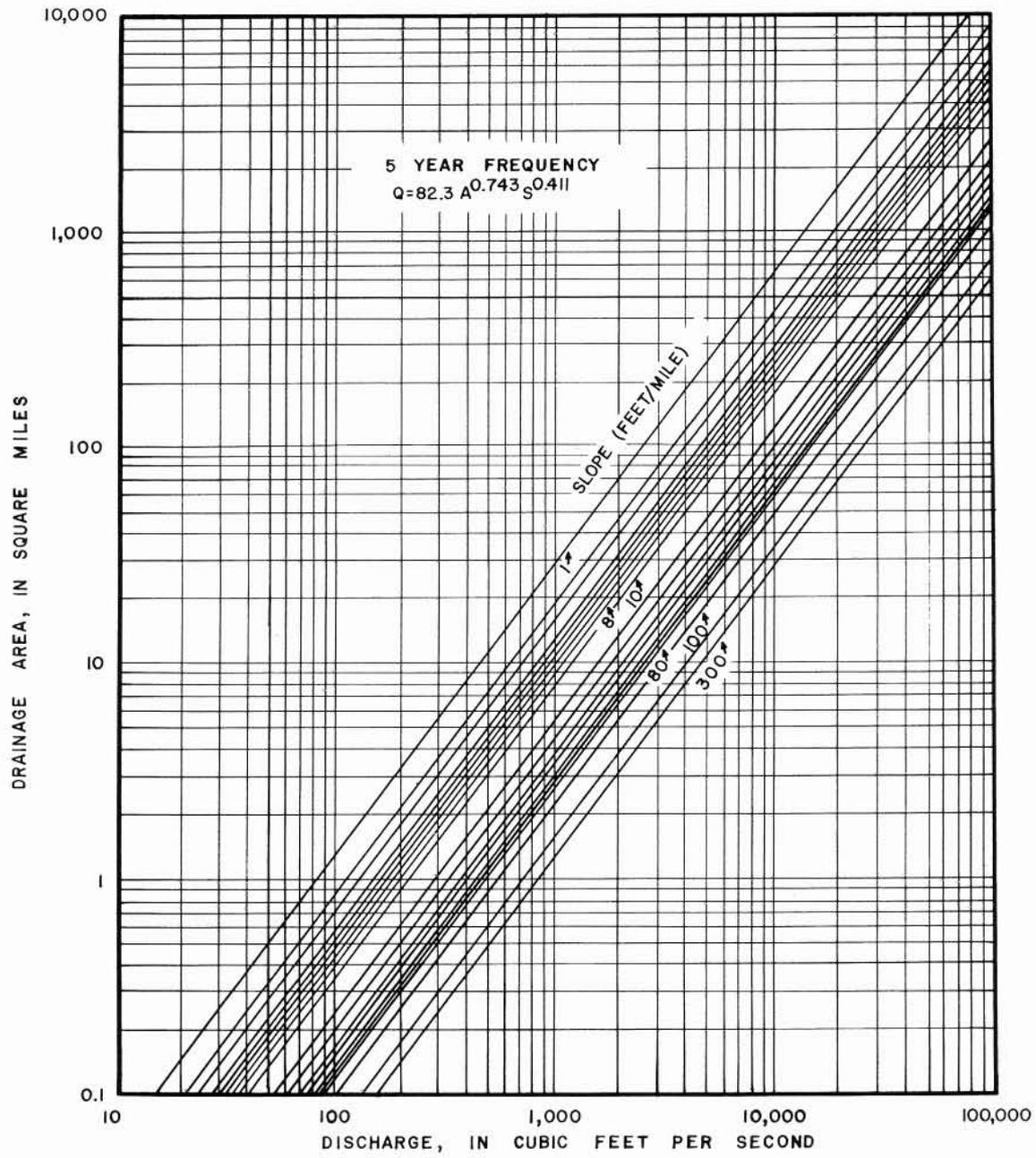


Figure 2c. Graphical solution of the 5-year equation.

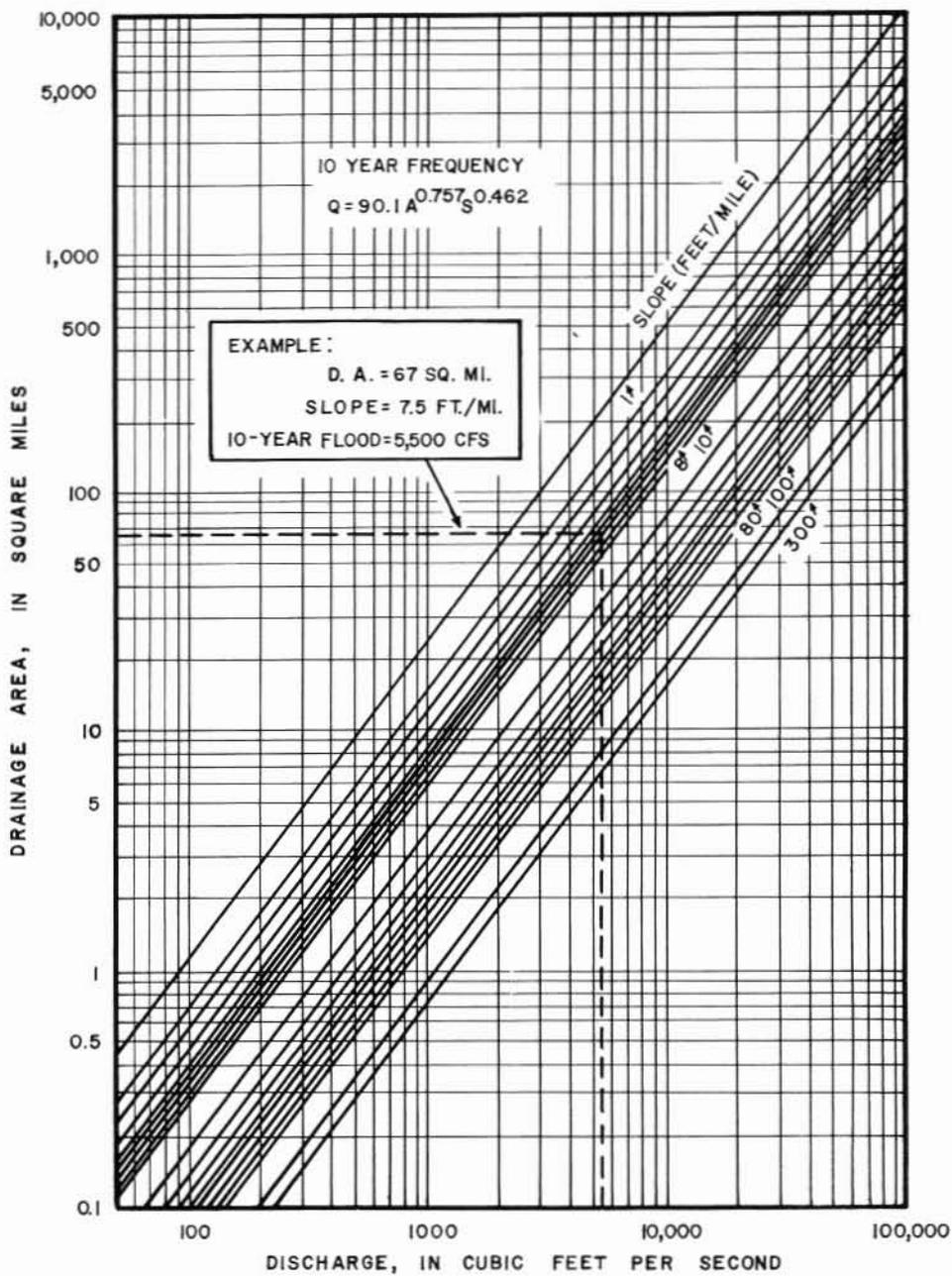


Figure 2d. Graphical solution of the 10-year equation.

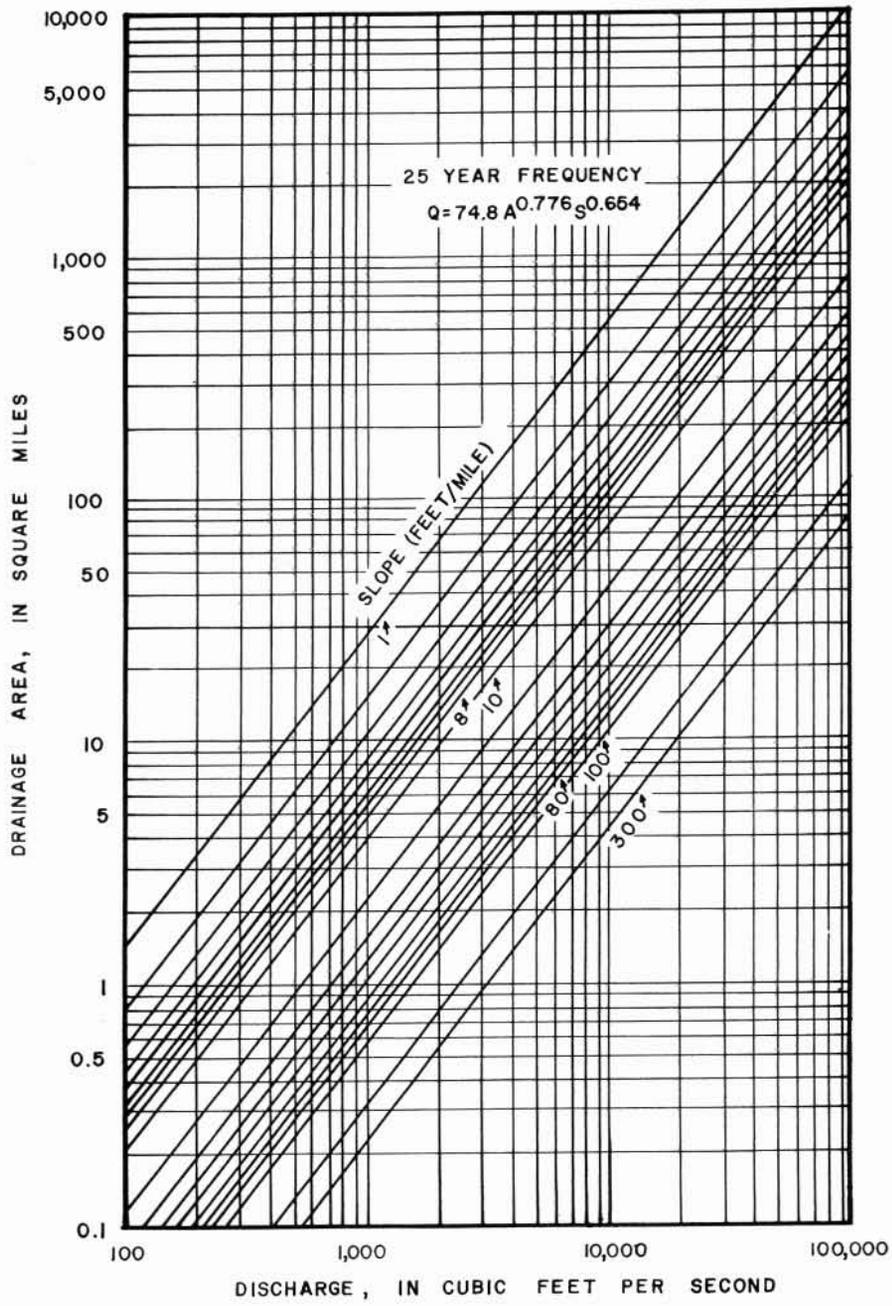


Figure 2e. Graphical solution of the 25-year equation.

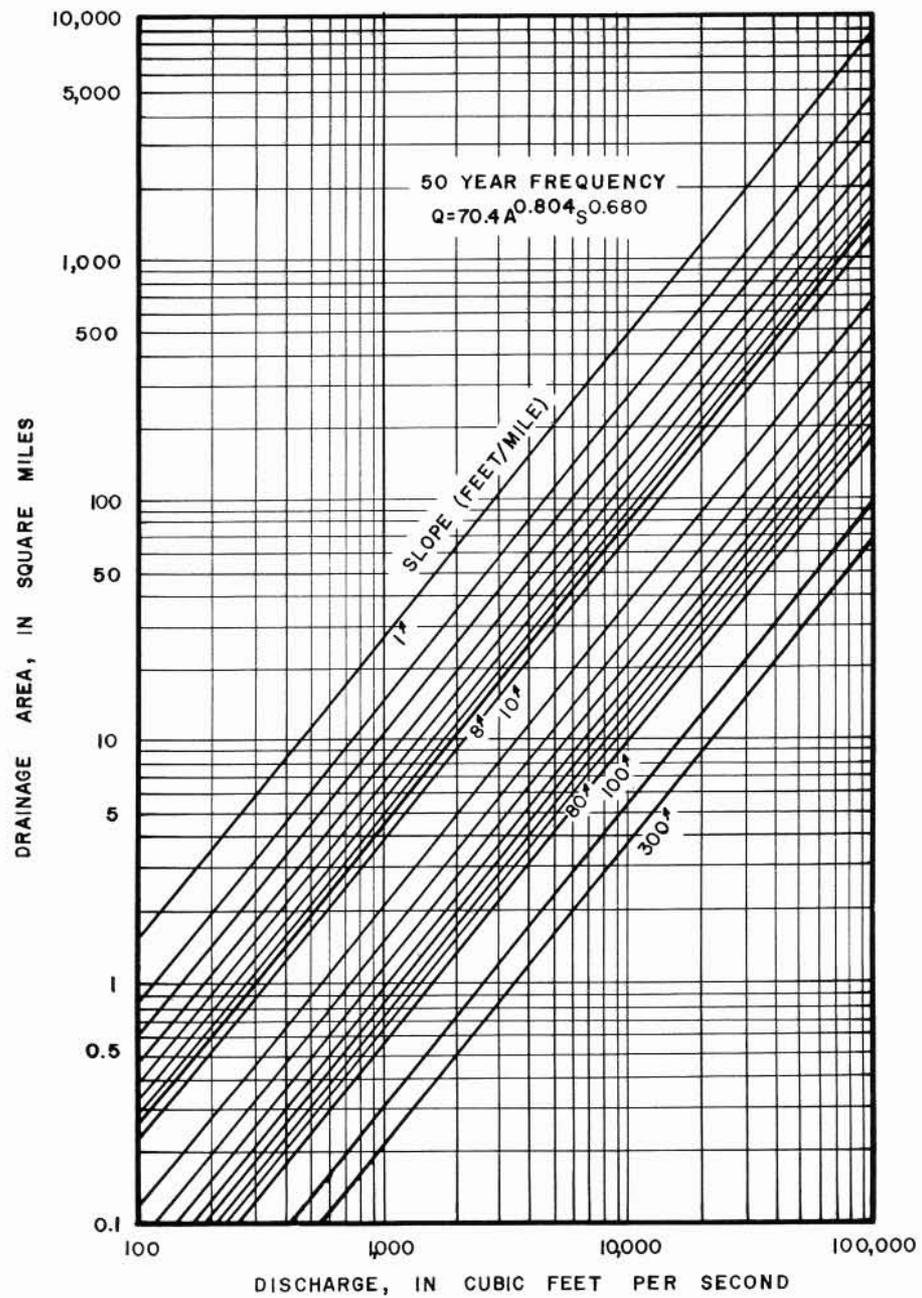


Figure 2f. Graphical solution of the 50-year equation.

between observed and computed values, whereas a large departure from 1.00 indicates a large disagreement. These ratios are an expression of the validity of the equations. If a residual pattern exists in an area, some significant hydrologic variable has been omitted from the analysis for that area, and a geographic correction factor must be applied to the appropriate equation.

Residuals were computed for each of the equations and were plotted on separate maps to determine if any geographic patterns existed. The resulting plots showed a random distribution pattern and no geographic corrections were considered necessary.

Application of equations. The use of flood-frequency equations may be illustrated by a hypothetical problem. Assume that a consultant wishes to design a structure that will pass a flood with a recurrence interval of 10 years. The following steps would be necessary in computing the magnitude of this flood:

1. Determine the size of the contributing drainage area from the best topographic maps available. For this example, assume a drainage area of 67.4 square miles.
2. Compute average slope of the streambed. This should be done as follows: (a) determine elevations from a topographic map at points along the main stem which are 10 percent and 85 percent of the total distance from the proposed site to the basin divide, (b) find the arithmetic difference between these elevations and divide by the distance between the points.

For this problem, assume that the length of the main stem upstream from the site of the structure is 26.7 miles, the elevation at the 10 percent point (2.7 miles) is 500 feet and the elevation at the 85 percent point (22.7 miles) is 650 feet. The average slope of the streambed is  $\frac{650 \text{ feet} - 500 \text{ feet}}{20 \text{ miles}}$  or 7.5 feet per mile.

3. Select applicable equation from Table 2 and compute flood magnitude. For this problem, the equation is as follows:

$$\begin{aligned} 10\text{-year flood} &= 90.1 A^{.757} S^{.462} \\ &= (90.1) (67.4)^{.757} (7.5)^{.462} \\ &= 5,520 \text{ cfs} \end{aligned}$$

or,

select applicable graphical solution. For this problem, Figure 2d should be used. Interpolating between slopes of 7 and 8 feet per mile provides a value of 5,500 cfs for the 10-year flood.

Limitations of equations. The flood-frequency equations in this report may be used to estimate frequency and magnitude of floods on most Missouri streams. However, the equations do not apply near the mouths of streams draining into larger streams because of backwater effect.

The equations are not applicable to the Mississippi and Missouri Rivers or to regulated interior streams in the state, nor do they apply in areas of extensive man-made changes. Flood frequency relations for the Upper Mississippi River are presented by Patterson and Gamble (in press) and for the Lower Mississippi River by Patterson (1964). Flood characteristics of the Missouri River above Sioux City, Iowa, are presented by Patterson (1966) and

for the river below Sioux City by Matthai (in press).

The equations for 1.2-year to 25-year floods are applicable for streams with drainage areas of 0.1 to 10,000 square miles. The 50-year equation should be used only for drainage areas greater than 50 square miles.

#### SUMMARY

1. Observed flood data are the basis for statewide flood-frequency equations.
2. Analysis of the statistics obtained from a computer program revealed that the two independent variables, drainage area and average slope, have the greatest effect on flood frequency in Missouri.
3. Flood-frequency equations are a composite of regional hydrologic experience. They should be used to estimate flood magnitude and frequency at ungaged sites on most Missouri streams.
4. Equations are provided for estimating flood frequency for drainage areas between 0.1 and 10,000 square miles.
5. The statewide equation should not be used to estimate the 50-year flood if the drainage area at a proposed site is less than 50 square miles.
6. The distribution of residual errors for the equations was random, and therefore no geographic corrections were necessary.

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## APPENDIX I

## Flood Records at Missouri Gaging Stations and Miscellaneous Sites

This appendix contains a description of all gaging stations and miscellaneous sites where flood records are available, and a listing of flood peaks through the 1965 water year. It is divided into two parts, with Part I containing information collected at continuous-record and partial-record stations, and Part II presenting flood data collected at miscellaneous sites.

In Part I, station records are presented in downstream order in accordance with the system currently used in U. S. Geological Survey Water-Supply Papers. Downstream order numbers precede the station name and locate the station in relation to drainage basin and downstream direction along the main stem. The part of the station number preceding the dash indicates the major drainage basin in which the station is located. Missouri stations are in three major basins: Part 5, the Hudson Bay and Upper Mississippi River basins; Part 6, the Missouri River basin; and Part 7, the Lower Mississippi River basin. In numbering, no distinction is made between continuous-record and partial-record gaging stations. Following the station name are descriptive paragraphs containing information on the location, drainage area upstream from the gage, average slope<sup>1</sup> between points 10 and 85 percent of the total main stem distance upstream from the gage, type of gage, definition of the stage-discharge relation, bankfull stage, and base for the partial-duration series. Flood data are tabulated following the descriptive paragraphs. At most continuous-record stations all peaks that exceed the selected base are listed. At some continuous-record and all partial-record stations, only the annual peaks are listed. Underlines in the table of peak stages and discharges have the following significance:

1. Line in water year column means a discontinuous record.
2. Line beginning at date column and continuing through discharge column means a change in site and datum.
3. Line in date and discharge column means a change in site without a change in datum.
4. Line in gage height column means a change in datum only.
5. No underlines are used for changes in site and datum if records have been adjusted to present conditions.

Part II contains a listing of miscellaneous sites in downstream order, a brief reference to nearby towns, the size of drainage area upstream from the site, and the date and discharge of the maximum flood observed at the site.

All gaging stations and miscellaneous sites are shown on the location map, Plate 1.

<sup>1</sup>Values of average slope are point data. Do not interpolate between points on the same stream or extrapolate the data to other basins.

## PEAK STAGES AND DISCHARGES AT CONTINUOUS-RECORD AND PARTIAL-RECORD STATIONS

## MISSISSIPPI RIVER MAIN STEM

5-4745. Mississippi River at Keokuk, Iowa

Location--Lat 40°23'35", long 91°22'25", in SE¼SW¼ sec.30, T.65 N., R.4 W., near right bank in tailwater at downstream end of new lock below dam and powerplant of Union Electric Co. at Keokuk, 2.8 miles upstream from Des Moines River, and 364.2 miles upstream from Ohio River.

Drainage area--119,000 sq mi, approximately.

Gage--Nonrecording prior to May 1913; recording thereafter. Prior to May 1913 at Galland (formerly Nashville), 8 miles upstream; zero of gage was set to low-water mark of 1864, or 497.94 ft above mean sea level, adjustment of 1912. Datum of gage is 477.41 ft above mean sea level, datum of 1929 (levels by Corps of Engineers); 477.83 ft above mean sea level, adjustment of 1912; 477.34 ft above mean gulf level; and 484.65 ft above Memphis datum.

Stage-discharge relation--Since 1913, discharge computed from records of operation of turbines in powerplant and spillway gates in dam.

Remarks--Keokuk Dam completed in 1913. Records January 1878 to September 1932 from report of Iowa State Planning Board; since October 1932, furnished by Union Electric Co. Only annual maximum daily discharges are shown.

| Maximum daily discharges |                           |                    |                 |            |                 |                    |                 |
|--------------------------|---------------------------|--------------------|-----------------|------------|-----------------|--------------------|-----------------|
| Water year               | Date                      | Gage height (feet) | Discharge (cfs) | Water year | Date            | Gage height (feet) | Discharge (cfs) |
| 1851                     | June 6, 1851              | a13.5              | 360,000         | 1926       | Sept. 28, 1926  | -                  | 146,000         |
| 1878                     | June 11, 1878             | -                  | 150,000         | 1927       | Apr. 3, 1927    | -                  | 175,000         |
| 1879                     | June 2,3, 1879            | -                  | 110,000         | 1928       | Apr. 12, 1928   | -                  | 150,000         |
| 1880                     | June 29, 1880             | -                  | 271,000         | 1929       | Mar. 23, 1929   | -                  | 247,000         |
| 1881                     | Apr.23,24, 1881           | -                  | 241,000         | 1930       | June 18, 1930   | -                  | 163,000         |
| 1882                     | Oct. 31, 1881             | -                  | 293,000         | 1931       | July 4, 1931    | -                  | 52,500          |
| 1883                     | Nov. 1, 1881              | -                  | 201,000         | 1932       | Apr.24,25, 1932 | -                  | 106,000         |
| 1884                     | May 18, 1883              | -                  | 236,000         | 1933       | Apr. 9, 1933    | -                  | 160,000         |
| 1885                     | Apr. 1, 1884              | -                  | 170,000         | 1934       | Apr. 22, 1934   | -                  | 83,500          |
| 1886                     | Oct. 9,10, 1884           | -                  | 212,000         | 1935       | Apr.11,12, 1935 | -                  | 138,000         |
| 1887                     | May 6, 1886               | -                  | 156,000         | 1936       | Apr.9,10, 1936  | -                  | 148,000         |
| 1888                     | May 4, 1887               | -                  | 314,000         | 1937       | Mar. 10, 1937   | -                  | 190,000         |
| 1889                     | May 18, 1888              | b12.0              | 84,200          | 1938       | Sept. 26, 1938  | -                  | 193,800         |
| 1890                     | Apr. 20, June 8, 18, 1889 | -                  | 178,000         | 1939       | Oct. 1, 1938    | -                  | 159,100         |
| 1891                     | July 1, 1890              | -                  | 141,000         | 1940       | Apr. 19, 1940   | -                  | 81,700          |
| 1892                     | May 3, 1891               | -                  | 141,000         | 1941       | Apr. 27, 1941   | -                  | 154,400         |
| 1893                     | June 29, 1892             | -                  | 141,000         | 1942       | June 16, 1942   | -                  | 200,900         |
| 1894                     | May 15-17, 1893           | -                  | 306,000         | 1943       | Apr. 18, 1943   | -                  | 174,000         |
| 1895                     | June 4, 1894              | -                  | 203,000         | 1944       | May27,28, 1944  | -                  | 254,500         |
| 1896                     | Mar. 11, 1895             | -                  | 158,000         | 1945       | Mar. 26, 1945   | -                  | 203,300         |
| 1897                     | June 3, 1896              | -                  | 59,200          | 1946       | Jan. 11, 1946   | -                  | 223,300         |
| 1898                     | Apr.28,29, 1897           | -                  | 161,000         | 1947       | June 21, 1947   | -                  | 245,700         |
| 1899                     | Mar. 20, 1898             | -                  | 230,000         | 1948       | Mar. 23, 1948   | -                  | 233,600         |
| 1900                     | June 29, 1899             | -                  | 108,000         | 1949       | Mar. 12, 1949   | -                  | 150,700         |
| 1901                     | Apr. 5, 6, 1900           | -                  | 159,000         | 1950       | Apr.25,26, 1950 | -                  | 175,900         |
| 1902                     | Mar.24-26, 1901           | -                  | 124,000         | 1951       | Apr. 29, 1951   | -                  | 265,100         |
| 1903                     | July21,22, 1902           | -                  | 150,000         | 1952       | Apr. 27, 1952   | -                  | 253,800         |
| 1904                     | June 6, 1903              | -                  | 181,000         | 1953       | Apr.1, 2, 1953  | -                  | 137,200         |
| 1905                     | Oct. 7, 1903              | -                  | 270,000         | 1954       | May 17, 1954    | -                  | 181,400         |
| 1906                     | June 10, 1905             | -                  | 186,000         | 1955       | Apr. 25, 1955   | -                  | 156,600         |
| 1907                     | Apr.26-28, 1906           | -                  | 212,000         | 1956       | Apr. 22, 1956   | -                  | 131,500         |
| 1908                     | Apr.17-18, 1907           | -                  | 192,000         | 1957       | July 15, 1957   | -                  | 106,000         |
| 1909                     | June 9, 1908              | -                  | 178,000         | 1958       | June 13, 1958   | -                  | 99,000          |
| 1910                     | May 5-7, 1909             | -                  | 178,000         | 1959       | Apr. 5, 1959    | -                  | 182,000         |
| 1911                     | Mar.20-23, 1910           | -                  | 181,000         | 1960       | Apr. 4, 1960    | -                  | 289,500         |
| 1912                     | Feb. 21, 1911             | -                  | 124,000         | 1961       | Apr. 5, 1961    | -                  | 208,400         |
| 1913                     | Apr. 6,7, 1912            | -                  | 156,000         | 1962       | Apr. 7, 1962    | -                  | 224,100         |
| 1914                     | Mar. 29, 1913             | -                  | 220,000         | 1963       | Mar. 22, 1963   | -                  | 128,700         |
| 1915                     | June 24, 1914             | -                  | 169,000         | 1964       | May 21, 1964    | -                  | 96,400          |
| 1916                     | Feb. 28, 1915             | -                  | 122,000         | 1965       | May 1, 1965     | -                  | 327,000         |
| 1917                     | May 9, 1916               | -                  | 142,000         |            |                 |                    |                 |
| 1918                     | June 17, 1917             | -                  | 213,000         |            |                 |                    |                 |
| 1919                     | June 12, 1918             | -                  | 163,000         |            |                 |                    |                 |
| 1920                     | May 8, 1919               | -                  | 192,000         |            |                 |                    |                 |
| 1921                     | Apr.10-11, 1920           | -                  | 205,000         |            |                 |                    |                 |
| 1922                     | May12-13, 1921            | -                  | 230,000         |            |                 |                    |                 |
| 1923                     | Apr.24-25, 1922           | -                  | 108,000         |            |                 |                    |                 |
| 1924                     | Apr. 9-10, 1923           | -                  | 240,000         |            |                 |                    |                 |
| 1925                     | Apr.24-25, 1924           | -                  | 148,000         |            |                 |                    |                 |
|                          | June 23, 1925             | -                  | 160,000         |            |                 |                    |                 |
|                          |                           | -                  | 112,000         |            |                 |                    |                 |

a Estimated; stage at present site and datum, 21.0 ft.

b Stage at present site and datum, 19.6 ft.

## FOX RIVER BASIN

5-4950. Fox River at Wayland, Mo.  
(Published as "near Wayland" prior to 1930)

Location.--Lat 40°23'45", long 91°35'50", in NW¼ sec.31, T.65 N., R.6 W., on left bank 90 ft downstream from bridge on U.S. Highway 136, three-quarters of a mile west of Wayland, and 5 miles downstream from Brush Creek.

Drainage area.--400 sq mi, approximately; 392 sq mi prior to Oct. 1, 1929. Slope.--4.5 ft per mi.

Gage.--Nonrecording Feb. 22, 1922, to June 11, 1936; recording thereafter. Prior to Oct. 1, 1929, at site 2.8 miles upstream at different datum. Datum of gage is 501.52 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements; frequent shifts in relation occur.

Bankfull stage.--15 ft.

Remarks.--Base for partial-duration series, 4,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1909       | July 1909      | <sup>a</sup> 21.4  |                 | 1942       | Oct. 11, 1941  | 15.80              | 4,510           |
| 1922       | July 12, 1922  | 11.00              | 2,400           |            | Nov. 2, 1941   | 15.7               | 4,420           |
| 1923       | Mar. 16, 1923  | 9.75               | 1,980           |            | Feb. 7, 1942   | 15.41              | 4,260           |
| 1924       | Aug. 6, 1924   | 13.32              | 3,250           | 1943       | May 17, 1943   | 16.45              | 5,290           |
| 1925       | Apr. 26, 1925  | 14.9               | 3,760           | 1944       | Mar. 16, 1944  | 16.00              | 4,800           |
| 1926       | Sept. 10, 1926 | 14.60              | 4,160           |            | Apr. 24, 1944  | 18.50              | 10,200          |
|            | Sept. 17, 1926 | 17.50              | 6,570           | 1945       | Feb. 17, 1945  | 15.70              | 4,510           |
| 1927       | Oct. 2, 1926   | 17.90              | 6,900           |            | May 16, 1945   | 17.27              | 6,810           |
|            | Apr. 20, 1927  | 18.30              | 7,300           |            | June 17, 1945  | 17.34              | 6,810           |
|            | May 25, 1927   | 16.12              | 5,240           | 1946       | Jan. 7, 1946   | 18.10              | 8,950           |
|            | June 5, 1927   | 16.00              | 5,150           |            | June 19, 1946  | 20.66              | 19,900          |
|            | June 13, 1927  | 15.55              | 4,830           |            | July 19, 1946  | 18.40              | 9,880           |
| 1928       | Oct. 1, 1927   | 19.10              | 8,100           | 1947       | Apr. 6, 1947   | 18.20              | 9,260           |
|            | Oct. 12, 1927  | 15.10              | 4,430           |            | June 7, 1947   | 19.12              | 12,200          |
|            | Feb. 8, 1928   | 14.56              | 4,070           |            | June 14, 1947  | 17.30              | 6,810           |
|            | June 19, 1928  | 17.70              | 6,700           |            | June 19, 1947  | 15.1               | 4,060           |
|            | July 5, 1928   | 15.00              | 4,350           | 1948       | Feb. 29, 1948  | 15.8               | 5,290           |
|            | Sept. 12, 1928 | 15.95              | 5,150           |            | Mar. 20, 1948  | 18.2               | 11,900          |
| 1929       | Nov. 18, 1928  | 20.0               | 16,100          |            | July 26, 1948  | 16.17              | 6,310           |
|            | Mar. 1, 1929   | <sup>b</sup> 15.00 | -               | 1949       | Feb. 20, 1949  | <sup>b</sup> 15.50 | -               |
|            | Mar. 14, 1929  | 15.80              | 5,400           |            | Apr. 1, 1949   | 12.90              | 3,350           |
|            | Apr. 21, 1929  | 18.80              | 12,600          | 1950       | June 16, 1950  | 17.79              | 9,560           |
|            | Apr. 25, 1929  | 17.60              | 9,470           |            | June 20, 1950  | 17.20              | 7,960           |
|            | June 3, 1929   | 17.00              | 8,010           | 1951       | Feb. 20, 1951  | <sup>b</sup> 15.40 | -               |
|            | July 15, 1929  | 15.40              | 4,700           |            | Mar. 29, 1951  | 14.85              | 4,860           |
| 1930       | June 16, 1930  | 14.16              | 3,460           |            | May 12, 1951   | 15.27              | 5,250           |
| 1931       | Apr. 21, 1931  | 17.20              | 7,090           |            | June 27, 1951  | 15.21              | 5,160           |
|            | June 7, 1931   | 18.35              | 9,940           |            | July 23, 1951  | 13.84              | 4,180           |
| 1932       | Nov. 24, 1931  | 16.85              | 6,440           | 1952       | Apr. 23, 1952  | 14.65              | 4,720           |
|            | Jan. 2, 1932   | 16.74              | 6,020           |            | June 23, 1952  | 16.3               | 6,400           |
| 1933       | Dec. 24, 1932  | 15.22              | 4,000           | 1953       | Apr. 1, 1953   | 17.2               | 7,960           |
|            | Jan. 19, 1933  | 17.00              | 6,650           | 1954       | Apr. 21, 1954  | 13.60              | 4,050           |
|            | May 12, 1933   | 17.13              | 6,870           | 1955       | Jan. 6, 1955   | 15.98              | 6,000           |
|            | June 29, 1933  | 21.53              | 25,000          | 1956       | Aug. 9, 1956   | 6.98               | 1,030           |
| 1934       | Apr. 5, 1934   | 10.92              | 1,780           | 1957       | June 11, 1957  | 16.35              | 6,130           |
| 1935       | June 2, 1935   | 19.38              | 13,300          | 1958       | June 14, 1958  | 15.42              | 4,650           |
| 1936       | Feb. 26, 1936  | 17.65              | 8,060           |            | July 31, 1958  | 15.51              | 4,750           |
| 1937       | Feb. 22, 1937  | <sup>b</sup> 18.52 | -               | 1959       | May 31, 1959   | 15.72              | 4,950           |
|            | Mar. 5, 1937   | 13.72              | 3,540           |            | Aug. 8, 1959   | 18.33              | 9,840           |
| 1938       | Apr. 6, 1938   | 14.88              | 4,070           |            | Sept. 28, 1959 | 15.18              | 4,470           |
| 1939       | Mar. 13, 1939  | 18.22              | 9,260           | 1960       | Oct. 7, 1959   | 18.24              | 9,570           |
|            | Apr. 16, 1939  | 17.10              | 6,390           |            | Mar. 30, 1960  | 20.17              | 13,400          |
| 1940       | Apr. 24, 1940  | 9.08               | 1,640           |            | Apr. 17, 1960  | 14.64              | 4,080           |
| 1941       | June 11, 1941  | 12.75              | 3,080           |            | May 8, 1960    | 16.77              | 6,480           |
|            |                |                    |                 |            | May 27, 1960   | 14.65              | 4,220           |
|            |                |                    |                 |            | June 24, 1960  | 18.37              | 10,100          |
|            |                |                    |                 |            | July 1, 1960   | 17.16              | 7,200           |
|            |                |                    |                 |            | July 13, 1960  | 16.28              | 5,760           |

## FOX RIVER BASIN

## Peak stages and discharges of Fox River at Wayland, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1961       | Sept. 14, 1961 | 14.69              | 4,290           |            |      |                    |                 |
| 1962       | Nov. 18, 1961  | 15.05              | 4,500           |            |      |                    |                 |
|            | Mar. 12, 1962  | 16.82              | 6,480           |            |      |                    |                 |
| 1963       | Mar. 5, 1963   | 16.27              | 5,760           |            |      |                    |                 |
| 1964       | Apr. 21, 1964  | 16.79              | 6,180           |            |      |                    |                 |
| 1965       | Jan. 2, 1965   | 14.72              | 4,070           |            |      |                    |                 |
|            | Mar. 18, 1965  | 15.70              | 5,100           |            |      |                    |                 |
|            | Apr. 6, 1965   | 15.97              | 5,300           |            |      |                    |                 |
|            | Sept. 22, 1965 | 15.56              | 4,970           |            |      |                    |                 |

a At present site prior to construction of highway fill in 1928.

b Backwater from ice.

## FOX RIVER BASIN

5-4951. Big Branch tributary near Wayland, Mo.

Location.--Lat 40°18'52", long 91°34'34", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.29, T.64 N., R.6 W., at culvert under U.S. Highway 61, 5.6 miles south of Wayland.

Drainage area.--0.70 sq mi. Slope.--80.8 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements.

Bankfull stage.--8 ft.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | -              | (a)                | b 30            |            |      |                    |                 |
| 1956       | July 7, 1956   | 5.62               | 10              |            |      |                    |                 |
| 1957       | May 10, 1957   | 6.95               | 130             |            |      |                    |                 |
| 1958       | June 10, 1958  | 8.68               | 360             |            |      |                    |                 |
| 1959       | Sept. 29, 1959 | 6.49               | 80              |            |      |                    |                 |
| 1960       | June 30, 1960  | 7.81               | 240             |            |      |                    |                 |
| 1961       | Apr. 22, 1961  | 6.91               | 126             |            |      |                    |                 |
| 1962       | June 3, 1962   | 6.37               | 65              |            |      |                    |                 |
| 1963       | Mar. 4, 1963   | 6.31               | 60              |            |      |                    |                 |
| 1964       | Apr. 19, 1964  | 7.11               | 150             |            |      |                    |                 |
| 1965       | Jan. 1, 1965   | 7.05               | 142             |            |      |                    |                 |

a Not determined; peak stage did not reach bottom of gage.

b Less than figure shown.

## WYACONDA RIVER BASIN

5-4960. Wyaconda River above Canton, Mo.  
(Published as "near Canton" prior to 1933)

Location--Lat 40°08'30", long 91°33'55", in SE¼ sec.28, T.62 N., R.6 W., on left bank on downstream side of bridge on State Highway 16, 1 mile upstream from Sugar Creek, and 2 miles west of Canton.

Drainage area--393 sq mi; 447 sq mi prior to Oct. 1, 1932. Slope--4.5 ft per mi.

Gage--Nonrecording prior to May 1, 1939; recording thereafter. Prior to Oct. 1, 1932, at site 2 miles downstream at different datum. Datum of gage is 515.41 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage--18 ft.

Remarks--Records for sites "near" and "above" considered equivalent for flood-frequency study. Base for partial-duration series, 5,000 cfs.

|               |                |                    |                 | Peak stages and discharges |                |                    |                 |
|---------------|----------------|--------------------|-----------------|----------------------------|----------------|--------------------|-----------------|
| Water year    | Date           | Gage height (feet) | Discharge (cfs) | Water year                 | Date           | Gage height (feet) | Discharge (cfs) |
| 1922          | Mar. 14, 1922  | 11.66              | 3,270           | 1946                       | Jan. 6, 1946   | 25.40              | 9,100           |
| 1923          | Mar. 16, 1923  | 10.10              | 2,630           |                            | June 20, 1946  | 22.90              | 6,670           |
|               | Sept. 28, 1923 | 10.10              | 2,630           |                            | July 19, 1946  | 24.70              | 8,260           |
| 1924          | June 27, 1924  | 12.26              | 3,520           | 1947                       | Apr. 6, 1947   | 26.40              | 11,200          |
|               |                |                    |                 |                            | June 7, 1947   | 27.14              | 12,400          |
| 1925          | Apr. 26, 1925  | 10.18              | 2,670           |                            | June 14, 1947  | 21.10              | 5,440           |
|               |                |                    |                 |                            | Mar. 20, 1948  | 24.10              | 8,020           |
| 1926          | Sept. 27, 1926 | 15.76              | 5,300           | 1948                       | Mar. 20, 1948  | 24.10              | 8,020           |
| 1927          | Oct. 3, 1926   | 17.95              | 6,700           | 1949                       | Mar. 27, 1949  | 15.53              | 2,950           |
|               | Apr. 21, 1927  | 15.65              | 5,180           |                            | June 20, 1950  | 26.07              | 10,800          |
| 1928          | Oct. 3, 1927   | 18.78              | 7,300           | 1951                       | Feb. 20, 1951  | 21.79              | 5,900           |
|               |                |                    |                 |                            | July 22, 1951  | 20.89              | 5,320           |
| 1929          | Nov. 18, 1928  | 26.7               | 16,000          | 1952                       | Mar. 19, 1952  | 16.5               | 3,280           |
|               | Apr. 1, 1929   | 15.94              | 5,340           |                            | Apr. 24, 1952  | 16.5               | 3,280           |
|               | Apr. 21, 1929  | 20.54              | 8,750           | 1953                       | Apr. 1, 1953   | 21.05              | 5,380           |
|               | Apr. 26, 1929  | 19.10              | 7,540           |                            | Apr. 22, 1954  | 14.36              | 2,600           |
|               | June 3, 1929   | 16.73              | 5,820           |                            | 1955           | Jan. 7, 1955       | 21.12           |
| July 16, 1929 | 17.70          | 6,490              | 1956            | Oct. 5, 1955               | 13.27          | 2,280              |                 |
| 1930          | Feb. 13, 1930  | 10.88              | 3,040           | 1957                       | June 11, 1957  | 14.16              | 2,540           |
| 1931          | June 7, 1931   | 19.00              | 7,460           | 1958                       | Aug. 2, 1958   | 18.35              | 3,800           |
| 1932          | Aug. 15, 1932  | 15.04              | 4,930           | 1959                       | Aug. 9, 1959   | 19.64              | 4,580           |
| 1933          | Dec. 25, 1932  | 22.40              | 6,620           | 1960                       | Oct. 7, 1959   | 23.24              | 7,140           |
|               | May 13, 1933   | 23.80              | 7,870           |                            | Mar. 31, 1960  | 23.64              | 7,560           |
|               | June 30, 1933  | 30.00              | 17,700          |                            | June 25, 1960  | 20.98              | 5,380           |
| 1934          | Apr. 5, 1934   | 10.56              | 1,470           | July 2, 1960               | 25.87          | 10,600             |                 |
| 1935          | June 3, 1935   | 29.30              | 16,200          | 1961                       | Sept. 14, 1961 | 17.99              | -               |
| 1936          | Feb. 27, 1936  | 22.84              | 6,960           | Sept. 15, 1961             | -              | 3,530              |                 |
| 1937          | Feb. 22, 1937  | a21.61             | 3,120           | 1962                       | Nov. 18, 1961  | 20.14              | 4,790           |
| 1938          | Apr. 7, 1938   | 18.84              | 4,430           | 1963                       | Mar. 6, 1963   | 22.23              | 6,250           |
|               |                |                    |                 |                            | Apr. 22, 1964  | 21.20              | 5,520           |
| 1939          | Mar. 13, 1939  | 24.54              | 9,200           | 1964                       | Apr. 22, 1964  | 21.20              | 5,520           |
|               | Apr. 16, 1939  | 21.54              | 5,980           |                            | 1965           | Jan. 3, 1965       | 21.34           |
| 1940          | Apr. 24, 1940  | 12.92              | 2,300           |                            |                |                    |                 |
| 1941          | June 10, 1941  | 14.25              | 2,720           |                            |                |                    |                 |
| 1942          | Feb. 7, 1942   | 21.7               | 6,510           |                            |                |                    |                 |
| 1943          | Aug. 9, 1943   | 20.4               | 5,600           |                            |                |                    |                 |
| 1944          | Mar. 16, 1944  | 21.48              | 6,350           |                            |                |                    |                 |
|               | Apr. 12, 1944  | 19.56              | 5,100           |                            |                |                    |                 |
|               | Apr. 24, 1944  | 24.45              | 9,040           |                            |                |                    |                 |
| 1945          | June 17, 1945  | 25.03              | 8,590           |                            |                |                    |                 |

a Backwater from ice.

## FABIUS RIVER BASIN

5-4970. North Fabius River at Monticello, Mo.

Location.--Lat 40°06'30", long 91°42'55", in SW¼SE¼ sec.6, T.61 N., R.7 W., near center of span on downstream side of bridge on State Highway 16, 1 mile south of Monticello, and 19 miles upstream from Middle Fabius River.

Drainage area.--452 sq mi. Slope.--4.8 ft per mi.

Gage.--Nonrecording. Prior to Nov. 22, 1930, at site 400 ft downstream at datum 0.03 ft lower. Datum of gage is 540.73 ft above mean sea level, datum of 1929. Gage heights given herein converted to present datum.

Stage-discharge relation.--Defined by current-meter measurements; large shift in relation occurred in 1936.

Bankfull stage.--22 ft.

Historical data.--Flood of June 30, 1933, is maximum known since at least 1874.

Remarks.--Considerable improvement work completed on tributaries and main channel upstream from gaging station prior to establishment. Base for partial-duration series, 6,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1922       | July 13, 1922  | 18.60              | 5,140           | 1942       | Feb. 7, 1942  | 23.14              | 9,120           |
|            |                |                    |                 |            | July 15, 1942 | 22.30              | 8,450           |
| 1923       | Mar. 16, 1923  | 15.70              | 3,590           | 1943       | May 16, 1943  | 20.15              | 6,850           |
| 1924       | June 26, 1924  | 22.9               | 8,310           | 1944       | Mar. 16, 1944 | 21.05              | 7,410           |
| 1925       | Apr. 25, 1925  | 18.18              | 4,910           |            | Apr. 11, 1944 | 19.46              | 6,360           |
| 1926       | Sept. 16, 1926 | 23.2               | 8,580           |            | Apr. 24, 1944 | 25.1               | 11,100          |
| 1927       | Oct. 3, 1926   | 23.10              | 8,490           | 1945       | Feb. 15, 1945 | 19.80              | 6,570           |
|            | Apr. 20, 1927  | 23.50              | 8,760           |            | May 15, 1945  | 19.65              | 6,430           |
|            | June 13, 1927  | 20.30              | 6,210           |            | May 17, 1945  | 20.40              | 6,990           |
|            |                |                    |                 |            | June 17, 1945 | 26.7               | 13,000          |
| 1928       | Oct. 1, 1927   | 22.60              | 8,040           | 1946       | Jan. 6, 1946  | 25.77              | 11,900          |
|            | June 19, 1928  | 25.00              | 10,300          |            | Mar. 17, 1946 | 19.80              | 6,570           |
| 1929       | Nov. 18, 1928  | 30.0               | 16,000          |            | Mar. 24, 1946 | 19.42              | 6,290           |
|            | Apr. 1, 1929   | 21.00              | 6,700           |            | June 19, 1946 | 21.70              | 7,970           |
|            | Apr. 21, 1929  | 22.00              | 7,500           |            | July 18, 1946 | 27.00              | 13,300          |
|            | Apr. 25, 1929  | 24.00              | 9,300           | 1947       | Apr. 6, 1947  | 28.00              | 14,700          |
|            | June 3, 1929   | 23.30              | 8,670           |            | May 29, 1947  | 20.36              | 6,990           |
|            | July 16, 1929  | 26.80              | 12,200          |            | June 7, 1947  | 28.65              | 15,600          |
| 1930       | Oct. 29, 1929  | 20.50              | 6,350           |            | June 14, 1947 | 24.98              | 11,000          |
| 1931       | Apr. 21, 1931  | 22.40              | 7,860           |            | June 19, 1947 | 20.00              | 6,710           |
|            | June 6, 1931   | 22.80              | 8,220           | 1948       | June 22, 1947 | 19.50              | 6,360           |
| 1932       | Nov. 23, 1931  | 21.40              | 7,020           |            | Dec. 5, 1947  | 20.00              | 6,710           |
|            | Jan. 1, 1932   | 21.42              | 7,020           |            | Feb. 28, 1948 | 21.70              | 7,970           |
|            | Aug. 15, 1932  | 21.50              | 7,100           | 1949       | Mar. 20, 1948 | 24.61              | 10,500          |
|            | Aug. 18, 1932  | 20.65              | 6,420           |            | Feb. 24, 1949 | 23.2               | 6,500           |
| 1933       | Dec. 24, 1932  | 25.70              | 11,000          | 1950       | June 20, 1950 | 25.93              | 11,200          |
|            | Jan. 19, 1933  | 20.50              | 6,350           | 1951       | Feb. 19, 1951 | 21.3               | 7,170           |
|            | May 13, 1933   | 24.00              | 9,300           |            | July 22, 1951 | 24.0               | 9,410           |
|            | June 30, 1933  | 30.8               | 17,400          | 1952       | Mar. 11, 1952 | 19.02              | 5,580           |
| 1934       | Sept. 29, 1934 | 8.80               | 1,270           | 1953       | Mar. 31, 1953 | 21.8               | 7,550           |
| 1935       | May 24, 1935   | 25.85              | 10,900          | 1954       | Apr. 21, 1954 | 18.7               | 5,270           |
|            | May 28, 1935   | 20.58              | 6,340           | 1955       | Jan. 6, 1955  | 22.6               | 8,190           |
|            | June 3, 1935   | 29.62              | 15,700          | 1956       | Aug. 9, 1956  | 13.90              | 2,500           |
|            | June 19, 1935  | 22.17              | 7,480           | 1957       | June 11, 1957 | 15.65              | 3,320           |
| 1936       | Feb. 25, 1936  | 25.68              | 10,800          | 1958       | Aug. 1, 1958  | 21.05              | 6,100           |
|            | Sept. 28, 1936 | 21.3               | 7,800           | 1959       | Aug. 7, 1959  | 23.58              | 8,700           |
| 1937       | Feb. 21, 1937  | 21.34              | 7,650           | 1960       | Oct. 7, 1959  | 23.84              | 8,800           |
| 1938       | May 28, 1938   | 17.44              | 4,830           |            | Mar. 29, 1960 | 24.10              | 9,210           |
| 1939       | Mar. 13, 1939  | 26.0               | 12,100          |            | May 8, 1960   | 23.19              | 8,300           |
|            | Apr. 16, 1939  | 25.25              | 10,200          |            | June 24, 1960 | 21.16              | 6,380           |
| 1940       | Apr. 24, 1940  | 12.4               | 2,360           |            | July 2, 1960  | 25.85              | 11,200          |
| 1941       | June 10, 1941  | 18.0               | 5,380           |            |               |                    |                 |

## FABIUS RIVER BASIN .

Peak stages and discharges of North Fabius River at Monticello, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1961       | Sept. 14, 1961 | 19.14              | 4,670           |            |      |                    |                 |
| 1962       | Nov. 17, 1961  | 22.22              | 7,300           |            |      |                    |                 |
| 1963       | Mar. 5, 1963   | 22.80              | 7,900           |            |      |                    |                 |
| 1964       | Apr. 21, 1964  | 21.36              | 6,530           |            |      |                    |                 |
| 1965       | Jan. 2, 1965   | 21.98              | 7,200           |            |      |                    |                 |
|            | Mar. 18, 1963  | 21.30              | 6,640           |            |      |                    |                 |

a Backwater from ice.

## FABIUS RIVER BASIN

5-4975. Middle Fabius River near Baring, Mo.

Location.--Lat 40°19'55", long 92°12'50", in NW¼NW¼ sec.26, T.64 N., R.12 W., on right bank at downstream side of bridge on State Highway 15, 1 mile downstream from confluence of North and South Forks, and 6 miles north of Baring.

Drainage area.--185 sq mi. Slope.--6.8 ft per mi.

Gage.--Nonrecording prior to Sept. 17, 1934; recording Sept. 17, 1934, to Aug. 21, 1961; crest-stage gage since Mar. 7, 1963. Datum of gage is 679.69 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 6,200 cfs; shifts in relation occur.

Bankfull stage.--19 ft.

Remarks.--Base for partial-duration series, 2,600 cfs.

| Peak stages and discharges |                |                    |                 |               |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
| 1875                       | July 1875      | a27                |                 | 1951          | Feb. 20, 1951 | 19.59              | 4,180           |
| 1931                       | Apr. 21, 1931  | 19.70              | 4,840           | 1951          | Apr. 8, 1951  | 17.26              | 2,710           |
|                            | May 29, 1931   | 18.00              | 3,830           |               | July 22, 1951 | 17.17              | 2,660           |
|                            | June 6, 1931   | 18.55              | 4,160           |               | 1952          | Apr. 23, 1952      | 17.26           |
|                            | July 3, 1931   | 15.85              | 2,840           | June 3, 1952  |               | 17.30              | 2,710           |
| 1932                       | Nov. 24, 1931  | 18.90              | 4,340           | 1953          | Mar. 31, 1953 | 21.43              | 6,160           |
|                            | Aug. 15, 1932  | 18.70              | 4,220           | 1954          | Apr. 21, 1954 | 17.15              | 2,660           |
| 1933                       | Dec. 24, 1932  | 16.00              | 2,790           |               | 1955          | Jan. 6, 1955       | 21.89           |
|                            | Jan. 19, 1933  | 18.10              | 3,880           | Feb. 19, 1955 |               | 17.32              | 2,830           |
|                            | May 12, 1933   | 19.90              | 4,940           | May 13, 1955  |               | 17.10              | 2,730           |
|                            | June 29, 1933  | 24.23              | 8,740           | 1956          |               | Oct. 6, 1955       | 13.75           |
| 1934                       | Apr. 4, 1934   | 8.60               | 800             |               | 1957          | May 14, 1957       | 14.58           |
| 1935                       | May 4, 1935    | 15.94              | 2,740           | 1958          |               | Oct. 24, 1957      | 17.66           |
|                            | May 24, 1935   | 19.78              | 4,880           |               | Dec. 20, 1957 | 16.88              | 2,640           |
| 1936                       | Feb. 27, 1936  | 15.76              | 2,700           |               | May 5, 1958   | 17.12              | 2,730           |
|                            | Sept. 27, 1936 | 20.10              | 5,000           |               | July 20, 1958 | 17.65              | 2,980           |
| 1937                       | Oct. 11, 1936  | 16.38              | 2,980           | Aug. 1, 1958  | 18.37         | 3,440              |                 |
|                            | Feb. 21, 1937  | 20.07              | 5,060           | 1959          | Aug. 6, 1959  | 22.18              | 5,800           |
|                            | Mar. 4, 1937   | 15.75              | 2,700           |               | 1960          | Oct. 6, 1959       | 21.64           |
| 1938                       | Apr. 7, 1938   | 15.13              | 2,230           | Mar. 28, 1960 |               | 21.98              | 5,610           |
| 1939                       | Mar. 12, 1939  | 22.31              | 7,060           | May 7, 1960   |               | 22.30              | 5,900           |
|                            | Apr. 15, 1939  | 21.62              | 6,460           | July 1, 1960  | 23.18         | 7,100              |                 |
| 1940                       | Mar. 3, 1940   | 15.40              | 2,130           | 1961          | Apr. 22, 1961 | 18.03              | b2,870          |
| 1941                       | June 10, 1941  | 19.07              | 4,500           | 1963          | Mar. 5, 1963  | 14.6               | b1,650          |
| 1942                       | Nov. 1, 1941   | 17.5               | 3,350           | 1964          | Apr. 20, 1964 | 21.56              | b5,210          |
|                            | Dec. 24, 1941  | 16.4               | 2,660           |               | 1965          | Sept. 22, 1965     | 23.13           |
|                            | Feb. 7, 1942   | 19.24              | 4,570           | 1943          |               | Dec. 28, 1942      | 17.52           |
| Apr. 27, 1943              | 16.9           | 2,960              | Apr. 27, 1943   |               | 16.9          | 2,960              |                 |
| May 17, 1943               | 17.0           | 3,020              | 1944            |               | Mar. 15, 1944 | 20.4               | 5,490           |
| Apr. 23, 1944              | 24.06          | 8,640              |                 | Apr. 23, 1944 | 24.06         | 8,640              |                 |
| 1945                       | May 16, 1945   | 16.3               | 2,600           | 1945          | May 16, 1945  | 25.1               | 9,540           |
|                            | June 16, 1945  | 25.1               | 9,540           |               | June 21, 1945 | 18.2               | 3,840           |
|                            | June 21, 1945  | 18.2               | 3,840           |               | 1946          | Jan. 5, 1946       | 22.2            |
| Jan. 5, 1946               | 22.2           | 6,970              | Mar. 23, 1946   | 18.3          |               | 3,900              |                 |
| Mar. 23, 1946              | 18.3           | 3,900              | July 17, 1946   | 22.80         |               | 7,480              |                 |
| 1947                       | Apr. 5, 1947   | 22.0               | 6,800           | 1947          | Apr. 5, 1947  | 22.0               | 6,800           |
|                            | June 5, 1947   | 24.2               | 8,730           |               | June 5, 1947  | 24.2               | 8,730           |
|                            | June 13, 1947  | 23.40              | 8,010           |               | June 13, 1947 | 23.40              | 8,010           |
| 1948                       | Dec. 5, 1947   | 17.91              | 3,480           | 1948          | Dec. 5, 1947  | 17.91              | 3,480           |
|                            | Feb. 28, 1948  | 19.70              | 4,940           |               | Feb. 28, 1948 | 19.70              | 4,940           |
|                            | Mar. 20, 1948  | 21.73              | 6,540           |               | Mar. 20, 1948 | 21.73              | 6,540           |
| 1949                       | June 26, 1949  | 16.6               | 2,720           | 1949          | June 26, 1949 | 16.6               | 2,720           |
| 1950                       | June 19, 1950  | 24.55              | 9,000           | 1950          | June 19, 1950 | 24.55              | 9,000           |

a. About.

b. Annual peak only.

## FABIUS RIVER BASIN

5-4977. Bridge Creek Branch near Baring, Mo.

Location--Lat 40°15'30", long 92°13'00", in NE¼NE¼ sec.22, T.63 N., R.12 W., at culvert under State Highway 15, 1 mile northwest of Baring.

Drainage area--2.54 sq mi. Slope--43.2 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 140 cfs and extended on basis of indirect measurements.

Bankfull stage--13 ft.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | Jan. 5, 1955  | 13.26              | 455             |            |      |                    |                 |
| 1956                       | July 1, 1956  | 11.17              | 207             |            |      |                    |                 |
| 1957                       | July 28, 1957 | 12.55              | 360             |            |      |                    |                 |
| 1958                       | Oct. 23, 1957 | 13.91              | 552             |            |      |                    |                 |
| 1959                       | Nov. 17, 1958 | 9.49               | 94              |            |      |                    |                 |
| 1960                       | June 23, 1960 | 15.20              | 800             |            |      |                    |                 |
| 1961                       | Apr. 22, 1961 | 10.81              | 170             |            |      |                    |                 |
| 1962                       | Nov. 16, 1961 | 14.45              | 650             |            |      |                    |                 |
| 1963                       | Mar. 4, 1963  | 13.04              | 400             |            |      |                    |                 |
| 1964                       | July 12, 1964 | 12.29              | 315             |            |      |                    |                 |
| 1965                       | Jan. 2, 1965  | 13.39              | 465             |            |      |                    |                 |

## FABIUS RIVER BASIN

5-4980. Middle Fabius River near Monticello, Mo.

Location.--Lat 40°05'40", long 91°44'10", in SE¼ sec.12, T.61 N., R.8 W., near center of span on upstream side of bridge on State Highway 16, 2½ miles southwest of Monticello, 8 miles downstream from Radish Branch, and 17 miles upstream from mouth.

Drainage area.--393 sq mi. Slope.--4.1 ft per mi.

Gage.--Nonrecording. Datum of gage is 540.46 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--13 ft.

Remarks.--Base for partial-duration series, 3,500 cfs.

| Peak stages and discharges |               |                    |                 |                |               |                    |                 |
|----------------------------|---------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
| 1946                       | Jan. 8, 1946  | 19.2               | 6,520           | 1958           | Oct. 24, 1957 | 18.05              | 5,600           |
|                            | July 20, 1946 | 16.88              | 4,880           |                | Dec. 20, 1957 | 14.35              | 3,580           |
| 1947                       | Apr. 5, 1947  | 20.9               | 8,100           | 1959           | Aug. 9, 1959  | 15.12              | 3,930           |
|                            | May 29, 1947  | 15.0               | 3,880           |                | 1960          | Oct. 9, 1959       | 19.00           |
|                            | June 7, 1947  | 26.28              | 16,200          | Mar. 31, 1960  |               | 19.51              | 6,770           |
|                            | June 16, 1947 | 18.4               | 5,880           | May 9, 1960    | 17.90         | 5,530              |                 |
| 1948                       | June 19, 1947 | 16.0               | 4,380           | June 23, 1960  | 14.36         | 3,580              |                 |
|                            | Mar. 1, 1948  | 14.50              | 3,630           | July 3, 1960   | 20.08         | 7,310              |                 |
| 1949                       | Mar. 22, 1948 | 18.04              | 5,600           | 1961           | Mar. 22, 1961 | 14.56              | 3,500           |
|                            | Feb. 21, 1949 | 17.2               | 5,060           |                | Apr. 21, 1961 | 15.02              | 3,700           |
| July 21, 1949              | 18.45         | 5,880              | Sept. 13, 1961  |                | 16.02         | 4,230              |                 |
| Sept. 23, 1961             | 16.17         | 4,350              | 1962            |                | Nov. 3, 1961  | 15.80              | 4,280           |
| 1950                       | June 21, 1950 | 20.9               |                 | 8,300          | Nov. 16, 1961 | 14.70              | 3,730           |
|                            | Feb. 22, 1951 | 16.5               |                 | 4,960          | Mar. 21, 1962 | 14.53              | 3,630           |
| 1951                       | July 23, 1951 | 20.1               | 6,610           | 1963           | Mar. 6, 1963  | 17.38              | 5,190           |
|                            | June 3, 1952  | 15.7               | 4,230           |                | 1964          | Apr. 23, 1964      | 18.48           |
| 1953                       | Apr. 2, 1953  | 18.4               | 5,880           | 1965           |               | Jan. 2, 1965       | 19.98           |
| 1954                       | Mar. 25, 1954 | 12.33              | 2,580           |                | Jan. 23, 1965 | 15.45              | 4,000           |
| 1955                       | Jan. 8, 1955  | 18.06              | 5,670           |                | Mar. 17, 1965 | 16.02              | 4,300           |
| 1956                       | Oct. 5, 1955  | 10.50              | 1,860           | Apr. 6, 1965   | 15.80         | 4,200              |                 |
|                            | May 10, 1957  | 13.70              | 3,230           | Sept. 24, 1965 | 15.50         | 4,050              |                 |

## FABIUS RIVER BASIN

5-4985. North Fabius River at Taylor, Mo.

Location.--Lat 39°56'05", long 91°31'35", in NE¼SE¼ sec.2, T.59 N., R.6 W., at bridge on U. S. Highway 61 at Taylor, 6.5 miles upstream from mouth.

Drainage area.--930 sq mi, approximately. Slope.--4.0 ft per mi.

Gage.--Nonrecording Apr. 12, 1930, to Sept. 17, 1934; recording thereafter. Datum of gage is 469.65 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements; shifts in relation occur. Relation affected at times by back-water from Mississippi River.

Bankfull stage.--15 ft.

Remarks.--New channel dug from near gage to mouth prior to establishment of gaging station. Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
| 1929                       | Nov. 19, 1928  | 23.5               | 26,000          | 1936       | Feb. 26, 1936 | 14.50              | 12,100          |
| 1931                       | June 8, 1931   | 14.29              | 11,400          | 1937       | Feb. 23, 1937 | 11.31              | 8,480           |
|                            |                |                    |                 | 1938       | Apr. 10, 1938 | 10.64              | 7,460           |
| 1932                       | Aug. 19, 1932  | 14.36              | 11,600          | 1939       | Mar. 14, 1939 | 15.67              | 16,200          |
| 1933                       | June 30, 1933  | 22.85              | 30,300          | 1940       | Mar. 4, 1940  | 7.18               | 3,790           |
| 1934                       | Sept. 29, 1934 | 6.18               | 2,380           | 1941       | June 11, 1941 | 8.35               | 5,050           |
| 1935                       | June 4, 1935   | 19.44              | 24,400          |            | 1942          | Feb. 8, 1942       | 15.10           |

## FABIUS RIVER BASIN

5-5000. South Fabius River near Taylor, Mo.

Location.--Lat 39°53'50", long 91°34'50", in SW¼NW¼ sec.21, T.59 N., R.6 W., on right bank at downstream side of highway bridge, 4½ miles southwest of Taylor, 5 miles downstream from Grassy Creek, and 5.3 miles upstream from confluence with North Fabius River.

Drainage area.--620 sq mi; 630 sq mi at site used prior to May 14, 1936. Slope.--3.4 ft per mi.

Gage.--Nonrecording Dec. 16, 1934, to Dec. 2, 1940; recording thereafter. Prior to May 14, 1936, at site 4 miles downstream at datum 21.94 ft lower. Datum of gage is 482.91 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 11,000 cfs and extended above.

Bankfull stage.--11 ft.

Remarks.--Channel improvements made in Fabius River, 5.3 miles below station, and for distance of 7.5 miles in South Fabius River, about 34 miles upstream from station. Base for partial-duration series, 4,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1929       | November 1928  | a18.49             | 17,800          | 1946       | Jan. 7, 1946   | 13.60              | 10,400          |
| 1933       | June 1933      | a18.42             | 17,700          |            | Mar. 26, 1946  | 8.80               | 4,210           |
|            |                |                    |                 |            | May 6, 1946    | 8.80               | 4,210           |
| 1935       | May 2, 1935    | 17.7               | 6,670           | 1947       | Oct. 17, 1946  | 10.40              | 6,030           |
|            | May 9, 1935    | 17.8               | 6,760           |            | Nov. 2, 1946   | 9.85               | 5,310           |
|            | May 14, 1935   | 17.4               | 6,400           |            | Dec. 13, 1946  | 9.14               | 4,520           |
|            | May 30, 1935   | 18.1               | 7,030           |            | Apr. 6, 1947   | 17.30              | 15,700          |
|            | June 4, 1935   | 22.9               | 11,830          |            | May 30, 1947   | 10.48              | 6,150           |
|            | June 19, 1935  | 23.38              | 12,400          |            | June 8, 1947   | 19.5               | 19,700          |
|            |                |                    |                 |            | June 20, 1947  | 11.2               | 6,990           |
| 1936       | Feb. 26, 1936  | 21.85              | 10,600          |            |                |                    |                 |
|            | Sept. 29, 1936 | 9.11               | 5,110           | 1948       | Dec. 7, 1947   | 8.68               | 4,070           |
|            |                |                    |                 |            | Feb. 27, 1948  | 9.25               | 4,620           |
| 1937       | Feb. 21, 1937  | 9.80               | 5,959           |            | Mar. 21, 1948  | 11.88              | 7,830           |
|            | July 13, 1937  | 8.80               | 4,780           | 1949       | July 20, 1949  | 12.19              | 8,210           |
|            |                |                    |                 |            | July 22, 1949  | 9.0                | 4,400           |
| 1938       | Jan. 24, 1938  | 8.10               | 4,010           |            |                |                    |                 |
|            | Mar. 30, 1938  | 10.91              | 7,190           | 1950       | Apr. 4, 1950   | 8.34               | 3,650           |
|            | Apr. 10, 1938  | 10.80              | 7,060           |            |                |                    |                 |
|            | May 28, 1938   | 8.14               | 4,014           | 1951       | Feb. 20, 1951  | 9.57               | 5,070           |
|            | Aug. 28, 1938  | 9.00               | 5,000           |            | Mar. 29, 1951  | 10.40              | 6,030           |
| 1939       | Nov. 7, 1938   | 8.40               | 4,340           |            | July 24, 1951  | 10.17              | 5,790           |
|            | Mar. 13, 1939  | 12.82              | 9,510           | 1952       | Mar. 10, 1952  | 8.97               | 4,330           |
|            | Apr. 17, 1939  | 11.50              | 7,730           |            | Mar. 19, 1952  | 9.66               | 5,100           |
|            | May 27, 1939   | 10.40              | 6,300           |            | Apr. 25, 1952  | 10.05              | 5,430           |
|            | June 22, 1939  | 9.60               | 5,360           |            | June 9, 1952   | 9.07               | 4,440           |
|            | Aug. 11, 1939  | 8.90               | 4,590           | 1953       | Apr. 2, 1953   | 10.18              | 5,670           |
|            | Aug. 18, 1939  | 9.00               | 4,700           |            | July 21, 1953  | 9.61               | 4,990           |
| 1940       | Mar. 3, 1940   | 7.8                | 3,470           | 1954       | Aug. 17, 1954  | 8.10               | 3,490           |
| 1941       | Apr. 20, 1941  | 6.93               | 2,580           | 1955       | Jan. 6, 1955   | 9.34               | 4,730           |
| 1942       | Nov. 1, 1941   | 9.33               | 4,760           |            | Feb. 20, 1955  | 11.58              | 7,470           |
|            | Dec. 26, 1941  | 8.70               | 4,070           |            | Apr. 23, 1955  | 10.90              | 6,630           |
|            | Feb. 4, 1942   | 10.10              | 5,670           |            | May 28, 1955   | 15.25              | 12,300          |
|            | Feb. 7, 1942   | 13.62              | 10,400          | 1956       | Oct. 6, 1955   | 9.65               | 5,070           |
|            | Mar. 16, 1942  | 9.50               | 4,950           |            |                |                    |                 |
|            | Apr. 10, 1942  | 8.80               | 4,180           | 1957       | May 17, 1957   | 11.40              | 6,290           |
|            | Apr. 29, 1942  | 9.12               | 4,510           |            |                |                    |                 |
|            | June 26, 1942  | 10.10              | 5,670           | 1958       | Oct. 26, 1957  | 14.44              | 9,820           |
|            | July 15, 1942  | 10.20              | 5,790           |            | July 3, 1958   | 11.90              | 6,840           |
| 1943       | Dec. 27, 1942  | 10.80              | 6,540           |            | July 15, 1958  | 13.08              | 8,190           |
|            | May 21, 1943   | 14.38              | 11,700          | 1959       | Feb. 10, 1959  | 9.21               | 3,990           |
|            | June 9, 1943   | 9.91               | 5,430           |            |                |                    |                 |
|            | June 19, 1943  | 9.24               | 4,620           | 1960       | Mar. 30, 1960  | 12.35              | 7,850           |
|            | July 15, 1943  | 9.00               | 4,400           |            | Apr. 16, 1960  | 9.28               | 4,730           |
| 1944       | May 17, 1944   | 13.44              | 10,200          |            | June 24, 1960  | 11.25              | 6,630           |
|            | Apr. 11, 1944  | 14.30              | 11,600          |            | July 1, 1960   | 8.86               | 4,370           |
|            | Apr. 24, 1944  | 13.15              | 9,700           |            | July 12, 1960  | 9.80               | 5,230           |
|            | Aug. 21, 1944  | 10.35              | 5,970           | 1961       | Mar. 13, 1961  | 8.68               | 4,150           |
| 1945       | Mar. 20, 1945  | 10.35              | 6,030           |            | Apr. 25, 1961  | 10.16              | 5,540           |
|            | Mar. 25, 1945  | 10.09              | 5,670           |            | May 8, 1961    | 10.76              | 6,140           |
|            | Apr. 13, 1945  | 11.78              | 7,870           |            | Sept. 14, 1961 | 12.94              | 8,390           |
|            | Apr. 16, 1945  | 9.20               | 4,630           |            | Sept. 26, 1961 | 11.16              | 6,540           |
|            | May 17, 1945   | 10.45              | 6,030           | 1962       | Nov. 5, 1961   | 10.21              | 5,540           |
|            | June 9, 1945   | 12.20              | 8,430           |            | Nov. 18, 1961  | 9.92               | 5,240           |
|            | June 18, 1945  | 13.05              | 9,550           |            | Mar. 12, 1962  | 9.05               | 4,420           |
|            | Sept. 29, 1945 | 9.30               | 4,740           |            | Mar. 21, 1962  | 11.61              | 6,950           |
|            |                |                    |                 |            | July 3, 1962   | 10.93              | 6,240           |

## FABIUS RIVER BASIN

## Peak stages and discharges of South Fabius River near Taylor, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1963       | Mar. 4, 1963  | 10.05              | 5,340           |            |      |                    |                 |
|            | May 16, 1963  | 8.75               | 4,330           |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 9.47               | 4,870           |            |      |                    |                 |
|            | Apr. 22, 1964 | 9.14               | 4,510           |            |      |                    |                 |
| 1965       | Jan. 4, 1965  | 14.81              | 10,800          |            |      |                    |                 |
|            | Jan. 24, 1965 | 12.15              | 7,610           |            |      |                    |                 |
|            | Mar. 17, 1965 | 11.37              | 6,740           |            |      |                    |                 |
|            | Apr. 6, 1965  | 12.49              | 7,940           |            |      |                    |                 |

a From floodmark, present site and datum.

## NORTH RIVER BASIN

5-5005. North River at Bethel, Mo.

Location.--Lat 39°52'29", long 92°01'26", in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.33, T.59 N., R.10 W., at left abutment on downstream side of bridge on State Highway 15 at Bethel, 2 $\frac{1}{2}$  miles upstream from Messner Branch.

Drainage area.--58 sq mi, approximately. Slope.--5.0 ft per mi.

Gage.--Nonrecording prior to Apr. 17, 1956; recording thereafter. Datum of gage is 683.37 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 5,600 cfs.

Bankfull stage.--14 ft.

Historical data.--Floods of Apr. 5, 1947, and Oct. 24, 1957, reached maximum stages known since at least 1875, from information by local resident.

Remarks.--Base for partial-duration series, 600 cfs.

## Peak stages and discharges

| Water year     | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |       |
|----------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|-------|
| 1937           | Jan. 31, 1937  | a10.6              | -               | 1949           | Jan. 16, 1949 | a9.45              | -               |       |
|                | Feb. 9, 1937   | a8.8               | -               |                | Feb. 14, 1949 | a9.45              | -               |       |
|                | Feb. 13, 1937  | a11.57             | -               |                | Feb. 19, 1949 | 9.97               | 922             |       |
|                | May 3, 1937    | 8.3                | 518             |                | Feb. 24, 1949 | 8.60               | 613             |       |
| 1938           | Apr. 10, 1938  | 9.36               | 777             | Mar. 27, 1949  | 9.80          | 872                |                 |       |
|                |                |                    |                 | June 3, 1949   | 8.67          | 632                |                 |       |
|                |                |                    |                 | June 27, 1949  | 11.25         | 1,250              |                 |       |
| 1939           | Mar. 12, 1939  | 17.1               | 4,280           | July 20, 1949  | 10.40         | 1,030              |                 |       |
|                | Apr. 16, 1939  | 10.15              | 972             | 1950           | Oct. 21, 1949 | 8.73               | 632             |       |
|                | June 21, 1939  | 10.20              | 972             |                | Jan. 14, 1950 | 9.22               | 734             |       |
|                | Aug. 11, 1939  | 9.90               | 894             |                | Apr. 4, 1950  | 9.50               | 801             |       |
| 1940           | Mar. 3, 1940   | 8.6                | 596             |                | Apr. 25, 1950 | 8.80               | 652             |       |
|                |                |                    |                 | June 15, 1950  | 8.80          | 652                |                 |       |
| 1941           | Jan. 17, 1941  | 7.5                | 420             | 1951           | Feb. 20, 1951 | a12.4              | 900             |       |
|                |                |                    |                 |                | June 27, 1951 | 11.49              | 1,020           |       |
| 1942           | Oct. 22, 1941  | 8.8                | 652             | 1952           | Mar. 10, 1952 | 11.8               | 1,110           |       |
|                | Nov. 1, 1941   | 10.7               | 1,110           |                | Mar. 19, 1952 | 10.9               | 850             |       |
|                | Dec. 24, 1941  | 8.8                | 652             |                | Apr. 23, 1952 | 16.0               | 3,280           |       |
|                | Feb. 6, 1942   | 15.10              | 2,960           | 1953           | Apr. 1, 1953  | 11.5               | 1,020           |       |
|                | Mar. 17, 1942  | 10.2               | 973             |                |               |                    |                 |       |
|                | Apr. 10, 1942  | 10.5               | 1,050           |                |               |                    |                 |       |
|                | July 14, 1942  | 9.6                | 824             |                |               |                    |                 |       |
| 1943           | Dec. 27, 1942  | 9.3                | 756             | 1954           | Apr. 6, 1954  | 13.6               | 1,800           |       |
|                | Feb. 4, 1943   | 8.6                | 613             |                | Aug. 8, 1954  | 9.8                | 618             |       |
|                | May 16, 1943   | 8.8                | 652             |                | Aug. 17, 1954 | 12.2               | 1,240           |       |
|                | May 20, 1943   | 12.1               | 1,530           | 1955           | Jan. 6, 1955  | 12.12              | 1,200           |       |
|                | June 9, 1943   | 9.9                | 897             |                | Feb. 19, 1955 | 12.0               | 1,170           |       |
|                | June 11, 1943  | 9.3                | 756             |                | May 28, 1955  | 13.68              | 1,850           |       |
|                | June 17, 1943  | 12.2               | 1,560           |                | June 20, 1955 | 10.93              | 860             |       |
| 1944           | Mar. 15, 1944  | 18.04              | 4,900           | 1956           | Oct. 6, 1955  | 10.48              | 776             |       |
|                | Apr. 11, 1944  | 16.3               | 3,750           |                | Aug. 3, 1956  | 10.64              | 795             |       |
|                | Apr. 23, 1944  | 13.0               | 1,840           |                | 1957          | May 18, 1957       | 9.55            | 670   |
|                | May 24, 1944   | 9.4                | 778             |                |               | July 29, 1957      | 10.77           | 930   |
| 1945           | Mar. 26, 1945  | 10.9               | 1,190           | 1958           | Oct. 24, 1957 | 20.90              | 5,870           |       |
|                | Apr. 17, 1945  | 9.5                | 801             |                | Nov. 19, 1957 | 9.30               | 614             |       |
|                | Apr. 26, 1945  | 9.9                | 897             |                | Dec. 21, 1957 | 9.51               | 650             |       |
|                | May 17, 1945   | 12.2               | 1,560           | Dec. 26, 1957  | 9.88          | 730                |                 |       |
|                | June 10, 1945  | 12.1               | 1,530           | Feb. 24, 1958  | 9.62          | 670                |                 |       |
|                | June 16, 1945  | 17.3               | 4,410           | July 2, 1958   | 9.34          | 614                |                 |       |
|                | July 1, 1945   | 9.3                | 756             | July 16, 1958  | 13.70         | 1,720              |                 |       |
|                | Sept. 29, 1945 | 13.0               | 1,840           | Aug. 1, 1958   | 12.69         | 1,410              |                 |       |
|                | 1946           | Jan. 5, 1946       | 16.07           | 3,620          | 1959          | Feb. 10, 1959      | 12.28           | 1,300 |
| Mar. 24, 1946  |                | 11.4               | 1,310           | May 31, 1959   |               | 9.19               | 608             |       |
| May 4, 1946    |                | 9.1                | 713             | 1960           |               | Oct. 6, 1959       | 9.56            | 665   |
| May 7, 1946    |                | 9.3                | 756             |                |               | Mar. 28, 1960      | 15.01           | 2,170 |
| 1947           | Dec. 13, 1946  | 9.9                | 897             |                | Apr. 16, 1960 | 9.87               | 800             |       |
|                | Apr. 5, 1947   | 20.9               | 6,930           |                | May 7, 1960   | 10.56              | 940             |       |
| May 29, 1947   | 11.1           | 1,220              | July 1, 1960    |                | 9.68          | 762                |                 |       |
| June 2, 1947   | 10.0           | 922                | July 11, 1960   |                | 14.69         | 2,050              |                 |       |
| June 6, 1947   | 18.8           | 5,460              | 1961            |                | Mar. 9, 1961  | 9.17               | 667             |       |
| June 19, 1947  | 16.4           | 3,810              |                 |                | Mar. 14, 1961 | 10.05              | 820             |       |
| June 21, 1947  | 14.6           | 2,530              |                 |                | Apr. 23, 1961 | 11.54              | 1,120           |       |
| Sept. 21, 1947 | 9.2            | 713                | May 6, 1961     | 9.25           | 667           |                    |                 |       |
| 1948           | Dec. 5, 1947   | 10.66              | 1,110           | Sept. 14, 1961 | 15.52         | 2,370              |                 |       |
|                | Feb. 28, 1948  | 10.60              | 1,080           | Sept. 24, 1961 | 14.83         | 2,090              |                 |       |
|                | Mar. 19, 1948  | 16.75              | 4,070           |                |               |                    |                 |       |
|                | Apr. 8, 1948   | 8.78               | 652             |                |               |                    |                 |       |

## NORTH RIVER BASIN

## Peak stages and discharges of North River at Bethel, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date           | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|----------------|----------------|--------------------|-----------------|
| 1962       | Oct. 31, 1961 | 10.46              | 920             | 1964           | Apr. 6, 1964   | 9.46               | 724             |
|            | Nov. 3, 1961  | 14.70              | 2,050           |                | Apr. 21, 1964  | 13.42              | 1,620           |
|            | Nov. 16, 1961 | 13.79              | 1,740           | 1965           | Jan. 2, 1965   | 18.15              | 3,890           |
|            | Jan. 6, 1962  | 9.50               | 667             |                | Jan. 23, 1965  | 13.95              | 1,800           |
|            | Feb. 5, 1962  | 11.55              | 1,100           |                | Mar. 17, 1965  | 13.27              | 1,590           |
|            | Mar. 12, 1962 | 11.20              | 1,060           |                | Apr. 6, 1965   | 15.65              | 2,410           |
|            | Mar. 21, 1962 | 13.02              | 1,500           |                | Sept. 16, 1965 | 9.78               | 781             |
| 1963       | Mar. 5, 1963  | 12.98              | 1,500           | Sept. 20, 1965 | 8.94           | 611                |                 |
|            | May 16, 1963  | 9.54               | 724             |                |                |                    |                 |

a Backwater from ice.

## NORTH RIVER BASIN

5-5010. North River at Palmyra, Mo.

Location.--Lat 39°49'05", long 91°31'15", in SE¼SW¼ sec.13, T.58 N., R.6 W., on right bank 100 ft upstream from city waterworks dam, 1,000 ft upstream from bridge on U. S. Highways 24 and 61, half a mile north of Palmyra, and 7 miles upstream from mouth.

Drainage area.--373 sq mi. Slope.--5.0 ft per mi.

Gage.--Nonrecording Dec. 14, 1934, to June 22, 1951; recording thereafter. Prior to Oct. 1, 1945, at site 1,000 ft downstream at same datum. Datum of gage is 464.81 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 15,000 cfs; a large shift in relation occurred in 1951.

Bankfull stage.--19 ft.

Historical data.--Maximum stage known, about 28 ft, from floodmarks, date unknown.

Remarks.--Base for partial-duration series, 4,000 cfs.

| Peak stages and discharges |               |                    |                 |               |               |                    |                 |        |        |
|----------------------------|---------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|--------|--------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |        |        |
| 1935                       | May 9, 1935   | 18.15              | a8,790          | 1947          | Oct. 18, 1946 | 16.80              | 6,430           |        |        |
|                            |               |                    |                 |               | Nov. 3, 1946  | 16.20              | 5,980           |        |        |
| 1936                       | Feb. 26, 1936 | 21.00              | 15,000          | 1946          | Nov. 9, 1946  | 15.48              | 5,300           |        |        |
|                            |               |                    |                 |               | Dec. 13, 1946 | 14.70              | 4,480           |        |        |
| 1937                       | Feb. 21, 1937 | 15.36              | 5,350           | 1947          | Apr. 5, 1947  | 21.65              | 15,600          |        |        |
|                            | July 13, 1937 | 18.45              | 9,220           |               | May 29, 1947  | 14.37              | 4,170           |        |        |
|                            | July 19, 1937 | 16.84              | 6,550           |               | June 1, 1947  | 22.4               | 19,000          |        |        |
| 1938                       | Mar. 29, 1938 | 15.63              | 5,510           | 1947          | June 7, 1947  | b21.41             | 11,000          |        |        |
|                            | Mar. 31, 1938 | 18.00              | 8,380           |               | June 20, 1947 | b20.02             | 8,000           |        |        |
|                            | May 28, 1939  | 17.54              | 7,500           |               | 1948          | Dec. 4, 1947       | 16.39           | 6,130  |        |
| 1939                       | Mar. 12, 1939 | 19.70              | 12,200          | Dec. 7, 1947  |               | 16.04              | 5,800           |        |        |
|                            | Apr. 17, 1939 | 17.39              | 7,600           | Feb. 28, 1948 | 15.10         | 4,900              |                 |        |        |
|                            | May 27, 1939  | 18.80              | 10,100          | Mar. 6, 1948  | 15.04         | 4,800              |                 |        |        |
|                            | June 21, 1939 | 17.20              | 7,310           | Mar. 19, 1948 | 18.84         | 8,490              |                 |        |        |
|                            | July 25, 1939 | 20.50              | 14,600          | Mar. 22, 1948 | 15.09         | 4,900              |                 |        |        |
|                            | Aug. 12, 1939 | 16.00              | 5,920           | 1949          | Feb. 13, 1949 | 21.0               | 12,300          |        |        |
|                            | Aug. 17, 1939 | 15.40              | 5,350           |               | June 2, 1949  | 15.4               | 5,200           |        |        |
| 1940                       | Mar. 3, 1940  | 12.4               | 3,330           | 1949          | June 24, 1949 | 20.55              | 11,600          |        |        |
|                            |               |                    |                 |               | June 26, 1949 | 17.0               | 6,600           |        |        |
|                            |               |                    |                 |               | July 20, 1949 | 22.3               | 16,000          |        |        |
| 1941                       | Apr. 19, 1941 | 12.0               | 3,110           | 1949          | July 22, 1949 | 22.2               | 15,600          |        |        |
|                            |               |                    |                 |               | 1942          | Oct. 5, 1941       | 15.52           | 5,480  | 1950   |
| Oct. 21, 1941              | 15.52         | 5,480              | Dec. 21, 1949   | 15.56         |               | 5,400              |                 |        |        |
| Nov. 1, 1941               | 16.32         | 6,310              | Jan. 3, 1950    | 15.56         |               | 5,400              |                 |        |        |
| Feb. 7, 1942               | 18.95         | 10,800             | Apr. 4, 1950    | 15.13         |               | 5,000              |                 |        |        |
| Mar. 16, 1942              | 14.90         | 5,370              | 1951            | Feb. 19, 1951 |               | 14.45              | 4,170           |        |        |
| Apr. 10, 1942              | 16.90         | 7,240              |                 | Mar. 29, 1951 |               | 22.72              | 17,900          |        |        |
| June 19, 1942              | b14.90        | -                  |                 | June 27, 1951 |               | 18.69              | 8,460           |        |        |
| June 26, 1942              | 20.48         | 15,200             |                 | 1952          |               | Nov. 12, 1951      | 17.80           | 7,350  |        |
| July 10, 1942              | 15.00         | 5,450              |                 |               |               | Mar. 10, 1952      | 15.19           | 5,000  |        |
| July 15, 1942              | 19.00         | 10,800             | Mar. 18, 1952   |               |               | 17.94              | 7,460           |        |        |
| 1943                       | Dec. 27, 1942 | 19.27              | 11,500          |               |               | May 9, 1952        | 14.48           | 4,280  |        |
|                            | May 16, 1943  | 15.78              | 6,120           |               | 1953          | Mar. 31, 1953      | 15.39           | 5,200  |        |
|                            | May 18, 1943  | 18.00              | 8,800           |               |               | June 14, 1953      | 15.26           | 5,100  |        |
|                            | May 21, 1943  | 16.00              | 6,300           | 1954          | June 1, 1954  | 13.42              | 2,900           |        |        |
|                            | June 8, 1943  | 15.19              | 5,610           |               | 1955          | Jan. 5, 1955       | 16.63           | 6,240  |        |
| June 10, 1943              | 18.30         | 9,350              | Feb. 19, 1955   | 20.33         |               | 11,000             |                 |        |        |
| 1944                       | Mar. 15, 1944 | 19.80              | 12,800          | Apr. 24, 1955 |               | 18.87              | 8,750           |        |        |
|                            | Apr. 11, 1944 | 22.96              | 27,400          | May 28, 1955  |               | 24.42              | 23,000          |        |        |
|                            | Apr. 23, 1944 | 19.50              | 12,000          | 1956          |               | Apr. 29, 1956      | 15.49           | 5,160  |        |
|                            | May 28, 1944  | b13.40             | -               |               | June 21, 1956 | 17.05              | 6,600           |        |        |
| 1945                       | Mar. 21, 1945 | 18.77              | 10,400          |               | 1957          | Apr. 22, 1957      | 15.35           | 5,060  |        |
|                            | Mar. 25, 1945 | b18.77             | -               |               |               | Apr. 27, 1957      | 15.95           | 5,660  |        |
|                            | Apr. 13, 1945 | 19.18              | 11,300          |               | 1957          | May 17, 1957       | 19.00           | 8,900  |        |
|                            | Apr. 16, 1945 | 15.98              | 6,300           |               |               | June 8, 1957       | 16.81           | 6,420  |        |
|                            | Apr. 26, 1945 | 15.60              | 5,940           |               |               | June 12, 1957      | 14.71           | 4,320  |        |
|                            | May 17, 1945  | 18.42              | 9,540           |               |               | July 29, 1957      | 16.83           | 6,420  |        |
|                            | June 9, 1945  | 19.00              | 10,800          |               |               | 1958               | Oct. 25, 1957   | 16.96  | 4,820  |
|                            | June 16, 1945 | 20.30              | 14,400          |               |               |                    | July 16, 1958   | 21.60  | 11,100 |
| July 1, 1945               | 15.70         | 6,030              | July 20, 1958   |               | 18.96         |                    | 6,840           |        |        |
| Sept. 28, 1945             | 17.00         | 7,350              | July 31, 1958   | 19.70         | 7,790         |                    |                 |        |        |
| 1946                       | Jan. 6, 1946  | 18.40              | 8,290           | 1958          | July 16, 1958 |                    | 21.60           | 11,100 |        |
|                            | Jan. 9, 1946  | 18.6               | 8,560           |               | July 20, 1958 | 18.96              | 6,840           |        |        |
|                            | May 11, 1946  | 14.72              | 4,485           |               | July 31, 1958 | 19.70              | 7,790           |        |        |

## NORTH RIVER BASIN

## Peak stages and discharges of North River at Palmyra, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| 1959       | Feb. 10, 1959  | 21.38              | 10,600          | 1963           | Mar. 5, 1963  | 18.88              | 6,710           |
|            | June 1, 1959   | 17.09              | 4,900           |                | May 16, 1963  | 18.07              | 5,790           |
| 1960       | Mar. 28, 1960  | 17.86              | 5,590           | 1964           | Apr. 5, 1964  | 18.76              | 6,580           |
|            | Apr. 17, 1960  | 16.50              | 4,470           |                | Apr. 19, 1964 | 17.22              | 4,980           |
|            | July 1, 1960   | 16.00              | 4,150           | 1965           | Jan. 2, 1965  | 18.27              | 5,990           |
|            | July 11, 1960  | 17.23              | 4,980           |                | Jan. 24, 1965 | 19.07              | 6,940           |
|            | July 13, 1960  | 17.14              | 4,900           |                | Mar. 17, 1965 | 19.06              | 6,920           |
| 1961       | May 8, 1961    | 20.67              | 9,320           | Apr. 6, 1965   | 20.89         | 9,620              |                 |
|            | July 1, 1961   | 16.92              | 4,750           | Sept. 16, 1965 | 16.70         | 4,610              |                 |
|            | July 23, 1961  | 16.68              | 4,610           |                |               |                    |                 |
|            | Sept. 14, 1961 | 23.58              | 15,400          |                |               |                    |                 |
| 1962       | Nov. 3, 1961   | 17.53              | 5,230           |                |               |                    |                 |
|            | Nov. 16, 1961  | 17.49              | 5,230           |                |               |                    |                 |
|            | Mar. 21, 1962  | 21.07              | 9,980           |                |               |                    |                 |
|            | July 2, 1962   | 17.24              | 4,980           |                |               |                    |                 |

a Annual peak only.

b Backwater from Mississippi River.

## SOUTH RIVER BASIN

5-5012. Nichols Branch near Palmyra, Mo.

Location--Lat 39°44'30", long 91°32'00", in SE½SE½ sec.11, T.57 N., R.6 W., at culvert on county road 4 miles south of Palmyra.Drainage area--2.58 sq mi. Slope--52.5 ft per mi.Gage--Crest-stage gage.Stage-discharge relation--Defined by indirect measurements.Bankfull stage--22 ft.Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |               |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
| 1949                       | July 21, 1949 | -                  | 3,700           | 1961       | May 8, 1961   | 19.60              | 669             |
| 1955                       | -             | (a)                | -               | 1962       | Mar. 20, 1962 | 18.95              | 490             |
|                            | -             | -                  | -               | 1963       | Mar. 4, 1963  | 18.20              | 310             |
| 1956                       | July 7, 1956  | 15.76              | -               | 1964       | June 21, 1964 | 17.73              | 220             |
| 1957                       | June 8, 1957  | 16.29              | -               | 1965       | June 29, 1965 | 20.95              | 1,000           |
| 1958                       | -             | 16.12              | -               |            |               |                    |                 |
| 1959                       | -             | (a)                | -               |            |               |                    |                 |
| 1960                       | July 12, 1960 | 17.64              | 210             |            |               |                    |                 |

a Not determined; peak stage did not reach bottom of gage.

## BEAR CREEK BASIN

5-5020. Bear Creek at Hannibal, Mo.

Location--Lat 39°40'43", long 91°24'33", in SE¼NW¼ sec.1, T.56 N., R.5 W., on right bank 400 ft downstream from upstream bridge on dual U. S. Highway 61 at Hannibal, 4-3/4 miles upstream from mouth.

Drainage area--31.0 sq mi. Slope--15.4 ft per mi.

Gage--Nonrecording prior to Mar. 25, 1948; recording thereafter. Prior to Oct. 1, 1953, at datum 2.00 ft higher. Datum of gage is 508.91 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current meter measurements below 4,000 cfs and extended above; shifts in relation occur.

Bankfull stage--10 ft.

Remarks--High flow regulated by Bear Creek Reservoir since Aug. 7, 1961. Base for partial-duration series, 1,500 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1937                       | June 13, 1937  | 10.8               | 6,050           | 1955       | Feb. 19, 1955  | 8.66               | 1,700           |
| 1939                       | Mar. 11, 1939  | 7.53               | 2,740           |            | May 28, 1955   | 10.47              | 2,780           |
|                            | Apr. 17, 1939  | 6.58               | 1,970           |            | June 29, 1955  | 10.43              | 2,710           |
|                            | June 19, 1939  | 7.50               | 2,740           |            | July 5, 1955   | 9.66               | 2,260           |
|                            | June 21, 1939  | 9.5                | 4,670           |            | Aug. 29, 1955  | 10.74              | 2,920           |
|                            | Aug. 11, 1939  | 6.60               | 1,970           | 1956       | Oct. 5, 1955   | 8.99               | 1,850           |
|                            |                |                    |                 |            | June 19, 1956  | 8.73               | 1,700           |
| 1940                       | Apr. 17, 1940  | 6.50               | 1,890           |            |                |                    |                 |
|                            | Aug. 5, 1940   | 9.86               | 5,070           | 1957       | June 8, 1957   | 9.12               | 1,900           |
| 1941                       |                |                    |                 |            | June 14, 1957  | 13.62              | 5,880           |
|                            | Sept. 2, 1941  | 7.4                | 2,610           |            | July 28, 1957  | 12.39              | 4,460           |
|                            |                |                    |                 |            | July 29, 1957  | 9.72               | 2,260           |
| 1942                       | July 14, 1942  | 7.1                | 2,280           |            | Aug. 3, 1957   | 14.05              | 6,500           |
| 1948                       | Apr. 7, 1948   | 7.39               | 2,090           | 1958       | July 15, 1958  | 10.67              | 2,920           |
|                            |                |                    |                 |            | July 19, 1958  | 11.19              | 3,300           |
| 1949                       | June 2, 1949   | 7.60               | 2,200           |            | July 31, 1958  | 8.90               | 1,650           |
|                            | June 23, 1949  | 10.80              | 4,900           |            | Aug. 21, 1958  | 11.68              | 3,750           |
|                            | July 21, 1949  | 10.95              | 5,120           | 1959       | Nov. 17, 1958  | 9.92               | 1,800           |
|                            | Sept. 12, 1949 | 8.30               | 2,640           |            | Feb. 10, 1959  | 10.05              | 1,850           |
|                            |                |                    |                 | 1960       | July 12, 1960  | 8.74               | 1,400           |
| 1950                       | Oct. 21, 1949  | 8.20               | 2,580           | 1961       | May 8, 1961    | 12.46              | 3,970           |
|                            | Dec. 21, 1949  | 7.60               | 2,200           | 1962       | Mar. 21, 1962  | 6.25               | 1,240           |
| 1951                       | July 28, 1951  | 7.84               | 2,380           | 1963       | May 16, 1963   | 6.41               | 1,320           |
| 1952                       | Mar. 18, 1952  | 5.15               | 988             | 1964       | Apr. 5, 1964   | 6.09               | 1,170           |
| 1953                       | Mar. 21, 1953  | 2.31               | 208             | 1965       | Sept. 16, 1965 | 7.20               | 1,480           |
| 1954                       | Apr. 30, 1954  | 5.59               | 415             |            |                |                    |                 |

## SALT RIVER BASIN

5-5025. Salt River near Shelbina, Mo.

Location.--Lat 39°44'25", long 92°02'26", in SW¼NE¼ sec.17, T.57 N., R.10 W., on right bank on downstream side of right pier of bridge on State Highway 15, 3 miles north of Shelbina, and 15 miles upstream from Black Creek.

Drainage area.--481 sq mi. Slope.--3.9 ft per mi.

Gage.--Nonrecording prior to Mar. 1, 1934; recording thereafter. Datum of gage is 664.58 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 20,000 cfs.

Bankfull stage.--15 ft.

Remarks.--Some channel improvements made in drainage basin upstream from gage during period 1906-20. Base for partial-duration series, 3,000 cfs.

| Water year |           | Date |  | Gage height (feet) | Discharge (cfs) | Peak stages and discharges |                | Gage height (feet) | Discharge (cfs) |
|------------|-----------|------|--|--------------------|-----------------|----------------------------|----------------|--------------------|-----------------|
| Water year |           | Date |  | Gage height (feet) | Discharge (cfs) | Water year                 | Date           | Gage height (feet) | Discharge (cfs) |
| 1909       | July      | 1909 |  | 23.42              | a17,700         | 1946                       | Jan. 7, 1946   | 20.66              | 11,700          |
|            |           |      |  |                    |                 |                            | Mar. 25, 1946  | 14.10              | 4,560           |
| 1928       | June      | 1928 |  | 23.54              | a18,000         |                            |                |                    |                 |
| 1931       | Apr. 23,  | 1931 |  | 12.58              | 3,890           | 1947                       | Apr. 6, 1947   | 20.90              | 13,000          |
|            | June 8,   | 1931 |  | 17.88              | 8,270           |                            | June 1, 1947   | 14.20              | 4,630           |
|            |           |      |  |                    |                 |                            | June 3, 1947   | 15.20              | 5,310           |
|            |           |      |  |                    |                 |                            | June 7, 1947   | 27.4               | 23,000          |
| 1932       | Nov. 19,  | 1931 |  | 12.30              | 3,720           |                            | June 15, 1947  | 13.9               | 4,440           |
|            | Nov. 26,  | 1931 |  | 13.00              | 4,110           |                            | June 20, 1947  | 21.8               | 13,400          |
|            | Jan. 2,   | 1932 |  | 11.85              | 3,460           |                            |                |                    |                 |
|            | Aug. 3,   | 1932 |  | 13.04              | 4,110           | 1948                       | Dec. 6, 1947   | 12.97              | 3,940           |
|            | Aug. 18,  | 1932 |  | 16.32              | 5,920           |                            | Feb. 29, 1948  | 13.60              | 4,270           |
|            |           |      |  |                    |                 |                            | Mar. 20, 1948  | 17.80              | 7,920           |
| 1933       | Dec. 26,  | 1932 |  | 17.20              | 7,390           |                            |                |                    |                 |
|            | May 14,   | 1933 |  | 15.34              | 5,490           | 1949                       | Feb. 15, 1949  | 11.27              | 3,100           |
|            | July 1,   | 1933 |  | 22.62              | 16,000          |                            | Feb. 21, 1949  | 14.20              | 4,630           |
|            |           |      |  |                    |                 |                            | July 12, 1949  | 11.50              | 3,080           |
| 1934       | Sept. 30, | 1934 |  | 10.48              | 2,800           |                            | July 22, 1949  | 13.56              | 4,270           |
| 1935       | Nov. 5,   | 1934 |  | 11.74              | 3,360           | 1950                       | June 17, 1950  | 12.60              | 3,730           |
|            | May 3,    | 1935 |  | 14.10              | 4,660           |                            | June 21, 1950  | 13.35              | 4,160           |
|            | May 10,   | 1935 |  | 13.60              | 4,360           |                            |                |                    |                 |
|            | May 12,   | 1935 |  | 17.78              | 8,140           | 1951                       | Feb. 21, 1951  | 15.81              | 5,810           |
|            | May 22,   | 1935 |  | 11.37              | 3,220           |                            | June 28, 1951  | 16.23              | 6,180           |
|            | May 29,   | 1935 |  | 16.78              | 6,930           |                            | July 25, 1951  | 15.32              | 5,390           |
|            | June 3,   | 1935 |  | 20.63              | 12,300          |                            |                |                    |                 |
|            | June 19,  | 1935 |  | 14.90              | 5,180           | 1952                       | Mar. 11, 1952  | 15.14              | 5,230           |
|            |           |      |  |                    |                 |                            | Mar. 21, 1952  | 12.73              | 3,780           |
| 1936       | Feb. 27,  | 1936 |  | 17.40              | 7,040           |                            | Apr. 24, 1952  | 14.35              | 4,760           |
|            | Sept. 28, | 1936 |  | 14.15              | 4,720           |                            |                |                    |                 |
|            |           |      |  |                    |                 | 1953                       | Apr. 1, 1953   | 17.00              | 7,010           |
| 1937       | Feb. 15,  | 1937 |  | b12.32             | -               |                            |                |                    |                 |
|            | Feb. 21,  | 1937 |  | b13.94             | 4,000           | 1954                       | Apr. 7, 1954   | 9.19               | 2,020           |
|            |           |      |  |                    |                 |                            | June 2, 1954   | 9.25               | -               |
| 1938       | Mar. 30,  | 1938 |  | 12.68              | 3,780           |                            |                |                    |                 |
|            | Apr. 11,  | 1938 |  | 13.24              | 4,050           | 1955                       | Jan. 7, 1955   | 15.84              | 5,440           |
|            |           |      |  |                    |                 |                            | Feb. 20, 1955  | 16.10              | 5,740           |
| 1939       | Mar. 13,  | 1939 |  | 17.72              | 7,880           |                            | May 14, 1955   | 13.56              | 3,900           |
|            | Apr. 17,  | 1939 |  | 15.80              | 5,810           |                            | May 29, 1955   | 15.30              | 5,000           |
|            | June 22,  | 1939 |  | 14.05              | 4,500           |                            | July 6, 1955   | 12.51              | 3,360           |
|            | Aug. 2,   | 1939 |  | 12.10              | 3,480           |                            |                |                    |                 |
|            |           |      |  |                    |                 | 1956                       | July 4, 1956   | 10.79              | 2,580           |
| 1940       | Mar. 4,   | 1940 |  | 12.11              | 3,560           |                            |                |                    |                 |
| 1941       | Jan. 18,  | 1941 |  | 7.69               | 1,590           | 1957                       | May 18, 1957   | 13.82              | 3,800           |
|            |           |      |  |                    |                 |                            | July 31, 1957  | 12.80              | 3,200           |
| 1942       | Nov. 2,   | 1941 |  | 13.60              | 4,270           | 1958                       | Oct. 25, 1957  | 20.38              | 10,600          |
|            | Dec. 25,  | 1941 |  | 12.00              | 3,480           |                            | Feb. 25, 1958  | 12.78              | 3,300           |
|            | Feb. 7,   | 1942 |  | 17.65              | 7,750           |                            | July 17, 1958  | 16.44              | 5,670           |
|            | Mar. 17,  | 1942 |  | 12.80              | 3,840           |                            | July 20, 1958  | 12.76              | 3,300           |
|            | Apr. 11,  | 1942 |  | 14.40              | 4,760           |                            | Aug. 1, 1958   | 17.41              | 6,740           |
| 1943       | Dec. 28,  | 1942 |  | 13.00              | 3,940           | 1959                       | Feb. 12, 1959  | 13.65              | 3,700           |
|            | May 21,   | 1943 |  | 16.00              | 5,990           |                            |                |                    |                 |
|            | June 10,  | 1943 |  | 15.60              | 5,630           | 1960                       | Oct. 7, 1959   | 12.81              | 3,500           |
|            | June 18,  | 1943 |  | 16.35              | 6,380           |                            | Mar. 30, 1960  | 18.14              | 7,850           |
|            |           |      |  |                    |                 |                            | May 8, 1960    | 16.94              | 6,500           |
| 1944       | Mar. 16,  | 1944 |  | 18.60              | 9,160           |                            | July 2, 1960   | 16.12              | 5,690           |
|            | Apr. 12,  | 1944 |  | 18.10              | 8,440           |                            | July 12, 1960  | 12.64              | 3,420           |
|            | Apr. 24,  | 1944 |  | 19.39              | 10,400          |                            |                |                    |                 |
|            | May 4,    | 1944 |  | 11.10              | 3,010           | 1961                       | Mar. 15, 1961  | 12.90              | 3,550           |
|            |           |      |  |                    |                 |                            | Mar. 22, 1961  | 12.27              | 3,300           |
| 1945       | Mar. 27,  | 1945 |  | 13.60              | 4,270           |                            | Apr. 24, 1961  | 13.45              | 3,810           |
|            | Apr. 18,  | 1945 |  | 12.40              | 3,630           |                            | May 7, 1961    | 12.18              | 3,260           |
|            | Apr. 27,  | 1945 |  | 12.00              | 3,430           |                            | Sept. 15, 1961 | 17.15              | 6,830           |
|            | May 18,   | 1945 |  | 16.00              | 5,990           |                            | Sept. 26, 1961 | 13.67              | 3,990           |
|            | June 11,  | 1945 |  | 15.00              | 5,160           |                            |                |                    |                 |
|            | June 18,  | 1945 |  | 18.74              | 9,310           |                            |                |                    |                 |
|            | Sept. 30, | 1945 |  | 11.72              | 3,290           |                            |                |                    |                 |

## SALT RIVER BASIN

## Peak stages and discharges of Salt River near Shelbina, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |  |
|------------|---------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|--|
| 1962       | Oct. 31, 1961 | 13.53              | 3,650           | 1965       | Jan. 3, 1965   | 20.93              | 11,200          |  |
|            | Nov. 4, 1961  | 15.46              | 4,870           |            | Jan. 24, 1965  | 15.89              | 5,420           |  |
|            | Nov. 18, 1961 | 15.28              | 4,710           |            | Mar. 19, 1965  | 17.59              | 7,000           |  |
|            | Mar. 13, 1962 | 14.89              | 4,430           |            | Apr. 7, 1965   | 16.91              | 6,310           |  |
|            | Mar. 23, 1962 | 15.92              | 5,210           |            | June 7, 1965   | 13.44              | 3,790           |  |
| 1963       | Mar. 6, 1963  | 15.69              | 5,030           |            | Sept. 17, 1965 | 14.44              | 4,330           |  |
|            |               |                    |                 |            | Sept. 23, 1965 | 13.92              | 4,040           |  |
| 1964       | Apr. 6, 1964  | 13.53              | 3,840           |            |                |                    |                 |  |
|            | Apr. 22, 1964 | 14.91              | 4,660           |            |                |                    |                 |  |

a Annual peak only.  
b Backwater from ice.

## SALT RIVER BASIN

5-5027. Easdale Branch near Shelbyville, Mo.

Location--Lat 39°48'17", long 92°00'27", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.22, T.58 N., R.10 W., at culvert under State Highway 168, 1.8 miles east of Shelbyville.

Drainage area--0.71 sq mi. Slope--76.1 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements to 95 cfs and extended above on basis of indirect measurement of flow through culvert at 159 and 431 cfs.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1958       | July 30, 1958 | 6.70               | 431             |            |      |                    |                 |
| 1959       | May 19, 1959  | 5.25               | 255             |            |      |                    |                 |
| 1960       | July 10, 1960 | 8.75               | 770             |            |      |                    |                 |
| 1961       | May 7, 1961   | 6.75               | 435             |            |      |                    |                 |
| 1962       | Nov. 16, 1961 | 4.85               | 210             |            |      |                    |                 |
| 1963       | Mar. 4, 1963  | 4.33               | 160             |            |      |                    |                 |
| 1964       | June 2, 1964  | 7.87               | 610             |            |      |                    |                 |
| 1965       | June 2, 1965  | 5.90               | 330             |            |      |                    |                 |

| Peak stages and discharges |      |          |                    |                 |            |       |          |                    |                 |
|----------------------------|------|----------|--------------------|-----------------|------------|-------|----------|--------------------|-----------------|
| Water year                 | Date |          | Gage height (feet) | Discharge (cfs) | Water year | Date  |          | Gage height (feet) | Discharge (cfs) |
| 1956                       | June | 20, 1956 | 7.86               | 1,200           | 1960       | July  | 12, 1960 | 5.55               | 745             |
| 1957                       | June | 8, 1957  | 3.70               | 401             | 1961       | Sept. | 13, 1961 | 5.62               | 749             |
|                            | June | 28, 1957 | 3.63               | 393             | 1962       | Nov.  | 15, 1961 | 4.01               | 453             |
|                            | July | 28, 1957 | 3.74               | 409             |            |       |          |                    |                 |
| 1958                       | July | 4, 1958  | 3.60               | 385             | 1963       | Mar.  | 4, 1963  | 3.57               | 380             |
|                            | July | 14, 1958 | 4.53               | 538             | 1964       | June  | 21, 1964 | 3.77               | 412             |
|                            | July | 19, 1958 | 3.67               | 393             |            |       |          |                    |                 |
|                            | July | 30, 1958 | 4.99               | 631             |            |       |          |                    |                 |
| 1959                       | May  | 31, 1959 | 3.51               | 369             | 1965       | June  | 5, 1965  | 5.44               | 715             |
|                            | Aug. | 5, 1959  | 4.80               | 593             |            |       |          |                    |                 |

SALT RIVER BASIN

5-5035. Salt River near Hunnewell, Mo.

Location.--Lat 39°40'05", long 91°54'10", in SW¼NW¼ sec.10, T.56 N., R.9 W., at bridge on U. S. Highway 36, 1½ miles downstream from Black Creek, and 2 miles west of Hunnewell.

Drainage area.--626 sq mi. Slope.--3.0 ft per mi.

Gage.--Nonrecording. Datum of gage is 615.64 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage.--12 ft.

Remarks.--Some channel improvements made in drainage basin upstream from gage during period 1906-20. Only annual peaks are shown.

| Peak stages and discharges |       |          |                    |                 |            |      |          |                    |                 |
|----------------------------|-------|----------|--------------------|-----------------|------------|------|----------|--------------------|-----------------|
| Water year                 | Date  |          | Gage height (feet) | Discharge (cfs) | Water year | Date |          | Gage height (feet) | Discharge (cfs) |
| 1931                       | June  | 8, 1931  | 18.50              | 9,280           | 1936       | Feb. | 26, 1936 | 18.83              | 9,590           |
| 1932                       | Aug.  | 20, 1932 | 15.22              | 6,560           | 1937       | Feb. | 22, 1937 | 13.09              | 4,700           |
| 1933                       | July  | 1, 1933  | 21.20              | 15,400          | 1938       | Mar. | 31, 1938 | 14.9               | 6,000           |
| 1934                       | Sept. | 15, 1934 | 10.00              | 2,920           | 1939       | Mar. | 14, 1939 | 18.34              | 9,150           |
| 1935                       | June  | 4, 1935  | 19.80              | 11,300          | 1940       | Mar. | 5, 1940  | 11.05              | 3,600           |

## SALT RIVER BASIN

5-5047. Bean Creek near Mexico, Mo.

Location--Lat 39°15'30", long 91°49'50", in NW¼SW¼ sec.29, T.52 N., R.8 W., at culvert under County Road J, 6.5 miles north of Mexico.

Drainage area--3.02 sq mi. Slope--33.1 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current meter measurements to 30 cfs and extended on basis of culvert flow measurements of 564 and 853 cfs.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1960                       | Apr. 16, 1960 | 9.15               | 564             |            |      |                    |                 |
| 1961                       | May 5, 1961   | 10.00              | 950             |            |      |                    |                 |
| 1962                       | July 3, 1962  | 8.48               | 410             |            |      |                    |                 |
| 1963                       | May 16, 1963  | 7.25               | 200             |            |      |                    |                 |
| 1964                       | May 12, 1964  | 10.38              | 850             |            |      |                    |                 |
| 1965                       | July 20, 1965 | 9.53               | 640             |            |      |                    |                 |

## SALT RIVER BASIN

5-5050. South Fork Salt River at Santa Fe, Mo.

Location--Lat 39°21'45", long 91°49'05", in NW¼NE¼ sec.20, T.53 N., R.8 W., on right bank on downstream side of highway bridge, a quarter of a mile south of Santa Fe, 1 mile upstream from Elm Creek, and at mile 96.2 above mouth of Salt River.

Drainage area--298 sq mi. Slope--3.6 ft per mi.

Gage--Nonrecording prior to Feb. 5, 1940; recording thereafter. Datum of gage is 613.05 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 12,300 cfs; shifts in relation occur.

Bankfull stage--14 ft.

Historical data--Flood in about 1929 washed away county highway bridge 100 ft upstream from gage; magnitude of flood unknown.

Remarks--Base for partial-duration series, 5,800 cfs.

| Water year     | Date           | Gage height (feet) | Peak stages and discharges |                 | Water year   | Date           | Gage height (feet) | Discharge (cfs) |
|----------------|----------------|--------------------|----------------------------|-----------------|--------------|----------------|--------------------|-----------------|
|                |                |                    | Discharge (cfs)            | Discharge (cfs) |              |                |                    |                 |
| 1940           | June 11, 1940  | 13.97              | 5,460                      |                 | 1951         | Mar. 17, 1951  | 15.88              | 7,210           |
| 1941           | Apr. 19, 1941  | 16.78              | 7,780                      |                 | 1952         | Mar. 18, 1952  | 13.79              | 5,410           |
| 1942           | Oct. 5, 1941   | 19.10              | 10,400                     |                 | 1953         | June 14, 1953  | 10.20              | 3,030           |
|                | Oct. 31, 1941  | 16.30              | 7,390                      |                 |              |                |                    |                 |
|                | June 27, 1942  | 19.20              | 10,500                     |                 | 1954         | June 2, 1954   | 5.42               | 865             |
| 1943           | Dec. 27, 1942  | 20.10              | 11,700                     |                 | 1955         | Feb. 19, 1955  | 12.02              | 4,100           |
|                | May 8, 1943    | 19.20              | 10,600                     |                 |              |                |                    |                 |
|                | May 19, 1943   | 20.36              | 12,100                     |                 | 1956         | Apr. 29, 1956  | 18.00              | 9,280           |
| 1944           | Apr. 11, 1944  | 17.10              | 8,190                      |                 | 1957         | Apr. 18, 1957  | 11.49              | 3,740           |
|                | Apr. 23, 1944  | 21.10              | 13,100                     |                 |              |                |                    |                 |
|                | Apr. 27, 1944  | 14.90              | 6,470                      |                 | 1958         | July 20, 1958  | 17.89              | 9,060           |
| 1945           |                |                    |                            |                 |              | July 31, 1958  | 20.62              | 12,300          |
|                | Mar. 2, 1945   | 14.40              | 5,890                      |                 |              |                |                    |                 |
|                | Mar. 21, 1945  | 15.20              | 6,580                      |                 | 1959         | Feb. 10, 1959  | 16.93              | 8,000           |
|                | Apr. 14, 1945  | 14.86              | 6,320                      |                 |              |                |                    |                 |
|                | May 16, 1945   | 16.90              | 8,180                      |                 | 1960         | Mar. 28, 1960  | 15.99              | 7,120           |
|                | June 7, 1945   | 16.55              | 7,880                      |                 |              |                |                    |                 |
|                | Sept. 22, 1945 | 15.85              | 7,120                      |                 | 1961         | May 8, 1961    | 19.62              | 11,700          |
| Sept. 28, 1945 | 16.10          | 7,400              |                            |                 | July 1, 1961 | 17.06          | 8,850              |                 |
| 1946           | Jan. 9, 1946   | 16.30              | 7,580                      |                 |              | Sept. 25, 1961 | 16.51              | 8,240           |
| 1947           | Apr. 25, 1947  | 17.43              | 8,680                      |                 | 1962         | Mar. 21, 1962  | 16.54              | 8,240           |
| 1948           | Mar. 23, 1948  | 9.30               | 2,570                      |                 | 1963         | May 16, 1963   | 7.03               | 1,460           |
| 1949           | Sept. 13, 1949 | 14.82              | 6,230                      |                 | 1964         | Apr. 5, 1964   | 10.54              | 3,300           |
| 1950           |                |                    |                            |                 | 1965         | Apr. 11, 1965  | 14.04              | 5,840           |
|                | Oct. 21, 1949  | 17.27              | 8,580                      |                 |              | Sept. 16, 1965 | 14.54              | 6,290           |

## SALT RIVER BASIN

5-5060. Youngs Creek near Mexico, Mo.

Location.--Lat 39°18'40", long 91°56'40", in NW¼SW¼ sec.5, T.52 N., R.9 W., on downstream side of bridge on State Highway 15, 6 miles upstream from Long Branch, and 11 miles north of Mexico.

Drainage area.--67.4 sq mi. Slope.--7.5 ft per mi.

Gage.--Nonrecording prior to June 1, 1956; recording thereafter. Datum of gage is 704.31 ft above mean sea level, datum of 1929 (levels by Missouri Highway Department).

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--13 ft.

Historical data.--Maximum stage known, about 15.1 ft, date unknown, from information by Missouri State Highway Department.

Remarks.--Base for partial-duration series, 1,400 cfs.

| Peak stages and discharges |                |                    |                 |                |               |                    |                 |  |
|----------------------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|--|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |  |
| 1937                       | May 3, 1937    | 5.08               | 1,080           | 1951           | Feb. 20, 1951 | 5.8                | 1,890           |  |
| 1938                       | Apr. 8, 1938   | 6.10               | 1,570           | Mar. 17, 1951  | 6.46          | 2,310              |                 |  |
|                            | July 17, 1938  | 7.80               | 2,470           | June 26, 1951  | 6.29          | 2,190              |                 |  |
| 1939                       | Mar. 12, 1939  | 7.20               | 2,140           | July 12, 1951  | 5.10          | 1,470              |                 |  |
|                            | Apr. 16, 1939  | 6.60               | 1,820           | 1952           | Mar. 18, 1952 | 6.00               | 2,010           |  |
|                            | May 27, 1939   | 8.00               | 2,580           | Aug. 21, 1952  | 6.64          | 2,370              |                 |  |
|                            | June 20, 1939  | 7.65               | 2,360           | 1953           | Mar. 31, 1953 | 3.6                | 655             |  |
|                            | June 27, 1939  | 7.61               | 2,360           | 1954           | June 3, 1954  | 2.98               | 330             |  |
|                            | Aug. 12, 1939  | 6.20               | 1,620           | 1955           | Oct. 11, 1954 | 6.1                | 1,750           |  |
|                            | Aug. 17, 1939  | 12.0               | 5,960           | Jan. 6, 1955   | 6.01          | 1,700              |                 |  |
| 1940                       | June 11, 1940  | 7.0                | 2,030           | Feb. 19, 1955  | 6.00          | 1,700              |                 |  |
| 1941                       | Jan. 17, 1941  | 4.0                | 610             | June 24, 1955  | 6.1           | 1,750              |                 |  |
| 1942                       | Oct. 5, 1941   | 7.35               | 2,450           | Aug. 29, 1955  | 7.63          | 2,570              |                 |  |
|                            | Oct. 21, 1941  | 6.96               | 2,190           | 1956           | Oct. 5, 1955  | 7.50               | 2,510           |  |
|                            | Oct. 31, 1941  | 6.45               | 1,820           | Apr. 29, 1956  | 7.76          | 2,610              |                 |  |
|                            | Mar. 16, 1942  | 7.17               | 2,320           | July 16, 1956  | 6.65          | 1,860              |                 |  |
|                            | June 19, 1942  | 6.10               | 1,640           | 1957           | May 17, 1957  | 6.25               | 1,650           |  |
|                            | June 26, 1942  | 12.19              | 6,140           | 1958           | July 16, 1958 | 8.05               | 2,530           |  |
| 1943                       | Dec. 27, 1942  | 10.1               | 4,390           | July 20, 1958  | 9.40          | 3,570              |                 |  |
|                            | May 8, 1943    | 7.37               | 2,450           | July 31, 1958  | 12.52         | 6,530              |                 |  |
|                            | May 11, 1943   | 6.20               | 1,700           | 1959           | Feb. 10, 1959 | 7.40               | 2,030           |  |
|                            | May 15, 1943   | 8.68               | 3,330           | 1960           | Mar. 28, 1960 | 7.67               | 2,670           |  |
|                            | May 18, 1943   | 9.50               | 3,920           | 1961           | Apr. 25, 1961 | 6.08               | 1,450           |  |
|                            | May 18, 1943   | 9.50               | 3,920           | May 8, 1961    | 10.48         | 4,520              |                 |  |
|                            | June 6, 1943   | 6.18               | 1,700           | Sept. 13, 1961 | 6.03          | 1,400              |                 |  |
|                            | June 10, 1943  | 5.80               | 1,480           | Sept. 24, 1961 | 7.80          | 2,390              |                 |  |
| June 22, 1943              | 5.67           | 1,430              | 1962            | Nov. 16, 1961  | 5.80          | 1,400              |                 |  |
| 1944                       | Mar. 15, 1944  | 7.62               | 2,580           | Mar. 21, 1962  | 8.83          | 3,310              |                 |  |
|                            | Apr. 11, 1944  | 9.33               | 3,780           | July 3, 1962   | 8.80          | 3,310              |                 |  |
|                            | Apr. 23, 1944  | 9.06               | 3,620           | July 6, 1962   | 6.76          | 1,980              |                 |  |
|                            | Apr. 27, 1944  | 7.20               | 2,320           | 1963           | Mar. 4, 1963  | 5.67               | 1,200           |  |
|                            | May 1, 1944    | 7.42               | 2,450           | 1964           | Apr. 5, 1964  | 6.32               | 1,670           |  |
| 1945                       | Mar. 21, 1945  | 6.90               | 2,120           | 1965           | Mar. 17, 1965 | 7.57               | 2,380           |  |
|                            | Mar. 25, 1945  | 5.80               | 1,480           | Apr. 6, 1965   | 8.58          | 3,040              |                 |  |
|                            | Apr. 14, 1945  | 7.30               | 2,380           | June 5, 1965   | 5.86          | 1,500              |                 |  |
|                            | Apr. 17, 1945  | 7.33               | 2,380           | Sept. 16, 1965 | 8.80          | 3,180              |                 |  |
|                            | June 7, 1945   | 8.5                | 3,190           |                |               |                    |                 |  |
|                            | Sept. 22, 1945 | 6.90               | 2,120           |                |               |                    |                 |  |
| 1946                       | Jan. 5, 1946   | 5.85               | 1,890           |                |               |                    |                 |  |
| 1947                       | Nov. 3, 1946   | 5.01               | 1,420           |                |               |                    |                 |  |
|                            | Nov. 10, 1946  | 5.00               | 1,420           |                |               |                    |                 |  |
|                            | Mar. 13, 1947  | 5.18               | 1,520           |                |               |                    |                 |  |
|                            | Apr. 1, 1947   | 5.90               | 1,950           |                |               |                    |                 |  |
|                            | Apr. 5, 1947   | 5.30               | 1,600           |                |               |                    |                 |  |
|                            | Apr. 11, 1947  | 5.41               | 1,660           |                |               |                    |                 |  |
|                            | Apr. 25, 1947  | 7.05               | 2,610           |                |               |                    |                 |  |
|                            | June 7, 1947   | 5.23               | 1,550           |                |               |                    |                 |  |
|                            | June 18, 1947  | 6.60               | 2,360           |                |               |                    |                 |  |
|                            | 1948           | July 21, 1948      | 4.4             | 1,060          |               |                    |                 |  |
|                            | 1949           | Sept. 13, 1949     | 4.5             | 1,120          |               |                    |                 |  |
| 1950                       | Oct. 21, 1949  | 7.85               | 3,130           |                |               |                    |                 |  |
|                            | Dec. 20, 1949  | 7.3                | 2,800           |                |               |                    |                 |  |

## SALT RIVER BASIN

5-5065. Middle Fork Salt River at Paris, Mo.

Location.--Lat 39°29'00", long 91°59'50", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.2, T.54 N., R.10 W., on right bank on downstream side of Wabash Railroad bridge in Paris, 12 $\frac{1}{2}$  miles upstream from Elk Fork Salt River, and at mile 104.6 above mouth of Salt River.

Drainage area.--356 sq mi. Slope.--2.9 ft per mi.

Gage.--Nonrecording prior to Jan. 22, 1940: recording thereafter. Datum of gage is 621.71 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--12 ft.

Remarks.--Base for partial-duration series, 2,400 cfs.

| Water year    | Date          | Peak stages and discharges |                 |                |               |               |        |       |
|---------------|---------------|----------------------------|-----------------|----------------|---------------|---------------|--------|-------|
|               |               | Gage height (feet)         | Discharge (cfs) | Water year     | Date          |               |        |       |
| 1940          | Mar. 4, 1940  | 9.35                       | 2,070           | 1953           | Apr. 2, 1953  | 14.54         | 4,800  |       |
| 1941          | Sept. 3, 1941 | 10.60                      | 2,520           | 1954           | Apr. 22, 1954 | 9.82          | 2,160  |       |
| 1942          | Oct. 4, 1941  | 11.60                      | 3,040           | 1955           | Jan. 6, 1955  | 11.43         | 2,720  |       |
|               | Nov. 2, 1941  | 10.93                      | 2,670           |                | Feb. 20, 1955 | 12.67         | 3,680  |       |
|               | Feb. 8, 1942  | 12.96                      | 3,860           |                | May 29, 1955  | 18.93         | 7,920  |       |
|               | Mar. 18, 1942 | 10.50                      | 2,470           | July 7, 1955   | 10.44         | 2,430         |        |       |
|               | Apr. 8, 1942  | 11.60                      | 3,040           | 1956           | July 31, 1956 | 10.08         | 2,300  |       |
|               | Apr. 11, 1942 | 11.44                      | 2,930           |                | 1957          | May 17, 1957  | 10.97  | 2,720 |
|               | June 27, 1942 | 21.76                      | 10,500          |                |               | June 15, 1957 | 11.40  | 2,930 |
| 1943          | Dec. 27, 1942 | 11.58                      | 3,040           | 1958           | Oct. 27, 1957 | 11.20         | 2,670  |       |
|               | May 17, 1943  | 16.78                      | 6,430           |                | July 21, 1958 | 23.48         | 10,800 |       |
|               | June 10, 1943 | 11.68                      | 3,400           |                | Aug. 1, 1958  | 29.94         | 23,100 |       |
| 1944          | Mar. 17, 1944 | 16.86                      | 6,500           | 1959           | Feb. 12, 1959 | 12.69         | 3,840  |       |
|               | Apr. 12, 1944 | 18.52                      | 7,730           |                | Mar. 7, 1959  | 12.38         | 3,670  |       |
|               | Apr. 24, 1944 | 17.50                      | 6,960           |                | 1960          | Mar. 30, 1960 | 15.41  | 5,090 |
| 1945          | Mar. 26, 1945 | 11.40                      | 2,930           | Apr. 17, 1960  |               | 10.86         | 2,720  |       |
|               | Apr. 14, 1945 | 13.60                      | 4,240           | May 6, 1960    |               | 10.69         | 2,520  |       |
|               | Apr. 17, 1945 | 11.91                      | 3,210           | July 2, 1960   |               | 17.55         | 6,770  |       |
|               | May 18, 1945  | 12.29                      | 3,440           | 1961           |               | Mar. 14, 1961 | 10.95  | 2,820 |
| June 11, 1945 | 14.94         | 5,080                      | May 7, 1961     |                |               | 14.63         | 4,790  |       |
| June 18, 1945 | 11.07         | 2,770                      | Sept. 15, 1961  |                |               | 25.37         | 13,400 |       |
| 1946          | Oct. 1, 1945  | 10.80                      | 2,620           | Sept. 24, 1961 | 10.55         | 2,570         |        |       |
|               | Jan. 7, 1946  | 17.2                       | 6,640           | 1962           | Nov. 3, 1961  | 10.72         | 2,620  |       |
| 1947          | Nov. 3, 1946  | 10.50                      | 2,480           |                | Nov. 16, 1961 | 10.79         | 2,670  |       |
|               | Apr. 6, 1947  | 19.75                      | 8,670           |                | Mar. 21, 1962 | 12.66         | 3,620  |       |
|               | May 28, 1947  | 10.95                      | 2,720           |                | July 4, 1962  | 10.70         | 2,620  |       |
|               | June 8, 1947  | 18.80                      | 7,840           |                | 1963          | Mar. 5, 1963  | 11.30  | 2,920 |
| June 20, 1947 | 17.15         | 6,640                      | May 16, 1963    | 11.28          |               | 2,920         |        |       |
| 1948          | Feb. 28, 1948 | 10.40                      | 2,430           | 1964           | Apr. 6, 1964  | 11.61         | 3,070  |       |
|               | Mar. 21, 1948 | 14.65                      | 4,870           |                | Apr. 21, 1964 | 11.10         | 2,820  |       |
| 1949          | June 29, 1949 | 11.80                      | 3,150           | 1965           | Jan. 4, 1965  | 11.71         | 3,240  |       |
| 1950          | Dec. 22, 1949 | 10.63                      | 2,520           |                | Jan. 24, 1965 | 12.56         | 3,690  |       |
| 1951          | Mar. 29, 1951 | 13.68                      | 4,280           | Mar. 17, 1965  | 12.73         | 3,740         |        |       |
|               | June 30, 1951 | 14.88                      | 5,060           | Apr. 8, 1965   | 12.63         | 3,690         |        |       |
| 1952          | Mar. 10, 1952 | 11.01                      | 2,720           | Sept. 16, 1965 | 15.02         | 5,090         |        |       |
|               | Mar. 19, 1952 | 10.83                      | 2,620           |                |               |               |        |       |
|               | Apr. 24, 1952 | 11.40                      | 2,930           |                |               |               |        |       |
|               | Sept. 3, 1952 | 10.65                      | 2,520           |                |               |               |        |       |

## SALT RIVER BASIN

5-5070. Elk Fork Salt River near Paris, Mo.

Location.--Lat 39°26'25", long 92°00'05", in SE¼SE¼ sec.22, T.54 N., R.10 W., on left bank on upstream side of bridge on State Highway 15, 2½ miles south of Paris, and 11 miles upstream from mouth.

Drainage area.--262 sq mi. Slope.--3.5 ft per mi.

Gage.--Nonrecording Apr. 3, 1930, to Jan. 21, 1935 (fragmentary record); recording thereafter. Datum of gage is 630.86 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 16,000 cfs; large shift in relation occurred May 27, 1939.

Bankfull stage.--14 ft.

Historical data.--Flood of June 1928 was higher than that of 1902 but might have been exceeded by the flood of 1875, from information by local residents. Flood of July 31, 1958, reached the highest stage since at least 1875.

Remarks.--Base for partial-duration series, 3,600 cfs; only annual peaks are shown prior to 1935.

| Peak stages and discharges |                |                    |                 |            |               |                    |                 |        |
|----------------------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|--------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |        |
| 1928                       | June 1928      | 19.1               | 18,400          | 1944       | Mar. 15, 1944 | 13.58              | 9,140           |        |
| 1931                       | June 12, 1931  | 12.50              | 10,100          |            | Apr. 10, 1944 | 16.66              | 14,000          |        |
|                            |                |                    |                 |            | Apr. 23, 1944 | 16.55              | 13,800          |        |
| 1932                       | Aug. 14, 1932  | 10.46              | 7,820           |            | May 1, 1944   | 9.18               | 4,560           |        |
|                            |                |                    |                 |            | 1945          | Mar. 20, 1945      | 10.40           | 5,570  |
| 1933                       | May 13, 1933   | 12.32              | 9,490           |            | Mar. 25, 1945 | 11.62              | 6,700           |        |
|                            |                |                    |                 |            | Apr. 14, 1945 | 12.44              | 7,550           |        |
| 1934                       | Sept. 12, 1934 | 8.64               | 5,400           |            | May 17, 1945  | 9.88               | 5,140           |        |
|                            |                |                    |                 |            | June 8, 1945  | 12.25              | 7,330           |        |
| 1935                       | Mar. 7, 1935   | 9.03               | 5,700           |            | June 30, 1945 | 8.82               | 4,240           |        |
|                            | May 3, 1935    | 9.11               | 5,810           |            | 1946          | Jan. 6, 1946       | 9.32            | 4,640  |
|                            | May 14, 1935   | 10.70              | 7,570           |            | Mar. 23, 1946 | 9.76               | 5,050           |        |
|                            | May 28, 1935   | 11.08              | 8,020           |            | 1947          | Nov. 3, 1946       | 9.84            | 5,050  |
| 1936                       | Feb. 26, 1936  | 12.20              | 9,360           |            | Nov. 10, 1946 | 9.06               | 4,480           |        |
|                            |                |                    |                 |            | Apr. 1, 1947  | 9.08               | 4,480           |        |
| 1937                       | Feb. 21, 1937  | 7.57               | 4,400           |            | Apr. 5, 1947  | 9.82               | 5,050           |        |
|                            | May 3, 1937    | 6.88               | 3,600           |            | Apr. 25, 1947 | 9.75               | 5,050           |        |
| 1938                       | Mar. 29, 1938  | 8.31               | 5,000           |            | June 7, 1947  | 11.83              | 6,900           |        |
|                            | Apr. 9, 1938   | 8.02               | 4,700           |            | June 19, 1947 | 13.4               | 8,860           |        |
|                            | May 23, 1938   | 12.99              | 10,400          |            | 1948          | Feb. 27, 1948      | 8.38            | 4,000  |
|                            | July 18, 1938  | 7.24               | 3,900           |            | 1949          | Jan. 16, 1949      | 7.86            | 3,560  |
| 1939                       | Mar. 12, 1939  | 9.76               | 6,580           |            | 1950          | Oct. 21, 1949      | 8.45            | 3,930  |
|                            | May 27, 1939   | 11.28              | 5,850           |            | Dec. 21, 1949 | 11.90              | 7,000           |        |
|                            | June 21, 1939  | 13.45              | 8,860           |            | Jan. 3, 1950  | 8.07               | 3,700           |        |
|                            | June 28, 1939  | 14.45              | 10,300          |            | 1951          | Feb. 20, 1951      | 8.10            | 3,700  |
|                            | July 25, 1939  | 14.20              | 10,000          |            | Mar. 17, 1951 | 9.26               | 4,640           |        |
| 1940                       | June 11, 1940  | 9.56               | 4,610           |            | Mar. 29, 1951 | 11.73              | 6,800           |        |
|                            |                |                    |                 |            | 1952          | Mar. 10, 1952      | 9.5             | 4,800  |
| 1941                       | Jan. 17, 1941  | 6.40               | 2,420           |            | Mar. 18, 1952 | 10.0               | 5,220           |        |
|                            |                |                    |                 |            | Aug. 22, 1952 | 13.86              | 9,560           |        |
| 1942                       | Oct. 4, 1941   | 10.97              | 5,640           |            | 1953          | Apr. 1, 1953       | 8.65            | 4,080  |
|                            | Oct. 22, 1941  | 10.04              | 4,860           |            | 1954          | Apr. 11, 1954      | 4.58            | 1,480  |
|                            | Oct. 31, 1941  | 10.07              | 4,940           |            | 1958          | July 31, 1958      | 21.03           | 22,300 |
|                            | Feb. 6, 1942   | 8.45               | 3,700           |            |               |                    |                 |        |
|                            | Mar. 16, 1942  | 9.41               | 4,420           |            |               |                    |                 |        |
|                            | Apr. 7, 1942   | 9.55               | 4,560           |            |               |                    |                 |        |
| 1943                       | Apr. 10, 1942  | 10.06              | 4,940           |            |               |                    |                 |        |
|                            | June 27, 1942  | 20.22              | 20,600          |            |               |                    |                 |        |
| 1943                       | Dec. 27, 1942  | 12.75              | 8,040           |            |               |                    |                 |        |
|                            | May 18, 1943   | 14.42              | 10,300          |            |               |                    |                 |        |
|                            | June 10, 1943  | 11.70              | 6,700           |            |               |                    |                 |        |

## SALT RIVER BASIN

5-5075. Salt River near Monroe City, Mo.

Location.--Lat 39°32'25", long 91°40'20" in NE¼NW¼ sec.22, T.55 N., R.7 W., on left bank on downstream side of old bridge pier, 135 ft upstream from highway bridge at Joanna, 2,500 ft downstream from Indian Creek, 2 miles upstream from Lick Creek, 8 miles southeast of Monroe City, and at mile 63.5.

Drainage area.--2,230 sq mi, approximately. Slope.--2.8 ft per mi.

Gage.--Recording. Datum of gage is 520.04 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 67,000 cfs; shifts in relation occur.

Bankfull stage.--26 ft.

Remarks.--Base for partial-duration series, 20,000 cfs.

|            |               |                    |                 | Peak stages and discharges |                |                    |                 |
|------------|---------------|--------------------|-----------------|----------------------------|----------------|--------------------|-----------------|
| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year                 | Date           | Gage height (feet) | Discharge (cfs) |
| 1928       | June 1928     | a36                | -               | 1951                       | Feb. 21, 1951  | 19.36              | 22,300          |
| 1940       | Mar. 3, 1940  | 13.40              | 12,600          |                            | Mar. 18, 1951  | 19.76              | 23,000          |
|            |               |                    |                 |                            | Mar. 30, 1951  | 19.83              | 23,000          |
|            |               |                    |                 |                            |                |                    |                 |
| 1941       | Apr. 20, 1941 | 15.30              | 15,600          | 1952                       | Mar. 19, 1952  | 19.22              | 21,900          |
| 1942       | Oct. 5, 1941  | 21.70              | 26,200          | 1953                       | Apr. 1, 1953   | 16.75              | 17,800          |
|            | Nov. 1, 1941  | 19.70              | 22,500          |                            |                |                    |                 |
|            | Feb. 6, 1942  | 20.60              | 24,100          | 1954                       | Apr. 22, 1954  | 9.64               | 6,400           |
|            | Mar. 17, 1942 | 19.00              | 21,200          |                            |                |                    |                 |
|            | June 28, 1942 | 28.7               | 44,900          |                            |                |                    |                 |
| 1943       | Dec. 28, 1942 | 26.27              | 38,000          | 1955                       | Feb. 20, 1955  | 21.04              | 25,500          |
|            | May 18, 1943  | 30.04              | 48,800          |                            | May 29, 1955   | 18.18              | 20,000          |
|            | June 11, 1943 | 21.68              | 26,200          | 1956                       | Apr. 29, 1956  | 18.53              | 20,600          |
| 1944       | Mar. 16, 1944 | 23.52              | 30,400          | 1957                       | June 14, 1957  | 20.66              | 23,600          |
|            |               |                    |                 | 1958                       | July 16, 1958  | 21.41              | 23,400          |
|            |               |                    |                 |                            | July 21, 1958  | 30.34              | 44,400          |
|            |               |                    |                 |                            | Aug. 1, 1958   | 34.81              | 71,100          |
| 1945       | Mar. 21, 1945 | 21.34              | 25,400          | 1959                       | Feb. 10, 1959  | 22.16              | 24,800          |
|            | Mar. 26, 1945 | 21.65              | 26,000          |                            |                |                    |                 |
|            | Apr. 14, 1945 | 23.45              | 30,100          | 1960                       | Mar. 30, 1960  | 23.37              | 27,000          |
|            | Apr. 17, 1945 | 18.60              | 20,500          |                            |                |                    |                 |
|            | May 17, 1945  | 22.50              | 28,000          |                            |                |                    |                 |
|            | June 9, 1945  | 23.45              | 30,100          | 1961                       | May 9, 1961    | 29.00              | 39,600          |
|            | June 16, 1945 | 18.68              | 20,700          |                            | Sept. 15, 1961 | 27.74              | 35,800          |
|            |               |                    |                 | Sept. 25, 1961             | 20.05          | 21,100             |                 |
| 1946       | Jan. 9, 1946  | 22.8               | 28,600          | 1962                       | Mar. 22, 1962  | 24.32              | 29,900          |
| 1947       | Apr. 6, 1947  | 21.30              | 26,300          | 1963                       | Mar. 5, 1963   | 16.76              | 16,500          |
|            | Apr. 25, 1947 | 21.10              | 25,800          |                            |                |                    |                 |
|            | June 9, 1947  | 24.17              | 32,700          | 1964                       | Apr. 6, 1964   | 19.21              | 20,400          |
|            | June 20, 1947 | 23.65              | 31,400          |                            |                |                    |                 |
| 1948       | Feb. 28, 1948 | 16.20              | 16,500          | 1965                       | Jan. 24, 1965  | 19.89              | 21,600          |
|            |               |                    |                 |                            | Mar. 18, 1965  | 21.82              | 25,000          |
|            |               |                    |                 |                            | Apr. 6, 1965   | 22.46              | 26,400          |
| 1949       | July 20, 1949 | 13.94              | 12,800          |                            | Sept. 17, 1965 | 25.09              | 31,500          |
| 1950       | Dec. 22, 1949 | 20.49              | 24,400          |                            |                |                    |                 |

a Approximate; from information by local resident.

## SALT RIVER BASIN

5-5080. Salt River near New London, Mo.

Location--Lat 39°36'44", long 91°24'30", in NE¼NW¼ sec.36, T.56 N., R.5 W., on left bank 180 ft upstream from upstream bridge on dual U. S. Highway 61, 2 miles north of New London, 8 miles upstream from Spencer Creek, and at mile 35.5.

Drainage area--2,480 sq mi, approximately. Slope--2.5 ft per mi.

Gage--Nonrecording prior to Jan. 18, 1935; recording thereafter. Prior to Apr. 7, 1931, at present site at datum 0.03 ft higher, and Apr. 7, 1931, to Jan. 17, 1935, at site 180 ft downstream at datum 0.04 ft lower. Datum of gage is 477.03 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage--19 ft.

Remarks--Base for partial-duration series, 25,000 cfs

| Water year | Date           | Gage height (feet) | Peak stages and discharges |            |                |                    |                 |
|------------|----------------|--------------------|----------------------------|------------|----------------|--------------------|-----------------|
|            |                |                    | Discharge (cfs)            | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1858       | July 14, 1959  | a27.6              |                            | 1943       | Dec. 29, 1942  | 24.20              | 37,500          |
| 1922       | Mar. 16, 1922  | 24.15              | 39,800                     |            | May 19, 1943   | 27.18              | 51,600          |
| 1923       | Mar. 12, 1923  | 15.50              | 15,800                     | 1944       | June 11, 1943  | 21.28              | 27,900          |
| 1924       | June 13, 1924  | 14.21              | 13,700                     |            | Mar. 17, 1944  | 22.55              | 31,800          |
| 1925       | Mar. 19, 1925  | 14.70              | 14,500                     | 1945       | Apr. 13, 1944  | 26.08              | 45,900          |
| 1926       | Apr. 8, 1926   | 26.64              | 41,700                     |            | Apr. 25, 1944  | 26.48              | 47,900          |
|            | Sept. 6, 1926  | 26.00              | 49,800                     |            | Mar. 22, 1945  | 21.38              | 28,200          |
| 1927       | Mar. 21, 1927  | 23.46              | 36,600                     |            | Mar. 26, 1945  | 21.45              | 28,200          |
|            | Apr. 2, 1927   | 23.35              | 36,200                     | 1946       | Apr. 15, 1945  | 22.53              | 31,400          |
|            | Apr. 14, 1927  | 22.60              | 32,800                     |            | May 18, 1945   | 21.95              | 29,900          |
| 1928       | June 21, 1928  | 28.8               | 58,700                     | 1947       | June 10, 1945  | 23.2               | 33,800          |
| 1929       | Nov. 19, 1928  | 24.00              | 37,800                     |            | Jan. 10, 1946  | 22.11              | 30,200          |
|            | Mar. 17, 1929  | 23.26              | 35,100                     |            | Apr. 7, 1947   | 21.04              | 25,200          |
|            | Apr. 26, 1929  | 21.65              | 29,400                     | 1948       | Apr. 26, 1947  | 21.02              | 25,200          |
|            | May 15, 1929   | 21.30              | 28,500                     |            | June 10, 1947  | 22.77              | 31,100          |
|            | May 20, 1929   | 22.30              | 31,600                     | 1949       | June 21, 1947  | 23.0               | 31,700          |
| 1930       | Feb. 13, 1930  | 16.45              | 17,400                     | 1950       | Mar. 23, 1948  | 16.96              | 16,800          |
| 1931       | June 13, 1931  | 22.54              | 33,400                     | 1951       | July 20, 1949  | 15.65              | 14,600          |
| 1932       | Aug. 15, 1932  | 18.70              | 23,500                     | 1952       | Dec. 23, 1949  | 19.78              | 22,400          |
| 1933       | Dec. 25, 1932  | 20.80              | 29,600                     | 1953       | Mar. 18, 1951  | 19.91              | 23,500          |
|            | May 14, 1933   | 21.72              | 32,400                     |            | Mar. 19, 1952  | 19.13              | 21,800          |
|            | May 27, 1933   | 20.36              | 28,300                     | 1954       | Apr. 1, 1953   | 17.1               | 17,800          |
| 1934       | Sept. 30, 1934 | 15.40              | 15,800                     | 1955       | Apr. 22, 1954  | 10.64              | 7,700           |
| 1935       | May 4, 1935    | 20.60              | 28,900                     | 1956       | Feb. 20, 1955  | 20.40              | 23,500          |
|            | May 15, 1935   | 20.26              | 27,900                     | 1957       | Apr. 30, 1956  | 18.43              | 19,900          |
|            | May 30, 1935   | 19.95              | 27,000                     | 1958       | June 15, 1957  | 20.44              | 24,600          |
| 1936       | Feb. 28, 1936  | 22.90              | 36,500                     | 1959       | July 22, 1958  | 27.17              | 46,500          |
| 1937       | Feb. 21, 1937  | 15.77              | 16,900                     |            | Aug. 2, 1958   | 29.92              | 64,700          |
| 1938       | May 24, 1938   | 18.31              | 22,400                     | 1960       | Feb. 11, 1959  | 21.90              | 25,600          |
| 1939       | Mar. 13, 1939  | 21.13              | 26,900                     | 1961       | Mar. 30, 1960  | 22.55              | 29,000          |
|            | Apr. 18, 1939  | 21.31              | 27,500                     |            | May 9, 1961    | 25.70              | 39,600          |
|            | June 22, 1939  | 22.47              | 31,000                     | 1962       | Sept. 16, 1961 | 25.08              | 36,600          |
|            | July 26, 1939  | 20.66              | 25,900                     |            | Mar. 22, 1962  | 23.08              | 30,500          |
| 1940       | Mar. 3, 1940   | 13.97              | 12,600                     | 1963       | Mar. 5, 1963   | 17.22              | 16,800          |
| 1941       | Apr. 20, 1941  | 16.37              | 17,600                     | 1964       | Apr. 6, 1964   | 19.15              | 20,700          |
| 1942       | Oct. 6, 1941   | 21.36              | 28,200                     | 1965       | Apr. 7, 1965   | 21.53              | 26,000          |
|            | Feb. 7, 1942   | 20.49              | 25,800                     |            | Sept. 18, 1965 | 23.61              | 32,000          |
|            | June 29, 1942  | 25.55              | 43,500                     |            |                |                    |                 |

a About present site and datum; from comparison with crest of June 1928 at stone marker 1 mile below gage.

## BRYANTS CREEK BASIN

5-5134. Knox Branch near Elsberry, Mo.

Location--Lat 39°08'30", long 90°52'46", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec. 34, T.51 N., R.1 E., at culvert on Route B, 5 $\frac{1}{2}$  miles southwest of Elsberry.Drainage area--1.17 sq mi. Slope--91.5 ft per mi.Gage--Crest-stage gage.Stage-discharge relation--Defined by estimated flow of 7 cfs and extended above on basis of slope-area measurement at 287 cfs.Bankfull stage--10 ft.Remarks--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 |            |      |
|------------|---------------|----------------------------|-----------------|------------|------|
|            |               | Gage height (feet)         | Discharge (cfs) | Water year | Date |
| 1955       | Oct. 11, 1954 | 3.68                       | 400             |            |      |
| 1956       | July 29, 1956 | 3.18                       | 265             |            |      |
| 1957       | June 14, 1957 | 3.57                       | 360             |            |      |
| 1958       | July 19, 1958 | 3.87                       | 465             |            |      |
| 1959       | Aug. 17, 1959 | 3.92                       | 485             |            |      |
| 1960       | June 30, 1960 | 4.20                       | 580             |            |      |
| 1961       | May 7, 1961   | 3.65                       | 385             |            |      |

## KINGS LAKE BASIN

5-5134.5. Lost Creek tributary near Elsberry, Mo.

Location--Lat 39°06'48", long 90°49'11", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 7, T.50 N., R.2 E., 100 ft downstream from private road crossing, 4 miles southwest of Elsberry.Drainage area--0.33 sq mi. Slope--253 ft per mi.Gage--Crest-stage gage.Stage-discharge relation--Defined by estimated flow of 0.6 cfs and extended above on basis of slope-area measurement at 158 cfs.Bankfull stage--4 ft.Remarks--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 |            |      |
|------------|---------------|----------------------------|-----------------|------------|------|
|            |               | Gage height (feet)         | Discharge (cfs) | Water year | Date |
| 1955       | Aug. 7, 1955  | 2.85                       | 115             |            |      |
| 1956       | Oct. 6, 1955  | 3.45                       | 205             |            |      |
| 1957       | June 14, 1957 | 4.26                       | 335             |            |      |
| 1958       | July 19, 1958 | 2.95                       | 130             |            |      |
| 1959       | Aug. 4, 1959  | 2.71                       | 97              |            |      |
| 1960       | June 30, 1960 | 4.26                       | 335             |            |      |
| 1961       | May 7, 1961   | 4.00                       | 292             |            |      |

## KINGS LAKE BASIN

5-5134.7. North Fork Lost Creek near Elsberry, Mo.

Location.--39°08'47", long 90°49'24", in NE¼ sec.31, T.51 N., R.2 E., 2½ miles southwest of Elsberry.Drainage area.--2.23 sq mi. Slope.--70.5 ft per mi.Gage.--Crest-stage gage.Stage-discharge relation.--Defined by current-meter measurements below 16 cfs and extended above on basis of slope-area measurement at 380 cfs.Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | Oct. 11, 1954 | 2.13               | 680             |            |      |                    |                 |
| 1956                       | July 29, 1956 | 1.90               | 520             |            |      |                    |                 |
| 1957                       | Apr. 22, 1957 | 1.72               | 380             |            |      |                    |                 |
| 1958                       | July 19, 1958 | (a)                | b100            |            |      |                    |                 |
| 1959                       | Aug. 5, 1959  | 3.51               | 1,220           |            |      |                    |                 |
| 1960                       | June 30, 1960 | 2.80               | 990             |            |      |                    |                 |
| 1961                       | May 7, 1961   | 1.85               | 480             |            |      |                    |                 |

a Not determined; peak stage did not reach bottom of gage.

b Less than figure shown.

## KINGS LAKE BASIN

5-5135. Lost Creek at Elsberry, Mo.

Location.--Lat 39°09'20", long 90°48'20", in NW¼SE¼ sec.29, T.51 N., R.2 E., three-quarters of a mile southwest of Elsberry.Drainage area.--12.2 sq mi. Slope.--64.6 ft per mi.Gage.--Recording. Altitude of gage is 450 ft (from topographic map).Stage-discharge relation.--Defined by current-meter measurements below 170 cfs and extended above on basis of slope-area measurement at 3,880 cfs.Remarks.--Base for partial-curation series, 300 cfs.

| Peak stages and discharges |               |                    |                 |               |               |                    |                 |
|----------------------------|---------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
| 1955                       | Oct. 2, 1954  | 6.41               | 665             | 1958          | June 25, 1958 | 4.85               | 321             |
|                            | Oct. 11, 1954 | 8.77               | 1,340           |               | July 19, 1958 | 8.42               | 1,590           |
|                            | Jan. 4, 1955  | 5.06               | 355             |               | July 30, 1958 | 7.70               | 1,240           |
|                            | May 26, 1955  | 5.99               | 565             | 1959          | Feb. 10, 1959 | 5.40               | 445             |
|                            | May 28, 1955  | 5.31               | 405             |               | Aug. 4, 1959  | 6.61               | 810             |
|                            | July 14, 1955 | 7.25               | 865             |               | Aug. 17, 1959 | 7.03               | 970             |
|                            | Aug. 7, 1955  | 9.39               | 2,190           |               | Aug. 29, 1959 | 5.80               | 560             |
| 1956                       | Oct. 6, 1955  | 7.86               | 1,330           | 1960          | Oct. 10, 1959 | 9.53               | 2,260           |
|                            | Apr. 29, 1956 | 8.12               | 1,430           |               | Mar. 27, 1960 | 5.47               | 458             |
|                            | July 18, 1956 | 5.71               | 530             |               | Mar. 30, 1960 | 4.80               | 310             |
|                            | July 29, 1956 | 9.34               | 2,130           |               | Mar. 6, 1960  | 4.93               | 343             |
| 1957                       | Mar. 24, 1957 | 5.03               | 360             | May 25, 1960  | 9.30          | 2,130              |                 |
|                            | Apr. 8, 1957  | 4.99               | 345             | June 30, 1960 | 11.48         | 3,880              |                 |
|                            | May 13, 1957  | 5.29               | 420             | July 12, 1960 | 4.86          | 321                |                 |
|                            | May 17, 1957  | 4.89               | 325             | 1961          | Apr. 25, 1961 | 5.01               | 354             |
|                            | May 19, 1957  | 7.06               | 970             |               | May 5, 1961   | 8.95               | 1,950           |
|                            | May 21, 1957  | 7.56               | 1,200           |               | May 8, 1961   | 10.50              | 3,000           |
|                            | May 22, 1957  | 6.42               | 740             |               |               |                    |                 |
|                            | June 14, 1957 | 10.88              | 3,340           |               |               |                    |                 |

## KINGS LAKE BASIN

5-5136. Camp Creek near Elsberry, Mo.

Location--Lat 39°06'56", long 90°46'23", in southwest portion of Survey 1724, T.50 N., R.2 E., at culvert on State Highway 79, 3.6 miles south of Elsberry.

Drainage area--1.50 sq mi. Slope--126 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 90 cfs and extended above on basis of slope-area measurement at 668 cfs.

Bankfull stage--5 ft.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |               |                    |                 |  |
|----------------------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|--|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |  |
| 1955                       | Aug. 7, 1955  | 3.74               | 440             | 1961       | May 7, 1961   | 4.39               | 710             |  |
|                            |               |                    |                 | 1962       | July 4, 1962  | 4.16               | 620             |  |
| 1956                       | July 29, 1956 | 3.37               | 320             | 1963       | Mar. 4, 1963  | 2.17               | 75              |  |
| 1957                       | May 21, 1957  | 4.77               | 950             | 1964       | July 10, 1964 | 2.39               | 105             |  |
| 1958                       | July 19, 1958 | 3.54               | 370             | 1965       | Aug. 26, 1965 | 3.25               | 285             |  |
| 1959                       | Aug. 4, 1959  | 2.95               | 200             |            |               |                    |                 |  |
| 1960                       | June 30, 1960 | 3.94               | 530             |            |               |                    |                 |  |

## KINGS LAKE BASIN

5-5136.5. Hurricane Creek near Elsberry, Mo.

Location--Lat 39°06'29", long 90°46'13", in southwest portion of Survey 1724, T.50 N., R.2 E., at culvert on State Highway 79, 4.1 miles south of Elsberry.

Drainage area--3.06 sq mi. Slope--86.3 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 210 cfs and extended above on basis of culvert flow measurement at 1,620 cfs.

Bankfull stage--8 ft.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |               |                    |                 |  |
|----------------------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|--|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |  |
| 1955                       | Aug. 7, 1955  | 7.76               | 780             | 1961       | May 7, 1961   | 5.46               | 200             |  |
|                            |               |                    |                 | 1962       | July 4, 1962  | 7.07               | 710             |  |
| 1956                       | July 29, 1956 | 8.43               | 1,070           | 1963       | Mar. 4, 1963  | 5.09               | 115             |  |
| 1957                       | June 14, 1957 | 9.56               | 1,620           | 1964       | July 12, 1964 | 5.95               | 310             |  |
| 1958                       | July 19, 1958 | 7.70               | 760             | 1965       | Aug. 7, 1965  | 7.68               | 1,050           |  |
| 1959                       | Aug. 4, 1959  | 5.79               | 280             |            |               |                    |                 |  |
| 1960                       | Oct. 10, 1959 | 7.56               | 960             |            |               |                    |                 |  |

## CUIVRE RIVER BASIN

5-5137. Mams Slough Creek near Wellsville, Mo.

Location.--Lat 39°09'45", long 91°39'40", in NW¼NW¼ sec.35, T.51 N., R.7 W., at bridge on U. S. Highway 54, 8 miles northwest of Wellsville.

Drainage area.--5.08 sq mi. Slope.--14.3 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements to 20 cfs and extended on basis of slope-area measurements of 86.8 and 838 cfs.

| Peak stages and discharges |      |                    |                 |            |      |                    |                 |
|----------------------------|------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | -    | -                  | 302             |            |      |                    |                 |
| 1956                       | -    | -                  | 480             |            |      |                    |                 |
| 1957                       | -    | -                  | 390             |            |      |                    |                 |
| 1961                       | -    | -                  | 650             |            |      |                    |                 |
| 1962                       | -    | -                  | 820             |            |      |                    |                 |
| 1963                       | -    | -                  | 255             |            |      |                    |                 |
| 1964                       | -    | -                  | 145             |            |      |                    |                 |
| 1965                       | -    | -                  | 842             |            |      |                    |                 |

## CUIVRE RIVER BASIN

5-5142. Reid Branch near Bowling Green, Mo.

Location.--Lat 39°15'15", long 91°02'50", in SE¼ west part of Survey No. 1685, T.52 N., R.1 W., upstream from culvert on U. S. Highway 61, 3.9 miles south of Cyrene, and 10 miles south of Bowling Green.

Drainage area.--0.54 sq mi. Slope.--93.3 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by culvert-flow measurements between 140 and 500 cfs.

Bankfull stage.--8 ft.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |                |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1955                       | Apr. 22, 1955 | 3.37               | 66              | 1961       | July 25, 1961  | 6.97               | 390             |
|                            |               |                    |                 | 1962       | July 3, 1962   | 4.63               | 160             |
| 1956                       | July 3, 1956  | 4.65               | 162             | 1963       | May 12, 1963   | 6.46               | 330             |
| 1957                       | June 8, 1957  | 4.57               | 156             | 1964       | -              | (b)                | (c)             |
| 1958                       | July 19, 1958 | 5.37               | 223             | 1965       | Sept. 16, 1965 | 4.01               | 112             |
| 1959                       | July 17, 1959 | a6.0               | 280             |            |                |                    |                 |
| 1960                       | May 25, 1960  | 8.15               | 498             |            |                |                    |                 |

a About.

b Peak stage did not reach bottom of gage.

c Discharge not determined.

## CUIVRE RIVER BASIN

5-5145. Cuivre River near Troy, Mo.

Location.--Lat 39°00'59", long 90°59'00", in SE¼ sec.14, T.49 N., R.1 W., on downstream side of center pier of bridge on U. S. Highway 61, 1½ miles downstream from confluence of North and West Forks, and 2 miles north of Troy.

Drainage area.--903 sq mi. Slope.--4.6 ft per mi.

Gage.--Nonrecording prior to July 11, 1939; recording thereafter. Prior to Oct. 1, 1930, at site 3 miles downstream at datum 4.31 ft lower. Datum of gage is 450.27 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 101,000 cfs.

Bankfull stage.--21 ft.

Historical data.--Flood of October 1941 exceeded the previously known maximum flood of December 1895 by 5 or 6 ft at Frenchmens Bluff, 3 miles downstream, and is highest flood since Frenchmens Bluff bridge was built in 1888.

Remarks.--Base for partial-duration series, 20,000 cfs.

| Peak stages and discharges |                |                    |                 |                |                |                    |                 |        |
|----------------------------|----------------|--------------------|-----------------|----------------|----------------|--------------------|-----------------|--------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date           | Gage height (feet) | Discharge (cfs) |        |
| 1922                       | Mar. 14, 1922  | 24.50              | 44,200          | 1943           | Dec. 27, 1942  | 27.58              | 41,500          |        |
|                            | Apr. 8, 1922   | 23.30              | 36,700          |                | May 11, 1943   | 24.34              | 23,100          |        |
|                            | Apr. 15, 1922  | 21.00              | 24,800          |                | May 18, 1943   | 27.00              | 37,000          |        |
| 1923                       | Mar. 12, 1923  | 22.46              | 32,200          | 1944           | Apr. 11, 1944  | 25.86              | 30,500          |        |
|                            | Aug. 17, 1923  | 22.40              | 31,600          |                | Apr. 22, 1944  | 26.92              | 36,400          |        |
| 1924                       | Dec. 13, 1923  | 20.42              | 22,400          | 1945           | Mar. 26, 1945  | 24.9               | 25,600          |        |
| 1925                       | Mar. 19, 1925  | 20.24              | 21,600          |                | May 15, 1945   | 24.53              | 23,900          |        |
|                            |                |                    |                 | Sept. 23, 1945 | 23.60          | 20,500             |                 |        |
|                            |                |                    |                 | Sept. 29, 1945 | 23.48          | 20,100             |                 |        |
| 1926                       | Nov. 6, 1925   | 21.20              | 25,700          | 1946           | Jan. 9, 1946   | 24.0               | 21,900          |        |
|                            | Apr. 7, 1926   | 22.90              | 34,400          |                | 1947           | Nov. 1, 1946       | 26.00           | 30,000 |
|                            | Sept. 5, 1926  | 25.40              | 50,000          |                |                | Nov. 3, 1946       | 24.80           | 24,200 |
| 1927                       | Oct. 1, 1926   | 21.45              | 26,600          | Apr. 25, 1947  | 27.1           | 37,200             |                 |        |
|                            | Oct. 3, 1926   | 20.40              | 22,400          | 1948           | July 26, 1948  | 23.11              | 18,000          |        |
|                            | Nov. 15, 1926  | 20.95              | 24,800          |                | 1949           | Jan. 24, 1949      | 24.30           | 21,000 |
|                            | Mar. 9, 1927   | 23.00              | 34,900          | July 21, 1949  |                | 25.88              | 29,200          |        |
|                            | Apr. 1, 1927   | 23.40              | 37,300          | 1950           |                | Dec. 22, 1949      | 23.94           | 19,400 |
|                            | Apr. 13, 1927  | 23.40              | 37,300          |                | 1951           | Feb. 21, 1951      | 25.80           | 28,600 |
|                            | May 8, 1927    | 20.00              | 20,800          | Mar. 18, 1951  |                | 25.49              | 26,900          |        |
| May 25, 1927               | 20.35          | 22,400             | 1928            | Apr. 6, 1928   | 22.15          | 30,500             |                 |        |
| 1928                       | June 20, 1928  | 23.77              |                 | 39,700         | 1929           | Oct. 9, 1928       | 20.85           | 24,000 |
|                            | 1929           | Mar. 16, 1929      |                 | 24.40          |                | 43,500             | Mar. 16, 1929   | 24.40  |
| May 3, 1929                |                | 20.00              |                 | 20,800         |                | May 3, 1929        | 20.00           | 20,800 |
| May 13, 1929               |                | 21.20              |                 | 25,700         |                | May 13, 1929       | 21.20           | 25,700 |
| May 18, 1929               | 25.75          | 52,600             |                 | May 18, 1929   |                | 25.75              | 52,600          |        |
| June 13, 1929              | 20.00          | 20,800             | June 13, 1929   | 20.00          |                | 20,800             |                 |        |
| 1930                       | Jan. 2, 1930   | 19.10              | 18,100          | 1952           | Apr. 12, 1952  | 19.51              | 10,300          |        |
| 1931                       | May 20, 1931   | 23.58              | 21,300          | 1953           | May 5, 1953    | 17.70              | 8,050           |        |
| 1932                       | Aug. 13, 1932  | 20.20              | 13,900          | 1954           | July 2, 1954   | 7.88               | 1,960           |        |
| 1933                       | May 13, 1933   | 24.22              | 26,200          | 1955           | July 15, 1955  | 21.48              | 13,100          |        |
| 1934                       | Sept. 29, 1934 | 20.20              | 13,900          | 1956           | Apr. 29, 1956  | 19.25              | 9,290           |        |
| 1935                       | May 15, 1935   | 24.78              | 30,000          | 1957           | June 8, 1957   | 23.95              | 21,000          |        |
| 1936                       | Nov. 5, 1935   | 22.69              | 19,000          | 1958           | July 20, 1958  | 25.51              | 20,200          |        |
| 1937                       | Nov. 3, 1936   | 25.80              | 36,900          | Aug. 1, 1958   | 26.54          | 23,100             |                 |        |
| 1938                       | Apr. 9, 1938   | 23.7               | 23,300          | 1959           | Feb. 10, 1959  | 24.96              | 19,200          |        |
| 1939                       | Mar. 12, 1939  | 23.80              | 23,900          | 1960           | Oct. 11, 1959  | 24.46              | 21,700          |        |
|                            | Apr. 16, 1939  | 25.03              | 31,300          | Mar. 28, 1960  | 25.13          | 24,700             |                 |        |
| 1940                       | June 28, 1940  | 15.20              | 8,540           | 1961           | May 8, 1961    | 25.32              | 25,700          |        |
| 1941                       | Apr. 20, 1941  | 26.4               | 41,300          | 1962           | Mar. 21, 1962  | 26.00              | 31,500          |        |
| 1942                       | Oct. 5, 1941   | 33.4               | 120,000         | 1963           | Mar. 5, 1963   | 18.65              | 9,000           |        |
|                            | Oct. 31, 1941  | 24.20              | 22,700          | 1964           | Apr. 6, 1964   | 17.00              | 7,420           |        |
|                            | June 26, 1942  | 24.00              | 21,900          | 1965           | Sept. 23, 1965 | 23.92              | 21,000          |        |

## PERUQUE CREEK BASIN

5-5147. Dry Branch near Wentzville, Mo.

Location--Lat 38°49'10", long 90°54'20", in NW¼ sec.22, T.47 N., R.1 E., at bridge on Point Prairie Road 3 miles northwest of Wentzville.

Drainage area--0.97 sq mi. Slope--68.8 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Not defined.

Remarks--Only annual peak stages are shown, except for 1957.

| Water year | Date          | Peak stages and discharges |                 |            |                |                    |                 |
|------------|---------------|----------------------------|-----------------|------------|----------------|--------------------|-----------------|
|            |               | Gage height (feet)         | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1955       | June 10, 1955 | 12.44                      | -               | 1961       | May 8, 1961    | 12.02              | -               |
|            |               |                            |                 | 1962       | Mar. 20, 1962  | 12.34              | -               |
| 1956       | -             | (a)                        | -               | 1963       | Sept. 11, 1963 | 11.9               | -               |
| 1957       | June 15, 1957 | 15.42                      | 752             | 1964       | May 28, 1964   | 10.8               | -               |
| 1958       | -             | (a)                        | -               | 1965       | Aug. 26, 1965  | 11.19              | -               |
| 1959       | -             | (a)                        | -               |            |                |                    |                 |
| 1960       | June 29, 1960 | 12.64                      | -               |            |                |                    |                 |

a Not determined; peak stage did not reach bottom of gage.

## MISSISSIPPI RIVER MAIN STEM

5-5875. Mississippi River at Alton, Ill.

Location.--Lat 38°53'06", long 90°10'51", in sec.14, T.5 N., R.10 W., near left bank in downstream end of intermediate lock wall of lock and dam 26 at Alton, 300 ft downstream from Missouri & Illinois Bridge & Belt Railroad bridge, 7.7 miles upstream from Missouri River, and at mile 202.7 above Ohio River.

Drainage area.--171,500 sq mi, approximately.

Gage.--Nonrecording 1879 to Jan. 4, 1937, and Nov. 11, 1937, to Jan. 31, 1938; recording Jan. 5 to Nov. 10, 1937, and since Feb. 1, 1938. Prior to Mar. 20, 1933, at Grafton 15.3 miles upstream at datum 403.79 ft higher than present datum; Mar. 20, 1933, to Jan. 31, 1938, at present site at datum 395.48 ft higher than present datum. Datum of gage is mean sea level, datum of 1929 (levels by Corps of Engineers). Since July 11, 1940, auxiliary recording gage 5.9 miles downstream; previously various combinations of gages were used. Gage heights listed herein are converted to present datum.

Stage-discharge relation.--Affected by backwater from Missouri River. Fall between auxiliary gage and reference gage used as a factor in computing discharge.

Bankfull stage.--421 ft.

Historical data.--Maximum stage known, 432.10 ft, present datum, in June 1844.

Remarks.--Alton gage-height record and discharge record January 1928 to February 1933 (published as "at Grafton" prior to January 1933), February 1938 to September 1939 furnished by Corps of Engineers. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by diversion through Chicago Sanitary and Ship Canal from Lake Michigan into Illinois River. Peak gage height usually occurs at different time than peak discharge. Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1844                       | June 1844      | a432.10            |                 | 1926       | Sept. 30, 1926 | 416.8              |                 |
|                            |                |                    |                 | 1927       | Apr. 25, 1927  | 426.7              |                 |
| 1851                       | June 1851      | 427.9              |                 | 1928       | Apr. 9, 1928   | -                  | 216,000         |
|                            |                |                    |                 |            | June 22, 1928  | 417.3              | -               |
| 1858                       | June 1858      | 428.2              | b573,000        | 1929       | Apr. 29, 1929  | 425.6              | 365,000         |
|                            |                |                    |                 | 1930       | June 21, 1930  | 412.0              | 186,000         |
| 1880                       | July 10, 1880  | 417.15             |                 |            |                |                    |                 |
|                            |                |                    |                 | 1931       | June 14, 1931  | 408.0              | 145,000         |
| 1881                       | May 5, 1881    | 423.92             |                 | 1932       | Nov. 30, 1931  | 414.2              | 182,000         |
|                            |                |                    |                 | 1933       | May 17, 1933   | 418.9              | 265,000         |
| 1888                       | June 19, 1888  | 420.40             |                 | 1934       | Apr. 24, 1934  | 405.0              | 97,200          |
|                            |                |                    |                 | 1935       | May 17, 1935   | 424.4              | 231,000         |
| 1896                       | May 26, 1896   | 418.9              |                 |            |                |                    |                 |
| 1897                       | May 2, 1897    | 421.93             |                 | 1936       | Mar. 1, 1936   | 413.5              | 218,000         |
| 1898                       | May 23, 1898   | 417.58             |                 | 1937       | Mar. 15, 1937  | 414.9              | 255,000         |
| 1899                       | May 26, 1899   | 416.4              |                 | 1938       | Apr. 11, 1938  | 416.9              | 268,000         |
| 1900                       | Mar. 16, 1900  | 415.2              |                 | 1939       | Mar. 17, 1939  | 421.2              | 240,000         |
|                            |                |                    |                 | 1940       | Apr. 19, 1940  | 407.10             | 137,000         |
| 1901                       | Apr. 12, 1901  | 414.2              |                 |            |                |                    |                 |
| 1902                       | July 25, 1902  | 418.5              |                 | 1941       | Apr. 21, 1941  | 417.27             | 220,000         |
| 1903                       | June 9, 1903   | 429.3              |                 | 1942       | June 22, 1942  | 423.72             | 253,000         |
| 1904                       | Apr. 29, 1904  | 424.4              |                 | 1943       | May 24, 1943   | 429.91             | 437,000         |
| 1905                       | Sept. 20, 1905 | 419.4              |                 | 1944       | Apr. 30, 1944  | 429.33             | c394,600        |
|                            |                |                    |                 | 1945       | June 13, 1945  | 424.14             | 308,000         |
| 1906                       | Apr. 14, 1906  | 416.6              |                 |            |                |                    |                 |
| 1907                       | July 25, 1907  | 417.6              |                 | 1946       | Jan. 14, 1946  | 419.10             | 314,000         |
| 1908                       | June 18, 1908  | 425.1              |                 | 1947       | July 3, 1947   | 429.40             | 380,000         |
| 1909                       | July 15, 1909  | 425.2              |                 | 1948       | Mar. 28, 1948  | 424.41             | 366,000         |
| 1910                       | May 10, 1910   | 414.93             |                 | 1949       | Mar. 13, 1949  | 415.08             | 219,000         |
|                            |                |                    |                 | 1950       | June 24, 1950  | 417.20             | 261,000         |
| 1911                       | Feb. 23, 1911  | 412.9              |                 |            |                |                    |                 |
| 1912                       | Apr. 9, 1912   | 422.8              |                 | 1951       | May 10, 1951   | 429.47             | 333,000         |
| 1913                       | Apr. 14, 1913  | 418.7              |                 | 1952       | Apr. 30, 1952  | 424.47             | 340,000         |
| 1914                       | June 22, 1914  | 410.9              |                 | 1953       | Apr. 5, 1953   | 413.50             | 232,000         |
| 1915                       | June 4, 1915   | 422.1              |                 | 1954       | May 19, 1954   | 409.58             | 198,000         |
|                            |                |                    |                 | 1955       | Apr. 28, 1955  | 409.66             | 212,000         |
| 1916                       | Jan. 31, 1916  | 421.6              |                 |            |                |                    |                 |
| 1917                       | June 14, 1917  | 423.5              |                 | 1956       | Apr. 30, 1956  | 406.30             | 166,000         |
| 1918                       | June 16, 1918  | 414.1              |                 | 1957       | June 16, 1957  | 411.69             | 180,000         |
| 1919                       | May 11, 1919   | 419.6              |                 | 1958       | July 21, 1958  | 418.98             | 209,000         |
| 1920                       | Apr. 24, 1920  | 420.6              |                 | 1959       | Apr. 8, 1959   | 413.31             | 221,000         |
|                            |                |                    |                 | 1960       | Apr. 10, 1960  | 424.84             | 377,000         |
| 1921                       | May 13, 1921   | 416.8              |                 |            |                |                    |                 |
| 1922                       | Apr. 19, 1922  | 427.1              |                 | 1961       | Apr. 9, 1961   | 421.62             | 247,000         |
| 1923                       | June 17, 1923  | 412.2              |                 | 1962       | Mar. 26, 1962  | 421.42             | 337,000         |
| 1924                       | July 3, 1924   | 418.3              |                 | 1963       | Mar. 23, 1963  | 409.58             | 179,000         |
| 1925                       | June 25, 1925  | 411.6              |                 | 1964       | Apr. 22, 1964  | 410.17             | 214,000         |
|                            |                |                    |                 | 1965       | May 3, 1965    | 420.75             | 380,000         |

a Maximum stage known.

b Computed by Corps of Engineers

c Excludes diversion from Missouri River.

## TARKIO RIVER BASIN

6-8125. West Tarkio Creek near Westboro, Mo.

Location.--Lat 40°32'30", long 95°23'00", in NW¼ sec.13, T.66 N., R.40 W., at bridge on county highway C, 3½ miles west of Westboro, and 6 miles upstream from confluence with Middle Tarkio Creek.

Drainage area.--105 sq mi. Slope.--7.4 ft per mi.

Gage.--Nonrecording prior to July 19, 1934, recording gage thereafter. Datum of gage is 926.80 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 2,630 cfs and by indirect measurements at 8,720 cfs.

Bankfull stage.--25 ft.

Remarks.--Base for partial-duration series, 1,600 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1934       | Sept. 26, 1934 | 5.50               | 172             |            |      |                    |                 |
| 1935       | June 1, 1935   | 9.76               | 1,710           |            |      |                    |                 |
|            | June 17, 1935  | 14.55              | 4,640           |            |      |                    |                 |
|            | June 26, 1935  | 12.72              | 3,430           |            |      |                    |                 |
| 1936       | Feb. 26, 1936  | 9.46               | 1,960           |            |      |                    |                 |
|            | Apr. 28, 1936  | 14.69              | 5,310           |            |      |                    |                 |
|            | May 12, 1936   | 10.02              | 2,260           |            |      |                    |                 |
|            | June 5, 1936   | 11.00              | 2,830           |            |      |                    |                 |
| 1937       | Feb. 13, 1937  | 9.82               | 2,150           |            |      |                    |                 |
|            | Mar. 2, 1937   | 9.42               | 1,930           |            |      |                    |                 |
|            | July 29, 1937  | 22.10              | 8,720           |            |      |                    |                 |
| 1938       | June 11, 1938  | 16.87              | 5,600           |            |      |                    |                 |
|            | June 16, 1938  | 10.00              | 2,280           |            |      |                    |                 |
|            | Aug. 20, 1938  | 12.00              | 3,190           |            |      |                    |                 |
|            | Sept. 10, 1938 | 8.70               | 1,740           |            |      |                    |                 |
| 1939       | Mar. 8, 1939   | 8.76               | 1,670           |            |      |                    |                 |
|            | Mar. 11, 1939  | 18.91              | 6,810           |            |      |                    |                 |
|            | June 10, 1939  | 9.05               | 2,378           |            |      |                    |                 |
|            | June 22, 1939  | 11.89              | 3,741           |            |      |                    |                 |
| 1940       | July 27, 1940  | 16.14              | a5,760          |            |      |                    |                 |

a Annual peak only

## TARKIO RIVER BASIN

6-8130. Tarkio River at Fairfax, Mo.

Location--Lat 40°20'20", long 95°24'20", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.22, T.64 N., R.40 W., on downstream side of left bridge pier 0.5 mile west of Fairfax, and 2 miles downstream from unnamed creek.

Drainage area--508 sq mi. Slope--4.93 ft per mi.

Gage--Nonrecording prior to Oct. 23, 1953 at site 50 ft downstream, and at datum 2.0 ft higher prior to Oct. 1, 1931. Recording gage since Oct. 23, 1953. Datum of gage is 867.66 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 11,000 cfs. Levees confine flow to channel until overtopped or crevassed.

Bankfull stage--17 ft.

Remarks--Gage heights adjusted to present datum. Channel was straightened and improved prior to beginning of records. Base for partial-duration series, 4,800 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1922       | Apr. 9, 1922   | 15.06              | 2,850           | 1943       | June 5, 1943  | 17.05              | 6,710           |
|            |                |                    |                 |            | June 10, 1943 | 17.7               | 7,560           |
| 1923       | May 11, 1923   | 8.60               | 1,100           |            | June 16, 1943 | 17.00              | 6,710           |
| 1924       | June 12, 1924  | 17.95              | 6,610           | 1944       | May 3, 1944   | 18.00              | 7,960           |
|            | June 24, 1924  | 16.64              | 5,700           |            |               |                    |                 |
|            | July 17, 1924  | 17.00              | 5,960           | 1945       | May 14, 1945  | 15.65              | 5,310           |
|            | July 19, 1924  | 16.10              | 5,380           |            | July 5, 1945  | 16.00              | 5,670           |
| 1925       | June 15, 1925  | 14.80              | 4,530           |            | Aug. 3, 1945  | 18.91              | 9,400           |
|            |                |                    |                 |            | Aug. 14, 1945 | 15.20              | 4,960           |
| 1926       | June 13, 1926  | 15.70              | 5,120           | 1946       | Sept. 4, 1946 | 12.0               | 4,760           |
|            | Sept. 4, 1926  | 19.3               | 7,940           |            |               |                    |                 |
| 1927       | Oct. 3, 1926   | 9.53               | 1,740           | 1947       | June 5, 1947  | 17.87              | 11,800          |
|            |                |                    |                 |            | June 12, 1947 | 18.56              | 12,700          |
| 1928       | Sept. 12, 1928 | 18.71              | 7,090           |            | June 18, 1947 | 19.5               | 14,000          |
|            |                |                    |                 |            | June 22, 1947 | 12.50              | 5,310           |
| 1929       | Mar. 6, 1929   | 17.60              | 6,350           | 1948       | Mar. 19, 1948 | 14.1               | 7,340           |
|            | July 7, 1929   | 22.33              | 15,000          |            |               |                    |                 |
|            | July 15, 1929  | 18.00              | 6,610           | 1949       | Feb. 18, 1949 | a15.12             | --              |
| 1930       | June 19, 1930  | 8.86               | 1,560           |            | Feb. 24, 1949 | a20.44             | b4,000          |
|            |                |                    |                 |            | Mar. 4, 1949  | a15.2              | 6,980           |
| 1931       | June 15, 1931  | 16.15              | 5,310           |            | June 2, 1949  | 19.0               | 12,800          |
|            |                |                    |                 |            | June 28, 1949 | 19.85              | 14,100          |
| 1932       | Nov. 23, 1931  | 15.70              | 5,810           | 1950       | May 9, 1950   | 18.0               | 11,200          |
|            | May 30, 1932   | 15.96              | 6,000           |            | June 9, 1950  | 14.0               | 5,600           |
|            | Aug. 15, 1932  | 15.20              | 5,500           | 1951       | Oct. 2, 1950  | 13.36              | 5,000           |
| 1933       | Aug. 21, 1933  | 11.80              | 3,570           |            | Apr. 25, 1951 | 14.70              | 8,780           |
|            |                |                    |                 |            | May 1, 1951   | 17.50              | 12,700          |
| 1934       | Sept. 26, 1934 | 5.90               | 710             |            | June 2, 1951  | 16.90              | 10,500          |
|            |                |                    |                 |            | June 22, 1951 | 12.75              | 5,080           |
| 1935       | Oct. 19, 1934  | 14.80              | 4,860           |            | June 26, 1951 | 12.70              | 4,970           |
|            | June 1, 1935   | 18.00              | 6,670           |            | Aug. 26, 1951 | 13.10              | 5,420           |
| 1936       | Apr. 28, 1936  | 15.22              | 5,080           | 1952       | June 21, 1952 | 14.08              | 6,630           |
|            |                |                    |                 |            | June 27, 1952 | 13.10              | 5,420           |
| 1937       | Mar. 2, 1937   | 15.05              | 6,300           |            | July 14, 1952 | 15.35              | 8,360           |
|            | Apr. 20, 1937  | 17.15              | 8,600           | 1953       | June 9, 1953  | 11.06              | 2,120           |
|            | July 30, 1937  | 17.20              | 8,730           |            |               |                    |                 |
| 1938       | June 11, 1938  | 14.50              | 5,800           | 1954       | June 9, 1954  | 11.81              | 2,660           |
|            | Aug. 6, 1938   | 17.7               | 9,480           |            |               |                    |                 |
|            | Aug. 21, 1938  | 14.00              | 5,300           | 1955       | Feb. 18, 1955 | 15.0               | 5,000           |
| 1939       | Mar. 12, 1939  | 18.8               | 10,900          | 1956       | July 8, 1956  | 15.32              | 4,630           |
|            | June 21, 1939  | 16.00              | 7,410           |            |               |                    |                 |
| 1940       | July 28, 1940  | 17.00              | 5,800           | 1957       | May 30, 1957  | 16.16              | 5,860           |
|            | Aug. 27, 1940  | 17.5               | 6,150           |            | June 7, 1957  | 17.40              | 7,610           |
|            |                |                    |                 |            | June 18, 1957 | 19.00              | 10,400          |
| 1941       | June 9, 1941   | 20.3               | 12,400          | 1958       | July 2, 1958  | 16.80              | 6,700           |
|            | Sept. 15, 1941 | 17.80              | 7,690           |            | July 4, 1958  | 18.10              | 8,770           |
|            |                |                    |                 |            | July 19, 1958 | 20.95              | 14,200          |
| 1942       | Oct. 4, 1941   | 16.90              | 6,600           |            | July 30, 1958 | 20.30              | 12,800          |
|            | Oct. 7, 1941   | 17.70              | 7,560           |            | Aug. 6, 1958  | 19.28              | 10,900          |
|            | Oct. 22, 1941  | 18.55              | 8,870           |            |               |                    |                 |
|            | Oct. 31, 1941  | 16.10              | 5,770           | 1959       | May 30, 1959  | 18.82              | 9,990           |
|            | May 5, 1942    | 18.63              | 8,870           |            | June 30, 1959 | 16.13              | 5,730           |
|            | May 11, 1942   | 12.70              | 6,170           |            | Aug. 31, 1959 | 15.45              | 4,860           |
|            | June 20, 1942  | 18.91              | 16,300          |            |               |                    |                 |
|            | June 25, 1942  | 20.50              | 13,800          |            |               |                    |                 |

## TARKIO RIVER BASIN

## Peak stages and discharges of Tarkio River at Fairfax, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1960       | Jan. 13, 1960  | 19.9               | 12,000          |            |      |                    |                 |
|            | Mar. 29, 1960  | 19.8               | 11,900          |            |      |                    |                 |
|            | May 16, 1960   | 16.4               | 7,920           |            |      |                    |                 |
|            | Aug. 18, 1960  | 15.35              | 6,030           |            |      |                    |                 |
|            | Aug. 29, 1960  | 17.6               | 8,750           |            |      |                    |                 |
| 1961       | Apr. 11, 1961  | 14.40              | 4,830           |            |      |                    |                 |
|            | July 2, 1961   | 18.50              | 9,900           |            |      |                    |                 |
|            | Sept. 13, 1961 | 18.36              | 9,770           |            |      |                    |                 |
|            | Sept. 30, 1961 | 14.80              | 5,310           |            |      |                    |                 |
| 1962       | May 28, 1962   | 16.25              | 7,000           |            |      |                    |                 |
|            | July 22, 1962  | 14.55              | 5,070           |            |      |                    |                 |
| 1963       | Apr. 29, 1963  | 17.12              | 8,120           |            |      |                    |                 |
| 1964       | Apr. 27, 1964  | 13.45              | 5,000           |            |      |                    |                 |
|            | May 8, 1964    | 14.00              | 5,660           |            |      |                    |                 |
|            | May 26, 1964   | 15.90              | 7,880           |            |      |                    |                 |
|            | June 20, 1964  | 17.65              | 9,920           |            |      |                    |                 |
|            | June 23, 1964  | 17.50              | 9,800           |            |      |                    |                 |
| 1965       | Mar. 1, 1965   | 16.36              | 8,960           |            |      |                    |                 |
|            | May 26, 1965   | 13.36              | 5,000           |            |      |                    |                 |
|            | July 2, 1965   | 20.60              | 13,800          |            |      |                    |                 |
|            | July 20, 1965  | 19.63              | 9,440           |            |      |                    |                 |
|            | Sept. 21, 1965 | 15.60              | 7,520           |            |      |                    |                 |

- a Backwater from ice.  
b Mean daily discharge.

## NODAWAY RIVER BASIN

6-8155.5. Staples Branch near Burlington Junction, Mo.

Location.--Lat 40°26'15", long 95°12'05", in SW¼SE¼ sec .17, T.65 N., R.38 W., on right bank just upstream from culvert under State Highway 4, about 7.3 miles west of Burlington Junction, 0.3 mile west on State Highway 4 from junction of County Route YY and junction State Highway 4.

Drainage area.--0.49 sq mi. Slope.--61.1 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed June 3, 1965.

Stage-discharge relation.--Defined by indirect measurements to 370 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1959       | May 4, 1959   | 13.78              | 248             |            |      |                    |                 |
| 1960       | June 4, 1960  | 12.70              | 163             |            |      |                    |                 |
| 1961       | Oct. 29, 1960 | 10.56              | 31              |            |      |                    |                 |
| 1962       | May 28, 1962  | 15.20              | 371             |            |      |                    |                 |
| 1963       | May 4, 1963   | 13.02              | 190             |            |      |                    |                 |
| 1964       | June 21, 1964 | 15.72              | 430             |            |      |                    |                 |
| 1965       | July 1, 1965  | 14.16              | 280             |            |      |                    |                 |

## MILL CREEK BASIN

6-8160. Mill Creek at Oregon, Mo.

Location--Lat 39°58'55", long 95°07'35", in NE¼NE¼ sec.35, T.60 N., R.38 W., on left bank 15 ft downstream from bridge on U. S. Highway 275, half a mile upstream from Rock Creek, 1 mile southeast of Oregon, and 7 miles upstream from mouth.

Drainage area--4.90 sq mi. Slope--42.3 ft per mi.

Gage--Recording. Datum of gage is 921.26 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 800 cfs.

Bankfull stage--10 ft.

Remarks--Base for partial-duration series, 150 cfs. Only annual peaks are shown subsequent to 1959.

| Peak stages and discharges |               |                    |                 |               |                |                    |                 |     |
|----------------------------|---------------|--------------------|-----------------|---------------|----------------|--------------------|-----------------|-----|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year    | Date           | Gage height (feet) | Discharge (cfs) |     |
| 1951                       | Oct. 1, 1950  | 4.37               | 678             | 1958          | May 3, 1958    | 3.72               | 385             |     |
|                            | Mar. 2, 1951  | 4.75               | 840             |               | May 4, 1958    | 2.97               | 184             |     |
|                            | Apr. 27, 1951 | 3.78               | 365             |               | June 12, 1958  | 3.73               | 389             |     |
|                            | June 15, 1951 | 4.04               | 518             |               | June 12, 1958  | 4.80               | 930             |     |
|                            | June 19, 1951 | 4.17               | 576             |               | July 10, 1958  | 3.50               | 305             |     |
|                            | June 21, 1951 | 4.40               | 695             |               | July 11, 1958  | 3.87               | 446             |     |
|                            | June 22, 1951 | 3.75               | 397             |               | July 15, 1958  | 4.00               | 500             |     |
|                            | June 26, 1951 | 3.42               | 274             |               | July 17, 1958  | 3.14               | 214             |     |
|                            | June 27, 1951 | 3.90               | 458             |               | July 25, 1958  | 4.20               | 590             |     |
|                            | June 28, 1951 | 4.10               | 545             |               | July 30, 1958  | 7.0                | 2,640           |     |
|                            | July 5, 1951  | 3.03               | 169             |               | Aug. 1, 1958   | 3.22               | 228             |     |
|                            | Aug. 9, 1951  | 3.83               | 429             |               | Aug. 20, 1958  | 3.32               | 255             |     |
|                            | Aug. 14, 1951 | 4.13               | 558             |               | Sept. 6, 1958  | 3.97               | 487             |     |
|                            | Aug. 15, 1951 | 4.37               | 678             |               | Sept. 9, 1958  | 5.50               | 1,420           |     |
|                            | Aug. 24, 1951 | 3.80               | 417             |               | Sept. 23, 1958 | 3.60               | 341             |     |
|                            | Aug. 27, 1951 | 3.39               | 264             |               |                |                    |                 |     |
|                            | Aug. 31, 1951 | 3.08               | 180             |               | 1959           | Nov. 17, 1958      | 3.0             | 177 |
| Sept. 2, 1951              | 3.20          | 208                | May 12, 1959    | 2.88          |                | 153                |                 |     |
| Sept. 9, 1951              | 3.17          | 201                | May 21, 1959    | 3.77          |                | 405                |                 |     |
|                            |               |                    | May 29, 1959    | 3.22          |                | 228                |                 |     |
|                            |               |                    | May 30, 1959    | 3.11          |                | 201                |                 |     |
| 1952                       | Nov. 12, 1951 | 3.14               | 194             | May 31, 1959  | 3.50           | 307                |                 |     |
|                            | May 21, 1952  | 2.98               | 158             | June 11, 1959 | 2.96           | 169                |                 |     |
| 1953                       | Nov. 17, 1952 | 2.51               | 78              | June 29, 1959 | 4.00           | 500                |                 |     |
|                            |               |                    |                 | July 4, 1959  | 3.45           | 292                |                 |     |
| 1954                       | Aug. 21, 1954 | 4.20               | 590             | Aug. 5, 1959  | 3.22           | 228                |                 |     |
|                            | Aug. 23, 1954 | 3.10               | 184             |               |                |                    |                 |     |
| 1955                       | Oct. 4, 1954  | 3.84               | 433             | 1960          | June 30, 1960  | 4.48               | 739             |     |
|                            | Feb. 18, 1955 | a                  | a               | 1961          | Sept. 3, 1961  | 7.10               | 2,730           |     |
|                            | June 3, 1955  | 3.34               | 248             |               |                |                    |                 |     |
|                            | June 24, 1955 | 4.42               | 706             | 1962          | May 28, 1962   | 4.5                | 750             |     |
|                            | July 6, 1955  | 3.95               | 479             |               |                |                    |                 |     |
| 1956                       | July 2, 1956  | 3.8                | 417             | 1963          | May 16, 1963   | 4.45               | 722             |     |
|                            | July 3, 1956  | 3.10               | 184             | 1964          | June 21, 1964  | 4.61               | 816             |     |
|                            | Aug. 8, 1956  | 3.41               | 270             |               |                |                    |                 |     |
| 1957                       | Apr. 2, 1957  | 3.50               | 301             | 1965          | June 4, 1965   | 4.92               | 1,000           |     |
|                            | June 14, 1957 | 3.71               | 381             |               |                |                    |                 |     |
|                            | June 25, 1957 | 3.17               | 221             |               |                |                    |                 |     |

a Gage height and discharge unknown.

## NODAWAY RIVER BASIN

6-8175. Nodaway River near Burlington Junction, Mo.

Location.--Lat 40°26'40", long 95°05'20", in NW¼ sec.17, T.65 N., R.37 W., on downstream side of left pier of bridge on State Highway 4, a quarter of a mile upstream from Mill Creek, 0.5 mile downstream from Wabash Railroad bridge, and 1½ miles west of Burlington Junction.

Drainage area.--1,240 sq mi, approximately. Slope.--4.21 ft per mi.

Gage.--Nonrecording prior to June 29, 1939; recording gage thereafter. At present site at approximately same datum prior to Oct. 26, 1928. At site half a mile upstream at different datum Oct. 26, 1928, to June 9, 1929. At present site and datum since June 10, 1929. Datum of present gage is 896.17 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--18 ft.

Remarks.--Channel improvement made above and below gage prior to establishment of station. Base for partial-duration series, 8,500 cfs.

| Peak stages and discharges |                |                    |                 |       |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|-------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water | Date          | Gage height (feet) | Discharge (cfs) |
| 1922                       | July 29, 1922  | 10.42              | 6,710           | 1942  | June 20, 1942 | 13.95              | 13,200          |
|                            |                |                    |                 |       | June 25, 1942 | 15.95              | 16,800          |
| 1923                       | Mar. 26, 1923  | 7.94               | 3,480           | 1943  | June 5, 1943  | 15.30              | 16,700          |
| 1924                       | June 9, 1924   | 12.60              | 9,900           |       | June 10, 1943 | 15.5               | 17,200          |
|                            | June 26, 1924  | 13.42              | 10,200          |       | June 16, 1943 | 13.60              | 13,300          |
|                            |                |                    |                 |       | Aug. 3, 1943  | 12.73              | 11,600          |
| 1925                       | June 14, 1925  | 9.50               | 5,000           | 1944  | Apr. 23, 1944 | 12.16              | 10,400          |
| 1926                       | Feb. 2, 1926   | 13.38              | 10,200          |       | May 2, 1944   | 16.9               | 20,300          |
|                            | June 13, 1926  | 12.26              | 8,550           |       | June 4, 1944  | 12.13              | 10,400          |
|                            | Sept. 3, 1926  | 19.5               | 18,200          | 1945  | Mar. 15, 1945 | 12.25              | 10,900          |
| 1927                       | Oct. 3, 1926   | 13.25              | 6,800           |       | Apr. 16, 1945 | 13.20              | 12,900          |
| 1928                       | June 17, 1928  | 13.79              | 9,420           |       | May 14, 1945  | 15.93              | 18,500          |
|                            | July 21, 1928  | 15.70              | 12,800          |       | May 21, 1945  | 11.23              | 9,100           |
|                            |                |                    |                 |       | July 5, 1945  | 12.30              | 11,100          |
| 1929                       | Mar. 6, 1929   | 15.60              | 12,600          |       | Aug. 14, 1945 | 11.20              | 9,100           |
|                            | Mar. 14, 1929  | 16.20              | 13,800          | 1946  | Mar. 26, 1946 | 13.9               | 13,900          |
|                            | Apr. 21, 1929  | 14.20              | 10,000          |       | June 19, 1946 | 11.29              | 9,000           |
|                            | June 1, 1929   | 17.59              | 16,800          | 1947  | Apr. 10, 1947 | 14.20              | 18,700          |
|                            | July 6, 1929   | 19.40              | 21,000          |       | May 28, 1947  | 10.12              | 8,860           |
|                            | July 15, 1929  | 17.50              | 16,600          |       | June 6, 1947  | 17.90              | 28,800          |
| 1930                       | May 7, 1930    | 11.20              | 6,220           |       | June 14, 1947 | 19.0               | 32,000          |
| 1931                       | Sept. 25, 1931 | 9.40               | 4,100           |       | June 18, 1947 | 13.60              | 17,100          |
|                            |                |                    |                 |       | June 21, 1947 | 16.00              | 23,800          |
| 1932                       | Nov. 23, 1931  | 14.45              | 13,900          | 1948  | Mar. 19, 1948 | 14.6               | 19,700          |
|                            | Aug. 15, 1932  | 15.00              | 15,400          | 1949  | Feb. 24, 1949 | a18.3              | 9,000           |
| 1933                       | Apr. 1, 1933   | 6.55               | 1,750           |       | Mar. 5, 1949  | a19.69             | 10,000          |
| 1934                       | Sept. 27, 1934 | 7.20               | 2,150           |       | June 2, 1949  | 15.97              | 23,500          |
|                            |                |                    |                 |       | June 27, 1949 | 15.70              | 22,700          |
| 1935                       | May 31, 1935   | 13.45              | 10,600          | 1950  | May 9, 1950   | 13.74              | 17,400          |
|                            | June 2, 1935   | 12.62              | 9,760           | 1951  | Feb. 26, 1951 | 9.65               | 11,500          |
|                            | June 18, 1935  | 11.97              | 8,500           |       | Mar. 28, 1951 | 12.07              | 13,400          |
| 1936                       | Feb. 25, 1936  | 10.95              | 6,520           |       | Apr. 25, 1951 | 10.18              | 9,070           |
| 1937                       | Mar. 4, 1937   | 14.55              | 17,100          |       | May 1, 1951   | 16.42              | 24,600          |
|                            | May 21, 1937   | 11.97              | 11,300          |       | May 10, 1951  | 10.28              | 9,280           |
|                            | July 19, 1937  | 11.50              | 10,300          |       | May 25, 1951  | 14.90              | 20,500          |
|                            |                |                    |                 |       | June 2, 1951  | 15.50              | 22,200          |
| 1938                       | May 31, 1938   | 17.07              | 19,800          |       | June 15, 1951 | 12.05              | 13,200          |
|                            | June 14, 1938  | 12.50              | 10,700          |       | July 3, 1951  | 11.40              | 11,700          |
|                            | Aug. 21, 1938  | 11.99              | 9,860           |       | July 6, 1951  | 13.90              | 17,900          |
|                            |                |                    |                 |       | Aug. 15, 1951 | 10.40              | 9,490           |
| 1939                       | Mar. 21, 1939  | 16.7               | 19,600          |       | Aug. 26, 1951 | 10.17              | 9,070           |
|                            | June 21, 1939  | 12.00              | 10,300          |       | Sept. 9, 1951 | 10.25              | 9,070           |
|                            | July 4, 1939   | 15.41              | 17,000          | 1952  | Mar. 11, 1952 | 9.63               | 9,920           |
| 1940                       | July 28, 1940  | 11.74              | 8,140           |       | May 22, 1952  | 10.10              | 8,860           |
|                            |                |                    |                 |       | June 22, 1952 | 12.44              | 14,100          |
| 1941                       | June 4, 1941   | 12.80              | 11,200          | 1953  | June 9, 1953  | 7.53               | 4,300           |
|                            | June 9, 1941   | 18.44              | 22,100          | 1954  | May 31, 1954  | 8.45               | 5,680           |
|                            | Sept. 15, 1941 | 16.47              | 17,700          | 1955  | Feb. 18, 1955 | 11.6               | 12,200          |
| 1942                       | Oct. 7, 1941   | 13.32              | 12,000          | 1956  | July 8, 1956  | 10.85              | 10,000          |
|                            | Oct. 22, 1941  | 15.26              | 15,600          | 1957  | June 18, 1957 | 8.70               | 5,820           |
|                            | Oct. 31, 1941  | 15.20              | 15,400          |       |               |                    |                 |
|                            | May 5, 1942    | 16.95              | 19,000          |       |               |                    |                 |
|                            | May 11, 1942   | 11.93              | 9,850           |       |               |                    |                 |

## NODAWAY RIVER BASIN

## Peak stages and discharges of Nodaway River near Burlington Junction, Mo.--Continued

| Water year     | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
|----------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| 1958           | July 3, 1958   | 13.29              | 16,200          | 1962           | Mar. 11, 1962 | 10.00              | 10,800          |
|                | July 19, 1958  | 16.87              | 26,000          |                | Mar. 20, 1962 | 9.60               | 10,600          |
|                | July 30, 1958  | 14.22              | 18,600          |                | May 29, 1962  | 12.20              | 16,300          |
| 1959           |                |                    |                 |                | July 22, 1962 | 10.00              | 10,000          |
|                | May 11, 1959   | 11.65              | 11,700          | 1963           | Apr. 29, 1963 | 14.83              | 22,900          |
|                | May 30, 1959   | 15.55              | 22,400          |                | May 15, 1963  | 9.15               | 9,800           |
|                | June 30, 1959  | 15.50              | 22,200          | 1964           | Apr. 13, 1964 | 8.30               | 9,020           |
|                | Aug. 6, 1959   | 11.0               | 10,200          |                | Apr. 27, 1964 | 8.78               | 9,020           |
| Sept. 26, 1959 | 13.52          | 16,200             | May 8, 1964     |                | 10.00         | 11,400             |                 |
| 1960           | Jan. 12, 1960  | 16.90              | 26,000          | May 26, 1964   | 13.87         | 20,600             |                 |
|                | Jan. 14, 1960  | 11.52              | 11,400          | June 15, 1964  | 9.27          | 9,800              |                 |
|                | Mar. 28, 1960  | 16.10              | 25,700          | June 20, 1964  | 11.95         | 15,800             |                 |
|                | June 5, 1960   | 13.12              | 17,500          | June 23, 1964  | 13.15         | 18,800             |                 |
|                | June 30, 1960  | 11.43              | 13,000          | Sept. 7, 1964  | 9.70          | 10,800             |                 |
|                | Aug. 29, 1960  | 12.70              | 16,400          |                |               |                    |                 |
|                |                |                    |                 |                |               |                    |                 |
| 1961           | Mar. 13, 1961  | 11.30              | 14,200          | 1965           | Mar. 1, 1965  | 12.25              | 24,200          |
|                | Mar. 27, 1961  | 9.82               | 11,000          |                | Mar. 17, 1965 | 12.50              | 19,600          |
|                | Apr. 12, 1961  | 10.97              | 13,500          |                | Apr. 6, 1965  | 8.20               | 8,830           |
|                | Sept. 13, 1961 | 11.60              | 14,900          |                | Apr. 8, 1965  | 9.12               | 10,000          |
| 1962           |                |                    |                 | June 29, 1965  | 9.60          | 10,600             |                 |
|                | Oct. 12, 1961  | 9.15               | 9,400           | July 2, 1965   | 16.75         | 28,100             |                 |
|                | Nov. 16, 1961  | 9.83               | 11,000          | Sept. 21, 1965 | 10.10         | 11,400             |                 |
|                | Feb. 15, 1962  | 9.80               | 10,000          |                |               |                    |                 |

a Backwater from ice; discharge is estimated mean for day.

## MISSOURI RIVER MAIN STEM

6-8180. Missouri River at St. Joseph, Mo.  
(Published as "at Leavenworth, Kans." prior to 1929)

Location--Lat 39°45'10", long 94°51'28", in sec.17, T.57 N., R.35 W., on downstream side of left pier of St. Joseph & Grand Island Railroad bridge in St. Joseph and at mile 448.2.

Drainage area--424,300 sq mi; 425,000 sq mi prior to Oct. 1, 1928.

Gage--Nonrecording prior to Oct. 20, 1931; recording gage thereafter. At site 52.1 miles downstream from and at datum 74.66 ft lower prior to Oct. 1, 1928. At present site at datum 5.50 ft higher Oct. 1, 1928, to Jan. 1, 1934. Datum of present gage is 788.19 ft above mean sea level, datum of 1929.

Stage-discharge relation--Continually shifting, must be defined by frequent current-meter measurements.

Bankfull stage--17 ft.

Remarks--Gage heights adjusted to present datum. Records for sites "at St. Joseph" and "at Leavenworth" considered equivalent for flood-frequency study. Drainage basin above station contains many reservoirs with total usable capacity in excess of 27,175,000 acre-ft. Only annual peaks are shown.

| Peak stages and discharges |      |          |                    |                 |            |       |          |                    |                 |
|----------------------------|------|----------|--------------------|-----------------|------------|-------|----------|--------------------|-----------------|
| Water year                 | Date |          | Gage height (feet) | Discharge (cfs) | Water year | Date  |          | Gage height (feet) | Discharge (cfs) |
| 1844                       | June | 1844     | a24.5              | 350,000         | 1943       | Apr.  | 18, 1943 | 18.30              | 154,000         |
| 1881                       | Apr. | 29, 1881 | a27.2              | 370,000         | 1944       | Apr.  | 19, 1944 | -                  | 161,000         |
| 1903                       | June | 2, 1903  | a20.5              | 252,000         |            | June  | 18, 1944 |                    |                 |
|                            |      |          |                    |                 |            | June  | 19, 1944 | 19.1               | -               |
| 1922                       | June | 28, 1922 | 46.6               | 242,000         | 1945       | June  | 16, 1945 | 17.4               | 152,000         |
| 1923                       | July | 8, 1923  | 48.3               | 241,000         | 1946       | June  | 19, 1946 | 14.70              | 114,000         |
| 1924                       | June | 28, 1924 | 49.3               | 221,000         | 1947       | June  | 16, 1947 | 20.4               | 180,000         |
| 1925                       | June | 16, 1925 | 47.7               | 235,000         | 1948       | Mar.  | 20, 1948 | 17.50              | 158,000         |
| 1926                       | June | 23, 1926 | 43.8               | 75,000          | 1949       | Mar.  | 8, 1949  | b21.3              | 170,000         |
| 1927                       | May  | 18, 1927 | 49.3               | 213,000         | 1950       | Apr.  | 30, 1950 | 19.0               | 178,000         |
|                            | June | 30, 1927 | 49.3               | 213,000         | 1951       | May   | 3, 1951  | 19.9               | 198,000         |
| 1928                       | June | 9, 1928  | 46.4               | -               | 1952       | Apr.  | 23, 1952 | 26.82              | 397,000         |
|                            | June | 18, 1928 | -                  | 146,000         | 1953       | June  | 28, 1953 | 17.30              | 118,000         |
| 1929                       | June | 4, 1929  | 15.6               | 196,000         | 1954       | June  | 22, 1954 | 16.41              | 104,000         |
| 1930                       | May  | 14, 1930 | 13.2               | 106,000         | 1955       | June  | 25, 1955 | 15.7               | 91,600          |
| 1931                       | June | 23, 1931 | 12.3               | 65,600          | 1956       | July  | 3, 1956  | 13.20              | 58,600          |
| 1932                       | June | 20, 1932 | 15.8               | 156,000         | 1957       | June  | 18, 1957 | 17.80              | 126,000         |
| 1933                       | May  | 30, 1933 | 14.2               | 112,000         | 1958       | July  | 11, 1958 | 18.75              | 139,000         |
| 1934                       | Mar. | 6, 1934  | 12.9               | 94,700          | 1959       | May   | 31, 1959 | 18.00              | 133,000         |
| 1935                       | June | 29, 1935 | 15.42              | 116,000         | 1960       | Apr.  | 6, 1960  | 22.05              | 175,000         |
| 1936                       | Mar. | 12, 1936 | 14.10              | 108,000         | 1961       | Sept. | 13, 1961 | 17.53              | 106,000         |
| 1937                       | June | 28, 1937 | 14.85              | 100,000         | 1962       | May   | 30, 1962 | 19.08              | 138,000         |
| 1938                       | July | 17, 1938 | 17.05              | 124,000         | 1963       | June  | 26, 1963 | 16.26              | 89,600          |
| 1939                       | Apr. | 10, 1939 | 15.85              | 141,000         | 1964       | June  | 21, 1964 | 18.63              | 109,000         |
| 1940                       | June | 10, 1940 | 12.39              | 65,600          | 1965       | June  | 30, 1965 | 20.77              | 164,000         |
| 1941                       | June | 11, 1941 | 16.29              | 115,000         |            |       |          |                    |                 |
| 1942                       | June | 25, 1942 | 17.15              | 134,000         |            |       |          |                    |                 |

a Present site and datum.

b Backwater from ice.

## PLATTE RIVER BASIN (IOWA-MISSOURI)

6-8189. Platte River at Ravenwood, Mo.  
(Published as "at Conception Junction" prior to 1958)

Location.--Lat 40°20'42", long 94°41'10", in SE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.14, T.64 N., R.34 W., on downstream side of left pier of bridge on State Highways 4 and 46, three-quarters of a mile west of Ravenwood, and 1 mile downstream from Honey Creek.

Drainage area.--486 sq mi; 492 sq mi prior to Sept. 30, 1932. Slope.--4.45 ft per mi.

Gage.--Nonrecording prior to Sept. 30, 1932, recorder since Sept. 10, 1958. At site 5 miles downstream and at datum 20 ft lower, Aug. 6, 1928, to Sept. 30, 1932. At site 4 miles downstream at different datum prior to Aug. 6, 1928. Altitude of gage is 960 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 9,600 cfs.

Bankfull stage.--18 ft.

Remarks.--Channel improvement made in vicinity of gage during 1923-24. Channel has been improved for some distance upstream and downstream from gage. Only annual peaks are shown prior to 1958. Subsequent to 1958, base for partial-duration series is 4,000 cfs. Records for sites "at Ravenwood" and "at Conception Junction" considered equivalent for flood frequency study.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1922                       | July 10, 1922  | 20.62              | 8,730           | 1961       | Feb. 18, 1961  | 14.25              | 7,460           |
| 1923                       | Nov. 13, 1922  | 17.45              | 3,900           |            | Mar. 13, 1961  | 13.75              | 7,100           |
| 1929                       | July 6, 1929   | 21.70              | 12,200          |            | Mar. 27, 1961  | 14.53              | 7,730           |
| 1930                       | June 16, 1930  | 14.02              | 4,200           |            | Apr. 12, 1961  | 11.20              | 4,760           |
| 1931                       | Sept. 25, 1931 | 10.42              | 1,810           |            | Sept. 13, 1961 | 14.60              | 7,820           |
| 1932                       | Nov. 24, 1931  | 17.12              | 10,200          |            | Sept. 30, 1961 | 13.00              | 6,380           |
| 1959                       | Mar. 26, 1959  | 13.22              | 6,350           | 1962       | Oct. 11, 1961  | 13.93              | 7,190           |
|                            | Apr. 20, 1959  | 12.58              | 5,810           |            | Nov. 3, 1961   | 10.72              | 4,340           |
|                            | May 5, 1959    | 11.05              | 4,370           |            | Nov. 16, 1961  | 14.85              | 8,000           |
|                            | May 31, 1959   | 17.78              | 10,500          | 1963       | Feb. 5, 1962   | -                  | 4,000           |
|                            | July 1, 1959   | 14.10              | 7,160           |            | Mar. 20, 1962  | -                  | 4,000           |
|                            | Sept. 26, 1959 | 15.37              | 8,330           |            | May 29, 1962   | 13.26              | 6,650           |
| 1960                       | Jan. 13, 1960  | 16.95              | 9,770           | 1964       | Mar. 4, 1963   | 10.80              | 4,420           |
|                            | Mar. 29, 1960  | 18.40              | 11,000          |            | June 14, 1964  | 12.95              | 6,380           |
|                            | June 5, 1960   | 12.28              | 5,540           |            | June 22, 1964  | 17.45              | 10,400          |
|                            | July 1, 1960   | 14.95              | 7,970           |            | Sept. 6, 1964  | 11.45              | 4,940           |
|                            | Aug. 26, 1960  | 13.30              | 6,170           | 1965       | Mar. 17, 1965  | 13.70              | 7,010           |
|                            | Aug. 29, 1960  | 14.09              | 6,800           |            | Apr. 8, 1965   | 10.30              | 4,020           |
|                            | Sept. 24, 1960 | 13.14              | 6,080           |            | June 29, 1965  | 10.47              | 4,180           |
|                            |                |                    |                 |            | July 2, 1965   | 17.35              | 10,400          |
|                            |                |                    |                 |            | Sept. 21, 1965 | 16.50              | 9,530           |

## PLATTE RIVER BASIN (IOWA-MISSOURI)

6-8195. One Hundred and Two River near Maryville, Mo.  
(Published as "at Maryville" prior to 1935)

Location--Lat 40°23'15", long 94°49'35", in SE¼SW¼ sec.34, T.65 N., R.35 W., on right bank in front of steel-pier of county highway bridge 2½ miles northeast of Maryville and 3½ miles downstream from Norway Creek.

Drainage area--500 sq mi, approximately; 515 sq mi prior to June 20, 1934. Slope--5.72 ft per mi.

Gage--Nonrecording prior to Sept. 15, 1958; recording gage thereafter. At site 3 miles downstream at datum 5.68 ft lower than present datum prior to June 20, 1934. Datum of gage is 969.90 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements.

Bankfull stage--19 ft.

Remarks--Channel improvements made prior to establishment of station. Base for partial-duration series, 3,500 cfs.

| Peak stages and discharges |                |                    |                 |                |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
| 1926                       | Sept. 16, 1926 | 21.2               | a14,500         | 1951           | Feb. 26, 1951 | 13.72              | 4,090           |
| 1933                       | Aug. 22, 1933  | 8.20               | 2,920           | Mar. 28, 1951  | 13.55         | 3,630              |                 |
| 1934                       | May 14, 1934   | 3.60               | 500             | Apr. 25, 1951  | 14.70         | 4,270              |                 |
| 1935                       | June 1, 1935   | 19.60              | 10,300          | May 1, 1951    | 19.70         | 10,500             |                 |
|                            | June 18, 1935  | 15.45              | 4,470           | May 10, 1951   | 16.10         | 5,230              |                 |
| 1936                       | Feb. 26, 1936  | b17.95             | -               | May 26, 1951   | 18.70         | 8,330              |                 |
|                            | Sept. 5, 1936  | 17.55              | 6,330           | June 3, 1951   | 14.50         | 4,150              |                 |
| 1937                       | Mar. 4, 1937   | 15.50              | 4,530           | June 26, 1951  | 13.40         | 3,520              |                 |
|                            | July 19, 1937  | 14.20              | 3,840           | July 6, 1951   | 20.10         | 11,600             |                 |
| 1938                       | June 1, 1938   | 16.1               | 4,900           | Aug. 26, 1951  | 14.10         | 3,910              |                 |
| 1939                       | Mar. 13, 1939  | 20.4               | 12,600          | 1952           | Nov. 12, 1951 | 17.30              | 6,300           |
|                            | June 21, 1939  | 16.4               | 5,110           | Mar. 13, 1952  | 13.82         | 3,740              |                 |
|                            | July 4, 1939   | 19.6               | 10,300          | Apr. 22, 1952  | 13.38         | 3,520              |                 |
| 1940                       | June 10, 1941  | 20.51              | 11,800          | May 23, 1952   | 16.54         | 5,560              |                 |
|                            | Sept. 15, 1941 | 17.10              | 5,170           | June 21, 1952  | 16.80         | 5,820              |                 |
| 1942                       | Oct. 7, 1941   | 14.60              | 3,540           | 1953           | June 9, 1953  | 12.20              | 2,900           |
|                            | Oct. 9, 1941   | 16.80              | 4,910           | 1954           | June 1, 1954  | 12.60              | 3,100           |
|                            | Oct. 22, 1941  | 18.0               | 6,180           | 1955           | Feb. 19, 1955 | 15.86              | 5,080           |
|                            | Nov. 2, 1941   | 19.2               | 8,280           | 1956           | July 8, 1956  | 12.20              | 2,840           |
|                            | Mar. 6, 1942   | 16.0               | 4,340           | 1957           | May 14, 1957  | 13.80              | 3,740           |
|                            | Mar. 26, 1942  | 14.9               | 3,690           | 1958           | May 4, 1958   | 14.48              | 4,150           |
|                            | May 5, 1942    | 16.4               | 4,610           | May 17, 1958   | 15.23         | 4,570              |                 |
|                            | June 20, 1942  | 17.4               | 5,470           | July 4, 1958   | 14.13         | 3,910              |                 |
|                            | Aug. 26, 1942  | 15.40              | 3,980           | July 19, 1958  | 19.31         | 8,510              |                 |
| 1943                       | May 16, 1943   | 17.9               | 6,050           | July 31, 1958  | 18.30         | 6,870              |                 |
|                            | June 5, 1943   | 19.4               | 8,730           | 1959           | Mar. 26, 1959 | 15.78              | 4,930           |
|                            | June 12, 1943  | 20.02              | 10,300          | Apr. 20, 1959  | 15.5          | 4,750              |                 |
|                            | June 16, 1943  | 17.2               | 5,270           | May 5, 1959    | 14.4          | 4,090              |                 |
|                            | Aug. 3, 1943   | 18.5               | 6,930           | May 11, 1959   | 14.58         | 4,210              |                 |
| 1944                       | Apr. 23, 1944  | 18.9               | 7,680           | May 31, 1959   | 18.85         | 7,570              |                 |
|                            | May 2, 1944    | 20.2               | 10,900          | July 1, 1959   | 19.0          | 7,930              |                 |
| 1945                       | Mar. 15, 1945  | 16.6               | 4,750           | Sept. 26, 1959 | 17.7          | 6,280              |                 |
|                            | Apr. 11, 1945  | 14.4               | 3,510           | 1960           | Jan. 13, 1960 | 20.8               | 14,100          |
|                            | Apr. 16, 1945  | 18.94              | 7,680           | Mar. 29, 1960  | 20.18         | 12,700             |                 |
|                            | May 14, 1945   | 19.1               | 8,080           | May 16, 1960   | 14.85         | 4,540              |                 |
| 1946                       | Mar. 26, 1946  | 17.9               | 6,180           | June 5, 1960   | 17.1          | 6,470              |                 |
|                            | May 4, 1946    | 14.35              | 3,510           | July 1, 1960   | 19.53         | 10,000             |                 |
| 1947                       | Apr. 11, 1947  | 19.3               | 8,480           | Aug. 7, 1960   | 14.48         | 3,680              |                 |
|                            | June 6, 1947   | 20.70              | 12,400          | Aug. 18, 1960  | 14.55         | 4,210              |                 |
|                            | June 14, 1947  | 21.2               | 14,200          | Aug. 26, 1960  | 16.73         | 5,730              |                 |
|                            | June 18, 1947  | 15.8               | 4,220           | Aug. 29, 1960  | 19.63         | 10,200             |                 |
|                            | June 23, 1947  | 19.9               | 10,000          | Sept. 24, 1960 | 13.84         | 3,740              |                 |
| 1948                       | Mar. 19, 1948  | 18.1               | 6,330           | 1961           | Feb. 18, 1961 | 17.60              | 6,150           |
| 1949                       | Feb. 24, 1949  | 16.60              | 4,750           | Mar. 13, 1961  | 19.15         | 8,450              |                 |
|                            | June 2, 1949   | 20.07              | 10,600          | Mar. 28, 1961  | 19.10         | 8,260              |                 |
| 1950                       | May 10, 1950   | 18.56              | 7,080           | Apr. 12, 1961  | 17.70         | 6,250              |                 |
|                            |                |                    |                 | Sept. 13, 1961 | 17.30         | 5,890              |                 |
|                            |                |                    |                 | Sept. 30, 1961 | 16.90         | 5,590              |                 |
|                            |                |                    |                 | 1962           | Oct. 10, 1961 | 15.83              | 4,850           |
|                            |                |                    |                 |                | Oct. 13, 1961 | 13.56              | 3,650           |
|                            |                |                    |                 |                | Nov. 3, 1961  | 13.35              | 3,550           |
|                            |                |                    |                 |                | Nov. 16, 1961 | 19.36              | 7,570           |

## PLATTE RIVER BASIN (IOWA-MISSOURI)

Peak stages and discharges of One Hundred and Two River near Maryville, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| 1962       | Feb. 5, 1962  | 15.20              | 4,400           | 1964           | May 9, 1964   | 16.32              | 5,230           |
|            | Feb. 15, 1962 | 16.47              | 5,150           |                | May 26, 1964  | 17.15              | 5,810           |
|            | Mar. 12, 1962 | 18.46              | 6,470           |                | July 21, 1964 | 19.94              | 10,000          |
|            | Mar. 20, 1962 | 15.10              | 4,350           |                | Sept. 7, 1964 | 19.05              | 8,080           |
|            | May 29, 1962  | 19.80              | 8,430           | 1965           | Mar. 17, 1965 | 17.60              | 6,060           |
|            | July 22, 1962 | 16.08              | 4,910           |                | June 5, 1965  | 18.60              | 7,390           |
|            |               |                    |                 |                | June 9, 1965  | 18.35              | 7,110           |
| 1963       | Mar. 4, 1963  | 14.00              | 3,800           | June 29, 1965  | 14.72         | 4,270              |                 |
|            | Apr. 30, 1963 | 19.10              | 7,120           | July 2, 1965   | 20.90         | 13,600             |                 |
|            | May 15, 1963  | 16.40              | 5,090           | Sept. 21, 1965 | 18.96         | 8,080              |                 |
|            |               |                    |                 |                |               |                    |                 |

a Annual peak only.  
b Backwater from ice.

## PLATTE RIVER BASIN (IOWA-MISSOURI)

6-8200. White Cloud Creek near Maryville, Mo.

Location.--Lat 40°23'22", long 94°54'33", in NW¼NW¼ sec.1, T.64 N., R.36 W., on downstream side of left pier of bridge on U. S. Highway 71, 4 miles upstream from Big Slough and 4½ miles northwest of Maryville.

Drainage area.--6.06 sq mi. Slope.--19.5 ft per mi.

Gage.--Recording. Altitude of gage is 1,070 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 500 cfs and by indirect measurements at 2,250 and 4,100 cfs.

Bankfull stage.--11 ft.

Remarks.--Base for partial-duration series, 150 cfs. Only annual peaks are shown subsequent to 1959.

| Peak stages and discharges |               |                    |                 |               |                |                    |                 |       |
|----------------------------|---------------|--------------------|-----------------|---------------|----------------|--------------------|-----------------|-------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year    | Date           | Gage height (feet) | Discharge (cfs) |       |
| 1949                       | June 1, 1949  | 13.41              | 4,100           | 1955          | Feb. 18, 1955  | 6.76               | 198             |       |
|                            | June 21, 1949 | 8.13               | 328             |               | Feb. 26, 1955  | 6.90               | 209             |       |
|                            | June 24, 1949 | 6.48               | 164             |               | Mar. 1, 1955   | 6.40               | 161             |       |
|                            | June 27, 1949 | 8.76               | 422             |               | Apr. 13, 1955  | 10.27              | 900             |       |
|                            | July 12, 1949 | 8.03               | 314             |               |                |                    |                 |       |
| 1950                       | May 9, 1950   | 6.95               | 196             | 1956          | July 7, 1956   | 8.30               | 395             |       |
|                            | July 17, 1950 | 8.15               | 328             | 1957          | Apr. 3, 1957   | 6.52               | 169             |       |
|                            | Aug. 12, 1950 | 6.62               | 170             |               |                |                    |                 |       |
|                            | Aug. 15, 1950 | 7.29               | 227             |               | 1958           | May 3, 1958        | 8.97            | 510   |
|                            | Aug. 28, 1950 | 6.65               | 174             |               |                | May 4, 1958        | 9.29            | 580   |
| 1951                       | Feb. 20, 1951 | 8.80               | 431             | May 16, 1958  | 11.58          | 1,660              |                 |       |
|                            | Mar. 28, 1951 | 7.51               | 248             | July 15, 1958 | 8.14           | 372                |                 |       |
|                            | Apr. 25, 1951 | 9.00               | 470             | July 19, 1958 | 12.25          | 2,300              |                 |       |
|                            | Apr. 30, 1951 | 10.54              | 920             | 1959          | Mar. 26, 1959  | 8.55               | 438             |       |
|                            | June 15, 1951 | 7.38               | 237             |               | Apr. 19, 1959  | 8.29               | 395             |       |
|                            | June 19, 1951 | 8.62               | 396             |               | May 5, 1959    | 6.73               | 193             |       |
|                            | June 21, 1951 | 8.89               | 450             |               | May 10, 1959   | 6.75               | 193             |       |
|                            | June 22, 1951 | 8.72               | 413             |               | May 30, 1959   | 11.32              | 1,430           |       |
|                            | June 26, 1951 | 8.36               | 357             |               | May 31, 1959   | 8.26               | 388             |       |
|                            | July 6, 1951  | 8.05               | 314             |               | June 30, 1959  | 7.58               | 295             |       |
|                            | July 22, 1951 | 9.13               | 502             |               | July 31, 1959  | 8.26               | 388             |       |
|                            | Aug. 15, 1951 | 9.27               | 548             |               | Aug. 5, 1959   | 9.63               | 675             |       |
|                            | Aug. 24, 1951 | 7.88               | 301             |               | Sept. 23, 1959 | 9.54               | 645             |       |
|                            | Aug. 25, 1951 | 8.71               | 431             |               | Sept. 26, 1959 | 10.93              | 1,200           |       |
|                            | Sept. 9, 1951 | 7.98               | 321             |               |                |                    |                 |       |
|                            | 1952          | Nov. 12, 1951      | 10.78           | 1,020         | 1960           | May 16, 1960       | 11.45           | 1,540 |
|                            |               | Apr. 21, 1952      | 8.15            | 335           | 1961           | Sept. 12, 1961     | 11.35           | 1,460 |
| May 22, 1952               |               | 9.85               | 695             |               |                |                    |                 |       |
| June 21, 1952              |               | 11.56              | 1,610           | 1962          |                | May 28, 1962       | 10.19           | 860   |
| June 22, 1952              |               | 7.37               | 242             |               |                |                    |                 |       |
| 1953                       |               |                    |                 | 1963          | May 15, 1963   | 5.38               | 102             |       |
|                            | Apr. 30, 1953 | 5.45               | 107             |               |                |                    |                 |       |
| 1954                       |               |                    |                 | 1964          | June 22, 1964  | 10.20              | 860             |       |
|                            | May 31, 1954  | 7.33               | 256             |               |                |                    |                 |       |
|                            | Apr. 26, 1954 | 6.48               | 169             | 1965          | July 2, 1965   | 11.70              | 1,750           |       |

## PLATTE RIVER BASIN (IOWA-MISSOURI)

6-8203. Big Slough near Wilcox, Mo.

Location.--Lat 40°23'23", long 94°55'32", on south line of SW¼ sec.35, T.65 N., R.36 W., at culvert on U. S. Highway 71, 3 miles southeast of Wilcox.

Drainage area.--1.30 sq mi. Slope.--35.5 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 125 cfs and by indirect measurements at 462, 614 and 1,040 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1950       | --             | 2.37               | 280             |            |      |                    |                 |
| 1951       | Apr. 30, 1951  | 3.74               | 478             |            |      |                    |                 |
| 1952       | June 21, 1952  | 5.40               | 705             |            |      |                    |                 |
| 1953       | Apr. 30, 1953  | 2.98               | 378             |            |      |                    |                 |
| 1954       | May 31, 1954   | 2.78               | 353             |            |      |                    |                 |
| 1955       | --             | (a)                | 50              |            |      |                    |                 |
| 1956       | July 3, 1956   | 1.78               | 97              |            |      |                    |                 |
| 1957       | --             | (a)                | 50              |            |      |                    |                 |
| 1958       | July 19, 1958  | 3.62               | 462             |            |      |                    |                 |
| 1959       | Sept. 26, 1959 | 4.52               | 585             |            |      |                    |                 |
| 1960       | May 16, 1960   | 4.74               | 614             |            |      |                    |                 |
| 1961       | Sept. 12, 1961 | 4.58               | 593             |            |      |                    |                 |
| 1962       | May 28, 1962   | 3.54               | 450             |            |      |                    |                 |
| 1963       | --             | --                 | (b)             |            |      |                    |                 |
| 1964       | cJune 17, 1964 | 6.43               | 1,040           |            |      |                    |                 |
| 1965       | July 2, 1965   | 4.05               | 460             |            |      |                    |                 |

a a Stage did not reach gage during year.

b Less than 50 cfs

c Revised

## PLATTE RIVER BASIN (IOWA-MISSOURI)

6-8205. Platte River near Agency, Mo.  
(Published as "at Agency" prior to 1932)

Location.--Lat 39°41'20", long 94°42'15", in NE¼NW¼ sec.10, T.56 N., R.34 W., near center of left span on upstream side of bridge on U. S. Highway 169, 1½ miles downstream from Third Fork and 3½ miles northeast of Agency.

Drainage area.--1,760 sq mi, approximately; prior to May 13, 1932, 1,790 sq mi, approximately. Slope.--3.76 ft per mi.

Gage.--Nonrecording. At site 4 miles downstream at different datum prior to May 13, 1932. Datum of gage is 807.38 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements; slope is a factor at extremely high stages.

Bankfull stage.--20 ft.

Remarks.--Channel improvement made in vicinity of station during 1921 and 1930. Base for partial-duration series, 7,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1924                       | June 27, 1924  | 20.38              | 11,800          | 1943       | May 17, 1943   | 18.50              | 10,900          |
| 1925                       | June 4, 1925   | 22.60              | 15,200          |            | June 16, 1943  | 23.53              | 24,800          |
| 1926                       | Oct. 5, 1925   | 16.25              | 7,600           |            | Aug. 4, 1943   | 15.00              | 7,100           |
|                            | Sept. 10, 1926 | 20.60              | 12,000          | 1944       | Apr. 23, 1944  | 22.60              | 20,200          |
|                            | Sept. 18, 1926 | 26.83              | 22,600          |            | May 5, 1944    | 24.4               | 38,300          |
| 1927                       | Oct. 7, 1926   | 22.22              | 14,500          |            | May 24, 1944   | 14.90              | 7,010           |
|                            | Apr. 16, 1927  | 17.25              | 8,300           |            | June 9, 1944   | 17.00              | 9,050           |
|                            | Apr. 21, 1927  | 19.90              | 11,100          |            | Aug. 5, 1944   | 14.90              | 7,010           |
| 1928                       | June 10, 1928  | 19.30              | 10,300          | 1945       | Apr. 17, 1945  | 22.50              | 19,800          |
|                            | June 19, 1928  | 20.15              | 11,500          |            | May 17, 1945   | 22.88              | 21,300          |
|                            | July 26, 1928  | 20.80              | 12,300          |            | June 17, 1945  | 22.60              | 20,200          |
|                            | Sept. 14, 1928 | 22.67              | 15,300          | 1946       | Jan. 6, 1946   | 21.5               | 17,100          |
| 1929                       | Nov. 4, 1928   | 19.65              | 10,600          |            | Mar. 17, 1946  | 16.60              | 9,280           |
|                            | Nov. 18, 1928  | 22.70              | 15,600          |            | Mar. 27, 1946  | 16.40              | 9,030           |
|                            | Mar. 2, 1929   | 17.25              | 8,300           |            | June 20, 1946  | 15.20              | 7,620           |
|                            | Mar. 7, 1929   | 18.45              | 9,320           | 1947       | Apr. 5, 1947   | 18.60              | 12,100          |
|                            | Mar. 16, 1929  | 20.50              | 11,900          |            | Apr. 12, 1947  | 18.80              | 12,400          |
|                            | Apr. 16, 1929  | 15.40              | 7,100           |            | May 29, 1947   | 15.90              | 8,430           |
|                            | Apr. 22, 1929  | 25.40              | 20,100          |            | June 9, 1947   | 24.80              | 26,000          |
|                            | June 3, 1929   | 26.60              | 22,300          |            | June 23, 1947  | 30.46              | 50,000          |
|                            | July 8, 1929   | 25.30              | 19,900          | 1948       | Mar. 17, 1948  | 15.7               | 8,070           |
| 1930                       | June 6, 1930   | 14.66              | 6,690           |            | Mar. 20, 1948  | 17.9               | 11,000          |
| 1933                       | Sept. 27, 1933 | 13.36              | 5,560           | 1949       | Feb. 19, 1949  | a17.83             | -               |
| 1934                       | May 14, 1934   | 6.01               | 1,020           |            | Feb. 26, 1949  | a24.7              | 12,000          |
| 1935                       | May 28, 1935   | 15.90              | 7,800           |            | June 4, 1949   | 19.25              | 13,000          |
|                            | June 4, 1935   | 23.10              | 21,800          |            | July 12, 1949  | 17.80              | 10,800          |
|                            | June 20, 1935  | 19.75              | 13,500          | 1950       | May 11, 1950   | 17.35              | 10,200          |
| 1936                       | Mar. 5, 1936   | 13.54              | 6,150           |            | Aug. 15, 1950  | 19.2               | 13,000          |
| 1937                       | Feb. 13, 1937  | a19.60             | b7,120          | 1951       | Mar. 3, 1951   | 14.75              | 7,100           |
|                            | Mar. 6, 1937   | 17.90              | 11,400          |            | Mar. 29, 1951  | 15.33              | 7,520           |
|                            | July 13, 1937  | 15.10              | 8,150           |            | Apr. 26, 1951  | 15.45              | 7,740           |
| 1938                       | June 2, 1938   | 12.13              | 6,380           |            | May 3, 1951    | 23.50              | 18,800          |
| 1939                       | Mar. 15, 1939  | 16.76              | 9,010           |            | May 12, 1951   | 17.80              | 9,430           |
|                            | June 23, 1939  | 16.05              | 8,100           |            | May 27, 1951   | 16.33              | 7,970           |
| 1940                       | Aug. 15, 1940  | 12.38              | 4,870           |            | June 16, 1951  | 18.10              | 9,760           |
| 1941                       | June 13, 1941  | 20.97              | 15,900          |            | June 22, 1951  | 22.45              | 16,200          |
|                            | Sept. 19, 1941 | 15.15              | 7,280           |            | June 28, 1951  | 20.70              | 13,200          |
| 1942                       | Oct. 9, 1941   | 16.20              | 8,250           |            | July 7, 1951   | 22.97              | 17,500          |
|                            | Oct. 24, 1941  | 15.10              | 7,190           |            | July 11, 1951  | 15.76              | 7,530           |
|                            | Nov. 3, 1941   | 18.70              | 11,200          |            | Aug. 27, 1951  | 17.10              | 8,700           |
|                            | Jan. 20, 1942  | 15.00              | 7,100           |            | Sept. 10, 1951 | 16.65              | 8,760           |
|                            | Mar. 7, 1942   | 15.20              | 7,280           | 1952       | Nov. 13, 1951  | 19.17              | 12,200          |
|                            | Mar. 27, 1942  | 16.00              | 8,050           |            | Mar. 12, 1952  | 18.90              | 11,800          |
|                            | June 22, 1942  | 19.20              | 12,100          |            | Apr. 24, 1952  | 15.70              | 7,770           |
|                            | June 26, 1942  | 24.2               | 28,600          |            | May 24, 1952   | 16.40              | 8,540           |
|                            |                |                    |                 |            | June 23, 1952  | 17.43              | 9,720           |
|                            |                |                    |                 | 1953       | May 1, 1953    | 14.74              | 6,800           |
|                            |                |                    |                 | 1954       | May 3, 1954    | 15.00              | 7,070           |
|                            |                |                    |                 | 1955       | Feb. 19, 1955  | 21.16              | 11,900          |

## PLATTE RIVER BASIN (IOWA-MISSOURI)

## Peak stages and discharges of Platte River near Agency, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date           | Gage height (feet) | Discharge (cfs) |        |
|------------|----------------|--------------------|-----------------|---------------|----------------|--------------------|-----------------|--------|
| 1955       | Mar. 4, 1955   | 16.0               | 8,100           | 1961          | Mar. 14, 1961  | 22.95              | 17,900          |        |
|            | Apr. 14, 1955  | 15.85              | 7,880           |               | Mar. 28, 1961  | 21.36              | 13,700          |        |
|            | June 25, 1955  | 16.40              | 8,540           |               | Apr. 13, 1961  | 19.53              | 10,400          |        |
| 1956       | July 3, 1956   | 13.94              | 6,050           |               | Sept. 3, 1961  | 21.22              | 13,300          |        |
|            |                |                    |                 |               | Sept. 14, 1961 | 25.50              | 26,500          |        |
| 1957       | Apr. 4, 1957   | 16.75              | 8,980           |               | 1962           | Oct. 1, 1961       | 17.85           | 8,400  |
| 1958       | May 5, 1958    | 20.36              | 10,600          |               |                | Oct. 12, 1961      | 20.95           | 12,900 |
|            |                |                    |                 |               | Nov. 3, 1961   | 21.35              | 13,700          |        |
|            |                |                    |                 |               | Nov. 17, 1961  | 23.30              | 18,800          |        |
|            |                |                    |                 | Feb. 6, 1962  | a24.40         | 10,000             |                 |        |
| 1959       | July 20, 1958  | 19.40              | 9,170           | Feb. 16, 1962 | 19.42          | 10,200             |                 |        |
|            | Aug. 1, 1958   | 21.13              | 12,000          | Mar. 13, 1962 | 20.75          | 12,500             |                 |        |
|            | Mar. 27, 1959  | 19.19              | 9,060           | Mar. 21, 1962 | 20.10          | 11,200             |                 |        |
|            | Apr. 21, 1959  | 19.58              | 9,620           | May 20, 1962  | 17.86          | 8,500              |                 |        |
|            | May 6, 1959    | 17.25              | 7,060           | May 30, 1962  | 23.72          | 20,000             |                 |        |
|            | May 21, 1959   | 17.6               | 7,390           | 1963          | Mar. 5, 1963   | 18.43              | 10,100          |        |
|            | June 2, 1959   | 22.9               | 16,700          |               | May 16, 1963   | 20.46              | 11,900          |        |
|            | July 2, 1959   | 18.82              | 8,580           |               | 1964           | May 10, 1964       | 17.20           | 7,800  |
|            | Sept. 24, 1959 | 18.72              | 8,470           | June 15, 1964 |                | 18.85              | 9,480           |        |
|            | Sept. 27, 1959 | 20.47              | 11,200          | June 21, 1964 |                | a26.3              | 32,100          |        |
| 1960       | Oct. 6, 1959   | 19.0               | 8,800           | Sept. 7, 1964 |                | 19.87              | 10,500          |        |
|            | Jan. 16, 1960  | 23.3               | 17,900          | 1965          | Mar. 18, 1965  | 22.70              | 17,000          |        |
|            | Mar. 31, 1960  | 26.09              | 29,100          |               | Apr. 7, 1965   | 16.60              | 7,240           |        |
|            | June 5, 1960   | 18.1               | 8,930           |               | Apr. 9, 1965   | 16.50              | 7,150           |        |
|            | July 2, 1960   | 21.8               | 14,100          |               | June 6, 1965   | 16.70              | 7,330           |        |
|            | Aug. 19, 1960  | 17.9               | 8,500           |               | June 30, 1965  | 19.94              | 11,100          |        |
|            | Aug. 27, 1960  | 16.4               | 7,060           |               | July 3, 1965   | 23.40              | 17,300          |        |
|            | Aug. 30, 1960  | 19.1               | 9,830           |               | July 20, 1965  | 35.05              | 53,000          |        |
|            | Sept. 25, 1960 | 18.7               | 9,370           |               | Sept. 22, 1965 | 25.95              | 21,700          |        |
|            | 1961           | Feb. 19, 1961      | 18.85           |               | 9,480          |                    |                 |        |

a Backwater from ice.

b Daily discharge.

## PLATTE RIVER BASIN (IOWA-MISSOURI)

6-8210. Jenkins Branch at Gower, Mo.

Location.--Lat 39°37'29", long 94°36'01", in SW¼NW¼ sec.34, T.56 N., R.33 W., on right bank at upstream side of culvert on U. S. Highway 169, 0.8 mile north of Gower, and 4.4 miles upstream from mouth.

Drainage area.--2.72 sq mi. Slope.--34.0 ft per mi.

Gage.--Recording gage and concrete control. Altitude of gage is 905 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 400 cfs and by indirect measurements at 1,730 and 3,400 cfs.

Bankfull stage.--10 ft.

Remarks.--Base for partial-duration series, 200 cfs.

## Peak stages and discharges

| Water year    | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
|---------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| 1951          | June 15, 1951  | 4.02               | 362             | 1962           | Nov. 2, 1961  | 6.75               | 1,020           |
|               | June 19, 1951  | 3.24               | 221             |                | Nov. 15, 1961 | 3.66               | 237             |
|               | June 21, 1951  | 5.04               | 582             | June 6, 1962   | 5.80          | 744                |                 |
|               | June 22, 1951  | 4.40               | 440             | 1963           | Oct. 15, 1962 | 4.12               | 330             |
|               | June 26, 1951  | 3.79               | 324             |                | May 15, 1963  | 4.82               | 486             |
|               | June 27, 1951  | 3.62               | 310             | 1964           | Apr. 12, 1964 | 7.67               | 1,290           |
|               | July 5, 1951   | 4.78               | 526             |                | Apr. 20, 1964 | 6.17               | 856             |
|               | July 11, 1951  | 3.29               | 230             |                | Apr. 26, 1964 | 4.62               | 440             |
|               | July 12, 1951  | 3.39               | 252             |                | June 21, 1964 | 10.77              | 2,420           |
|               | Aug. 8, 1951   | 3.49               | 276             |                | June 22, 1964 | 3.93               | 297             |
|               | Aug. 15, 1951  | 3.60               | 304             |                | June 22, 1964 | 4.42               | 396             |
|               | Aug. 28, 1951  | 3.52               | 283             |                |               |                    |                 |
|               | Sept. 9, 1951  | 3.75               | 314             |                |               |                    |                 |
|               | 1952           | Sept. 1, 1952      | 3.00            | 181            | 1965          | June 29, 1965      | 4.78            |
| 1953          | May 5, 1953    | 2.51               | 97              | July 2, 1965   | 4.42          | 396                |                 |
|               |                |                    |                 | July 19, 1965  | 5.25          | 597                |                 |
|               |                |                    |                 | July 20, 1965  | 13.27         | 3,460              |                 |
| 1954          | May 31, 1954   | 3.71               | 335             | Sept. 16, 1965 | 8.06          | 1,420              |                 |
|               | June 2, 1954   | 5.36               | 666             | Sept. 21, 1965 | 9.38          | 1,870              |                 |
| 1955          | Oct. 3, 1954   | 3.75               | 314             |                |               |                    |                 |
|               | Oct. 4, 1954   | 3.82               | 324             |                |               |                    |                 |
|               | Oct. 13, 1954  | 4.01               | 362             |                |               |                    |                 |
|               | Feb. 18, 1955  | 3.78               | 324             |                |               |                    |                 |
|               | June 24, 1955  | 4.55               | 471             |                |               |                    |                 |
| 1956          | May 30, 1956   | 9.03               | 1,730           |                |               |                    |                 |
|               | July 13, 1956  | 3.46               | 259             |                |               |                    |                 |
| 1957          | Apr. 3, 1957   | 2.22               | 53              |                |               |                    |                 |
| 1958          | May 3, 1958    | 4.70               | 462             |                |               |                    |                 |
|               | June 12, 1958  | 4.72               | 462             |                |               |                    |                 |
|               | June 14, 1958  | 3.88               | 286             |                |               |                    |                 |
|               | July 11, 1958  | 4.33               | 385             |                |               |                    |                 |
|               | July 15, 1958  | 5.24               | 597             |                |               |                    |                 |
|               | July 17, 1958  | 4.44               | 407             |                |               |                    |                 |
|               | July 27, 1958  | 4.42               | 396             |                |               |                    |                 |
|               | July 30, 1958  | 5.50               | 662             |                |               |                    |                 |
| 1959          | Aug. 5, 1959   | 5.86               | 772             |                |               |                    |                 |
|               | Sept. 22, 1959 | 6.62               | 968             |                |               |                    |                 |
| 1960          | Oct. 4, 1959   | 4.38               | 396             |                |               |                    |                 |
|               | Oct. 22, 1959  | 3.55               | 216             |                |               |                    |                 |
|               | Mar. 27, 1960  | 4.17               | 341             |                |               |                    |                 |
|               | June 21, 1960  | 4.60               | 440             |                |               |                    |                 |
|               | June 23, 1960  | 4.72               | 462             |                |               |                    |                 |
|               | June 30, 1960  | 6.33               | 884             |                |               |                    |                 |
|               | July 10, 1960  | 4.05               | 319             |                |               |                    |                 |
|               | Aug. 7, 1960   | 4.47               | 407             |                |               |                    |                 |
| Aug. 17, 1960 | 5.70           | 716                |                 |                |               |                    |                 |
| 1961          | Apr. 22, 1961  | 4.68               | 462             |                |               |                    |                 |
|               | May 5, 1961    | 3.53               | 208             |                |               |                    |                 |
|               | May 7, 1961    | 8.75               | 1,660           |                |               |                    |                 |
|               | July 23, 1961  | 4.31               | 374             |                |               |                    |                 |
|               | July 26, 1961  | 4.90               | 510             |                |               |                    |                 |
|               | Sept. 13, 1961 | 4.37               | 385             |                |               |                    |                 |
|               | Sept. 20, 1961 | 4.50               | 418             |                |               |                    |                 |
| 1962          | Oct. 12, 1961  | 4.33               | 385             |                |               |                    |                 |
|               | Oct. 29, 1961  | 6.40               | 912             |                |               |                    |                 |

## PLATTE RIVER BASIN (IOWA-MISSOURI)

6-8211.3 First Creek near Nashua, Mo.

Location.--Lat 39°17'20", long 94°35'05", in NW¼SW¼ sec.26, T.52 N., R.33 W., on right bank just upstream from culvert on farm road, 1 mile south on U. S. Highway 169 from junction of new U. S. Highway 169 and 71 Bypass, approximately 150 ft east on farm road from center line of U. S. Highway 169.

Drainage area.--0.55 sq mi. Slope.--59.5 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined below 310 cfs by current meter measurements and at 831 cfs by indirect measurement.

Remarks.--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 |            |                 |
|------------|---------------|----------------------------|-----------------|------------|-----------------|
|            |               | Gage height (feet)         | Discharge (cfs) | Water year | Discharge (cfs) |
| 1959       | May 4, 1959   | 8.11                       | 23              |            |                 |
| 1960       | Apr. 15, 1960 | 9.41                       | 64              |            |                 |
| 1961       | May 7, 1961   | 13.25                      | 310             |            |                 |
| 1962       | Nov. 2, 1961  | 11.20                      | 160             |            |                 |
| 1963       | Oct. 6, 1962  | 8.63                       | 35              |            |                 |
| 1964       | Apr. 20, 1964 | 8.45                       | 30              |            |                 |
| 1965       | July 19, 1965 | 18.40                      | 831             |            |                 |

## MISSOURI RIVER MAIN STEM

6-8930. Missouri River at Kansas City, Mo.

Location.--Lat 39°06'43", long 94°35'16", in sec.32, T.50 N., R.33 W., on downstream side of right pier of Chicago, Burlington Quincy Railroad bridge at Kansas City, 1.4 miles downstream from Kansas River and at mile 366.1.

Drainage area.--489,200 sq mi.

Gage.--Nonrecording Aug. 1, 1928, to May 3, 1931, and May 16, 1947, to Feb. 28, 1948. Recording gage, May 4, 1931, to May 15, 1947, and since Feb. 29, 1948. Datum of gage is 716.40 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Continually shifting, must be defined by frequent current-meter measurements.

Bankfull stage.--22 ft.

Remarks.--Drainage basin above station contains many reservoirs with total usable capacity in excess of 27,640,000 acre-ft. Only annual peaks are shown.

| Peak stages and discharges |                                |                    |                 |            |                              |                    |                 |
|----------------------------|--------------------------------|--------------------|-----------------|------------|------------------------------|--------------------|-----------------|
| Water year                 | Date                           | Gage height (feet) | Discharge (cfs) | Water year | Date                         | Gage height (feet) | Discharge (cfs) |
| 1844                       | June 15, 1844                  | 38.0               | 625,000         | 1948       | Mar. 21, 1948                | 21.25              | 208,000         |
| 1903                       | June 2, 1903                   | 34.95              | 548,000         | 1949       | Mar. 8, 1949                 | 20.4               | 195,000         |
| 1929                       | June 5, 1929                   | 23.4               | 254,000         | 1950       | July 21, 1950                | 20.70              | 198,000         |
| 1930                       | May 9, 1930                    | 16.7               | 149,000         | 1951       | July 14, 1951                | 36.2               | 573,000         |
| 1931                       | June 24, 1931                  | 12.0               | 64,000          | 1952       | Apr. 24, 1952                | 30.63              | 400,000         |
| 1932                       | June 21, 1932                  | 20.90              | 178,000         | 1953       | May 8, 1953<br>June 29, 1953 | -<br>14.98         | 128,000<br>-    |
| 1933                       | May 31, 1933                   | 14.7               | 109,000         | 1954       | June 23, 1954                | 16.03              | 122,000         |
| 1934                       | Mar. 7, 1934                   | 13.45              | 87,100          | 1955       | June 25, 1955                | 15.15              | 111,000         |
| 1935                       | June 6, 1935                   | 23.80              | 230,000         | 1956       | July 4, 1956                 | 11.55              | 71,300          |
| 1936                       | Mar. 12, 1936                  | 16.30              | 117,000         | 1957       | June 19, 1957                | 17.05              | 143,000         |
| 1937                       | June 30, 1937                  | 15.55              | 102,000         | 1958       | July 31, 1958                | 20.80              | 193,000         |
| 1938                       | July 19, 1938                  | 19.30              | 137,000         | 1959       | May 31, 1959                 | 16.74              | 155,000         |
| 1939                       | Apr. 10, 1939                  | 17.40              | 135,000         | 1960       | Apr. 4, 1960                 | 22.95              | 251,000         |
| 1940                       | June 21, 1940                  | 13.25              | 68,100          | 1961       | Sept. 14, 1961               | 18.35              | 178,000         |
| 1941                       | June 13, 1941                  | 24.66              | 215,000         | 1962       | May 30, 1962                 | 18.30              | 182,000         |
| 1942                       | June 22, 1942                  | 24.25              | 206,000         | 1963       | June 26, 1963                | 12.38              | 96,600          |
| 1943                       | June 18, 1943                  | 29.1               | 366,000         | 1964       | June 24, 1964                | 17.77              | 158,000         |
| 1944                       | Apr. 24, 1944                  | 27.67              | 311,000         | 1965       | July 21, 1965                | 22.80              | 225,000         |
| 1945                       | June 18, 1945                  | 25.30              | 242,000         |            |                              |                    |                 |
| 1946                       | June 20, 1946                  | 15.75              | 123,000         |            |                              |                    |                 |
| 1947                       | June 25, 1947<br>June 27, 1947 | 27.01<br>-         | -<br>261,000    |            |                              |                    |                 |

## BLUE RIVER BASIN

6-8935. Blue River near Kansas City, Mo.

Location.--Lat 38°57'25", long 94°33'32", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.28, T.48 N., R.33 W., on downstream side of right pier of bridge on County Highway W, 0.4 mile downstream from Indian Creek and 1.7 miles southeast of Kansas City.

Drainage area.--188 sq mi. Slope.--12.4 ft per mi.

Gage.--Nonrecording prior to July 1, 1939; recording gage thereafter. Datum of gage is 753.73 ft above mean sea level (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--14 ft.

Historical data.--Maximum stage known prior to 1961, about 39 ft Nov. 17, 1928, occurred before construction of present bridge and major changes in channel at gage site.

Remarks.--Base for partial-duration series, 5,800 cfs.

| Peak stages and discharges |               |                    |                 |                |               |                    |                 |
|----------------------------|---------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
| 1939                       | June 25, 1939 | 21.52              | a8,140          | 1951           | July 6, 1951  | 21.90              | 7,740           |
| 1940                       | Apr. 27, 1940 | 17.66              | 5,990           | July 11, 1951  | 38.30         | 31,100             |                 |
|                            | May 18, 1940  | 18.20              | 6,250           | Sept. 4, 1951  | 19.1          | 6,200              |                 |
|                            | June 23, 1940 | 19.58              | 7,000           | Sept. 9, 1951  | 20.20         | 6,800              |                 |
|                            |               |                    |                 |                |               |                    |                 |
| 1941                       | Apr. 4, 1941  | 18.65              | 6,460           | 1952           | Mar. 10, 1952 | 23.00              | 8,380           |
|                            |               |                    |                 |                |               |                    |                 |
| 1942                       | Oct. 31, 1941 | 19.15              | 6,730           | 1953           | Apr. 30, 1953 | 9.48               | 1,760           |
|                            | June 19, 1942 | 20.10              | 7,280           | 1954           | Aug. 2, 1954  | 16.27              | 4,650           |
|                            | July 25, 1942 | 21.2               | 7,890           | 1955           | Oct. 20, 1954 | 19.38              | 6,360           |
| 1943                       | June 10, 1943 | 17.06              | 5,650           | May 28, 1955   | 26.33         | 8,560              |                 |
|                            |               |                    |                 |                |               |                    |                 |
| 1944                       | Apr. 23, 1944 | 35.88              | 26,400          | 1956           | Oct. 5, 1955  | 13.04              | 1,270           |
|                            | May 21, 1944  | 19.80              | 7,010           | 1957           | May 16, 1957  | 20.37              | 6,710           |
| 1945                       | Mar. 24, 1945 | 17.89              | 6,000           | June 30, 1957  | 29.65         | 14,300             |                 |
|                            | Apr. 16, 1945 | 26.3               | 11,100          | 1958           | July 17, 1958 | 23.16              | 9,180           |
|                            | May 16, 1945  | 22.40              | 8,460           | July 20, 1958  | 19.00         | 6,160              |                 |
|                            | June 30, 1945 | 22.90              | 8,740           | July 25, 1958  | 19.70         | 6,640              |                 |
| 1946                       | May 10, 1946  | 21.36              | 7,890           | July 31, 1958  | 37.80         | 21,700             |                 |
|                            |               |                    |                 | Aug. 16, 1958  | 21.50         | 7,900              |                 |
|                            |               |                    |                 |                |               |                    |                 |
| 1947                       | Mar. 13, 1947 | 21.15              | 7,780           | 1959           | Apr. 27, 1959 | 17.36              | 5,120           |
|                            | Apr. 3, 1947  | 20.9               | 7,620           | 1960           | Apr. 16, 1960 | 21.59              | 7,980           |
|                            | Apr. 5, 1947  | 27.35              | 12,100          | Apr. 30, 1960  | 21.54         | 7,900              |                 |
|                            | Apr. 10, 1947 | 20.00              | 7,120           | 1961           | May 6, 1961   | 26.49              | 8,200           |
|                            | June 21, 1947 | 21.80              | 8,120           | July 6, 1961   | 26.40         | 7,780              |                 |
|                            | June 23, 1947 | 28.98              | 14,100          | Sept. 13, 1961 | 44.46         | 41,000             |                 |
| 1948                       | Mar. 19, 1948 | 22.32              | 7,970           | Sept. 24, 1961 | 25.92         | 7,430              |                 |
|                            | July 22, 1948 | 22.26              | 7,970           | 1962           | Nov. 2, 1961  | 28.19              | 9,140           |
|                            | July 26, 1948 | 24.88              | 9,540           | Nov. 16, 1961  | 25.38         | 7,090              |                 |
| 1949                       | May 21, 1949  | 20.93              | 7,180           | 1963           | July 13, 1963 | 20.05              | 4,390           |
|                            | June 6, 1949  | 23.74              | 8,800           | 1964           | May 26, 1964  | 25.45              | 7,090           |
|                            | June 7, 1949  | 19.10              | 6,200           | May 28, 1964   | 26.93         | 8,130              |                 |
| 1950                       | Oct. 21, 1949 | 30.85              | 16,400          | 1965           | June 5, 1965  | 30.13              | 12,100          |
|                            | July 12, 1950 | 19.13              | 6,200           | Sept. 4, 1965  | 26.77         | 9,050              |                 |
|                            | Aug. 27, 1950 | 20.93              | 7,180           |                |               |                    |                 |
| 1951                       | June 26, 1951 | 21.20              | 7,350           |                |               |                    |                 |
|                            | June 29, 1951 | 19.80              | 6,580           |                |               |                    |                 |

a Annual peak only

## LITTLE BLUE RIVER BASIN

6-8940. Little Blue River near Lake City, Mo.

Location.--Lat 39°06'00", long 94°18'00", in SW¼SE¼ sec.35, T.50 N., R.31 W., at downstream side of right pier of upstream bridge on dual State Highway 78, 3 miles southwest of Lake City, and 10½ miles upstream from mouth.

Drainage area.--184 sq mi. Slope.--6.26 ft per mi.

Gage.--Nonrecording prior to July 24, 1957; recording gage thereafter. Datum of gage is 719.15 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--18 ft.

Remarks.--Base for partial-duration series, 2,000 cfs.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1948                       | May 20, 1948   | 24.97              | 6,000           |            |      |                    |                 |
|                            | July 26, 1948  | 22.6               | 3,200           |            |      |                    |                 |
| 1949                       | Jan. 16, 1949  | 19.4               | 2,060           |            |      |                    |                 |
|                            | Feb. 12, 1949  | 19.9               | 2,200           |            |      |                    |                 |
|                            | Mar. 31, 1949  | 19.4               | 2,060           |            |      |                    |                 |
|                            | May 22, 1949   | 21.7               | 2,800           |            |      |                    |                 |
|                            | July 12, 1949  | 19.5               | 2,080           |            |      |                    |                 |
|                            | Sept. 13, 1949 | 20.7               | 2,450           |            |      |                    |                 |
| 1950                       | Oct. 22, 1949  | 24.7               | 5,580           |            |      |                    |                 |
| 1951                       | June 30, 1951  | 19.9               | 2,200           |            |      |                    |                 |
|                            | July 6, 1951   | 19.4               | 2,060           |            |      |                    |                 |
|                            | July 11, 1951  | 26.1               | 6,400           |            |      |                    |                 |
|                            | Sept. 4, 1951  | 21.0               | 2,560           |            |      |                    |                 |
| 1952                       | Oct. 6, 1951   | 19.4               | 2,060           |            |      |                    |                 |
|                            | Mar. 10, 1952  | 23.2               | 3,690           |            |      |                    |                 |
| 1953                       | Apr. 30, 1953  | 19.73              | 2,140           |            |      |                    |                 |
| 1954                       | Mar. 3, 1954   | 21.60              | 2,820           |            |      |                    |                 |
| 1955                       | May 29, 1955   | 23.65              | 4,000           |            |      |                    |                 |
| 1956                       | July 2, 1956   | 11.0               | 408             |            |      |                    |                 |
| 1957                       | July 1, 1957   | 18.16              | 1,680           |            |      |                    |                 |
| 1958                       | Aug. 1, 1958   | 24.02              | 4,350           |            |      |                    |                 |
| 1959                       | Apr. 28, 1959  | 16.27              | 1,290           |            |      |                    |                 |
| 1960                       | May 1, 1960    | 21.14              | 2,600           |            |      |                    |                 |
| 1961                       | Mar. 13, 1961  | 22.08              | 2,780           |            |      |                    |                 |
|                            | Apr. 10, 1961  | 21.28              | 2,730           |            |      |                    |                 |
|                            | May 6, 1961    | 24.30              | 4,740           |            |      |                    |                 |
|                            | July 25, 1961  | 21.98              | 2,950           |            |      |                    |                 |
|                            | Sept. 4, 1961  | 20.36              | 2,220           |            |      |                    |                 |
|                            | Sept. 14, 1961 | 27.94              | 9,460           |            |      |                    |                 |
| 1962                       | Sept. 25, 1961 | 23.62              | 4,100           |            |      |                    |                 |
|                            | Oct. 31, 1961  | 21.00              | 2,460           |            |      |                    |                 |
|                            | Nov. 3, 1961   | 24.18              | 4,640           |            |      |                    |                 |
| 1963                       | Oct. 13, 1962  | 19.50              | 1,900           |            |      |                    |                 |
| 1964                       | May 29, 1964   | 20.49              | 2,240           |            |      |                    |                 |
| 1965                       | June 5, 1965   | 19.92              | 2,240           |            |      |                    |                 |
|                            | June 30, 1965  | 21.51              | 2,690           |            |      |                    |                 |
|                            | July 20, 1965  | 25.03              | 5,200           |            |      |                    |                 |
|                            | Sept. 22, 1965 | 22.95              | 3,500           |            |      |                    |                 |

## FISHING RIVER BASIN

6-8945. East Fork Fishing River at Excelsior Springs, Mo.

Location.--Lat 39°20'20", long 94°12'45", in SE¼ sec.1, T.52 N., R.30 W., on downstream side of right abutment of Golf Hill Bridge in Excelsior Springs, three-quarters of a mile upstream from Dry Fork Fishing River and 6-3/4 miles upstream from mouth.

Drainage area.--20.0 sq mi. Slope.--21.9 ft per mi.

Gage.--Recording. Datum of gage is 759.46 ft (revised) above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 3,000 cfs and by indirect measurement at 12,000 cfs.

Historical data.--Flood of June 22, 1947 reached a stage 3.7 ft higher than flood of July 6, 1951 at a point 200 ft upstream.

Bankfull stage.--8 ft.

Remarks.--Base for partial-duration series, 500 cfs.

| Peak stages and discharges |               |                    |                 |                |               |                    |                 |       |
|----------------------------|---------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|-------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |       |
| 1951                       | June 21, 1951 | 7.10               | 1,080           | 1960           | Oct. 4, 1959  | 6.51               | 680             |       |
|                            | June 28, 1951 | 9.20               | a2,900          |                | Mar. 27, 1960 | 8.57               | 1,920           |       |
|                            | July 6, 1951  | 15.3               | a12,000         |                | Apr. 29, 1960 | 7.30               | 985             |       |
|                            | July 8, 1951  | 9.00               | 1,620           |                | May 6, 1960   | 6.02               | 520             |       |
|                            | July 11, 1951 | 8.40               | 1,080           |                | June 21, 1960 | 6.03               | 535             |       |
|                            | Aug. 9, 1951  | 10.90              | a4,110          |                | June 30, 1960 | 8.08               | 1,480           |       |
|                            | Aug. 28, 1951 | 12.00              | a5,800          |                |               |                    |                 |       |
|                            | Sept. 4, 1951 | 9.35               | a2,180          |                | 1961          | Mar. 26, 1961      | 8.11            | 2,100 |
|                            |               |                    |                 |                |               | May 5, 1961        | 6.05            | 704   |
| 1952                       | Mar. 10, 1952 | 6.05               | 670             | May 7, 1961    |               | 9.81               | 3,460           |       |
|                            | June 21, 1952 | 5.80               | 597             | July 23, 1961  |               | 6.72               | 1,000           |       |
|                            | Aug. 21, 1952 | 7.80               | 1,440           | July 25, 1961  |               | 6.14               | 715             |       |
| 1953                       | Apr. 24, 1953 | 5.45               | 500             | Aug. 1, 1961   |               | 8.10               | 2,100           |       |
|                            | May 5, 1953   | 6.28               | 750             | Sept. 13, 1961 |               | 12.00              | 5,700           |       |
| 1954                       | May 2, 1954   | 6.60               | 865             | 1962           |               | Oct. 12, 1961      | 6.98            | 992   |
|                            |               |                    |                 |                |               | Oct. 30, 1961      | 10.28           | 3,950 |
| 1955                       | Feb. 18, 1955 | 6.30               | 742             | Nov. 2, 1961   | 9.35          | 3,080              |                 |       |
|                            | Mar. 14, 1955 | 5.90               | 620             | Nov. 15, 1961  | 7.82          | 1,800              |                 |       |
|                            | May 12, 1955  | 6.86               | 965             | Feb. 4, 1962   | 6.66          | 718                |                 |       |
|                            | June 25, 1955 | 7.87               | 1,480           | Mar. 20, 1962  | 6.50          | 640                |                 |       |
|                            | Aug. 7, 1955  | 6.30               | 760             | 1963           | May 15, 1963  | 6.35               | 600             |       |
| 1956                       | Oct. 6, 1955  | 6.65               | 885             |                | May 26, 1963  | 6.30               | 570             |       |
|                            | July 4, 1956  | 8.15               | 1,710           |                | Aug. 1, 1963  | 6.16               | 500             |       |
|                            | July 13, 1956 | 10.05              | a3,750          | 1964           | Apr. 5, 1964  | 6.85               | 905             |       |
| 1957                       | May 16, 1957  | 6.10               | 685             |                | June 11, 1964 | 8.72               | 2,780           |       |
|                            |               |                    |                 |                | June 12, 1964 | 7.20               | 1,200           |       |
| 1958                       | Feb. 27, 1958 | 6.17               | 700             |                | June 21, 1964 | 9.13               | 2,800           |       |
|                            | June 14, 1958 | 6.34               | 768             | 1965           | Nov. 15, 1964 | 7.65               | 1,540           |       |
|                            | July 11, 1958 | 10.95              | a5,000          |                | Jan. 1, 1965  | 6.25               | 570             |       |
|                            | July 15, 1958 | 7.95               | 1,360           |                | Mar. 16, 1965 | 7.97               | 1,780           |       |
|                            | July 30, 1958 | 8.70               | 2,020           |                | June 5, 1965  | 6.76               | 850             |       |
|                            |               |                    | July 19, 1965   |                | 16.05         | 10,400             |                 |       |
| 1959                       | Oct. 7, 1958  | 8.40               | 1,730           | Aug. 16, 1965  | 9.24          | 2,080              |                 |       |
|                            | Oct. 17, 1958 | 6.05               | 535             | Aug. 30, 1965  | 10.05         | 2,900              |                 |       |
|                            | July 8, 1959  | 7.00               | 860             | Sept. 13, 1965 | 9.03          | 1,860              |                 |       |
|                            |               |                    |                 | Sept. 16, 1965 | 8.63          | 1,460              |                 |       |
|                            |               |                    |                 | Sept. 20, 1965 | 10.92         | 3,980              |                 |       |

a Revised.

## CROOKED RIVER BASIN

6-8950. Crooked River near Richmond, Mo.

Location.--Lat 39°20', long 93°59', in NW¼ sec.7, T.52 N., R.27 W., on downstream side of third pier from left end of bridge on State Highway 13, 4 miles north of Richmond, 8½ miles upstream from West Fork Crooked River and 24½ miles upstream from mouth.

Drainage area.--159 sq mi. Slope.--5.17 ft per mi.

Gage.--Nonrecording prior to Dec. 4, 1951, recording and nonrecording thereafter. Datum of gage is 706.34 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--22 ft.

Remarks.--Base for partial-duration series, 1,500 cfs.

| Peak stages and discharges |                |                    |                 |                |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
| 1948                       | Mar. 20, 1948  | 20.91              | 2,860           | 1959           | Oct. 8, 1958  | 19.45              | 2,000           |
|                            | June 21, 1948  | 18.69              | 1,960           |                | Nov. 18, 1958 | 23.07              | 3,840           |
|                            | Aug. 13, 1948  | 17.20              | 1,560           |                |               |                    |                 |
| 1949                       | Feb. 19, 1949  | 20.7               | 2,780           | 1960           | Oct. 4, 1959  | 17.67              | 1,530           |
|                            | Mar. 31, 1949  | 18.1               | 1,760           |                | Mar. 28, 1960 | 24.75              | 5,790           |
|                            | June 2, 1949   | 21.8               | 3,300           |                | Apr. 15, 1960 | 18.65              | 1,760           |
|                            | June 14, 1949  | 21.7               | 3,250           |                | Apr. 16, 1960 | 22.35              | 3,340           |
|                            | Sept. 13, 1949 | 21.34              | 3,050           |                | Apr. 30, 1960 | 19.65              | 2,070           |
|                            |                |                    |                 |                | July 1, 1960  | 23.95              | 4,700           |
| 1950                       | Jan. 1, 1950   | 15.2               | 1,110           | 1961           | Mar. 14, 1961 | 19.32              | 1,980           |
| 1951                       | June 22, 1951  | 19.25              | 2,140           |                | Mar. 27, 1961 | 21.30              | 2,720           |
|                            | June 29, 1951  | 21.4               | 3,100           | Apr. 10, 1961  | 17.92         | 1,580              |                 |
|                            | July 6, 1951   | 28.8               | 27,000          | May 6, 1961    | 20.16         | 2,640              |                 |
|                            | July 12, 1951  | 22.5               | 3,700           | May 8, 1961    | 21.12         | 2,640              |                 |
|                            | Aug. 9, 1951   | 21.1               | 2,960           | Sept. 14, 1961 | 26.97         | 12,200             |                 |
|                            | Aug. 28, 1951  | 23.75              | 4,620           | 1962           | Oct. 30, 1961 | 21.20              | 2,680           |
|                            | Sept. 5, 1951  | 23.4               | 4,290           |                | Nov. 3, 1961  | 24.28              | 5,050           |
|                            |                |                    |                 |                | Nov. 17, 1961 | 23.18              | 3,920           |
| 1952                       | Mar. 11, 1952  | 22.28              | 3,580           | Feb. 5, 1962   | 20.78         | 2,520              |                 |
|                            | Aug. 22, 1952  | 21.26              | 2,725           | Mar. 11, 1962  | 18.85         | 1,820              |                 |
| 1953                       | May 6, 1953    | 21.35              | 2,760           | Mar. 21, 1962  | 18.70         | 1,800              |                 |
| 1954                       | May 2, 1954    | 18.47              | 1,800           | 1963           | Mar. 16, 1963 | 21.48              | 2,980           |
| 1955                       | Feb. 19, 1955  | 21.57              | 2,860           |                | 1964          | Apr. 5, 1964       | 18.35           |
|                            | May 12, 1955   | 17.87              | 1,580           | Apr. 21, 1964  |               | 17.24              | 1,610           |
|                            | June 25, 1955  | 18.00              | 1,600           | June 12, 1964  |               | 20.18              | 2,440           |
| 1956                       | July 13, 1956  | 18.84              | 1,820           | June 22, 1964  | 27.83         | 15,000             |                 |
| 1957                       | May 17, 1957   | 16.23              | 1,220           | 1965           | Jan. 2, 1965  | 18.34              | 1,830           |
|                            |                |                    |                 |                | Mar. 17, 1965 | 19.00              | 2,020           |
|                            |                |                    |                 |                | June 6, 1965  | 17.11              | 1,590           |
|                            |                |                    |                 |                | June 13, 1965 | 18.90              | 1,990           |
| 1958                       | Feb. 28, 1958  | 18.95              | 1,880           | July 20, 1965  | 30.7          | 29,000             |                 |
|                            | May 4, 1958    | 20.55              | 2,440           | Aug. 31, 1965  | 19.35         | 2,160              |                 |
|                            | June 15, 1958  | 19.20              | 1,940           | Sept. 16, 1965 | 17.25         | 1,610              |                 |
|                            | July 12, 1958  | 24.56              | 5,470           | Sept. 21, 1965 | 26.39         | 7,700              |                 |
|                            | July 16, 1958  | 23.34              | 4,000           |                |               |                    |                 |
|                            | July 31, 1958  | 19.90              | 2,180           |                |               |                    |                 |

## MISSOURI RIVER MAIN STEM

6-8955. Missouri River at Waverly, Mo.

Location--Lat 39°12'51", long 93°30'57", in sec.14, T.51 N., R.24 W., on downstream side of second pier from right bank of bridge on U. S. Highway 65 at Waverly and at mile 293.4.

Drainage area--491,200 sq mi.

Gage--Nonrecording Mar. 1, 1929, to Apr. 4, 1934, and June 14, 1943, to Sept. 15, 1944; recording gage Apr. 5, 1934, to June 13, 1943, and since Sept. 16, 1944. At datum 5.00 ft lower prior to Jan. 1, 1934. Datum of gage is 646.00 ft above mean sea level, datum of 1929.

Stage-discharge relation--Continually shifting, must be defined by frequent current-meter measurements. Relation affected by levee breaks during extreme floods.

Bankfull stage--18 ft.

Remarks--Gage heights adjusted to present datum. Only annual peaks are shown.

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Peak stages and discharges |                |                    |                 |
|------------|---------------|--------------------|-----------------|----------------------------|----------------|--------------------|-----------------|
|            |               |                    |                 | Water year                 | Date           | Gage height (feet) | Discharge (cfs) |
| 1929       | June 5, 1929  | 19.9               | 263,000         | 1949                       | Mar. 8, 1949   | -                  | 187,000         |
|            |               |                    |                 |                            | June 30, 1949  | 20.74              | -               |
| 1930       | May 9, 1930   | 15.6               | 146,000         | 1950                       | July 21, 1950  | 21.75              | 197,000         |
| 1931       | June 25, 1931 | 12.4               | 65,500          | 1951                       | July 14, 1951  | 28.20              | -               |
| 1932       | June 23, 1932 | 19.00              | 167,000         |                            | July 16, 1951  | -                  | 549,000         |
| 1933       | June 1, 1933  | <u>15.4</u>        | 111,000         | 1952                       | Apr. 24, 1952  | 28.10              | -               |
| 1934       | Mar. 8, 1934  | 13.6               | 82,600          |                            | Apr. 26, 1952  | -                  | 369,000         |
| 1935       | June 8, 1935  | 22.02              | 215,000         | 1953                       | May 8, 1953    | -                  | 126,000         |
|            |               |                    |                 |                            | June 29, 1953  | 17.30              | -               |
| 1936       | Mar. 13, 1936 | 15.20              | 120,000         | 1954                       | June 23, 1954  | 18.50              | 119,000         |
| 1937       | June 30, 1937 | 14.45              | 105,000         | 1955                       | June 26, 1955  | 17.10              | 106,000         |
| 1938       | July 20, 1938 | 17.20              | 137,000         | 1956                       | July 5, 1956   | 14.42              | 67,500          |
| 1939       | Apr. 11, 1939 | 16.65              | 133,000         | 1957                       | June 19, 1957  | 20.50              | 142,000         |
| 1940       | June 21, 1940 | 12.55              | 70,800          | 1958                       | July 13, 1958  | 23.10              | -               |
| 1941       | June 14, 1941 | 20.9               | 185,000         |                            | Aug. 1, 1958   | -                  | 184,000         |
| 1942       | June 27, 1942 | 21.84              | 200,000         | 1959                       | June 1, 1959   | 19.60              | 154,000         |
| 1943       | June 19, 1943 | 24.3               | 310,000         | 1960                       | Mar. 31, 1960  | -                  | 249,000         |
|            |               |                    |                 |                            | Apr. 4, 1960   | 25.80              | -               |
| 1944       | Apr. 24, 1944 | 24.4               | 347,000         | 1961                       | Sept. 14, 1961 | 23.40              | 216,000         |
| 1945       | Apr. 18, 1945 | 22.4               | 240,000         | 1962                       | May 31, 1962   | -                  | 185,000         |
|            |               |                    |                 |                            | June 29, 1962  | 21.83              | -               |
| 1946       | June 21, 1946 | 15.7               | 116,000         | 1963                       | June 27, 1963  | 16.60              | 98,200          |
| 1947       | June 26, 1947 | 25.1               | 273,000         | 1964                       | June 25, 1964  | 22.71              | 162,000         |
| 1948       | Mar. 22, 1948 | 21.60              | 215,000         | 1965                       | July 22, 1965  | 26.80              | 276,000         |

## WAKENDA CREEK BASIN

6-8960. Wakenda Creek at Carrollton, Mo.

Location.--Lat 39°21', long 93°30', in NE¼SE¼ sec.5, T.52 N., R.23 W., on left bank near upstream side of bridge on U. S. Highway 65 in Carrollton, half a mile downstream from Brush Creek and 14 miles upstream from mouth.

Drainage area.--248 sq mi. Slope.--5.27 ft per mi.

Gage.--Nonrecording prior to May 21, 1958; recording gage thereafter. Datum of gage is 641.17 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements. Affected by backwater when the Missouri River is at extremely high stages.

Bankfull stage.--20 ft.

Remarks.--Base for partial-duration series, 3,000 cfs.

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Peak stages and discharges |                |                    |                 |
|------------|---------------|--------------------|-----------------|----------------------------|----------------|--------------------|-----------------|
|            |               |                    |                 | Water year                 | Date           | Gage height (feet) | Discharge (cfs) |
| 1948       | Mar. 20, 1948 | 22.64              | 7,000           | 1958                       | Oct. 24, 1957  | 20.05              | 3,550           |
|            | June 23, 1948 | 20.8               | 4,190           |                            | Dec. 20, 1957  | 19.30              | 3,110           |
| 1949       | Jan. 16, 1949 | 20.8               | 4,190           | Feb. 28, 1958              | 20.50          | 3,950              |                 |
|            | Feb. 19, 1949 | 20.3               | 3,610           | June 15, 1958              | 19.47          | 3,230              |                 |
|            | May 9, 1949   | 20.2               | 3,180           | July 12, 1958              | 19.38          | 3,170              |                 |
|            | May 21, 1949  | 20.1               | 3,110           | July 20, 1958              | 20.20          | 3,710              |                 |
|            | June 3, 1949  | 21.6               | 4,500           | July 31, 1958              | 19.95          | 3,550              |                 |
|            |               |                    |                 |                            |                |                    |                 |
| 1950       | June 23, 1950 | 19.7               | 3,040           | 1959                       | Feb. 10, 1959  | 18.46              | 2,720           |
|            | July 20, 1950 | 21.65              | 5,320           | 1960                       | Mar. 29, 1960  | 22.3               | 6,460           |
|            | Aug. 16, 1950 | 22.26              | 6,460           |                            | Apr. 30, 1960  | 21.8               | 5,630           |
|            |               |                    | May 7, 1960     |                            | 22.08          | 6,120              |                 |
| 1951       | June 22, 1951 | 21.0               | 4,450           | July 2, 1960               | 22.6           | 7,000              |                 |
|            | June 27, 1951 | 20.56              | 3,950           | 1961                       | Mar. 27, 1961  | 21.27              | 4,870           |
|            | June 29, 1951 | 21.52              | 5,170           |                            | May 6, 1961    | 19.53              | 3,230           |
|            | July 7, 1951  | 23.4               | 6,640           |                            | May 8, 1961    | 22.27              | 6,460           |
|            | July 12, 1951 | 21.5               | 5,170           |                            | Sept. 14, 1961 | 23.07              | 6,460           |
|            | Aug. 10, 1951 | 21.1               | 4,590           |                            | Sept. 24, 1961 | 19.95              | 3,130           |
|            | Aug. 15, 1951 | 20.32              | 3,610           | 1962                       | Oct. 13, 1961  | 19.95              | 3,130           |
|            | Aug. 29, 1951 | 21.2               | 4,730           |                            | Oct. 31, 1961  | 22.60              | 5,660           |
|            | Sept. 5, 1951 | 21.2               | 4,730           |                            | Nov. 3, 1961   | 22.25              | 5,020           |
|            |               |                    |                 |                            | Nov. 17, 1961  | 22.24              | 5,020           |
|            |               |                    | Feb. 5, 1962    |                            | 19.80          | 3,020              |                 |
| 1952       | Nov. 12, 1951 | 20.20              | 3,500           | Mar. 21, 1962              | 20.30          | 3,310              |                 |
|            | Mar. 11, 1952 | 21.10              | 4,590           |                            |                |                    |                 |
|            | Aug. 22, 1952 | 20.90              | 3,460           |                            |                |                    |                 |
| 1953       | May 6, 1953   | 20.2               | 2,940           |                            |                |                    |                 |
| 1954       | Mar. 25, 1954 | 17.9               | 1,930           | 1963                       | May 16, 1963   | 18.50              | 2,720           |
|            |               |                    |                 |                            |                |                    |                 |
| 1955       | Feb. 19, 1955 | 20.10              | 3,400           | 1964                       | Apr. 20, 1964  | 19.86              | 3,070           |
|            | Aug. 7, 1955  | 22.8               | 5,000           | June 22, 1964              | 22.88          | 6,140              |                 |
| 1956       | Oct. 5, 1956  | 19.0               | 2,330           | 1965                       | Jan. 2, 1965   | 20.05              | 3,130           |
|            |               |                    |                 |                            | Jan. 23, 1965  | 20.95              | 3,730           |
|            |               |                    |                 |                            | Mar. 17, 1965  | 19.80              | 3,610           |
| 1957       | May 17, 1957  | 19.6               | 3,230           | July 21, 1965              | 22.90          | 5,500              |                 |
|            |               |                    |                 | Sept. 22, 1965             | 23.00          | 6,300              |                 |

## GRAND RIVER BASIN

6-8961.8. Demoss Branch near Stanberry, Mo.

Location.--Lat 40°13'10", long 94°33'35", in NE¼SE¼ sec.36, T.63 N., R.33 W., on left bank just upstream from culvert on State Highway 4, three-quarters of a mile west of Stanberry.

Drainage area.--0.38 sq mi. Slope.--106 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage Aug. 6, 1959 to June 2, 1965.

Stage-discharge relation.--Defined by current-meter measurements below 65.7 cfs and by indirect measurements at 79.2, 157, 248 and 399 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | June 25, 1955     | 13.23              | 12              |            |      |                    |                 |
| 1956       | June 18, 1956     | 17.19              | 248             |            |      |                    |                 |
| 1957       | Apr. 3, 1957      | 13.61              | 30              |            |      |                    |                 |
| 1958       | July 19, 1958     | 18.81              | 399             |            |      |                    |                 |
| 1959       | Sept. 22, 1959    | 17.49              | 275             |            |      |                    |                 |
| 1960       | June 5, 1960      | 17.99              | 320             |            |      |                    |                 |
| 1961       | Sept. 3, 13, 1961 | 17.18              | 246             |            |      |                    |                 |
| 1962       | Feb. 4, 1962      | 15.49              | 138             |            |      |                    |                 |
| 1963       | July 13, 1963     | 15.03              | 110             |            |      |                    |                 |
| 1964       | June 20, 1964     | 15.33              | 125             |            |      |                    |                 |
| 1965       | July 2, 1965      | 17.39              | 274             |            |      |                    |                 |

## GRAND RIVER BASIN

6-8965. Thompson Branch near Albany, Mo.

Location.--Lat 40°12'50", long 94°19'55", in SE¼SE¼ sec.36, T.63 N., R.31 W., at bridge on State Highway 85, 1.8 miles upstream from East Fork Grand River, and 2 miles south of Albany.

Drainage area.--5.58 sq mi. Slope.--30.9 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined by current-meter measurements below 550 cfs, by indirect measurements at 147, 622, and 1,640 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1956       | Aug. 1, 1956   | 6.39               | 456             |            |      |                    |                 |
| 1957       | Apr. 3, 1957   | 5.08               | 148             |            |      |                    |                 |
| 1958       | May 3, 1958    | 11.32              | 1,630           |            |      |                    |                 |
| 1959       | Sept. 23, 1959 | 11.6               | 1,700           |            |      |                    |                 |
| 1960       | Oct. 6, 1959   | 8.47               | 953             |            |      |                    |                 |
| 1961       | Mar. 5, 1961   | 9.69               | 1,250           |            |      |                    |                 |
| 1962       | May 28, 1962   | 6.69               | 528             |            |      |                    |                 |
| 1963       | May 27, 1963   | 4.36               | 160             |            |      |                    |                 |
| 1964       | Sept. 6, 1964  | 10.1               | 1,350           |            |      |                    |                 |
| 1965       | July 1, 1965   | 10.70              | 1,490           |            |      |                    |                 |

## GRAND RIVER BASIN

6-8967. O'Neill Branch at Osborn, Mo.

Location--Lat 39°45'25", long 94°20'35", in SW¼NE¼ sec.14, T.57 N., R.31 W., on left bank just upstream from culvert under U. S. Highway 38, 1 mile northeast of Osborn, and 5.5 miles northwest of Cameron.

Drainage area--0.80 sq mi. Slope--50.9 ft per mi.

Gage--Crest-stage gage; supplemental recording gage since July 19, 1962.

Stage-discharge relation--Defined by indirect measurements at 146, 239, 427, and 1,320 cfs.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Oct. 4, 1954   | 16.10              | 239             |            |      |                    |                 |
| 1956       | Apr. 28, 1956  | 13.46              | 60              |            |      |                    |                 |
| 1957       | Apr. 2, 1957   | 13.46              | 60              |            |      |                    |                 |
|            | May 16, 1957   | 13.46              | 60              |            |      |                    |                 |
| 1958       | July 30, 1958  | 24.20              | 1,320           |            |      |                    |                 |
| 1959       | May 18, 1959   | 16.24              | 250             |            |      |                    |                 |
| 1960       | June 30, 1960  | 15.00              | 160             |            |      |                    |                 |
| 1961       | May 5, 1961    | 18.68              | 520             |            |      |                    |                 |
| 1962       | May 19, 1962   | 20.05              | 720             |            |      |                    |                 |
| 1963       | Sept. 25, 1963 | 15.72              | 240             |            |      |                    |                 |
| 1964       | June 21, 1964  | 18.38              | 520             |            |      |                    |                 |
| 1965       | July 19, 1965  | 18.28              | 510             |            |      |                    |                 |

## GRAND RIVER BASIN

6-8970. East Fork Big Creek near Bethany, Mo.

Location--Lat 40°17'50", long 94°01'55", in SE¼ sec.34, T.64 N., R.28 W., on right bank 50 ft downstream from bridge on U. S. Highway 69, 2 miles north of Bethany and 4 miles upstream from confluence with West Fork.

Drainage area--95 sq mi, approximately. Slope--7.24 ft per mi.

Gage--Nonrecording prior to June 26, 1934; recording gage thereafter. Datum of gage is 854.74 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 2,600 cfs and by velocity-area studies.

Historical data--Maximum stage known, 23.8 ft July 6, 1909.

Bankfull stage--13 ft.

Remarks--Base for partial-duration series, 1,500 cfs.

| Peak stages and discharges |               |                    |                 |                |               |                    |                 |
|----------------------------|---------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
| 1909                       | July 6, 1909  | 23.8               | -               | 1946           | Jan. 5, 1946  | 13.10              | 4,400           |
| 1934                       | June 23, 1934 | 4.17               | 590             | Mar. 16, 1946  | 7.50          | 1,580              |                 |
| 1935                       | May 31, 1935  | 12.04              | 3,500           | June 19, 1946  | 7.90          | 1,720              |                 |
|                            | June 2, 1935  | 10.25              | 2,520           | June 30, 1946  | 16.10         | 6,770              |                 |
|                            | June 6, 1935  | 5.80               | 1,130           | Sept. 27, 1946 | 8.60          | 1,960              |                 |
|                            | June 18, 1935 | 10.40              | 2,610           | 1947           | Apr. 5, 1947  | 9.40               | 2,240           |
| 1936                       | Feb. 24, 1936 | a9.65              | -               | June 6, 1947   | 17.65         | 8,120              |                 |
|                            | Feb. 26, 1936 | a7.87              | 860             | June 13, 1947  | 11.00         | 2,970              |                 |
|                            | May 23, 1936  | 5.27               | 980             | June 21, 1947  | 12.10         | 3,700              |                 |
| 1937                       | Jan. 30, 1937 | 7.4                | 1,610           | June 23, 1947  | 13.80         | 4,920              |                 |
|                            | Feb. 13, 1937 | a12.10             | 1,460           | 1948           | Mar. 15, 1948 | 6.60               | 1,260           |
|                            | Feb. 18, 1937 | a10.55             | 1,460           | May 6, 1948    | 9.56          | 2,310              |                 |
|                            | Mar. 2, 1937  | a10.20             | 1,400           | 1949           | Feb. 24, 1949 | a10.9              | b2,000          |
|                            | Apr. 29, 1937 | 6.00               | 1,090           | Mar. 30, 1949  | 5.4           | 859                |                 |
| 1938                       | Aug. 21, 1938 | 3.01               | 210             | 1950           | Feb. 8, 1950  | a7.67              | -               |
| 1939                       | Mar. 12, 1939 | 7.70               | 1,680           | May 9, 1950    | 6.34          | 1,160              |                 |
|                            | June 21, 1939 | 6.00               | 1,090           | Sept. 20, 1950 | 6.72          | 1,300              |                 |
|                            | June 25, 1939 | 8.6                | 1,960           | 1951           | Feb. 19, 1951 | 5.43               | 859             |
|                            | Aug. 2, 1939  | 8.86               | 2,060           | Mar. 3, 1951   | 6.11          | 1,090              |                 |
| 1940                       | May 8, 1940   | 8.09               | 1,780           | May 1, 1951    | 10.92         | 2,920              |                 |
|                            | July 30, 1940 | 6.2                | 1,120           | June 14, 1951  | 6.13          | 1,090              |                 |
| 1941                       | June 3, 1941  | 10.6               | 2,770           | June 22, 1951  | 7.90          | 1,720              |                 |
|                            | June 9, 1941  | 11.00              | 2,950           | June 27, 1951  | 8.85          | 2,030              |                 |
| 1942                       | Oct. 9, 1941  | 6.35               | 1,190           | July 6, 1951   | 5.97          | 1,060              |                 |
|                            | Oct. 31, 1941 | 7.05               | 1,400           | July 22, 1951  | 5.80          | 991                |                 |
|                            | Dec. 23, 1941 | 5.60               | 925             | 1952           | Nov. 12, 1951 | 7.07               | 1,440           |
|                            | Feb. 15, 1942 | 5.55               | 925             | Mar. 10, 1952  | 7.65          | 1,610              |                 |
|                            | Mar. 6, 1942  | 6.6                | 1,330           | Mar. 19, 1952  | 6.60          | 1,090              |                 |
|                            | Mar. 26, 1942 | 6.6                | 1,330           | Apr. 23, 1952  | 6.52          | 1,230              |                 |
|                            | June 21, 1942 | 14.3               | 5,320           | June 21, 1952  | 11.0          | 2,970              |                 |
|                            | June 26, 1942 | 15.9               | 6,600           | June 22, 1952  | 9.5           | 2,280              |                 |
| 1943                       | Oct. 30, 1942 | 5.70               | 958             | 1953           | Mar. 31, 1953 | 5.56               | 925             |
|                            | Dec. 26, 1942 | 7.80               | 1,680           | 1954           | June 1, 1954  | 6.80               | 1,330           |
|                            | Feb. 3, 1943  | 8.70               | 2,000           | 1955           | Feb. 20, 1955 | 7.32               | 1,500           |
|                            | May 16, 1943  | 11.23              | 3,110           | June 25, 1955  | 9.35          | 2,240              |                 |
|                            | May 19, 1943  | 5.6                | 925             | July 10, 1955  | 7.30          | 1,500              |                 |
|                            | June 5, 1943  | 10.0               | 2,470           | 1956           | July 2, 1956  | 10.97              | 1,560           |
|                            | June 8, 1943  | 6.85               | 1,330           | Aug. 2, 1956   | 13.48         | 2,500              |                 |
|                            | June 10, 1943 | 6.35               | 1,190           | 1957           | May 2, 1957   | 11.18              | 1,620           |
|                            | June 11, 1943 | 9.4                | 2,240           | 1958           | July 15, 1958 | 11.70              | 1,780           |
|                            | June 16, 1943 | 11.15              | 3,070           | July 19, 1958  | 11.70         | 1,780              |                 |
| 1944                       | Mar. 15, 1944 | 6.2                | 1,120           | 1959           | Oct. 9, 1958  | 16.28              | 3,800           |
|                            | Apr. 22, 1944 | 11.38              | 3,210           | Nov. 17, 1958  | 14.60         | 3,000              |                 |
|                            | May 2, 1944   | 10.30              | 2,620           | Mar. 26, 1959  | 10.08         | 1,500              |                 |
|                            | June 9, 1944  | 9.2                | 2,170           | Apr. 20, 1959  | 13.07         | 2,660              |                 |
| 1945                       | Apr. 16, 1945 | 11.80              | 3,490           | May 30, 1959   | 16.97         | 5,100              |                 |
|                            | May 15, 1945  | 12.70              | 4,120           | Aug. 5, 1959   | 15.07         | 3,660              |                 |
|                            | June 16, 1945 | 9.60               | 2,310           | Sept. 23, 1959 | 12.22         | 2,280              |                 |
|                            | July 13, 1945 | 9.70               | 2,350           | Sept. 26, 1959 | 11.20         | 1,890              |                 |

## GRAND RIVER BASIN

## Peak stages and discharges of East Fork Big Creek near Bethany, Mo.--Continued

| Water year     | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|----------------|---------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1960           | Oct. 5, 1959  | 11.75              | 2,280           | 1962       | Nov. 2, 1961   | 13.00              | 2,630           |
|                | Mar. 30, 1960 | 16.54              | 4,650           |            | Nov. 16, 1961  | 13.33              | 2,750           |
|                | May 6, 1960   | 10.86              | 1,960           |            | Feb. 5, 1962   | 10.30              | 1,760           |
|                | June 5, 1960  | 10.14              | 1,680           |            | Mar. 12, 1962  | 10.50              | 1,820           |
|                | June 30, 1960 | 16.58              | 4,740           |            | June 11, 1962  | 15.86              | 3,880           |
|                | July 1, 1960  | 11.10              | 2,040           |            |                |                    |                 |
|                | 1961          | Feb. 18, 1961      | 9.70            | 1,760      | 1963           | Mar. 4, 1963       | a14.57          |
| Mar. 6, 1961   |               | -                  | -               | 1964       | June 19, 1964  | 10.69              | 1,880           |
| Apr. 12, 1961  |               | 8.95               | 1,520           |            | Sept. 6, 1964  | 11.50              | 1,910           |
| Sept. 3, 1961  |               | 13.30              | 3,100           | 1965       | Mar. 17, 1965  | 10.15              | 1,730           |
| Sept. 13, 1961 |               | 18.78              | 5,700           |            | Sept. 21, 1965 | 15.12              | 3,480           |
| Sept. 30, 1961 |               | 11.17              | 2,300           |            |                |                    |                 |

a Backwater from ice.

b Daily discharge.

## GRAND RIVER BASIN

6-8972. Simpson Branch near Bethany, Mo.

Location--Lat 40°15'55", long 93°58'55", in SE¼SW¼ sec.7, T.63 N., R.27 W., on right downstream wingwall of bridge on U. S. Highway 136, 2.3 miles east of Bethany.

Drainage area--4.72 sq mi. Slope--27.6 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 45.2 cfs, and by indirect measurements at 283 and 3,720 cfs.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Feb. 19, 1955  | 6.83               | 335             |            |      |                    |                 |
| 1956       | Aug. 1, 1956   | 14.42              | 4,500           |            |      |                    |                 |
| 1957       | May 20, 1957   | 6.99               | 283             |            |      |                    |                 |
| 1958       | July 19, 1958  | 9.54               | 1,470           |            |      |                    |                 |
| 1959       | Sept. 26, 1959 | 12.48              | 3,250           |            |      |                    |                 |
| 1960       | Aug. 29, 1960  | 13.26              | 3,720           |            |      |                    |                 |
| 1961       | Sept. 13, 1961 | 11.31              | 2,500           |            |      |                    |                 |
| 1962       | Nov. 2, 1961   | 10.76              | 1,800           |            |      |                    |                 |
| 1963       | June 27, 1963  | 10.82              | 1,800           |            |      |                    |                 |
| 1964       | June 22, 1964  | 9.32               | 1,050           |            |      |                    |                 |
| 1965       | Sept. 21, 1965 | 9.68               | 1,180           |            |      |                    |                 |

## GRAND RIVER BASIN

6-8975. Grand River near Gallatin, Mo.

Location.--Lat 39°55'35", long 93°56'35", in SW¼NW¼ sec.16, T.59 N., R.27 W., on downstream side of left bank pier of bridge on State Highway 6, 100 ft downstream from Chicago, Rock Island & Pacific Railroad Co. bridge, 1 mile northeast of Gallatin, and 6 miles upstream from Honey Creek.

Drainage area.--2,250 sq mi, approximately. Slope.--4.11 ft per mi.

Gage.--Nonrecording prior to Nov. 15, 1937; recording gage thereafter. At site 100 ft upstream prior to Jan. 31, 1922. At site 1,100 ft upstream at datum 0.17 ft higher Jan. 31, 1922, to Nov. 15, 1936. Datum of gage is 712.56 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--28 ft.

Remarks.--Some channel improvement work done below Honey Creek. Base for partial-duration series, 18,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1909                       | July 8, 1909   | 40                 | a70,800         | 1943       | May 17, 1943   | 24.52              | 21,500          |
|                            |                |                    |                 |            | June 7, 1943   | 22.82              | 18,800          |
| 1922                       | July 12, 1922  | 36.50              | 51,400          |            | June 12, 1943  | 26.99              | 25,800          |
|                            |                |                    |                 |            | June 17, 1943  | 25.00              | 22,400          |
| 1923                       | Nov. 15, 1922  | 29.30              | 19,100          | 1944       | Apr. 24, 1944  | 31.55              | 35,700          |
| 1924                       | June 27, 1924  | 31.10              | 22,400          |            | May 4, 1944    | 26.60              | 25,100          |
|                            |                |                    |                 |            | June 10, 1944  | 22.89              | 19,000          |
| 1925                       | June 4, 1925   | 30.20              | 20,800          | 1945       | Dec. 5, 1944   | 21.30              | 21,100          |
| 1926                       | Sept. 17, 1926 | 36.80              | 53,200          |            | Apr. 18, 1945  | 28.66              | 39,200          |
|                            | Sept. 21, 1926 | 30.20              | 20,800          |            | May 17, 1945   | 30.35              | 43,600          |
|                            |                |                    |                 |            | June 18, 1945  | 26.05              | 32,400          |
| 1927                       | Oct. 5, 1926   | 33.90              | 37,100          | 1946       | Jan. 8, 1946   | 25.76              | 31,900          |
|                            | Apr. 21, 1927  | 32.40              | 29,600          |            | Mar. 18, 1946  | 21.66              | 22,000          |
|                            | June 4, 1927   | 28.64              | 18,000          |            |                |                    |                 |
| 1928                       | June 19, 1928  | 29.79              | 20,000          | 1947       | Apr. 5, 1947   | 23.10              | 25,500          |
|                            | July 24, 1928  | 33.00              | 32,600          |            | Apr. 11, 1947  | 19.65              | 18,000          |
|                            | Sept. 15, 1928 | 28.74              | 18,100          |            | May 29, 1947   | 19.74              | 18,200          |
| 1929                       | Nov. 4, 1928   | 31.40              | 24,900          |            | June 8, 1947   | 33.30              | 62,500          |
|                            | Nov. 19, 1928  | 35.50              | 45,400          |            | June 15, 1947  | 24.24              | 28,200          |
|                            | Mar. 8, 1929   | 28.30              | 18,100          |            | June 20, 1947  | 23.50              | 26,500          |
|                            | Apr. 22, 1929  | 33.40              | 34,600          |            | June 24, 1947  | 34.55              | 69,100          |
|                            | June 2, 1929   | 37.38              | 56,800          | 1948       | Mar. 20, 1948  | 18.52              | 16,000          |
|                            | July 8, 1929   | 34.02              | 37,600          | 1949       | Feb. 25, 1949  | 20.3               | 19,400          |
| 1930                       | June 6, 1930   | 17.00              | 6,800           | 1950       | May 10, 1950   | 16.78              | 13,600          |
| 1931                       | Sept. 26, 1931 | 23.95              | 12,800          | 1951       | May 3, 1951    | 23.7               | 27,000          |
| 1932                       | Nov. 16, 1931  | 29.98              | 21,100          |            | May 11, 1951   | 20.15              | 19,400          |
|                            | Nov. 19, 1931  | 29.16              | 19,600          |            | June 23, 1951  | 20.3               | 19,600          |
|                            | Nov. 25, 1931  | 33.16              | 33,600          |            | June 28, 1951  | 19.9               | 18,900          |
|                            | Jan. 3, 1932   | 31.36              | 24,900          |            | July 8, 1951   | 27.50              | 38,100          |
| 1933                       | Aug. 22, 1933  | 23.96              | 16,600          | 1952       | Mar. 11, 1952  | 21.32              | 21,500          |
| 1934                       | Apr. 4, 1934   | 14.25              | 6,420           | 1953       | Apr. 1, 1953   | 15.83              | 13,000          |
| 1935                       | May 29, 1935   | 25.98              | 19,300          | 1954       | May 3, 1954    | 17.26              | 15,200          |
|                            | June 4, 1935   | 33.60              | 40,100          | 1955       | Feb. 20, 1955  | 17.35              | 15,600          |
| 1936                       | Feb. 26, 1936  | 23.75              | 16,400          | 1956       | July 3, 1956   | 15.63              | 11,900          |
| 1937                       | Mar. 5, 1937   | 22.75              | 15,700          | 1957       | Apr. 4, 1957   | 17.22              | 14,300          |
| 1938                       | June 1, 1938   | 11.72              | 5,480           | 1958       | May 5, 1958    | 20.40              | 20,700          |
| 1939                       | June 22, 1939  | 22.67              | 18,800          |            | July 19, 1958  | 23.52              | 27,100          |
|                            |                |                    |                 |            | July 21, 1958  | 23.52              | 27,100          |
| 1940                       | May 8, 1940    | 16.2               | 10,900          |            | July 31, 1958  | 21.20              | 21,300          |
| 1941                       | June 11, 1941  | 27.45              | 26,300          | 1959       | Nov. 19, 1958  | 19.75              | 18,700          |
| 1942                       | Nov. 2, 1941   | 22.82              | 19,100          |            | Mar. 27, 1959  | 21.4               | 21,700          |
|                            | Mar. 27, 1942  | 23.49              | 20,200          |            | Apr. 21, 1959  | 22.15              | 23,500          |
|                            | June 23, 1942  | 31.0               | 34,200          |            | June 2, 1959   | 24.32              | 28,200          |
|                            | June 26, 1942  | 26.35              | 24,500          |            | Sept. 24, 1959 | 20.80              | 20,500          |
|                            |                |                    |                 |            | Sept. 28, 1959 | 22.20              | 23,500          |

## GRAND RIVER BASIN

## Peak stages and discharges of Grand River near Gallatin, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| 1960       | Oct. 7, 1959   | 22.05              | 23,000          | 1962           | Feb. 5, 1962  | 20.70              | 22,000          |
|            | Jan. 14, 1960  | 20.60              | 20,100          |                | Mar. 12, 1962 | 21.60              | 23,800          |
|            | Mar. 31, 1960  | 30.45              | 49,300          |                | May 30, 1962  | 20.35              | 20,400          |
|            | June 6, 1960   | 21.55              | 22,900          | 1963           | Mar. 5, 1963  | 20.15              | 22,200          |
|            | July 2, 1960   | 24.15              | 28,600          |                |               |                    |                 |
| 1961       | Mar. 14, 1961  | 21.50              | 22,600          | 1964           | June 15, 1964 | 18.84              | 19,600          |
|            | Mar. 27, 1961  | 21.30              | 22,200          |                | June 24, 1964 | 21.84              | 25,600          |
|            | Apr. 12, 1961  | 20.70              | 21,000          |                | Sept. 7, 1964 | 19.99              | 21,800          |
|            | Sept. 4, 1961  | 20.10              | 19,800          | 1965           | Mar. 18, 1965 | 22.05              | 26,000          |
|            | Sept. 15, 1961 | 29.45              | 45,200          |                | July 2, 1965  | 22.08              | 26,200          |
| 1962       | Nov. 4, 1961   | 23.30              | 27,300          | July 21, 1965  | 19.05         | 20,000             |                 |
|            | Nov. 18, 1961  | 24.25              | 29,200          | Sept. 23, 1965 | 27.05         | 38,000             |                 |

a Determination by Corps of Engineers; annual peak only.

## GRAND RIVER BASIN

6-8977. Grand River tributary near Utica, Mo.

Location.--Lat 39°44'22", long 93°38'18", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.19, T.57 N., R.24 W., on left bank just upstream from culvert under U. S. Highway 36,  $\frac{1}{4}$ -mile west of Utica, and about 6 miles west of Chillicothe.

Drainage area.--1.44 sq mi. Slope.--120 ft per mi.

Gage.--Crest-stage gage; supplemental roving recorder installed May 18, 1966.

Stage-discharge relation.--Defined at 997, 818, 405, and 311 cfs by indirect measurements.

Remarks.--Only annual peaks are shown. Gage removed March 1959. Reinstalled Nov. 6, 1959.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1958       | July 30, 1958  | 16.28              | 997             |            |      |                    |                 |
| 1960       | June 30, 1960  | 8.87               | a               |            |      |                    |                 |
| 1961       | June 7, 1961   | 10.74              | a               |            |      |                    |                 |
| 1962       | Nov. 16, 1961  | 9.26               | a               |            |      |                    |                 |
| 1963       | May 15, 1963   | 10.31              | 405             |            |      |                    |                 |
| 1964       | Sept. 6, 1964  | 11.25              | a               |            |      |                    |                 |
| 1965       | Sept. 20, 1965 | 12.67              | a               |            |      |                    |                 |

a Discharge not determined.

## GRAND RIVER BASIN

6-8981. Thompson River at Mount Moriah, Mo.

Location.--Lat 40°20'10", long 93°46'05", on line between SE $\frac{1}{4}$  sec.13 and NE $\frac{1}{4}$  sec.24, T.64 N., R.26 W., on downstream side of right pier of bridge on U. S. Highway 136, 0.7 mile upstream from Panther Creek, and 1 $\frac{1}{2}$  miles northeast of Mount Moriah.

Drainage area.--891 sq mi. Slope.--3.69 ft per mi.

Gage.--Recording. Datum of gage is 784 ft above mean sea level, datum of 1929 (from data furnished by Missouri Highway Commission).

Stage-discharge relation.--Defined by current-meter measurements below 22,000 cfs.

Remarks.--Base for partial-duration series, 8,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1961       | Mar. 6, 1961   | 12.55              | 14,200          |            |      |                    |                 |
|            | Mar. 13, 1961  | 9.78               | 8,870           |            |      |                    |                 |
|            | Sept. 13, 1961 | 17.8               | 22,700          |            |      |                    |                 |
|            | Sept. 30, 1961 | 12.3               | 12,000          |            |      |                    |                 |
| 1962       | Nov. 2, 1961   | 14.50              | 16,200          |            |      |                    |                 |
|            | Nov. 16, 1961  | 12.80              | 12,900          |            |      |                    |                 |
|            | Mar. 12, 1962  | 11.00              | 9,700           |            |      |                    |                 |
|            | June 11, 1962  | 21.10              | 30,200          |            |      |                    |                 |
| 1963       | Mar. 4, 1963   | 10.12              | 8,510           |            |      |                    |                 |
|            | Apr. 30, 1963  | 10.02              | 8,000           |            |      |                    |                 |
|            | June 2, 1963   | 10.10              | 8,170           |            |      |                    |                 |
| 1964       | June 22, 1964  | 13.14              | 10,700          |            |      |                    |                 |
| 1965       | Mar. 17, 1965  | 11.57              | 11,500          |            |      |                    |                 |
|            | Apr. 8, 1965   | 10.42              | 8,680           |            |      |                    |                 |
|            | Apr. 10, 1965  | 12.17              | 11,900          |            |      |                    |                 |
|            | May 8, 1965    | 10.90              | 9,530           |            |      |                    |                 |
|            | Sept. 21, 1965 | 16.45              | 19,100          |            |      |                    |                 |

## GRAND RIVER BASIN

6-8985. Weldon River near Mercer, Mo.

Location--Lat 40°33', long 93°36', in SW¼ sec.3, T.66 N., R.24 W., at county highway bridge, 4¼ miles northwest of Mercer and 5 miles upstream from Little River.

Drainage area--246 sq mi. Slope--7.54 ft per mi.

Gage--Nonrecording; crest-stage gage since 1961. Datum of gage is 850.96 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation--Defined by current-meter measurements below 14,000 cfs.

Bankfull stage--22 ft.

Historical data--Flood of Mar. 12, 1939, was the highest stage during the period 1922-39, from information by local resident.

Remarks--Channel improvement work done in 1922. Base for partial-duration series, 4,300 cfs. Only annual peaks are shown subsequent to 1960.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1939                       | Mar. 12, 1939  | 21.6               | a16,000         | 1950       | May 9, 1950    | 11.59              | 4,820           |
|                            |                |                    |                 |            | June 15, 1950  | 13.9               | 6,990           |
| 1940                       | May 7, 1940    | 15.7               | 8,460           |            | June 19, 1950  | 22.16              | 21,000          |
|                            | July 27, 1940  | 20.9               | 15,200          | 1951       | Apr. 6, 1951   | 10.25              | 4,520           |
|                            | July 30, 1940  | 15.9               | 8,680           |            | May 1, 1951    | 12.36              | 6,940           |
| 1941                       | June 9, 1941   | 9.68               | 2,350           |            | May 10, 1951   | 11.20              | 5,620           |
|                            |                |                    |                 |            | June 21, 1951  | 10.4               | 4,740           |
| 1942                       | Oct. 31, 1941  | 13.0               | 5,500           |            | June 26, 1951  | 11.6               | 6,060           |
|                            | June 20, 1942  | 23.81              | 19,400          |            | July 16, 1951  | 11.0               | 5,400           |
|                            | June 26, 1942  | 18.8               | 11,200          |            | July 22, 1951  | 14.0               | 8,800           |
| 1943                       | Dec. 26, 1942  | 13.7               | 6,240           | 1952       | Mar. 12, 1952  | 10.0               | 4,300           |
|                            | Feb. 3, 1943   | 12.5               | 5,000           |            | May 23, 1952   | 10.0               | 4,300           |
|                            | May 15, 1943   | 20.7               | 14,900          |            | June 21, 1952  | 12.0               | 6,500           |
|                            | May 19, 1943   | 14.6               | 7,210           | 1953       | Mar. 30, 1953  | 13.2               | 7,940           |
|                            | June 6, 1943   | 15.6               | 8,340           |            |                |                    |                 |
|                            | June 11, 1943  | 16.59              | 9,520           | 1954       | June 11, 1954  | 10.4               | 4,580           |
|                            | June 16, 1943  | 12.2               | 4,700           |            |                |                    |                 |
| 1944                       | Apr. 23, 1944  | 16.8               | 9,760           | 1955       | July 9, 1955   | 10.4               | 4,580           |
|                            | May 2, 1944    | 17.7               | 10,900          | 1956       | Aug. 2, 1956   | 11.70              | 5,040           |
|                            | June 8, 1944   | 14.0               | 6,550           |            |                |                    |                 |
|                            | Sept. 21, 1944 | 13.27              | 5,820           | 1957       | Apr. 3, 1957   | 12.43              | 5,880           |
| 1945                       | Mar. 15, 1945  | 13.14              | 5,600           | 1958       | July 27, 1958  | 12.0               | 5,050           |
|                            | Mar. 25, 1945  | 15.85              | 8,570           |            | July 30, 1958  | 17.0               | 11,200          |
|                            | Apr. 16, 1945  | 21.30              | 15,700          | 1959       | Nov. 17, 1958  | 12.28              | 5,380           |
|                            | May 14, 1945   | 22.0               | 16,700          |            | Mar. 26, 1959  | 14.17              | 7,490           |
|                            | May 16, 1945   | 12.2               | 4,700           |            | Apr. 20, 1959  | 17.0               | 11,200          |
|                            | June 15, 1945  | 12.5               | 5,000           |            | Apr. 28, 1959  | 12.40              | 4,840           |
| 1946                       | Jan. 5, 1946   | 22.2               | 19,700          |            | May 5, 1959    | 12.50              | 4,740           |
|                            | June 18, 1946  | 19.3               | 14,800          |            | May 11, 1959   | 12.0               | 5,100           |
|                            | Aug. 24, 1946  | 16.0               | 9,700           |            | May 21, 1959   | 19.27              | 14,800          |
| 1947                       | Mar. 13, 1947  | 13.2               | 6,220           |            | May 29, 1959   | 17.05              | 11,200          |
|                            | Apr. 5, 1947   | 14.40              | 7,580           |            | Aug. 6, 1959   | 28.4               | 50,000          |
|                            | Apr. 20, 1947  | 12.05              | 4,920           |            | Sept. 26, 1959 | 14.0               | 7,250           |
|                            | June 5, 1947   | 25.71              | 28,000          |            |                |                    |                 |
|                            | June 13, 1947  | 16.8               | 10,900          | 1961       | Sept. 13, 1961 | 20.8               | 19,300          |
|                            | June 21, 1947  | 23.2               | 21,700          | 1962       | June 11, 1962  | 20.42              | 18,600          |
| 1948                       | Feb. 27, 1948  | 15.11              | 8,580           | 1963       | Mar. 4, 1963   | 12.96              | 7,700           |
|                            | Mar. 19, 1948  | 11.27              | 4,320           |            |                |                    |                 |
| 1949                       | Feb. 18, 1949  | b10.5              | -               | 1964       | Sept. 6, 1964  | 17.16              | 13,600          |
|                            | Feb. 24, 1949  | b16.5              | -               |            |                |                    |                 |
|                            | Sept. 12, 1949 | 18.74              | 13,700          | 1965       | Sept. 21, 1965 | 19.40              | 17,000          |

a Annual peak only.  
b Backwater from ice.

## GRAND RIVER BASIN

6-8990. Weldon River at Mill Grove, Mo.

Location--Lat 40°18', long 93°36', in SE¼SE¼ sec.28, T.64 N., R.24 W., on left bank at downstream side of county highway bridge in Mill Grove, 8½ miles upstream from West Muddy Creek.

Drainage area--494 sq mi. Slope--5.05 ft per mi.

Gage--Nonrecording prior to Dec. 9, 1959, recording gage thereafter. Datum of gage is 786.03 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 24,000 cfs.

Bankfull stage--16 ft.

Historical data--Maximum stage known prior to that of Aug. 7, 1959, about 23.9 ft in July 1909.

Remarks--Channel improvements made prior to establishment of gaging station and additional work in vicinity of station done in September 1945. Base for partial-duration series, 6,100 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1909                       | July 1909      | 23.9               | a18,000         | 1948       | Feb. 28, 1948  | 15.7               | 7,600           |
| 1930                       | Oct. 29, 1929  | 13.08              | 2,910           | 1949       | Feb. 24, 1949  | 14.56              | 6,910           |
| 1931                       | Sept. 26, 1931 | 13.94              | 3,320           |            | Sept. 12, 1949 | 14.46              | 8,560           |
| 1932                       | Nov. 24, 1931  | 19.70              | 11,200          | 1950       | Feb. 8, 1950   | 13.0               | 6,930           |
|                            | Jan. 1, 1932   | 18.58              | 8,020           |            | June 15, 1950  | 13.7               | 7,210           |
|                            | Aug. 2, 1932   | 20.1               | 12,400          |            | June 19, 1950  | 18.70              | 22,200          |
|                            | Aug. 18, 1932  | 19.32              | 10,000          | 1951       | Feb. 20, 1951  | 11.53              | 8,360           |
| 1933                       | Sept. 27, 1933 | 17.08              | 5,400           |            | Mar. 3, 1951   | 9.95               | 6,350           |
| 1934                       | Apr. 4, 1934   | 11.73              | 2,280           |            | Apr. 30, 1951  | 13.00              | 10,900          |
| 1935                       | May 24, 1935   | 19.35              | 10,300          |            | May 10, 1951   | 13.17              | 11,300          |
|                            | June 3, 1935   | 20.5               | 13,200          |            | June 21, 1951  | 12.30              | 9,710           |
|                            | June 18, 1935  | 20.25              | 12,400          |            | June 24, 1951  | 11.28              | 8,050           |
| 1936                       | Feb. 26, 1936  | b15.06             | 2,900           | 1952       | June 26, 1951  | 10.40              | 6,830           |
| 1937                       | Feb. 20, 1937  | 16.40              | 5,540           |            | July 22, 1951  | 13.64              | 12,000          |
| 1938                       | Aug. 16, 1938  | 10.50              | 2,380           | 1952       | Mar. 10, 1952  | 10.02              | 6,350           |
| 1939                       | Mar. 12, 1939  | 20.75              | 14,000          |            | Mar. 13, 1952  | 9.90               | 6,240           |
| 1940                       | May 8, 1940    | 17.27              | 7,300           |            | June 21, 1952  | 11.35              | 8,200           |
|                            | July 31, 1940  | 16.32              | 6,240           | 1953       | Mar. 30, 1953  | 11.5               | 8,360           |
| 1941                       | June 9, 1941   | 16.80              | 6,740           | 1954       | Apr. 27, 1954  | 11.2               | 7,900           |
| 1942                       | Nov. 2, 1941   | 18.00              | 8,750           | 1955       | Oct. 5, 1954   | 8.2                | 4,580           |
|                            | June 21, 1942  | 22.0               | 18,000          | 1956       | Aug. 2, 1956   | 12.51              | 8,700           |
|                            | June 26, 1942  | 20.50              | 14,100          | 1957       | Apr. 3, 1957   | 12.00              | 7,950           |
| 1943                       | Dec. 27, 1942  | 17.50              | 7,880           |            | May 21, 1957   | 11.00              | 6,650           |
|                            | May 16, 1943   | 21.8               | 17,400          | 1958       | July 15, 1958  | 10.95              | 6,650           |
|                            | June 7, 1943   | 18.05              | 8,750           |            | July 30, 1958  | 12.8               | 9,180           |
|                            | June 12, 1943  | 18.03              | 8,750           | 1959       | Oct. 9, 1958   | 11.03              | 6,560           |
| 1944                       | Apr. 22, 1944  | 19.00              | 10,800          |            | Nov. 18, 1958  | 12.0               | 7,700           |
|                            | May 3, 1944    | 19.35              | 11,700          |            | Mar. 26, 1959  | 14.35              | 10,700          |
|                            | June 9, 1944   | 17.30              | 7,560           |            | Apr. 20, 1959  | 16.6               | 13,900          |
| 1945                       | Mar. 16, 1945  | 16.40              | 7,080           |            | Apr. 28, 1959  | 11.94              | 7,580           |
|                            | Mar. 25, 1945  | 18.02              | 9,700           |            | May 11, 1959   | 10.6               | 6,150           |
|                            | Apr. 16, 1945  | 20.20              | 14,600          | 1960       | May 21, 1959   | 15.22              | 11,700          |
|                            | May 15, 1945   | 20.76              | 16,200          |            | May 29, 1959   | 14.3               | 10,500          |
|                            | June 16, 1945  | 18.25              | 10,100          |            | Aug. 7, 1959   | 26.02              | 46,000          |
| 1946                       | Jan. 6, 1946   | 21.6               | 23,800          |            | Sept. 26, 1959 | 13.22              | 9,140           |
|                            | Mar. 17, 1946  | 14.80              | 6,120           |            | Oct. 5, 1959   | 13.1               | 9,020           |
|                            | June 19, 1946  | 18.60              | 14,800          |            | Dec. 28, 1959  | 13.15              | 9,140           |
|                            | Aug. 25, 1946  | 15.00              | 6,320           |            | Jan. 12, 1960  | 12.87              | 8,780           |
| 1947                       | Mar. 13, 1947  | 14.80              | 6,120           |            | Jan. 15, 1960  | 11.05              | 6,560           |
|                            | Apr. 5, 1947   | 18.62              | 14,800          |            | Mar. 29, 1960  | 17.95              | 17,100          |
|                            | June 5, 1947   | 22.79              | 27,600          |            | Apr. 17, 1960  | 14.17              | 11,600          |
|                            | June 13, 1947  | 17.60              | 12,000          |            | May 7, 1960    | 16.22              | 14,200          |
|                            | June 22, 1947  | 20.62              | 20,700          | 1961       | May 16, 1960   | 12.70              | 9,610           |
|                            |                |                    |                 |            | May 20, 1960   | 10.16              | 6,480           |
|                            |                |                    |                 |            | July 1, 1960   | 16.52              | 14,600          |
|                            |                |                    |                 |            | Oct. 31, 1960  | 10.20              | 6,860           |
|                            |                |                    |                 |            | Feb. 18, 1961  | 13.50              | 12,000          |
|                            |                |                    |                 |            | Mar. 6, 1961   | 14.45              | 13,500          |

## GRAND RIVER BASIN

## Peak stages and discharges of Weldon River at Mill Grove, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1961       | Mar. 13, 1961  | 12.80              | 10,800          | 1963       | Mar. 4, 1963   | 13.70              | 13,200          |
|            | Mar. 27, 1961  | 10.45              | 7,120           |            | June 2, 1963   | 10.35              | 8,060           |
|            | Apr. 12, 1961  | 10.25              | 6,860           | 1964       | Apr. 20, 1964  | 10.34              | 8,060           |
|            | July 16, 1961  | 13.55              | 12,100          |            | June 20, 1964  | 11.90              | 10,300          |
|            | July 21, 1961  | 11.30              | 7,840           |            | June 22, 1964  | 10.15              | 7,780           |
|            | Sept. 14, 1961 | 19.40              | 19,900          |            | Sept. 6, 1964  | 14.80              | 15,100          |
|            | Sept. 30, 1961 | 16.80              | 15,100          |            | Sept. 23, 1964 | 11.95              | 10,500          |
| 1962       | Oct. 11, 1961  | 10.67              | 7,100           | 1965       | Mar. 17, 1965  | 13.85              | 13,400          |
|            | Oct. 13, 1961  | 10.04              | 6,240           |            | Apr. 5, 1965   | 10.97              | 8,900           |
|            | Nov. 2, 1961   | 17.9               | 20,000          |            | Apr. 8, 1965   | 12.90              | 11,900          |
|            | Nov. 16, 1961  | 16.9               | 17,800          |            | Apr. 11, 1965  | 13.80              | 12,400          |
|            | Mar. 12, 1962  | 11.4               | 8,860           |            | Apr. 25, 1965  | 10.70              | 7,910           |
|            | May 29, 1962   | 15.25              | 14,700          |            | Sept. 21, 1965 | 17.23              | 18,400          |
|            | June 11, 1962  | 18.40              | 21,300          |            |                |                    |                 |

a Determination by Corps of Engineers; annual peak only.

b Backwater from ice.

## GRAND RIVER BASIN

6-8995. Thompson River at Trenton, Mo.  
(Published as "near Hickory" prior to 1929)

Location.--Lat 40°04'45", long 93°38'35", in SW¼ sec.18, T.61 N., R.24 W., on right bank at downstream side of bridge on State Highway 6, 1 mile west of Trenton and 1-3/4 miles downstream from Weldon River.

Drainage area.--1,670 sq mi, approximately; prior to Sept. 6, 1923, 1,700 sq mi approximately. Slope.--3.67 ft per mi.

Gage.--Nonrecording June 25, 1921, to Aug. 26, 1923, and Aug. 1, 1928, to Dec. 7, 1959; recording gage thereafter. At two sites 12 miles downstream at different datums 1921-23. At site 1½ miles downstream at datum 3.46 ft lower Sept. 16, 1930, to May 31, 1945. Datum of gage is 721.87 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 73,000 cfs.

Bankfull stage.--20 ft.

Historical data.--Flood of July 6, 1909, reached a stage of 30.7 ft at present site, from information by local residents.

Remarks.--The channel has been straightened and improved from the Iowa-Missouri line to the Grundy-Livingston county line; work completed in vicinity of gage in 1925. Base for partial-duration series, 15,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1909                       | July 6, 1909   | a30.7              | b50,000         | 1945       | Mar. 25, 1945  | 17.00              | 18,300          |
| 1922                       | July 13, 1922  | 24.05              | 16,000          |            | Apr. 16, 1945  | 20.78              | 27,600          |
| 1923                       | Nov. 17, 1922  | 22.92              | 12,500          |            | May 15, 1945   | 19.90              | 25,400          |
|                            |                |                    |                 |            | June 16, 1945  | 20.2               | 28,300          |
| 1928                       | July 23, 1928  | 22.5               | 27,000          | 1946       | Jan. 6, 1946   | 22.6               | 45,800          |
| 1929                       | Nov. 18, 1928  | 22.31              | 26,700          |            | May 3, 1946    | 16.10              | 20,700          |
|                            | Feb. 26, 1929  | 20.95              | 23,600          |            | June 19, 1946  | 14.60              | 16,100          |
|                            | Apr. 20, 1929  | 21.40              | 24,600          | 1947       | Mar. 13, 1947  | 14.20              | 15,000          |
|                            | June 2, 1929   | 21.55              | 25,000          |            | Apr. 5, 1947   | 20.65              | 35,500          |
| 1930                       | Oct. 30, 1929  | 11.40              | 5,980           |            | June 6, 1947   | 25.7               | 95,000          |
|                            | June 17, 1930  | 11.86              | 5,980           |            | June 14, 1947  | 19.70              | 32,300          |
| 1931                       | Sept. 25, 1931 | 10.94              | 5,100           |            | June 18, 1947  | 16.55              | 22,300          |
| 1932                       | Nov. 14, 1931  | 18.25              | 20,300          | 1948       | June 23, 1947  | 22.80              | 47,500          |
|                            | Nov. 24, 1931  | 20.48              | 25,400          | 1949       | Mar. 19, 1948  | 16.00              | 20,400          |
|                            | Dec. 31, 1931  | 21.1               | 26,700          |            | Feb. 24, 1949  | 15.6               | 19,200          |
| 1933                       | Sept. 26, 1933 | 14.94              | 13,500          | 1950       | Feb. 8, 1950   | c14.9              | -               |
| 1934                       | June 23, 1934  | 10.42              | 5,130           |            | June 19, 1950  | 16.62              | 22,300          |
| 1935                       | May 20, 1935   | 17.38              | 18,800          | 1951       | May 2, 1951    | 15.62              | 20,800          |
|                            | May 24, 1935   | 16.20              | 16,300          |            | June 22, 1951  | 14.48              | 17,700          |
|                            | May 30, 1935   | 16.70              | 17,400          |            | June 27, 1951  | 15.10              | 19,500          |
|                            | June 1, 1935   | 19.82              | 24,000          | 1952       | Mar. 13, 1952  | 13.42              | 15,000          |
|                            | June 18, 1935  | 18.86              | 22,000          |            | June 21, 1952  | 13.70              | 16,600          |
| 1936                       | Feb. 25, 1936  | 12.40              | 5,650           | 1953       | Mar. 30, 1953  | 13.7               | 16,600          |
| 1937                       | Feb. 20, 1937  | 14.60              | 13,900          | 1954       | June 3, 1954   | 11.40              | 7,090           |
| 1938                       | Sept. 1, 1938  | 11.1               | 6,340           | 1955       | June 25, 1955  | 12.24              | 9,590           |
| 1939                       | Mar. 13, 1939  | 18.15              | 22,700          | 1956       | Aug. 2, 1956   | 15.25              | 19,200          |
| 1940                       | Aug. 18, 1940  | 14.9               | 15,700          | 1957       | Apr. 3, 1957   | 14.30              | 15,900          |
| 1941                       | June 10, 1941  | 20.0               | 32,300          | 1958       | July 15, 1958  | 16.32              | 19,200          |
| 1942                       | Nov. 1, 1941   | 15.28              | 21,600          |            | July 19, 1958  | 16.00              | 18,200          |
|                            | June 20, 1942  | 20.35              | 29,300          | 1959       | July 31, 1958  | 15.87              | 17,800          |
|                            | June 27, 1942  | 22.2               | 35,400          |            | Oct. 9, 1958   | 18.4               | 26,900          |
| 1943                       | May 16, 1943   | 19.0               | 26,800          |            | Mar. 26, 1959  | 15.6               | 21,100          |
|                            | June 8, 1943   | 16.17              | 18,000          |            | Apr. 20, 1959  | 18.0               | 29,000          |
|                            | June 16, 1943  | 17.45              | 21,600          |            | May 11, 1959   | 15.0               | 18,200          |
| 1944                       | Mar. 15, 1944  | 15.33              | 15,400          |            | May 21, 1959   | 15.1               | 18,500          |
|                            | Apr. 22, 1944  | 21.3               | 34,800          |            | May 30, 1959   | 17.0               | 25,700          |
|                            | May 3, 1944    | 18.00              | 23,500          |            | Aug. 8, 1959   | 22.5               | 47,300          |
|                            | June 9, 1944   | 15.60              | 16,200          |            | Sept. 27, 1959 | 16.6               | 21,100          |
|                            |                |                    |                 | 1960       | Oct. 5, 1959   | 17.56              | 27,700          |
|                            |                |                    |                 |            | Dec. 28, 1959  | 15.1               | 19,500          |
|                            |                |                    |                 |            | Jan. 12, 1960  | 15.3               | 20,100          |

## GRAND RIVER BASIN

## Peak stages and discharges of Thompson River at Trenton, Mo.--Continued

| Water year    | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |        |
|---------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|--------|
| 1960          | Jan. 15, 1960  | 16.6               | 24,400          | 1963           | Mar. 4, 1963  | 18.65              | 37,300          |        |
|               | Mar. 30, 1960  | 21.25              | 44,200          |                | 1964          | June 22, 1964      | 15.10           | 23,000 |
|               | Apr. 17, 1960  | 15.6               | 25,000          | Sept. 6, 1964  |               | 15.7               | 25,400          |        |
|               | May 6, 1960    | 19.65              | 41,600          | Sept. 23, 1964 |               | 13.06              | 15,100          |        |
|               | May 16, 1960   | 14.35              | 20,200          | 1965           |               | Mar. 17, 1965      | 16.95           | 26,200 |
|               | May 20, 1960   | 14.0               | 18,600          |                |               | Apr. 8, 1965       | 16.40           | 23,900 |
|               | July 1, 1960   | 19.2               | 39,900          |                |               | Apr. 11, 1965      | 17.10           | 26,600 |
|               | Aug. 26, 1960  | 13.3               | 15,900          |                | Apr. 25, 1965 | 15.20              | 19,400          |        |
| 1961          | Feb. 18, 1961  | 14.60              | 21,800          | May 8, 1965    | 15.70         | 21,300             |                 |        |
|               | Mar. 6, 1961   | 15.15              | 23,400          | Sept. 21, 1965 | 20.40         | 40,200             |                 |        |
|               | Mar. 13, 1961  | 14.95              | 22,600          |                |               |                    |                 |        |
|               | Mar. 27, 1961  | 14.30              | 19,800          |                |               |                    |                 |        |
|               | Apr. 12, 1961  | 15.55              | 25,000          |                |               |                    |                 |        |
|               | Sept. 13, 1961 | 21.10              | 36,800          |                |               |                    |                 |        |
|               | Sept. 30, 1961 | 18.30              | 26,400          |                |               |                    |                 |        |
| 1962          | Oct. 11, 1961  | 15.20              | 20,200          |                |               |                    |                 |        |
|               | Oct. 13, 1961  | 14.10              | 17,100          |                |               |                    |                 |        |
|               | Nov. 2, 1961   | 20.70              | 46,500          |                |               |                    |                 |        |
|               | Nov. 16, 1961  | 19.85              | 42,500          |                |               |                    |                 |        |
|               | Feb. 5, 1962   | 14.20              | 19,400          |                |               |                    |                 |        |
|               | Mar. 11, 1962  | 16.10              | 27,000          |                |               |                    |                 |        |
|               | May 29, 1962   | 16.62              | 29,000          |                |               |                    |                 |        |
| June 11, 1962 | 20.95          | 47,800             |                 |                |               |                    |                 |        |

a Present site and datum.

b Determination by Corps of Engineers; annual peak only.

c Backwater from ice.

## GRAND RIVER BASIN

6-8996. West Fork Leaky Branch near Chillicothe, Mo.

Location.--Lat 39°53'00", long 93°32'30", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.36, T.59 N., R.24 W., on left bank just upstream from culvert under U. S. Highway 65, 6 miles north of Chillicothe.

Drainage area.--0.21 sq mi. Slope.--63.8 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 22.2, 283, 327, and 331 cfs.

Remarks.--Only annual peaks are shown.

## Peaks stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | July 2, 1955   | 6.10               | 50              |            |      |                    |                 |
| 1956       | Aug. 1, 1956   | 10.80              | 331             |            |      |                    |                 |
| 1957       | July 22, 1957  | 9.32               | 283             |            |      |                    |                 |
| 1958       | July 30, 1958  | 10.60              | 326             |            |      |                    |                 |
| 1959       | Nov. 17, 1958  | 7.90               | 168             |            |      |                    |                 |
| 1960       | June 5, 1960   | 7.04               | 105             |            |      |                    |                 |
| 1961       | Sept. 13, 1961 | 6.70               | 82              |            |      |                    |                 |
| 1962       | June 6, 1962   | 7.32               | 125             |            |      |                    |                 |
| 1963       | Aug. 19, 1963  | 4.6                | 1               |            |      |                    |                 |
| 1964       | Sept. 17, 1964 | 6.31               | 60              |            |      |                    |                 |
| 1965       | Sept. 21, 1965 | 7.37               | 130             |            |      |                    |                 |

## GRAND RIVER BASIN

6-8997. Shoal Creek near Braymer, Mo.

Location--Lat 39°40'05", long 93°46'05", in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.13, T.56 N., R.26 W., on upstream side of bridge on Caldwell County Road O, 1-3/4 miles downstream from Panther Creek, and 6 miles north of Braymer.

Drainage area--391 sq mi. Slope--2.92 ft per mi.

Gage--Nonrecording Oct. 1 to Nov. 20, 1957, and Apr. 4 to Sept. 30, 1962; recording gage Nov. 21, 1957, to Apr. 3, 1962. Altitude of gage is 700 ft (from topographic map).

Stage-discharge relation--Defined by current-meter measurements.

Bankfull stage--16 ft.

Remarks--Base for partial-duration series, 3,000 cfs.

| Peak stages and discharges |                |                    |                 |                |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
| 1958                       | Feb. 28, 1958  | 18.7               | 3,520           | 1962           | Oct. 31, 1961 | 18.60              | 3,040           |
|                            | June 15, 1958  | -                  | 3,000           |                | Nov. 4, 1961  | 25.30              | 7,500           |
|                            | July 12, 1958  | -                  | 4,000           |                | Nov. 14, 1961 | 18.58              | 3,040           |
|                            | July 16, 1958  | 25.0               | 7,360           |                | Feb. 6, 1962  | -                  | 4,000           |
|                            | Aug. 1, 1958   | 23.0               | 5,900           |                | Mar. 12, 1962 | 22.00              | 4,760           |
| 1959                       | Nov. 18, 1958  | 25.5               | 7,760           | June 8, 1962   | 20.00         | 3,620              |                 |
|                            | Feb. 11, 1959  | 18.7               | 3,520           | 1963           | Oct. 14, 1962 | 17.35              | 3,110           |
|                            | May 20, 1959   | 19.95              | 4,150           |                | Mar. 5, 1963  | 19.73              | 4,150           |
|                            | Sept. 24, 1959 | -                  | 4,000           |                | May 17, 1963  | 24.90              | 7,230           |
|                            | 1960           | Mar. 29, 1960      | 25.3            |                | 7,600         | 1964               | June 13, 1964   |
| Apr. 15, 1960              |                | 21.0               | 4,650           | June 22, 1964  | 28.00         |                    | 26,000          |
| June 12, 1960              |                | 17.7               | 3,060           | 1965           | Jan. 3, 1965  | 23.40              | 5,730           |
| June 24, 1960              |                | 19.0               | 3,650           |                | Mar. 18, 1965 | 17.87              | 3,060           |
| July 2, 1960               |                | 25.6               | 7,840           |                | July 22, 1965 | 26.00              | 8,600           |
| 1961                       | Mar. 14, 1961  | 21.03              | 4,140           | Sept. 18, 1965 | 20.70         | 4,050              |                 |
|                            | Mar. 28, 1961  | 21.37              | 4,370           | Sept. 22, 1965 | 26.10         | 8,750              |                 |
|                            | May 9, 1961    | 21.30              | 4,310           |                |               |                    |                 |
|                            | Sept. 15, 1961 | 25.94              | 8,100           |                |               |                    |                 |

## GRAND RIVER BASIN

6-9000. Medicine Creek near Galt, Mo.

Location.--Lat 40°07'45", long 93°21'45". in SW¼NW¼ sec.34, T.62 N., R.22 W., on left pier of bridge on State Highway 6, 1½ miles east of Galt and 2 miles upstream from West Medicine Creek.

Drainage area.--225 sq mi. Slope.--5.00 ft per mi.

Gage.--Nonrecording prior to Apr. 26, 1956; recording gage thereafter. At site 125 ft downstream prior to Dec. 3, 1934. At datum 6.97 ft higher than present gage prior to Oct. 1, 1924, at datum 4.97 ft higher than present gage Oct. 1, 1924, to Sept. 30, 1926, at datum 1.97 ft higher than present gage Oct. 1, 1926, to Dec. 2, 1934, and at datum 2.00 ft higher than at present gage Dec. 3, 1934, to Sept. 30, 1956. Datum of present gage is 767.48 ft above mean sea level, datum of 1929. All gage heights prior to 1927 have been converted to datum 2.00 ft higher than present datum.

Stage-discharge relation.--Defined by current-meter measurements below 19,000 cfs.

Bankfull stage.--17 ft.

Historical data.--Flood of July 1909 reached a discharge at about 8,000 cfs, determined by Corps of Engineers.

Remarks.--Major channel improvements made on creek during 1919-20. Base for partial-duration series, 3,000 cfs.

| Peak stages and discharges |           |      |                    |                 |            |          |       |                    |                 |
|----------------------------|-----------|------|--------------------|-----------------|------------|----------|-------|--------------------|-----------------|
| Water year                 | Date      |      | Gage height (feet) | Discharge (cfs) | Water year | Date     |       | Gage height (feet) | Discharge (cfs) |
| 1909                       | July      | 1909 | -                  | a8,000          | 1943       | Dec. 27, | 1942  | 7.93               | 3,070           |
| 1922                       | July 13,  | 1922 | 18.58              | 2,960           | May 16,    | 1943     | 13.17 | 10,700             |                 |
| 1923                       | Nov. 15,  | 1922 | 18.00              | 2,230           | June 8,    | 1943     | 8.55  | 4,120              |                 |
| 1924                       | June 28,  | 1924 | 17.56              | 3,170           | June 16,   | 1943     | 8.75  | 4,360              |                 |
| 1925                       | Apr. 25,  | 1925 | 17.20              | 3,000           | 1944       | Apr. 21, | 1944  | 10.9               | 7,180           |
| 1926                       | June 19,  | 1926 | 16.40              | 3,040           | 1945       | Oct. 2,  | 1944  | 7.40               | 3,390           |
|                            | Sept. 14, | 1926 | 17.64              | 3,700           | Apr. 15,   | 1945     | 8.46  | 4,460              |                 |
|                            | Sept. 17, | 1926 | 19.00              | 4,640           | May 14,    | 1945     | 10.30 | 6,510              |                 |
| 1927                       | Apr. 19,  | 1927 | 14.60              | 3,720           | June 9,    | 1945     | 7.40  | 3,390              |                 |
| 1928                       | June 18,  | 1928 | 14.18              | 6,260           | June 16,   | 1945     | 10.52 | 7,010              |                 |
|                            | Sept. 12, | 1928 | 14.20              | 6,260           | 1946       | Jan. 6,  | 1946  | 8.61               | 4,560           |
| 1930                       | Oct. 31,  | 1929 | 7.64               | 1,890           | 1947       | Apr. 4,  | 1947  | 16.88              | 16,900          |
| 1931                       | Apr. 20,  | 1931 | 9.17               | 3,910           | June 6,    | 1947     | 18.9  | 24,200             |                 |
| 1932                       | Oct. 7,   | 1931 | 8.90               | 3,280           | June 12,   | 1947     | 8.90  | 7,110              |                 |
|                            | Nov. 14,  | 1931 | 10.40              | 5,400           | June 18,   | 1947     | 10.40 | 9,300              |                 |
|                            | Nov. 17,  | 1931 | 9.05               | 3,400           | June 23,   | 1947     | 8.40  | 6,410              |                 |
|                            | Dec. 31,  | 1931 | 11.68              | 7,440           | July 6,    | 1947     | 8.00  | 5,850              |                 |
|                            | Aug. 2,   | 1932 | 11.86              | 7,760           | 1948       | Feb. 27, | 1948  | 7.66               | 5,460           |
|                            | Aug. 17,  | 1932 | 9.78               | 4,500           | Mar. 19,   | 1948     | 11.53 | 11,000             |                 |
| 1933                       | May 13,   | 1933 | 7.32               | 1,660           | 1949       | Feb. 24, | 1949  | 6.0                | 3,400           |
| 1934                       | Sept. 13, | 1934 | 5.56               | 456             | June 14,   | 1949     | 12.6  | 12,700             |                 |
| 1935                       | May 20,   | 1935 | 9.75               | 4,440           | Sept. 13,  | 1949     | 6.0   | 3,400              |                 |
|                            | June 1,   | 1935 | 11.00              | 6,340           | 1950       | June 15, | 1950  | 11.29              | 13,000          |
|                            | June 18,  | 1935 | 11.08              | 6,500           | June 19,   | 1950     | 7.5   | 8,300              |                 |
|                            | July 3,   | 1935 | 10.30              | 5,220           | 1951       | Feb. 20, | 1951  | 4.75               | 3,830           |
| 1936                       | Feb. 25,  | 1936 | 6.99               | 1,210           | Apr. 7,    | 1951     | 5.48  | 4,950              |                 |
| 1937                       | Feb. 13,  | 1937 | 9.05               | 3,280           | May 10,    | 1951     | 5.15  | 4,470              |                 |
|                            | Feb. 21,  | 1937 | 11.0               | 6,340           | June 22,   | 1951     | 5.85  | 5,430              |                 |
| 1938                       | June 2,   | 1938 | 6.81               | 1,090           | June 25,   | 1951     | 4.80  | 3,830              |                 |
| 1939                       | Mar. 12,  | 1939 | 12.9               | 12,300          | June 28,   | 1951     | 4.80  | 3,830              |                 |
|                            | Apr. 15,  | 1939 | 8.12               | 3,720           | July 22,   | 1951     | 11.0  | 14,500             |                 |
|                            | June 21,  | 1939 | 9.60               | 6,250           | 1952       | Apr. 22, | 1952  | 5.22               | 4,470           |
| 1940                       | Aug. 18,  | 1940 | 7.4                | 2,820           | June 22,   | 1952     | 6.63  | 6,430              |                 |
| 1941                       | June 3,   | 1941 | 7.94               | 3,070           | 1953       | Mar. 31, | 1953  | 5.94               | 4,840           |
|                            | June 9,   | 1941 | 12.84              | 10,000          | Apr. 30,   | 1953     | 5.8   | 4,680              |                 |
| 1942                       | June 26,  | 1942 | 14.3               | 12,400          | May 5,     | 1953     | 5.49  | 4,200              |                 |
|                            |           |      |                    |                 | 1954       | June 2,  | 1954  | 6.8                | 5,510           |
|                            |           |      |                    |                 | 1955       | May 12,  | 1955  | 5.6                | 4,360           |
|                            |           |      |                    |                 | 1956       | July 3,  | 1956  | 7.86               | 3,490           |
|                            |           |      |                    |                 | 1957       | May 22,  | 1957  | 7.67               | 1,590           |
|                            |           |      |                    |                 | 1958       | July 15, | 1958  | 16.30              | 12,400          |
|                            |           |      |                    |                 |            | July 31, | 1958  | 10.64              | 3,980           |

## GRAND RIVER BASIN

## Peak stages and discharges of Medicine Creek near Galt, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|
| 1959       | Nov. 17, 1958  | 11.0               | 4,500           | 1962           | Nov. 2, 1961  | 14.03              | 8,900           |
|            | Aug. 7, 1959   | 19.0               | 14,900          |                | Nov. 16, 1961 | 12.15              | 6,950           |
| 1960       | Oct. 6, 1959   | 12.40              | 6,530           | 1963           | May 27, 1962  | 8.85               | 4,180           |
|            | Jan. 13, 1960  | 8.82               | 3,220           |                | May 29, 1962  | 10.90              | 5,740           |
|            | Mar. 29, 1960  | 14.55              | 9,010           | Mar. 4, 1963   | 10.15         | 6,200              |                 |
|            | May 6, 1960    | 12.65              | 6,750           | Mar. 31, 1963  | 7.17          | 3,280              |                 |
|            | June 30, 1960  | 12.83              | 6,970           | 1964           | Apr. 20, 1964 | 6.76               | 2,500           |
| 1961       | Mar. 27, 1961  | 9.30               | 3,820           |                | 1965          | Jan. 23, 1965      | 10.80           |
|            | Sept. 13, 1961 | 10.81              | 4,990           | Mar. 17, 1965  |               | 7.77               | 3,200           |
|            | Sept. 23, 1961 | 9.21               | 3,680           | Apr. 5, 1965   |               | 7.90               | 3,270           |
|            |                |                    |                 | Apr. 10, 1965  |               | 8.55               | 3,760           |
|            |                |                    |                 | Sept. 21, 1965 |               | 12.25              | 6,680           |

a Determination by Corps of Engineers; annual peak only.

## GRAND RIVER BASIN

6-9005. Medicine Creek near Sturges, Mo.

Location.--Lat 39°52'45", long 93°26'45", on line between sec.35, T.59 N., R.23 W., and sec.2, T.58 N., R.23 W., at county highway bridge 3 miles east of Sturges.

Drainage area.--368 sq mi.

Gage.--Nonrecording. Datum of gage is 691.60 ft above mean sea level.

Stage-discharge relation.--Defined by current-meter measurements below 9,200 cfs.

Historical data.--Flood in July 1909 reached a discharge of 12,000 cfs, determined by Corps of Engineers.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Gage Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|----------------------|
| 1909       | July          | --                 | 12,000          |            |      |                    |                      |
| 1929       | Apr. 21, 1929 | 15.74              | 10,400          |            |      |                    |                      |
| 1930       | Oct. 30, 1929 | 10.4               | 3,800           |            |      |                    |                      |
| 1931       | June 6, 1931  | 10.36              | 5,700           |            |      |                    |                      |
| 1932       | Nov. 24, 1931 | 12.44              | 9,190           |            |      |                    |                      |
| 1933       | Dec. 24, 1932 | 9.04               | 3,660           |            |      |                    |                      |

## GRAND RIVER BASIN

6-9010. Locust Creek near Milan, Mo.

Location--Lat 40°11'00", long 93°10'10", in SW¼ sec.8, T.62 N., R.20 W., at bridge on county highway, 3½ miles southwest of Milan.Drainage area--225 sq mi. Slope--5.13 ft per mi.Gage--Nonrecording.Stage-discharge relation--Defined by current-meter measurements below 3,100 cfs.Bankfull stage--18 ft.Historical data--Flood in July 1909 reached a discharge of 8,000 cfs, determined by Corps of Engineers.Remarks--24 miles of new channel was dug in 1920, all work being 8 or more miles downstream from station. Base for partial-duration series, 2,150 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1909       | July 1909      | --                 | a8,000          |            |      |                    |                 |
| 1922       | Apr. 8, 1922   | 15.00              | 2,240           |            |      |                    |                 |
|            | July 12, 1922  | 16.75              | 2,840           |            |      |                    |                 |
|            | July 18, 1922  | 16.90              | 2,880           |            |      |                    |                 |
| 1923       | Nov. 14, 1922  | 15.05              | 2,240           |            |      |                    |                 |
| 1924       | June 10, 1924  | 15.40              | 2,360           |            |      |                    |                 |
|            | June 27, 1924  | 15.75              | 2,490           |            |      |                    |                 |
| 1925       | Apr. 25, 1925  | 17.70              | 3,200           |            |      |                    |                 |
| 1926       | Jan. 5, 1926   | b15.10             | --              |            |      |                    |                 |
|            | Sept. 11, 1926 | 16.50              | 2,740           |            |      |                    |                 |
|            | Sept. 17, 1926 | 18.10              | 3,260           |            |      |                    |                 |
|            | Sept. 22, 1926 | 15.20              | 2,300           |            |      |                    |                 |
| 1927       | Oct. 5, 1926   | 16.60              | 2,770           |            |      |                    |                 |
|            | Apr. 3, 1927   | 15.95              | 2,590           |            |      |                    |                 |
|            | Apr. 21, 1927  | 16.18              | 2,650           |            |      |                    |                 |
|            | June 5, 1927   | 15.84              | 2,530           |            |      |                    |                 |
| 1928       | June 19, 1928  | 17.30              | 2,980           |            |      |                    |                 |
|            | Sept. 12, 1928 | 17.20              | 2,950           |            |      |                    |                 |
| 1929       | Nov. 2, 1928   | 19.92              | 3,820           |            |      |                    |                 |
|            | Nov. 18, 1928  | 20.07              | 3,880           |            |      |                    |                 |
|            | Mar. 1, 1929   | b17.10             | 2,400           |            |      |                    |                 |
|            | Mar. 8, 1929   | 15.30              | 2,380           |            |      |                    |                 |
|            | Apr. 20, 1929  | 19.40              | 3,650           |            |      |                    |                 |
| 1930       | June 3, 1929   | 17.14              | 2,920           |            |      |                    |                 |
|            | Oct. 13, 1929  | 15.40              | 2,410           |            |      |                    |                 |
| 1931       | Nov. 1, 1929   | 15.5               | 2,440           |            |      |                    |                 |
|            | Apr. 22, 1931  | 14.80              | 2,230           |            |      |                    |                 |
| 1932       | June 6, 1931   | 15.97              | 2,650           |            |      |                    |                 |
|            | Oct. 8, 1931   | 15.20              | 2,350           |            |      |                    |                 |
|            | Nov. 15, 1931  | 16.72              | 2,800           |            |      |                    |                 |
|            | Nov. 25, 1931  | 17.62              | 3,070           |            |      |                    |                 |
|            | Jan. 2, 1932   | 16.80              | 2,830           |            |      |                    |                 |
|            | Apr. 22, 1932  | 15.36              | 2,410           |            |      |                    |                 |
|            | Aug. 3, 1932   | 18.00              | 3,200           |            |      |                    |                 |
|            | Aug. 8, 1932   | 15.18              | 2,350           |            |      |                    |                 |
|            | Aug. 18, 1932  | 18.12              | 3,230           |            |      |                    |                 |
|            | 1933           | Dec. 26, 1932      | 14.87           | 2,260      |      |                    |                 |

a Determination by Corps of Engineers; annual peak only.  
 b Backwater from ice.

## GRAND RIVER BASIN

6-9013. Moffet Branch near Reger, Mo.

Location.--Lat 40°08'00", long 93°15'00", in NW¼ sec.34, T.62 N., R.21 W., on left bank just upstream from culvert under State Highway 6, 2½ miles west of Reger, and 3-3/4 miles east of Humphreys.

Drainage area.--0.13 sq mi. Slope.--150 ft per mi.

Gage.--Crest-stage gage; supplemental recorder Apr. 24, 1964 to May 19, 1965.

Stage-discharge relation.--Defined by indirect measurements at 188, 230, and 349 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 14, 1955 | 6.35               | 230             |            |      |                    |                 |
| 1956       | Oct. 5, 1955  | 7.58               | 370             |            |      |                    |                 |
| 1957       | July 15, 1957 | 4.15               | 135             |            |      |                    |                 |
| 1958       | July 15, 1958 | 7.40               | 349             |            |      |                    |                 |
| 1959       | Nov. 17, 1958 | 4.37               | 150             |            |      |                    |                 |
| 1960       | June 30, 1960 | 5.76               | 232             |            |      |                    |                 |
| 1961       | Apr. 21, 1961 | 4.20               | 140             |            |      |                    |                 |
| 1962       | Nov. 2, 1961  | 5.88               | 240             |            |      |                    |                 |
| 1963       | July 15, 1963 | 6.26               | 265             |            |      |                    |                 |
| 1964       | June 12, 1964 | 3.60               | 105             |            |      |                    |                 |
| 1965       | Apr. 24, 1965 | 5.02               | 185             |            |      |                    |                 |

## GRAND RIVER BASIN

6-9015. Locust Creek near Linneus, Mo.

Location.--Lat 39°53'45", long 93°14'10", in NW¼NE¼ sec.34, T.59 N., R.21 W., on right bank 25 ft downstream from county highway bridge, 2 miles northwest of linneus and 5 miles downstream from West Locust Creek.

Drainage area.--550 sq mi, approximately. Slope.--4.22 ft per mi.

Gage.--Nonrecording prior to July 27, 1956; recording gage thereafter. Datum of gage is 692.61 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current meter measurements below 15,000 cfs and by indirect measurement at 38,000 cfs.

Bankfull stage.--20 ft.

Remarks.--Gage located on 24-mile reach of new channel, dug in 1920. Base for partial-duration series, 7,500 cfs.

|            |                | Peak stages and discharges |                 |            |                |                    |                 |
|------------|----------------|----------------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year | Date           | Gage height (feet)         | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1909       | July 1909      | -                          | a18,000         | 1949       | June 1, 1949   | 15.3               | 9,420           |
|            |                |                            |                 |            | June 15, 1949  | 15.4               | 9,570           |
| 1930       | June 30, 1930  | 14.44                      | 7,920           |            | July 12, 1949  | 14.2               | 7,600           |
| 1931       | Apr. 20, 1931  | 15.86                      | 8,800           | 1950       | June 16, 1950  | 17.2               | 13,200          |
|            | June 6, 1931   | 15.73                      | 8,610           |            | June 20, 1950  | 15.3               | 11,100          |
| 1932       | Nov. 23, 1931  | 16.04                      | 8,900           | 1951       | Apr. 6, 1951   | 14.2               | 9,320           |
|            | Dec. 31, 1931  | 15.70                      | 8,610           |            | June 2, 1951   | 14.1               | 9,160           |
|            |                |                            |                 |            | June 21, 1951  | 15.0               | 10,600          |
| 1933       | Dec. 24, 1932  | 11.14                      | 4,390           |            | June 27, 1951  | 13.8               | 8,680           |
|            |                |                            |                 |            | July 24, 1951  | 16.2               | 12,300          |
| 1934       | Apr. 5, 1934   | 6.22                       | 900             | 1952       | June 22, 1952  | 13.5               | 8,200           |
| 1935       | May 28, 1935   | 15.05                      | 7,940           | 1953       | Mar. 31, 1953  | 17.8               | 14,000          |
|            | June 2, 1935   | 18.97                      | 11,800          |            |                |                    |                 |
|            | July 4, 1935   | 15.11                      | 8,040           | 1954       | June 2, 1954   | 13.7               | 7,280           |
| 1936       | Feb. 26, 1936  | 9.89                       | 3,100           | 1955       | June 25, 1955  | 14.19              | 8,000           |
|            | Sept. 26, 1936 | 9.99                       | 3,100           |            |                |                    |                 |
| 1937       | Jan. 30, 1937  | b14.67                     | 5,110           | 1956       | July 3, 1956   | 15.99              | 5,640           |
| 1938       | Apr. 10, 1938  | 5.81                       | 639             | 1957       | Apr. 4, 1957   | 9.40               | 1,910           |
|            | June 7, 1938   | 5.74                       | 639             |            | May 21, 1957   | 9.40               | 1,910           |
| 1939       | June 21, 1939  | 21.3                       | 15,400          | 1958       | May 5, 1958    | 18.6               | 9,190           |
| 1940       | Aug. 18, 1940  | 10.6                       | 3,110           |            | July 15, 1958  | 24.7               | 24,000          |
|            |                |                            |                 |            | July 19, 1958  | 21.1               | 15,000          |
| 1941       | June 11, 1941  | 16.7                       | 11,800          |            | July 31, 1958  | 21.2               | 15,200          |
| 1942       | June 26, 1942  | 21.2                       | 19,000          | 1959       | Nov. 17, 1958  | 18.35              | 10,300          |
| 1943       | Dec. 26, 1942  | 15.5                       | 8,930           | 1960       | Oct. 7, 1959   | 17.72              | 8,870           |
|            | May 18, 1943   | 15.5                       | 8,930           |            | Mar. 30, 1960  | 19.60              | 12,100          |
|            | June 8, 1943   | 16.6                       | 10,700          |            | May 6, 1960    | 17.92              | 9,190           |
|            | June 10, 1943  | 16.64                      | 10,800          |            | June 30, 1960  | 20.50              | 13,800          |
|            | June 16, 1943  | 15.52                      | 8,930           |            | July 2, 1960   | 19.50              | 12,000          |
| 1944       | Apr. 23, 1944  | 22.50                      | 20,100          | 1961       | Mar. 13, 1961  | 17.06              | 7,990           |
|            | June 10, 1944  | 14.78                      | 7,720           |            | Apr. 22, 1961  | 18.14              | 9,520           |
|            |                |                            |                 |            | Sept. 13, 1961 | 18.16              | 9,690           |
| 1945       | Apr. 18, 1945  | 14.80                      | 7,720           | 1962       | Nov. 11, 1961  | 19.00              | 11,000          |
|            | May 16, 1945   | 16.80                      | 10,700          |            | Nov. 17, 1961  | 18.80              | 10,700          |
|            | June 9, 1945   | 15.60                      | 8,920           | 1963       | Mar. 4, 1963   | 18.12              | 9,520           |
|            | June 16, 1945  | 20.45                      | 16,500          | 1964       | Apr. 21, 1964  | 14.48              | 5,180           |
| 1946       | Jan. 6, 1946   | 15.6                       | 8,920           | 1965       | Jan. 1, 1965   | 20.14              | 13,000          |
| 1947       | Apr. 6, 1947   | 19.60                      | 15,200          |            | Sept. 21, 1965 | 20.92              | 12,700          |
|            | May 28, 1947   | 16.00                      | 9,520           |            |                |                    |                 |
|            | June 6, 1947   | 26.93                      | 38,000          |            |                |                    |                 |
|            | June 13, 1947  | 18.60                      | 14,600          |            |                |                    |                 |
|            | June 19, 1947  | 20.11                      | 17,100          |            |                |                    |                 |
|            | June 23, 1947  | 17.75                      | 13,300          |            |                |                    |                 |
| 1948       | Mar. 20, 1948  | 16.87                      | 11,900          |            |                |                    |                 |

a Determination by Corps of Engineers; annual peak only.

b Backwater from ice.

## GRAND RIVER BASIN

6-9020. Grand River near Sumner, Mo.

Location.--Lat 39°38'25", long 93°16'25", in NE¼ sec.29, T.56 N., R.21 W., on downstream side of right pier of main truss of bridge on County Highway E, 120 ft downstream from Chicago, Burlington & Quincy Railroad bridge, 2 miles southwest of Sumner and 2½ miles downstream from Locust Creek.

Drainage area.--6,880 sq mi, approximately. Slope.--3.15 ft per mi.

Gage.--Nonrecording at site 80 ft upstream prior to July 11, 1926, at present site July 11, 1926, to July 9, 1939, and Aug. 9, 1952, to Nov. 12, 1953. Recording gage at site 80 ft upstream July 10, 1939, to Aug. 8, 1952, and at present site since Nov. 13, 1953. Datum of all gages is 630.87 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 163,000 cfs. Slope is a factor at high stages.

Bankfull stage.--25 ft.

Remarks.--Extensive channel improvement and drainage work in basin above station prior to establishment of gaging station. Base for partial-duration series, 38,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1909                       | July 1909      | 36.7               | ab150,000       | 1945       | Apr. 19, 1945  | 32.60              | 67,800          |
|                            |                |                    |                 |            | May 18, 1945   | 33.5               | 86,200          |
| 1922                       | July 1922      | 31.5               | b51,000         |            | May 19, 1945   | 34.32              | -               |
|                            |                |                    |                 |            | June 11, 1945  | 30.58              | 52,200          |
| 1923                       | Nov. 1922      | 32.0               | b54,000         |            | June 18, 1945  | 33.32              | 79,300          |
| 1924                       | July 1, 1924   | 28.56              | 36,600          | 1946       | Jan. 8, 1946   | 34.2               | 89,300          |
|                            |                |                    |                 |            | Mar. 19, 1946  | 30.10              | 43,100          |
| 1925                       | Apr. 27, 1925  | 28.00              | 33,000          |            |                |                    |                 |
| 1926                       | Sept. 21, 1926 | 32.42              | 56,400          | 1947       | Mar. 15, 1947  | 30.22              | 40,600          |
|                            |                |                    |                 |            | Apr. 7, 1947   | 35.05              | 98,000          |
| 1927                       | Oct. 8, 1926   | 30.50              | 45,200          |            | May 31, 1947   | 30.75              | 51,700          |
|                            | Apr. 22, 1927  | 30.80              | 47,800          |            | June 8, 1947   | 39.5               | 180,000         |
|                            |                |                    |                 |            | June 16, 1947  | 31.78              | 56,900          |
| 1928                       | Sept. 17, 1928 | 30.70              | 46,900          |            | June 25, 1947  | 37.15              | 145,000         |
| 1929                       | Nov. 20, 1928  | 35.35              | 107,000         | 1948       | Mar. 21, 1948  | 31.8               | 61,000          |
|                            | Mar. 2, 1929   | 29.95              | 41,500          | 1949       | Feb. 27, 1949  | 31.2               | 54,000          |
|                            | Apr. 23, 1929  | 33.60              | 79,400          | 1950       | June 20, 1950  | 29.96              | 35,200          |
|                            | June 4, 1929   | 35.25              | 110,000         | 1951       | May 4, 1951    | 30.70              | 45,800          |
| 1930                       | Feb. 10, 1930  | 23.22              | 18,200          |            | June 24, 1951  | 31.34              | 52,400          |
| 1931                       | Apr. 22, 1931  | 28.00              | 35,600          |            | June 29, 1951  | 32.3               | 57,000          |
|                            |                |                    |                 |            | July 9, 1951   | 31.57              | 60,000          |
| 1932                       | Nov. 19, 1931  | 31.32              | 52,600          | 1952       | Mar. 12, 1952  | 31.6               | 57,100          |
|                            | Nov. 26, 1931  | 33.30              | 84,600          | 1953       | Apr. 2, 1953   | 31.46              | 59,100          |
|                            | Jan. 4, 1932   | 30.92              | 48,700          | 1954       | June 3, 1954   | 28.6               | 23,800          |
| 1933                       | Dec. 26, 1932  | 25.35              | 22,800          | 1955       | Feb. 21, 1955  | 30.7               | 45,800          |
| 1934                       | Apr. 5, 1934   | 15.29              | 8,280           | 1956       | Aug. 4, 1956   | 29.80              | 32,200          |
| 1935                       | May 23, 1935   | 29.61              | 42,900          | 1957       | Apr. 4, 1957   | 27.95              | 22,500          |
|                            | June 4, 1935   | 33.25              | 72,000          | 1958       | May 6, 1958    | 30.40              | 41,200          |
|                            | June 21, 1935  | 29.30              | 41,000          |            | July 17, 1958  | 35.57              | 89,500          |
| 1936                       | Feb. 28, 1936  | 29.10              | 41,000          |            | Aug. 1, 1958   | 32.59              | 62,400          |
| 1937                       | Feb. 22, 1937  | c30.28             | -               | 1959       | Nov. 20, 1958  | 31.75              | 52,300          |
|                            | Mar. 6, 1937   | 28.60              | 36,800          |            | Mar. 29, 1959  | 31.90              | 42,700          |
| 1938                       | June 2, 1938   | 14.99              | 8,120           | 1960       | Oct. 8, 1959   | 32.48              | 50,000          |
| 1939                       | June 24, 1939  | 29.95              | 45,300          |            | Jan. 17, 1960  | 32.60              | 52,400          |
| 1940                       | Mar. 3, 1940   | 23.79              | 18,000          |            | Apr. 1, 1960   | 37.20              | 104,000         |
| 1941                       | June 12, 1941  | 29.9               | 45,500          |            | May 8, 1960    | 32.35              | 46,800          |
| 1942                       | June 28, 1942  | 35.83              | 89,900          |            | July 3, 1960   | 33.48              | 76,500          |
| 1943                       | Dec. 28, 1942  | 30.46              | 44,700          | 1961       | Mar. 15, 1961  | 32.47              | 52,000          |
|                            | May 18, 1943   | 30.44              | 42,600          |            | Mar. 29, 1961  | 32.20              | 46,000          |
|                            | June 4, 1943   | 31.89              | 55,200          |            | Sept. 17, 1961 | 35.26              | 65,600          |
|                            | June 19, 1943  | 32.22              | 60,600          | 1962       | Nov. 5, 1961   | 35.20              | 94,700          |
| 1944                       | Apr. 25, 1944  | 36.55              | 115,000         |            | Nov. 19, 1961  | 34.46              | 88,500          |
|                            | May 6, 1944    | 30.37              | 47,100          |            | Mar. 14, 1962  | 32.56              | 52,400          |
|                            |                |                    |                 | 1963       | Mar. 6, 1963   | 32.26              | 45,200          |

## GRAND RIVER BASIN

## Peak stages and discharges of Grand River near Sumner, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1964       | June 25, 1964  | 32.26              | 45,200          |            |      |                    |                 |
| 1965       | Jan. 3, 1965   | 31.89              | 45,200          |            |      |                    |                 |
|            | Mar. 19, 1965  | 32.28              | 45,200          |            |      |                    |                 |
|            | Sept. 23, 1965 | 35.44              | 77,300          |            |      |                    |                 |

a Determination by Corps of Engineers.

b Annual peak only.

c Backwater from ice.

## GRAND RIVER BASIN

6-9022. West Yellow Creek near Brookfield, Mo.

Location--Lat 39°50'40", long 93°01'36", in SE¼NE¼ sec.16, T.58 N., R.19 W., at right downstream pier of county highway bridge, 3½ miles northeast of Brookfield, and 1½ miles below Bear Creek.

Drainage area--135 sq mi. Slope--3.92 ft per mi.

Gage--Recording. Altitude of gage is 738 ft (from topographic map).

Stage-discharge relation--Defined by current-meter measurements below 3,040 cfs.

Remarks--Base for partial duration series, 800 cfs.

## Peak stages and discharges

| Water year     | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|----------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1960           | Jan. 15, 1960  | 12.65              | 2,100           |            |      |                    |                 |
|                | Mar. 28, 1960  | 13.66              | 3,750           |            |      |                    |                 |
|                | Apr. 18, 1960  | 11.17              | 825             |            |      |                    |                 |
|                | Apr. 30, 1960  | 12.40              | 1,800           |            |      |                    |                 |
|                | May 8, 1960    | 13.15              | 3,000           |            |      |                    |                 |
|                | May 17, 1960   | 11.96              | 1,200           |            |      |                    |                 |
|                | May 22, 1960   | 12.26              | 1,650           |            |      |                    |                 |
|                | June 14, 1960  | 12.38              | 1,800           |            |      |                    |                 |
| July 1, 1960   | 13.80          | 3,900              |                 |            |      |                    |                 |
| 1961           | Mar. 8, 1961   | 12.57              | 1,180           |            |      |                    |                 |
|                | Mar. 13, 1961  | 13.14              | 1,840           |            |      |                    |                 |
|                | Mar. 19, 1961  | 12.72              | 1,300           |            |      |                    |                 |
|                | Mar. 27, 1961  | 12.87              | 1,450           |            |      |                    |                 |
|                | Apr. 22, 1961  | 13.48              | 2,550           |            |      |                    |                 |
|                | May 8, 1961    | 12.70              | 1,300           |            |      |                    |                 |
|                | July 25, 1961  | 13.14              | 1,840           |            |      |                    |                 |
|                | Sept. 14, 1961 | 13.96              | 3,700           |            |      |                    |                 |
| Sept. 25, 1961 | 12.40          | 1,080              |                 |            |      |                    |                 |
| 1962           | Oct. 30, 1961  | 13.10              | 1,760           |            |      |                    |                 |
|                | Nov. 3, 1961   | 13.10              | 1,760           |            |      |                    |                 |
|                | Nov. 16, 1961  | 13.15              | 1,840           |            |      |                    |                 |
|                | Nov. 22, 1961  | 12.74              | 1,350           |            |      |                    |                 |
|                | Jan. 29, 1962  | -                  | 1,000           |            |      |                    |                 |
|                | Feb. 5, 1962   | -                  | 1,600           |            |      |                    |                 |
|                | Feb. 14, 1962  | -                  | 1,100           |            |      |                    |                 |
|                | Mar. 13, 1962  | 12.93              | 1,560           |            |      |                    |                 |
| Mar. 21, 1962  | -              | 1,200              |                 |            |      |                    |                 |
| 1963           | Mar. 6, 1963   | 13.17              | 1,840           |            |      |                    |                 |
| 1964           | Apr. 7, 1964   | 12.09              | 920             |            |      |                    |                 |
|                | Apr. 22, 1964  | 12.40              | 1,080           |            |      |                    |                 |
| 1965           | Jan. 2, 1965   | 13.73              | 3,120           |            |      |                    |                 |
|                | Jan. 23, 1965  | 12.81              | 1,400           |            |      |                    |                 |
|                | Feb. 7, 1965   | 11.90              | 845             |            |      |                    |                 |
|                | Mar. 17, 1965  | 13.05              | 1,690           |            |      |                    |                 |
|                | Apr. 6, 1965   | 12.71              | 1,300           |            |      |                    |                 |
|                | Apr. 12, 1965  | 12.19              | 970             |            |      |                    |                 |
|                | Sept. 16, 1965 | 12.71              | 1,300           |            |      |                    |                 |
| Sept. 21, 1965 | 14.62          | 5,140              |                 |            |      |                    |                 |

## GRAND RIVER BASIN

6-9025. Hamilton Branch near New Boston, Mo.

Location--Lat 39°57'08", long 92°54'08", in SE¼SW¼ sec.3, T.59 N., R.18 W., at bridge on State Highway 11, 0.5 mile upstream from New Boston Branch, and 2½ miles west of New Boston.

Drainage area--2.51 sq mi. Slope--27.0 ft per mi.

Gage--Recording.

Stage-discharge relation--Defined by current-meter measurements below 45.8 cfs and by indirect measurements at 612 and 637 cfs.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1956       | Aug. 2, 1956  | 6.81               | 612             |            |      |                    |                 |
| 1957       | July 29, 1957 | 6.33               | 520             |            |      |                    |                 |
| 1958       | July 15, 1958 | 7.45               | 693             |            |      |                    |                 |
| 1959       | Feb. 9, 1959  | 4.55               | 203             |            |      |                    |                 |
| 1960       | June 30, 1960 | 8.10               | 800             |            |      |                    |                 |
| 1961       | Apr. 21, 1961 | 7.35               | 675             |            |      |                    |                 |
| 1962       | Oct. 29, 1961 | 5.90               | 414             |            |      |                    |                 |
| 1963       | Mar. 4, 1963  | 4.77               | 232             |            |      |                    |                 |
| 1964       | June 14, 1964 | 5.50               | 350             |            |      |                    |                 |
| 1965       | Sept.20, 1965 | 8.55               | 880             |            |      |                    |                 |

## GRAND RIVER BASIN

6-9028. Onion Branch at St. Catherine, Mo.

Location--Lat 39°47'46", long 92°59'17", in NE¼SE¼ sec.35, T.58 N., R.19 W., on right downstream wingwall of culvert under State Highway 11, and in left bank upstream from culvert, 0.3 mile northeast of St. Catherine, and 5 miles northeast of Brookfield.

Drainage area--1.04 sq mi. Slope--49.3 ft per mi.

Gage--Crest-stage gage; supplemental recording gage since Nov. 27, 1961.

Stage-discharge relation--Defined by indirect measurements at 285 and 982 cfs.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | June 25, 1955 | 15.39              | 285             |            |      |                    |                 |
| 1956       | Oct. 5, 1955  | 12.54              | 78              |            |      |                    |                 |
| 1957       | May 16, 1957  | 15.65              | 340             |            |      |                    |                 |
| 1958       | July 15, 1958 | 17.11              | 982             |            |      |                    |                 |
| 1959       | Sept.23, 1959 | 15.91              | 410             |            |      |                    |                 |
| 1960       | May 16, 1960  | 14.43              | 190             |            |      |                    |                 |
| 1961       | July 25, 1961 | 16.71              | 725             |            |      |                    |                 |
| 1962       | Oct. 29, 1961 | 13.41              | 120             |            |      |                    |                 |
| 1963       | June 28, 1963 | 10.73              | 20              |            |      |                    |                 |
| 1964       | Sept. 6, 1964 | 13.28              | 110             |            |      |                    |                 |
| 1965       | Sept.21, 1965 | 16.70              | 430             |            |      |                    |                 |

## GRAND RIVER BASIN

6-9030. Yellow Creek near Rothville, Mo.

Location.--Lat 39°38', long 93°05', on line between NW¼ sec.31, T.56 W., R.19 W., and NE¼ sec.36, T.56 N., R.20 W., at bridge on State Highway 11, 2½ miles southwest of Rothville and 3 miles downstream from East Yellow Creek.

Drainage area.--405 sq mi. Slope.--4.27 ft per mi.

Gage.--Nonrecording prior to 1952; crest-stage gage since 1961. Datum of gage is 664.37 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 5,900 cfs.

Bankfull stage.--19 ft.

Historical data.--Maximum stage known, 23.1 ft in June 1947. Flood of July 1909 reached a discharge of 15,000 cfs, determined by Corps of Engineers.

Remarks.--Base for partial-duration series, 1,800 cfs.

| Peak stages and discharges |           |      |                    |                 |            |                |  |                    |                 |
|----------------------------|-----------|------|--------------------|-----------------|------------|----------------|--|--------------------|-----------------|
| Water year                 | Date      |      | Gage height (feet) | Discharge (cfs) | Water year | Date           |  | Gage height (feet) | Discharge (cfs) |
| 1909                       | July      | 1909 | -                  | ab15,000        | 1950       | Jan. 2, 1950   |  | 18.8               | 2,230           |
|                            |           |      |                    |                 |            | June 4, 1950   |  | 17.7               | 1,880           |
| 1929                       | Nov.      | 1928 | b22.0              | -               |            | June 17, 1950  |  | 21.40              | 9,000           |
| 1930                       | Oct. 12,  | 1929 | 17.6               | 1,900           | 1951       | Feb. 22, 1951  |  | 19.80              | 2,710           |
|                            | Nov. 1,   | 1929 | 17.4               | 1,840           |            | Apr. 9, 1951   |  | 20.52              | 3,640           |
|                            | Feb. 9,   | 1930 | 17.9               | 1,970           |            | June 24, 1951  |  | 20.85              | 4,900           |
|                            | July 2,   | 1930 | 19.56              | 2,630           |            | June 29, 1951  |  | 21.26              | 8,200           |
| 1931                       | Apr. 23,  | 1931 | 20.60              | 5,450           | 1961       | Sept. 14, 1961 |  | 22.23              | b6,160          |
|                            | June 9,   | 1931 | 20.4               | 3,700           |            |                |  |                    |                 |
|                            | June 14,  | 1931 | 19.3               | 2,470           | 1962       | Nov. 5, 1961   |  | 20.95              | b4,500          |
| 1932                       | Nov. 19,  | 1931 | 20.6               | 3,920           | 1963       | Mar. 6, 1963   |  | 18.79              | b2,230          |
|                            | Nov. 25,  | 1931 | 21.16              | 7,400           |            |                |  |                    |                 |
|                            | Jan. 3,   | 1932 | 20.7               | 4,400           | 1964       | Apr. 6, 1964   |  | 18.45              | b2,100          |
| 1947                       | June      | 1947 | b23.1              | -               | 1965       | Sept. 1965     |  | 22.73              | b8,350          |
| 1949                       | Jan. 16,  | 1949 | 17.4               | 1,810           |            |                |  |                    |                 |
|                            | Feb. 26,  | 1949 | 17.4               | 1,810           |            |                |  |                    |                 |
|                            | June 3,   | 1949 | 21.19              | 7,400           |            |                |  |                    |                 |
|                            | July 14,  | 1949 | 17.8               | 1,910           |            |                |  |                    |                 |
|                            | Sept. 14, | 1949 | 17.7               | 1,880           |            |                |  |                    |                 |

a Determination by Corps of Engineers.

b Annual peak only.

## CHARITON RIVER BASIN

6-9045. Chariton River at Novinger, Mo.  
(Published as "at Elmer" prior to 1931)

Location.--Lat 40°14'05", long 92°41'14", on south line SE¼NE¼ sec.28, T.63 N., R.16 W., attached to downstream side of left pier of bridge over new channel on State Highway 6, 1,000 ft downstream from Chicago, Burlington & Quincy Railroad bridge, 0.6 mile east of Novinger, 1 mile downstream from Rye Creek, and 2 miles upstream from Spring Creek.

Drainage area.--1,370 sq mi, approximately; prior to Oct. 1, 1930, 1,660 sq mi approximately. Slope.--2.63 ft per mi.

Gage.--Nonrecording prior to Dec. 20, 1939 and Aug. 2, 1956, to May 16, 1957; recording gage Dec. 20, 1939, to Sept. 30, 1952, Oct. 1, 1954, to Aug. 1, 1956, and since May 16, 1957. At site 36½ miles (prior to 1952 shortening) downstream prior to Oct. 1, 1930. At datum 43.80 ft lower July 1, 1921, to Sept. 30, 1924. At datum 46.80 ft lower Oct. 1, 1924, to Sept. 30, 1926, and at datum 49.80 ft lower than present gage Oct. 1, 1926, to Sept. 30, 1930. Datum of gage is 737.65 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 19,000 cfs at former site; below 20,000 cfs at present site.

Bankfull stage.--20 ft.

Remarks.--Channel improved from point 6 miles downstream from former site to mouth prior to June 1921. Channel improvement made in vicinity of former site during 1922-23 and channel improvement below present gage completed in June 1952. Base for partial-duration series, 6,500 cfs.

| Peak stages and discharges |                |                    |                 |               |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
| 1917                       | June 1917      | a28.6              | 27,000          | 1940          | Aug. 18, 1940 | 18.42              | 3,680           |
| 1922                       | July 13, 1922  | 19.64              | 7,350           | 1941          | June 11, 1941 | 23.90              | 9,860           |
|                            | July 18, 1922  | 19.30              | 7,080           |               |               |                    |                 |
| 1923                       | Nov. 14, 1922  | 17.24              | 5,560           | 1942          | Nov. 2, 1941  | 22.7               | 6,900           |
|                            |                |                    |                 | 1943          | Dec. 28, 1942 | 23.14              | 7,710           |
| 1924                       | Mar. 29, 1924  | 16.00              | 6,000           | 1943          | May 21, 1943  | 24.28              | 10,600          |
|                            |                |                    |                 | 1943          | June 17, 1943 | 24.07              | 10,000          |
| 1925                       | Apr. 27, 1925  | 18.66              | 7,200           | 1944          | Mar. 17, 1944 | 22.69              | 6,640           |
| 1926                       | Sept. 21, 1926 | 24.56              | 18,700          |               | 1944          | Apr. 16, 1944      | 22.74           |
|                            |                |                    |                 | 1944          | Apr. 23, 1944 | 25.86              | 15,200          |
| 1927                       | Oct. 4, 1926   | 22.00              | 16,400          | 1944          | June 14, 1944 | 23.32              | 8,060           |
|                            | Apr. 2, 1927   | 17.4               | 8,620           | 1945          | May 20, 1945  | 25.37              | 13,700          |
|                            | Apr. 21, 1927  | 26.10              | 21,800          |               | June 10, 1945 | 23.12              | 7,540           |
|                            | June 4, 1927   | 19.1               | 11,300          |               | June 17, 1945 | 26.34              | 16,400          |
| 1928                       | Oct. 2, 1927   | 22.67              | 17,800          | 1945          | June 21, 1945 | 23.66              | 9,020           |
|                            | Oct. 11, 1927  | 17.3               | 8,480           | 1946          | Jan. 6, 1946  | 23.92              | 9,540           |
|                            | June 18, 1928  | 20.0               | 12,800          |               | Jan. 11, 1946 | 24.25              | 10,300          |
|                            | July 11, 1928  | 16.2               | 7,060           |               | Mar. 24, 1946 | 23.80              | 9,280           |
| Sept. 17, 1928             | 17.15          | 8,340              | June 23, 1946   |               | 26.0          | 15,500             |                 |
| 1929                       | Nov. 17, 1928  | 24.06              | 22,500          | 1946          | July 21, 1946 | 23.93              | 8,720           |
|                            | Mar. 5, 1929   | 15.4               | 8,200           | 1947          | Apr. 6, 1947  | 24.95              | 12,000          |
|                            | Apr. 22, 1929  | 20.6               | 16,900          |               | June 7, 1947  | 28.50              | 22,900          |
|                            | June 5, 1929   | 15.4               | 8,200           |               | June 13, 1947 | 28.50              | 22,900          |
| 1930                       | Nov. 1, 1929   | 13.80              | 6,200           |               | June 19, 1947 | 25.37              | 12,300          |
| 1931                       | Apr. 21, 1931  | 22.17              | 6,500           | June 28, 1947 | 24.68         | 9,940              |                 |
|                            | June 7, 1931   | 22.60              | 7,160           | 1948          | Mar. 20, 1948 | 25.23              | 11,600          |
| 1932                       | Nov. 24, 1931  | 26.03              | 15,400          | 1949          | Feb. 25, 1949 | b23.85             | -               |
|                            | Aug. 17, 1932  | 25.47              | 14,000          |               | Feb. 27, 1949 | 23.10              | 6,510           |
| 1933                       | Dec. 25, 1932  | 22.02              | 6,500           |               | 1949          | Apr. 1, 1949       | 23.10           |
|                            |                |                    |                 | 1949          | June 16, 1949 | 23.6               | 7,640           |
| 1934                       | Sept. 12, 1934 | 16.96              | 3,250           | 1950          | June 15, 1950 | 26.22              | 15,000          |
| 1935                       | May 21, 1935   | 22.17              | 6,500           | 1950          | June 20, 1950 | 26.66              | 16,700          |
|                            | June 2, 1935   | 24.98              | 12,600          | 1951          | Feb. 20, 1951 | 24.12              | 8,020           |
|                            | June 22, 1935  | 24.04              | 10,100          |               | Apr. 8, 1951  | 24.16              | 8,340           |
|                            | July 9, 1935   | 23.08              | 8,100           |               | July 23, 1951 | 24.32              | 8,660           |
| 1936                       | Feb. 26, 1936  | 19.50              | 4,000           | 1952          | Mar. 13, 1952 | 23.87              | 7,380           |
| 1937                       | Feb. 21, 1937  | b23.84             | 6,820           | 1955          | Jan. 6, 1955  | 23.1               | 6,200           |
| 1938                       | June 4, 1938   | 11.89              | 1,690           | 1956          | Oct. 6, 1955  | 18.18              | -               |
| 1939                       | Mar. 13, 1939  | 24.99              | 12,600          | 1956          | July 4, 1956  | -                  | 2,400           |
|                            | Mar. 17, 1939  | 25.09              | 12,900          | 1957          | July 29, 1957 | 20.60              | 4,940           |
|                            | Apr. 17, 1939  | 23.52              | 8,940           | 1958          | Aug. 2, 1958  | 23.10              | 7,900           |

## CHARITON RIVER BASIN

## Peak stages and discharges of Chariton River at Novinger, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |              |        |
|------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|--------------|--------|
| 1959       | Mar. 27, 1959  | 20.80              | 6,820           | 1962           | Nov. 3, 1961  | 20.53              | 8,680           |              |        |
|            | May 27, 1959   | 21.13              | 7,100           |                | Nov. 7, 1961  | 19.23              | 7,970           |              |        |
|            | June 1, 1959   | 23.20              | 9,710           |                | Nov. 16, 1961 | 20.93              | 9,780           |              |        |
|            | Aug. 8, 1959   | 22.03              | 9,300           |                | Nov. 22, 1961 | 19.20              | 7,970           |              |        |
| 1960       | Oct. 7, 1959   | 22.35              | 10,100          |                | Feb. 5, 1962  | 19.30              | 8,070           |              |        |
|            | Jan. 15, 1960  | 19.77              | 7,250           |                | Mar. 12, 1962 | 18.50              | 8,000           |              |        |
|            | Apr. 2, 1960   | 26.65              | 22,000          |                | Mar. 22, 1962 | 20.20              | 9,820           |              |        |
|            | Apr. 7, 1960   | 24.04              | 13,400          |                | 1963          | Mar. 5, 1963       | 22.03           | 12,100       |        |
|            | May 26, 1960   | 19.55              | 7,050           |                |               | 1964               | Apr. 20, 1964   | 20.20        | 10,100 |
|            | July 1, 1960   | 23.98              | 13,400          |                |               |                    | 1965            | Jan. 2, 1965 | 18.22  |
|            | July 10, 1960  | 20.25              | 7,450           |                | Mar. 17, 1965 |                    |                 | 20.10        | 12,200 |
| 1961       | Mar. 8, 1961   | 18.95              | 7,770           |                | Apr. 6, 1965  |                    |                 | 17.90        | 9,900  |
|            | Mar. 13, 1961  | 20.70              | 9,560           | Apr. 11, 1965  | 20.97         | 13,700             |                 |              |        |
|            | Mar. 27, 1961  | 19.85              | 8,570           | Apr. 15, 1965  | 18.82         | 11,300             |                 |              |        |
|            | Apr. 22, 1961  | 17.80              | 6,670           | Apr. 25, 1965  | 14.75         | 7,200              |                 |              |        |
|            | Sept. 13, 1961 | 19.55              | 8,370           | June 4, 1965   | 17.70         | 10,100             |                 |              |        |
|            | Sept. 24, 1961 | 19.30              | 8,070           | June 6, 1965   | 17.52         | 9,900              |                 |              |        |
|            |                |                    |                 | Sept. 21, 1965 | 22.14         | 15,000             |                 |              |        |

a At present site; annual peak only.

b Backwater from ice.

## CHARITON RIVER BASIN

6-9047. Strop Branch near Novinger, Mo.

Location.--Lat 40°13'05", long 92°42'55", in NE¼SW¼ sec.32, T.63 N., R.16 W., on left bank about 15 ft downstream from culvert and 1 mile southwest of Novinger.

Drainage area.--0.96 sq mi. Slope.--94.7 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 62.6 and 1,730 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | July 23, 1955  | 14.15              | 210             |            |      |                    |                 |
| 1956       | July 1, 1956   | 16.46              | 1,730           |            |      |                    |                 |
| 1957       | Apr. 3, 1957   | 13.25              | 52              |            |      |                    |                 |
| 1958       | July 30, 1958  | 15.36              | 770             |            |      |                    |                 |
| 1959       | Oct. 7, 1958   | 13.41              | 65              |            |      |                    |                 |
| 1960       | June 12, 1960  | 15.01              | 550             |            |      |                    |                 |
| 1961       | Sept. 13, 1961 | 14.51              | 330             |            |      |                    |                 |
| 1962       | Oct. 29, 1961  | 14.33              | 270             |            |      |                    |                 |
| 1963       | Mar. 4, 1963   | 14.53              | 330             |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 13.63              | 100             |            |      |                    |                 |
| 1965       | Sept. 20, 1965 | 15.45              | 840             |            |      |                    |                 |

## CHARITON RIVER BASIN

6-9055. Chariton River near Prairie Hill, Mo.  
(Published as "near Keytesville" prior to Oct. 1, 1953)

Location.--Lat 39°32'25", long 92°47'23", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.26, T.55 N., R.17 W., on right bank on downstream side of bridge on State Highway 129, 3.2 miles northwest of Prairie Hill, and 13 $\frac{1}{2}$  miles upstream from Puzzle Creek.

Drainage area.--1,870 sq mi, approximately. Slope.--2.25 ft per mi.

Gage.--Nonrecording prior to July 3, 1958, recording gage thereafter. At site 8 $\frac{1}{2}$  miles downstream at datum 13.68 ft lower prior to Oct. 1, 1953. Datum of present gage is 632.05 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--15 ft.

Remarks.--During 1906 channel 33 $\frac{1}{2}$  miles long dug from Missouri River at Chariton-Macon county line to replace 290 miles of natural channel. Channel improvement extended upstream after 1909. Base for partial-duration series, 9,000 cfs.

| Peak stages and discharges |               |                    |                 |                |                |                    |                 |
|----------------------------|---------------|--------------------|-----------------|----------------|----------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date           | Gage height (feet) | Discharge (cfs) |
| 1929                       | Nov. 18, 1928 | 22.54              | a24,000         | 1950           | June 23, 1950  | 22.36              | 14,900          |
| 1930                       | Nov. 2, 1929  | 18.64              | 6,800           | 1951           | June 28, 1951  | 21.87              | 10,400          |
| 1931                       | June 8, 1931  | 20.02              | 9,690           | 1952           | Mar. 19, 1952  | 19.25              | 9,590           |
| 1932                       | Nov. 19, 1931 | 19.92              | 9,100           | 1953           | Apr. 2, 1953   | 21.55              | 13,800          |
|                            | Nov. 27, 1931 | 21.46              | 17,500          |                |                |                    |                 |
|                            | Jan. 6, 1932  | 19.86              | 9,100           |                |                |                    |                 |
|                            | Aug. 21, 1932 | 21.47              | 17,500          |                |                |                    |                 |
| 1933                       | Dec. 25, 1932 | 20.64              | 12,500          | 1955           | Jan. 5, 1955   | 17.2               | 13,500          |
|                            | May 13, 1933  | 20.47              | 12,000          |                | Feb. 19, 1955  | 14.28              | 9,020           |
| 1934                       | Apr. 5, 1934  | 15.78              | 4,760           | 1956           | July 3, 1956   | 13.3               | 7,620           |
|                            |               | 22.23              | 15,000          | 1957           | July 29, 1957  | 14.67              | 7,910           |
| 1935                       | June 3, 1935  | 22.72              | 18,000          |                |                |                    |                 |
|                            | 1936          | Feb. 27, 1936      | 21.04           | 9,200          | July 16, 1958  | 19.7               | 14,400          |
| July 20, 1958              |               |                    |                 |                | 18.61          | 11,800             |                 |
| Aug. 1, 1958               |               |                    |                 |                | 20.22          | 15,600             |                 |
| 1937                       | Feb. 21, 1937 | b21.66             | -               | 1959           | June 2, 1959   | 16.78              | 10,900          |
|                            | Feb. 22, 1937 | b21.29             | 8,700           |                |                |                    |                 |
| 1938                       | Apr. 11, 1938 | 18.3               | 6,020           | 1960           | Oct. 7, 1959   | 16.15              | 9,960           |
|                            |               |                    |                 |                | Apr. 4, 1960   | 20.4               | 21,500          |
| 1939                       | Mar. 20, 1939 | 21.5               | 12,000          | 1961           | May 1, 1960    | 15.7               | 10,500          |
|                            | Apr. 19, 1939 | 21.39              | 9,600           |                | May 8, 1960    | 19.05              | 17,600          |
|                            | June 22, 1939 | 21.57              | 10,600          |                | May 27, 1960   | 15.47              | 10,100          |
|                            |               | July 2, 1960       | 19.34           |                | 18,400         |                    |                 |
| 1940                       | Mar. 4, 1940  | 16.3               | 4,350           | 1962           | Mar. 13, 1961  | 16.70              | 12,900          |
| 1941                       | June 14, 1941 | 20.8               | 8,370           |                | Mar. 28, 1961  | 16.00              | 11,700          |
|                            |               |                    |                 |                | Apr. 22, 1961  | 16.65              | 12,700          |
| 1942                       | June 26, 1942 | 23.41              | 21,000          |                | Sept. 14, 1961 | 20.10              | 15,400          |
| 1943                       | May 20, 1943  | 22.08              | 13,000          | Sept. 25, 1961 | 17.44          | 9,900              |                 |
|                            | June 11, 1943 | 21.53              | 10,200          | 1963           | Nov. 3, 1961   | 17.80              | 14,600          |
|                            | June 17, 1943 | 21.89              | 21,000          |                | Nov. 8, 1961   | 14.70              | 10,000          |
| 1944                       | Mar. 16, 1944 | 21.76              | 11,400          |                | Nov. 17, 1961  | 17.30              | 15,000          |
|                            | Apr. 12, 1944 | 21.30              | 9,500           |                | Nov. 22, 1961  | 16.65              | 13,700          |
|                            | Apr. 24, 1944 | 23.01              | 17,200          | Jan. 28, 1962  | 14.60          | 10,300             |                 |
| 1945                       | May 22, 1945  | 22.17              | 13,300          | Feb. 5, 1962   | 15.45          | 11,600             |                 |
|                            |               | 21.98              | 12,300          | Mar. 12, 1962  | 14.30          | 9,780              |                 |
|                            |               | 22.76              | 16,200          | Mar. 21, 1962  | 17.02          | 14,400             |                 |
|                            |               | 1946               | Jan. 5, 1946    | 23.0           | 17,200         | 1964               | Mar. 5, 1963    |
| Mar. 26, 1946              | 21.56         |                    | 10,500          | Apr. 21, 1964  | 16.60          |                    | 13,700          |
| 1947                       | June 27, 1946 | 22.16              | 12,700          | 1965           | Jan. 2, 1965   | 19.25              | 19,100          |
|                            |               | 22.80              | 15,600          |                | Jan. 22, 1965  | 14.00              | 9,300           |
| Apr. 6, 1947               | 22.20         | 12,700             | Mar. 17, 1965   |                | 18.60          | 17,700             |                 |
| June 2, 1947               | 25.3          | 25,600             | Apr. 6, 1965    |                | 17.75          | 15,200             |                 |
| June 9, 1947               | 25.3          | 25,600             | Apr. 12, 1965   | 17.40          | 14,400         |                    |                 |
| June 16, 1947              | 24.10         | 20,000             | Apr. 16, 1965   | 15.80          | 11,600         |                    |                 |
| June 19, 1947              | 24.92         | 23,700             | June 6, 1965    | 15.50          | 11,800         |                    |                 |
| July 1, 1947               | 22.55         | 13,300             | Sept. 16, 1965  | 14.50          | 9,780          |                    |                 |
| 1948                       | Mar. 20, 1948 | 22.6               | 13,300          | Sept. 22, 1965 | 19.90          | 17,500             |                 |
|                            | Mar. 23, 1948 | 22.6               | 13,300          |                |                |                    |                 |
| 1949                       | June 26, 1949 | 20.1               | 9,620           |                |                |                    |                 |

a Annual peak only.

b Backwater from ice.

## CHARITON RIVER BASIN

6-9057. Puzzle Creek near Salisbury, Mo.

Location.--Lat 39°26'30", long 92°47'30", in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.35, T.54 N., R.17 W., on right bank just upstream from culvert on State Highway 129, three-quarters of a mile north of Salisbury.

Drainage area.--0.80 sq mi. Slope.--55.6 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 100 and 556 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | July 18, 1955  | 5.73               | 100             |            |      |                    |                 |
| 1956       | July 2, 1956   | 6.23               | 150             |            |      |                    |                 |
| 1957       | June 14, 1957  | 6.05               | 130             |            |      |                    |                 |
| 1958       | July 19, 1958  | 8.50               | 556             |            |      |                    |                 |
| 1959       | Feb. 9, 1959   | 5.67               | 95              |            |      |                    |                 |
| 1960       | June 30, 1960  | 6.64               | 200             |            |      |                    |                 |
| 1961       | Sept. 13, 1961 | 7.60               | 401             |            |      |                    |                 |
| 1962       | July 15, 1962  | 6.27               | 155             |            |      |                    |                 |
| 1963       | Mar. 4, 1963   | 6.06               | 130             |            |      |                    |                 |
| 1964       | July 11, 1964  | 5.67               | 95              |            |      |                    |                 |
| 1965       | June 6, 1965   | 7.80               | 390             |            |      |                    |                 |

## CHARITON RIVER BASIN

6-9060. Mussel Fork near Musselfork, Mo.

Location.--Lat 39°31'26", long 92°56'59", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.32, T.55 N., R.18 W., at downstream side of left pier of bridge on State Highway 5, 4 $\frac{1}{2}$  miles southwest of Musselfork, and 1 $\frac{1}{2}$  miles upstream from Long Branch.

Drainage area.--267 sq mi.

Gage.--Nonrecording prior to Jan. 1, 1952; recording since October 1962. Datum of gage is 639.25 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined below 3,750 cfs by current-meter measurements.

Historical data.--Maximum stage known, 20.7 ft in June 1947, from information by local resident.

Remarks.--Base for partial-duration series, 1,200 cfs.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1949                       | Jan. 16, 1949  | -                  | 2,420           |            |      |                    |                 |
|                            | Feb. 21, 1949  | -                  | 1,200           |            |      |                    |                 |
|                            | Feb. 26, 1949  | -                  | 1,650           |            |      |                    |                 |
|                            | June 3, 1949   | -                  | 2,460           |            |      |                    |                 |
|                            | Sept. 15, 1949 | -                  | 1,650           |            |      |                    |                 |
| 1950                       | Jan. 2, 1950   | 15.9               | 1,600           |            |      |                    |                 |
|                            | June 3, 1950   | 16.9               | 1,940           |            |      |                    |                 |
|                            | June 17, 1950  | 18.7               | 2,650           |            |      |                    |                 |
| 1951                       | Feb. 22, 1951  | 17.53              | 2,120           |            |      |                    |                 |
|                            | Apr. 9, 1951   | 17.55              | 2,160           |            |      |                    |                 |
|                            | June 3, 1951   | 16.45              | 1,800           |            |      |                    |                 |
|                            | June 24, 1951  | 18.05              | 2,300           |            |      |                    |                 |
|                            | June 29, 1951  | 18.96              | 4,380           |            |      |                    |                 |
|                            | July 12, 1951  | 15.36              | 1,550           |            |      |                    |                 |
|                            | July 25, 1951  | 14.90              | 1,430           |            |      |                    |                 |
| 1963                       | Mar. 7, 1963   | 17.22              | 1,960           |            |      |                    |                 |
|                            | May 17, 1963   | 17.32              | 1,990           |            |      |                    |                 |
| 1964                       | Apr. 5, 1964   | 17.94              | 2,190           |            |      |                    |                 |
|                            | Apr. 22, 1964  | 16.59              | 1,800           |            |      |                    |                 |
| 1965                       | Jan. 3, 1965   | 20.10              | 3,020           |            |      |                    |                 |
|                            | Jan. 23, 1965  | 18.75              | 2,500           |            |      |                    |                 |
|                            | Feb. 8, 1965   | 15.04              | 1,470           |            |      |                    |                 |
|                            | Mar. 17, 1965  | 18.93              | 2,540           |            |      |                    |                 |
|                            | Apr. 6, 1965   | 18.75              | 2,500           |            |      |                    |                 |
|                            | Sept. 18, 1965 | 19.42              | 2,740           |            |      |                    |                 |
|                            | Sept. 23, 1965 | 19.85              | 2,900           |            |      |                    |                 |

## LITTLE CHARITON RIVER BASIN

6-9063. East Fork Chariton River near Huntsville, Mo.

Location.--Lat 39°27'19", long 92°34'09", in NE¼NW¼NW¼ sec.26, T.54 N., R.15 W., at downstream side of left pile bent of bridge on County Highway C, 1 mile downstream from Sugar Creek, and 1½ miles northwest of Huntsville.

Drainage area.--220 sq mi.

Gage.--Recording. Datum of gage is 656.43 ft above mean sea level, datum of 1929 (levels by Missouri Highway Department).

Stage-discharge relation.--Defined by current-meter measurement below 3,280 cfs.

Remarks.--Base for partial-duration series, 1,100 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1963       | Mar. 4, 1963   | 15.65              | 1,210           |            |      |                    |                 |
|            | May 18, 1963   | 14.93              | 1,110           |            |      |                    |                 |
| 1964       | Apr. 7, 1964   | 15.43              | 1,180           |            |      |                    |                 |
|            | Apr. 21, 1964  | 14.80              | 1,100           |            |      |                    |                 |
| 1965       | Jan. 4, 1965   | 16.97              | 3,620           |            |      |                    |                 |
|            | Jan. 26, 1965  | 15.67              | 1,430           |            |      |                    |                 |
|            | Mar. 20, 1965  | 15.90              | 1,530           |            |      |                    |                 |
|            | Apr. 6, 1965   | 15.97              | 1,600           |            |      |                    |                 |
|            | Sept. 20, 1965 | 16.64              | 2,900           |            |      |                    |                 |

## SLOUGH CREEK BASIN

6-9066. Burge Branch near Arrow Rock, Mo.

Location.--Lat 39°02'45", long 92°56'35", in SW¼NE¼ sec.1, T.49 N., R.19 W., on right bank just upstream from culvert under county road about 1½ miles south of Arrow Rock.

Drainage area.--0.33 sq mi. Slope.--76.0 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined by current-meter measurements below 5 cfs and by indirect measurements at 90 and 97 cfs.

Remarks.--Base for partial-duration series, 25 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| 1960       | Oct. 4, 1959   | -                  | 20              | 1962          | Mar. 20, 1962 | 3.24               | 40.0            |
|            | Mar. 27, 1960  | 2.44               | 12.3            |               | Aug. 4, 1962  | 3.31               | 43.6            |
|            | May 6, 1960    | 3.23               | 39.5            | 1963          | Aug. 9, 1963  | 3.78               | 20.8            |
|            | July 1, 1960   | 3.38               | 47.8            |               |               |                    |                 |
| 1961       | Nov. 15, 1960  | 3.63               | 64              | 1964          | Apr. 5, 1964  | 3.92               | 27.0            |
|            | Mar. 7, 1961   | 4.17               | 112             |               |               |                    |                 |
|            | May 5, 1961    | 3.38               | 47.8            | 1965          | June 3, 1965  | 5.75               | 90              |
|            | July 5, 1961   | 2.98               | 28.7            |               | June 3, 1965  | 6.01               | 95              |
|            | July 25, 1961  | 3.46               | 53              |               | June 4, 1965  | 5.80               | 91              |
|            | Sept. 13, 1961 | 4.38               | 134             |               | June 29, 1965 | 4.11               | 36.5            |
|            |                |                    |                 |               | July 14, 1965 | 5.82               | 91              |
| 1962       | Oct. 30, 1961  | 3.18               | 37.1            | July 15, 1965 | 7.00          | 115                |                 |
|            | Nov. 15, 1961  | 3.39               | 48.4            | July 19, 1965 | 4.15          | 38.5               |                 |

## LAMINE RIVER BASIN

6-9067. Flat Creek near Sedalia, Mo.

Location--Lat 38°39'35", long 93°15'10", in NW¼SE¼ sec.20, T.45 N., R.21 W., on downstream side of left pier of bridge on U. S. Highway 65, 1 mile upstream from Spring Fork, and 1½ miles south of Sedalia.

Drainage area--148 sq mi. Slope--8.1 ft per mi.

Gage--Recording. Altitude of gage is 765 ft (from topographic map).

Stage-discharge relation--Defined below 9,300 cfs by current-meter measurement.

Remarks--Base for partial-duration series, 3,500 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1959       | Feb. 10, 1959  | 12.70              | 6,180           |            |      |                    |                 |
|            | Mar. 5, 1959   | 9.85               | 3,840           |            |      |                    |                 |
| 1960       | Mar. 27, 1960  | 13.9               | 7,350           |            |      |                    |                 |
|            | Apr. 16, 1960  | 16.7               | 12,200          |            |      |                    |                 |
|            | Apr. 17, 1960  | 11.1               | 4,880           |            |      |                    |                 |
|            | May 6, 1960    | 16.6               | 11,900          |            |      |                    |                 |
| 1961       | Mar. 12, 1961  | 9.70               | 3,760           |            |      |                    |                 |
|            | Apr. 9, 1961   | 9.60               | 3,560           |            |      |                    |                 |
|            | May 6, 1961    | 16.80              | 11,700          |            |      |                    |                 |
|            | May 8, 1961    | 15.95              | 9,950           |            |      |                    |                 |
|            | July 25, 1961  | 11.00              | 4,610           |            |      |                    |                 |
|            | Aug. 2, 1961   | 16.65              | 11,300          |            |      |                    |                 |
|            | Sept. 13, 1961 | 17.80              | 14,100          |            |      |                    |                 |
| 1962       | Nov. 2, 1961   | 13.82              | 7,250           |            |      |                    |                 |
|            | Nov. 16, 1961  | 10.91              | 4,720           |            |      |                    |                 |
|            | Mar. 20, 1962  | 16.25              | 10,900          |            |      |                    |                 |
| 1963       | Mar. 4, 1963   | 11.45              | 5,120           |            |      |                    |                 |
|            | June 21, 1963  | 10.46              | 4,400           |            |      |                    |                 |
|            | Sept. 7, 1963  | 10.35              | 4,320           |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 14.25              | 7,670           |            |      |                    |                 |
|            | Apr. 21, 1964  | 13.10              | 6,550           |            |      |                    |                 |
|            | Apr. 23, 1964  | 13.25              | 6,650           |            |      |                    |                 |
|            | May 28, 1964   | 12.12              | 5,680           |            |      |                    |                 |
|            | June 14, 1964  | 16.30              | 11,100          |            |      |                    |                 |
| 1965       | Mar. 17, 1965  | 11.10              | 4,690           |            |      |                    |                 |
|            | Apr. 3, 1965   | 10.15              | 4,010           |            |      |                    |                 |
|            | Apr. 5, 1965   | 12.35              | 5,760           |            |      |                    |                 |
|            | July 1, 1965   | 15.50              | 9,080           |            |      |                    |                 |
|            | July 20, 1965  | 14.5               | 7,730           |            |      |                    |                 |
|            | Aug. 24, 1965  | 9.81               | 3,710           |            |      |                    |                 |
|            | Aug. 27, 1965  | 10.15              | 4,010           |            |      |                    |                 |
|            | Sept. 4, 1965  | 15.20              | 8,630           |            |      |                    |                 |
|            | Sept. 21, 1965 | 12.0               | 5,420           |            |      |                    |                 |

## LAMINE RIVER BASIN

6-9070. Lamine River at Clifton City, Mo.

Location.--Lat 38°45'20", long 93°01'10", in NW¼ sec.16, T.46 N., R.19 W., at left end of county highway bridge, 300 ft upstream from Missouri-Kansas-Texas Railroad bridge, three-quarters of a mile east of Clifton City, and 8 miles downstream from Otter Creek.

Drainage area.--598 sq mi. Slope.--3.6 ft per mi.

Gage.--Nonrecording prior to Sept. 3, 1958, recording gage thereafter. Datum of gage is 621.91 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 30,000 cfs.

Bankfull stage.--15 ft.

Historical data.--Maximum stage known, 35.3 ft Sept. 18, 1905 (discharge, about 90,000 cfs).

Remarks.--Base for partial-duration series, 10,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1905                       | Sept. 18, 1905 | 35.3               | a90,000         | 1941       | Apr. 20, 1941  | 26.5               | 18,600          |
| 1907                       | Jan. 20, 1907  | 33.2               | a70,000         | 1942       | Oct. 5, 1941   | 27.00              | 19,800          |
| 1922                       | Apr. 8, 1922   | 31.5               | a55,000         |            | Oct. 31, 1941  | 27.5               | 21,400          |
| 1923                       | July 4, 1923   | 19.9               | 9,300           |            | Mar. 17, 1942  | 21.52              | 10,300          |
| 1924                       | June 25, 1924  | 18.85              | 7,640           | 1943       | June 27, 1942  | 24.70              | 14,700          |
| 1925                       | Mar. 19, 1925  | 20.60              | 10,100          |            | Dec. 28, 1942  | 26.00              | 17,200          |
| 1926                       | Sept. 10, 1926 | 21.64              | 11,300          |            | May 8, 1943    | 24.00              | 13,600          |
| 1927                       | Mar. 20, 1927  | 27.40              | 22,700          |            | May 18, 1943   | 32.0               | 60,000          |
|                            | Apr. 1, 1927   | 27.85              | 25,000          | 1944       | June 5, 1943   | 21.80              | 10,700          |
|                            | Apr. 13, 1927  | 22.70              | 12,500          |            | Apr. 11, 1944  | 28.00              | 25,000          |
|                            | May 8, 1927    | 22.02              | 11,700          |            | Apr. 23, 1944  | 29.0               | 32,500          |
| 1928                       | Oct. 3, 1927   | 18.11              | 7,620           | 1945       | Apr. 17, 1945  | 24.0               | 12,200          |
| 1929                       | Nov. 18, 1928  | 22.60              | 12,400          |            | June 11, 1945  | 23.6               | 11,800          |
|                            | Apr. 10, 1929  | 23.50              | 13,600          | 1946       | Jan. 7, 1946   | 21.80              | 10,000          |
|                            | May 3, 1929    | 24.35              | 14,800          |            | May 11, 1946   | 25.5               | 14,500          |
|                            | May 13, 1929   | 27.60              | 23,800          | 1947       | Aug. 15, 1946  | 23.40              | 11,600          |
|                            | May 19, 1929   | 29.00              | 33,000          |            | Mar. 14, 1947  | 22.01              | 10,200          |
|                            | June 4, 1929   | 24.62              | 15,100          |            | Apr. 11, 1947  | 23.32              | 11,500          |
| 1930                       | Feb. 7, 1930   | 17.60              | 7,260           | 1948       | Apr. 26, 1947  | 25.4               | 14,300          |
| 1931                       | Sept. 25, 1931 | 19.10              | 8,500           |            | June 19, 1948  | 28.14              | 25,600          |
| 1932                       | Nov. 23, 1931  | 21.65              | 11,200          | 1949       | June 23, 1948  | 29.0               | 32,500          |
| 1933                       | Dec. 25, 1932  | 26.10              | 17,800          |            | Jan. 24, 1949  | 22.6               | 10,800          |
|                            | May 14, 1933   | 21.80              | 11,500          |            | June 7, 1949   | 24.2               | 12,400          |
| 1934                       | Sept. 29, 1934 | 14.12              | 5,190           | 1950       | June 9, 1949   | 23.6               | 11,800          |
| 1935                       | Nov. 23, 1934  | 21.40              | 11,000          |            | Dec. 22, 1949  | 23.5               | 11,700          |
|                            | May 29, 1935   | 26.38              | 18,600          | 1951       | May 31, 1950   | 23.0               | 11,200          |
|                            | June 2, 1935   | 26.19              | 18,000          |            | June 4, 1950   | 24.0               | 12,200          |
|                            | June 21, 1935  | 22.36              | 12,200          |            | Feb. 21, 1951  | 24.25              | 12,400          |
|                            | June 27, 1935  | 27.76              | 25,000          |            | June 25, 1951  | 23.0               | 11,200          |
| 1936                       | Nov. 5, 1935   | 23.20              | 13,200          |            | June 29, 1951  | 32.5               | 65,500          |
|                            | Sept. 29, 1936 | 22.93              | 12,800          | 1952       | July 4, 1951   | 22.0               | 10,200          |
| 1937                       | Mar. 20, 1937  | 22.00              | 11,700          |            | July 7, 1951   | 28.85              | 30,900          |
|                            | May 4, 1937    | 21.95              | 11,700          | 1953       | July 13, 1951  | 24.4               | 12,700          |
|                            | May 23, 1937   | 27.30              | 22,200          |            | Sept. 10, 1951 | 23.0               | 11,200          |
|                            | June 10, 1937  | 22.20              | 11,900          | 1954       | Sept. 13, 1951 | 22.0               | 10,200          |
|                            | June 17, 1937  | 22.80              | 12,700          |            | Nov. 13, 1951  | 21.50              | 9,750           |
| 1938                       | May 24, 1938   | 25.5               | 16,600          | 1955       | Mar. 4, 1953   | 16.00              | 5,360           |
| 1939                       | Apr. 16, 1939  | 29.86              | 40,200          |            | May 2, 1954    | 13.30              | 3,830           |
|                            | May 9, 1939    | 21.57              | 11,200          | 1956       | Aug. 31, 1955  | 20.71              | 8,260           |
| 1940                       | June 12, 1940  | 13.5               | 4,280           | 1957       | Oct. 7, 1955   | 25.70              | 14,000          |
|                            |                |                    |                 |            | May 26, 1957   | 18.66              | 6,740           |
|                            |                |                    |                 | 1958       | Mar. 10, 1958  | 22.9               | 10,100          |
|                            |                |                    |                 |            | July 21, 1958  | 28.1               | 25,500          |

## LAMINE RIVER BASIN

## Peak stages and discharges of Lamine River at Clifton City, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1959       | Feb. 11, 1959  | 22.82              | 9,980           | 1963       | May 26, 1963   | 17.55              | 5,990           |
| 1960       | Apr. 17, 1960  | 26.3               | 15,800          | 1964       | Apr. 6, 1964   | 24.20              | 11,300          |
|            | May 6, 1960    | 28.5               | 28,700          |            | June 15, 1964  | 27.75              | 23,200          |
| 1961       | May 6, 1961    | 27.17              | 19,400          | 1965       | Sept. 5, 1965  | 27.30              | 19,900          |
|            | May 9, 1961    | 25.30              | 13,100          |            | Sept. 22, 1965 | 24.90              | 12,300          |
|            | Sept. 15, 1961 | 29.51              | 11,700          |            |                |                    |                 |
| 1962       | Mar. 21, 1962  | 27.02              | 18,400          |            |                |                    |                 |

a Annual peak only.

## LAMINE RIVER BASIN

6-9072. Shaver Creek tributary near Clifton City, Mo.

Location.--Lat 38°45'29", long 93°04'25", in NE¼SE¼ sec.13, T.46 N., R.20 W., on left bank just upstream from culvert under State Highway 135, 2 miles southwest of Clifton City, and 9.5 miles northeast of Sedalia.

Drainage area.--1.65 sq mi. Slope.--46.4 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage Oct. 18, 1961 to Apr. 16, 1964. Datum of gage is 759.56 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 107 cfs and by indirect measurements at 187, 480, and 1,230 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Aug. 30, 1955 | 11.68              | 1,230           |            |      |                    |                 |
| 1956       | May 29, 1956  | 8.13               | 370             |            |      |                    |                 |
| 1957       | June 29, 1957 | 8.26               | 390             |            |      |                    |                 |
| 1958       | July 19, 1958 | 11.85              | 1,600           |            |      |                    |                 |
| 1959       | Jan. 21, 1959 | 8.13               | 370             |            |      |                    |                 |
| 1960       | July 1, 1960  | 11.20              | 850             |            |      |                    |                 |
| 1961       | May 5, 1961   | 11.38              | 966             |            |      |                    |                 |
| 1962       | Nov. 15, 1961 | 7.05               | 250             |            |      |                    |                 |
| 1963       | May 25, 1963  | 8.36               | 406             |            |      |                    |                 |
| 1964       | June 13, 1964 | 10.41              | 625             |            |      |                    |                 |
| 1965       | June 4, 1965  | 11.65              | 1,200           |            |      |                    |                 |

a Revised.

## LAMINE RIVER BASIN

6-9075. South Fork Blackwater River near Elm, Mo.  
(Published as "East Branch South Fork Blackwater River" prior to 1964)

Location--Lat 38°49'05", long 94°02'05", in SW¼SE¼ sec.5, T.46 N., R.28 W., on left bank at downstream side of bridge on county highway, 2½ miles southeast of Elm and 3 miles upstream from mouth.

Drainage area--16.4 sq mi. Slope--22.2 ft per mi.

Gage--Recording gage and concrete control. Datum of gage is about 795 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 600 cfs and by indirect measurement at 5,600 cfs.

Bankfull stage--7.0 ft.

Historical data--Flood of July 1951, reached a stage of 14.8 ft, from information by local residents.

Remarks--Base for partial-duration series, 1,100 cfs.

| Water year | Date           | Peak stages and discharges |                 |            |                |                |               |       |       |
|------------|----------------|----------------------------|-----------------|------------|----------------|----------------|---------------|-------|-------|
|            |                | Gage height (feet)         | Discharge (cfs) | Water year | Date           |                |               |       |       |
| 1951       | July 1951      | 14.8                       | -               | 1961       | Mar. 26, 1961  | 8.74           | 2,500         |       |       |
| 1954       | May 2, 1954    | 6.68                       | a1,420          |            | Apr. 23, 1961  | 5.98           | 1,130         |       |       |
|            |                |                            |                 |            | May 5, 1961    | 9.22           | 2,840         |       |       |
| 1955       | May 27, 1955   | 8.50                       | 2,380           |            | July 24, 1961  | 7.90           | 2,020         |       |       |
|            |                |                            |                 |            | July 25, 1961  | 7.20           | 1,650         |       |       |
| 1956       | Apr. 28, 1956  | 3.92                       | 447             |            | Sept. 13, 1961 | 11.72          | 5,270         |       |       |
|            |                |                            |                 |            | 1962           | Nov. 15, 1961  | 6.80          | 1,460 |       |
| 1957       | Sept. 21, 1957 | 6.68                       | 1,420           |            | 1963           | May 26, 1963   | 6.47          | 1,330 |       |
|            |                |                            |                 |            | 1964           | Apr. 5, 1964   | 6.75          | 1,460 |       |
| 1958       | Oct. 23, 1957  | 8.01                       | 2,080           |            | 1965           | June 13, 1965  | 5.98          | 1,130 |       |
|            | July 17, 1958  | 6.02                       | 1,130           |            |                | June 19, 1965  | 11.12         | 4,610 |       |
|            | July 25, 1958  | 6.41                       | 1,290           |            |                | Aug. 8, 1965   | 6.20          | 1,210 |       |
|            | July 31, 1958  | b8.56                      | 2,440           |            |                | Sept. 4, 1965  | 7.57          | 1,860 |       |
| 1959       | Aug. 31, 1959  | 6.55                       | 1,380           |            |                | Sept. 20, 1965 | 7.87          | 2,020 |       |
|            |                |                            |                 |            |                | 1960           | Apr. 15, 1960 | 12.0  | 5,600 |
|            |                |                            |                 |            |                | Apr. 30, 1960  | 8.39          | 2,320 |       |
| 1960       | May 6, 1960    | 8.08                       | 2,140           |            |                |                |               |       |       |

a Annual peak only.  
b Revised.

## LAMINE RIVER BASIN

6-9077. Blackwater River at Valley City, Mo.

Location.--Lat 38°52'10", long 93°37'15", in SW¼NW¼ sec.13, T.47 N., R.25 W., at right bank at downstream side of bridge on County Highway E, 0.5 mile upstream from Blackjack Creek, 0.5 mile northwest of Valley City, and 1 mile downstream from Clear Creek.

Drainage area.--547 sq mi. Slope.--5.05 ft per mi.

Gage.--Recording. Datum of gage is 650.23 ft above mean sea level, datum of 1929. Auxiliary recording gage 4½ miles downstream since Oct. 11, 1961, at datum 2.75 ft lower.

Stage-discharge relation.--Defined below 58,100 cfs by current-meter measurement.

Bankfull stage.--20 ft.

Remarks.--Base for partial-duration series, 10,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1959       | May 22, 1959   | 22.92              | 5,750           |            |      |                    |                 |
| 1960       | Mar. 27, 1960  | 26.25              | 12,900          |            |      |                    |                 |
|            | Apr. 16, 1960  | 30.4               | 66,500          |            |      |                    |                 |
|            | Apr. 30, 1960  | 26.75              | 15,900          |            |      |                    |                 |
|            | May 6, 1960    | 27.70              | 20,900          |            |      |                    |                 |
| 1961       | Mar. 13, 1961  | 26.2               | 10,200          |            |      |                    |                 |
|            | Mar. 27, 1961  | 26.3               | 10,500          |            |      |                    |                 |
|            | Apr. 9, 1961   | 26.6               | 11,700          |            |      |                    |                 |
|            | May 6, 1961    | 28.5               | 23,500          |            |      |                    |                 |
|            | July 26, 1961  | 27.2               | 14,700          |            |      |                    |                 |
|            | Sept. 4, 1961  | 26.25              | 10,200          |            |      |                    |                 |
|            | Sept. 14, 1961 | 31.1               | 55,000          |            |      |                    |                 |
| 1962       | Sept. 25, 1961 | 26.7               | 12,200          |            |      |                    |                 |
|            | Oct. 30, 1961  | 26.22              | 11,900          |            |      |                    |                 |
|            | Nov. 3, 1961   | 26.80              | 15,500          |            |      |                    |                 |
|            | Nov. 16, 1961  | 26.65              | 14,300          |            |      |                    |                 |
| 1963       | Mar. 21, 1962  | 27.60              | 20,900          |            |      |                    |                 |
|            | Oct. 13, 1962  | 24.50              | 7,000           |            |      |                    |                 |
| 1964       | June 14, 1964  | 25.80              | 9,800           |            |      |                    |                 |
| 1965       | Apr. 6, 1965   | 26.00              | 10,700          |            |      |                    |                 |
|            | June 5, 1965   | 26.85              | 15,500          |            |      |                    |                 |
|            | June 13, 1965  | 25.90              | 10,200          |            |      |                    |                 |
|            | July 20, 1965  | 31.15              | 57,000          |            |      |                    |                 |
|            | Sept. 5, 1965  | 26.70              | 14,900          |            |      |                    |                 |
|            | Sept. 16, 1965 | 26.30              | 12,500          |            |      |                    |                 |
|            | Sept. 20, 1965 | 26.50              | 13,700          |            |      |                    |                 |

## LAMINE RIVER BASIN

6-9080. Blackwater River at Blue Lick, Mo.

Location.--Lat 38°59'30", long 93°12'15", on line between secs.27 and 34, T.49 N., R.21 W., on right bank, 25 ft upstream from bridge on U. S. Highway 65, three-quarters of a mile downstream from Finney Creek, and 1 mile south of Blue Lick.

Drainage area.--1,120 sq mi, approximately. Slope.--2.50 ft per mi.

Gage.--Nonrecording prior to Dec. 4, 1956; recording gage thereafter. At site 75 ft downstream at datum 0.10 ft lower prior to July 25, 1925. At site 25 ft downstream at present datum July 25, 1925, to Sept. 30, 1933, and May 23, 1938, to Dec. 3, 1956. Datum of gage is 593.79 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 32,000 cfs and extended by logarithmic plotting.

Bankfull stage.--25 ft.

Remarks.--Base for partial-duration series, 10,000 cfs.

|            |                | Peak stages and discharges |                 |            |                |                    |                 |
|------------|----------------|----------------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year | Date           | Gage height (feet)         | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1905       | Sept. 1905     | 36                         | a26,000         | 1945       | June 10, 1945  | 31.85              | 12,600          |
| 1923       | July 4, 1923   | 30.9                       | 9,280           | 1946       | Jan. 8, 1946   | 31.3               | 11,300          |
| 1924       | June 30, 1924  | 29.05                      | 10,800          | 1947       | Mar. 16, 1947  | 30.76              | 10,200          |
| 1925       | June 19, 1925  | 24.10                      | 7,060           |            | Apr. 7, 1947   | 31.9               | 12,900          |
| 1926       | Apr. 8, 1926   | 28.05                      | 10,000          |            | July 3, 1947   | 31.09              | 10,800          |
| 1927       | Mar. 22, 1927  | 32.01                      | 17,400          | 1948       | June 25, 1948  | 32.80              | 15,600          |
|            | Apr. 3, 1927   | 31.0                       | 15,400          | 1949       | June 10, 1949  | 30.6               | 9,760           |
|            | Apr. 16, 1927  | 30.25                      | 14,000          | 1950       | Oct. 23, 1949  | 32.0               | 13,200          |
|            | Apr. 21, 1927  | 28.95                      | 11,800          |            |                |                    |                 |
|            | May 9, 1927    | 30.68                      | 14,900          | 1951       | July 1, 1951   | -                  | 18,000          |
| 1928       | Oct. 4, 1927   | 34.17                      | 21,800          |            | July 8, 1951   | 34.2               | 20,400          |
|            | Feb. 9, 1928   | 28.60                      | 11,200          |            | July 14, 1951  | 35.06              | 23,900          |
|            |                |                            |                 |            | Aug. 29, 1951  | 31.06              | 10,800          |
| 1929       | Nov. 18, 1928  | 41.25                      | 54,000          | 1952       | Nov. 15, 1951  | 28.48              | 7,100           |
|            | Apr. 2, 1929   | 31.30                      | 16,000          |            |                |                    |                 |
|            | Apr. 11, 1929  | 30.00                      | 13,600          | 1953       | Apr. 3, 1953   | 27.16              | 5,880           |
|            | May 14, 1929   | 32.10                      | 17,600          |            |                |                    |                 |
|            | May 21, 1929   | 30.10                      | 13,800          | 1954       | June 4, 1954   | 22.90              | 3,290           |
|            | June 9, 1929   | 31.19                      | 15,800          |            |                |                    |                 |
| 1930       | Feb. 10, 1930  | 26.42                      | 7,990           | 1955       | Feb. 22, 1955  | 26.45              | 5,170           |
| 1931       | Sept. 24, 1931 | 18.77                      | 3,200           | 1956       | Oct. 10, 1955  | 24.40              | 3,960           |
| 1932       | Nov. 26, 1931  | 27.85                      | 9,680           | 1957       | June 29, 1957  | 22.25              | 3,150           |
| 1933       | May 14, 1933   | 25.88                      | 6,900           | 1958       | June 18, 1958  | 28.95              | 8,100           |
| 1938       | May 25, 1938   | 34.18                      | 19,600          | 1959       | Mar. 5, 1959   | 22.80              | 3,570           |
| 1939       | Apr. 18, 1939  | 29.6                       | 9,810           | 1960       | Apr. 19, 1960  | 33.0               | 16,200          |
| 1940       | Apr. 20, 1940  | 25.0                       | 5,300           |            | May 9, 1960    | 30.7               | 10,600          |
| 1941       | Jan. 28, 1941  | 23.8                       | 3,800           | 1961       | May 9, 1961    | 33.5               | 17,800          |
| 1942       | June 23, 1942  | 31.83                      | 12,400          |            | Sept. 16, 1961 | 36.5               | 30,000          |
|            | June 29, 1942  | 32.2                       | 13,400          | 1962       | Mar. 23, 1962  | 30.83              | 10,800          |
| 1943       | May 20, 1943   | 36.45                      | 27,900          | 1963       | May 29, 1963   | 22.84              | 3,450           |
| 1944       | Mar. 18, 1944  | 31.50                      | 12,600          | 1964       | June 21, 1964  | 25.84              | 5,310           |
|            | Apr. 13, 1944  | 32.50                      | 15,300          | 1965       | July 23, 1965  | 37.50              | 26,000          |
|            | Apr. 24, 1944  | 37.0                       | 32,400          |            | Sept. 18, 1965 | 31.04              | 10,400          |

a Annual peak only.

## LAMINE RIVER BASIN

6-9083. Trent Branch near Waverly, Mo.

Location.--Lat 39°12'06", long 93°34'46", in SE¼NE¼ sec.19, T.51 N., R.24 W., on right bank just upstream from culvert on U. S. Highway 24, and 3.8 miles west of Waverly.

Drainage area.--0.97 sq mi. Slope.--69.2 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage July 23, 1959, to July 18, 1962.

Stage-discharge relation.--Defined by current-meter measurement at 21.5 cfs and by indirect measurements at 282, 544, 878, and 1,190 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Aug. 7, 1955  | 15.76              | 544             |            |      |                    |                 |
| 1956       | Apr. 28, 1956 | 18.16              | 878             |            |      |                    |                 |
| 1957       | June 30, 1957 | 14.17              | 370             |            |      |                    |                 |
| 1958       | June 14, 1958 | 16.59              | 660             |            |      |                    |                 |
| 1959       | July 4, 1959  | 13.46              | 282             |            |      |                    |                 |
| 1960       | June 30, 1960 | 14.95              | 450             |            |      |                    |                 |
| 1961       | Aug. 1, 1961  | 19.87              | 1,190           |            |      |                    |                 |
| 1962       | Sept. 8, 1962 | 13.80              | 320             |            |      |                    |                 |
| 1963       | July 15, 1963 | 13.55              | 290             |            |      |                    |                 |
| 1964       | June 21, 1964 | 13.91              | 330             |            |      |                    |                 |
| 1965       | Nov. 16, 1964 | 12.80              | 220             |            |      |                    |                 |

## LAMINE RIVER BASIN

6-9085. Shiloh Branch near Marshall, Mo.

Location.--Lat 39°07'00", long 93°05'50", in NW¼ sec.15, T.50 N., R.20 W., on left bank 15 ft upstream from double culvert under State Highway 41, 08 mile upstream from unnamed tributary, 2.5 miles upstream from Salt Branch, 3.6 miles upstream from mouth and 5½ miles east of Marshall.

Drainage area.--2.87 sq mi. Slope.--40.1 ft per mi.

Gage.--Recording gage and concrete control. Datum of gage is 677.39 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 200 cfs and indirect measurements at 713 and 873 cfs.

Bankfull stage.--7.0 ft.

Remarks.--Base for partial-duration series, 400 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1953       | Mar. 31, 1953  | 1.90               | 145             | 1961       | Mar. 27, 1961  | 3.13               | 424             |
|            |                |                    |                 |            | Apr. 24, 1961  | 3.26               | 455             |
| 1954       | Aug. 1, 1954   | 5.64               | 741             |            | May 6, 1961    | 3.22               | 440             |
|            |                |                    |                 |            | July 23, 1961  | 4.84               | 653             |
| 1955       | Feb. 18, 1955  | 3.26               | 455             |            | July 25, 1961  | 4.53               | 618             |
|            | May 28, 1955   | 4.84               | 653             |            | Aug. 1, 1961   | 3.79               | 527             |
|            | June 2, 1955   | 6.92               | 871             |            | Sept. 13, 1961 | 7.58               | 934             |
|            | Aug. 29, 1955  | 3.61               | 499             |            |                |                    |                 |
| 1956       | Oct. 5, 1955   | 2.60               | 336             | 1962       | Oct. 30, 1961  | 2.97               | 400             |
|            |                |                    |                 |            | Sept. 8, 1962  | 3.14               | 424             |
| 1957       | June 29, 1957  | 3.63               | 499             | 1963       | May 4, 1963    | 2.90               | 391             |
| 1958       | June 14, 1958  | 3.13               | 424             | 1964       | Apr. 20, 1964  | 4.92               | 664             |
|            | July 3, 1958   | 6.65               | 842             |            |                |                    |                 |
|            | July 15, 1958  | 7.04               | 880             | 1965       | July 14, 1965  | 6.00               | 782             |
| 1959       | Sept. 23, 1959 | 4.56               | 630             |            | Sept. 15, 1965 | 7.2                | 898             |
| 1960       | Oct. 4, 1959   | 3.47               | 485             |            |                |                    |                 |
|            | Mar. 27, 1960  | 4.11               | 424             |            |                |                    |                 |
|            | Apr. 29, 1960  | 3.14               | 424             |            |                |                    |                 |
|            | May 6, 1960    | 4.78               | 653             |            |                |                    |                 |
|            | July 1, 1960   | 4.31               | 594             |            |                |                    |                 |

## MISSOURI RIVER MAIN STEM

6-9090. Missouri River at Boonville, Mo.

Location.--Lat 38°58'40", long 92°45'15", in sec.35, T.49 N., R.17 W., on downstream side of second pier from right abutment of Missouri-Kansas-Texas Railroad bridge at Boonville, and at mile 196.6.

Drainage area.--505,700 sq mi.

Gage.--Nonrecording prior to May 10, 1931; recording gage thereafter. At site 0.4 mile downstream at datum 3.14 ft lower prior to Oct. 1, 1928, and at different datum May 10, 1931, to Apr. 12, 1934. At site 50 ft upstream at present datum Oct. 1, 1928, to May 9, 1931. Datum of gage is 565.42 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Continually shifting, must be defined by frequent current-meter measurements.

Bankfull stage.--21 ft.

Historical data.--Flood of June 21, 1844, reached a stage of 32.7 ft (discharge, about 710,000 cfs, computed by Corps of Engineers). Flood of June 6, 1903, reached a stage of 30.5 ft (discharge, about 612,000 cfs, computed by Corps of Engineers).

Remarks.--Gage heights adjusted to present datum. Drainage basin above station contains many reservoirs with total usable capacity in excess of 27,640,000 acre-ft. Only annual peaks are shown.

| Water year | Date           | Peak stages and discharges |                 | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|----------------------------|-----------------|------------|----------------|--------------------|-----------------|
|            |                | Gage height (feet)         | Discharge (cfs) |            |                |                    |                 |
| 1844       | June 21, 1844  | 32.7                       | a710,000        | 1946       | Jan. 10, 1946  | 17.44              | 150,000         |
| 1903       | June 6, 1903   | 30.5                       | a612,000        | 1947       | June 27, 1947  | 32.02              | 448,000         |
| 1926       | Sept. 25, 1926 | 17.4                       | 175,000         | 1948       | Mar. 24, 1948  | 24.20              | 247,000         |
| 1927       | Apr. 23, 1927  | 23.9                       | 381,000         | 1949       | Mar. 9, 1949   | 21.15              | 196,000         |
| 1928       | June 20, 1928  | 19.6                       | 224,000         | 1950       | July 20, 1950  | 21.30              | 209,000         |
| 1929       | June 7, 1929   | 23.7                       | 344,000         | 1951       | July 17, 1951  | 32.62              | 550,000         |
| 1930       | May 11, 1930   | 16.2                       | 150,000         | 1952       | Apr. 27, 1952  | 27.70              | 360,000         |
| 1931       | June 10, 1931  | 12.8                       | 79,200          | 1953       | May 8, 1953    | 17.90              | 150,000         |
| 1932       | Nov. 28, 1931  | 21.5                       | 221,000         | 1954       | June 5, 1954   | 16.98              | 132,000         |
| 1933       | June 4, 1933   | 14.9                       | 105,000         | 1955       | Feb. 21, 1955  | 16.80              | 128,000         |
| 1934       | Mar. 9, 1934   | 12.2                       | 77,000          | 1955       | June 27, 1955  | 16.80              | 128,000         |
| 1935       | June 4, 1935   | 26.7                       | 306,000         | 1956       | July 6, 1956   | 14.40              | 89,200          |
| 1936       | Mar. 14, 1936  | 15.4                       | 134,000         | 1957       | June 20, 1957  | 19.12              | 145,000         |
| 1937       | July 25, 1937  | 15.70                      | 123,000         | 1958       | July 22, 1958  | 25.77              | 252,000         |
| 1938       | July 19, 1938  | 18.10                      | 142,000         | 1959       | June 2, 1959   | 21.40              | 175,000         |
| 1939       | Apr. 18, 1939  | 20.00                      | 170,000         | 1960       | Apr. 5, 1960   | 28.15              | 332,000         |
| 1940       | Aug. 17, 1940  | 13.44                      | 76,700          | 1961       | Sept. 16, 1961 | 26.30              | 267,000         |
| 1941       | June 17, 1941  | 22.40                      | 201,000         | 1962       | Nov. 4, 1961   | 20.90              | 200,000         |
| 1942       | June 29, 1942  | 27.50                      | 312,000         | 1963       | May 17, 1963   | 15.95              | 118,000         |
| 1943       | June 22, 1943  | 28.82                      | 366,000         | 1964       | June 25, 1964  | 21.70              | 184,000         |
| 1944       | Apr. 27, 1944  | 30.93                      | 504,000         | 1965       | Sept. 24, 1965 | b26.05             | 261,000         |
| 1945       | Apr. 20, 1945  | -                          | 280,000         |            |                |                    |                 |
|            | June 21, 1945  | 25.25                      | -               |            |                |                    |                 |

a Computed by Corps of Engineers

b Occurred July 23, 1965

## BONNE FEMME CREEK BASIN

6-9094. Cottonwood Creek tributary at Estill, Mo.

Location--Lat 39°02'55", long 92°44'38", in NW¼SE¼NE¼ sec.17, T.49 N., R.16 W., on right bank just upstream from culvert under State Highway 5, 0.2 mile north of Estill, and 2 miles north of New Franklin.

Drainage area--0.30 sq mi. Slope--87.0 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by indirect measurements at 70.2 and 265 cfs.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1958                       | July 3, 1958   | 15.92              | 265             |            |      |                    |                 |
| 1959                       | Sept. 24, 1959 | 6.55               | 71              |            |      |                    |                 |
| 1960                       | June 30, 1960  | 6.37               | 68              |            |      |                    |                 |
| 1961                       | May 5, 1961    | 8.52               | 112             |            |      |                    |                 |
| 1962                       | July 6, 1962   | 5.62               | 48              |            |      |                    |                 |
| 1963                       | Aug. 19, 1963  | 5.84               | 55              |            |      |                    |                 |
| 1964                       | Apr. 5, 1964   | 5.33               | 41              |            |      |                    |                 |
| 1965                       | Sept. 15, 1965 | 7.35               | 90              |            |      |                    |                 |

## MONITEAU CREEK BASIN

6-9095. Moniteau Creek near Fayette, Mo.

Location--Lat 39°07'15", long 92°33'40", in SE¼SE¼ sec.14, T.50 N., R.15 W., on right bank just upstream from county highway bridge, 1 mile downstream from Hungry Mother Creek, 7½ miles east of Fayette, and 15 miles upstream from mouth.

Drainage area--81 sq mi, approximately. Slope--8.47 ft per mi.

Gage--Nonrecording prior to Aug. 14, 1957; recording gage thereafter. Datum of gage is 607.93 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements.

Bankfull stage--15 ft.

Historical data--Maximum stage known, 22.9 ft, probably in April 1944, from information by local resident.

Remarks--Base for partial-duration series, 900 cfs.

| Peak stages and discharges |               |                    |                 |                |               |                    |                 |       |       |
|----------------------------|---------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|-------|-------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |       |       |
| 1944                       | Apr. 1944     | 22.9               | -               | 1957           | July 27, 1957 | 17.50              | 2,520           |       |       |
| 1949                       | Jan. 16, 1949 | 16.5               | 1,750           | 1958           | Dec. 25, 1957 | 14.4               | 1,240           |       |       |
|                            | Jan. 24, 1949 | 14.5               | 1,080           |                | Feb. 27, 1958 | 15.9               | 1,780           |       |       |
|                            | Feb. 13, 1949 | 14.4               | 1,060           |                | June 1, 1958  | 13.53              | 999             |       |       |
|                            | May 9, 1949   | 14.0               | 964             |                | June 15, 1958 | 15.65              | 1,660           |       |       |
|                            | May 24, 1949  | 13.98              | 964             |                | July 15, 1958 | 18.75              | 3,370           |       |       |
|                            | June 1, 1949  | 18.16              | 2,570           | July 19, 1958  | 14.73         | 1,340              |                 |       |       |
| 1950                       | Oct. 21, 1949 | 18.09              | 2,510           | July 20, 1958  | 17.54         | 2,520              |                 |       |       |
|                            | Dec. 22, 1949 | 18.48              | 2,760           | July 31, 1958  | 17.90         | 2,740              |                 |       |       |
|                            | Jan. 13, 1950 | 14.10              | 986             | 1959           | Feb. 10, 1959 | 18.20              | 2,920           |       |       |
|                            | Feb. 13, 1950 | 13.75              | 924             |                | Mar. 5, 1959  | 18.05              | 2,800           |       |       |
|                            | June 3, 1950  | 17.08              | 2,000           |                | Apr. 20, 1959 | 14.10              | 1,160           |       |       |
|                            | July 19, 1950 | 13.82              | 924             | 1960           | Mar. 27, 1960 | 17.72              | 2,640           |       |       |
| 1951                       | Feb. 20, 1951 | 17.50              | 2,180           |                | Apr. 16, 1960 | 18.39              | 3,050           |       |       |
|                            | Mar. 17, 1951 | 17.54              | 2,180           |                | Apr. 30, 1960 | 13.30              | 950             |       |       |
|                            | Mar. 29, 1951 | 18.06              | 2,510           |                | May 6, 1960   | 18.96              | 3,560           |       |       |
|                            | June 26, 1951 | 16.10              | 1,600           |                | July 1, 1960  | 18.43              | 3,050           |       |       |
|                            | July 11, 1951 | 18.0               | 2,450           | 1961           | Mar. 12, 1961 | (a)                | (a)             |       |       |
| Aug. 9, 1951               | 14.8          | 1,160              | Apr. 25, 1961   |                | (a)           | (a)                |                 |       |       |
| Aug. 15, 1951              | 14.0          | 964                | May 6, 1961     |                | 18.70         | 3,200              |                 |       |       |
| 1952                       | Nov. 12, 1951 | 17.83              | 2,400           |                | May 8, 1961   | 16.45              | 1,760           |       |       |
|                            | Mar. 10, 1952 | 16.64              | 1,790           |                | July 23, 1961 | 16.40              | 1,760           |       |       |
|                            | Mar. 18, 1952 | 17.30              | 2,080           | July 25, 1961  | 15.20         | 1,330              |                 |       |       |
|                            | Apr. 23, 1952 | 14.00              | 964             | Aug. 2, 1961   | 17.50         | 2,280              |                 |       |       |
|                            | Aug. 21, 1952 | 14.10              | 986             | Sept. 13, 1961 | 19.6          | 4,330              |                 |       |       |
| 1953                       | May 5, 1953   | 11.42              | 593             | Sept. 24, 1961 | 17.65         | 2,340              |                 |       |       |
| 1954                       | May 21, 1954  | 15.4               | 1,350           | 1962           | Oct. 30, 1961 | 17.10              | 2,080           |       |       |
|                            |               |                    |                 |                | Nov. 2, 1961  | 17.56              | 2,340           |       |       |
| Nov. 16, 1961              | 17.57         | 2,340              |                 |                |               |                    |                 |       |       |
| Mar. 21, 1962              | 18.05         | 2,600              |                 |                |               |                    |                 |       |       |
| 1955                       | Feb. 19, 1955 | 16.7               | 1,850           |                | 1963          | Mar. 4, 1963       | 15.34           | 1,360 |       |
|                            | June 25, 1955 | 19.2               | 3,760           | 1964           |               | Apr. 21, 1964      | 16.77           | 1,940 |       |
|                            | July 6, 1955  | 17.9               | 2,530           |                |               | 1965               | Mar. 17, 1965   | 16.60 | 1,850 |
|                            | Aug. 30, 1955 | 17.5               | 2,290           |                |               |                    | Apr. 3, 1965    | 13.33 | 910   |
| 1956                       | Oct. 5, 1955  | 19.47              | 4,180           |                | Apr. 6, 1965  | 16.77              | 1,940           |       |       |
|                            | Apr. 29, 1956 | 16.72              | 1,900           | Apr. 11, 1965  | 14.90         | 1,240              |                 |       |       |
|                            | May 27, 1956  | 16.50              | 1,800           | June 5, 1965   | 17.95         | 2,600              |                 |       |       |
| 1957                       | May 17, 1957  | 15.8               | 1,740           | Sept. 16, 1965 | 17.34         | 2,180              |                 |       |       |
|                            | May 25, 1957  | 16.8               | 2,170           | Sept. 20, 1965 | 15.07         | 1,300              |                 |       |       |
|                            | June 14, 1957 | 14.9               | 1,400           |                |               |                    |                 |       |       |
|                            | June 30, 1957 | 15.0               | 1,440           |                |               |                    |                 |       |       |

a Gage height and discharge unknown.

## PETITE SALINE CREEK BASIN

6-9097. Petite Saline Creek tributary near Bellair, Mo.

Location--Lat 38°50'34", long 92°50'31", in SW¼NE¼ sec.13, T.47 N., R.18 W., on right bank just upstream from culvert under State Highway 5, at junction of Highways 5 and F, half a mile north of Bellair, and 10½ miles southwest of Boonville.

Drainage area--0.49 sq mi. Slope--78.4 ft per mi.

Gage--Crest-stage gage; supplemental recording gage since Apr. 17, 1964.

Stage-discharge relation--Defined by current-meter measurements below 56.6 cfs and by indirect measurements at 237 and 573 cfs.

Remarks--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 | Water | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|----------------------------|-----------------|-------|------|--------------------|-----------------|
|            |               | Gage height (feet)         | Discharge (cfs) |       |      |                    |                 |
| 1955       | Aug. 7, 1955  | 14.43                      | 237             |       |      |                    |                 |
| 1956       | July 23, 1956 | 13.30                      | 118             |       |      |                    |                 |
| 1957       | May 16, 1957  | 13.32                      | 119             |       |      |                    |                 |
| 1958       | July 16, 1958 | 14.54                      | 248             |       |      |                    |                 |
| 1959       | July 30, 1959 | 13.22                      | 108             |       |      |                    |                 |
| 1960       | May 6, 1960   | 14.19                      | 210             |       |      |                    |                 |
| 1961       | May 5, 1961   | 17.25                      | 573             |       |      |                    |                 |
| 1962       |               | (a)                        | (b)             |       |      |                    |                 |
| 1963       | Apr. 28, 1963 | 13.64                      | 150             |       |      |                    |                 |
| 1964       | June 14, 1964 | 13.14                      | 95              |       |      |                    |                 |
| 1965       | June 4, 1965  | 19.49                      | 900             |       |      |                    |                 |

a Stage did not reach gage during year.

b Less than 100 cfs.

## PETITE SALINE CREEK BASIN

6-9100. Petite Saline Creek near Boonville, Mo.

Location.--Lat 38°55'00", long 92°39'20", in SW¼SE¼ sec.15, T.48 N., R.16 W., on right bank 50 ft upstream from county highway bridge, half a mile downstream from Clarks Fork Creek, 7 miles southeast of Boonville, and 14½ miles upstream from mouth.

Drainage area.--182 sq mi. Slope.--6.35 ft per mi.

Gage.--Nonrecording prior to July 26, 1952; recording and nonrecording thereafter. Datum of gage is 573.40 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--17 ft.

Historical data.--Maximum stage known prior to 1949, 23.2 ft in June 1921 (discharge, 5,860 cfs).

Remarks.--Base for partial-duration series, 1,600 cfs.

|                |                | Peak stages and discharges |                 |               |                |                    |                 |               |               |       |       |  |
|----------------|----------------|----------------------------|-----------------|---------------|----------------|--------------------|-----------------|---------------|---------------|-------|-------|--|
| Water year     | Date           | Gage height (feet)         | Discharge (cfs) | Water year    | Date           | Gage height (feet) | Discharge (cfs) |               |               |       |       |  |
| 1921           | June 1921      | 23.2                       | 5,860           | 1957          | May 26, 1957   | 17.98              | 1,560           |               |               |       |       |  |
| 1949           | Nov. 3, 1948   | 18.9                       | 2,530           | 1958          | Feb. 28, 1958  | 18.90              | 2,170           |               |               |       |       |  |
|                | Jan. 15, 1949  | 17.8                       | 1,800           |               | Mar. 10, 1958  | 18.40              | 1,790           |               |               |       |       |  |
|                | Jan. 24, 1949  | 18.3                       | 2,110           |               | May 5, 1958    | 18.83              | 2,040           |               |               |       |       |  |
|                | June 7, 1949   | 19.1                       | 2,670           |               | June 15, 1958  | 20.74              | 3,700           |               |               |       |       |  |
|                | Sept. 13, 1949 | 22.26                      | 5,110           |               | July 18, 1958  | 19.10              | 2,340           |               |               |       |       |  |
| 1950           | Oct. 21, 1949  | 23.50                      | 6,120           | 1959          | Feb. 10, 1959  | 19.16              | 2,420           |               |               |       |       |  |
|                |                | Dec. 21, 1949              | 20.90           |               |                | 4,000              | Mar. 5, 1959    | 20.30         | 3,360         |       |       |  |
|                | Apr. 29, 1950  | 17.20                      | 1,610           |               | 1960           | Mar. 28, 1960      | 19.70           | 2,980         |               |       |       |  |
|                | May 31, 1950   | 19.82                      | 3,170           |               |                |                    | Apr. 17, 1960   | 20.85         | 3,860         |       |       |  |
|                | June 3, 1950   | 23.42                      | 6,030           |               |                |                    | Apr. 30, 1960   | 17.82         | 1,600         |       |       |  |
|                | Aug. 14, 1950  | 18.00                      | 1,910           |               |                |                    | May 6, 1960     | 23.10         | 5,810         |       |       |  |
|                | Aug. 16, 1950  | 18.05                      | 1,910           |               |                |                    | 1961            | Mar. 13, 1961 | 18.20         | 1,880 |       |  |
|                | 1951           | Feb. 20, 1951              | 19.3            |               |                |                    |                 | 2,810         | Apr. 26, 1961 | 19.37 | 2,740 |  |
| Mar. 11, 1951  |                | 18.25                      | 2,040           | May 6, 1961   | 21.60          | 4,500              |                 |               |               |       |       |  |
| Mar. 17, 1951  |                | 21.48                      | 4,470           | May 9, 1961   | 20.70          | 3,780              |                 |               |               |       |       |  |
| Apr. 13, 1951  |                | 17.97                      | 1,910           | July 6, 1961  | 22.07          | 4,910              |                 |               |               |       |       |  |
| May 11, 1951   |                | 17.2                       | 1,610           | July 22, 1961 | 19.60          | 2,900              |                 |               |               |       |       |  |
| June 25, 1951  | 18.4           | 2,180                      | July 25, 1961   | 18.55         | 2,140          |                    |                 |               |               |       |       |  |
| June 29, 1951  | 22.8           | 5,520                      | Sept. 14, 1961  | 22.20         | 5,000          |                    |                 |               |               |       |       |  |
| July 7, 1951   | 20.2           | 3,470                      | Sept. 25, 1961  | 19.43         | 2,740          |                    |                 |               |               |       |       |  |
| July 12, 1951  | 20.0           | 3,320                      | 1962            | Oct. 30, 1961 | 18.10          | 1,820              |                 |               |               |       |       |  |
| Aug. 29, 1951  | 20.6           | 3,770                      |                 | Nov. 3, 1961  | 18.76          | 2,280              |                 |               |               |       |       |  |
| Sept. 4, 1951  | 18.55          | 2,320                      |                 | Nov. 16, 1961 | 18.70          | 2,210              |                 |               |               |       |       |  |
| Sept. 10, 1951 | 17.48          | 1,680                      |                 | Jan. 26, 1962 | 18.45          | 2,000              |                 |               |               |       |       |  |
| Sept. 13, 1951 | 17.34          | 1,630                      |                 | Mar. 21, 1962 | 21.00          | 4,020              |                 |               |               |       |       |  |
| 1952           | Nov. 13, 1951  | 18.40                      | 2,180           | 1963          | July 8, 1963   | 18.26              | 1,940           |               |               |       |       |  |
|                | Feb. 4, 1952   | 17.66                      | 1,750           |               | 1964           | Apr. 5, 1964       | 19.54           | 2,820         |               |       |       |  |
|                | Mar. 11, 1952  | 18.10                      | 1,980           |               |                | June 15, 1964      | 20.00           | 3,220         |               |       |       |  |
|                | Mar. 18, 1952  | 19.10                      | 2,670           |               |                | 1965               | Mar. 17, 1965   | 17.72         | 1,620         |       |       |  |
|                | Aug. 21, 1952  | 19.18                      | 2,740           |               |                |                    | Apr. 6, 1965    | 18.51         | 2,070         |       |       |  |
| 1953           | Apr. 8, 1953   | 17.35                      | 1,610           | Apr. 11, 1965 |                |                    | 18.41           | 2,000         |               |       |       |  |
|                | 1954           | June 2, 1954               | 17.01           | 1,460         | June 3, 1965   |                    | 19.35           | 2,740         |               |       |       |  |
|                |                | 1955                       | Jan. 5, 1955    | 17.58         | 1,690          |                    | June 5, 1965    | 21.95         | 4,840         |       |       |  |
|                |                |                            | Feb. 20, 1955   | 18.05         | 1,910          | Sept. 5, 1965      | 18.62           | 2,140         |               |       |       |  |
|                |                |                            | June 25, 1955   | 17.95         | 1,910          | Sept. 16, 1965     | 18.52           | 2,070         |               |       |       |  |
| Aug. 7, 1955   |                |                            | 18.73           | 1,840         | Sept. 22, 1965 | 18.18              | 1,880           |               |               |       |       |  |
| Aug. 31, 1955  | 20.30          |                            | 2,960           |               |                |                    |                 |               |               |       |       |  |
| 1956           | Oct. 6, 1955   | 21.52                      | 3,980           |               |                |                    |                 |               |               |       |       |  |

## PERCHE CREEK BASIN

6-9102. Cow Branch near Columbia, Mo.

Location.--Lat 39°00'10", long 92°19'25", in NW¼ sec.30, T.49 N., R.12 W., on left bank just upstream from culvert under U. S. Highway 63, 2.7 miles north of Columbia.

Drainage area.--1.01 sq mi. Slope.--57.3 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 2.57 cfs and by indirect measurements at 374 and 620 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | June 25, 1955  | 11.68              | 374             |            |      |                    |                 |
| 1956       | Oct. 4, 1955   | 12.02              | 430             |            |      |                    |                 |
| 1957       | July 27, 1957  | 11.43              | 336             |            |      |                    |                 |
| 1958       | July 18, 1958  | 13.13              | 625             |            |      |                    |                 |
| 1959       | Nov. 16, 1958  | 11.19              | 300             |            |      |                    |                 |
| 1960       | May 6, 1960    | 13.09              | 620             |            |      |                    |                 |
| 1961       | May 5, 1961    | 12.89              | 582             |            |      |                    |                 |
| 1962       | Oct. 30, 1961  | 9.55               | 100             |            |      |                    |                 |
| 1963       | July 2, 1963   | 9.62               | 110             |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 11.19              | 300             |            |      |                    |                 |
| 1965       | Sept. 15, 1965 | 11.59              | 360             |            |      |                    |                 |

## BONNE FEMME CREEK BASIN

6-9102.5. Traxler Branch near Columbia, Mo.

Location.--Lat 38°51'15", long 92°19'45", in NE¼SE¼ sec.13, T.47 N., R.13 W., on left bank just upstream from culvert under county road N about 5½ miles south of Columbia.

Drainage area.--0.55 sq mi. Slope.--119 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage Aug. 15, 1960 to Apr. 27, 1964.

Stage-discharge relation.--Defined by current-meter measurements below 416 cfs and by indirect measurements at 112, 419, and 668 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1958       | July 18, 1958 | 14.97              | 668             |            |      |                    |                 |
| 1959       | Feb. 9, 1959  | 11.01              | a266            |            |      |                    |                 |
| 1960       | May 25, 1960  | 12.60              | 419             |            |      |                    |                 |
| 1961       | May 5, 1961   | 12.01              | a361            |            |      |                    |                 |
| 1962       | Nov. 15, 1961 | 10.03              | 180             |            |      |                    |                 |
| 1963       | July 6, 1963  | 9.10               | 104             |            |      |                    |                 |
| 1964       | June 14, 1964 | 9.58               | 142             |            |      |                    |                 |
| 1965       | Apr. 5, 1965  | 12.20              | 380             |            |      |                    |                 |

a Revised.

## PEDEN BRANCH BASIN

6-9103. Peden Branch near Jefferson City, Mo.

Location.--Lat 38°38'55", long 92°18'30", in NW¼SW¼ sec.13, T.45 N., R.13 W., 8 ft upstream from concrete culvert on Cole County road "A", 2 miles northwest of Church State Prison Farm, and 8.6 miles west of Jefferson City.

Drainage area.--0.18 sq mi. Slope.--220 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 48.4, 49.6, and 142 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | Aug. 16, 1957 | 13.26              | 144             |            |      |                    |                 |
| 1958       | June 25, 1958 | 13.21              | 140             |            |      |                    |                 |
| 1959       | Feb. 9, 1959  | 11.66              | 50              |            |      |                    |                 |
| 1960       | Oct. 10, 1959 | 13.24              | 140             |            |      |                    |                 |
| 1961       | Aug. 9, 1961  | 12.99              | 128             |            |      |                    |                 |
| 1962       | Oct. 30, 1961 | 11.48              | 45              |            |      |                    |                 |
| 1963       | May 16, 1963  | 12.10              | 73              |            |      |                    |                 |
| 1964       | Apr. 23, 1964 | 11.26              | 35              |            |      |                    |                 |
| 1965       | Sept. 4, 1965 | 13.09              | 130             |            |      |                    |                 |

## BALDWIN BRANCH BASIN

6-9104. Baldwin Branch near Jefferson City, Mo.

Location.--Lat 38°39'35", long 92°13'25", in SE¼SE¼ sec.24, T.45 N., R.12 W., on right bank just upstream from culvert on U. S. Highway 63, 5.4 miles northwest of Jefferson City.

Drainage area.--0.60 sq mi. Slope.--144 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurement at 60.6 cfs and by indirect measurements at 360, 421, 707, and 1,580 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | Aug. 16, 1957  | 16.10              | 1,580           |            |      |                    |                 |
| 1958       | July 18, 1958  | 13.84              | 690             |            |      |                    |                 |
| 1959       | Oct. 9, 1958   | 10.13              | 340             |            |      |                    |                 |
| 1960       | Oct. 10, 1959  | 10.95              | 420             |            |      |                    |                 |
| 1961       | Sept. 13, 1961 | 14.0               | 695             |            |      |                    |                 |
| 1962       | Mar. 20, 1962  | 8.46               | a               |            |      |                    |                 |
| 1963       | May 4, 1963    | 11.52              | 470             |            |      |                    |                 |
| 1964       | Apr. 27, 1964  | 8.85               | 60              |            |      |                    |                 |
| 1965       | June 3, 1965   | 13.3               | 650             |            |      |                    |                 |

a Less than 50 cfs.

## MOREAU RIVER BASIN

6-9105. Moreau River near Jefferson City, Mo.

Location.--Lat 38°30'25", long 92°15'20", in N½ sec.4, T.43 N., R.12 W., on downstream side of right pier of bridge on U. S. Highway 54, 5 miles southwest of Jefferson City, and 5-3/4 miles downstream from confluence of North and South Moreau Creeks.

Drainage area.--531 sq mi. Slope.--4.64 ft per mi.

Gage.--Nonrecording prior to Aug. 17, 1958; recording thereafter. Datum of gage is 562.73 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 16,000 cfs.

Bankfull stage.--20 ft.

Historical data.--Flood in 1905 reached a stage of 38.20 ft, flood in 1943, 35.11 ft, and flood in 1929, 32.91 ft, from floodmarks and information by local resident.

Remarks.--Base for partial-duration series, 7,500 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1948       | June 23, 1948  | 27.0               | a23,000         |            |      |                    |                 |
| 1949       | Nov. 3, 1948   | 21.0               | 11,800          |            |      |                    |                 |
|            | Jan. 24, 1949  | 23.0               | 15,100          |            |      |                    |                 |
|            | June 7, 1949   | 23.75              | 16,500          |            |      |                    |                 |
|            | June 8, 1949   | 19.4               | 9,680           |            |      |                    |                 |
| 1950       | Oct. 22, 1949  | 22.50              | 14,200          |            |      |                    |                 |
|            | Jan. 3, 1950   | 18.0               | 8,200           |            |      |                    |                 |
|            | Jan. 14, 1950  | 18.0               | 8,200           |            |      |                    |                 |
|            | Mar. 12, 1950  | 17.85              | 8,020           |            |      |                    |                 |
|            | Apr. 29, 1950  | 18.0               | 8,200           |            |      |                    |                 |
|            | May 20, 1950   | 17.5               | 7,750           |            |      |                    |                 |
| 1951       | Feb. 21, 1951  | 23.00              | 15,100          |            |      |                    |                 |
|            | Mar. 11, 1951  | 18.25              | 8,400           |            |      |                    |                 |
|            | June 24, 1951  | 17.75              | 8,020           |            |      |                    |                 |
|            | June 29, 1951  | 18.55              | 8,800           |            |      |                    |                 |
|            | July 7, 1951   | 23.75              | 16,500          |            |      |                    |                 |
|            | July 13, 1951  | 22.57              | 14,400          |            |      |                    |                 |
| 1952       | Oct. 7, 1951   | 18.00              | 8,200           |            |      |                    |                 |
|            | Oct. 24, 1951  | 18.00              | 8,200           |            |      |                    |                 |
|            | Nov. 13, 1951  | 17.66              | 7,930           |            |      |                    |                 |
|            | Feb. 4, 1952   | 17.90              | 8,110           |            |      |                    |                 |
| 1953       | Mar. 4, 1953   | 16.82              | 7,120           |            |      |                    |                 |
| 1954       | May 2, 1954    | 10.0               | 2,790           |            |      |                    |                 |
| 1955       | Feb. 20, 1955  | 21.0               | 11,800          |            |      |                    |                 |
| 1956       | Oct. 6, 1955   | 19.0               | 9,200           |            |      |                    |                 |
| 1957       | May 26, 1957   | 24.0               | a16,900         |            |      |                    |                 |
| 1958       | Feb. 28, 1958  | 18.57              | 8,800           |            |      |                    |                 |
|            | Mar. 9, 1958   | 20.84              | 11,500          |            |      |                    |                 |
|            | June 15, 1958  | 22.57              | 14,400          |            |      |                    |                 |
|            | July 18, 1958  | 22.10              | 13,600          |            |      |                    |                 |
|            | July 31, 1958  | 17.90              | 8,110           |            |      |                    |                 |
| 1959       | Feb. 10, 1959  | 20.62              | 11,200          |            |      |                    |                 |
| 1960       | Oct. 11, 1959  | 20.85              | 11,500          |            |      |                    |                 |
|            | Apr. 17, 1960  | 18.80              | 9,000           |            |      |                    |                 |
|            | May 7, 1960    | 23.30              | 15,600          |            |      |                    |                 |
| 1961       | May 6, 1961    | 22.80              | 13,100          |            |      |                    |                 |
|            | May 8, 1961    | 25.06              | 17,100          |            |      |                    |                 |
| 1962       | Mar. 21, 1962  | 26.40              | 19,800          |            |      |                    |                 |
| 1963       | Mar. 5, 1963   | 18.02              | 7,960           |            |      |                    |                 |
|            | May 26, 1963   | 18.83              | 8,640           |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 19.30              | 9,080           |            |      |                    |                 |
|            | June 15, 1964  | 27.20              | 20,200          |            |      |                    |                 |
| 1965       | Apr. 6, 1965   | 20.95              | 10,800          |            |      |                    |                 |
|            | Sept. 6, 1965  | 24.30              | 15,300          |            |      |                    |                 |
|            | Sept. 15, 1965 | 22.12              | 12,100          |            |      |                    |                 |
|            | Sept. 23, 1965 | 26.35              | 18,800          |            |      |                    |                 |

a Annual peak only.

## MOREAU RIVER BASIN

6-9107. Hazel Branch tributary near Wardsville, Mo.

Location.--Lat 38°28'15", long 92°12'35", in NE¼SE¼ sec.14, T.43 N., R.12 W., 6 ft upstream from concrete culvert under Cole County Road "B", 2.5 miles southwest of Wardsville.

Drainage area.--0.13 sq mi. Slope.--141 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements at 12.9, 15.4, and 16.2 cfs and by indirect measurements at 60 and 180 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | July 9, 1957  | 10.56              | a96             |            |      |                    |                 |
| 1958       | June 12, 1958 | 11.63              | a142            |            |      |                    |                 |
| 1959       | Feb. 9, 1959  | 9.08               | a42             |            |      |                    |                 |
| 1960       | July 13, 1960 | 9.48               | a56             |            |      |                    |                 |
| 1961       | May 5, 1961   | 11.88              | a152            |            |      |                    |                 |
| 1962       | June 9, 1962  | 10.01              | a75             |            |      |                    |                 |
| 1963       | May 16, 1963  | 11.76              | a148            |            |      |                    |                 |
| 1964       | June 14, 1964 | 13.05              | 210             |            |      |                    |                 |
| 1965       | June 3, 1965  | 9.56               | 58              |            |      |                    |                 |

a Revised.

## OSAGE RIVER BASIN

6-9182. North Fork Panther Creek tributary near Appleton City, Mo.

Location.--Lat 38°11'38", long 94°04'53", in NE¼SW¼ sec.2, T.39 N., R.29 W., on left bank just upstream from culvert under State Highway 52, a quarter of a mile south of Hudson, 3 miles west of Appleton City, and 18 miles southeast of Butler.

Drainage area.--0.08 sq mi. Slope.--222.00 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by estimation of flow at 2.4 cfs and by indirect measurements at 57.8 and 81.7 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Oct. 18, 1954 | a                  | b               |            |      |                    |                 |
| 1956       | Oct. 5, 1955  | 5.63               | 82              |            |      |                    |                 |
| 1957       | May 16, 1957  | 5.92               | 88              |            |      |                    |                 |
| 1958       | May 4, 1958   | 4.72               | 58              |            |      |                    |                 |
| 1959       | May 18, 1959  | 4.77               | 60              |            |      |                    |                 |
| 1960       | May 5, 1960   | 4.57               | 55              |            |      |                    |                 |
| 1961       | June 20, 1961 | 4.15               | 44              |            |      |                    |                 |
| 1962       |               | a                  | b               |            |      |                    |                 |
| 1963       |               | a                  | b               |            |      |                    |                 |
| 1964       | July 11, 1964 | 3.62               | 35              |            |      |                    |                 |
| 1965       | Sept. 4, 1965 | 5.51               | 77              |            |      |                    |                 |

a Stage did not reach gage during year.  
b Less than 30 cfs

## OSAGE RIVER BASIN

6-9183. West Fork Clear Creek tributary near Nevada, Mo.

Location.--Lat 37°51'43", long 94°13'51", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.27, T.36 N., R.30 W., on left bank just upstream from culvert under U. S. Highway 54, 0.2 mile east of county road "C", and 7 $\frac{1}{2}$  miles northeast of Nevada.

Drainage area.--0.51 sq mi. Slope.--36.2 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 112, 392, and 694 cfs.

Remarks.--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|----------------------------|-----------------|------------|------|--------------------|-----------------|
|            |               | Gage height (feet)         | Discharge (cfs) |            |      |                    |                 |
| 1955       | Aug. 30, 1955 | 8.67                       | 392             |            |      |                    |                 |
| 1956       | May 30, 1956  | 6.16                       | 165             |            |      |                    |                 |
| 1957       | June 4, 1957  | 7.65                       | 300             |            |      |                    |                 |
| 1958       | July 16, 1958 | 8.67                       | 392             |            |      |                    |                 |
| 1959       | Feb. 9, 1959  | 7.25                       | 255             |            |      |                    |                 |
| 1960       | May 5, 1960   | 8.72                       | 395             |            |      |                    |                 |
| 1961       | May 5, 1961   | 8.62                       | 390             |            |      |                    |                 |
| 1962       | Oct. 30, 1961 | 6.08                       | 160             |            |      |                    |                 |
| 1963       | May 26, 1963  | 11.68                      | 694             |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 6.00                       | 155             |            |      |                    |                 |
| 1965       | Apr. 3, 1965  | 6.08                       | 160             |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9184. Pickerel Creek tributary near Republic, Mo.

Location.--Lat 37°07'10", long 93°31'30", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.23, T.28 N., R.24 W., on left bank just upstream from culvert under U. S. Highway 166, 2 miles west of Republic.

Drainage area.--0.57 sq mi. Slope.--68.8 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage Nov. 22, 1961 to Mar. 7, 1963.

Stage-discharge relation.--Defined by indirect measurements at 192 and 242 cfs.

Remarks.--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|----------------------------|-----------------|------------|------|--------------------|-----------------|
|            |               | Gage height (feet)         | Discharge (cfs) |            |      |                    |                 |
| 1957       | May 22, 1957  | 9.75                       | 242             |            |      |                    |                 |
| 1958       | July 7, 1958  | 8.82                       | 192             |            |      |                    |                 |
| 1959       | -             | (a)                        | 25              |            |      |                    |                 |
| 1960       | Aug. 4, 1960  | 7.99                       | 145             |            |      |                    |                 |
| 1961       | May 8, 1961   | 8.58                       | 178             |            |      |                    |                 |
| 1962       | -             | (a)                        | (b)             |            |      |                    |                 |
| 1963       | May 13, 1963  | 9.0                        | 200             |            |      |                    |                 |
| 1964       | June 13, 1964 | 7.82                       | 135             |            |      |                    |                 |
| 1965       | June 13, 1965 | 6.74                       | 75              |            |      |                    |                 |

a Stage did not reach gage during year.

b Less than 25 cfs.

## OSAGE RIVER BASIN

6-9187. Oak Grove Branch near Brighton, Mo.

Location.--Lat 37°24'11", long 93°21'21", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.21, T.31 N., R.22 W., at culvert under Greene County Highway BB, 0.6 mile west of junction with U. S. Highway 13, and 4 miles south of Brighton.

Drainage area.--1.30 sq mi. Slope.--94.2 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined by current-meter measurements below 820 cfs and by indirect measurement at 883 cfs.

Remarks.--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|----------------------------|-----------------|------------|------|--------------------|-----------------|
|            |               | Gage height (feet)         | Discharge (cfs) |            |      |                    |                 |
| 1957       | May 22, 1957  | 7.60                       | 845             |            |      |                    |                 |
| 1958       | Sept. 2, 1958 | 5.33                       | 492             |            |      |                    |                 |
| 1959       | Feb. 9, 1959  | 3.91                       | 320             |            |      |                    |                 |
| 1960       | Oct. 4, 1959  | 2.87                       | 196             |            |      |                    |                 |
| 1961       | Mar. 6, 1961  | 3.77                       | 302             |            |      |                    |                 |
| 1962       | Mar. 20, 1962 | 1.08                       | 17              |            |      |                    |                 |
| 1963       | May 26, 1963  | 1.48                       | 47              |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 2.30                       | 140             |            |      |                    |                 |
| 1965       | Apr. 4, 1965  | 4.00                       | 332             |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9187.5. Franca Branch near Brighton, Mo.

Location.--Lat 37°30", long 93°21', in NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$  (revised) sec.16, T.32 N., R.22 W., on right bank just upstream from culvert under State Highway 13, 2.7 miles south of Slagle, and 8.7 miles southeast of Bolivar.

Drainage area.--0.59 sq mi. Slope.--109 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 45, 184, 298, and 883 cfs by indirect measurements.

Remarks.--Only annual peaks are shown.

| Water year | Date          | Peak stages and discharges |                 | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|----------------------------|-----------------|------------|------|--------------------|-----------------|
|            |               | Gage height (feet)         | Discharge (cfs) |            |      |                    |                 |
| 1955       | May 12, 1955  | 14.35                      | 298             |            |      |                    |                 |
| 1956       | May 30, 1956  | 14.20                      | 245             |            |      |                    |                 |
| 1957       | June 27, 1957 | 12.46                      | 110             |            |      |                    |                 |
| 1958       | July 16, 1958 | 12.79                      | 135             |            |      |                    |                 |
| 1959       | -             | (a)                        | (b)             |            |      |                    |                 |
| 1960       | Oct. 4, 1959  | 13.61                      | 195             |            |      |                    |                 |
| 1961       | May 5, 1961   | 15.67                      | 380             |            |      |                    |                 |
| 1962       | Apr. 22, 1962 | 12.26                      | 96              |            |      |                    |                 |
| 1963       | May 26, 1963  | 13.50                      | 184             |            |      |                    |                 |
| 1964       | July 1, 1964  | 19.68                      | 884             |            |      |                    |                 |
| 1965       | Apr. 4, 1965  | 12.74                      | 130             |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge less than 50 cfs.

## OSAGE RIVER BASIN

6-9190. Sac River near Stockton, Mo.

Location.--Lat 37°42'03", long 93°45'20", in SW<sup>1</sup>/<sub>4</sub> sec.11, T.34 N., R.26 W., on right bank 20 ft upstream from bridge on State Highway 32, three-quarters of a mile upstream from Bear Creek, and 2 miles east of Stockton.

Drainage area.--1,160 sq mi. Slope.--4.23 ft per mi.

Gage.--Nonrecording prior to May 4, 1960; recording gage thereafter. Datum of gage is 764.12 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--18 ft.

Historical data.--Maximum stage known prior to 1943, 29.3 ft in July 1909.

Remarks.--Base for partial-duration series, 12,000 cfs.

| Peak stages and discharges |  |  |  |            |   |  |  |
|----------------------------|--|--|--|------------|---|--|--|
| Water year                 | Date   | Gage height (feet)   | Discharge (cfs)  | Water year | Date  | Gage height (feet)                       | Discharge (cfs)                                |
| 1896                       | Dec. 19, 1895  | 27.25  | a72,000  | 1939       | May 8, 1939   | 17.3                                     | 10,900   |
| 1909                       | July 1909  | 29.3   | a92,000  | 1940       | May 1, 1940   | 13.6                                     | 6,830  |
| 1922                       | May 14, 1922   | 18.00  | 9,440  | 1941       | Apr. 15, 1941<br>Apr. 19, 1941  | 19.10<br>26.5                            | 14,400<br>57,000                               |
| 1923                       | May 24, 1923   | 15.80  | 7,930  | 1942       | Oct. 5, 1941<br>Oct. 31, 1941<br>June 18, 1942                                    | 26.4<br>22.50<br>19.80                   | 56,300<br>21,600<br>12,800                     |
| 1924                       | May 29, 1924<br>July 20, 1924<br>Aug. 17, 1924   | 21.60<br>20.90<br>21.05  | 21,400<br>14,800<br>15,000   | 1943       | Dec. 28, 1942<br>May 11, 1943<br>May 19, 1943                                     | 22.20<br>23.03<br>31.8                   | 20,300<br>23,600<br>120,000                    |
| 1925                       | Sept. 22, 1925   | 22.30  | 23,900   | 1944       | Aug. 27, 1944   | 22.0                                     | 27,000   |
| 1926                       | Nov. 8, 1925   | 15.40  | 8,600  | 1945       | Mar. 3, 1945<br>Apr. 14, 1945<br>June 7, 1945<br>Sept. 23, 1945<br>Sept. 26, 1945 | 18.40<br>25.6<br>20.30<br>19.70<br>23.70 | 12,500<br>56,400<br>14,000<br>12,600<br>26,900 |
| 1927                       | Apr. 1, 1927<br>Apr. 10, 1927<br>Apr. 16, 1927<br>Apr. 20, 1927<br>June 21, 1927<br>July 21, 1927<br>Aug. 9, 1927<br>Aug. 18, 1927 | 24.95<br>24.60<br>22.00<br>18.85<br>18.95<br>24.45<br>21.50<br>23.10 | 34,800<br>33,200<br>22,800<br>13,300<br>13,700<br>32,300<br>21,000<br>27,000 | 1946       | Feb. 14, 1946   | 16.28                                    | 8,790  |
| 1928                       | June 10, 1928<br>June 29, 1928   | 20.90<br>20.98   | 19,000<br>19,300   | 1947       | Apr. 11, 1947<br>Apr. 25, 1947<br>July 1, 1947                                    | 21.00<br>25.25<br>20.00                  | 16,000<br>52,800<br>13,200                     |
| 1929                       | Apr. 9, 1929<br>May 6, 1929<br>May 13, 1929<br>May 19, 1929  | 20.70<br>20.70<br>20.50<br>20.85                                     | 18,400<br>18,400<br>17,800<br>18,700   | 1948       | June 22, 1948<br>June 26, 1948  | 24.6<br>20.04                            | 47,400<br>19,300                               |
| 1930                       | Feb. 5, 1930   | 15.55  | 8,800  | 1949       | Feb. 16, 1949   | 19.2                                     | 14,400   |
| 1931                       | May 20, 1931<br>Aug. 7, 1931   | 19.80<br>22.40   | 15,700<br>24,300   | 1950       | Oct. 23, 1949<br>Jan. 5, 1950<br>Jan. 14, 1950                                    | 21.9<br>20.37<br>21.57                   | 26,300<br>18,400<br>24,300                     |
| 1932                       | June 28, 1932  | 24.00  | 30,700   | 1951       | Feb. 21, 1951<br>July 1, 1951<br>July 4, 1951<br>Sept. 10, 1951                   | 21.40<br>22.00<br>25.35<br>20.16         | 20,200<br>23,300<br>50,100<br>15,600           |
| 1933                       | Dec. 25, 1932<br>May 14, 1933<br>May 26, 1933  | 23.48<br>20.30<br>17.80  | 30,400<br>20,000<br>13,200   | 1952       | Nov. 12, 1951   | 18.80                                    | 11,900   |
| 1934                       | Sept. 12, 1934   | 20.50  | 20,600   | 1953       | Apr. 24, 1953   | 11.85                                    | 4,860  |
| 1935                       | Oct. 18, 1934<br>Mar. 12, 1935<br>June 8, 1935<br>June 14, 1935<br>June 21, 1935   | 19.90<br>22.59<br>17.45<br>20.61<br>17.45                            | 19,100<br>36,200<br>12,300<br>22,000<br>12,300                               | 1954       | May 2, 1954   | 9.80                                     | 3,610  |
| 1936                       | Sept. 28, 1936   | 17.06  | 11,800   | 1955       | Oct. 27, 1954<br>Feb. 20, 1955  | 19.81<br>19.0                            | 14,400<br>12,300                               |
| 1937                       | Nov. 2, 1936<br>Jan. 15, 1937<br>Jan. 31, 1937<br>Apr. 30, 1937<br>June 9, 1937<br>June 14, 1937                                   | 20.46<br>19.30<br>18.28<br>19.50<br>21.40<br>23.15                   | 19,300<br>15,200<br>12,700<br>15,800<br>23,300<br>34,300                     | 1956       | July 14, 1956   | 10.50                                    | 4,040  |
| 1938                       | May 8, 1938  | 16.50  | 9,700  | 1957       | May 24, 1957  | 21.78                                    | 23,000   |
|                            |  |  |  | 1958       | Mar. 24, 1958<br>July 8, 1958<br>July 17, 1958                                    | 20.35<br>20.8<br>25.3                    | 17,700<br>19,100<br>45,000                     |
|                            |  |  |  | 1959       | Feb. 10, 1959   | 16.30                                    | 8,660  |

## OSAGE RIVER BASIN

## Peak stages and discharges of Sac River near Stockton, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1960       | Oct. 5, 1959  | 20.8               | 16,800          | 1963       | May 26, 1963  | 18.68              | 11,200          |
|            | May 6, 1960   | 19.35              | 12,000          | 1964       | June 14, 1964 | 18.72              | 11,400          |
| 1961       | May 1, 1961   | 20.70              | 18,400          | 1965       | Apr. 4, 1965  | 21.96              | 28,800          |
|            | May 6, 1961   | 23.38              | 38,400          |            | Apr. 7, 1965  | 20.30              | 17,300          |
|            | May 9, 1961   | 25.30              | 55,500          |            |               |                    |                 |
| 1962       | Mar. 20, 1962 | 17.75              | 9,350           |            |               |                    |                 |

a Annual peak only.

## OSAGE RIVER BASIN

6-9192. Sac River tributary near Caplinger Mills, Mo.

Location--Lat 37°48'22", long 93°51'00", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.13, T.35 N., R.27 W., on left bank just upstream from culvert under State Highway 39, 6.2 miles south of junction of U. S. 54 and State 39, 2 $\frac{1}{2}$  miles west of Caplinger Mills, and 10 $\frac{1}{2}$  miles southeast of Eldorado Springs.

Drainage area--0.14 sq mi. Slope--149 ft per mi.

Gage--Crest-stage gage; supplemental roving recorder installed Sept. 12, 1962.

Stage-discharge relation--Defined at 45, 204, and 329 cfs by indirect measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 14, 1955 | 9.52               | 204             |            |      |                    |                 |
| 1956       | May 30, 1956  | 10.63              | 329             |            |      |                    |                 |
| 1957       | May 25, 1957  | 8.00               | 127             |            |      |                    |                 |
| 1958       | July 16, 1958 | 9.00               | 175             |            |      |                    |                 |
| 1959       | Mar. 5, 1959  | 5.23               | 21              |            |      |                    |                 |
| 1960       | May 5, 1960   | 5.60               | 32              |            |      |                    |                 |
| 1961       | May 5, 1961   | 8.74               | 160             |            |      |                    |                 |
| 1962       | June 29, 1962 | 6.52               | 64              |            |      |                    |                 |
| 1963       | May 26, 1963  | 5.36               | 25              |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 5.98               | 45              |            |      |                    |                 |
| 1965       | Apr. 5, 1965  | 7.23               | 92              |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9195. Cedar Creek near Pleasant View, Mo.

Location.--Lat 37°50'03", long 93°52'31", in NE¼ sec.2, T.35 N., R.27 W., on downstream side of right pier of bridge on State Highway 39, 1½ miles north of Pleasant View, 1-3/4 miles downstream from Alder Creek, and 5-3/4 miles upstream from mouth.

Drainage area.--420 sq mi, approximately. Slope.--4.78 ft per mi.

Gage.--Nonrecording prior to Dec. 18, 1952; recording gage thereafter. Datum of gage is 739.5 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--20 ft.

Historical data.--Maximum stage known, 27.7 ft July 30, 1909.

Remarks.--Base for partial-duration series, 3,500 cfs.

| Peak stages and discharges |                |                    |                     |            |                |                    |                 |
|----------------------------|----------------|--------------------|---------------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs)     | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1909                       | July 20, 1909  | a27.7              | -                   | 1954       | May 2, 1954    | 8.63               | 1,570           |
| 1923                       | June 10, 1923  | 20.86              | a7,310              | 1955       | Oct. 27, 1954  | 20.23              | 6,700           |
| 1924                       | Dec. 13, 1923  | 16.75              | 4,460               |            | Feb. 20, 1955  | 19.17              | 5,860           |
|                            | Feb. 17, 1924  | 16.61              | 4,370               |            | Mar. 15, 1955  | 20.36              | 6,900           |
|                            | May 24, 1924   | 19.32              | 5,790               |            | Mar. 21, 1955  | 16.93              | 4,570           |
|                            | May 29, 1924   | 22.92              | 11,400              |            | June 27, 1955  | 19.20              | 5,860           |
|                            | June 10, 1924  | 16.60              | 4,370               | 1956       | May 31, 1956   | 19.50              | 6,070           |
|                            | June 21, 1924  | 20.11              | 6,430               |            |                |                    |                 |
|                            | July 12, 1924  | 24.00              | 16,000 <sup>a</sup> | 1957       | Apr. 4, 1957   | 14.79              | 3,620           |
|                            | July 21, 1924  | 14.77              | 3,620               |            | May 18, 1957   | 20.25              | 6,700           |
|                            | Aug. 16, 1924  | 15.70              | 3,980               |            | May 23, 1957   | 20.37              | 6,900           |
| 1925                       | Mar. 19, 1925  | 18.75              | 5,490               |            | May 26, 1957   | 22.40              | 9,900           |
|                            | Apr. 4, 1925   | 16.10              | 4,140               |            | June 2, 1957   | 15.94              | 4,100           |
|                            | Sept. 23, 1925 | 21.78              | 8,440               |            | July 1, 1957   | 18.07              | 5,180           |
| 1926                       | Nov. 8, 1925   | 19.12              | 5,660               | 1958       | Mar. 24, 1958  | 20.47              | 7,000           |
|                            | Aug. 21, 1926  | 15.00              | 3,700               |            | July 17, 1958  | 27.35              | 33,900          |
|                            | Sept. 6, 1926  | 17.40              | 4,750               |            | July 25, 1958  | 17.98              | 5,120           |
| 1943                       | May 1943       | 24.7               | a19,500             | 1959       | Feb. 10, 1959  | 17.31              | 4,770           |
| 1949                       | Jan. 24, 1949  | 20.2               | 6,530               |            | Mar. 6, 1959   | 19.28              | 5,930           |
|                            | Feb. 17, 1949  | 15.5               | 3,900               | 1960       | Oct. 14, 1959  | 15.07              | 3,740           |
|                            | June 10, 1949  | 15.7               | 3,980               |            | May 7, 1960    | 20.82              | 7,300           |
|                            | July 12, 1949  | 14.9               | 3,660               | 1961       | May 1, 1961    | 22.60              | 12,200          |
| 1950                       | July 17, 1950  | 15.1               | 3,740               |            | May 6, 1961    | 26.15              | 27,700          |
|                            | July 19, 1950  | 22.38              | 9,900               |            | Sept. 14, 1961 | 16.35              | 4,470           |
|                            | Aug. 28, 1950  | 15.7               | 4,020               | 1962       | Nov. 3, 1961   | 16.48              | 4,520           |
| 1951                       | Feb. 21, 1951  | 22.7               | 10,800              |            | Mar. 21, 1962  | 22.10              | 10,600          |
|                            | June 23, 1951  | 17.0               | 4,620               |            | June 10, 1962  | 15.87              | 4,200           |
|                            | July 1, 1951   | 22.2               | 9,400               | 1963       | May 27, 1963   | 20.50              | 7,300           |
|                            | July 4, 1951   | 25.56              | 24,300              | 1964       | Apr. 6, 1964   | 19.40              | 6,320           |
|                            | July 11, 1951  | 19.75              | 6,320               |            | June 14, 1964  | 16.10              | 4,300           |
|                            | Aug. 28, 1951  | 19.45              | 6,000               |            |                |                    |                 |
|                            | Sept. 10, 1951 | 24.29              | 17,500              | 1965       | Apr. 4, 1965   | 21.47              | 8,900           |
|                            | Sept. 13, 1951 | 19.0               | 5,720               |            | May 9, 1965    | 16.40              | 4,220           |
|                            | 1952           | Nov. 12, 1951      | 21.50               | 8,160      |                | June 14, 1965      | 22.63           |
| Feb. 2, 1952               |                | 14.70              | 3,580               |            | Sept. 22, 1965 | 16.10              | 4,070           |
|                            |                |                    |                     |            |                |                    |                 |
| 1953                       | Apr. 24, 1953  | 10.67              | 2,190               |            |                |                    |                 |

<sup>a</sup> Annual peak only.

## OSAGE RIVER BASIN

6-9205. Osage River at Osceola, Mo.

Location.--Lat 38°03'44", long 93°41'37", in NE¼NE¼ sec.17, T.38 N., R.25 W., half a mile downstream from Gallinipper Creek, 1 mile downstream from hydroelectric plant of Missouri Public Service Co., and 1 mile northeast of Osceola.

Drainage area.--8,220 sq mi, approximately. Slope.--1.66 ft per mi.

Gage.--Nonrecording gage Mar. 1, 1917, to Sept. 30, 1928; recording gage since Nov. 28, 1930. At site 1½ miles upstream at datum 3.67 ft higher Mar. 1, 1917, to Sept. 30, 1928. Datum of gage is 679.23 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--22 ft.

Remarks.--Gage heights adjusted to present site and datum. Low and medium flow regulated by power plant 1 mile upstream since 1930. Peak flows not materially affected by regulation. Base for partial-duration series, 32,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1844                       | June 1844      | 45                 | a150,000        | 1937       | Nov. 4, 1936   | 20.61              | 35,700          |
| 1896                       | Dec. 1895      | 35.3               | a90,000         |            | June 12, 1937  | 24.04              | 44,500          |
|                            |                |                    |                 |            | June 17, 1937  | 25.90              | 49,500          |
| 1918                       | Apr. 29, 1918  | 12.0               | 16,100          | 1938       | May 30, 1938   | 24.97              | 47,300          |
| 1919                       | May 21, 1919   | 18.9               | 31,100          | 1939       | May 9, 1939    | 14.55              | 20,200          |
| 1920                       | Oct. 30, 1919  | 21.70              | 37,500          | 1940       | May 2, 1940    | 12.36              | 15,300          |
|                            | Mar. 28, 1920  | 23.4               | 41,800          |            |                |                    |                 |
| 1921                       | Aug. 16, 1921  | 19.1               | 31,500          |            | Apr. 21, 1941  | 30.22              | 62,600          |
|                            |                |                    |                 |            |                |                    |                 |
| 1922                       | Mar. 20, 1922  | 23.80              | 42,300          | 1942       | Oct. 7, 1941   | 30.00              | 61,600          |
|                            |                |                    |                 |            | Nov. 2, 1941   | 31.78              | 71,100          |
|                            |                |                    |                 |            | Apr. 2, 1922   | 23.60              | 41,900          |
|                            |                |                    |                 |            | Apr. 10, 1922  | 30.8               | 65,000          |
| 1923                       | June 11, 1923  | 20.7               | 35,200          | 1943       | Dec. 30, 1942  | 24.96              | 44,600          |
|                            |                |                    |                 |            | May 13, 1943   | 28.60              | 55,200          |
|                            |                |                    |                 |            | Apr. 18, 1922  | 29.7               | 61,200          |
|                            |                |                    |                 |            | May 21, 1943   | 41.48              | 146,000         |
| 1924                       | June 17, 1923  | 22.2               | 38,700          |            | June 9, 1943   | 21.85              | 36,200          |
|                            |                |                    |                 |            | May 31, 1924   | 21.40              | 36,800          |
|                            |                |                    |                 |            | July 14, 1924  | 24.40              | 43,800          |
|                            |                |                    |                 |            | July 21, 1924  | 20.80              | 35,400          |
| 1925                       | Sept. 24, 1925 | 19.31              | 32,000          | 1944       | Mar. 23, 1944  | 21.36              | 35,400          |
|                            |                |                    |                 |            | Apr. 13, 1944  | 22.47              | 38,000          |
| 1926                       | Nov. 9, 1925   | 18.9               | 31,100          | 1945       | May 1, 1944    | 31.56              | 69,500          |
|                            |                |                    |                 |            | Aug. 29, 1944  | 22.68              | 38,600          |
| 1927                       | Oct. 7, 1926   | 22.00              | 38,200          | 1946       | Mar. 21, 1945  | 21.18              | 35,200          |
|                            |                |                    |                 |            | Oct. 11, 1926  | 24.50              | 44,800          |
|                            |                |                    |                 |            | Mar. 22, 1927  | 23.40              | 41,800          |
|                            |                |                    |                 |            | Apr. 2, 1927   | 27.30              | 53,200          |
|                            |                |                    |                 |            | Apr. 11, 1927  | 32.4               | 70,900          |
|                            |                |                    |                 |            | Apr. 17, 1927  | 32.10              | 69,800          |
|                            |                |                    |                 |            | June 22, 1927  | 26.10              | 49,500          |
|                            |                |                    |                 |            | Apr. 23, 1945  | 29.39              | 58,700          |
|                            |                |                    |                 |            | July 23, 1927  | 23.80              | 42,900          |
|                            |                |                    |                 |            | Aug. 9, 1927   | 30.25              | 62,900          |
|                            |                |                    |                 |            | Aug. 20, 1927  | 30.50              | 64,000          |
|                            |                |                    |                 |            | 1928           | Oct. 8, 1927       | 28.2            |
| Apr. 13, 1947              | 25.42          | 45,700             |                 |            |                |                    |                 |
| Apr. 27, 1947              | 27.95          | 53,000             |                 |            |                |                    |                 |
| June 24, 1948              | 29.03          | 56,900             |                 |            |                |                    |                 |
| 1929                       | June 11, 1928  | 25.35              | 47,500          | 1948       | Aug. 2, 1948   | 23.80              | 41,700          |
|                            |                |                    |                 |            | June 19, 1928  | 19.70              | 32,900          |
|                            |                |                    |                 |            | June 30, 1928  | 22.20              | 38,700          |
|                            |                |                    |                 |            | Jan. 24, 1949  | 20.04              | 32,600          |
| 1931                       | May 21, 1929   | b32.4              | a68,000         | 1951       | Feb. 18, 1949  | 22.55              | 38,700          |
|                            |                |                    |                 |            | July 19, 1950  | 24.20              | 43,500          |
| 1932                       | May 21, 1931   | 17.35              | 27,700          |            | Feb. 22, 1951  | 23.85              | 42,500          |
|                            |                |                    |                 |            | June 24, 1951  | 20.38              | 34,300          |
| 1933                       | June 30, 1932  | 16.40              | 25,300          |            | July 6, 1951   | 35.87              | 98,300          |
|                            |                |                    |                 |            | July 20, 1951  | 35.07              | 92,300          |
| 1934                       | Dec. 26, 1932  | 20.66              | 36,000          | 1952       | Sept. 14, 1951 | 32.10              | 72,400          |
|                            |                |                    |                 |            | May 16, 1933   | 21.17              | 37,200          |
| 1935                       | Sept. 13, 1934 | 11.30              | 13,800          |            | Nov. 14, 1951  | 21.39              | 35,900          |
|                            |                |                    |                 |            | Apr. 25, 1953  | 12.43              | 16,100          |
| 1936                       | Mar. 14, 1935  | 21.32              | 37,500          | 1953       | Apr. 25, 1953  | 12.43              | 16,100          |
|                            |                |                    |                 |            | May 2, 1954    | 15.04              | 21,500          |
| 1937                       | June 9, 1935   | 29.35              | 59,700          |            | May 2, 1954    | 15.04              | 21,500          |
|                            |                |                    |                 |            | Feb. 22, 1955  | 19.20              | 30,800          |
| 1938                       | Sept. 29, 1936 | 16.86              | 26,200          | 1956       | May 31, 1956   | 19.12              | 30,500          |

## OSAGE RIVER BASIN

## Peak stages and discharges of Osage River at Osceola, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1957       | May 25, 1957  | 26.26              | 48,100          | 1961       | Sept. 22, 1961 | 24.78              | 44,200          |
| 1958       | Mar. 25, 1958 | 21.17              | 35,200          | 1962       | Mar. 21, 1962  | 23.50              | 41,000          |
|            | July 20, 1958 | 33.50              | 81,200          |            |                |                    |                 |
| 1959       | Feb. 11, 1959 | 15.92              | 22,900          | 1963       | May 27, 1963   | 18.25              | 28,100          |
| 1960       | May 6, 1960   | 22.82              | 39,200          | 1964       | June 15, 1964  | 21.32              | 35,400          |
| 1961       | May 10, 1961  | 36.92              | 113,000         | 1965       | Apr. 6, 1965   | 25.56              | 46,800          |
|            |               |                    |                 | 1965       | June 16, 1965  | 23.68              | 41,400          |

a Annual peak only.

b Furnished by U. S. Weather Bureau; affected by backwater due to dam construction.

## OSAGE RIVER BASIN

6-9208. Big Muddy Creek at Lowry City, Mo.

Location.--Lat 38°09'29", long 93°43'22", in NE¼SE¼ sec.12, T.39 N., R.26 W., on right bank just upstream from culvert under State Highway 13, 1 mile north of Lowry City.

Drainage area.--0.31 sq mi. Slope.--48.7 ft per mi.

Gage.--Crest-stage gage. At site 0.1 mile upstream and at different datum prior to Jan. 7, 1965.

Stage-discharge relation.--Defined by current-meter measurements below 4.8 cfs and by indirect measurements at 34.0, 36.9, 59.2, 62.9, and 160 cfs.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | Aug. 29, 1955 | 7.47               | 42              |            |      |                    |                 |
| 1956                       | July 26, 1956 | 8.71               | 96              |            |      |                    |                 |
| 1957                       | June 30, 1957 | 9.65               | 160             |            |      |                    |                 |
| 1958                       | Sept. 2, 1958 | 10.05              | 180             |            |      |                    |                 |
| 1959                       | July 4, 1959  | 8.98               | 110             |            |      |                    |                 |
| 1960                       | Oct. 10, 1959 | 10.08              | 180             |            |      |                    |                 |
| 1961                       | May 5, 1961   | 9.95               | 175             |            |      |                    |                 |
| 1962                       | Feb. 18, 1962 | 8.99               | 110             |            |      |                    |                 |
| 1963                       | Oct. 13, 1962 | 9.99               | 180             |            |      |                    |                 |
| 1964                       | Aug. 14, 1964 | 8.39               | 80              |            |      |                    |                 |
| 1965                       | Sept. 4, 1965 | 8.30               | (a)             |            |      |                    |                 |

a Discharge not determined.

## OSAGE RIVER BASIN

6-9210. Pomme de Terre River near Bolivar, Mo.

Location.--Lat 37°36', long 93°19', in N½ sec.11, T.33 N., R.22 W., on downstream side of left main pier of bridge on State Highway 64 in Burns, 4-3/4 miles upstream from Hominy Creek and 5½ miles east of Bolivar.

Drainage area.--225 sq mi. Slope.--9.0 ft per mi.

Gage.--Nonrecording prior to June 23, 1952, recording thereafter. Datum of gage is 913.97 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 16,000 cfs.

Bankfull stage.--14 ft.

Remarks.--Base for partial-duration series, 5,500 cfs.

| Peak stages and discharges |                |                    |                 |                |               |                    |                 |       |
|----------------------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|-------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |       |
| 1951                       | Feb. 20, 1951  | 10.1               | 5,920           | 1958           | Mar. 23, 1958 | 13.30              | 9,740           |       |
|                            | June 30, 1951  | 13.7               | 9,560           |                | July 8, 1958  | 12.70              | 8,860           |       |
|                            | July 4, 1951   | 11.0               | 6,780           |                | July 11, 1958 | 10.62              | 6,660           |       |
|                            | Aug. 28, 1951  | 12.06              | 7,880           |                | July 16, 1958 | 17.30              | 17,600          |       |
|                            | Sept. 24, 1951 | 13.00              | 8,790           |                |               |                    |                 |       |
| 1952                       | Feb. 1, 1952   | 9.00               | 4,880           | 1959           | Feb. 10, 1959 | 10.58              | 6,440           |       |
|                            |                |                    |                 | 1960           | Oct. 4, 1959  | 11.45              | 7,320           |       |
| 1953                       | Apr. 24, 1953  | 6.98               | 3,250           | 1961           | Apr. 30, 1961 | 17.60              | 18,300          |       |
| 1954                       | May 2, 1954    | 6.55               | 2,920           |                | May 5, 1961   | 17.15              | 17,300          |       |
|                            |                |                    |                 |                | May 8, 1961   | 14.00              | 10,700          |       |
| 1955                       | Oct. 26, 1954  | 11.10              | 6,880           | 1962           | May 30, 1962  | 8.40               | 4,230           |       |
|                            | Feb. 20, 1955  | 11.80              | 7,580           |                |               |                    |                 |       |
| 1956                       | May 31, 1956   | 9.80               | 5,640           | 1963           | May 26, 1963  | 11.90              | 7,880           |       |
| 1957                       |                |                    |                 |                | June 15, 1963 | 11.52              | 7,430           |       |
|                            | Apr. 3, 1957   | 11.77              | 7,580           | 1964           | Apr. 5, 1964  | 8.90               | 4,650           |       |
|                            | May 17, 1957   | 10.87              | 6,680           |                |               |                    |                 |       |
|                            | May 21, 1957   | 11.0               | 6,780           |                | 1965          | Apr. 3, 1965       | 10.79           | 6,960 |
|                            | May 23, 1957   | 15.88              | 12,900          | Apr. 5, 1965   |               | 13.83              | 11,000          |       |
|                            | May 25, 1957   | 10.99              | 7,120           | July 11, 1965  |               | 14.40              | 12,000          |       |
|                            | June 9, 1957   | 10.35              | 6,470           | Sept. 22, 1965 | 10.20         | 6,270              |                 |       |
| 1958                       | Dec. 17, 1957  | 11.60              | 7,790           |                |               |                    |                 |       |

## OSAGE RIVER BASIN

6-9211. Olinger Creek near Buffalo, Mo.

Location.--Lat 37°40'47", long 93°06'10", in NW¼SW¼SW¼ sec.11, T.34 N., R.20 W., 20 ft upstream from concrete culvert under U. S. Highway 65, 0.2 mile north of Dallas County Road Z, and 2½ miles north of Buffalo.

Drainage area.--1.96 sq mi. Slope.--47.8 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed Mar. 8, 1963, and removed May 18, 1965.

Stage-discharge relation.--Defined by indirect measurements at 550, 772, and 3,250 cfs.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1957                       | June 30, 1957  | 9.11               | 555             |            |      |                    |                 |
| 1958                       | July 16, 1958  | 9.33               | 590             |            |      |                    |                 |
| 1959                       | June 11, 1959  | 10.65              | 770             |            |      |                    |                 |
| 1960                       | Oct. 4, 1959   | 8.48               | 460             |            |      |                    |                 |
| 1961                       | May 5, 1961    | 16.4               | 3,250           |            |      |                    |                 |
| 1962                       | July 6, 1962   | 9.36               | 600             |            |      |                    |                 |
| 1963                       | Oct. 13, 1962  | 10.06              | 700             |            |      |                    |                 |
| 1964                       | Apr. 5, 1964   | 8.19               | 380             |            |      |                    |                 |
| 1965                       | Sept. 22, 1965 | 8.70               | 480             |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9212. Lindley Creek near Polk, Mo.

Location.--Lat 37°45'02", long 93°15'58", in NE½SE¼ sec.29, T.35 N., R.21 W., 2½ miles northeast of Polk, and 11 miles upstream from Ingalls Creek.

Drainage area.--112 sq mi. Slope.--11.6 ft per mi.

Gage.--Nonrecording prior to Sept. 25, 1957, recording thereafter. Datum of gage is 884.08 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 12,000 cfs and by slope-conveyance study.

Bankfull stage.--17 ft.

Historical data.--Flood of September 1914 reached a stage of about 25.2 ft.

Remarks.--Base for partial-duration series, 2,000 cfs.

| Peak stages and discharges |               |                    |                 |                |               |                    |                 |       |
|----------------------------|---------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|-------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |       |
| 1957                       | May 17, 1957  | 14.8               | 3,730           | 1960           | Nov. 4, 1959  | 13.83              | 3,980           |       |
|                            | May 22, 1957  | 14.2               | 3,270           |                | Dec. 18, 1959 | 15.97              | 4,780           |       |
|                            | May 25, 1957  | 15.5               | 4,320           |                | May 6, 1960   | 17.07              | 6,200           |       |
|                            | June 30, 1957 | 13.4               | 2,700           | 1961           | Mar. 6, 1961  | 14.01              | 3,120           |       |
| 1958                       | Mar. 9, 1958  | 14.73              | 3,650           |                | Apr. 30, 1961 | 16.67              | 5,570           |       |
|                            | Mar. 23, 1958 | 15.92              | 4,680           |                | May 5, 1961   | 23.60              | 28,000          |       |
|                            | May 30, 1958  | 13.57              | 2,840           |                | May 8, 1961   | 19.30              | 12,200          |       |
|                            | July 7, 1958  | 12.40              | 2,090           |                | 1962          | Mar. 20, 1962      | 16.83           | 6,260 |
|                            | July 12, 1958 | 16.30              | 5,090           | Mar. 25, 1962  |               | 12.40              | 2,090           |       |
|                            | July 16, 1958 | 19.16              | 12,000          | 1963           |               | Oct. 13, 1962      | 17.85           | 8,240 |
|                            | July 17, 1958 | 18.7               | 10,100          |                | May 4, 1963   | 15.25              | 4,070           |       |
|                            | July 31, 1958 | 13.66              | 2,900           |                | May 26, 1963  | 17.10              | 6,780           |       |
|                            | Aug. 12, 1958 | 13.72              | 2,900           |                | June 15, 1963 | 13.38              | 2,700           |       |
|                            | Sept. 2, 1958 | 17.8               | 7,580           |                | June 19, 1963 | 12.70              | 2,260           |       |
| 1959                       | Feb. 10, 1959 | 16.05              | 4,780           | 1964           | Apr. 5, 1964  | 16.70              | 6,090           |       |
|                            | June 1, 1959  | 13.89              | 3,040           |                | 1965          | Apr. 3, 1965       | 14.26           | 3,340 |
|                            | June 12, 1959 | 15.29              | 4,140           |                |               | Apr. 6, 1965       | 15.97           | 5,000 |
|                            | July 5, 1959  | 13.72              | 2,900           |                |               | June 24, 1965      | 14.28           | 3,340 |
|                            | July 17, 1959 | 14.77              | 3,730           | Sept. 22, 1965 | 16.97         | 6,600              |                 |       |
| 1960                       | Oct. 2, 1959  | 17.65              | 7,160           |                |               |                    |                 |       |
|                            | Oct. 4, 1959  | 17.41              | 6,760           |                |               |                    |                 |       |
|                            | Oct. 13, 1959 | 15.50              | 4,320           |                |               |                    |                 |       |

## OSAGE RIVER BASIN

6-9213. North Fork Ingalls Creek near Louisburg, Mo.

Location.--Lat 37°46'46", long 93°08'42", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.16, T.35 N., R.20 W., on left bank just upstream from culvert under State Highway 65, 1.5 miles north of junction C and 65 in Louisburg.

Drainage area.--0.32 sq mi. Slope.--87.3 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 62 and 166 cfs by indirect measurements and below 5 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1958                       | July 16, 1958  | 5.84               | 125             |            |      |                    |                 |
| 1959                       | June 11, 1959  | 5.99               | 135             |            |      |                    |                 |
| 1960                       | May 6, 1960    | 6.13               | 145             |            |      |                    |                 |
| 1961                       | May 7, 1961    | 6.44               | 166             |            |      |                    |                 |
| 1962                       | Mar. 20, 1962  | 4.07               | 30              |            |      |                    |                 |
| 1963                       | May 26, 1963   | 4.16               | 34              |            |      |                    |                 |
| 1964                       | Apr. 5, 1964   | 4.60               | 54              |            |      |                    |                 |
| 1965                       | Sept. 22, 1965 | 4.16               | 34              |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9214. Ferguson Branch at Nemo, Mo.

Location.--Lat 37°52'50", long 93°15'30", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.8, T.36 N., R.21 W., on County Road D, 0.5 mile northeast of Nemo.

Drainage area.--0.18 sq mi. Slope.--154 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 40, 55.6 and 304 cfs.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1957                       | May 30, 1957  | 10.00              | 304             |            |      |                    |                 |
| 1958                       | Sept. 1, 1958 | 6.07               | 25              |            |      |                    |                 |
| 1959                       | May 27, 1959  | 6.32               | 31              |            |      |                    |                 |
| 1960                       | Oct. 3, 1959  | 6.99               | 56              |            |      |                    |                 |
| 1961                       | May 5, 1961   | 6.49               | 38              |            |      |                    |                 |
| 1962                       | June 25, 1962 | 5.9                | 20              |            |      |                    |                 |
| 1963                       | May 26, 1963  | 6.10               | 25              |            |      |                    |                 |
| 1964                       | Apr. 5, 1964  | 6.14               | 26              |            |      |                    |                 |
| 1965                       | June 23, 1965 | 6.01               | 22              |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9215. Pomme de Terre River at Hermitage, Mo.

Location.--Lat 37°56'45", long 93°18'35", in SE¼NE¼ sec.23, T.37 N., R.22 W., at bridge on U. S. Highway 54, a quarter of a mile east of Hermitage, and 1½ miles downstream from Mill (Crane) Creek.

Drainage area.--655 sq mi. Slope.--4.8 ft per mi.

Gage.--Nonrecording July 25, 1921, to July 28, 1937; recording gage thereafter. At site 1.6 miles upstream and at different datum prior to Oct. 1, 1925. Datum of gage is 727.08 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 41,000 cfs.

Bankfull stage.--15 ft.

Remarks.--Flow regulated since June 28, 1960 by Pomme de Terre Reservoir (maximum capacity, 650,000 acre-ft). Base for partial-duration series, 12,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1922                       | Mar. 14, 1922  | 18.95              | 16,600          | 1942       | Oct. 5, 1941   | 30.70              | 44,300          |
|                            |                |                    |                 |            | Oct. 31, 1941  | 23.20              | 19,800          |
| 1923                       | June 4, 1923   | 12.38              | 7,600           |            | June 18, 1942  | 29.60              | 39,900          |
|                            |                |                    |                 |            | June 21, 1942  | 21.10              | 15,600          |
| 1924                       | May 29, 1924   | 22.56              | 24,600          | 1943       | Dec. 27, 1942  | 24.58              | 23,800          |
|                            | June 10, 1924  | 20.00              | 18,800          |            | May 11, 1943   | 24.20              | 23,000          |
| 1925                       | Sept. 22, 1925 | 15.80              | 11,400          |            | May 19, 1943   | 29.48              | 39,900          |
| 1926                       | Nov. 8, 1925   | 15.84              | 9,000           | 1944       | May 1, 1944    | 19.36              | 13,000          |
|                            |                |                    |                 |            | Aug. 27, 1944  | 23.52              | 21,000          |
| 1927                       | Oct. 5, 1926   | 19.30              | 13,100          | 1945       | Apr. 3, 1945   | 19.30              | 12,800          |
|                            | Mar. 20, 1927  | 20.40              | 14,600          |            | Apr. 14, 1945  | 26.92              | 30,700          |
|                            | Apr. 1, 1927   | 23.50              | 19,000          |            | Sept. 23, 1945 | 20.29              | 14,400          |
|                            | Apr. 16, 1927  | 19.70              | 13,600          |            | Sept. 25, 1945 | 25.27              | 26,600          |
|                            | June 1, 1927   | 23.60              | 19,100          | 1946       | Aug. 14, 1946  | 27.84              | 33,700          |
|                            | Aug. 8, 1927   | 36.45              | 70,000          |            |                |                    |                 |
| 1928                       | June 10, 1928  | 22.50              | 19,800          | 1947       | Nov. 1, 1946   | 24.20              | 22,700          |
|                            | June 29, 1928  | 19.30              | 13,100          |            | Apr. 11, 1947  | 22.69              | 19,100          |
|                            | Aug. 2, 1928   | 21.16              | 15,700          |            | Apr. 25, 1947  | 28.44              | 35,800          |
| 1929                       | Apr. 9, 1929   | 19.72              | 13,600          | 1948       | June 22, 1948  | 29.06              | 38,400          |
|                            | May 7, 1929    | 23.95              | 23,700          |            | June 26, 1948  | 18.90              | 12,300          |
|                            | May 13, 1929   | 20.90              | 15,300          |            | July 20, 1948  | 20.11              | 14,100          |
|                            | May 19, 1929   | 20.24              | 14,300          |            |                |                    |                 |
| 1930                       | Feb. 4, 1930   | 15.10              | 8,300           | 1949       | Feb. 15, 1949  | 19.87              | 13,800          |
|                            |                |                    |                 |            | July 7, 1949   | 21.23              | 16,000          |
| 1931                       | May 20, 1931   | 21.46              | 16,100          | 1950       | Jan. 5, 1950   | 20.38              | 14,500          |
|                            | Aug. 6, 1931   | 19.40              | 13,200          |            | Jan. 14, 1950  | 22.62              | 18,900          |
| 1932                       | June 28, 1932  | 22.20              | 19,100          |            | May 31, 1950   | 19.41              | 13,000          |
| 1933                       | Dec. 25, 1932  | 22.20              | 19,100          | 1951       | Feb. 21, 1951  | 19.98              | 13,900          |
|                            | May 14, 1933   | 19.95              | 14,000          |            | July 1, 1951   | 26.40              | 29,000          |
|                            |                |                    |                 |            | July 11, 1951  | 20.3               | 14,400          |
| 1934                       | Apr. 16, 1934  | 12.14              | 5,530           |            | Sept. 10, 1951 | 23.73              | 21,500          |
| 1935                       | Mar. 12, 1935  | 23.76              | 23,200          | 1952       | Feb. 2, 1952   | 18.82              | 12,100          |
|                            | May 29, 1935   | 20.82              | 16,000          | 1953       | Apr. 24, 1953  | 15.55              | 8,330           |
|                            | June 15, 1935  | 29.38              | 42,200          | 1954       | May 3, 1954    | 11.01              | 4,450           |
| 1936                       | Sept. 28, 1936 | 17.11              | 9,740           | 1955       | Feb. 20, 1955  | 20.03              | 13,900          |
| 1937                       | Nov. 3, 1936   | 23.05              | 21,000          |            | Mar. 15, 1955  | 22.05              | 17,600          |
|                            | Jan. 15, 1937  | 20.50              | 16,500          |            | Mar. 21, 1955  | 20.05              | 13,900          |
|                            | Jan. 31, 1937  | 19.70              | 15,100          | 1956       | May 31, 1956   | 22.95              | 19,800          |
|                            | June 10, 1937  | 25.97              | 29,900          |            |                |                    |                 |
|                            | June 16, 1937  | 19.00              | 13,900          | 1957       | May 17, 1957   | 21.66              | 17,000          |
| 1938                       | May 24, 1938   | 15.50              | 9,120           |            | May 24, 1957   | 19.27              | 12,800          |
| 1939                       | Apr. 6, 1939   | 21.28              | 17,100          | 1958       | Mar. 24, 1958  | 23.40              | 18,900          |
|                            | May 8, 1939    | 19.80              | 14,000          |            | July 18, 1958  | 27.34              | 28,000          |
| 1940                       | May 1, 1940    | 15.70              | 8,060           |            | Sept. 3, 1958  | 19.95              | 13,500          |
| 1941                       | Apr. 16, 1941  | 21.72              | 16,700          | 1959       | Feb. 10, 1959  | 18.03              | 10,800          |
|                            | Apr. 19, 1941  | 29.44              | 39,100          |            |                |                    |                 |

## OSAGE RIVER BASIN

## Peak stages and discharges of Pomme de Terre River at Hermitage, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date         | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|--------------|--------------------|-----------------|
| 1960       | Oct. 5, 1959  | 21.6               | 15,900          | 1963       | May 26, 1963 | 10.30              | a3,740          |
|            | May 6, 1960   | 20.26              | 13,900          |            | 1964         | Apr. 5, 1964       | 12.43           |
| 1961       | May 5, 1961   | 18.67              | all,600         | 1965       |              | June 23, 1965      | 13.76           |
| 1962       | Mar. 23, 1962 | 13.58              | a6,250          |            |              |                    |                 |

a Annual peak only.

## OSAGE RIVER BASIN

6-9216. South Grand River at Urich, Mo.

Location--Lat 38°27'08", long 94°00'13", in SE¼NW¼ sec.10, T.42 N., R.28 W., on left bank 10 ft downstream from bridge on County Highway K, half a mile south of Urich, 1 mile upstream from White Oak Creek, and 1.7 miles downstream from Knob Creek.

Drainage area--670 sq mi.

Gage--Recording. Datum of gage, 715.9 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 21,900 cfs.

Remarks--Base for partial-duration series, 5,500 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date         | Gage height (feet) | Discharge (cfs) |       |
|------------|----------------|--------------------|-----------------|----------------|--------------|--------------------|-----------------|-------|
| 1961       | Mar. 13, 1961  | 22.95              | 6,400           | 1963           | May 26, 1963 | 23.80              | 7,940           |       |
|            | Apr. 10, 1961  | 24.62              | 11,900          |                | 1964         | Apr. 5, 1964       | 22.40           | 5,690 |
|            | Apr. 12, 1961  | 23.20              | 6,690           | Apr. 21, 1964  |              | 22.60              | 5,910           |       |
|            | May 7, 1961    | 25.95              | 22,200          | Apr. 23, 1964  |              | 22.50              | 5,800           |       |
|            | May 23, 1961   | 23.35              | 7,050           | May 28, 1964   |              | 23.60              | 7,460           |       |
|            | Aug. 2, 1961   | 22.50              | 5,800           | June 15, 1964  |              | 23.70              | 7,690           |       |
|            | Sept. 4, 1961  | 22.45              | 5,690           | 1965           |              | Jan. 23, 1965      | 23.45           | 7,050 |
|            | Sept. 15, 1961 | 26.84              | 29,200          |                |              | Apr. 6, 1965       | 23.20           | 6,690 |
|            |                |                    |                 |                | June 6, 1965 | 24.20              | 9,300           |       |
| 1962       | Oct. 13, 1961  | 23.08              | 6,540           | June 15, 1965  | 24.95        | 15,300             |                 |       |
|            | Nov. 3, 1961   | 24.94              | 14,500          | Sept. 5, 1965  | 25.77        | 20,600             |                 |       |
|            | Nov. 17, 1961  | 24.50              | 11,200          | Sept. 22, 1965 | 24.90        | 14,100             |                 |       |
|            | Mar. 21, 1962  | 25.08              | 15,700          |                |              |                    |                 |       |
|            |                |                    |                 |                |              |                    |                 |       |

## OSAGE RIVER BASIN

6-9217. West Branch Crawford Creek near Lees Summit, Mo.

Location.--Lat 38°52'48", long 94°12'52", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.15, T.47 N., R.30 W., on left bank just upstream from culvert under U. S. Highway 50, 0.2 mile east of county road 20 E, 1.2 miles east of Cockrell, and about 8.5 miles southeast of Lees Summit.

Drainage area.--0.80 sq mi. Slope.--59.6 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 221, 345, and 839 cfs.

Remarks.--Tailwater gage used as reference gage to Mar. 16, 1961 and for 1965 water year. Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | May 26, 1955   | 12.46              | 221             |            |      |                    |                 |
| 1956                       | Apr. 28, 1956  | 13.47              | 345             |            |      |                    |                 |
| 1957                       | Sept. 20, 1957 | (a)                | (b)             |            |      |                    |                 |
| 1958                       | July 30, 1958  | 12.41              | 220             |            |      |                    |                 |
| 1959                       | Aug. 31, 1959  | 12.29              | 200             |            |      |                    |                 |
| 1960                       | Apr. 6, 1960   | 15.57              | 839             |            |      |                    |                 |
| 1961                       | Sept. 13, 1961 | 17.46              | 700             |            |      |                    |                 |
| 1962                       | Nov. 2, 1961   | 13.88              | 240             |            |      |                    |                 |
| 1963                       |                | (a)                | (c)             |            |      |                    |                 |
| 1964                       | Apr. 4, 1964   | 12.19              | 110             |            |      |                    |                 |
| 1965                       | July 19, 1965  | 15.73              | 900             |            |      |                    |                 |

a Stage below bottom of gage.

b Less than 50 cfs.

c Less than 100 cfs.

## OSAGE RIVER BASIN

6-9217.2 Big Creek at Blairstown, Mo.

Location.--Lat 38°33'17", long 93°57'54", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.36, T.44 N., R.28 W., on downstream side of right bridge pier on County Highway N, 0.3 mile west of Blairstown, 0.8 mile downstream from Bear Creek and 1 $\frac{1}{2}$  miles upstream from Brushy Creek.

Drainage area.--414 sq mi.

Gage.--Recording. Datum of gage is 734.06 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter below 14,000 cfs.

Remarks.--Base for partial-duration series, 4,500 cfs.

| Peak stages and discharges |                |                    |                 |                |               |                    |                 |  |
|----------------------------|----------------|--------------------|-----------------|----------------|---------------|--------------------|-----------------|--|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |  |
| 1961                       | Mar. 13, 1961  | 21.92              | 6,300           | 1962           | Mar. 21, 1962 | 23.03              | 9,050           |  |
|                            | Mar. 27, 1961  | 21.35              | 5,040           |                |               |                    |                 |  |
|                            | Apr. 9, 1961   | 22.40              | 6,500           | 1963           | Oct. 13, 1962 | 23.50              | 13,400          |  |
|                            | May 6, 1961    | 23.74              | 14,600          |                |               |                    |                 |  |
|                            | Aug. 2, 1961   | 23.00              | 10,700          | 1964           | June 14, 1964 | 21.76              | 5,240           |  |
|                            | Sept. 4, 1961  | 21.86              | 5,450           |                |               |                    |                 |  |
|                            | Sept. 14, 1961 | 25.40              | 24,400          |                |               |                    |                 |  |
| 1962                       | Nov. 3, 1961   | 22.46              | 7,750           | 1965           | June 5, 1965  | 22.62              | 8,500           |  |
|                            | Nov. 16, 1961  | 22.15              | 6,300           |                | July 20, 1965 | 22.90              | 10,200          |  |
|                            |                |                    |                 |                | Sept. 5, 1965 | 22.50              | 8,000           |  |
|                            |                |                    |                 | Sept. 21, 1965 | 22.48         | 8,000              |                 |  |

## OSAGE RIVER BASIN

6-9217.4. Brushy Creek near Blairstown, Mo.

Location--Lat 38°31'42", long 94°00'37", in NE¼SE¼ sec.9, T.43 N., R.28 W., just upstream from culvert under county highway, 3 miles upstream from mouth, and 3½ miles southwest of Blairstown.

Drainage area--1.15 sq mi. Slope--70.8 ft per mi.

Gage--Recording.

Stage-discharge relation--Defined at 300 and 1,300 cfs by indirect measurements. Defined below 175 cfs by current-meter measurements.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |      |          |                    |                 |            |      |                    |                 |
|----------------------------|------|----------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date |          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1961                       | May  | 5, 1961  | 9.90               | 1,270           |            |      |                    |                 |
| 1962                       | Nov. | 2, 1961  | 5.80               | 415             |            |      |                    |                 |
| 1963                       | May  | 26, 1963 | 5.30               | 345             |            |      |                    |                 |
| 1964                       | Apr. | 21, 1964 | 5.47               | 360             |            |      |                    |                 |
| 1965                       | June | 9, 1965  | 7.63               | 720             |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9218. Granddaddy Creek near Urich, Mo.

Location--Lat 38°21'49", long 94°00'47", in NW¼NW¼SW¼ sec.10, T.41 N., R.28 W., on left bank just upstream from culvert under County Route K, 0.3 mile north of junction of County Route K and State Highway 18, and 6½ miles south of Urich.

Drainage area--0.92 sq mi. Slope--36.2 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by indirect measurements at 59.5, 129, 327, and 1,150 cfs.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |       |          |                    |                 |            |      |                    |                 |
|----------------------------|-------|----------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date  |          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1958                       | Aug.  | 16, 1958 | 8.43               | 305             |            |      |                    |                 |
| 1959                       | May   | 18, 1959 | 10.23              | 1,150           |            |      |                    |                 |
| 1960                       | May   | 5, 1960  | 8.28               | 290             |            |      |                    |                 |
| 1961                       | Sept. | 13, 1961 | 9.64               | 710             |            |      |                    |                 |
| 1962                       | Oct.  | 13, 1961 | 7.99               | 260             |            |      |                    |                 |
| 1963                       | May   | 24, 1963 | 9.69               | 750             |            |      |                    |                 |
| 1964                       | Apr.  | 23, 1964 | 7.06               | 170             |            |      |                    |                 |
| 1965                       | Sept. | 21, 1965 | 9.67               | 740             |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9220. South Grand River near Brownington, Mo.

Location.--Lat 38°15'45", long 93°42'50", in NW¼ sec.17, T.40 N., R.25 W., at county highway bridge, 150 ft downstream from St. Louis-San Francisco Railway Co. bridge, 200 ft downstream from Deepwater Creek, and 1 mile north of Brownington.

Drainage area.--1,660 sq mi, approximately. Slope.--2.1 ft per mi.

Gage.--Nonrecording. Datum of gage is 676.18 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 47,000 cfs and extended to 63,900 cfs by logarithmic plotting.

Bankfull stage.--16 ft.

Remarks.--Channel improvement of 57½ miles of main channel and some tributaries completed in 1921; all work some distance above gage. Base for partial-duration series, 9,000 cfs.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1915                       | Mar. 1, 1915   | 30                 | a25,000         | 1943       | Dec. 29, 1942  | 23.15              | 12,100          |
|                            |                |                    |                 |            | May 12, 1943   | 23.35              | 12,300          |
| 1922                       | Mar. 15, 1922  | 25.70              | 18,700          |            | May 20, 1943   | 37.88              | 52,700          |
|                            | Mar. 27, 1922  | 20.30              | 13,400          |            | June 5, 1943   | 28.00              | 19,000          |
|                            | Apr. 9, 1922   | 28.0               | 21,100          | 1944       | Mar. 18, 1944  | 24.92              | 14,100          |
| 1923                       | June 13, 1923  | 24.65              | 17,500          |            | Apr. 13, 1944  | 26.50              | 16,400          |
|                            |                |                    |                 |            | Apr. 25, 1944  | 35.8               | 43,600          |
| 1924                       | June 29, 1924  | 18.20              | 11,500          | 1945       | Apr. 18, 1945  | 26.40              | 16,200          |
| 1925                       | Apr. 6, 1925   | 20.25              | 13,300          |            | May 27, 1945   | 24.20              | 13,200          |
|                            | June 3, 1925   | 17.15              | 10,600          |            | May 31, 1945   | 24.70              | 13,800          |
| 1926                       | Nov. 8, 1925   | 15.70              | 9,240           |            | June 12, 1945  | 21.35              | 10,500          |
|                            | Apr. 9, 1926   | 19.00              | 12,200          |            | July 3, 1945   | 21.50              | 10,600          |
| 1927                       | Mar. 22, 1927  | 27.25              | 16,500          | 1946       | Jan. 8, 1946   | 24.4               | 13,500          |
|                            | Apr. 3, 1927   | 25.75              | 14,300          |            | Aug. 15, 1946  | 23.30              | 12,200          |
|                            | Apr. 17, 1927  | -                  | 14,900          | 1947       | Mar. 15, 1947  | 24.75              | 14,000          |
|                            | May 10, 1927   | 22.49              | 10,900          |            | Apr. 8, 1947   | 26.40              | 16,200          |
|                            | June 5, 1927   | 20.33              | 9,480           |            | Apr. 12, 1947  | 26.02              | 15,600          |
| 1928                       | Oct. 5, 1927   | 28.52              | 18,600          |            | Apr. 27, 1947  | 23.20              | 12,100          |
|                            | Feb. 9, 1928   | 22.57              | 11,000          |            | June 10, 1947  | 24.34              | 13,400          |
|                            |                |                    |                 |            | June 27, 1947  | 27.15              | 17,600          |
| 1929                       | Nov. 19, 1928  | 39.9               | 63,900          | 1948       | Mar. 22, 1948  | 20.15              | 9,420           |
|                            | Apr. 9, 1929   | 20.10              | 9,340           |            | June 27, 1948  | 26.15              | 15,900          |
|                            | May 14, 1929   | 29.03              | 21,000          |            | July 24, 1948  | 27.40              | 17,900          |
|                            | May 20, 1929   | 25.73              | 15,200          |            | July 29, 1948  | 30.8               | 25,900          |
|                            | June 5, 1929   | 20.56              | 9,740           | 1949       | Jan. 18, 1949  | 20.7               | 9,830           |
|                            | June 25, 1929  | 22.62              | 11,500          |            | Feb. 15, 1949  | 22.35              | 11,400          |
| 1930                       | Feb. 11, 1930  | 15.32              | 6,880           |            | June 11, 1949  | 20.1               | 9,340           |
| 1931                       | May 21, 1931   | 7.85               | 2,820           | 1950       | Oct. 24, 1949  | 22.05              | 11,000          |
| 1932                       | Nov. 26, 1931  | 19.80              | 9,580           |            | Aug. 30, 1950  | 27.20              | 17,600          |
| 1933                       | May 13, 1933   | 11.94              | 4,840           | 1951       | July 1, 1951   | 32.60              | 31,600          |
| 1934                       | Sept. 30, 1934 | 7.07               | 1,990           |            | July 15, 1951  | 35.5               | 42,400          |
| 1935                       | June 4, 1935   | 31.29              | 29,400          |            | Sept. 7, 1951  | 25.45              | 14,800          |
|                            | June 29, 1935  | 24.95              | 14,200          |            | Sept. 10, 1951 | 25.90              | 15,500          |
| 1936                       | Sept. 28, 1936 | 15.16              | 6,820           | 1952       | Nov. 15, 1951  | 20.08              | 9,340           |
| 1937                       | Mar. 26, 1937  | 20.38              | 9,900           |            | Mar. 13, 1952  | 20.78              | 9,920           |
|                            | May 24, 1937   | 23.83              | 12,800          | 1953       | May 3, 1953    | 19.16              | 8,620           |
|                            | June 11, 1937  | 21.05              | 10,400          | 1954       | May 5, 1954    | 14.24              | 5,440           |
| 1938                       | May 26, 1938   | 31.89              | 31,100          | 1955       | Jan. 7, 1955   | 20.25              | 9,420           |
| 1939                       | Apr. 17, 1939  | 17.8               | 8,040           | 1956       | Oct. 7, 1955   | 22.45              | 11,400          |
| 1940                       | June 11, 1940  | 11.2               | 4,140           | 1957       | July 4, 1957   | 20.1               | 9,340           |
| 1941                       | Apr. 20, 1941  | 16.0               | 7,210           | 1958       | Mar. 11, 1958  | 24.50              | 13,600          |
| 1942                       | Oct. 7, 1941   | 21.80              | 11,000          |            | Apr. 6, 1958   | 23.25              | 12,100          |
|                            | Nov. 3, 1941   | 25.0               | 14,200          |            | Aug. 4, 1958   | 28.25              | 19,400          |
|                            | June 21, 1942  | 23.97              | 13,000          | 1959       | May 21, 1959   | 23.70              | 12,600          |
|                            |                |                    |                 | 1960       | Apr. 19, 1960  | 30.45              | 24,700          |

## OSAGE RIVER BASIN

## Peak stages and discharges of South Grand River near Brownington, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1960       | May 3, 1960    | 22.7               | 11,600          | 1962       | Mar. 23, 1962  | 27.70              | 18,500          |
|            | May 8, 1960    | 24.0               | 13,000          |            |                |                    |                 |
| 1961       | Apr. 12, 1961  | 23.95              | 13,000          | 1963       | May 27, 1963   | 22.50              | 11,400          |
|            | May 9, 1961    | 35.00              | 40,400          | 1964       | June 16, 1964  | 23.9               | 12,900          |
|            | Sept. 17, 1961 | 34.70              | 39,200          |            |                |                    |                 |
| 1962       | Nov. 5, 1961   | 25.60              | 15,000          | 1965       | Sept. 7, 1965  | 29.40              | 22,000          |
|            | Nov. 19, 1961  | 21.60              | 10,600          |            | Sept. 24, 1965 | 24.40              | 13,500          |

a Annual peak only.

## OSAGE RIVER BASIN

6-9225. Osage River at Warsaw, Mo.

Location--Lat 38°14'40", long 92°23'10", in NE¼SW¼ sec.17, T.40 N., R.22 W., at Warsaw.Drainage area--11,500 sq mi, approximately. Slope--1.46 ft per mi.Gage--Nonrecording. At various sites and datums in vicinity prior to Aug. 6, 1925. Datum of gage is 631.80 ft above mean sea level.Stage-discharge relation--Defined by current-meter measurements. Affected at times by storage in Lake of the Ozarks since 1931.Bankfull stage--31 ft.Historical data--Floods in 1872, 1874, and on Feb. 1, 1916, reached stages of 33.1, 26.2, and 35.5 ft respectively, from reports of U. S. Weather Bureau.Remarks--Gage heights adjusted to present site and datum. Peaks for period prior to Oct. 1, 1925, and after Apr. 30, 1931, computed from plotted U. S. Weather Bureau gage readings. Base for partial-duration series, 40,000 cfs.

| Peak stages and discharges |           |      |                    |                 |             |          |      |                    |                 |
|----------------------------|-----------|------|--------------------|-----------------|-------------|----------|------|--------------------|-----------------|
| Water year                 | Date      |      | Gage height (feet) | Discharge (cfs) | Water year  | Date     |      | Gage height (feet) | Discharge (cfs) |
| <u>1844</u>                | June      | 1844 | 44.46              | a185,000        | 1926        | Nov. 9,  | 1925 | 20.1               | 41,800          |
| <u>1855</u>                |           | 1855 | 39.5               | a112,000        | 1927        | Oct. 5,  | 1926 | 24.0               | 53,000          |
|                            |           |      |                    |                 |             | Oct. 11, | 1926 | 24.7               | 55,200          |
| <u>1872</u>                |           | 1872 | 33.1               | -               |             | Mar. 22, | 1927 | 28.6               | 68,200          |
|                            |           |      |                    |                 |             | Apr. 2,  | 1927 | 28.7               | 68,600          |
| <u>1874</u>                |           | 1874 | 26.2               | -               |             | Apr. 17, | 1927 | 34.45              | 88,300          |
|                            |           |      |                    |                 |             | May 10,  | 1927 | 21.2               | 44,800          |
| <u>1896</u>                | December  | 1895 | 38.4               | a108,000        |             | June 3,  | 1927 | 26.7               | 61,800          |
|                            |           |      |                    |                 |             | June 22, | 1927 | 26.3               | 60,500          |
| <u>1905</u>                | April     | 1905 | 37.4               | a104,000        |             | July 24, | 1927 | 20.4               | 42,600          |
|                            |           |      |                    |                 |             | Aug. 10, | 1927 | 31.8               | 79,200          |
| <u>1916</u>                | Feb. 1,   | 1916 | 35.5               | -               |             | Aug. 21, | 1927 | 25.9               | 59,200          |
| 1918                       | Apr. 30,  | 1918 | 16.6               | 32,900          | 1928        | Oct. 3,  | 1927 | 27.0               | 62,800          |
|                            |           |      |                    |                 |             | Oct. 9,  | 1927 | 28.2               | 66,900          |
| 1919                       | May 20,   | 1919 | 23.3               | 50,800          |             | June 11, | 1928 | 23.7               | 52,000          |
|                            |           |      |                    |                 |             | July 1,  | 1928 | 22.2               | 47,600          |
| 1920                       | Oct. 29,  | 1919 | 28.7               | 68,600          |             |          |      |                    |                 |
|                            | Mar. 27,  | 1920 | 28.9               | 69,300          | 1929        | Nov. 24, | 1928 | 28.1               | 66,500          |
|                            | Sept. 15, | 1920 | 20.3               | 42,300          |             | Apr. 9,  | 1929 | 26.2               | 60,200          |
|                            | Sept. 28, | 1920 | 19.7               | 40,700          |             | Apr. 22, | 1929 | 19.7               | 40,700          |
|                            |           |      |                    |                 |             | Apr. 25, | 1929 | 19.6               | 40,500          |
| 1921                       | Sept. 15, | 1921 | 21.2               | a44,800         |             | May 8,   | 1929 | 23.0               | 49,900          |
|                            |           |      |                    |                 |             | May 19,  | 1929 | 34.8               | 89,700          |
| 1922                       | Mar. 15,  | 1922 | 26.7               | 61,800          |             |          |      |                    |                 |
|                            | Mar. 20,  | 1922 | 25.7               | 58,500          | <u>1930</u> | Feb. 9,  | 1930 | 16.4               | 32,400          |
|                            | Apr. 1,   | 1922 | 25.5               | 57,800          |             |          |      |                    |                 |
|                            | Apr. 4,   | 1922 | 26.8               | 62,100          | <u>1935</u> | June 3,  | 1935 | 34.1               | a94,000         |
|                            | Apr. 12,  | 1922 | 34.9               | 90,000          |             |          |      |                    |                 |
|                            |           |      |                    |                 | 1941        | Apr. 21, | 1941 | 33.8               | a80,000         |
| 1923                       | June 12,  | 1923 | 22.2               | 47,600          |             |          |      |                    |                 |
|                            | June 17,  | 1923 | 23.4               | 51,100          | 1942        | Nov. 2,  | 1941 | 34.5               | a88,600         |
|                            |           |      |                    |                 |             |          |      |                    |                 |
| 1924                       | Dec. 15,  | 1923 | 19.7               | 40,700          | <u>1943</u> | May 22,  | 1943 | 44.54              | a220,000        |
|                            | May 31,   | 1924 | 22.7               | 49,000          |             |          |      |                    |                 |
|                            | June 11,  | 1924 | 21.8               | 46,400          | 1946        | Aug. 14, | 1946 | 35.2               | a76,000         |
|                            | June 21,  | 1924 | 21.0               | 44,200          |             |          |      |                    |                 |
|                            | July 15,  | 1924 | 25.5               | 57,800          | <u>1947</u> | Apr. 27, | 1947 | 34.40              | a78,300         |
|                            | July 22,  | 1924 | 21.1               | 44,500          |             |          |      |                    |                 |
|                            |           |      |                    |                 | 1951        | July 7,  | 1951 | 40.1               | ab120,000       |
| <u>1925</u>                | Apr. 6,   | 1925 | 17.8               | 35,900          |             |          |      |                    |                 |

a Annual peak only.

b Estimated.

Note: No rating definition below stage of about 34 ft since construction of Bagnell Dam in 1931, due to backwater conditions at gage.

## OSAGE RIVER BASIN

6-9226. Little Turkey Creek tributary near Warsaw, Mo.

Location.--Lat 38°10'30", Long 93°17'30", in NW¼SW¼ sec. 1, T. 39 N., R. 22 W., on right bank, just upstream from culvert on State Highway 35, 1½ miles east of junction 35 and State Highway 65, and about 5 miles southeast of Warsaw.

Drainage area.--0.18 sq mi. Slope.--178 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 73 and 112 cfs by indirect measurements.

Remarks.--Only annual peaks are shown.

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1959       | Sept. 23, 1959 | 10.50              | 112             |            |      |                    |                 |
| 1960       | Apr. 24, 1960  | 10.42              | 110             |            |      |                    |                 |
| 1961       | May 5, 1961    | 11.10              | 155             |            |      |                    |                 |
| 1962       | Mar. 20, 1962  | 9.87               | 74              |            |      |                    |                 |
| 1963       | Sept. 7, 1963  | 10.08              | 86              |            |      |                    |                 |
| 1964       | Apr. 27, 1964  | 11.00              | 150             |            |      |                    |                 |
| 1965       | June 23, 1965  | 10.96              | 140             |            |      |                    |                 |

Peak stages and discharges

## OSAGE RIVER BASIN

6-9227. Chub Creek near Lincoln, Mo.

Location.--Lat 38°26'12", Long 93°18'07", in NW¼ sec. 12, T. 42 N., R. 22 W., on left downstream wingwall of culvert under State Highway 65, 3.4 miles north of Lincoln.

Drainage area.--2.86 sq mi. Slope.--40.3 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage since Apr. 28, 1964.

Stage-discharge relation.--Defined by indirect measurements at 324, 657, and 850 cfs.

Remarks.--Only annual peaks are shown.

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1958       | July 19, 1958 | 18.96              | 657             |            |      |                    |                 |
| 1959       | Nov. 16, 1958 | 19.68              | 790             |            |      |                    |                 |
| 1960       | May 5, 1960   | 18.78              | 620             |            |      |                    |                 |
| 1961       | May 5, 1961   | 19.52              | 880             |            |      |                    |                 |
| 1962       | Mar. 20, 1962 | 18.35              | 550             |            |      |                    |                 |
| 1963       | Sept. 7, 1963 | 19.48              | 750             |            |      |                    |                 |
| 1964       | June 14, 1964 | 19.50              | 750             |            |      |                    |                 |
| 1965       | Sept. 4, 1965 | 20.86              | 850             |            |      |                    |                 |

Peak stages and discharges

## OSAGE RIVER BASIN

6-9230. Niangua Branch at Marshfield, Mo.

Location.--Lat 37°20'50", long 92°54'45", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.4, T.30 N., R.18 W., at concrete culvert under County Highway W, at north edge of Marshfield.

Drainage area.--0.82 sq mi. Slope.--116 ft per mi.

Gage.--Recording prior to Sept. 9, 1959; crest-stage gage thereafter. Datum of gage is 1,357.83 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 34 cfs and by indirect measurements at 176, 320, and 442 cfs.

Bankfull stage.--6 ft.

Remarks.--Base for partial-duration series, 100 cfs. Only annual peaks are shown subsequent to 1957.

| Peak stages and discharges |               |                    |                 |            |               |                    |                 |     |
|----------------------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|-----|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |     |
| 1951                       | June 30, 1951 | 6.18               | 320             | 1957       | June 1, 1957  | 3.34               | 104             |     |
|                            | Aug. 27, 1951 | 6.31               | 332             |            | June 4, 1957  | 4.25               | 164             |     |
| 1952                       | Oct. 22, 1951 | 4.30               | 159             | 1958       | July 1, 1957  | 3.51               | 111             |     |
|                            |               |                    |                 |            | July 14, 1958 | 6.95               | 396             |     |
|                            |               |                    |                 |            | 1960          | May 8, 1960        | 4.33            | 178 |
| 1953                       | June 1, 1953  | 2.13               | 20.1            | 1961       | Apr. 30, 1961 | 6.33               | 330             |     |
| 1954                       | May 2, 1954   | 3.06               | 87              | 1962       |               | (a)                | (b)             |     |
| 1955                       | Oct. 11, 1954 | 3.81               | 139             | 1963       | May 26, 1963  | 4.02               | 154             |     |
| 1956                       | June 25, 1956 | 4.32               | 174             | 1964       | July 2, 1964  | 5.38               | 256             |     |
| 1957                       | May 21, 1957  | 7.32               | 438             | 1965       | July 12, 1965 | 6.88               | 386             |     |
|                            | May 22, 1957  | 4.38               | 181             |            |               |                    |                 |     |
|                            | May 22, 1957  | 4.77               | 210             |            |               |                    |                 |     |

a Stage did not reach gage during year.

b Less than 100 cfs.

## OSAGE RIVER BASIN

6-9240. Niangua River near Decaturville, Mo.  
(Published as "near Roach" prior to 1931)

Location.--Lat 37°56'20", long 92°50'30", in NW¼NE¼ sec.19, T.37 N., R.17 W., 0.3 mile downstream from hydroelectric plant of Sho-Me Power Cooperative, Inc., and 8 miles northwest of Decaturville.

Drainage area.--627 sq mi; about 698 sq mi prior to Oct. 1, 1930. Slope.--4.7 ft per mi.

Gage.--Nonrecording Nov. 18, 1922, to Sept. 30, 1930; recording gage thereafter. At site 18 miles downstream and at datum about 51.15 ft lower prior to Sept. 30, 1930. Datum of gage is about 665.9 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current meter measurements.

Bankfull stage.--9 ft.

Historical data.--Flood of September 1914 reached a stage of 28 ft at present site and 23.8 at former site near Roach.

Remarks.--Records for site "near Decaturville" and "near Roach" considered equivalent for flood-frequency study. Low flows since 1931 regulated by hydroelectric plant upstream; peak discharges not materially affected. Base for partial-duration series, 9,000 cfs.

|               |                | Peak stages and discharges |                 |                |               |                    |                 |        |
|---------------|----------------|----------------------------|-----------------|----------------|---------------|--------------------|-----------------|--------|
| Water year    | Date           | Gage height (feet)         | Discharge (cfs) | Water year     | Date          | Gage height (feet) | Discharge (cfs) |        |
| 1923          | June 12, 1923  | 3.75                       | 1,810           | 1943           | May 19, 1943  | 21.84              | 33,400          |        |
| 1924          | May 30, 1924   | 13.30                      | 15,200          | 1944           | Apr. 12, 1944 | 13.90              | 11,600          |        |
|               | Aug. 12, 1924  | 11.30                      | 11,100          |                | 1945          | Mar. 4, 1945       | 13.15           | 10,300 |
| 1925          | Dec. 21, 1924  | 11.90                      | 12,800          | Mar. 21, 1945  |               | 13.02              | 9,920           |        |
|               | 1926           | Nov. 9, 1925               | 8.52            | 7,180          |               | Apr. 3, 1945       | 14.97           | 14,000 |
| 1927          |                | Mar. 21, 1927              | 15.3            | 22,100         |               | Apr. 14, 1945      | 19.46           | 26,200 |
|               | Apr. 2, 1927   | 15.1                       | 21,500          | Sept. 26, 1945 | 17.17         | 19,600             |                 |        |
|               | May 10, 1927   | 12.1                       | 13,200          | 1946           | Aug. 15, 1946 | 14.75              | 13,500          |        |
|               | June 1, 1927   | 16.5                       | 25,700          |                | 1947          | Apr. 12, 1947      | 13.47           | 10,800 |
|               | June 22, 1927  | 11.2                       | 13,400          | Apr. 26, 1947  |               | 20.37              | 29,000          |        |
|               | Aug. 9, 1927   | 17.00                      | 27,200          | 1948           | June 23, 1948 | 16.33              | 17,200          |        |
| 1928          | Apr. 7, 1928   | 11.80                      | 12,400          |                | June 29, 1948 | 13.07              | 10,100          |        |
|               | June 10, 1928  | 15.80                      | 23,600          | 1949           | June 9, 1949  | 13.2               | 10,300          |        |
| 1929          | May 7, 1929    | 13.12                      | 15,900          |                | 1950          | Oct. 23, 1949      | 13.12           | 10,100 |
|               | May 19, 1929   | 10.6                       | 9,520           | Jan. 5, 1950   |               | 17.55              | 20,700          |        |
| 1930          | Jan. 15, 1930  | 8.80                       | 6,560           | Jan. 14, 1950  |               | 14.4               | 12,700          |        |
|               |                |                            |                 | May 31, 1950   | 16.29         | 17,200             |                 |        |
|               |                |                            |                 | 1931           | Aug. 7, 1931  | 12.60              | 9,210           | 1951   |
| 1932          | June 28, 1932  | 17.00                      | 19,000          |                | 1952          | Feb. 3, 1952       | 10.23           |        |
|               | 1933           | Dec. 25, 1932              | 15.62           | 17,000         |               | 1953               | Apr. 25, 1953   | 6.77   |
| Apr. 17, 1933 |                | 13.70                      | 11,800          | 1954           | May 4, 1954   |                    | 5.32            | 1,720  |
| May 14, 1933  |                | 16.30                      | 17,200          |                | 1955          |                    | Mar. 22, 1955   | 12.67  |
| 1934          | Apr. 17, 1934  | 8.73                       | 4,410           | 1956           |               | June 1, 1956       | 4.94            | 1,450  |
|               | 1935           | Mar. 13, 1935              | 17.12           |                | 19,300        | 1957               | May 18, 1957    | 13.15  |
| May 29, 1935  |                | 12.70                      | 9,730           | May 24, 1957   | 15.95         |                    | 16,400          |        |
| June 4, 1935  |                | 13.10                      | 10,500          | 1958           | Mar. 24, 1958 | 17.0               | 19,000          |        |
| June 15, 1935 |                | 14.40                      | 13,500          |                | July 13, 1958 | 15.0               | 14,000          |        |
| June 21, 1935 |                | 15.90                      | 18,000          |                | July 18, 1958 | 17.0               | 19,000          |        |
| 1936          | Sept. 28, 1936 | 11.94                      | 8,280           | 1959           | Feb. 11, 1959 | 11.38              | 7,330           |        |
|               | 1937           | Jan. 16, 1937              | 13.45           |                | 11,100        | 1960               | May 6, 1960     | 10.70  |
| June 9, 1937  |                | 13.40                      | 11,100          | 1961           | May 2, 1961   |                    | 17.18           | 19,600 |
| 1938          | May 24, 1938   | 11.26                      | 7,320           |                | May 7, 1961   | 19.85              | 27,200          |        |
|               | 1939           | Apr. 6, 1939               | 12.40           | 9,170          | May 9, 1961   | 17.10              | 19,300          |        |
| Apr. 17, 1939 |                | 12.43                      | 9,170           | 1962           | Mar. 21, 1962 | 12.82              | 9,560           |        |
| 1940          | May 2, 1940    | 10.31                      | 6,020           |                | 1963          | May 28, 1963       | 11.87           | 8,060  |
|               | 1941           | Apr. 20, 1941              | 20.4            | 29,000         |               | 1964               | Apr. 6, 1964    | 9.59   |
| Oct. 6, 1941  |                | 18.20                      | 26,900          | 1965           | Sept. 5, 1965 |                    | 14.73           | 13,300 |
| Nov. 1, 1941  |                | 13.39                      | 11,100          |                | 1942          |                    | June 18, 1942   | 21.06  |
| Dec. 28, 1942 | 20.27          | 28,700                     | 1943            | May 12, 1943   |               | 14.68              | 13,300          |        |
| May 12, 1943  | 14.68          | 13,300                     |                 |                |               |                    |                 |        |

## OSAGE RIVER BASIN

6-9252. Starks Creek at Preston, Mo.

Location--Lat 37°56'30", long 93°11'30", on line between NW¼ and SW¼ sec.24, T.37 N., R.21 W., at bridge on U. S. Highway 54, 0.6 mile east of Preston.

Drainage area--4.18 sq mi. Slope--31.0 ft per mi.

Gage--Recording.

Stage-discharge relation--Defined by current-meter measurement below 140 cfs and by indirect measurements at 807 and 1,460 cfs.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |       |          |                    |                 |            |      |  |
|----------------------------|-------|----------|--------------------|-----------------|------------|------|--|
| Water year                 | Date  |          | Gage height (feet) | Discharge (cfs) | Water year | Date |  |
| 1957                       | May   | 17, 1957 | 9.56               | 1,400           |            |      |  |
| 1958                       | July  | 31, 1958 | 6.70               | 498             |            |      |  |
| 1959                       | Feb.  | 9, 1959  | 7.01               | 562             |            |      |  |
| 1960                       | May   | 6, 1960  | 8.22               | 870             |            |      |  |
| 1961                       | May   | 5, 1961  | 9.42               | 1,320           |            |      |  |
| 1962                       | Sept. | 9, 1962  | 7.74               | 741             |            |      |  |
| 1963                       | July  | 28, 1963 | 6.25               | 411             |            |      |  |
| 1964                       | Apr.  | 5, 1964  | 7.68               | 740             |            |      |  |
| 1965                       | June  | 23, 1965 | 10.57              | 1,900           |            |      |  |

## OSAGE RIVER BASIN

6-9252.7. Dry Auglaize Creek tributary near Lebanon, Mo.

Location--Lat 37°42'00", long 92°37'30", in NE¼SW¼ sec.6, T.34 N., R.15 W., on right bank just upstream from culvert under U. S. Highway 66 at state secondary road MM, and 2½ miles northeast of Lebanon.

Drainage area--0.21 sq mi. Slope--115 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Devined by current-meter measurement at 5.46 cfs and by indirect measurements at 44.7 and 167 cfs.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |      |          |                    |                 |            |      |  |
|----------------------------|------|----------|--------------------|-----------------|------------|------|--|
| Water year                 | Date |          | Gage height (feet) | Discharge (cfs) | Water year | Date |  |
| 1955                       | June | 25, 1955 | 7.42               | 26              |            |      |  |
| 1956                       | June | 24, 1956 | 8.23               | 57              |            |      |  |
| 1957                       | May  | 22, 1957 | 10.42              | 167             |            |      |  |
| 1958                       | July | 16, 1958 | 8.13               | 53              |            |      |  |
| 1959                       | July | 16, 1959 | 8.32               | 60              |            |      |  |
| 1960                       | July | 25, 1960 | 8.07               | 52              |            |      |  |
| 1961                       | May  | 5, 1961  | 9.36               | 110             |            |      |  |
| 1962                       | Mar. | 20, 1962 | 9.1                | 95              |            |      |  |
| 1963                       | Oct. | 13, 1962 | 7.55               | 31              |            |      |  |
| 1964                       | Apr. | 5, 1964  | 7.64               | 34              |            |      |  |
| 1965                       | July | 10, 1965 | 7.89               | 43              |            |      |  |

## OSAGE RIVER BASIN

6-9253. Prairie Branch near Decaturville, Mo.

Location.--Lat 37°52'30", long 92°42'30", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.8, T.36 N., R.16 W., on right downstream wingwall of bridge on Stage Highway 5, 2.4 miles south of Decaturville.

Drainage area.--1.48 sq mi. Slope.--84.1 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurement at 2 and 42 cfs and by indirect measurements at 466 and 1,490 cfs.

Remarks.--Only annual peaks are shown.

|            |       |          |                    | Peak stages and discharges |            |      |                    |                 |
|------------|-------|----------|--------------------|----------------------------|------------|------|--------------------|-----------------|
| Water year | Date  |          | Gage height (feet) | Discharge (cfs)            | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955       | Mar.  | 20, 1955 | 9.32               | 170                        |            |      |                    |                 |
| 1956       | July  | 3, 1956  | 10.82              | 470                        |            |      |                    |                 |
| 1957       | May   | 17, 1957 | 12.63              | 1,490                      |            |      |                    |                 |
| 1958       | July  | 16, 1958 | 13.06              | 2,000                      |            |      |                    |                 |
| 1959       | June  | 11, 1959 | 11.30              | 680                        |            |      |                    |                 |
| 1960       | Oct.  | 4, 1959  | 10.36              | 350                        |            |      |                    |                 |
| 1961       | May   | 8, 1961  | 12.57              | 1,450                      |            |      |                    |                 |
| 1962       | Mar.  | 20, 1962 | 9.34               | 150                        |            |      |                    |                 |
| 1963       | Oct.  | 13, 1962 | 12.54              | 1,430                      |            |      |                    |                 |
| 1964       | Apr.  | 23, 1964 | 9.66               | 280                        |            |      |                    |                 |
| 1965       | Sept. | 5, 1965  | 13.23              | 2,200                      |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9254.5. Little Gravois Creek near Versailles, Mo.

Location.--Lat 38°23'58", long 92°49'30", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.17, T.42 N., R.17 W., on right downstream abutment of bridge on State Highway 5, 2 $\frac{1}{2}$  miles south of Versailles.

Drainage area.--4.74 sq mi. Slope.--64.0 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by indirect measurements at 274, 1,080, and 4,960 cfs.

Remarks.--Only annual peaks are shown.

|            |       |          |                    | Peak stages and discharges |            |      |                    |                 |
|------------|-------|----------|--------------------|----------------------------|------------|------|--------------------|-----------------|
| Water year | Date  |          | Gage height (feet) | Discharge (cfs)            | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955       | Feb.  | 19, 1955 | 11.00              | 250                        |            |      |                    |                 |
| 1956       | Oct.  | 5, 1955  | 12.73              | 760                        |            |      |                    |                 |
| 1957       | May   | 17, 1957 | 11.14              | 274                        |            |      |                    |                 |
| 1958       | July  | 8, 1958  | 16.45              | 4,960                      |            |      |                    |                 |
| 1959       | Sept. | 16, 1959 | 15.40              | 3,300                      |            |      |                    |                 |
| 1960       | May   | 6, 1960  | 15.89              | 3,800                      |            |      |                    |                 |
| 1961       | May   | 8, 1961  | 13.79              | 1,350                      |            |      |                    |                 |
| 1962       | Mar.  | 20, 1962 | 11.1               | 270                        |            |      |                    |                 |
| 1963       | Mar.  | 4, 1963  | 11.96              | 450                        |            |      |                    |                 |
| 1964       | June  | 14, 1964 | 12.86              | 1,080                      |            |      |                    |                 |
| 1965       | Sept. | 4, 1965  | 14.73              | 2,800                      |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9260. Osage River near Bagnell, Mo.

Location.--Lat 38°12'26", long 92°35'23", in N½SE¼ sec.21, T.40 N., R.15 W., 1½ miles upstream from Bagnell, and 3 miles downstream from hydroelectric plant of Union Electric Co. of Missouri.

Drainage area.--14,000 sq mi, approximately. Slope.--1.20 ft per mi.

Gage.--Nonrecording Oct. 1, 1880, to Oct. 14, 1930; recording gage thereafter. At various sites and datums prior to May 5, 1925. Datum of gage is 548.57 ft above mean sea level, datum of 1929.

Bankfull stage.--24 ft.

Remarks.--Flow regulated by Lake of the Ozarks (usable capacity, 1,246,000 acre-ft since 1931. Annual peaks since 1931 are the computed maximum daily inflows into the Lake of the Ozarks. Records prior to May 5, 1925, furnished by Union Electric Co. of Missouri and computed from rating defined by measurements made after May 1925. Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1844                       | June 1844      | -                  | a164,000        | 1923       | June 18, 1923  | -                  | a54,000         |
|                            |                |                    |                 | 1924       | July 17, 1924  | -                  | a64,300         |
|                            |                |                    |                 | 1925       | Apr. 7, 1925   | -                  | a40,900         |
| 1881                       | Feb. 10, 1881  | -                  | a31,500         |            |                |                    |                 |
| 1882                       | Feb. 23, 1882  | -                  | a119,000        |            |                |                    |                 |
| 1883                       | Feb. 17, 1883  | -                  | a82,100         | 1926       | Nov. 10, 1926  | -                  | 52,400          |
| 1884                       | May 4, 1884    | -                  | a66,500         | 1927       | Apr. 17, 1927  | -                  | 106,000         |
| 1885                       | Sept. 15, 1885 | -                  | a86,500         | 1928       | Oct. 11, 1927  | -                  | 70,600          |
|                            |                |                    |                 | 1929       | May 21, 1929   | -                  | 106,000         |
| 1886                       | May 9, 1886    | -                  | a44,100         | 1930       | Feb. 10, 1930  | -                  | 39,000          |
| 1887                       | Apr. 23, 1887  | -                  | a30,000         |            |                |                    |                 |
| 1888                       | Feb. 1, 1888   | -                  | a45,800         | 1931       | May 20, 1931   | -                  | b55,500         |
| 1889                       | May 31, 1889   | -                  | a72,200         | 1932       | Nov. 27, 1931  | -                  | b42,600         |
| 1890                       | Jan. 15, 1890  | -                  | a73,700         | 1933       | May 13, 1933   | -                  | b85,200         |
|                            |                |                    |                 | 1934       | Sept. 14, 1934 | -                  | b19,300         |
| 1891                       | June 8, 1891   | -                  | a76,500         | 1935       | June 3, 1935   | -                  | b117,000        |
| 1892                       | June 4, 1892   | -                  | a94,300         |            |                |                    |                 |
| 1893                       | May 1, 1893    | -                  | a91,000         | 1936       | Sept. 28, 1936 | -                  | b82,400         |
| 1894                       | May 8, 1894    | -                  | a69,800         | 1937       | June 10, 1937  | -                  | b90,300         |
| 1895                       | July 9, 1895   | -                  | a54,900         | 1938       | May 24, 1938   | -                  | b85,300         |
|                            |                |                    |                 | 1939       | May 9, 1939    | -                  | b65,800         |
| 1896                       | Dec. 22, 1895  | -                  | a126,000        | 1940       | June 24, 1940  | -                  | b37,300         |
| 1897                       | Jan. 5, 1897   | -                  | a102,000        |            |                |                    |                 |
| 1898                       | Mar. 24, 1898  | -                  | a66,500         | 1941       | Apr. 19, 1941  | -                  | b145,000        |
| 1899                       | Apr. 25, 1899  | -                  | a54,500         | 1942       | Oct. 5, 1941   | -                  | b152,000        |
| 1900                       | Mar. 8, 1900   | -                  | a48,200         | 1943       | May 19, 1943   | -                  | b219,000        |
|                            |                |                    |                 | 1944       | May 1, 1944    | -                  | b116,000        |
| 1901                       | Mar. 12, 1901  | -                  | a41,900         | 1945       | Apr. 16, 1945  | -                  | b128,000        |
| 1902                       | May 27, 1902   | -                  | a52,600         |            |                |                    |                 |
| 1903                       | Mar. 10, 1903  | -                  | a79,200         | 1946       | Aug. 14, 1946  | -                  | b214,000        |
| 1904                       | Apr. 28, 1904  | -                  | a122,000        | 1947       | Apr. 25, 1947  | -                  | b140,000        |
| 1905                       | Aug. 1, 1905   | -                  | a78,000         | 1948       | June 22, 1948  | -                  | b139,000        |
|                            |                |                    |                 | 1949       | Feb. 17, 1949  | -                  | b71,400         |
| 1906                       | Aug. 26, 1906  | -                  | a52,000         | 1950       | June 10, 1950  | -                  | b79,400         |
| 1907                       | May 17, 1907   | -                  | a66,200         |            |                |                    |                 |
| 1908                       | Apr. 13, 1908  | -                  | a87,800         | 1951       | July 6, 1951   | -                  | b134,000        |
| 1909                       | May 13, 1909   | -                  | a78,000         | 1952       | Feb. 4, 1952   | -                  | b64,500         |
| 1910                       | June 11, 1910  | -                  | a103,000        | 1953       | Apr. 25, 1953  | -                  | b31,700         |
|                            |                |                    |                 | 1954       | May 3, 1954    | -                  | b35,900         |
| 1911                       | Apr. 7, 1911   | -                  | a49,600         | 1955       | Feb. 20, 1955  | -                  | b56,100         |
| 1912                       | May 1, 1912    | -                  | a108,000        |            |                |                    |                 |
| 1913                       | Mar. 27, 1913  | -                  | a89,600         | 1956       | Oct. 6, 1955   | -                  | b41,000         |
| 1914                       | Sept. 17, 1914 | -                  | a55,000         | 1957       | May 25, 1957   | -                  | b84,500         |
| 1915                       | Sept. 24, 1915 | -                  | a89,600         | 1958       | July 31, 1958  | -                  | b91,000         |
|                            |                |                    |                 | 1959       | Feb. 10, 1959  | -                  | b57,000         |
| 1916                       | Feb. 1, 1916   | -                  | a118,000        | 1960       | May 6, 1960    | -                  | b116,700        |
| 1917                       | June 24, 1917  | -                  | a27,400         |            |                |                    |                 |
| 1918                       | Apr. 30, 1918  | -                  | a42,300         | 1961       | May 8, 1961    | -                  | b154,500        |
| 1919                       | May 19, 1919   | -                  | a60,600         | 1962       | Mar. 21, 1962  | -                  | b102,000        |
| 1920                       | Oct. 30, 1919  | -                  | a101,000        | 1963       | May 27, 1963   | -                  | b56,000         |
|                            |                |                    |                 | 1964       | June 14, 1964  | -                  | b88,800         |
| 1921                       | Mar. 31, 1921  | -                  | a57,600         | 1965       | Sept. 5, 1965  | -                  | b90,000         |
| 1922                       | Apr. 17, 1922  | -                  | a120,000        |            |                |                    |                 |

a Maximum daily discharge.

b Estimated maximum daily reservoir inflow.

## OSAGE RIVER BASIN

6-9261.5. Jack Buster Creek at Eugene, Mo.

Location.--Lat 38°21'10", long 92°24'00", in NW¼NE¼ sec.31, T.42 N., R.13 W., on right bank just upstream from culvert under State Highway 17, at east edge of the town of Eugene.

Drainage area.--0.17 sq mi. Slope.--137 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 72 and 290 cfs by indirect measurements.

Remarks.--Only annual peaks are shown.

| Water year | Date           | Peak stages and discharges |                 | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|----------------------------|-----------------|------------|------|--------------------|-----------------|
|            |                | Gage height (feet)         | Discharge (cfs) |            |      |                    |                 |
| 1961       | May 5, 1961    | 9.10                       | 290             |            |      |                    |                 |
| 1962       | Mar. 20, 1962  | 5.13                       | 40              |            |      |                    |                 |
| 1963       | May 4, 1963    | 6.18                       | 92              |            |      |                    |                 |
| 1964       | June 13, 1964  | 6.01                       | 82              |            |      |                    |                 |
| 1965       | Sept. 13, 1965 | 9.02                       | 285             |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9262. Van Cleve Branch near Meta, Mo.

Location.--Lat 38°13'35", long 92°09'40", in the SE¼NE¼ sec.8, T.40 N., R.11 W., 20 ft upstream from concrete culvert on State Highway 133, 6.5 miles south of Meta.

Drainage area.--0.75 sq mi. Slope.--95.4 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined by current-meter measurements below 14.7 cfs and by indirect measurements at 345, 474, 577, and 1,180 cfs.

Remarks.--Only annual peaks are shown.

| Water year | Date           | Peak stages and discharges |                 | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|----------------------------|-----------------|------------|------|--------------------|-----------------|
|            |                | Gage height (feet)         | Discharge (cfs) |            |      |                    |                 |
| 1957       | May 22, 1957   | a6.35                      | 1,200           |            |      |                    |                 |
| 1958       | June 10, 1958  | b4.48                      | 490             |            |      |                    |                 |
| 1959       | Aug. 31, 1959  | 1.99                       | 55              |            |      |                    |                 |
| 1960       | Oct. 10, 1959  | 2.42                       | 92              |            |      |                    |                 |
| 1961       | May 5, 1961    | c3.25                      | 577             |            |      |                    |                 |
| 1962       | Mar. 20, 1962  | 1.93                       | 50              |            |      |                    |                 |
| 1963       | May 25, 1963   | 1.94                       | 51              |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 1.68                       | 30              |            |      |                    |                 |
| 1965       | Sept. 13, 1965 | d4.66                      | 1,600           |            |      |                    |                 |

- a Outside gage height, 7.45 ft.
- b Outside gage height, 5.55 ft.
- c Outside gage height, 6.31 ft.
- b Outside gage height, 7.71 ft.

## OSAGE RIVER BASIN

6-9265. Osage River near St. Thomas, Mo.

Location--Lat 38°20'25", long 92°13'25", in SE¼SW¼ sec.35, T.42 N., R.12 W., on left bank 0.5 mile downstream from Sugar Creek, 2½ miles south of St. Thomas, and at mile 43.1

Drainage area--14,500 sq mi, approximately. Slope--1.14 ft per mi.

Gage--Recording. Datum of gage is 528.06 ft above mean sea level, datum of 1929.

Bankfull stage--23 ft.

Remarks--Flow regulated by Lake of the Ozarks. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date             | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1844       | June 1844        | 39.4               | -               |            |      |                    |                 |
| 1932       | Nov. 25, 1931    | 16.90              | 45,300          |            |      |                    |                 |
| 1933       | May 26, 1933     | 21.30              | 59,900          |            |      |                    |                 |
| 1934       | Mar. 3, 1934     | 8.30               | 13,500          |            |      |                    |                 |
| 1935       | June 4, 1935     | 33.00              | 113,000         |            |      |                    |                 |
| 1936       | Nov. 12, 1935    | 13.88              | 31,500          |            |      |                    |                 |
| 1937       | June 11, 1937    | 27.45              | 88,200          |            |      |                    |                 |
| 1938       | May 27, 1938     | 25.96              | 81,400          |            |      |                    |                 |
| 1939       | April 18, 1939   | 12.59              | 25,400          |            |      |                    |                 |
| 1940       | June 25, 1940    | 14.94              | 33,800          |            |      |                    |                 |
| 1941       | April 22, 1941   | 32.40              | 116,000         |            |      |                    |                 |
| 1942       | Oct. 7, 1941     | 34.40              | 120,000         |            |      |                    |                 |
| 1943       | May 20, 1943     | 43.8               | 216,000         |            |      |                    |                 |
| 1944       | May 4, 1944      | 29.09              | 91,500          |            |      |                    |                 |
| 1945       | April 18, 1945   | 31.10              | 105,000         |            |      |                    |                 |
| 1946       | Aug. 15, 1946    | 31.5               | 107,000         |            |      |                    |                 |
| 1947       | Nov. 3, 1946     | 29.9               | 98,500          |            |      |                    |                 |
| 1948       | June 27,28, 1948 | 30.67              | 103,000         |            |      |                    |                 |
| 1949       | Feb. 19, 1949    | 22.66              | 64,100          |            |      |                    |                 |
| 1950       | June 10, 1950    | 23.05              | 65,400          |            |      |                    |                 |
| 1951       | July 13, 1951    | 35.2               | 130,000         |            |      |                    |                 |
| 1952       | Nov. 16, 1951    | 20.70              | 57,300          |            |      |                    |                 |
| 1953       | April 24, 1953   | 11.99              | 24,900          |            |      |                    |                 |
| 1954       | May 17, 1954     | 9.22               | 15,800          |            |      |                    |                 |
| 1955       | Feb. 23, 1955    | 18.61              | 48,900          |            |      |                    |                 |
| 1956       | Oct. 6, 1955     | 14.55              | 34,000          |            |      |                    |                 |
| 1957       | May 27, 1957     | 23.82              | 70,100          |            |      |                    |                 |
| 1958       | Aug. 2, 1958     | 27.95              | 87,900          |            |      |                    |                 |
| 1959       | Feb. 10, 1959    | 13.70              | 30,800          |            |      |                    |                 |
| 1960       | May 8, 1960      | 25.20              | 75,400          |            |      |                    |                 |
| 1961       | May 13, 1961     | 37.10              | 149,000         |            |      |                    |                 |
| 1962       | Mar. 23, 1962    | 24.50              | 74,800          |            |      |                    |                 |
| 1963       | May 29, 1963     | 19.40              | 52,400          |            |      |                    |                 |
| 1964       | June 16, 1964    | 22.85              | 67,100          |            |      |                    |                 |
| 1965       | Sept. 6, 1965    | 23.40              | 69,800          |            |      |                    |                 |

## OSAGE RIVER BASIN

6-9268. Long Branch near Vienna, Mo.

Location--Lat 38°11'00", long 92°05'05", in SW¼NW¼ sec.30, T.40 N., R.10 W., on left bank just upstream from culvert under State road 42, 7.5 miles west of Vienna.

Drainage area--0.32 sq mi. Slope--112 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by current-meter measurements below 7.67 cfs and by indirect measurements at 97.4 and 365 cfs.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1957                       | Apr. 22, 1957  | 9.98               | 365             |            |      |                    |                 |
| 1958                       | June 15, 1958  | 6.71               | 97              |            |      |                    |                 |
| 1959                       | -              | (a)                | (b)             |            |      |                    |                 |
| 1960                       | July 22, 1960  | 7.38               | 130             |            |      |                    |                 |
| 1961                       | May 5, 1961    | 6.66               | 90              |            |      |                    |                 |
| 1962                       | Apr. 30, 1962  | 7.43               | 135             |            |      |                    |                 |
| 1963                       | May 16, 1963   | 8.61               | 240             |            |      |                    |                 |
| 1964                       | Apr. 4, 1964   | 6.4                | 71              |            |      |                    |                 |
| 1965                       | Sept. 13, 1965 | 10.44              | 400             |            |      |                    |                 |

a Stage did not reach gage during year.

b Less than 25 cfs.

## OSAGE RIVER BASIN

6-9270. Maries River at Westphalia, Mo.

Location--Lat 38°25'55", long 91°59'20", in NE¼ sec.35, T.43 N., R.10 W., on right bank 200 ft upstream from bridge on U. S. Highway 63, three-quarters of a mile southeast of Westphalia, and 1½ miles downstream from Little Maries Creek.

Drainage area--257 sq mi. Slope--8.91 ft per mi.

Gage--Nonrecording at site 200 ft downstream at present datum prior to June 8, 1951, recording gage at present site thereafter. Datum of gage is 542.74 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements.

Bankfull stage--9 ft.

Historical data--Flood of June 8, 1937, reached a stage of 22.8 ft, from information furnished by local residents.

Remarks--Base for partial-duration series, 6,000 cfs.

| Water year   | Date           | Peak stages and discharges |                 | Water year     | Date           | Gage height (feet) | Discharge (cfs) |        |
|--------------|----------------|----------------------------|-----------------|----------------|----------------|--------------------|-----------------|--------|
|              |                | Gage height (feet)         | Discharge (cfs) |                |                |                    |                 |        |
| 1948         | June 22, 1948  | 15.15                      | 14,000          | 1957           | May 17, 1957   | 18.21              | 20,000          |        |
|              | June 27, 1948  | 12.2                       | 8,730           |                | May 23, 1957   | 17.68              | 19,000          |        |
| 1949         | June 3, 1949   | 15.31                      | 14,200          | June 28, 1957  | 10.03          | 6,100              |                 |        |
|              | June 14, 1949  | 13.58                      | 11,200          | June 30, 1957  | 14.10          | 11,900             |                 |        |
|              | Sept. 13, 1949 | 10.23                      | 6,320           | 1958           | Mar. 9, 1958   | 11.60              | 7,930           |        |
| 1950         | Oct. 20, 1949  | 10.5                       | 6,650           |                | June 11, 1958  | 12.60              | 9,340           |        |
|              | Jan. 4, 1950   | 16.0                       | 15,600          |                | June 12, 1958  | 12.76              | 9,660           |        |
|              | Jan. 13, 1950  | 10.9                       | 7,090           | June 15, 1958  | 10.16          | 6,320              |                 |        |
|              | May 19, 1950   | 10.8                       | 6,980           | 1959           | Feb. 10, 1959  | 13.12              | 10,300          |        |
| May 27, 1950 | 14.0           | 11,800                     | May 17, 1959    |                | 11.74          | 8,060              |                 |        |
| 1951         | Feb. 20, 1951  | 12.9                       | 9,830           | 1960           | Apr. 30, 1960  | 10.27              | 6,730           |        |
|              | Mar. 11, 1951  | 11.04                      | 7,200           |                | May 6, 1960    | 11.73              | 8,380           |        |
|              | May 22, 1951   | 9.87                       | 6,000           | 1961           | May 6, 1961    | 13.73              | 11,300          |        |
|              | June 9, 1951   | 10.58                      | 6,760           |                | May 8, 1961    | 14.61              | 12,900          |        |
|              | June 30, 1951  | 13.22                      | 10,300          |                | June 9, 1961   | 10.05              | 6,420           |        |
|              | July 13, 1951  | 13.14                      | 10,200          |                | July 23, 1961  | 11.05              | 7,500           |        |
|              | Aug. 27, 1951  | 10.98                      | 7,320           |                | 1962           | Jan. 26, 1962      | 11.45           | 7,170  |
|              | Sept. 10, 1951 | 9.94                       | 6,100           |                |                | Mar. 21, 1962      | 15.40           | 14,400 |
| 1952         | Oct. 6, 1951   | 11.63                      | 7,930           | May 1, 1962    | 11.03          | 7,500              |                 |        |
|              | Feb. 2, 1952   | 9.86                       | 6,000           | 1963           | Mar. 5, 1963   | 11.31              | 7,860           |        |
| 1953         | Apr. 24, 1953  | 10.00                      | 6,100           |                | May 26, 1963   | 10.88              | 7,390           |        |
|              | 1954           | June 9, 1954               | 9.58            | 5,700          | 1964           | Apr. 5, 1964       | 11.75           | 8,520  |
| 1955         |                | Feb. 20, 1955              | 11.13           | 7,320          |                | May 28, 1964       | 13.20           | 10,500 |
|              | 1956           | June 25, 1956              | 9.53            | 5,600          | 1965           | Apr. 4, 1965       | 11.58           | 8,250  |
| 1957         |                | Feb. 26, 1957              | 12.6            | 9,340          |                | June 3, 1965       | 10.66           | 7,170  |
|              | Mar. 25, 1957  | 10.68                      | 6,870           | Sept. 5, 1965  | 10.49          | 6,950              |                 |        |
|              | Apr. 4, 1957   | 10.03                      | 6,100           | Sept. 14, 1965 | 10.91          | 7,390              |                 |        |
|              |                |                            |                 |                | Sept. 22, 1965 | 12.40              | 9,360           |        |

a Backwater from ice.

## MISSOURI RIVER MAIN STEM

6-9270.2. Missouri River near Bonnots Mill, Mo.  
(Published as "at Isbell" prior to 1932)

Location--Lat 38°35'44", long 91°56'31", in SE½NE¼ sec.5, T.44 N., R.9 W., half a mile downstream from Osage River, and 1½ miles east of Bonnots Mill.

Drainage area--523,400 sq mi, approximately.

Gage--Nonrecording prior to Nov. 11, 1931; recording gage thereafter. At site 2 miles downstream at datum 2.49 ft lower prior to Nov. 11, 1931. Datum of gage is 511.25 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements.

Bankfull stage--21 ft.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1929                       | June 8, 1929  | 21.1               | 399,000         |            |      |                    |                 |
| 1930                       | June 19, 1930 | 13.9               | 166,000         |            |      |                    |                 |
| 1931                       | May 20, 1931  | 10.5               | 92,600          |            |      |                    |                 |
| 1932                       | Nov. 29, 1931 | 19.44              | 265,000         |            |      |                    |                 |
| 1933                       | May 27, 1933  | 15.5               | 142,000         |            |      |                    |                 |
| 1934                       | Mar. 10, 1934 | 10.1               | 80,700          |            |      |                    |                 |
| 1935                       | June 6, 1935  | 27.05              | 417,000         |            |      |                    |                 |
| 1936                       | Feb. 27, 1936 | 13.00              | -               |            |      |                    |                 |
|                            | Mar. 15, 1936 | -                  | 128,000         |            |      |                    |                 |

## AUXVASSE CREEK BASIN

6-9271. Doane Branch near Kingdom City, Mo.

Location--Lat 38°58'20", long 91°49'40", in NE¼ sec.17, T.48 N., R.8 W., on left bank just upstream from culvert on U. S. 40, 0.9 mile east of Auxvasse Creek, and about 6 miles east of Kingdom City.

Drainage area--0.54 sq mi. Slope--70.2 ft per mi.

Gage--Crest-stage gage installed Oct. 8, 1954. Supplemental recording gage July 21, 1959, to July 10, 1962. Crest-stage gage removed Aug. 13, 1963 for new culvert construction and replaced Apr. 28, 1965.

Stage-discharge relation--Defined by indirect measurement at 54, 72, 136, and 623 cfs prior to new culvert construction.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |                |                    |                 |            |      |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | June 25, 1955  | 5.11               | 54              |            |      |                    |                 |
| 1956                       | July 16, 1956  | 5.69               | 73              |            |      |                    |                 |
| 1957                       | June 30, 1957  | 14.20              | 623             |            |      |                    |                 |
| 1958                       | May 31, 1958   | 7.54               | 155             |            |      |                    |                 |
| 1959                       | Feb. 9, 1959   | 6.71               | 125             |            |      |                    |                 |
| 1960                       | Oct. 10, 1959  | 7.14               | 140             |            |      |                    |                 |
| 1961                       | May 5, 1961    | 6.23               | 93              |            |      |                    |                 |
| 1962                       | Mar. 20, 1962  | 5.18               | 55              |            |      |                    |                 |
| 1963                       | -              | (a)                | (b)             |            |      |                    |                 |
| 1965                       | Sept. 16, 1965 | 11.01              | (c)             |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge less than 50 cfs.

c Discharge not determined.

## AUXVASSE CREEK BASIN

6-9272. Big Hollow near Fulton, Mo.

Location.--Lat 38°48'45", long 91°56'45", in NW¼NW¼ sec.33, T.47 N., R.9 W., at culvert on County Highway C, 2 miles south of Fulton.

Drainage area.--4.05 sq mi. Slope.--34.0 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined at 530, 611, and 936 cfs by indirect measurement. Defined below 27 cfs by current-meter measurement.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1957                       | June 29, 1957 | a4.28              | 616             |            |      |                    |                 |
| 1958                       | Aug. 1, 1958  | b5.80              | 936             |            |      |                    |                 |
| 1959                       | Oct. 9, 1958  | 5.81               | 936             |            |      |                    |                 |
| 1960                       | Oct. 10, 1959 | 4.45               | 649             |            |      |                    |                 |
| 1961                       | May 5, 1961   | 4.62               | 686             |            |      |                    |                 |
| 1962                       | Feb. 8, 1962  | 3.90               | 526             |            |      |                    |                 |
| 1963                       | May 17, 1963  | 1.95               | 104             |            |      |                    |                 |
| 1964                       | May 28, 1964  | 3.90               | 526             |            |      |                    |                 |
| 1965                       | Sept. 4, 1965 | 6.20               | 1,020           |            |      |                    |                 |

a Outside gage height, 4.6 ft.

b Outside gage height, 5.9 ft.

## GASCONADE RIVER BASIN

6-9276. Wheeler Branch near Mountain Grove, Mo.

Location.--Lat 37°06'52", long 92°16'37", in SW¼NE¼ sec.17, T.28 N., R.12 W., on left bank just upstream from bridge on county road D, three-quarters of a mile southwest of Mountain Grove.

Drainage area.--1.34 sq mi. Slope.--48.8 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 262, 549, and 880 cfs by indirect measurement. Defined below 50 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | Mar. 20, 1955 | 3.87               | 262             |            |      |                    |                 |
| 1956                       | May 14, 1956  | 4.95               | 549             |            |      |                    |                 |
| 1957                       | May 25, 1957  | 3.99               | 299             |            |      |                    |                 |
| 1958                       | June 16, 1958 | 6.32               | 940             |            |      |                    |                 |
| 1959                       | Jan. 21, 1959 | 3.47               | 165             |            |      |                    |                 |
| 1960                       | July 25, 1960 | 4.15               | 330             |            |      |                    |                 |
| 1961                       | May 7, 1961   | 6.26               | 930             |            |      |                    |                 |
| 1962                       | June 9, 1962  | 3.69               | 220             |            |      |                    |                 |
| 1963                       | June 16, 1963 | 4.00               | 295             |            |      |                    |                 |
| 1964                       | Apr. 4, 1964  | 3.89               | 270             |            |      |                    |                 |
| 1965                       | Aug. 28, 1965 | 4.08               | 320             |            |      |                    |                 |

## GASCONADE RIVER BASIN

6-9278. Osage Fork at Drynob, Mo.

Location--Lat 37°38'00", long 92°27'12", in NW¼NE¼ sec.27, T.34 N., R.14 W., on downstream end of right bridge pier on State Highway 32, 0.1 mile downstream from Walker Hollow, 0.6 mile southwest of Drynob, 1.6 miles upstream from Core Creek, and 12 miles southeast of Lebanon.

Drainage area--404 sq mi.

Gage--Recording. Datum of gage is 927.85 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements.

Historical data--Maximum stage known about 31 ft in 1903 from information by local resident.

Remarks--Base for partial-duration series, 5,000 cfs.

| Water year | Date          | Gage height (feet) | Peak stages and discharges |            | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|----------------------------|------------|------|--------------------|-----------------|
|            |               |                    | Discharge (cfs)            | Water year |      |                    |                 |
| 1963       | May 27, 1963  | 14.34              | 8,970                      |            |      |                    |                 |
| 1964       | Apr. 6, 1964  | 9.34               | 3,360                      |            |      |                    |                 |
| 1965       | Apr. 4, 1965  | 12.35              | 6,450                      |            |      |                    |                 |
|            | Apr. 6, 1965  | 15.68              | 11,200                     |            |      |                    |                 |
|            | May 26, 1965  | 11.35              | 5,240                      |            |      |                    |                 |
|            | Sept. 6, 1965 | 12.56              | 6,450                      |            |      |                    |                 |

## GASCONADE RIVER BASIN

6-9280. Gasconade River near Hazlegreen, Mo

Location.--Lat 37°45'35", long 92°27'05", in SE¼SE¼ sec.15, T.35 N., R.14 W., at bridge on U. S. Highway 66, 1 mile downstream from Osage Fork, and 1½ miles west of Hazlegreen.

Drainage area.--1,250 sq mi, approximately. Slope.--3.97 ft per mi.

Gage.--Nonrecording prior to Aug. 21, 1958; recording gage thereafter. Datum of gage is 844.75 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 68,000 cfs.

Bankfull stage.--21 ft.

Historical data.--Maximum stage known, 30.6 ft in January 1916.

Remarks.--Base for partial-duration series, 10,000 cfs.

| Peak stages and discharges |               |                    |                 |            |                |                    |                 |  |
|----------------------------|---------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|--|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |  |
| 1915                       | Aug. 1915     | 30.4               | a86,000         | 1944       | Mar. 1, 1944   | 12.4               | 9,860           |  |
| 1916                       | Jan. 1916     | 30.6               | -               | 1945       | Feb. 22, 1945  | 20.60              | 27,800          |  |
|                            |               |                    |                 |            | Mar. 3, 1945   | 18.40              | 21,200          |  |
| 1929                       | Apr. 10, 1929 | 15.60              | 17,700          |            | Mar. 7, 1945   | 20.30              | 26,800          |  |
|                            | May 7, 1929   | 16.21              | 19,000          |            | Mar. 20, 1945  | 17.30              | 18,700          |  |
|                            | May 14, 1929  | 14.08              | 14,600          |            | Mar. 26, 1945  | 12.50              | 10,000          |  |
| 1930                       | Jan. 15, 1930 | 14.48              | 15,200          |            | Mar. 31, 1945  | 15.60              | 15,200          |  |
| 1931                       | Aug. 18, 1931 | 6.96               | 4,100           |            | Apr. 3, 1945   | 20.00              | 25,800          |  |
| 1932                       | June 28, 1932 | 13.12              | 12,700          |            | Apr. 14, 1945  | 29.6               | 76,400          |  |
|                            |               |                    |                 |            | June 18, 1945  | 17.60              | 19,300          |  |
| 1933                       | Dec. 25, 1932 | 14.12              | 14,600          | 1946       | Sept. 25, 1945 | 13.00              | 10,800          |  |
|                            | Apr. 17, 1933 | 17.70              | 22,300          |            | Feb. 15, 1946  | 18.90              | 22,500          |  |
|                            | May 15, 1933  | 25.75              | 53,800          |            | May 26, 1946   | 15.75              | 15,600          |  |
| 1934                       | Mar. 29, 1934 | 6.09               | 3,100           | 1947       | Aug. 14, 1946  | 19.0               | 22,800          |  |
| 1935                       | Mar. 12, 1935 | 27.50              | 68,700          |            | Nov. 11, 1946  | 17.60              | 19,300          |  |
|                            | June 4, 1935  | 17.08              | 20,600          |            | Apr. 12, 1947  | 12.49              | 10,000          |  |
|                            | June 8, 1935  | 12.98              | 12,500          | 1948       | Apr. 26, 1947  | 26.9               | 58,000          |  |
|                            | June 17, 1935 | 18.32              | 23,200          |            | Mar. 3, 1948   | 12.65              | 10,200          |  |
|                            | June 21, 1935 | 18.59              | 23,800          |            | June 18, 1948  | 14.2               | 12,700          |  |
| 1936                       | Nov. 11, 1935 | 8.51               | 5,600           | 1949       | June 21, 1948  | 14.8               | 13,700          |  |
|                            |               |                    |                 |            | June 28, 1948  | 16.1               | 16,200          |  |
| 1937                       | Jan. 9, 1937  | 13.05              | 12,500          | 1949       | Jan. 25, 1949  | 14.1               | 12,800          |  |
|                            | Jan. 16, 1937 | 15.90              | 18,100          |            | Jan. 28, 1949  | 12.2               | 10,100          |  |
|                            | Feb. 1, 1937  | 14.50              | 15,400          |            | Feb. 16, 1949  | 19.5               | 24,100          |  |
|                            | May 3, 1937   | 17.10              | 20,600          | 1950       | July 8, 1949   | 12.2               | 10,100          |  |
| 1938                       | Jan. 26, 1938 | 17.00              | 18,000          |            | Oct. 12, 1949  | 19.0               | 22,700          |  |
|                            | Feb. 19, 1938 | 19.2               | 23,300          |            | Oct. 22, 1949  | 24.75              | 44,600          |  |
|                            | May 8, 1938   | 17.97              | 20,200          |            | Dec. 22, 1949  | 13.0               | 11,200          |  |
|                            | May 24, 1938  | 17.99              | 20,200          |            | Jan. 4, 1950   | 18.2               | 20,700          |  |
| 1939                       | Nov. 8, 1938  | 16.15              | 16,400          |            | Jan. 14, 1950  | 17.5               | 19,100          |  |
|                            | Feb. 21, 1939 | 15.75              | 15,600          |            | Feb. 14, 1950  | 13.6               | 12,100          |  |
|                            | Apr. 18, 1939 | 17.22              | 18,500          |            | Apr. 5, 1950   | 12.6               | 10,700          |  |
|                            | May 28, 1939  | 13.80              | 12,000          |            | Apr. 30, 1950  | 13.0               | 11,200          |  |
| 1940                       | Apr. 13, 1940 | 12.7               | 10,300          |            | May 11, 1950   | 24.0               | 40,500          |  |
| 1941                       | Apr. 17, 1941 | 18.80              | 22,200          |            | May 20, 1950   | 12.5               | 10,500          |  |
|                            | Apr. 20, 1941 | 25.8               | 54,500          | 1951       | May 31, 1950   | 14.0               | 12,700          |  |
| 1942                       | Oct. 19, 1941 | 14.60              | 13,400          |            | June 11, 1950  | 14.1               | 12,800          |  |
|                            | Nov. 1, 1941  | 18.04              | 20,200          |            | Feb. 20, 1951  | 16.25              | 16,400          |  |
|                            | Apr. 10, 1942 | 16.08              | 16,200          |            | Mar. 12, 1951  | 15.0               | 14,300          |  |
|                            | June 14, 1942 | 12.83              | 10,500          |            | Apr. 8, 1951   | 12.3               | 10,200          |  |
|                            | June 18, 1942 | 21.6               | 31,500          |            | May 20, 1951   | 15.31              | 14,800          |  |
| 1943                       | Oct. 31, 1942 | 15.30              | 14,600          |            | July 1, 1951   | 23.00              | 36,000          |  |
|                            | Dec. 28, 1942 | 23.80              | 41,800          |            | July 5, 1951   | 13.65              | 12,100          |  |
|                            | May 12, 1943  | 24.00              | 42,900          |            | July 13, 1951  | 13.0               | 11,200          |  |
|                            | May 19, 1943  | 25.3               | 51,000          |            | Aug. 28, 1951  | 14.4               | 13,300          |  |
|                            | June 23, 1943 | 13.20              | 11,100          | 1952       | Nov. 13, 1951  | 15.00              | 14,300          |  |
|                            |               |                    |                 |            | Nov. 17, 1951  | 16.50              | 17,000          |  |
|                            |               |                    |                 |            | Feb. 3, 1952   | 15.00              | 14,300          |  |
|                            |               |                    |                 |            | Mar. 12, 1952  | 12.48              | 10,500          |  |
|                            |               |                    |                 |            | Apr. 5, 1952   | 12.30              | 10,200          |  |
|                            |               |                    |                 |            | Apr. 13, 1952  | 14.75              | 14,000          |  |

## GASCONADE RIVER BASIN

## Peak stages and discharges of Gasconade River near Hazlegreen, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1953       | Apr. 24, 1953 | 10.0               | 7,100           | 1958       | July 13, 1958 | 15.65              | 15,800          |
| 1954       | May 3, 1954   | 6.78               | 3,460           |            | July 18, 1958 | 25.30              | 46,500          |
| 1955       | Feb. 21, 1955 | 16.0               | 16,000          | 1959       | May 29, 1959  | 12.50              | 10,200          |
|            | Mar. 22, 1955 | 15.75              | 15,600          | 1960       | Nov. 6, 1959  | 12.60              | 10,300          |
| 1956       | May 16, 1956  | 22.08              | 35,900          |            | Dec. 19, 1959 | 15.06              | 14,800          |
| 1957       | Feb. 27, 1957 | 12.45              | 11,300          | 1961       | May 2, 1961   | 17.65              | 20,100          |
|            | Apr. 5, 1957  | 18.85              | 24,800          |            | May 6, 1961   | 15.70              | 16,000          |
|            | May 19, 1957  | 11.85              | 10,300          |            | May 9, 1961   | 23.60              | 39,400          |
|            | May 24, 1957  | 22.82              | 38,600          | 1962       | Mar. 21, 1962 | 13.30              | 11,400          |
|            | May 26, 1957  | 18.50              | 23,800          | 1963       | May 27, 1963  | 19.50              | 25,500          |
|            | June 3, 1957  | 19.85              | 27,800          | 1964       | Apr. 6, 1964  | 15.30              | 15,300          |
|            | June 6, 1957  | 11.80              | 10,300          | 1965       | Apr. 5, 1965  | 13.33              | 11,800          |
| 1958       | Dec. 18, 1957 | 25.77              | 49,000          |            | Apr. 7, 1965  | 20.42              | 28,200          |
|            | Mar. 10, 1958 | 12.43              | 10,000          |            | Sept. 7, 1965 | 15.18              | 15,200          |
|            | Mar. 24, 1958 | 21.33              | 30,900          |            |               |                    |                 |
|            | July 9, 1958  | 18.00              | 21,000          |            |               |                    |                 |

a Annual peak only

## GASCONADE RIVER BASIN

6-9282. Laquey Branch near Hazlegreen, Mo.

Location.--Lat 37°46'25", long 92°21'52", SW¼SE¼ sec.9, T.35 N., R.13 W., 30 ft upstream from concrete culvert under eastbound lane of U. S. Highway 66, 3 miles east of Hazlegreen.

Drainage area.--1.58 sq mi. Slope.--87.4 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined by current-meter measurements below 3.61 cfs and by indirect measurements at 519, 825, and 2,660 cfs.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1958       | July 16, 1958 | 3.70               | 410             |            |      |                    |                 |
| 1959       | May 17, 1959  | a4.09              | 519             |            |      |                    |                 |
| 1960       | Dec. 17, 1959 | 2.88               | 185             |            |      |                    |                 |
| 1961       | May 5, 1961   | b5.09              | 825             |            |      |                    |                 |
| 1962       | Apr. 30, 1962 | 4.19               | 550             |            |      |                    |                 |
| 1963       | Oct. 13, 1962 | c4.44              | 450             |            |      |                    |                 |
| 1964       | May 20, 1964  | d4.53              | 465             |            |      |                    |                 |
| 1965       | Sept. 4, 1965 | (e)                | 2,670           |            |      |                    |                 |

a Outside gage height, 4.92 ft.

b Outside gage height, 6.44 ft.

c Outside gage height, 4.44 ft.

d Outside gage height, 4.5 ft.

e Outside gage height, 13.4 ft.

## GASCONADE RIVER BASIN

6-9285. Gasconade River near Waynesville, Mo.

Location--Lat 37°52'20", long 92°13'40", in SE¼SE¼ sec.3, T.36 N., R.12 W., at county highway bridge, 2½ miles downstream from Roubidoux Creek, and 4 miles north of Waynesville.

Drainage area--1,680 sq mi, approximately. Slope--3.18 ft per mi.

Gage--Nonrecording prior to Oct. 3, 1958, recording gage thereafter. Datum of gage is 738.60 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements.

Bankfull stage--15 ft.

Remarks--Peaks for period prior to July 19, 1921, computed from plotted readings by Engineering Experiment Station, University of Missouri. Base for partial-duration series, 17,000 cfs.

| Peak stages and discharges |                |                    |                 |               |               |                    |                 |        |
|----------------------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|--------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |        |
| 1915                       | Aug. 22, 1915  | 24.3               | 89,000          | 1938          | Feb. 20, 1938 | 16.44              | 24,600          |        |
|                            | Aug. 28, 1915  | 14.1               | 20,300          |               | May 9, 1938   | 14.74              | 17,800          |        |
| 1916                       | Jan. 14, 1916  | 16.7               | 26,800          | 1939          | May 25, 1938  | 15.11              | 19,100          |        |
|                            | Feb. 1, 1916   | 23.0               | 77,000          |               | Apr. 19, 1939 | 14.9               | 18,500          |        |
| 1917                       | May 2, 1917    | 8.35               | 8,600           | 1940          | Mar. 12, 1940 | 11.8               | 10,600          |        |
| 1918                       | Apr. 28, 1918  | 13.1               | 18,200          | 1941          | Apr. 20, 1941 | 20.4               | 57,700          |        |
|                            | May 14, 1918   | 15.4               | 23,100          |               | 1942          | Nov. 2, 1941       | 15.4            | 20,700 |
| 1919                       | May 17, 1919   | 12.35              | 16,700          | June 19, 1942 |               | 17.8               | 33,200          |        |
| 1920                       | Oct. 28, 1919  | 15.75              | 24,000          | 1943          | Dec. 29, 1942 | 20.7               | 59,400          |        |
|                            | Nov. 3, 1919   | 14.8               | 20,500          |               | May 12, 1943  | 19.25              | 44,700          |        |
|                            | Sept. 15, 1920 | 14.25              | 19,300          |               | May 20, 1943  | 21.2               | 64,700          |        |
| 1921                       | Mar. 29, 1921  | 15.0               | 20,900          | 1944          | Mar. 1, 1944  | 10.5               | 8,470           |        |
|                            | Apr. 28, 1921  | 16.1               | 23,100          |               | 1945          | Feb. 23, 1945      | 16.35           | 25,300 |
| 1922                       | Mar. 31, 1922  | 14.14              | 19,200          | Mar. 4, 1945  |               | 16.08              | 23,900          |        |
|                            |                | 9.10               | 9,110           | Mar. 8, 1945  |               | 16.8               | 27,200          |        |
| 1923                       | Mar. 13, 1923  | 9.10               | 9,110           | Mar. 21, 1945 |               | 15.0               | 18,800          |        |
| 1924                       | May 29, 1924   | 13.00              | 16,900          | Apr. 4, 1945  |               | 17.0               | 28,100          |        |
|                            |                | 17.50              | 30,800          | Apr. 14, 1945 | 23.5          | 81,600             |                 |        |
|                            |                | 9.80               | 10,500          | June 19, 1945 | 14.25         | 17,400             |                 |        |
| 1925                       | Dec. 21, 1924  | 17.50              | 30,800          | 1946          | Feb. 15, 1946 | 16.30              | 24,800          |        |
| 1926                       | Nov. 9, 1925   | 9.80               | 10,500          |               | Aug. 15, 1946 | 17.57              | 31,600          |        |
| 1927                       | Apr. 2, 1927   | 17.50              | 30,800          | 1947          | Nov. 12, 1946 | 14.40              | 18,000          |        |
|                            | Apr. 16, 1927  | 16.85              | 24,500          |               | Apr. 26, 1947 | 20.6               | 55,700          |        |
|                            | June 1, 1927   | 16.00              | 22,900          | 1948          | June 19, 1948 | 15.4               | 21,200          |        |
|                            | Aug. 10, 1927  | 15.00              | 20,900          |               | June 22, 1948 | 15.2               | 21,200          |        |
|                            | Aug. 16, 1927  | 14.70              | 20,200          |               | June 29, 1948 | 14.2               | 17,400          |        |
|                            | Aug. 18, 1927  | 15.25              | 21,300          |               | 1949          | Feb. 17, 1949      | 15.6            | 21,900 |
| 1928                       | Apr. 7, 1928   | 17.00              | 27,800          | 1950          |               | Oct. 13, 1949      | 16.3            | 23,700 |
|                            | Apr. 24, 1928  | 13.85              | 18,500          |               |               | Oct. 23, 1949      | 19.15           | 40,600 |
|                            | June 10, 1928  | 18.20              | 36,300          |               | Jan. 4, 1950  | 17.50              | 29,200          |        |
| 1929                       | Apr. 10, 1929  | 13.80              | 18,100          | June 15, 1950 | 14.95         | 19,200             |                 |        |
|                            | May 7, 1929    | 15.35              | 21,400          | May 12, 1950  | 18.66         | 36,600             |                 |        |
| 1930                       | Jan. 15, 1930  | 13.20              | 16,800          | June 10, 1950 | 14.90         | 18,900             |                 |        |
| 1931                       | May 20, 1931   | 7.25               | 5,380           | 1951          | May 20, 1951  | 14.4               | 17,700          |        |
| 1932                       | June 29, 1932  | 15.01              | 20,600          |               | July 2, 1951  | 17.95              | 32,000          |        |
|                            |                | 14.60              | 19,900          | 1952          | Nov. 13, 1951 | 12.5               | 13,700          |        |
| 1933                       | Apr. 17, 1933  | 14.60              | 19,900          |               | 1953          | Apr. 24, 1953      | 10.0            | 9,060  |
| May 15, 1933               | 19.95          | 52,200             | 1954            | May 4, 1954   |               | 6.0                | 3,200           |        |
| 1934                       | Apr. 18, 1934  | 6.35               |                 | 3,940         | 1955          | Mar. 21, 1955      | 13.8            | 16,300 |
| 1935                       | Mar. 13, 1935  | 21.62              | 69,000          | 1956          |               | May 17, 1956       | 16.45           | 26,600 |
|                            | June 4, 1935   | 15.00              | 20,700          |               | May 31, 1956  | 14.15              | 18,000          |        |
|                            | June 18, 1935  | 16.55              | 25,900          | 1957          | Apr. 6, 1957  | 16.0               | 24,600          |        |
|                            | June 22, 1935  | 16.50              | 25,500          |               | May 23, 1957  | 19.3               | 44,500          |        |
| 1936                       | Nov. 12, 1935  | 8.01               | 6,400           | May 27, 1957  | 15.23         | 21,100             |                 |        |
| 1937                       | May 4, 1937    | 14.42              | 19,400          |               |               |                    |                 |        |

## GASCONADE RIVER BASIN

## Peak stages and discharges of Gasconade River near Waynesville, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1957       | June 4, 1957  | 16.02              | 24,600          | 1961       | May 3, 1961   | 14.90              | 19,500          |
|            |               |                    |                 |            | May 9, 1961   | 19.60              | 43,300          |
| 1958       | Dec. 19, 1957 | 18.90              | 37,600          |            |               |                    |                 |
|            | Mar. 25, 1958 | 18.0               | 31,900          | 1962       | Mar. 21, 1962 | 14.72              | 18,900          |
|            | July 9, 1958  | 14.40              | 18,100          |            |               |                    |                 |
|            | July 19, 1958 | 19.80              | 45,100          | 1963       | May 28, 1963  | 16.43              | 24,400          |
| 1959       | May 28, 1959  | 12.26              | 12,900          | 1964       | Apr. 7, 1964  | 13.65              | 14,900          |
| 1960       | Dec. 19, 1959 | 13.25              | 15,000          | 1965       | Apr. 8, 1965  | 16.2               | 23,600          |
|            |               |                    |                 |            | Sept. 5, 1965 | 15.71              | 21,800          |

## GASCONADE RIVER BASIN

6-9290. Coyle Branch at Houston, Mo.

Location.--Lat 37°19'25", long 91°57'12", in NW¼NW¼ sec.8, T.30 N., R.9 W., at double culvert under State Highway 63, at east edge of Houston.

Drainage area.--1.10 sq mi. Slope.--95.9 ft per mi.

Gage.--Recording June 16, 1949, to June 30, 1955; crest-stage gage since Mar. 10, 1959. Altitude of gage is 1,090 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 70 cfs prior to June 30, 1955, and by indirect measurement at 640 cfs. Subsequent to Mar. 10, 1959, defined by current-meter measurements below 20 cfs and by indirect measurements at 372 and 475 cfs.

Bankfull stage.--9 ft.

Remarks.--Rock dike constructed along right bank just upstream from culvert after June 30, 1955. Base for partial-duration series, 85 cfs. Only annual peaks are shown subsequent to 1955.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1950       | Oct. 5, 1949  | 1.84               | 151             | 1955       | Mar. 20, 1955 | 1.81               | 137             |
|            | Jan. 3, 1950  | 1.71               | 117             |            |               |                    |                 |
|            | Apr. 2, 1950  | 2.46               | 279             | 1959       | May 27, 1959  | 2.62               | 90              |
|            | May 10, 1950  | 1.95               | 166             |            |               |                    |                 |
|            | June 10, 1950 | 2.40               | 265             | 1960       | Aug. 18, 1960 | 4.01               | 280             |
| 1951       | Apr. 6, 1951  | 3.77               | 646             | 1961       | May 7, 1961   | 5.00               | 460             |
|            | June 29, 1951 | 2.61               | 315             |            |               |                    |                 |
|            | June 30, 1951 | 5.02               | 1,030           | 1962       | Sept. 3, 1962 | 2.53               | 85              |
| 1952       | Mar. 10, 1952 | 1.56               | 87              | 1963       | June 15, 1963 | 5.00               | 475             |
| 1953       | Mar. 3, 1953  | 1.80               | 135             | 1964       | Apr. 5, 1964  | 3.81               | 250             |
| 1954       | July 24, 1954 | 1.22               | 36              | 1965       | Apr. 2, 1965  | 4.22               | 320             |

## GASCONADE RIVER BASIN

6-9300. Big Piney River near Big Piney, Mo.  
(Published as Piney Creek prior to 1942)

Location.--Lat 37°40'00", long 92°03'05", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.8, T.34 N., R.10 W., at Ross Highway bridge, 3 miles east of Big Piney, and 14-3/4 miles upstream from Spring Creek.

Drainage area.--560 sq mi, approximately. Slope.--5.65 ft per mi.

Gage.--Nonrecording prior to July 12, 1961; recording gage thereafter. Datum of gage is 800.99 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 19,000 cfs.

Bankfull stage.--9 ft.

Remarks.--Base for partial-duration series, 6,800 cfs.

| Peak stages and discharges |                |                    |                 |               |               |                    |                 |        |
|----------------------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|--------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |        |
| 1922                       | Apr. 17, 1922  | 10.00              | 7,300           | 1941          | Apr. 19, 1941 | 12.64              | 9,280           |        |
|                            | Apr. 28, 1922  | 10.26              | 7,630           |               | 1942          | Apr. 9, 1942       | 11.00           | 6,690  |
| 1923                       | May 16, 1923   | 10.10              | 7,410           | 1943          |               | Dec. 27, 1942      | 20.7            | 32,700 |
| 1924                       | Sept. 20, 1924 | 6.65               | 3,700           |               | May 11, 1943  | 18.30              | 24,400          |        |
|                            | 1925           | Dec. 20, 1924      | 12.00           | 9,650         | May 19, 1943  | 15.80              | 16,500          |        |
| 1926                       |                | Oct. 17, 1925      | 8.40            | 5,900         | June 24, 1943 | 12.60              | 9,280           |        |
|                            | 1927           | Apr. 1, 1927       | 15.50           | 15,600        | 1944          | Feb. 29, 1944      | 9.0             | 4,660  |
| Apr. 14, 1927              |                | 14.50              | 12,700          | 1945          |               | Feb. 22, 1945      | 16.81           | 19,600 |
| May 25, 1927               |                | 10.10              | 7,420           |               | Feb. 27, 1945 | 11.60              | 7,600           |        |
| June 2, 1927               |                | 12.00              | 9,600           |               | Mar. 7, 1945  | 14.60              | 13,300          |        |
| Aug. 15, 1927              |                | 14.20              | 12,300          |               | Mar. 20, 1945 | 11.80              | 7,920           |        |
| Aug. 18, 1927              |                | 12.00              | 9,600           |               | Mar. 31, 1945 | 13.00              | 10,000          |        |
| 1928                       |                | Dec. 14, 1927      | 14.20           |               | 12,300        | Apr. 3, 1945       | 12.25           | 8,590  |
|                            |                | Apr. 6, 1928       | 11.10           |               | 8,560         | Apr. 15, 1945      | 19.08           | 27,000 |
|                            | Apr. 22, 1928  | 11.10              | 8,560           |               | June 18, 1945 | 16.00              | 17,100          |        |
|                            | June 9, 1928   | 17.00              | 20,200          | 1946          | Feb. 14, 1946 | 17.75              | 21,800          |        |
| 1929                       | Mar. 16, 1929  | 10.05              | 7,300           |               | Mar. 7, 1946  | 11.20              | 6,990           |        |
|                            | Apr. 10, 1929  | 10.50              | 7,880           |               | May 17, 1946  | 13.10              | 10,200          |        |
|                            | May 6, 1929    | 10.66              | 8,100           |               | May 25, 1946  | 19.53              | 27,500          |        |
|                            | May 13, 1929   | 10.30              | 7,640           | Aug. 14, 1946 | 15.40         | 15,200             |                 |        |
| 1930                       | Nov. 1, 1929   | 12.20              | 9,840           | 1947          | Nov. 10, 1946 | 19.00              | 25,700          |        |
|                            | Jan. 14, 1930  | 12.10              | 9,720           |               | Apr. 26, 1947 | 16.80              | 18,800          |        |
| 1931                       | Nov. 21, 1930  | 7.93               | 5,100           | 1948          | Jan. 2, 1948  | 15.0               | 14,200          |        |
|                            | 1932           | Jan. 17, 1932      | 7.70            |               | 4,770         | June 19, 1948      | 15.08           | 14,500 |
| 1933                       |                | Dec. 25, 1932      | 10.50           |               | 7,880         | June 28, 1948      | 14.2            | 12,400 |
|                            | Apr. 16, 1933  | 14.60              | 13,300          | 1949          | Jan. 19, 1949 | 12.65              | 9,280           |        |
|                            | May 14, 1933   | 17.50              | 21,800          |               | Jan. 25, 1949 | 15.0               | 14,200          |        |
| 1934                       | Mar. 28, 1934  | 4.05               | 1,240           |               | Jan. 28, 1949 | 12.1               | 8,420           |        |
|                            | Sept. 16, 1934 | 4.10               | 1,240           | Feb. 15, 1949 | 15.6          | 15,700             |                 |        |
|                            | 1935           | Mar. 11, 1935      | 19.62           | 28,800        | July 8, 1949  | 16.70              | 18,600          |        |
|                            |                | June 3, 1935       | 13.30           | 11,200        | 1950          | Oct. 21, 1949      | 11.6            | 7,600  |
| June 16, 1935              | 11.22          | 8,550              | Jan. 4, 1950    | 18.5          |               | 24,000             |                 |        |
| 1936                       | Nov. 10, 1935  | 8.91               | 5,780           | Jan. 14, 1950 |               | 15.5               | 15,400          |        |
|                            | 1937           | Jan. 15, 1937      | 12.83           | 10,600        |               | Feb. 13, 1950      | 11.2            | 6,990  |
| Jan. 31, 1937              |                | 10.22              | 7,340           | Apr. 3, 1950  | 11.5          | 7,290              |                 |        |
| May 3, 1937                |                | 12.24              | 9,800           | May 11, 1950  | 18.6          | 24,300             |                 |        |
| 1938                       | Feb. 18, 1938  | 14.73              | 13,000          | June 10, 1950 | 12.0          | 8,250              |                 |        |
|                            | May 8, 1938    | 12.33              | 9,920           | 1951          | Feb. 19, 1951 | 13.0               | 10,000          |        |
|                            | May 24, 1938   | 14.65              | 12,900          |               | July 1, 1951  | 17.00              | 19,400          |        |
| 1939                       | Nov. 8, 1938   | 11.15              | 8,550           | July 10, 1951 | 13.0          | 10,000             |                 |        |
|                            | Feb. 20, 1939  | 11.53              | 8,920           | 1952          | Mar. 11, 1952 | 12.4               | 8,930           |        |
| Apr. 17, 1939              | 12.40          | 10,000             | Apr. 13, 1952   |               | 12.5          | 9,100              |                 |        |
| 1940                       | Apr. 12, 1940  | 10.10              | 7,220           | 1953          | Mar. 4, 1953  | 11.2               | 6,990           |        |
|                            | 1941           | Apr. 17, 1941      | 13.74           | 11,300        | 1954          | May 29, 1954       | 6.42            | 2,680  |
| 1955                       |                |                    |                 |               | Feb. 20, 1955 | 11.6               | 7,600           |        |
|                            | Mar. 21, 1955  |                    |                 |               | 15.58         | 15,700             |                 |        |
| 1956                       |                |                    |                 | May 16, 1956  | 19.8          | 28,600             |                 |        |
|                            |                |                    |                 | May 31, 1956  | 14.7          | 14,100             |                 |        |

## GASCONADE RIVER BASIN

## Peak stages and discharges of Big Piney River near Big Piney, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1957       | Apr. 4, 1957   | 13.6               | 11,600          | 1961       | Mar. 7, 1961  | 10.70              | 6,880           |
|            | Apr. 27, 1957  | 12.6               | 9,670           |            | May 8, 1961   | 18.10              | 22,800          |
|            | May 23, 1957   | 16.3               | 17,900          | 1962       | Mar. 21, 1962 | 10.83              | 7,000           |
|            | June 2, 1957   | 12.1               | 8,860           |            |               |                    |                 |
| 1958       | Dec. 18, 1957  | 16.38              | 18,200          | 1963       | Oct. 14, 1962 | 11.24              | 7,540           |
|            | Mar. 24, 1958  | 15.60              | 16,200          |            | May 18, 1963  | 13.25              | 10,700          |
|            | July 18, 1958  | 17.00              | 19,700          |            | May 27, 1963  | 14.43              | 13,400          |
|            | Sept. 17, 1958 | 10.70              | 6,880           | 1964       | Apr. 6, 1964  | 16.30              | 17,900          |
| 1959       | May 28, 1959   | 8.80               | 4,910           | 1965       | Apr. 6, 1965  | 16.24              | 17,600          |
| 1960       | Dec. 28, 1959  | 10.05              | 6,050           |            | Sept. 5, 1965 | 13.92              | 12,200          |

## GASCONADE RIVER BASIN

6-9307.5. Prewett Hollow near Dixon, Mo.

Location.--Lat 37°57'25", long 92°04'50", in SW¼SE¼ sec.1, T.37 N., R.11 W., on right bank just upstream from culvert on county road D, about half a mile east of junction of State Highway 28 and county road D, and about 2 miles southeast of Dixon.

Drainage area.--0.46 sq mi. Slope.--87.5 ft per mi.

Gage.--Crest-stage gage; supplemental stage-rainfall recorder installed Apr. 3, 1964.

Stage-discharge relation.--Defined at 148 and 421 cfs by indirect measurements. Defined below 25 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1960       | Oct. 4, 1959  | 10.32              | 110             |            |      |                    |                 |
| 1961       | May 5, 1961   | 14.33              | 421             |            |      |                    |                 |
| 1962       | Mar. 20, 1962 | 10.62              | 140             |            |      |                    |                 |
| 1963       | July 28, 1963 | 8.89               | 28              |            |      |                    |                 |
| 1964       | July 1, 1964  | 9.92               | 85              |            |      |                    |                 |
| 1965       | -             | (a)                | (b)             |            |      |                    |                 |

a No peak registered.

b Less than 17 cfs.

## GASCONADE RIVER BASIN

6-9310. Beaver Creek near Rolla, Mo.

Location.--Lat 37°52'45", long 91°47'43", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.34, T.37 N., R.8 W., 30 ft downstream from bridge on U. S. Highway 63, 4 $\frac{1}{2}$  miles upstream from mouth, and 5 miles south of Rolla.

Drainage area.--14.0 sq mi. Slope.--39.5 ft per mi.

Gage.--Recording Aug. 12, 1948, to Aug. 18, 1958; crest-stage gage subsequent to Jan. 12, 1960. Datum of gage is 805.31 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 2,100 cfs and extended by logarithmic plotting.

Bankfull stage.--6 ft.

Remarks.--Base for partial-duration series, 1,500 cfs. Only annual peaks shown subsequent to 1955.

| Water year | Date           | Peak stages and discharges |                 |                    |                 | Water year    | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|----------------------------|-----------------|--------------------|-----------------|---------------|----------------|--------------------|-----------------|
|            |                | Gage height (feet)         | Discharge (cfs) | Gage height (feet) | Discharge (cfs) |               |                |                    |                 |
| 1949       | Feb. 14, 1949  | 3.85                       | 1,860           | 1955               | Mar. 20, 1955   | 3.92          | 1,890          |                    |                 |
|            | Sept. 12, 1949 | 4.40                       | 2,050           |                    | 1956            | May 30, 1956  | 5.3            | 3,620              |                 |
| 1950       | Oct. 11, 1949  | 5.45                       | 3,080           | 1957               | May 21, 1957    | 4.2           | 2,220          |                    |                 |
|            | Oct. 21, 1949  | 4.44                       | 2,100           |                    | 1958            | Dec. 17, 1957 | 3.0            | 980                |                 |
|            | Jan. 3, 1950   | 5.40                       | 3,560           | 1960               |                 | Dec. 17, 1959 | 4.46           | 2,500              |                 |
|            | Jan. 13, 1950  | 4.17                       | 2,180           |                    |                 | 1961          | May 6, 1961    | 5.13               | 3,400           |
|            | May 10, 1950   | 3.50                       | 1,500           | 1962               |                 |               | Sept. 24, 1962 | 4.29               | 2,330           |
|            | May 19, 1950   | 3.98                       | 2,020           |                    |                 | 1963          | May 25, 1963   | 3.24               | 1,200           |
|            | May 29, 1950   | 3.61                       | 1,600           | 1964               |                 |               | Apr. 5, 1964   | 4.64               | 2,750           |
|            | June 9, 1950   | 5.61                       | 3,800           |                    |                 | 1965          | Sept. 14, 1965 | 3.47               | 1,400           |
| 1951       | June 30, 1951  | 4.47                       | 2,280           |                    |                 |               |                |                    |                 |
| 1952       | Mar. 10, 1952  | 3.43                       | 1,280           |                    |                 |               |                |                    |                 |
| 1953       | Apr. 23, 1953  | 4.06                       | 1,870           |                    |                 |               |                |                    |                 |
| 1954       | June 9, 1954   | 2.93                       | 924             |                    |                 |               |                |                    |                 |

## GASCONADE RIVER BASIN

6-9315. Little Beaver Creek near Rolla, Mo.

Location--Lat 37°56'06", long 91°50'11", in NW1/4 sec.17, T.37 N., R.8 W., on right bank 1,700 ft downstream from new U. S. Highway 66, and 3 miles west of Rolla.

Drainage area--6.41 sq mi. Slope--65.6 ft per mi.

Gage--Recording. Altitude of gage is 790 ft (from topographic map).

Stage-discharge relation--Defined by current-meter measurements below 1,400 cfs and by indirect measurement at 5,000 cfs, and extended by logarithmic plotting.

Bankfull stage--2.5 ft.

Historical data--Flood of June 8, 1945, reached a stage of about 7.5 ft from information furnished by local residents. Maximum stage known since 1881 or 1882, that of July 17, 1958.

Remarks--Base for partial-duration series, 1,000 cfs.

| Peak stages and discharges |               |                    |                 |               |                |                    |                 |
|----------------------------|---------------|--------------------|-----------------|---------------|----------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year    | Date           | Gage height (feet) | Discharge (cfs) |
| 1948                       | June 20, 1948 | 4.08               | 1,020           | 1957          | May 17, 1957   | 5.70               | 1,820           |
|                            | June 22, 1948 | 4.08               | 1,020           |               | May 21, 1957   | 5.80               | 1,940           |
|                            |               |                    |                 |               | May 21, 1957   | 7.57               | 5,040           |
| 1949                       | June 2, 1949  | 4.41               | 1,230           | 1958          | June 29, 1957  | 5.25               | 1,340           |
|                            | July 22, 1949 | 4.37               | 1,200           |               | June 10, 1958  | 7.20               | 4,240           |
| 1950                       | Oct. 4, 1949  | 4.35               | 1,240           | July 16, 1958 | 5.78           | 1,920              |                 |
|                            | Oct. 11, 1949 | 6.05               | 3,130           | July 17, 1958 | 8.57           | 7,420              |                 |
|                            | Oct. 20, 1949 | 4.27               | 1,160           | 1959          | Feb. 9, 1959   | 3.93               | 524             |
|                            | Jan. 3, 1950  | 4.77               | 1,570           |               |                |                    |                 |
|                            | Jan. 13, 1950 | 4.55               | 1,400           | 1960          | May 6, 1960    | 4.81               | 1,060           |
|                            | Apr. 4, 1950  | 4.33               | 1,240           |               |                |                    |                 |
|                            | May 19, 1950  | 4.79               | 1,610           |               |                |                    |                 |
|                            | June 9, 1950  | 6.66               | 4,180           | 1961          | May 5, 1961    | 5.02               | 1,210           |
| 1951                       | June 30, 1951 | 5.32               | 2,110           | 1962          | June 9, 1962   | 3.94               | 529             |
|                            | Aug. 9, 1951  | 5.15               | 1,950           | 1963          | May 25, 1963   | 6.03               | 2,240           |
| 1952                       | Oct. 22, 1951 | 3.00               | 456             | 1964          | Apr. 5, 1964   | 5.19               | 1,340           |
| 1953                       | Apr. 23, 1953 | 5.3                | 2,110           | 1965          | June 3, 1965   | 5.19               | 1,340           |
| 1954                       | June 9, 1954  | 4.30               | 740             |               | Sept. 4, 1965  | 4.94               | 1,160           |
| 1955                       | July 7, 1955  | 4.60               | 950             |               | Sept. 14, 1965 | 5.37               | 1,480           |
| 1956                       | May 30, 1956  | 5.17               | 1,320           |               |                |                    |                 |

## GASCONADE RIVER BASIN

6-9320. Little Piney Creek at Newburg, Mo.

Location.--Lat 37°54'40", long 91°54'10", in SE¼ sec.22, T.37 N., R.9 W., at bridge on County Highways P and T at Newburg, 2 miles upstream from Mill Creek.

Drainage area.--200 sq mi, approximately. Slope.--14.0 ft per mi.

Gage.--Nonrecording. At datum 3.00 ft higher prior to Oct. 1, 1951. Datum of gage is 693.40 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 21,000 cfs and by indirect measurements at 26,000 and 32,500 cfs.

Bankfull stage.--10 ft.

Remarks.--Gage heights are adjusted to present datum. Base for partial-duration series, 4,900 cfs.

| Water year | Date           | Gage height (feet) | Peak stages and discharges |            |               |                 | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|----------------------------|------------|---------------|-----------------|--------------------|-----------------|
|            |                |                    | Discharge (cfs)            | Water year | Date          | Discharge (cfs) |                    |                 |
| 1915       | Aug. 20, 1915  | 16.7               | a30,000                    | 1949       | Feb. 15, 1949 | 9.00            | 7,030              |                 |
| 1929       | May 6, 1929    | 10.22              | 8,860                      | 1950       | Oct. 6, 1949  | 9.20            | 7,390              |                 |
| 1930       | Feb. 25, 1930  | 9.26               | 6,700                      |            | Oct. 11, 1949 | 11.60           | 13,100             |                 |
| 1931       | May 19, 1931   | 6.14               | 1,110                      |            | Oct. 21, 1949 | 11.00           | 11,300             |                 |
| 1932       | Dec. 31, 1931  | 6.38               | 1,390                      |            | Jan. 3, 1950  | 12.00           | 14,400             |                 |
| 1933       | May 13, 1933   | 10.58              | 7,840                      |            | Jan. 13, 1950 | 8.60            | 6,350              |                 |
| 1934       | Sept. 13, 1934 | 9.98               | 6,700                      |            | May 10, 1950  | 8.00            | 5,330              |                 |
| 1935       | Mar. 11, 1935  | 11.54              | 10,100                     |            | May 19, 1950  | 8.00            | 5,330              |                 |
|            | June 16, 1935  | 9.98               | 6,520                      | 1951       | June 10, 1950 | 13.60           | 20,300             |                 |
|            | June 21, 1935  | 12.40              | 13,100                     |            | June 30, 1951 | 12.00           | 14,400             |                 |
|            | June 26, 1935  | 16.26              | 28,000                     |            | July 10, 1951 | 10.00           | 8,950              |                 |
| 1936       | June 7, 1936   | 9.12               | 4,660                      |            | July 13, 1951 | 8.00            | 5,330              |                 |
| 1937       | July 19, 1937  | 14.35              | 20,500                     | 1952       | Mar. 11, 1952 | 6.30            | 2,680              |                 |
| 1938       | May 23, 1938   | 10.04              | 6,050                      | 1953       | Apr. 23, 1953 | 5.50            | 1,730              |                 |
| 1939       | Apr. 16, 1939  | 13.00              | 15,200                     | 1954       | June 9, 1954  | 6.0             | 2,260              |                 |
| 1940       | Apr. 17, 1940  | 7.05               | 2,540                      | 1955       | Mar. 20, 1955 | 7.3             | 4,420              |                 |
| 1941       | Apr. 19, 1941  | 12.50              | 15,000                     | 1956       | May 31, 1956  | 9.80            | 7,000              |                 |
| 1942       | June 25, 1942  | 8.81               | 4,820                      | 1957       | May 21, 1957  | 10.00           | 6,900              |                 |
| 1943       | Oct. 20, 1942  | 9.50               | 6,070                      |            | May 23, 1957  | 11.91           | 11,100             |                 |
|            | Dec. 27, 1942  | 11.30              | 10,800                     | 1958       | Dec. 17, 1957 | 8.88            | 5,280              |                 |
|            | May 18, 1943   | 9.40               | 5,870                      |            | Mar. 23, 1958 | 9.3             | 5,790              |                 |
| 1944       | Feb. 28, 1944  | 5.94               | 1,320                      |            | June 10, 1958 | 9.6             | 6,230              |                 |
| 1945       | Apr. 2, 1945   | 11.50              | 11,500                     |            | July 16, 1958 | 11.0            | 9,000              |                 |
|            | Apr. 14, 1945  | 13.20              | 19,200                     | 1959       | July 17, 1958 | 12.8            | 13,500             |                 |
|            | June 8, 1945   | 15.00              | 26,000                     |            | May 17, 1959  | 8.9             | 5,280              |                 |
| 1946       | Aug. 14, 1946  | 16.20              | 32,500                     | 1960       | May 6, 1960   | 8.10            | 4,380              |                 |
| 1947       | Apr. 24, 1947  | 11.23              | 11,800                     | 1961       | May 6, 1961   | 9.84            | 6,550              |                 |
| 1948       | Oct. 31, 1947  | 5.82               | 1,660                      |            | May 8, 1961   | 9.0             | 5,400              |                 |
|            |                |                    |                            | 1962       | Mar. 20, 1962 | 7.70            | 3,970              |                 |
|            |                |                    |                            | 1963       | May 26, 1963  | 7.80            | 2,420              |                 |
|            |                |                    |                            | 1964       | Apr. 5, 1964  | 9.31            | 5,780              |                 |
|            |                |                    |                            | 1965       | Sept. 5, 1965 | 7.95            | 4,160              |                 |

a Annual peak only.

## GASCONADE RIVER BASIN

6-9335. Gasconade River at Jerome, Mo.  
(Published as "at Arlington" prior to 1923)

Location.--Lat 37°55'35", long 91°58'40", in SE¼ sec.13, T.37 N., R.10 W., at Jerome, 0.5 mile downstream from Little Piney Creek.

Drainage area.--2,840 sq mi, approximately. Slope.--3.01 ft per mi.

Gage.--Nonrecording Apr. 11, 1903, to July 21, 1906, and Jan. 3, 1923, to Jan. 17, 1939; recording gage thereafter. At site 4,000 ft downstream from present gage at different datum prior to July 26, 1904. At site 2,600 ft upstream from and at datum about 0.85 ft higher than present datum, July 26, 1904, to July 21, 1906. At site 400 ft downstream from and at datum 0.14 ft lower than present datum, Jan. 3, 1923, to Sept. 29, 1928. Datum of gage is 657.64 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--15 ft.

Historical data.--Maximum stage known, about 29.0 ft Jan. 6, 1897 (discharge, 120,000 cfs). A stage of 28.6 ft was reached Aug. 20, 22, 1915 (discharge, 114,000 cfs).

Remarks.--Base for partial-duration series, 16,000 cfs.

| Peak stages and discharges |                |                    |                 |               |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
| 1897                       | Jan. 6, 1897   | a29.0              | b120,000        | 1935          | Mar. 13, 1935 | 25.80              | 76,800          |
| 1904                       | Jan. 23, 1904  | 11.5               | 16,400          | June 4, 1935  | 15.70         | 28,400             |                 |
|                            | Mar. 26, 1904  | 16.5               | 29,900          | June 21, 1935 | 20.60         | 46,900             |                 |
|                            | Apr. 26, 1904  | 18.0               | 33,900          | June 26, 1935 | 23.50         | 62,600             |                 |
|                            | June 26, 1904  | 14.5               | 24,500          | 1936          | Nov. 11, 1935 | 7.30               | 8,480           |
| 1905                       | Mar. 9, 1905   | 13.5               | 24,200          | 1937          | Jan. 16, 1937 | 13.96              | 23,900          |
|                            | July 23, 1905  | 20.3               | 45,000          | Feb. 2, 1937  | 11.16         | 17,000             |                 |
|                            | July 30, 1905  | 19.1               | 41,100          | May 3, 1937   | 15.10         | 27,000             |                 |
|                            | Sept. 19, 1905 | 16.5               | 32,900          | 1938          | Feb. 19, 1938 | 18.70              | 37,900          |
| 1915                       | Aug. 22, 1915  | a28.6              | b114,000        | May 10, 1938  | 12.65         | 19,900             |                 |
| 1923                       | Mar. 17, 1923  | 10.30              | 15,500          | May 24, 1938  | 16.2          | 29,300             |                 |
| 1924                       | May 29, 1924   | 15.80              | 30,400          | 1939          | Apr. 16, 1939 | 13.67              | 22,600          |
|                            | Aug. 12, 1924  | 11.85              | 19,400          | Apr. 18, 1939 | 16.19         | 29,300             |                 |
| 1925                       | Dec. 20, 1924  | 18.20              | 38,600          | 1940          | Mar. 13, 1940 | 10.44              | 14,500          |
|                            | Sept. 29, 1925 | 12.75              | 22,000          | 1941          | Apr. 21, 1941 | 22.64              | 54,600          |
| 1926                       | Nov. 8, 1925   | 9.80               | 13,900          | 1942          | Nov. 2, 1941  | 13.35              | 20,700          |
| 1927                       | Mar. 22, 1927  | 12.55              | 21,300          | Apr. 11, 1942 | 13.03         | 20,000             |                 |
|                            | Apr. 2, 1927   | 21.06              | 45,500          | June 13, 1942 | 12.84         | 19,500             |                 |
|                            | Apr. 15, 1927  | 19.0               | 39,300          | June 20, 1942 | 17.4          | 31,600             |                 |
|                            | Apr. 21, 1927  | 15.26              | 28,700          | 1943          | Dec. 28, 1942 | 25.63              | 74,000          |
|                            | May 26, 1927   | 15.45              | 29,000          | May 12, 1943  | 20.57         | 43,700             |                 |
|                            | June 3, 1927   | 19.85              | 41,600          | May 21, 1943  | 24.7          | 67,800             |                 |
|                            | June 22, 1927  | 11.75              | 19,200          | June 23, 1943 | 13.9          | 22,200             |                 |
|                            | Aug. 11, 1927  | 13.6               | 24,000          | June 25, 1943 | 11.76         | 17,200             |                 |
|                            | Aug. 16, 1927  | 17.9               | 36,100          | 1944          | Mar. 1, 1944  | 9.57               | 12,500          |
|                            | Aug. 19, 1927  | 16.2               | 31,300          | 1945          | Feb. 23, 1945 | 15.91              | 27,400          |
| 1928                       | Nov. 16, 1927  | 11.4               | 18,100          | Mar. 7, 1945  | 17.20         | 31,300             |                 |
|                            | Dec. 15, 1927  | 13.89              | 24,800          | Mar. 21, 1945 | 14.35         | 23,500             |                 |
|                            | Apr. 7, 1928   | 20.0               | 42,200          | Apr. 3, 1945  | 17.77         | 33,300             |                 |
|                            | Apr. 23, 1928  | 15.7               | 29,900          | Apr. 15, 1945 | 27.7          | 101,000            |                 |
|                            | May 24, 1928   | 11.59              | 18,600          | June 8, 1945  | 20.01         | 41,300             |                 |
|                            | June 10, 1928  | 23.25              | 61,100          | June 19, 1945 | 14.67         | 24,200             |                 |
| June 20, 1928              | 12.65          | 21,300             | 1946            | Feb. 15, 1946 | 18.06         | 34,300             |                 |
| 1929                       | Mar. 16, 1929  | 11.00              | 17,000          | May 26, 1946  | 17.75         | 33,300             |                 |
|                            | Apr. 11, 1929  | 14.20              | 25,700          | Aug. 14, 1946 | 26.55         | 87,500             |                 |
|                            | May 7, 1929    | 16.60              | 32,700          | 1947          | Nov. 11, 1946 | 16.9               | 30,400          |
|                            | May 24, 1929   | 13.45              | 23,500          | Apr. 27, 1947 | 23.53         | 60,000             |                 |
| 1930                       | Jan. 15, 1930  | 15.52              | 29,300          | 1948          | June 20, 1948 | 16.50              | 29,200          |
| 1931                       | May 20, 1931   | 6.80               | 7,500           | June 29, 1948 | 12.95         | 20,000             |                 |
| 1932                       | Jan. 24, 1932  | 8.50               | 11,100          | 1949          | Jan. 26, 1949 | 13.0               | 20,000          |
| 1933                       | Apr. 17, 1933  | 16.80              | 31,700          | Jan. 29, 1949 | 13.4          | 21,000             |                 |
|                            | May 16, 1933   | 23.40              | 62,600          | Feb. 16, 1949 | 17.3          | 31,700             |                 |
| 1934                       | Sept. 13, 1934 | 7.28               | 8,530           | June 3, 1949  | 13.6          | 21,500             |                 |
|                            |                |                    |                 | June 9, 1949  | 13.6          | 21,500             |                 |

## GASCONADE RIVER BASIN

## Peak stages and discharges of Gasconade River at Jerome, Mo.--Continued

| Water year    | Date          | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |               |        |        |
|---------------|---------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|---------------|--------|--------|
| 1949          | July 9, 1949  | 13.9               | 22,200          | 1955          | Feb. 21, 1955 | 11.35              | 16,300          |               |        |        |
| 1950          | Oct. 6, 1949  | 13.4               | 21,000          | 1955          | Mar. 22, 1955 | 15.01              | 25,000          |               |        |        |
|               | Oct. 12, 1949 | 17.3               | 31,700          |               | 1956          | May 16, 1956       | 16.35           | 28,900        |        |        |
|               | Oct. 24, 1949 | 18.88              | 37,100          | June 1, 1956  |               | 16.94              | 30,400          |               |        |        |
|               | Jan. 5, 1950  | 21.03              | 45,600          | 1957          | Feb. 27, 1957 | 12.22              | 18,100          |               |        |        |
|               | Jan. 15, 1950 | 16.73              | 29,800          |               | Apr. 5, 1957  | 15.40              | 26,100          |               |        |        |
|               | May 13, 1950  | 21.6               | 48,700          |               | May 24, 1957  | 23.12              | 57,400          |               |        |        |
|               | May 21, 1950  | 12.24              | 18,100          |               | June 5, 1957  | 14.76              | 24,500          |               |        |        |
|               | June 10, 1950 | 19.14              | 37,900          | 1958          | Dec. 20, 1957 | 17.55              | 32,600          |               |        |        |
| 1951          | Feb. 21, 1951 | 14.25              | 23,000          |               | Mar. 25, 1958 | 19.65              | 39,700          |               |        |        |
|               | Mar. 13, 1951 | 11.78              | 17,200          |               | July 19, 1958 | 21.26              | 47,100          |               |        |        |
|               | May 21, 1951  | 12.39              | 18,600          |               | 1959          | May 29, 1959       | 11.03           | 15,400        |        |        |
|               | June 29, 1951 | 11.55              | 16,800          |               |               | 1960               | Dec. 20, 1959   | 10.65         | 14,600 |        |
|               | July 2, 1951  | 20.08              | 41,700          |               |               |                    | 1961            | May 3, 1961   | 13.15  | 20,600 |
|               | July 6, 1951  | 12.08              | 17,900          |               |               |                    |                 | May 10, 1961  | 23.90  | 62,800 |
|               | July 11, 1951 | 14.90              | 24,700          |               | 1962          |                    |                 | Mar. 22, 1962 | 14.65  | 24,500 |
|               | July 14, 1951 | 13.70              | 21,700          | 1963          |               | May 27, 1963       |                 | 15.60         | 27,500 |        |
| 1952          | Nov. 14, 1951 | 13.08              | 20,300          | 1964          | Apr. 7, 1964  | 14.78              | 25,100          |               |        |        |
|               | Nov. 17, 1951 | 12.42              | 18,600          |               | 1965          | Apr. 9, 1965       | 14.96           | 25,700        |        |        |
|               | Feb. 4, 1952  | 11.80              | 17,200          | Sept. 6, 1965 |               | 15.82              | 28,100          |               |        |        |
|               | Mar. 12, 1952 | 12.45              | 18,600          |               |               |                    |                 |               |        |        |
| Apr. 14, 1952 | 13.00         | 20,000             |                 |               |               |                    |                 |               |        |        |

a Present datum.

b Annual peak only.

## GASCONADE RIVER BASIN

6-9337. Penzer Hollow near Rolla, Mo.

Location.--Lat 38°00'30", long 91°49'55", in NE¼NW¼ sec.20, T.38 N., R.8 W., on right bank just upstream from culvert under Phelps County road E, 5 miles north of Rolla.

Drainage area.--0.27 sq mi. Slope.--190 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined by current-meter measurements below 15.1 cfs and by indirect measurements at 45.4, 139, and 276 cfs.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1956                       | May 30, 1956  | 15.02              | 45              |            |      |                    |                 |
| 1957                       | May 21, 1957  | 18.52              | 276             |            |      |                    |                 |
| 1958                       | July 17, 1958 | 17.10              | 161             |            |      |                    |                 |
| 1959                       | -             | (a)                | (b)             |            |      |                    |                 |
| 1960                       | May 6, 1960   | 15.75              | 80              |            |      |                    |                 |
| 1961                       | May 6, 1961   | 16.18              | 102             |            |      |                    |                 |
| 1962                       | Mar. 20, 1962 | 15.66              | 75              |            |      |                    |                 |
| 1963                       | May 25, 1963  | 16.95              | 150             |            |      |                    |                 |
| 1964                       | Apr. 5, 1964  | 15.80              | 82              |            |      |                    |                 |
| 1965                       | June 4, 1965  | 16.80              | 140             |            |      |                    |                 |

a Stage did not reach gage during year.

b Less than 30 cfs.

## GASCONADE RIVER BASIN

6-9340. Gasconade River near Rich Fountain, Mo.

Location.--Lat 38°23'20", long 91°49'15", in SE¼ sec.16, T.42 N., R.8 W., at bridge on State Highway 89, 800 ft upstream from Swan Creek, and 4 miles east of Rich Fountain.

Drainage area.--3,180 sq mi, approximately. Slope.--2.68 ft per mi.

Gage.--Nonrecording prior to Mar. 10, 1934; recording gage thereafter. Datum of gage is 553.70 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements.

Bankfull stage.--20 ft.

Remarks.--Base for partial-duration series, 18,000 cfs.

| Peak stages and discharges |                |                    |                 |               |               |                    |                 |               |        |        |
|----------------------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|---------------|--------|--------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |               |        |        |
| 1922                       | Apr. 2, 1922   | 16.70              | 27,300          | 1940          | Mar. 13, 1940 | 11.70              | 14,000          |               |        |        |
|                            | Apr. 19, 1922  | 13.70              | 20,700          |               |               |                    |                 |               |        |        |
|                            | Apr. 29, 1922  | 14.40              | 22,300          |               | 1941          | Apr. 22, 1941      | 22.80           | 51,000        |        |        |
| 1923                       | Mar. 17, 1923  | 11.20              | 15,200          | 1942          |               | Oct. 5, 1941       | 14.40           | 19,900        |        |        |
| 1924                       | May 30, 1924   | 17.20              | 27,700          |               | Nov. 3, 1941  | 14.60              | 20,300          |               |        |        |
|                            |                | 1925               | Dec. 21, 1924   | 18.00         | 29,600        | Apr. 12, 1942      | 14.50           | 20,100        |        |        |
| 1926                       | Nov. 9, 1925   | 10.48              | 13,500          |               | June 14, 1942 | 14.45              | 19,900          |               |        |        |
|                            |                | 1927               | Sept. 30, 1925  | 13.22         | 18,900        | June 21, 1942      | 19.10           | 32,700        |        |        |
| 1927                       | Mar. 23, 1927  | 14.10              | 20,900          | 1943          | Dec. 29, 1942 | 25.60              | 74,500          |               |        |        |
|                            |                | Apr. 3, 1927       | 21.63           |               | 41,000        | May 13, 1943       | 20.60           | 38,500        |        |        |
|                            |                | Apr. 9, 1927       | 13.14           |               | 18,700        | May 22, 1943       | 25.30           | 71,700        |        |        |
|                            |                | Apr. 17, 1927      | 20.38           |               | 37,400        | June 8, 1943       | 14.70           | 20,600        |        |        |
|                            |                | Apr. 21, 1927      | 15.48           |               | 24,000        | June 23, 1943      | 14.80           | 20,800        |        |        |
|                            |                | May 26, 1927       | 16.13           |               | 25,300        | 1944               | Mar. 2, 1944    | 10.69         | 12,600 |        |
|                            |                | June 3, 1927       | 20.78           |               | 38,600        |                    | Feb. 24, 1945   | 16.04         | 23,800 |        |
|                            |                | Aug. 12, 1927      | 15.40           |               | 23,800        |                    | Mar. 6, 1945    | 17.31         | 27,300 |        |
|                            |                | Aug. 17, 1927      | 17.75           |               | 29,800        |                    | Mar. 9, 1945    | 18.34         | 30,200 |        |
|                            |                | Aug. 20, 1927      | 16.70           |               | 26,800        |                    | Mar. 22, 1945   | 15.76         | 23,300 |        |
|                            |                |                    | Apr. 3, 1945    | 19.88         | 35,600        |                    |                 |               |        |        |
| 1928                       | Dec. 16, 1927  | 14.55              | 21,700          | Apr. 16, 1945 | 29.13         | 96,400             |                 |               |        |        |
|                            |                | Apr. 8, 1928       | 19.95           | 36,000        | June 9, 1945  | 20.58              | 38,500          |               |        |        |
|                            |                | Apr. 25, 1928      | 15.90           | 24,800        | 1946          | Feb. 16, 1946      | 18.21           | 29,900        |        |        |
|                            |                | May 25, 1928       | 12.86           | 18,200        |               | May 27, 1946       | 17.18           | 27,000        |        |        |
|                            |                | June 11, 1928      | 22.83           | 51,000        |               | Aug. 16, 1946      | 25.18           | 67,400        |        |        |
|                            |                | June 20, 1928      | 14.30           | 21,100        |               | 1947               | Nov. 12, 1946   | 16.93         | 26,200 |        |
| 1929                       | Apr. 12, 1929  | 15.65              | 24,000          | Apr. 28, 1947 |               |                    | 24.10           | 59,700        |        |        |
| 1930                       | Jan. 16, 1930  | 16.30              | 25,700          | 1948          |               | June 23, 1948      | 16.64           | 25,400        |        |        |
|                            |                | 1931               | May 20, 1931    |               | 9.60          | 11,900             | June 30, 1948   | 14.23         | 19,500 |        |
|                            |                | 1932               | Jan. 25, 1932   |               | 9.55          | 11,900             | 1949            | Jan. 27, 1949 | 14.95  | 21,300 |
|                            |                | 1933               | Apr. 18, 1933   |               | 17.21         | 27,900             |                 | Jan. 30, 1949 | 14.6   | 20,400 |
| May 17, 1933               | 23.05          | 60,600             | Feb. 18, 1949   | 17.4          | 27,600        |                    |                 |               |        |        |
| May 24, 1933               | 13.80          | 20,000             | June 4, 1949    | 15.6          | 22,800        |                    |                 |               |        |        |
| 1934                       | Sept. 12, 1934 | 12.67              | 17,700          | June 10, 1949 | 14.16         | 19,500             |                 |               |        |        |
|                            |                | 1935               | Mar. 14, 1935   | 26.85         | 86,000        | July 10, 1949      | 14.5            | 20,200        |        |        |
|                            |                | June 5, 1935       | 16.85           | 26,900        | 1950          | Oct. 7, 1949       | 13.5            | 18,000        |        |        |
|                            |                | June 22, 1935      | 21.74           | 43,800        |               | Oct. 13, 1949      | 18.6            | 31,100        |        |        |
| June 27, 1935              | 21.38          | 42,200             | Oct. 25, 1949   | 19.5          |               | 35,000             |                 |               |        |        |
| 1936                       | Nov. 12, 1935  | 7.92               | 7,890           | Jan. 7, 1950  |               | 20.9               | 40,400          |               |        |        |
| 1937                       | Jan. 17, 1937  | 14.86              | 22,400          | Jan. 16, 1950 | 17.7          | 29,100             |                 |               |        |        |
|                            |                | 1938               | Feb. 20, 1938   | 19.00         | 32,400        | May 14, 1950       | 22.09           | 46,400        |        |        |
|                            |                | May 4, 1937        | 16.61           | 26,400        | May 20, 1950  | 14.8               | 21,400          |               |        |        |
|                            |                | June 9, 1937       | 18.17           | 30,600        | June 11, 1950 | 19.3               | 34,300          |               |        |        |
| 1938                       | Feb. 20, 1938  | 13.73              | 18,300          | 1951          | Feb. 22, 1951 | 15.30              | 22,600          |               |        |        |
|                            |                | May 25, 1938       | 16.76           |               | 25,900        | May 22, 1951       | 15.0            | 21,900        |        |        |
|                            |                | June 11, 1938      | 16.13           |               | 24,100        | July 3, 1951       | 20.50           | 38,700        |        |        |
|                            |                | 1939               | Apr. 19, 1939   |               | 17.38         | 27,300             | July 7, 1951    | 13.48         | 18,600 |        |
| 1939                       | Apr. 19, 1939  | 17.38              | 27,300          | July 12, 1951 | 16.85         | 26,600             |                 |               |        |        |
|                            |                | 1952               | Nov. 14, 1951   | 14.28         | 20,300        |                    |                 |               |        |        |
|                            |                | Mar. 13, 1952      | 13.80           | 19,500        |               |                    |                 |               |        |        |
| 1953                       | Apr. 15, 1952  | 13.80              | 19,500          | 1953          | Apr. 24, 1953 | 10.59              | 13,800          |               |        |        |
| 1954                       | May 22, 1954   | 5.94               | 5,660           |               |               |                    |                 |               |        |        |

## GASCONADE RIVER BASIN

## Peak stages and discharges of Gasconade River near Rich Fountain, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1955       | Mar. 23, 1955 | 15.73              | 24,800          | 1959       | May 30, 1959  | 11.83              | 16,100          |
| 1956       | May 18, 1956  | 15.50              | 24,300          | 1960       | Dec. 21, 1959 | 11.70              | 15,900          |
|            | June 2, 1956  | 16.75              | 27,700          |            |               |                    |                 |
| 1957       | Feb. 28, 1957 | 13.5               | 18,600          | 1961       | May 4, 1961   | 14.01              | 20,800          |
|            | Apr. 7, 1957  | 16.48              | 25,800          |            | May 11, 1961  | 24.2               | 60,400          |
|            | May 18, 1957  | 16.47              | 25,800          | 1962       | Mar. 23, 1962 | 15.86              | 25,300          |
|            | May 25, 1957  | 23.7               | 56,900          |            |               |                    |                 |
|            | June 6, 1957  | 15.58              | 23,400          |            | 1963          | May 30, 1963       | 17.5            |
| 1958       | Dec. 21, 1957 | 17.30              | 28,000          | 1964       | Apr. 8, 1964  | 15.2               | 23,600          |
|            | Mar. 26, 1958 | 20.60              | 38,500          | 1965       | -             | -                  | 27,000          |
|            | July 20, 1958 | 21.70              | 43,900          |            |               |                    |                 |

## MISSOURI RIVER MAIN STEM

6-9345. Missouri River at Hermann, Mo.

Location.--Lat 38°42'36", long 91°26'21", SW¼ sec.25, T.46 N., R.5 W., at bridge on State Highway 19 at Hermann, and at mile 97.9.Drainage area.--528,200 sq mi.Gage.--Nonrecording Aug. 1, 1928, to Mar. 27, 1932, and June 13, 1945, to Apr. 2, 1946. Recording gage Mar. 28, 1932, to June 12, 1945, and since Apr. 3, 1946. Datum of gage is 481.56 ft above mean sea level, datum of 1929.Stage-discharge relation.--Defined by current-meter measurements.Bankfull stage.--21 ft.Remarks.--Drainage basin above station contains many reservoirs with total usable capacity in excess of 28,875,000 acre-ft. Only annual peaks are shown.

|            |      | Peak stages and discharges |                    |                 |            |                |                    |                 |
|------------|------|----------------------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| Water year | Date |                            | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
| 1844       | June | 1844                       | 35.5               | a892,000        | 1947       | June 29, 1947  | 31.20              | 487,000         |
| 1903       | June | 7, 1903                    | 29.5               | a676,000        | 1948       | June 25, 1948  | 25.2               | 333,000         |
| 1929       | June | 8, 1929                    | 24.6               | 407,000         | 1949       | June 5, 1949   | 22.8               | 239,000         |
| 1930       | Feb. | 7, 1930                    | b16.8              | -               | 1950       | July 22, 1950  | 23.10              | -               |
|            | June | 19, 1930                   | 15.0               | 164,000         |            | Aug. 17, 1950  | -                  | 265,000         |
| 1931       | May  | 20, 1931                   | 13.5               | 123,000         | 1951       | July 19, 1951  | 33.33              | 618,000         |
| 1932       | Nov. | 29, 1931                   | 20.9               | 269,000         | 1952       | Apr. 28, 1952  | 27.10              | 368,000         |
| 1933       | May  | 14, 1933                   | 19.4               | 183,000         | 1953       | May 9, 1953    | 18.70              | 177,000         |
| 1934       | Mar. | 10, 1934                   | 11.28              | 85,000          | 1954       | June 5, 1954   | 16.82              | 145,000         |
| 1935       | June | 7, 1935                    | 29.15              | 473,000         | 1955       | Feb. 21, 1955  | 19.35              | 186,000         |
| 1936       | Feb. | 27, 1936                   | 15.85              | 145,000         | 1956       | Oct. 7, 1955   | 17.45              | 144,000         |
| 1937       | June | 10, 1937                   | 19.85              | 194,000         | 1957       | May 26, 1957   | 21.50              | 196,000         |
| 1938       | May  | 25, 1938                   | 21.80              | 231,000         | 1958       | July 23, 1958  | 29.15              | 339,000         |
| 1939       | Apr. | 18, 1939                   | 22.75              | 247,000         | 1959       | June 3, 1959   | 21.30              | 190,000         |
| 1940       | June | 12, 1940                   | 14.03              | 111,000         | 1960       | Apr. 7, 1960   | 28.44              | 330,000         |
| 1941       | Apr. | 20, 1941                   | 23.66              | 256,000         | 1961       | May 10, 1961   | 30.6               | 405,000         |
| 1942       | June | 28, 1942                   | 29.62              | 435,000         | 1962       | Mar. 23, 1962  | 25.30              | 278,000         |
| 1943       | May  | 21, 1943                   | 31.20              | 550,000         | 1963       | Mar. 6, 1963   | 17.10              | 139,000         |
| 1944       | Apr. | 28, 1944                   | 30.90              | 577,000         | 1964       | June 26, 1964  | 21.10              | 202,000         |
| 1945       | Apr. | 20, 1945                   | 27.74              | 398,000         | 1965       | Sept. 25, 1965 | 27.40              | 306,000         |
| 1946       | Aug. | 15, 1946                   | 20.3               | 209,000         |            |                |                    |                 |

a Computed by Corps of Engineers.

b Backwater from ice.

## LOUTRE RIVER BASIN

6-9350. Rumbo Branch at Danville, Mo.

Location.--Lat 38°55'00", long 91°32'03", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.24, T.48 N., R.6 W., 30 ft upstream from center line of State Highway 29, 20 ft left of center line of culvert, and half a mile north of Danville.

Drainage area.--1.40 sq mi. Slope.--44.9 ft per mi.

Gage.--Recording prior to Sept. 9, 1959; crest-stage gage thereafter. Datum of gage is 747.27 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 35 cfs, by indirect measurement at 220 cfs, and by a calculated estimate at 350 cfs.

Remarks.--Base for partial-duration series, 150 cfs. Only annual peaks shown subsequent to 1959.

| Peak stages and discharges |         |          |                    |                 |            |       |          |                    |                 |
|----------------------------|---------|----------|--------------------|-----------------|------------|-------|----------|--------------------|-----------------|
| Water year                 | Date    |          | Gage height (feet) | Discharge (cfs) | Water year | Date  |          | Gage height (feet) | Discharge (cfs) |
| 1954                       | June    | 8, 1954  | 3.33               | 101             | 1958       | July  | 19, 1958 | 4.09               | 183             |
| 1955                       | Apr.    | 4, 1955  | 4.43               | 222             |            | July  | 19, 1958 | 4.44               | 222             |
|                            | Apr.    | 12, 1955 | 4.09               | 183             |            | Sept. | 2, 1958  | 5.98               | 398             |
|                            | July    | 6, 1955  | 6.34               | 434             | 1959       | Feb.  | 9, 1959  | 4.34               | 209             |
| 1956                       |         |          |                    |                 |            | May   | 18, 1959 | 3.92               | 161             |
|                            | May     | 18, 1956 | 4.16               | 188             | 1960       |       |          |                    |                 |
|                            | May     | 29, 1956 | 3.95               | 166             |            | Mar.  | 27, 1960 | 4.46               | 223             |
|                            | May     | 31, 1956 | 4.02               | 172             |            |       |          |                    |                 |
| July                       | 2, 1956 | 4.47     | 222                | 1961            |            | May   | 5, 1961  | 4.44               | 220             |
| 1957                       |         |          |                    |                 |            |       |          |                    |                 |
|                            | July    | 16, 1956 | 5.62               | 350             | 1962       | Mar.  | 20, 1962 | 4.26               | 201             |
| 1957                       | June    | 29, 1957 | 5.72               | 362             | 1963       | May   | 17, 1963 | 4.02               | 174             |
| 1958                       |         |          |                    |                 | 1964       | Apr.  | 5, 1964  | 3.62               | 130             |
|                            | Apr.    | 5, 1958  | 4.17               | 188             | 1965       |       |          |                    |                 |
|                            | June    | 10, 1958 | 4.04               | 178             |            | Apr.  | 5, 1965  | 3.68               | 137             |
|                            | June    | 12, 1958 | 3.94               | 166             |            |       |          |                    |                 |
|                            | June    | 15, 1958 | 4.86               | 266             |            |       |          |                    |                 |
| July                       | 4, 1958 | 4.45     | 222                |                 |            |       |          |                    |                 |

## LOUTRE RIVER BASIN

6-9355. Loutre River at Mineola, Mo.

Location.--Lat 38°53'20", long 91°34'30", in SE¼NW¼ se.34, T.48 N., R.6 W., at downstream side of left pier of bridge in Mineola, 0.2 mile upstream from Sallee Branch, and 1½ miles downstream from new U. S. Highway 40.

Drainage area.--202 sq mi. Slope.--10.4 ft per mi.

Gage.--Nonrecording prior to Aug. 29, 1951; recording gage thereafter. Datum of gage is 539.86 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 9,000 cfs.

Bankfull stage.--17 ft.

Historical data.--Flood of June 20, 1928, reached a stage of about 28.9 ft and flood in October 1941, reached a stage of 27.8 ft, from information by local residents.

Remarks.--Base for partial-duration series, 5,000 cfs.

| Peak stages and discharges |                |                    |                 |               |                |                    |                 |
|----------------------------|----------------|--------------------|-----------------|---------------|----------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date           | Gage height (feet) | Discharge (cfs) |
| 1948                       | Mar. 21, 1948  | 17.6               | 8,160           | 1956          | July 16, 1956  | 17.85              | 8,420           |
|                            | Mar. 23, 1948  | 16.6               | 6,950           |               | July 19, 1956  | 16.85              | 7,190           |
|                            | July 4, 1948   | 15.1               | 5,190           | 1957          | Mar. 25, 1957  | 15.81              | 5,990           |
|                            | July 26, 1948  | 17.2               | 7,670           |               | Apr. 28, 1957  | 15.40              | 5,510           |
| 1949                       | Jan. 23, 1949  | 17.33              | 7,820           | 1958          | June 30, 1957  | 20.88              | 12,900          |
|                            | Mar. 26, 1949  | 15.43              | 5,800           |               | June 15, 1958  | 17.27              | 7,790           |
|                            | June 2, 1949   | 17.89              | 8,550           | July 20, 1958 | 18.98          | 10,000             |                 |
|                            | Sept. 13, 1949 | 19.98              | 11,500          | July 31, 1958 | 18.60          | 9,470              |                 |
| 1950                       | Oct. 21, 1949  | 18.50              | 9,330           | 1959          | Sept. 2, 1958  | 19.55              | 10,900          |
|                            | Dec. 21, 1949  | 15.5               | 5,800           |               | Sept. 17, 1958 | 17.45              | 7,910           |
|                            | Jan. 3, 1950   | 14.8               | 5,100           | Feb. 10, 1959 | 19.60          | 10,900             |                 |
|                            | Jan. 13, 1950  | 17.1               | 7,580           | Mar. 9, 1959  | 16.28          | 6,590              |                 |
|                            | Mar. 11, 1950  | 15.0               | 5,280           | May 17, 1959  | 14.88          | 5,000              |                 |
|                            | June 3, 1950   | 17.7               | 8,300           |               |                |                    |                 |
| 1951                       | Feb. 20, 1951  | 18.0               | 8,680           | 1960          | Oct. 4, 1959   | 15.25              | 5,290           |
|                            | Mar. 17, 1951  | 19.6               | 10,900          |               | Oct. 11, 1959  | 18.99              | 10,000          |
|                            | Sept. 22, 1951 | 14.7               | 5,010           | Mar. 28, 1960 | 17.70          | 8,290              |                 |
| 1952                       | Mar. 18, 1952  | 14.78              | 5,100           | 1961          | May 6, 1961    | 18.35              | 9,200           |
|                            | Apr. 12, 1952  | 14.66              | 5,010           |               | May 8, 1961    | 17.60              | 8,160           |
| 1953                       | May 5, 1953    | 14.45              | 4,770           | 1962          | Mar. 21, 1962  | 19.90              | 11,400          |
| 1954                       | June 8, 1954   | 8.65               | 1,750           | 1963          | May 16, 1963   | 8.95               | 1,850           |
| 1955                       | Apr. 5, 1955   | 14.04              | 4,220           | 1964          | May 28, 1964   | 13.90              | 4,420           |
| 1956                       | Oct. 5, 1955   | 16.40              | 6,710           | 1965          | Apr. 6, 1965   | 15.27              | 5,580           |
|                            | Oct. 6, 1955   | 16.04              | 6,230           |               | Sept. 16, 1965 | 15.32              | 5,580           |
|                            | July 3, 1956   | 15.74              | 5,870           |               | Sept. 22, 1965 | 18.45              | 9,200           |
|                            | July 4, 1956   | 16.28              | 6,590           |               |                |                    |                 |

## LITTLE BERGER CREEK BASIN

6-9357. Little Berger Creek tributary near Hermann, Mo.

Location--Lat 38°40'10", long 91°22'25", in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.9, T.45 N., R.4 W., on right bank just upstream from culvert under State Highway 100, 4 miles southeast of Hermann.

Drainage area--0.25 sq mi. Slope--178 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined by indirect measurements at 194, 302, and 576 cfs.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | Apr. 11, 1955 | 16.95              | 194             |            |      |                    |                 |
| 1956                       | Feb. 24, 1956 | 14.70              | a85             |            |      |                    |                 |
| 1957                       | June 29, 1957 | 22.31              | 576             |            |      |                    |                 |
| 1958                       | Aug. 9, 1958  | 18.15              | 300             |            |      |                    |                 |
| 1959                       | June 15, 1959 | 18.82              | 340             |            |      |                    |                 |
| 1960                       | -             | (b)                | (c)             |            |      |                    |                 |
| 1961                       | May 7, 1961   | 14.68              | a85             |            |      |                    |                 |
| 1962                       | June 7, 1962  | 13.84              | a47             |            |      |                    |                 |
| 1963                       | Aug. 19, 1963 | 13.14              | a23             |            |      |                    |                 |
| 1964                       | -             | (b)                | (c)             |            |      |                    |                 |
| 1965                       | Apr. 15, 1965 | 14.33              | 67              |            |      |                    |                 |

a Revised.

b Stage did not reach gage during year.

c Less than 50 cfs.

## BONHOMME CREEK BASIN

6-9358. Shotwell Creek near Ellisville, Mo.

Location--Lat 38°37'05", long 90°35'00", in NW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.28, T.45 N., R.4 E., on left bank just upstream from culvert on State Highway 340, 1.8 miles north of Jct. 340 and 100, and 1 mile north of Jct. 340 and County Route HH.

Drainage area--0.81 sq mi. Slope--79.5 ft per mi.

Gage--Crest-stage gage; supplemental recording gage installed July 10, 1962.

Stage-discharge relation--Defined at 346, 620, and 718 cfs by indirect measurements. Defined below 42 cfs by current-meter measurements.

Remarks--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1960                       | June 29, 1960 | 18.94              | 620             |            |      |                    |                 |
| 1961                       | May 7, 1961   | 20.69              | 718             |            |      |                    |                 |
| 1962                       | Apr. 30, 1962 | 19.11              | 640             |            |      |                    |                 |
| 1963                       | July 5, 1963  | 18.41              | 550             |            |      |                    |                 |
| 1964                       | July 11, 1964 | 19.80              | 670             |            |      |                    |                 |
| 1965                       | Nov. 27, 1964 | 14.95              | 185             |            |      |                    |                 |

## COLDWATER CREEK BASIN

6-9365. Coldwater Creek near St. Louis, Mo.

Location--Lat 38°48'50", long 90°13'50", in sec.16, T.47 N., R.7 E., on right wingwall on downstream side of U. S. Highway 67 bridge, 1.7 miles upstream from Missouri River, 1.8 miles southeast of Lewis Bridge, 3.5 miles south of West Alton, and 6 miles north of St. Louis city limits.

Drainage area--43.6 sq mi. Slope--7.70 ft per mi.

Gage--Recording gage installed Sept. 22, 1959, removed July 20, 1961; reinstalled July 13, 1962.

Stage-discharge relation--Defined by current-meter measurements.

Remarks--Base for partial-duration series, 3,000 cfs.

| Water year | Date              | Peak stages and discharges |                 | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|----------------------------|-----------------|------------|------|--------------------|-----------------|
|            |                   | Gage height (feet)         | Discharge (cfs) |            |      |                    |                 |
| 1960       | May 24, 1960      | 12.43                      | 3,550           |            |      |                    |                 |
|            | June 29, 1960     | 17.13                      | 6,170           |            |      |                    |                 |
|            | July 1, 1960      | 12.03                      | 3,350           |            |      |                    |                 |
| 1961       | June 30, 1961     | 12.93                      | 3,850           |            |      |                    |                 |
| 1962       | Record incomplete |                            |                 |            |      |                    |                 |
| 1963       | May 16, 1963      | 9.88                       | 2,380           |            |      |                    |                 |
| 1964       | July 11, 1964     | 11.57                      | 3,200           |            |      |                    |                 |
| 1965       | July 7, 1965      | 10.81                      | 2,800           |            |      |                    |                 |

## MISSISSIPPI RIVER MAIN STEM

7-0100. Mississippi River at St. Louis, Mo.

Location.--Lat 38°37'44", long 90°10'47", on downstream side of center pier of Eads Bridge at St. Louis, 15 miles downstream from Missouri River, 19.2 miles upstream from Meramec River, and at mile 180.0 above Ohio River.

Drainage area.--701,000 sq mi, approximately.

Gage.--Nonrecording Corps of Engineers gages prior to May 5, 1934; recording thereafter. Prior to 1934, at site 0.4 mile downstream at present datum. Datum of gage is 379.94 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Continually shifting, defined by frequent current-meter measurements.

Bankfull stage.--30 ft.

Historical data.--Flood in April 1785 may have reached a stage of 42.0 ft.

Remarks.--Records prior to January 1928 furnished by Corps of Engineers; January 1928 to March 1933 furnished by Mississippi River Commission. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin and by many reservoirs and diversions for irrigation in Missouri River basin. Discharges prior to the 1933 water year are maximum daily discharges. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date                  | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|-----------------------|--------------------|-----------------|
| 1844       | June 27, 1844     | 41.32              | a1,300,000      | 1911       | Feb. 23, 1911         | 19.90              | 283,000         |
| 1861       | May 15, 1861      | 25.47              | 466,000         | 1912       | Apr. 5, 6, 1912       | b30.80             | 640,800         |
| 1862       | Apr. 26, 1862     | 31.45              | 712,200         | 1913       | Apr. 16, 17, 1913     | 27.20              | 487,000         |
| 1863       | Mar. 4, 9, 1863   | 18.02              | 252,000         | 1914       | June 21, 1914         | 20.40              | 293,800         |
| 1864       | May 14, 1864      | 20.33              | 309,500         | 1915       | June 24, 1915         | 31.60              | 678,200         |
| 1865       | July 28, 1865     | 26.81              | 512,800         | 1916       | Jan. 31, Feb. 1, 1916 | 31.40              | 676,100         |
| 1866       | Apr. 25, 1866     | 26.77              | 512,800         | 1917       | June 14, 1917         | 32.90              | 743,400         |
| 1867       | May 1, 1867       | 28.21              | 568,400         | 1918       | June 12, 1918         | 20.80              | 324,100         |
| 1868       | May 14, 15, 1868  | 24.19              | 420,800         | 1919       | May 11, 1919          | 26.90              | 514,700         |
| 1869       | July 24, 1869     | 29.31              | 615,200         | 1920       | Apr. 24, May 22, 1920 | 28.0               | 554,000         |
| 1870       | Apr. 16, 1870     | 26.21              | 491,200         | 1921       | May 14, 1921          | 23.0               | 397,000         |
| 1871       | Mar. 17, 1871     | 21.82              | 347,800         | 1922       | Apr. 20, 1922         | 33.95              | 785,900         |
| 1872       | June 12, 14, 1872 | 23.00              | 383,000         | 1923       | June 17, 1923         | 20.7               | 341,200         |
| 1873       | Apr. 11, 1873     | 25.45              | 462,400         | 1924       | July 2, 3, 1924       | 26.3               | 494,900         |
| 1874       | June 19, 20, 1874 | 18.40              | 261,200         | 1925       | June 25, 1925         | 19.9               | 325,800         |
| 1875       | Aug. 3, 1875      | 29.80              | 637,200         | 1926       | Sept. 29, 1926        | 24.5               | 438,000         |
| 1876       | May 10, 12, 1876  | b32.00             | 741,000         | 1927       | Apr. 26, 1927         | 36.1               | 889,300         |
| 1877       | June 14, 1877     | 26.60              | 505,600         | 1928       | June 22, 1928         | 27.6               | 552,000         |
| 1878       | June 15, 1878     | 25.75              | 476,800         | 1929       | Apr. 25, 1929         | b34.6              | 739,000         |
| 1879       | July 3, 1879      | 21.15              | 332,200         | 1930       | June 21, 1930         | 19.6               | 310,000         |
| 1880       | July 12, 1880     | 25.50              | 466,000         | 1931       | June 15, 1931         | 13.3               | 200,000         |
| 1881       | May 5, 6, 1881    | b33.65             | 822,000         | 1932       | Dec. 1, 1931          | 22.11              | 356,000         |
| 1882       | July 5, 1882      | 32.39              | 739,200         | 1933       | May 17, 1933          | 27.0               | 434,000         |
| 1883       | June 25, 26, 1883 | b34.80             | 862,800         | 1934       | Apr. 24, 1934         | 9.0                | 136,000         |
| 1884       | Apr. 9, 10, 1884  | 28.10              | 543,600         | 1935       | June 7, 1935          | b33.52             | 649,000         |
| 1885       | June 17, 1885     | 27.10              | 503,500         | 1936       | Mar. 1, 1936          | 21.18              | 336,000         |
| 1886       | May 13, 1886      | 27.00              | 499,500         | 1937       | May 5, 1937           | 23.76              | 374,000         |
| 1887       | Apr. 3, 1887      | 20.65              | 307,600         | 1938       | May 27, 1938          | 26.57              | 434,000         |
| 1888       | June 4, 1888      | 29.38              | 598,600         | 1939       | Apr. 20, 1939         | 30.13              | 529,000         |
| 1889       | June 1, 1889      | 24.62              | 416,200         | 1940       | June 14, 1940         | 13.37              | 188,000         |
| 1890       | July 1, 1890      | 20.60              | 307,600         | 1941       | Apr. 22, 1941         | 26.15              | 451,000         |
| 1891       | July 4, 1891      | 23.7               | 388,300         | 1942       | June 30, 1942         | 34.48              | 666,000         |
| 1892       | May 19, 1892      | 36.0               | 926,500         | 1943       | May 24, 1943          | 38.94              | 840,000         |
| 1893       | May 3, 1893       | 31.60              | 700,000         | 1944       | Apr. 30, 1944         | 39.14              | 844,000         |
| 1894       | May 11, 1894      | 23.4               | 379,600         | 1945       | Apr. 21-23, 1945      | c35.30             | 610,000         |
| 1895       | July 8, 1895      | 17.0               | 229,000         | 1946       | Jan. 13, 1946         | 28.00              | 502,000         |
| 1896       | May 26, 28, 1896  | 27.70              | 507,000         | 1947       | July 1, 2, 1947       | 40.26              | 783,000         |
| 1897       | May 2, 1897       | 30.9               | 645,400         | 1948       | Mar. 27, 1948         | 34.63              | 633,000         |
| 1898       | May 23, 1898      | 27.20              | 487,000         | 1949       | Mar. 11, 1949         | 24.41              | 425,000         |
| 1899       | Apr. 27, 1899     | 25.68              | 432,400         | 1950       | May 14, 1950          | 27.02              | 466,000         |
| 1900       | Mar. 16, 1900     | 23.53              | 366,500         | 1951       | July 21, 1951         | b40.28             | 782,000         |
| 1901       | Apr. 18, 1901     | 22.58              | 343,400         | 1952       | Apr. 29, 30, 1952     | b33.83             | 684,000         |
| 1902       | July 26, 1902     | 26.89              | 475,300         | 1953       | Apr. 4, 1953          | 22.57              | 369,000         |
| 1903       | June 10, 11, 1903 | b38.00             | 1,019,000       | 1954       | June 6, 1954          | 18.65              | 292,000         |
| 1904       | Apr. 29, 1904     | 33.60              | 777,600         | 1955       | Feb. 23, 1955         | 18.62              | 312,000         |
| 1905       | Sept. 21, 1905    | 30.20              | 613,200         | 1956       | Oct. 8, 1955          | 14.68              | 230,000         |
| 1906       | Apr. 15, 1906     | 26.20              | 449,400         | 1957       | May 27, 1957          | 22.91              | 342,000         |
| 1907       | July 25, 26, 1907 | 28.00              | a519,000        | 1958       | July 24, 1958         | 29.40              | 504,000         |
| 1908       | June 20, 1908     | 34.95              | 850,000         | 1959       | June 4, 1959          | 23.35              | 366,000         |
| 1909       | July 15, 16, 1909 | 35.25              | a860,600        | 1960       | Apr. 10, 1960         | 33.78              | 670,000         |
| 1910       | Jan. 13, 1910     | 25.2               | 416,400         | 1961       | May 11, 1961          | 33.20              | 588,000         |

## MISSISSIPPI RIVER MAIN STEM

## Peak stages and discharges of Mississippi River at St. Louis, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1962       | Mar. 25, 1962  | 30.18              | 591,000         |            |      |                    |                 |
| 1963       | Mar. 7, 1963   | 18.35              | 309,000         |            |      |                    |                 |
| 1964       | Apr. 24, 1964  | 18.96              | 309,000         |            |      |                    |                 |
| 1965       | Sept. 28, 1965 | 30.44              | 552,000         |            |      |                    |                 |

- a Computed by Corps of Engineers.  
 b Occurred at different time than peak discharge.  
 c Occurred June 13, 1945

## MERAMEC RIVER BASIN

7-0112. Love Creek near Salem, Mo.

Location--Lat 37°38'10", long 91°33'35", in W $\frac{1}{2}$ NE $\frac{1}{4}$  sec.23, T.34 N., R.6 W., on left bank just upstream from culvert under State Highways 32 and 72 and half a mile west of Salem.

Drainage area--0.89 sq mi. Slope--106 ft per mi.

Gage--Crest-stage gage; supplemental recording gage installed July 13, 1959, and removed April 14, 1964.

Stage-discharge relation--Defined at 51, 144, and 262 cfs by indirect measurement. Defined below 20 cfs by current-meter measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | May 27, 1955  | 4.05               | 65              |            |      |                    |                 |
| 1956       | Apr. 28, 1956 | 5.15               | 144             |            |      |                    |                 |
| 1957       | May 18, 1957  | 4.49               | 94              |            |      |                    |                 |
| 1958       | Dec. 16, 1957 | 4.17               | 73              |            |      |                    |                 |
| 1959       |               | (a)                | (b)             |            |      |                    |                 |
| 1960       | Dec. 27, 1959 | 6.25               | 262             |            |      |                    |                 |
| 1961       | May 8, 1961   | 4.72               | 108             |            |      |                    |                 |
| 1962       | June 7, 1962  | 5.02               | 130             |            |      |                    |                 |
| 1963       | May 25, 1963  | 4.91               | 128             |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 4.40               | 85              |            |      |                    |                 |
| 1965       | Apr. 5, 1965  | 4.45               | 90              |            |      |                    |                 |

- a Stage below bottom of gage.  
 b Less than 40 cfs.

## MERAMEC RIVER BASIN

7-0113. Ragan Branch near Rolla, Mo.  
(Published as "Lenox Branch" prior to 1964)

Location.--Lat 37°49'05", long 91°41'45", in NE¼NE¼ sec.28, T.36 N., R.7 W., on left downstream wingwall of bridge on State Highway 72, 3 miles northwest of Lake Spring and 9 miles southeast of Rolla.

Drainage area.--6.58 sq mi. (Revised). Slope.--45.5 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined below 790 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown. Formerly published as "Lenox Branch".

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1949       | July 19, 1949 | 3.94               | 1,600           |            |      |                    |                 |
| 1950       | June 9, 1950  | 5.31               | 4,200           |            |      |                    |                 |
| 1951       | Aug. 9, 1951  | 2.88               | 580             |            |      |                    |                 |
| 1952       | Nov. 15, 1951 | 1.90               | 170             |            |      |                    |                 |
| 1953       | No record     |                    |                 |            |      |                    |                 |
| 1954       | May 2, 1954   | 1.64               | 120             |            |      |                    |                 |
| 1955       | July 7, 1955  | 3.94               | 1,600           |            |      |                    |                 |
| 1956       | May 30, 1956  | 4.23               | 2,000           |            |      |                    |                 |
| 1957       | No record     |                    |                 |            |      |                    |                 |
| 1958       | July 17, 1958 | 6.90               | 10,000          |            |      |                    |                 |
| 1959       | (a)           |                    | (b)             |            |      |                    |                 |
| 1960       | Dec. 17, 1959 | 3.06               | 710             |            |      |                    |                 |
| 1961       | May 6, 1961   | 3.61               | 1,200           |            |      |                    |                 |
| 1962       | Mar. 20, 1962 | 2.10               | 230             |            |      |                    |                 |
| 1963       | Mar. 30, 1963 | 2.69               | 470             |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 3.01               | 660             |            |      |                    |                 |
| 1965       | Apr. 6, 1965  | 2.05               | 210             |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge not determined.

## MERAMEC RIVER BASIN

7-0115. Green Acre Branch near Rolla, Mo.

Location--Lat 37°54'50", long 91°43'35", in NW¼SW¼ sec.20, T.37 N., R.7 W., on left bank 35 ft upstream from double concrete-box culvert under State Highway 72, 0.4 mile upstream from mouth, and 3 miles southeast of Rolla.

Drainage area--0.622 sq mi. Slope--87 ft per mi.

Gage--Recording gage and concrete control. Datum of gage is 958.82 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 290 cfs, and by slope-area measurements at 426 and 1,900 cfs.

Bankfull stage--3 ft.

Remarks--Base for partial-duration series, 50 cfs.

## Peak stages and discharges

| Water year     | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date           | Gage height (feet) | Discharge (cfs) |     |
|----------------|----------------|--------------------|-----------------|----------------|----------------|--------------------|-----------------|-----|
| 1949           | Jan. 23, 1949  | 2.02               | 53              | 1958           | June 10, 1958  | 3.54               | 293             |     |
|                | Feb. 3, 1949   | 1.98               | 50              |                | July 16, 1958  | 2.80               | 140             |     |
|                | Feb. 14, 1949  | 2.48               | 99              |                | July 17, 1958  | 4.22               | 513             |     |
|                | July 16, 1949  | 3.23               | 210             |                | July 30, 1958  | 2.83               | 144             |     |
|                | Sept. 12, 1949 | 2.28               | 76              |                | July 31, 1958  | 2.69               | 125             |     |
|                | Sept. 18, 1949 | 2.24               | 72              |                | Aug. 1, 1958   | 2.61               | 114             |     |
| 1950           | Oct. 5, 1949   | 2.27               | 76              | 1959           | Apr. 18, 1959  | 2.68               | 123             |     |
|                | Oct. 11, 1949  | 3.06               | 183             |                | Apr. 19, 1959  | 3.05               | 182             |     |
|                | Oct. 20, 1949  | 2.44               | 94              |                | May 21, 1959   | 2.64               | 118             |     |
|                | Oct. 21, 1949  | 2.62               | 116             | 1960           | Dec. 17, 1959  | 2.70               | 126             |     |
|                | Jan. 2, 1950   | 2.12               | 61              |                | May 6, 1960    | 2.98               | 169             |     |
|                | Jan. 3, 1950   | 3.22               | 215             |                | 1961           | May 5, 1961        | 3.89            | 396 |
|                | Jan. 13, 1950  | 2.96               | 165             | May 6, 1961    |                | 3.33               | 240             |     |
|                | Feb. 12, 1950  | 2.06               | 56              | June 8, 1961   |                | 3.84               | 380             |     |
|                | Apr. 3, 1950   | 2.67               | 122             | 1962           | June 7, 1962   | 3.47               | 275             |     |
|                | May 19, 1950   | 2.86               | 149             |                | Sept. 24, 1962 | 2.56               | 108             |     |
|                | May 29, 1950   | 3.98               | 426             |                | 1951           | Nov. 7, 1950       | 2.04            | 55  |
|                | June 9, 1950   | 6.85               | 1,900           | May 22, 1950   |                | 2.64               | 118             |     |
|                | Aug. 13, 1950  | 2.12               | 61              | June 12, 1951  |                | 2.40               | 90              |     |
| Aug. 28, 1950  | 2.07           | 57                 | June 30, 1951   | 3.65           |                | 323                |                 |     |
| 1951           | Nov. 7, 1950   | 2.04               | 55              | July 9, 1951   |                | 2.95               | 164             |     |
|                | May 22, 1950   | 2.64               | 118             | July 12, 1951  |                | 2.92               | 158             |     |
|                | June 12, 1951  | 2.40               | 90              | Aug. 9, 1951   |                | 3.94               | 413             |     |
|                | June 30, 1951  | 3.65               | 323             | 1952           | Mar. 10, 1952  | 1.94               | 46.9            |     |
|                | July 9, 1951   | 2.95               | 164             |                | 1953           | Apr. 23, 1953      | 4.39            | 577 |
| July 12, 1951  | 2.92           | 158                | June 26, 1953   |                |                | 2.18               | 67              |     |
| Aug. 9, 1951   | 3.94           | 413                | 1954            |                | May 22, 1954   | 2.97               | 167             |     |
| 1952           | Mar. 10, 1952  | 1.94               |                 |                | 46.9           | May 28, 1954       | 2.49            | 100 |
|                | Apr. 23, 1953  | 4.39               |                 | 577            | May 31, 1954   | 2.30               | 78              |     |
|                | June 26, 1953  | 2.18               |                 | 67             | June 2, 1954   | 3.36               | 247             |     |
|                | 1954           | May 22, 1954       |                 | 2.97           | 167            | June 9, 1954       | 4.96            | 821 |
|                |                | May 28, 1954       |                 | 2.49           | 100            | July 24, 1954      | 2.83            | 144 |
|                |                | May 31, 1954       |                 | 2.30           | 78             | Aug. 7, 1954       | 2.22            | 70  |
|                |                | June 2, 1954       | 3.36            | 247            | 1955           | Oct. 11, 1954      | 3.06            | 183 |
| June 9, 1954   |                | 4.96               | 821             | Mar. 15, 1955  |                | 2.81               | 142             |     |
| July 24, 1954  | 2.83           | 144                | Mar. 20, 1955   | 2.59           |                | 112                |                 |     |
| Aug. 7, 1954   | 2.22           | 70                 | May 12, 1955    | 3.70           |                | 337                |                 |     |
| 1955           | Oct. 11, 1954  | 3.06               | 183             | May 28, 1955   |                | 2.51               | 102             |     |
|                | Mar. 15, 1955  | 2.81               | 142             | June 5, 1955   |                | 2.24               | 72              |     |
|                | Mar. 20, 1955  | 2.59               | 112             | Sept. 22, 1955 | 2.93           | 160                |                 |     |
|                | May 12, 1955   | 3.70               | 337             | 1956           | May 26, 1956   | 3.19               | 209             |     |
|                | May 28, 1955   | 2.51               | 102             |                | May 30, 1956   | 4.03               | 444             |     |
|                | June 5, 1955   | 2.24               | 72              |                | June 24, 1956  | 3.02               | 176             |     |
| Sept. 22, 1955 | 2.93           | 160                | July 5, 1956    |                | 3.72           | 343                |                 |     |
| 1956           | May 26, 1956   | 3.19               | 209             | 1957           | May 17, 1957   | 3.18               | 207             |     |
|                | May 30, 1956   | 4.03               | 444             |                | May 21, 1957   | 3.44               | 267             |     |
|                | June 24, 1956  | 3.02               | 176             |                | May 22, 1957   | 3.18               | 207             |     |
|                | July 5, 1956   | 3.72               | 343             |                | May 25, 1957   | 3.59               | 306             |     |
| 1957           | May 17, 1957   | 3.18               | 207             |                | May 29, 1957   | 2.87               | 150             |     |
|                | May 21, 1957   | 3.44               | 267             |                | May 31, 1957   | 2.85               | 148             |     |
|                | May 22, 1957   | 3.18               | 207             |                | June 24, 1957  | 2.95               | 164             |     |
|                | May 25, 1957   | 3.59               | 306             |                | July 27, 1957  | 2.98               | 169             |     |
|                | May 29, 1957   | 2.87               | 150             | Aug. 16, 1957  | 2.6            | 113                |                 |     |
|                | May 31, 1957   | 2.85               | 148             |                |                |                    |                 |     |
|                | June 24, 1957  | 2.95               | 164             |                |                |                    |                 |     |
|                | July 27, 1957  | 2.98               | 169             |                |                |                    |                 |     |
| Aug. 16, 1957  | 2.6            | 113                |                 |                |                |                    |                 |     |

## MERAMEC RIVER BASIN

7-0120. Behmke Branch near Rolla, Mo.

Location--Lat 37°56'05", long 91°42'35", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.17, T.37 N., R.7 W., on right bank 300 ft upstream from county highway bridge, a quarter of a mile upstream from mouth, and 3 $\frac{1}{2}$  miles southeast of Rolla.

Drainage area--1.05 sq mi. Slope--77 ft per mi.

Gage--Recording prior to Oct. 1, 1958; crest-stage gage thereafter. Datum of gage is 928.73 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 250 cfs and by slope-area measurements at 389 and 1,190 cfs.

Bankfull stage--3 ft.

Remarks--Base for partial-duration series, 90 cfs. Only annual peaks are shown subsequent to 1958.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |  |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|--|
| 1949       | Feb. 14, 1949  | 1.95               | 182             | 1963       | Mar. 30, 1963  | 2.42               | 464             |  |
|            | July 16, 1949  | 1.80               | 119             |            |                |                    |                 |  |
| 1950       | Oct. 5, 1949   | 1.75               | 104             | 1964       | June 13, 1964  | 2.32               | 396             |  |
|            | Oct. 11, 1949  | 2.18               | 304             |            |                |                    |                 |  |
|            | Oct. 21, 1949  | 1.93               | 173             | 1965       | Sept. 14, 1965 | 2.19               | 310             |  |
|            | Jan. 3, 1950   | 2.22               | 229             |            |                |                    |                 |  |
|            | Jan. 13, 1950  | 2.08               | 248             |            |                |                    |                 |  |
|            | Apr. 3, 1950   | 1.83               | 131             |            |                |                    |                 |  |
|            | May 19, 1950   | 2.10               | 258             |            |                |                    |                 |  |
|            | May 29, 1950   | 2.31               | 389             |            |                |                    |                 |  |
|            | June 9, 1950   | 3.36               | 1,190           |            |                |                    |                 |  |
|            | Aug. 14, 1950  | 2.08               | 248             |            |                |                    |                 |  |
| 1951       | May 22, 1951   | 1.72               | 94              |            |                |                    |                 |  |
|            | June 30, 1951  | 2.16               | 293             |            |                |                    |                 |  |
|            | July 9, 1951   | 2.02               | 216             |            |                |                    |                 |  |
|            | July 12, 1951  | 2.04               | 227             |            |                |                    |                 |  |
|            | Aug. 9, 1951   | 2.28               | 369             |            |                |                    |                 |  |
| 1952       | Mar. 10, 1952  | 1.70               | 88              |            |                |                    |                 |  |
| 1953       | Apr. 23, 1953  | 2.11               | 264             |            |                |                    |                 |  |
| 1954       | June 2, 1954   | 2.12               | 270             |            |                |                    |                 |  |
|            | June 9, 1954   | 2.94               | 847             |            |                |                    |                 |  |
| 1955       | Oct. 11, 1954  | 2.11               | 264             |            |                |                    |                 |  |
|            | Feb. 19, 1955  | 1.72               | 94              |            |                |                    |                 |  |
|            | Mar. 15, 1955  | 2.03               | 222             |            |                |                    |                 |  |
|            | Mar. 20, 1955  | 1.99               | 201             |            |                |                    |                 |  |
|            | May 12, 1955   | 2.31               | 389             |            |                |                    |                 |  |
|            | May 28, 1955   | 1.92               | 168             |            |                |                    |                 |  |
|            | June 5, 1955   | 1.87               | 147             |            |                |                    |                 |  |
|            | June 11, 1955  | 1.94               | 178             |            |                |                    |                 |  |
|            | July 7, 1955   | 1.92               | 168             |            |                |                    |                 |  |
|            | Sept. 22, 1955 | 2.10               | 258             |            |                |                    |                 |  |
| 1956       | May 26, 1956   | 2.13               | 275             |            |                |                    |                 |  |
|            | May 30, 1956   | 2.28               | 369             |            |                |                    |                 |  |
|            | June 24, 1956  | 2.24               | 342             |            |                |                    |                 |  |
|            | July 3, 1956   | 2.22               | 329             |            |                |                    |                 |  |
| 1957       | May 17, 1957   | 2.20               | 316             |            |                |                    |                 |  |
|            | May 21, 1957   | 2.24               | 342             |            |                |                    |                 |  |
|            | May 22, 1957   | 2.15               | 287             |            |                |                    |                 |  |
|            | May 25, 1957   | 2.16               | 293             |            |                |                    |                 |  |
|            | May 29, 1957   | 2.08               | 248             |            |                |                    |                 |  |
|            | May 31, 1957   | 2.03               | 222             |            |                |                    |                 |  |
|            | June 29, 1957  | 2.01               | 211             |            |                |                    |                 |  |
| 1958       | June 10, 1958  | 2.29               | 375             |            |                |                    |                 |  |
|            | July 16, 1958  | 2.00               | 206             |            |                |                    |                 |  |
|            | July 17, 1958  | 2.94               | 847             |            |                |                    |                 |  |
|            | July 30, 1958  | 1.92               | 168             |            |                |                    |                 |  |
|            | July 31, 1958  | 1.92               | 168             |            |                |                    |                 |  |
| 1959       | May 17, 1959   | -                  | 200             |            |                |                    |                 |  |
|            | May 21, 1959   | 2.31               | 389             |            |                |                    |                 |  |
|            | May 22, 1959   | 1.92               | 168             |            |                |                    |                 |  |
| 1960       | Dec. 17, 1959  | 2.10               | 258             |            |                |                    |                 |  |
| 1961       | May 6, 1961    | 2.58               | 576             |            |                |                    |                 |  |
| 1962       | June 7, 1962   | 2.38               | 436             |            |                |                    |                 |  |

## MERAMEC RIVER BASIN

7-0120.5. Dry Fork near St. James, Mo.

Location--Lat 37°57'55", long 91°34'55", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.34, T.38 N., R.6 W., on upstream side of bridge on State Highway 68, 2 miles southeast of St. James and 5.5 miles upstream from Meramec River.

Drainage area--370 sq mi. Slope--5.60 ft per mi.

Gage--Nonrecording. Prior to Dec. 9, 1948, at site 300 ft upstream at same datum. Datum of gage is 787.24 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation--Defined by current-meter measurements below 18,000 cfs and extended above by logarithmic plotting.

Bankfull stage--15 ft.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water years | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|-------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1944        | May 9, 1944   | 11.55              | 3,890           |            |      |                    |                 |
| 1945        | June 8, 1945  | 19.37              | 18,800          |            |      |                    |                 |
| 1946        | Aug. 15, 1946 | 21.7               | 28,000          |            |      |                    |                 |
| 1947        | Apr. 25, 1947 | 17.14              | 12,200          |            |      |                    |                 |
| 1948        | July 7, 1948  | 16.1               | 10,600          |            |      |                    |                 |
| 1949        | Feb. 15, 1949 | 13.0               | 6,300           |            |      |                    |                 |
| 1950        | Jan. 3, 1950  | 17.0               | 12,300          |            |      |                    |                 |

| Year | Water          | Gage   | Year | Water         | Gage   |
|------|----------------|--------|------|---------------|--------|
| year | height         | Date   | Year | Discharge     | height |
|      | (feet)         |        |      | (cfs)         | (feet) |
| 1915 | Aug. 20, 1915  | 26.5   | 1937 | May 3, 1937   | 14.15  |
| 1917 | Apr. 8, 1917   | 6.65   | 1938 | Feb. 18, 1938 | 13.84  |
| 1918 | Apr. 25, 1918  | 18.7   | 1939 | Mar. 11, 1939 | 10.94  |
| 1918 | Apr. 28, 1918  | 10.7   | 1940 | May 2, 1940   | 10.53  |
| 1919 | June 4, 1919   | 10.9   | 1941 | Apr. 20, 1941 | 16.92  |
| 1920 | Oct. 27, 1919  | 24.1   | 1942 | June 14, 1942 | 14.28  |
| 1920 | Nov. 1, 1919   | 11.5   | 1942 | June 21, 1942 | 13.04  |
| 1920 | Mar. 26, 1920  | 15.9   | 1942 | June 26, 1942 | 11.19  |
| 1921 | Apr. 23, 1921  | 11.8   | 1943 | Dec. 28, 1942 | 22.00  |
| 1921 | Apr. 28, 1921  | 16.7   | 1943 | May 12, 1943  | 14.64  |
| 1921 | Apr. 26, 1921  | 15.6   | 1943 | May 20, 1943  | 17.56  |
| 1922 | Nov. 19, 1921  | 14.4   | 1944 | May 10, 1944  | 10.02  |
| 1922 | Nov. 15, 1922  | 12.5   | 1945 | Mar. 3, 1945  | 13.23  |
| 1922 | Mar. 15, 1922  | 12.5   | 1945 | Mar. 7, 1945  | 15.47  |
| 1922 | Mar. 31, 1922  | 15.4   | 1945 | Mar. 31, 1945 | 14.70  |
| 1922 | Apr. 17, 1922  | 29,000 | 1945 | Apr. 3, 1945  | 13.47  |
| 1923 | Apr. 28, 1922  | 12.4   | 1945 | Apr. 15, 1945 | 21.96  |
| 1923 | June 16, 1923  | 12.26  | 1945 | Apr. 30, 1945 | 12.08  |
| 1924 | May 29, 1924   | 12.43  | 1946 | May 9, 1945   | 24.30  |
| 1924 | Aug. 19, 1924  | 12.40  | 1946 | June 9, 1946  | 17.10  |
| 1925 | Dec. 19, 1924  | 10.00  | 1946 | Feb. 14, 1946 | 20.300 |
| 1926 | Nov. 8, 1925   | 8.50   | 1947 | Aug. 15, 1946 | 19,500 |
| 1927 | Apr. 1, 1927   | 19.40  | 1948 | Nov. 11, 1946 | 14,200 |
| 1927 | Apr. 8, 1927   | 12.20  | 1948 | Apr. 25, 1947 | 30,100 |
| 1927 | Apr. 15, 1927  | 13.25  | 1948 | July 7, 1948  | 10,700 |
| 1927 | Apr. 15, 1927  | 14,800 | 1949 | Jan. 19, 1949 | 13.01  |
| 1928 | Dec. 14, 1927  | 10.96  | 1950 | Feb. 16, 1949 | 16.68  |
| 1928 | Apr. 6, 1928   | 15.97  | 1950 | Oct. 7, 1949  | 13.74  |
| 1928 | Apr. 10, 1928  | 17.90  | 1950 | Oct. 12, 1949 | 12,900 |
| 1929 | May 7, 1929    | 14.25  | 1951 | Oct. 22, 1949 | 11,900 |
| 1930 | Jan. 15, 1930  | 14.34  | 1951 | Jan. 4, 1950  | 24,900 |
| 1930 | Jan. 15, 1930  | 18,000 | 1951 | Jan. 14, 1950 | 14,600 |
| 1931 | June 10, 1931  | 3.53   | 1952 | Jan. 4, 1950  | 17,700 |
| 1932 | Jan. 23, 1932  | 4.00   | 1953 | Jan. 4, 1953  | 5,160  |
| 1933 | Apr. 16, 1933  | 15.60  | 1954 | May 4, 1953   | 8.39   |
| 1934 | Sept. 14, 1934 | 14.34  | 1955 | June 10, 1954 | 9.40   |
| 1935 | Mar. 12, 1935  | 19.53  | 1956 | Mar. 21, 1955 | 12.60  |
| 1936 | June 21, 1935  | 20.31  | 1957 | Apr. 5, 1957  | 13.12  |
|      | June 26, 1935  | 23.39  |      | Apr. 28, 1957 | 12.76  |
|      | Nov. 11, 1935  | 9.96   |      | May 18, 1957  | 12.70  |

Location.--Lat 37°59'55", Long 91°21'40", in NB½ sec. 21, T.38 N., R.4 W., on downstream side of first pier from left end of St. Louis-San Francisco Railway bridge, 400 ft upstream from highway bridge, 0.8 mile upstream from Whittenburg Creek, and ½ miles north of Steelville.

Drainage area.--781 sq mi. Slope.--6.29 ft per mi.

Gage.--Nonrecording prior to May 23, 1934; recording thereafter. Prior to Dec. 21, 1922, at site 1 mile upstream at datum 5.8 ft higher. Datum of present gage is 681.68 ft above mean sea level, datum of 1929. Peak gage heights for period prior to Dec. 21, 1922, computed from plotted U. S. Weather Bureau readings and transferred to present site by comparative gage readings.

Stage-discharge relation.--Defined by current-meter measurements below 46,000 cfs; shifts in relation occur.

Bankfull stage.--12 ft.

Remarks.--Base for partial-duration series, 9,200 cfs.

Peak stages and discharges

## MERAMEC RIVER BASIN

## Peak stages and discharges of Meramec River near Steelville, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | May 24, 1957  | 17.36              | 21,400          |            |      |                    |                 |
|            | May 26, 1957  | 12.62              | 11,300          |            |      |                    |                 |
| 1958       | Dec. 18, 1957 | 14.60              | 14,800          |            |      |                    |                 |
|            | Mar. 25, 1958 | 15.88              | 17,700          |            |      |                    |                 |
|            | July 17, 1958 | 13.37              | 12,600          |            |      |                    |                 |
| 1959       | May 22, 1959  | 6.03               | 3,250           |            |      |                    |                 |
| 1960       | Dec. 28, 1959 | 12.03              | 11,700          |            |      |                    |                 |
| 1961       | May 9, 1961   | 14.64              | 16,200          |            |      |                    |                 |
| 1962       | Mar. 21, 1962 | 13.76              | 14,600          |            |      |                    |                 |
| 1963       | May 27, 1963  | 11.82              | 11,200          |            |      |                    |                 |
| 1964       | Apr. 6, 1964  | 13.41              | 13,800          |            |      |                    |                 |
| 1965       | Apr. 7, 1965  | 11.69              | 11,000          |            |      |                    |                 |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0145. Meramec River near Sullivan, Mo.

Location--Lat 38°09'30", long 91°06'30", in SE¼NE¼ sec.35, T.40 N., R.2 W., on right bank at upstream side of Sappington Bridge, 3 3/4 miles downstream from Brazil Creek and 4 miles southeast of Sullivan.

Drainage area--1,475 sq mi. Slope--4.98 ft per mi.

Gage--Nonrecording prior to Oct. 20, 1952; recording thereafter. Datum of gage is 581.82 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation--Defined by current-meter measurements below 71,000 cfs; shifts in relation occur.

Bankfull stage--19 ft.

Remarks--Base for partial-duration series, 10,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1915       | August 1915   | 33.5               | 90,000          | 1947       | Nov. 10, 1946 | 16.00              | 16,500          |
|            |               |                    |                 |            | Apr. 26, 1947 | 24.80              | 40,500          |
| 1922       | Nov. 19, 1921 | 16.05              | 16,500          |            |               |                    |                 |
|            | Mar. 16, 1922 | 14.20              | 12,600          | 1948       | Jan. 2, 1948  | 14.60              | 13,200          |
|            | Mar. 31, 1922 | 16.60              | 18,000          |            | July 8, 1948  | 13.00              | 10,100          |
|            | Apr. 17, 1922 | 16.80              | 18,400          |            |               |                    |                 |
|            | Apr. 29, 1922 | 13.90              | 12,000          | 1949       | Jan. 19, 1949 | 15.60              | 15,300          |
|            |               |                    |                 |            | Jan. 25, 1949 | 15.30              | 14,700          |
| 1923       | Mar. 13, 1923 | 14.00              | 12,200          |            | Jan. 28, 1949 | 13.80              | 11,600          |
|            | Mar. 16, 1923 | 14.15              | 12,600          |            | Feb. 15, 1949 | 20.30              | 27,000          |
|            | May 17, 1923  | 13.80              | 11,800          |            | Mar. 19, 1949 | 13.30              | 10,600          |
|            | June 17, 1923 | 13.90              | 12,000          |            |               |                    |                 |
|            |               |                    |                 | 1950       | Oct. 7, 1949  | 15.05              | 14,000          |
| 1924       | Apr. 9, 1924  | 17.25              | 19,400          |            | Oct. 13, 1949 | 14.40              | 12,800          |
|            | May 30, 1924  | 17.10              | 19,200          |            | Oct. 23, 1949 | 16.54              | 17,400          |
|            |               |                    |                 |            | Dec. 22, 1949 | 13.63              | 11,200          |
| 1925       | Dec. 20, 1924 | 16.00              | 16,500          |            | Jan. 4, 1950  | 25.50              | 42,800          |
|            |               |                    |                 |            | Jan. 14, 1950 | 17.05              | 18,600          |
| 1926       | Nov. 8, 1925  | 14.60              | 13,400          |            | May 11, 1950  | 18.64              | 22,600          |
|            |               |                    |                 |            |               |                    |                 |
| 1927       | Mar. 20, 1927 | 13.70              | 11,600          | 1951       | Feb. 19, 1951 | 17.22              | 19,100          |
|            | Apr. 2, 1927  | 22.80              | 35,000          |            | Mar. 12, 1951 | 13.94              | 11,800          |
|            | Apr. 9, 1927  | 15.30              | 14,900          |            | July 2, 1951  | 16.73              | 17,900          |
|            | Apr. 16, 1927 | 18.80              | 23,700          |            | July 14, 1951 | 21.30              | 29,800          |
|            | May 26, 1927  | 21.90              | 32,400          |            |               |                    |                 |
|            | June 2, 1927  | 22.89              | 35,300          | 1952       | Apr. 5, 1952  | 13.90              | 11,800          |
|            | June 5, 1927  | 14.60              | 13,400          |            | Apr. 13, 1952 | 15.00              | 14,000          |
|            |               |                    |                 |            |               |                    |                 |
| 1928       | Nov. 8, 1927  | 15.20              | 14,700          | 1953       | Mar. 4, 1953  | 12.05              | 8,590           |
|            | Dec. 1, 1927  | 14.70              | 13,600          |            |               |                    |                 |
|            | Dec. 14, 1927 | 17.30              | 19,700          | 1954       | June 10, 1954 | 11.70              | 8,190           |
|            | Apr. 6, 1928  | 19.80              | 26,400          |            |               |                    |                 |
|            | Apr. 23, 1928 | 13.20              | 10,600          | 1955       | Feb. 21, 1955 | 13.14              | 11,200          |
|            | June 11, 1928 | 20.30              | 27,800          |            | Mar. 21, 1955 | 15.58              | 16,100          |
|            | June 14, 1928 | 14.30              | 12,800          |            |               |                    |                 |
|            | June 21, 1928 | 13.80              | 11,800          | 1956       | May 16, 1956  | 11.00              | 8,060           |
|            | June 29, 1928 | 13.60              | 11,400          |            |               |                    |                 |
|            |               |                    |                 | 1957       | Feb. 27, 1957 | 14.70              | 14,300          |
| 1929       | Apr. 10, 1929 | 16.50              | 17,700          |            | Mar. 25, 1957 | 13.58              | 12,100          |
|            | May 3, 1929   | 13.80              | 11,800          |            | Apr. 4, 1957  | 18.85              | 23,600          |
|            | May 7, 1929   | 18.20              | 22,000          |            | Apr. 22, 1957 | 17.22              | 19,800          |
|            | May 15, 1929  | 15.20              | 14,700          |            | Apr. 27, 1957 | 17.42              | 20,300          |
|            |               |                    |                 |            | May 18, 1957  | 17.22              | 19,800          |
| 1930       | Jan. 14, 1930 | 18.20              | 22,000          |            | May 23, 1957  | 21.73              | 31,200          |
|            | Feb. 27, 1930 | 16.70              | 18,200          |            | June 30, 1957 | 22.61              | 33,700          |
|            | Mar. 8, 1930  | 15.20              | 14,700          |            |               |                    |                 |
|            |               |                    |                 | 1958       | Dec. 18, 1957 | 16.95              | 19,400          |
| 1931       | Apr. 27, 1931 | 5.56               | 2,300           |            | Mar. 10, 1958 | 12.40              | 10,000          |
|            |               |                    |                 |            | Mar. 25, 1958 | 18.86              | 23,900          |
| 1932       | Nov. 20, 1931 | 7.75               | 3,800           |            | July 18, 1958 | 16.57              | 18,500          |
|            |               |                    |                 |            |               |                    |                 |
| 1933       | Apr. 16, 1933 | 19.60              | 25,900          | 1959       | Mar. 12, 1959 | 8.06               | 4,490           |
|            | May 14, 1933  | 22.00              | 32,700          |            |               |                    |                 |
|            |               |                    |                 | 1960       | Dec. 19, 1959 | 13.19              | 10,200          |
| 1944       | May 4, 1944   | 17.0               | 19,000          |            | Dec. 29, 1959 | 13.94              | 12,100          |
|            |               |                    |                 |            |               |                    |                 |
| 1945       | Mar. 3, 1945  | 15.80              | 16,000          | 1961       | Mar. 6, 1961  | 14.96              | 15,000          |
|            | Mar. 7, 1945  | 18.35              | 22,600          |            | May 9, 1961   | 22.43              | 33,200          |
|            | Mar. 31, 1945 | 21.30              | 30,700          |            |               |                    |                 |
|            | Apr. 3, 1945  | 17.40              | 20,000          | 1962       | Mar. 21, 1962 | 17.91              | 21,500          |
|            | Apr. 15, 1945 | 26.15              | 45,000          |            |               |                    |                 |
|            | Apr. 30, 1945 | 14.28              | 12,800          | 1963       | May 28, 1963  | 14.91              | 14,700          |
|            | June 9, 1945  | 32.00              | 77,300          |            |               |                    |                 |
|            |               |                    |                 | 1964       | Mar. 10, 1964 | 14.99              | 15,000          |
| 1946       | Feb. 14, 1946 | 19.08              | 23,900          |            | Apr. 6, 1964  | 16.17              | 17,600          |
|            | Aug. 16, 1946 | 16.40              | 17,500          |            |               |                    |                 |
|            |               |                    |                 | 1965       | Apr. 7, 1965  | 15.22              | 15,300          |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0150. Bourbeuse River near St. James, Mo.

Location.--Lat 38°02'00", long 91°38'45", in NW¼ sec.12, T.38 N., R.7 W., on left bank 735 ft upstream from bridge on State Highway 68 and 3 miles northwest of St. James.

Drainage area.--21.3 sq mi. Slope.--¾ ft per mi.

Gage.--Recording. Datum of gage is 899.46 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 6,200 cfs.

Bankfull stage.--8 ft.

Remarks.--Base for partial-duration series, 1,500 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1948       | June 20, 1948  | 8.80               | a4,100          | 1965       | Sept. 4, 1965  | 8.7                | 3,860           |
|            |                |                    |                 |            | Sept. 14, 1965 | 7.63               | 2,160           |
| 1949       | Feb. 14, 1949  | 8.35               | 3,260           |            |                |                    |                 |
|            | Aug. 19, 1949  | 7.76               | 2,300           |            |                |                    |                 |
|            | Sept. 12, 1949 | 9.28               | 4,890           |            |                |                    |                 |
|            | Sept. 12, 1949 | 9.01               | 4,370           |            |                |                    |                 |
| 1950       | Oct. 4, 1949   | 10.07              | 6,240           |            |                |                    |                 |
|            | Oct. 5, 1949   | 8.68               | 3,860           |            |                |                    |                 |
|            | Oct. 11, 1949  | 10.73              | 7,580           |            |                |                    |                 |
|            | Oct. 11, 1949  | 11.08              | 8,250           |            |                |                    |                 |
|            | Oct. 20, 1949  | 8.95               | 4,280           |            |                |                    |                 |
|            | Oct. 21, 1949  | 8.25               | 3,100           |            |                |                    |                 |
|            | Jan. 3, 1950   | 9.25               | 4,800           |            |                |                    |                 |
|            | Jan. 13, 1950  | 8.80               | 4,030           |            |                |                    |                 |
|            | Apr. 3, 1950   | 7.65               | 2,160           |            |                |                    |                 |
|            | Apr. 4, 1950   | 7.68               | 2,230           |            |                |                    |                 |
|            | May 10, 1950   | 7.61               | 2,080           |            |                |                    |                 |
|            | May 19, 1950   | 9.16               | 4,620           |            |                |                    |                 |
|            | May 29, 1950   | 8.40               | 3,350           |            |                |                    |                 |
| 1951       | Mar. 10, 1951  | 7.27               | 1,640           |            |                |                    |                 |
|            | Apr. 21, 1951  | 7.92               | 2,540           |            |                |                    |                 |
|            | June 30, 1951  | 8.37               | 3,260           |            |                |                    |                 |
|            | July 11, 1951  | 7.43               | 1,880           |            |                |                    |                 |
|            | Aug. 9, 1951   | 8.04               | 2,780           |            |                |                    |                 |
| 1952       | Dec. 14, 1951  | 7.53               | 2,020           |            |                |                    |                 |
| 1953       | Apr. 23, 1953  | 9.12               | 4,540           |            |                |                    |                 |
| 1954       | May 22, 1954   | 7.43               | 1,880           |            |                |                    |                 |
|            | June 9, 1954   | 9.82               | 5,790           |            |                |                    |                 |
| 1955       | Mar. 20, 1955  | 7.86               | 2,460           |            |                |                    |                 |
| 1956       | July 3, 1956   | 6.74               | 1,130           |            |                |                    |                 |
| 1957       | Mar. 24, 1957  | 8.15               | 2,940           |            |                |                    |                 |
|            | May 17, 1957   | 9.38               | 5,070           |            |                |                    |                 |
|            | May 18, 1957   | 9.23               | 4,800           |            |                |                    |                 |
|            | May 21, 1957   | 10.09              | 6,330           |            |                |                    |                 |
|            | May 22, 1957   | 8.50               | 3,520           |            |                |                    |                 |
|            | May 25, 1957   | 8.40               | 3,350           |            |                |                    |                 |
| 1958       | Dec. 16, 1957  | 8.12               | 2,860           |            |                |                    |                 |
|            | July 17, 1958  | 7.85               | 2,460           |            |                |                    |                 |
|            | July 31, 1958  | 8.39               | 3,350           |            |                |                    |                 |
|            | Aug. 1, 1958   | 7.67               | 2,160           |            |                |                    |                 |
| 1959       | May 17, 1959   | 7.72               | 2,230           |            |                |                    |                 |
|            | May 21, 1959   | 9.09               | 4,540           |            |                |                    |                 |
| 1960       | Dec. 17, 1959  | 8.20               | 3,020           |            |                |                    |                 |
|            | May 6, 1960    | 8.0                | 2,700           |            |                |                    |                 |
| 1961       | Mar. 7, 1961   | 7.21               | 1,580           |            |                |                    |                 |
|            | May 6, 1961    | 8.95               | 4,280           |            |                |                    |                 |
|            | May 8, 1961    | 7.80               | 2,380           |            |                |                    |                 |
| 1962       | Mar. 20, 1962  | 7.42               | 1,820           |            |                |                    |                 |
| 1963       | May 25, 1963   | 6.52               | 938             |            |                |                    |                 |
| 1964       | Apr. 5, 1964   | 8.59               | 3,690           |            |                |                    |                 |
|            | June 13, 1964  | 10.05              | 6,240           |            |                |                    |                 |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0155. Lanes Fork near Rolla, Mo.

Location--Lat 37°59'33", long 91°43'36", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.30, T.38 N., R.7 W., on left bank 100 ft upstream from farm road bridge, 300 ft west of Highway V, 1 mile north of U.S. Highway 66, and 4 $\frac{1}{2}$  miles northeast of Rolla.

Drainage area--0.22 sq mi. Slope--41.1 ft per mi.

Gage--Recording.

Stage-discharge relation--Defined below 125 cfs by current-meter measurements.

Remarks--Base for partial-duration series, 30 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1952       | Mar. 10, 1952  | 3.66               | 25.6            |            |      |                    |                 |
| 1953       | Apr. 23, 1953  | 4.94               | 136             |            |      |                    |                 |
| 1954       | June 7, 1954   | 3.96               | 37.1            |            |      |                    |                 |
|            | June 9, 1954   | 4.94               | 136             |            |      |                    |                 |
| 1955       | Mar. 20, 1955  | 4.05               | 41.1            |            |      |                    |                 |
|            | June 11, 1955  | 3.88               | 33.8            |            |      |                    |                 |
|            | June 25, 1955  | 3.79               | 30.3            |            |      |                    |                 |
|            | July 23, 1955  | 4.00               | 38.8            |            |      |                    |                 |
| 1956       | May 26, 1956   | 3.56               | 22.4            |            |      |                    |                 |
| 1957       | Mar. 24, 1957  | 4.06               | 44.1            |            |      |                    |                 |
|            | May 17, 1957   | 4.65               | 95              |            |      |                    |                 |
|            | May 18, 1957   | 4.35               | 63              |            |      |                    |                 |
|            | May 21, 1957   | 4.63               | 93              |            |      |                    |                 |
|            | May 21, 1957   | 4.91               | 131             |            |      |                    |                 |
|            | May 22, 1957   | 4.51               | 79              |            |      |                    |                 |
|            | May 25, 1957   | 4.20               | 51              |            |      |                    |                 |
| 1958       | Dec. 16, 1957  | 4.27               | 56              |            |      |                    |                 |
|            | July 17, 1958  | 4.48               | 76              |            |      |                    |                 |
|            | July 31, 1958  | 4.32               | 60              |            |      |                    |                 |
|            | Aug. 1, 1958   | 4.01               | 41.8            |            |      |                    |                 |
| 1959       | Feb. 9, 1959   | 4.07               | 44.6            |            |      |                    |                 |
|            | May 17, 1959   | 3.88               | 35.9            |            |      |                    |                 |
| 1960       | Dec. 17, 1959  | 4.26               | 56              |            |      |                    |                 |
|            | Dec. 27, 1959  | 3.80               | 35.5            |            |      |                    |                 |
|            | May 6, 1960    | 4.60               | 89              |            |      |                    |                 |
| 1961       | Mar. 6, 1961   | 3.89               | 36.4            |            |      |                    |                 |
|            | May 6, 1961    | 4.57               | 86              |            |      |                    |                 |
|            | May 8, 1961    | 3.92               | 37.7            |            |      |                    |                 |
|            | May 8, 1961    | 3.89               | 36.4            |            |      |                    |                 |
|            | June 14, 1961  | 4.01               | 41.8            |            |      |                    |                 |
|            | July 20, 1961  | 4.30               | 58              |            |      |                    |                 |
| 1962       | Mar. 20, 1962  | 3.75               | 30.5            |            |      |                    |                 |
| 1963       | May 25, 1963   | 3.91               | 37.2            |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 4.31               | 59              |            |      |                    |                 |
|            | June 13, 1964  | 4.77               | 110             |            |      |                    |                 |
| 1965       | June 2, 1965   | 4.04               | 43.2            |            |      |                    |                 |
|            | Sept. 4, 1965  | 4.78               | 111             |            |      |                    |                 |
|            | Sept. 14, 1965 | 4.32               | 60              |            |      |                    |                 |

## MERAMEC RIVER BASIN

7-0157. Lanes Fork near Vichy, Mo.

Location.--Lat 36°06'15", long 91°42'45", in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.17, T.39 N., R.7 W., at bridge on State Highway 68, 1 $\frac{1}{4}$  miles downstream from Bailey Creek, 2 $\frac{1}{2}$  miles east of Vichy, and 9 miles upstream from mouth.

Drainage area.--24.1 sq mi. Slope.--27 ft per mi.

Gage.--Nonrecording prior to Jan. 12, 1950; recording Jan. 12, 1950, to Sept. 11, 1959; crest-stage gage thereafter.

Stage-discharge relation.--Defined by current-meter measurements below 7,100 cfs.

Bankfull stage.--8 ft.

Remarks.--Base for partial-duration series, 1,500 cfs. Only annual peaks are shown prior to 1951 and subsequent to 1958.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1944       | May 9, 1944   | 8.3                | 3,700           |            |      |                    |                 |
| 1945       | June 7, 1945  | 12.0               | 9,400           |            |      |                    |                 |
| 1948       | July 12, 1948 | 8.5                | 4,490           |            |      |                    |                 |
| 1949       | Feb. 16, 1949 | 6.6                | 2,660           |            |      |                    |                 |
| 1950       | Oct. 4, 1949  | 10.5               | 7,120           |            |      |                    |                 |
| 1951       | Mar. 10, 1951 | 5.32               | 1,630           |            |      |                    |                 |
|            | May 22, 1951  | 6.02               | 2,170           |            |      |                    |                 |
|            | June 30, 1951 | 6.57               | 2,660           |            |      |                    |                 |
|            | July 11, 1951 | 5.30               | 1,630           |            |      |                    |                 |
|            | July 13, 1951 | 5.97               | 2,170           |            |      |                    |                 |
|            | Aug. 9, 1951  | 7.97               | 3,960           |            |      |                    |                 |
|            | Aug. 27, 1951 | 6.67               | 2,750           |            |      |                    |                 |
|            | Aug. 28, 1951 | 5.49               | 1,780           |            |      |                    |                 |
| 1952       | Oct. 22, 1951 | 5.57               | 1,820           |            |      |                    |                 |
| 1953       | Apr. 23, 1953 | 4.82               | 1,290           |            |      |                    |                 |
| 1954       | May 22, 1954  | 6.55               | 2,660           |            |      |                    |                 |
| 1955       | Mar. 20, 1955 | 5.79               | 2,010           |            |      |                    |                 |
|            | June 11, 1955 | 5.95               | 2,170           |            |      |                    |                 |
|            | July 24, 1955 | 5.13               | 1,520           |            |      |                    |                 |
| 1956       | July 3, 1956  | 5.67               | 1,890           |            |      |                    |                 |
| 1957       | Mar. 24, 1957 | 6.75               | 2,840           |            |      |                    |                 |
|            | Apr. 3, 1957  | 5.30               | 1,630           |            |      |                    |                 |
|            | May 17, 1957  | 11.70              | 8,920           |            |      |                    |                 |
|            | May 21, 1957  | 8.65               | 4,600           |            |      |                    |                 |
|            | May 23, 1957  | 10.10              | 6,530           |            |      |                    |                 |
|            | June 28, 1957 | 6.86               | 2,920           |            |      |                    |                 |
| 1958       | Mar. 8, 1958  | 5.05               | 1,460           |            |      |                    |                 |
|            | July 31, 1958 | 7.70               | 3,660           |            |      |                    |                 |
|            | Aug. 1, 1958  | 7.78               | 3,760           |            |      |                    |                 |
| 1959       | May 17, 1959  | 7.00               | 3,010           |            |      |                    |                 |
| 1960       | May 6, 1960   | 7.99               | 3,960           |            |      |                    |                 |
| 1961       | May 6, 1961   | 8.24               | 4,160           |            |      |                    |                 |
| 1962       | Mar. 20, 1962 | 7.51               | 3,470           |            |      |                    |                 |
| 1963       | May 25, 1963  | 5.10               | 1,490           |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 7.73               | 3,690           |            |      |                    |                 |
| 1965       | Sept. 4, 1965 | 9.33               | 5,450           |            |      |                    |                 |

## MERAMEC RIVER BASIN

7-0158. Langenberg Branch near Rosebud, Mo.

Location--Lat 38°23'00", long 91°25'45", in SE¼ sec.13, T.42 N., R.5 W., on right bank just upstream from culvert under State Highway 28 about 1.7 miles west of Rosebud, 1.1 miles west on State Highway 28 from junction U.S. 50 and State Highway 28, approximately 0.6 mile west of Rosebud.

Drainage area--0.64 sq mi. Slope--100 ft per mi.

Gage--Crest-stage gage; supplemental recording gage installed Apr. 15, 1964.

Stage-discharge relation--Defined at 48 and 143 cfs by indirect measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1960       | Jan. 14, 1960 | 8.57               | 88              |            |      |                    |                 |
| 1961       | May 8, 1961   | 9.50               | 180             |            |      |                    |                 |
| 1962       | Mar. 20, 1962 | 9.18               | 145             |            |      |                    |                 |
| 1963       | Mar. 30, 1963 | 7.99               | 43              |            |      |                    |                 |
| 1964       | June 5, 1964  | 8.65               | 95              |            |      |                    |                 |
| 1965       | Sept. 4, 1965 | 8.25               | 61              |            |      |                    |                 |

## MERAMEC RIVER BASIN

7-0160. Bourbeuse River near Spring Bluff, Mo.

Location.--Lat 38°18'40", long 91°16'45", in NE¼ sec.8, T.41 N., R.3 W., on downstream side of highway bridge, 1 mile downstream from Boone Creek, 3.5 miles northwest of Spring Bluff, and 9.5 miles northwest of Sullivan.

Drainage area.--608 sq mi. Slope.--3.92 ft per mi.

Gage.--Nonrecording. Datum of gage is 626.34 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 31,000 cfs.

Bankfull stage.--27.5 ft.

Remarks.--Station operated to obtain flows above 1,000 cfs only. Base for partial-duration series, 10,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date         | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|--------------|--------------------|-----------------|
| 1915       | August 1915   | 35.7               | a60,000         | 1963       | May 27, 1963 | 17.96              | 7,850           |
| 1944       | Apr. 11, 1944 | 21.3               | 10,200          | 1964       | Apr. 6, 1964 | 24.22              | 14,900          |
|            | Apr. 23, 1944 | 21.4               | 10,400          |            | May 29, 1964 | 21.77              | 11,700          |
|            | May 10, 1944  | 23.63              | 13,700          | 1965       | Apr. 6, 1965 | 18.06              | 7,940           |
| 1945       | Mar. 3, 1945  | 23.6               | 13,700          |            |              |                    |                 |
|            | Mar. 7, 1945  | 22.1               | 11,300          |            |              |                    |                 |
|            | Mar. 31, 1945 | 25.1               | 16,400          |            |              |                    |                 |
|            | Apr. 3, 1945  | 24.9               | 16,000          |            |              |                    |                 |
|            | Apr. 15, 1945 | 22.5               | 11,900          |            |              |                    |                 |
|            | June 9, 1945  | 31.0               | 31,500          |            |              |                    |                 |
| 1946       | Feb. 14, 1946 | 22.87              | 12,500          |            |              |                    |                 |
| 1947       | Apr. 26, 1947 | 31.40              | 33,300          |            |              |                    |                 |
| 1948       | Jan. 2, 1948  | 21.91              | 11,100          |            |              |                    |                 |
|            | July 20, 1948 | 22.16              | 11,500          |            |              |                    |                 |
|            | July 26, 1948 | 24.35              | 15,100          |            |              |                    |                 |
| 1949       | Feb. 16, 1949 | 21.91              | 11,100          |            |              |                    |                 |
| 1950       | Oct. 7, 1949  | 24.8               | 15,800          |            |              |                    |                 |
|            | Oct. 12, 1949 | 30.34              | 28,600          |            |              |                    |                 |
|            | Oct. 21, 1949 | 23.05              | 12,900          |            |              |                    |                 |
|            | Jan. 4, 1950  | 28.0               | 22,000          |            |              |                    |                 |
|            | Jan. 14, 1950 | 23.3               | 13,200          |            |              |                    |                 |
|            | Apr. 5, 1950  | 22.55              | 12,100          |            |              |                    |                 |
|            | May 11, 1950  | 22.3               | 11,600          |            |              |                    |                 |
|            | May 20, 1950  | 25.65              | 17,300          |            |              |                    |                 |
|            | May 27, 1950  | 21.28              | 10,200          |            |              |                    |                 |
| 1951       | Mar. 12, 1951 | 22.57              | 12,100          |            |              |                    |                 |
|            | July 14, 1951 | 29.49              | 25,800          |            |              |                    |                 |
|            | Aug. 28, 1951 | 22.98              | 12,700          |            |              |                    |                 |
| 1952       | Apr. 5, 1952  | 20.48              | 9,200           |            |              |                    |                 |
| 1953       | Mar. 4, 1953  | 18.79              | 7,300           |            |              |                    |                 |
| 1954       | June 10, 1954 | 18.47              | 7,000           |            |              |                    |                 |
| 1955       | Feb. 21, 1955 | 20.10              | 9,100           |            |              |                    |                 |
| 1956       | May 31, 1956  | 20.75              | 9,800           |            |              |                    |                 |
| 1957       | Feb. 27, 1957 | 25.53              | 17,100          |            |              |                    |                 |
|            | Mar. 26, 1957 | 24.07              | 14,600          |            |              |                    |                 |
|            | May 18, 1957  | 27.99              | 22,000          |            |              |                    |                 |
|            | May 23, 1957  | 30.26              | 28,600          |            |              |                    |                 |
|            | June 15, 1957 | 31.79              | 35,100          |            |              |                    |                 |
|            | June 28, 1957 | 24.62              | 15,500          |            |              |                    |                 |
|            | June 30, 1957 | 34.71              | 50,700          |            |              |                    |                 |
| 1958       | Mar. 9, 1958  | 21.21              | 10,200          |            |              |                    |                 |
|            | Mar. 25, 1958 | 21.91              | 11,100          |            |              |                    |                 |
| 1959       | Feb. 11, 1959 | 21.23              | 11,300          |            |              |                    |                 |
| 1960       | Dec. 28, 1959 | 18.37              | 8,560           |            |              |                    |                 |
| 1961       | May 9, 1961   | 28.76              | 23,800          |            |              |                    |                 |
| 1962       | Mar. 21, 1962 | 27.97              | 22,000          |            |              |                    |                 |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0165. Bourbeuse River at Union, Mo.

Location--Lat 38°26'45", long 90°59'30", in SW¼ sec.26, T.43 N., R.1 W., on right bank on downstream side of bridge pier on U. S. Highway 50, 800 ft upstream from Flat Creek, half a mile east of Union, and 7 miles upstream from Birch Creek. Records include flow of Flat Creek.

Drainage area--808 sq mi, including that of Flat Creek. Slope--2.76 ft per mi.

Gage--Nonrecording prior to June 12, 1944, at various sites nearby; recording thereafter. Prior to Oct. 1, 1948, at datum 3.00 ft higher. Datum of present gage is 488.58 ft above mean sea level, datum of 1929. Gage heights given herein converted to present datum.

Stage-discharge relation--Defined by current-meter measurements; shifts in relation occur frequently due largely to gravel removal from control. Discharges of the 1897 and 1915 floods determined from extension of rating curve for main channel based on measurements made since 1921 and study of overflow areas in vicinity of gaging station.

Bankfull stage--15 ft.

Remarks--Peaks for period prior to June 7, 1921, computed from plotted U. S. Weather Bureau readings. Base for partial-duration series, 12,000 cfs.

| Peak stages and discharges |                |                    |                 |            |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
| 1897                       |                | 27.15              | a44,500         | 1939       | Apr. 19, 1939 | 16.58              | 12,200          |
| 1915                       | Aug. 22, 1915  | 28.5               | a50,000         | 1940       | Feb. 29, 1940 | 9.45               | 3,700           |
| 1916                       | February 1916  | 21.0               | a21,100         | 1941       | Apr. 21, 1941 | 20.09              | 18,700          |
| 1917                       | Apr. 30, 1917  | 14.0               | 8,840           | 1942       | June 23, 1942 | 17.60              | 13,700          |
| 1918                       | Apr. 30, 1918  | 18.7               | 15,700          |            | June 28, 1942 | 21.0               | 21,100          |
| 1919                       | Mar. 18, 1919  | 14.2               | 9,090           | 1943       | Dec. 29, 1942 | 22.0               | 24,100          |
| 1920                       | Oct. 30, 1919  | 22.3               | 25,100          |            | May 13, 1943  | 17.04              | 12,800          |
|                            | Nov. 2, 1919   | 16.5               | 12,100          |            | May 20, 1943  | 19.60              | 17,600          |
|                            | May 22, 1920   | 18.7               | 15,700          | 1944       | May 11, 1944  | 16.0               | 11,400          |
| 1921                       | Mar. 29, 1921  | 17.3               | 13,200          | 1945       | Apr. 2, 1945  | 17.80              | 14,700          |
|                            | Apr. 28, 1921  | 18.1               | 14,600          |            | Apr. 4, 1945  | 17.10              | 13,600          |
| 1922                       | Apr. 2, 1922   | 17.70              | 14,600          |            | Apr. 16, 1945 | 16.20              | 12,100          |
|                            | Apr. 19, 1922  | 16.94              | 13,100          |            | June 10, 1945 | 23.10              | 28,500          |
| 1923                       | Mar. 17, 1923  | 14.10              | 8,930           | 1946       | Feb. 16, 1946 | 15.46              | 11,100          |
| 1924                       | Dec. 15, 1923  | 16.64              | 12,600          | 1947       | Apr. 27, 1947 | 22.1               | 25,100          |
|                            | May 31, 1924   | 17.16              | 13,700          | 1948       | July 28, 1948 | 14.89              | 10,500          |
| 1925                       | Dec. 21, 1924  | 15.40              | 10,700          | 1949       | Feb. 17, 1949 | 14.82              | 10,400          |
| 1926                       | Nov. 10, 1925  | 16.14              | 11,800          | 1950       | Oct. 8, 1949  | 15.85              | 12,500          |
| 1927                       | Mar. 22, 1927  | 17.65              | 13,300          |            | Oct. 14, 1949 | 20.05              | 20,200          |
|                            | Apr. 3, 1927   | 22.10              | 22,500          |            | Oct. 23, 1949 | 15.82              | 12,500          |
| 1928                       | Dec. 3, 1927   | 17.27              | 12,900          |            | Jan. 6, 1950  | 19.39              | 18,900          |
|                            | Apr. 7, 1928   | 20.00              | 17,100          |            | Jan. 15, 1950 | 15.62              | 12,200          |
| 1929                       | Mar. 18, 1929  | 16.78              | 12,200          | 1951       | Apr. 6, 1950  | 15.35              | 12,000          |
|                            | May 21, 1929   | 16.90              | 12,400          |            | May 22, 1950  | 16.08              | 12,900          |
| 1930                       | Jan. 16, 1930  | 17.00              | 12,500          | 1952       | July 15, 1951 | 19.79              | 19,800          |
| 1931                       | May 21, 1931   | 12.20              | 6,650           | 1953       | Apr. 6, 1952  | 13.20              | 8,970           |
| 1932                       | Jan. 3, 1932   | 13.80              | 8,540           | 1954       | Mar. 5, 1953  | 11.85              | 7,330           |
| 1933                       | May 16, 1933   | 20.55              | 18,300          | 1955       | June 11, 1954 | 10.76              | 6,250           |
| 1934                       | Sept. 16, 1934 | 17.10              | 12,600          | 1956       | Feb. 22, 1955 | 12.14              | 7,670           |
| 1935                       | Mar. 13, 1935  | 17.90              | 13,800          | 1957       | June 2, 1956  | 12.98              | 8,730           |
|                            | June 23, 1935  | 19.00              | 15,400          |            | Mar. 1, 1957  | 17.16              | 15,100          |
|                            | June 29, 1935  | 16.60              | 12,000          |            | Mar. 27, 1957 | 15.97              | 13,000          |
| 1936                       | Apr. 7, 1936   | 11.90              | 6,290           |            | May 20, 1957  | 17.72              | 16,000          |
| 1937                       | May 5, 1937    | 17.78              | 13,600          |            | May 24, 1957  | 20.46              | 22,100          |
|                            | June 12, 1937  | 18.42              | 14,500          |            | June 15, 1957 | 21.28              | 24,100          |
| 1938                       | Feb. 20, 1938  | 17.00              | 12,800          |            | July 1, 1957  | 24.44              | 33,100          |
|                            | June 13, 1938  | 23.23              | 28,200          | 1958       | Mar. 26, 1958 | 14.96              | 11,000          |
|                            |                |                    |                 | 1959       | Feb. 12, 1959 | 13.96              | 9,140           |
|                            |                |                    |                 | 1960       | Dec. 29, 1959 | 12.19              | 7,670           |
|                            |                |                    |                 | 1961       | May 9, 1961   | 20.19              | 20,200          |

## MERAMEC RIVER BASIN

Peak stages and discharges of Bourbeuse River at Union, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1962       | Mar. 23, 1962 | 17.82              | 15,900          |            |      |                    |                 |
| 1963       | May 28, 1963  | 11.28              | 7,100           |            |      |                    |                 |
| 1964       | Apr. 8, 1964  | 16.59              | 14,000          |            |      |                    |                 |
| 1965       | Apr. 8, 1965  | 11.72              | 7,520           |            |      |                    |                 |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0170. Meramec River at Robertsville, Mo.

Location--Lat 38°25'40", long 90°49'35", in SW $\frac{1}{4}$ NW $\frac{1}{4}$  sec.32, T.43 N., R.2 E., at county highway bridge, 1 mile northwest of Robertsville and 1 3/4 miles upstream from Calvey Creek.

Drainage area--2,673 sq mi. Slope--3.83 ft per mi.

Gage--Recording gage to Sept. 30, 1951 (discontinued). Datum of gage is 448.24 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 97,000 cfs.

Bankfull stage--17 ft.

Remarks--Base for partial-duration series, 20,000 cfs.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1915                       | August 1915   | 36.1               | a125,000        |            |      |                    |                 |
| 1940                       | May 3, 1940   | 12.49              | 11,100          |            |      |                    |                 |
| 1941                       | Apr. 22, 1941 | 25.20              | 39,400          |            |      |                    |                 |
| 1942                       | June 1, 1942  | 19.68              | 24,500          |            |      |                    |                 |
|                            | June 16, 1942 | 19.21              | 23,400          |            |      |                    |                 |
|                            | June 28, 1942 | 24.20              | 34,600          |            |      |                    |                 |
| 1943                       | Dec. 30, 1942 | 30.12              | 65,600          |            |      |                    |                 |
|                            | May 13, 1943  | 22.70              | 32,100          |            |      |                    |                 |
|                            | May 20, 1943  | 26.50              | 45,600          |            |      |                    |                 |
|                            | June 9, 1943  | 19.20              | 23,400          |            |      |                    |                 |
| 1944                       | May 11, 1944  | 17.10              | 19,200          |            |      |                    |                 |
| 1945                       | Mar. 5, 1945  | 20.08              | 25,400          |            |      |                    |                 |
|                            | Mar. 9, 1945  | 21.78              | 29,700          |            |      |                    |                 |
|                            | Apr. 2, 1945  | 26.12              | 43,800          |            |      |                    |                 |
|                            | Apr. 4, 1945  | 22.62              | 31,900          |            |      |                    |                 |
|                            | Apr. 16, 1945 | 29.22              | 60,200          |            |      |                    |                 |
| June 10, 1945              | 34.0          | 102,000            |                 |            |      |                    |                 |
| 1946                       | Feb. 16, 1946 | 23.22              | 33,600          |            |      |                    |                 |
| 1947                       | Nov. 12, 1946 | 18.36              | 21,700          |            |      |                    |                 |
|                            | Apr. 27, 1947 | 28.95              | 59,100          |            |      |                    |                 |
| 1948                       | Jan. 3, 1948  | 16.30              | 17,700          |            |      |                    |                 |
| 1949                       | Feb. 17, 1949 | 22.80              | 32,400          |            |      |                    |                 |
| 1950                       | Oct. 14, 1949 | 20.50              | 26,400          |            |      |                    |                 |
|                            | Oct. 24, 1949 | 20.36              | 26,200          |            |      |                    |                 |
|                            | Jan. 6, 1950  | 29.17              | 60,400          |            |      |                    |                 |
|                            | Jan. 16, 1950 | 21.80              | 29,700          |            |      |                    |                 |
|                            | Apr. 4, 1950  | 17.48              | 20,000          |            |      |                    |                 |
| May 13, 1950               | 22.68         | 32,400             |                 |            |      |                    |                 |
| 1951                       | Feb. 21, 1951 | 21.00              | 27,600          |            |      |                    |                 |
|                            | Mar. 14, 1951 | 18.22              | 21,300          |            |      |                    |                 |
|                            | July 3, 1951  | 18.23              | 21,300          |            |      |                    |                 |
|                            | July 16, 1951 | 26.38              | 45,200          |            |      |                    |                 |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0175. Dry Branch near Bonne Terre, Mo.

Location.--Lat 37°55'46", long 90°27'40", at west-central edge of Survey 3062, T.37 N., R.5 E., on downstream side of highway bridge T-397 on County Highway K, 0.5 mile above Terre Bleue Creek, and 4.5 miles east of Bonne Terre.

Drainage area.--3.35 sq mi. Slope.--48.5 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined at 1,490 cfs by indirect measurement and below 254 cfs by current-meter measurements.

Remarks.--Base for partial-duration series 300 cfs. Only annual peaks are shown subsequent to 1959 water year.

## Peak stages and discharges

| Water year   | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|--------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1956         | May 7, 1956    | 3.24               | a 506           |            |      |                    |                 |
|              | May 15, 1956   | 2.67               | a 291           |            |      |                    |                 |
|              | June 24, 1956  | 3.63               | a 670           |            |      |                    |                 |
| 1957         | Feb. 26, 1957  | 2.75               | 312             |            |      |                    |                 |
|              | Mar. 24, 1957  | 3.22               | 498             |            |      |                    |                 |
|              | Apr. 3, 1957   | 3.18               | 482             |            |      |                    |                 |
|              | May 17, 1957   | 2.95               | 390             |            |      |                    |                 |
|              | May 19, 1957   | 2.94               | 386             |            |      |                    |                 |
|              | May 22, 1957   | 3.22               | 498             |            |      |                    |                 |
|              | May 25, 1957   | 3.15               | 470             |            |      |                    |                 |
|              | June 8, 1957   | 3.16               | 474             |            |      |                    |                 |
|              | June 28, 1957  | 3.42               | 570             |            |      |                    |                 |
|              | June 30, 1957  | 5.55               | 1,520           |            |      |                    |                 |
|              | July 29, 1957  | 3.21               | 494             |            |      |                    |                 |
| Aug. 3, 1957 | 3.73           | 710                |                 |            |      |                    |                 |
| 1958         | Apr. 3, 1958   | 2.88               | 369             |            |      |                    |                 |
|              | Apr. 28, 1958  | 2.95               | 394             |            |      |                    |                 |
|              | July 17, 1958  | 2.99               | 409             |            |      |                    |                 |
| 1959         | Mar. 14, 1959  | 2.91               | 380             |            |      |                    |                 |
|              | Apr. 18, 1959  | 3.42               | 570             |            |      |                    |                 |
|              | May 22, 1959   | 3.07               | 439             |            |      |                    |                 |
|              | May 25, 1959   | 3.13               | 462             |            |      |                    |                 |
|              | July 23, 1959  | 2.84               | 354             |            |      |                    |                 |
|              | Sept. 28, 1959 | 2.95               | 402             |            |      |                    |                 |
| 1960         | Jan. 14, 1960  | 2.83               | 350             |            |      |                    |                 |
| 1961         | June 14, 1961  | 3.82               | 730             |            |      |                    |                 |
| 1962         | Sept. 14, 1962 | 4.25               | 910             |            |      |                    |                 |
| 1963         | June 10, 1963  | 3.30               | 530             |            |      |                    |                 |
| 1964         | Mar. 9, 1964   | 2.96               | 398             |            |      |                    |                 |
| 1965         | Apr. 6, 1965   | 4.42               | 975             |            |      |                    |                 |

## MERAMEC RIVER BASIN

7-0177. Fountain Farm Branch near Potosi, Mo.  
(Published as "Keyes Branch" prior to 1958).

Location.--Lat 37°58'20", long 90°43'40", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.32, T.38 N., R.3 E., on left bank just upstream from culvert under County Road E about 4 miles northeast of Potosi.

Drainage area.--2.16 sq mi. Slope.--71.8 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 778 and 1,890 cfs by indirect measurements. Defined below 70 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | June 30, 1957 | 18.36              | 1,890           |            |      |                    |                 |
| 1958       | Dec. 18, 1957 | 11.91              | 230             |            |      |                    |                 |
| 1959       | May 27, 1959  | 12.50              | 350             |            |      |                    |                 |
| 1960       | Dec. 12, 1959 | 11.78              | 210             |            |      |                    |                 |
| 1961       | Mar. 5, 1961  | 12.15              | 270             |            |      |                    |                 |
| 1962       |               | (a)                | (b)             |            |      |                    |                 |
| 1963       | May 16, 1963  | 12.17              | 270             |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 12.32              | 310             |            |      |                    |                 |
| 1965       | June 3, 1965  | 12.97              | 460             |            |      |                    |                 |

a Stage below zero of gage.

b Discharge less than 100 cfs.

## MERAMEC RIVER BASIN

7-0180. Big River near DeSoto, Mo.

Location.--Lat 38°07'20", long 90°40'30", in SW¼NW¼ sec.11, T.39 N., R.3 E., near right bank on downstream side of pier of Mammoth Bridge, 300 ft upstream from Mammoth Creek, 1½ miles downstream from Mineral Fork, and 6½ miles west of DeSoto. Records include flow of Mammoth Creek.

Drainage area.--718 sq mi, including that of Mammoth Creek. Slope.--4.63 ft per mi.

Gage.--Recording. Datum of gage is 538.79 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements. Discharge of the flood in August 1915 determined from extension of rating curve above 37,000 cfs.

Bankfull stage.--17 ft.

Remarks.--Base for partial-duration series, 10,000 cfs.

|               |               |                    |                 | Peak stages and discharges |      |                    |                 |
|---------------|---------------|--------------------|-----------------|----------------------------|------|--------------------|-----------------|
| Water year    | Date          | Gage height (feet) | Discharge (cfs) | Water year                 | Date | Gage height (feet) | Discharge (cfs) |
| 1915          | August 1915   | 29.4               | a70,500         |                            |      |                    |                 |
| 1949          | Feb. 15, 1949 | 19.9               | a21,300         |                            |      |                    |                 |
| 1950          | Oct. 6, 1949  | 15.37              | 11,000          |                            |      |                    |                 |
|               | Jan. 4, 1950  | 23.91              | 36,600          |                            |      |                    |                 |
|               | Jan. 13, 1950 | 16.77              | 13,400          |                            |      |                    |                 |
|               | Feb. 13, 1950 | 14.40              | 10,000          |                            |      |                    |                 |
|               | May 10, 1950  | 16.32              | 12,800          |                            |      |                    |                 |
|               | Aug. 13, 1950 | 15.61              | 11,700          |                            |      |                    |                 |
|               | Aug. 15, 1950 | 16.16              | 12,600          |                            |      |                    |                 |
|               | Sept. 2, 1950 | 16.17              | 12,600          |                            |      |                    |                 |
| 1951          | Feb. 18, 1951 | 17.76              | 15,100          |                            |      |                    |                 |
|               | Feb. 21, 1951 | 15.73              | 11,100          |                            |      |                    |                 |
|               | July 13, 1951 | 23.78              | 36,200          |                            |      |                    |                 |
| 1952          | Apr. 4, 1952  | 15.40              | 10,600          |                            |      |                    |                 |
|               | Apr. 13, 1952 | 15.17              | 10,300          |                            |      |                    |                 |
| 1953          | Mar. 4, 1953  | 15.71              | 11,100          |                            |      |                    |                 |
| 1954          | June 9, 1954  | 15.20              | 10,700          |                            |      |                    |                 |
| 1955          | Mar. 21, 1955 | 17.03              | 13,300          |                            |      |                    |                 |
| 1956          | May 16, 1956  | 12.20              | 7,200           |                            |      |                    |                 |
| 1957          | Feb. 27, 1957 | 16.74              | 12,800          |                            |      |                    |                 |
|               | Mar. 25, 1957 | 18.15              | 16,900          |                            |      |                    |                 |
|               | Apr. 3, 1957  | 21.46              | 27,400          |                            |      |                    |                 |
|               | Apr. 22, 1957 | 14.92              | 10,200          |                            |      |                    |                 |
|               | Apr. 28, 1957 | 16.82              | 13,500          |                            |      |                    |                 |
|               | May 17, 1957  | 16.60              | 13,100          |                            |      |                    |                 |
|               | May 20, 1957  | 15.87              | 11,700          |                            |      |                    |                 |
|               | May 23, 1957  | 19.04              | 19,200          |                            |      |                    |                 |
|               | June 30, 1957 | 27.15              | 55,800          |                            |      |                    |                 |
| July 29, 1957 | 18.79         | 18,600             |                 |                            |      |                    |                 |
| 1958          | Dec. 18, 1957 | 17.56              | 15,400          |                            |      |                    |                 |
|               | Mar. 24, 1958 | 17.48              | 15,100          |                            |      |                    |                 |
|               | July 19, 1958 | 15.18              | 10,600          |                            |      |                    |                 |
| 1959          | Nov. 18, 1959 | 12.55              | 7,660           |                            |      |                    |                 |
| 1960          | Dec. 18, 1959 | 16.40              | 12,700          |                            |      |                    |                 |
| 1961          | Mar. 6, 1961  | 18.00              | 16,400          |                            |      |                    |                 |
|               | May 9, 1961   | 19.94              | 21,900          |                            |      |                    |                 |
| 1962          | Mar. 21, 1962 | 17.84              | 15,800          |                            |      |                    |                 |
| 1963          | May 18, 1963  | 15.55              | 11,200          |                            |      |                    |                 |
| 1964          | Mar. 9, 1964  | 18.25              | 16,900          |                            |      |                    |                 |
| 1965          | Apr. 6, 1965  | 15.65              | 11,500          |                            |      |                    |                 |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0185. Big River at Byrnesville, Mo.

Location--Lat 38°21'45", long 90°39'05", in SE¼ sec.12, T.42 N., R.3 E., at county highway bridge at Byrnesville, 4 miles upstream from Head Creek.

Drainage area--917 sq mi. Slope--3.36 ft per mi.

Gage--Nonrecording prior to Mar. 9, 1940; recording thereafter. Datum of gage is 433.69 ft above mean sea level, datum of 1929. Since Aug. 22, 1945, auxiliary wire-weight gage 4 miles downstream.

Stage-discharge relation--Defined by current-meter measurements. Occasional backwater from Meramec River; slope used as a factor since 1945. Discharge for flood of Aug. 21, 1915, from slope-area measurement.

Bankfull stage--16 ft.

Remarks--Base for partial-duration series, 11,000 cfs.

| Peak stages and discharges |               |                    |                 |            |                 |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|-----------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date            | Gage height (feet) | Discharge (cfs) |
| 1915                       | Aug. 21, 1915 | 30.2               | a80,000         | 1945       | Mar. 4, 1945    | 18.57              | 13,500          |
|                            |               |                    |                 |            | Mar. 7, 1945    | 20.84              | 19,300          |
| 1923                       | Mar. 13, 1923 | 17.30              | 11,000          |            | Apr. 1, 1945    | 23.4               | 28,300          |
|                            | May 17, 1923  | 17.40              | 11,100          |            | Apr. 16, 1945   | 22.17              | 23,600          |
|                            |               |                    |                 |            | June 10, 1945   | 22.12              | 17,500          |
| 1924                       | Apr. 10, 1924 | 17.10              | 10,800          |            |                 |                    |                 |
|                            |               |                    |                 | 1946       | Feb. 15, 1946   | 21.57              | 21,800          |
| 1925                       | Dec. 20, 1924 | 12.58              | 6,200           |            | May 2, 1946     | 19.02              | 14,200          |
|                            |               |                    |                 |            | May 18, 1946    | 17.91              | 11,300          |
| 1926                       | Nov. 9, 1925  | 18.97              | 13,100          |            |                 |                    |                 |
|                            |               |                    |                 | 1947       | Apr. 26, 1947   | 23.5               | 28,000          |
| 1927                       | Apr. 2, 1927  | 22.63              | 21,900          |            | July 2, 1947    | 19.56              | 15,800          |
|                            | Apr. 16, 1927 | 19.82              | 14,800          |            |                 |                    |                 |
|                            | May 26, 1927  | 18.47              | 12,400          | 1948       | Jan. 3, 1948    | 18.6               | 13,100          |
|                            | June 3, 1927  | 17.98              | 11,800          |            | May 18, 1948    | 18.83              | 13,700          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1928                       | Dec. 2, 1927  | 17.41              | 11,100          | 1949       | Jan. 20, 1949   | 18.82              | 13,300          |
|                            | Dec. 15, 1927 | 17.60              | 11,400          |            | Jan. 26, 1949   | 20.31              | 18,600          |
|                            | Apr. 7, 1928  | 17.38              | 11,100          |            | Feb. 16, 1949   | 20.39              | 18,700          |
|                            | June 11, 1928 | 18.84              | 12,800          |            |                 |                    |                 |
|                            | June 22, 1928 | 18.65              | 12,600          | 1950       | Jan. 5, 1950    | 25.23              | 36,900          |
|                            | June 30, 1928 | 17.66              | 11,500          |            | Jan. 14, 1950   | 18.54              | 13,400          |
|                            |               |                    |                 |            | Apr. 4, 1950    | 18.09              | 12,500          |
| 1929                       | May 7, 1929   | 18.62              | 12,700          |            | May 12, 1950    | 18.34              | 12,600          |
|                            | May 15, 1929  | 20.00              | 15,200          |            |                 |                    |                 |
|                            |               |                    |                 | 1951       | Feb. 20, 1951   | 18.82              | 14,100          |
| 1930                       | Jan. 15, 1930 | 21.00              | 17,400          |            | July 14, 1951   | 23.48              | 30,500          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1931                       | Apr. 21, 1931 | 10.10              | 3,940           | 1952       | Apr. 14, 1952   | 17.37              | 10,500          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1932                       | Aug. 13, 1932 | 13.35              | 7,000           | 1953       | Mar. 5, 1953    | 16.97              | 10,200          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1933                       | Apr. 17, 1933 | 21.57              | 18,900          | 1954       | June 10, 1954   | 16.93              | 10,000          |
|                            | May 15, 1933  | 21.70              | 19,200          |            |                 |                    |                 |
|                            |               |                    |                 | 1955       | Mar. 22, 1955   | 18.20              | 12,700          |
| 1934                       | May 16, 1934  | 13.70              | 7,080           |            |                 |                    |                 |
|                            |               |                    |                 | 1956       | May 17, 1956    | 13.59              | 6,640           |
|                            |               |                    |                 |            |                 |                    |                 |
| 1935                       | Mar. 12, 1935 | 24.65              | 28,800          |            |                 |                    |                 |
|                            | June 12, 1935 | 18.62              | 12,700          | 1957       | Feb. 28, 1957   | 18.00              | 12,300          |
|                            | June 22, 1935 | 20.35              | 15,800          |            | Mar. 26, 1957   | 19.76              | 17,600          |
|                            |               |                    |                 |            | Apr. 5, 1957    | 22.85              | 30,100          |
| 1936                       | Nov. 11, 1935 | 15.97              | 9,600           |            | Apr. 29, 1957   | 18.95              | 14,000          |
|                            |               |                    |                 |            | May 24, 1957    | 20.29              | 20,000          |
|                            |               |                    |                 |            | June 15, 1957   | 20.50              | 13,100          |
| 1937                       | Jan. 16, 1937 | 20.06              | 17,300          |            | July 1, 1957    | 26.41              | 42,100          |
|                            | Mar. 4, 1937  | 19.00              | 14,400          |            | July 30, 1957   | 19.29              | 16,800          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1938                       | Feb. 19, 1938 | 22.53              | 24,600          |            |                 |                    |                 |
|                            | Mar. 17, 1938 | 19.05              | 14,400          | 1958       | Dec. 19, 1957   | 18.55              | 13,300          |
|                            | Mar. 31, 1938 | 19.70              | 16,200          |            | Mar. 26, 1958   | 19.18              | 15,500          |
|                            | May 24, 1938  | 20.70              | 19,000          |            | July 19, 1958   | 19.06              | 12,900          |
|                            | June 11, 1938 | 20.15              | 17,600          |            |                 |                    |                 |
|                            |               |                    |                 | 1959       | May 18, 1959    | 14.77              | 7,100           |
| 1939                       | Apr. 18, 1939 | 22.30              | 24,000          |            |                 |                    |                 |
|                            |               |                    |                 | 1960       | Dec. 19, 1960   | 18.00              | 12,200          |
| 1940                       | May 2, 1940   | 14.81              | 7,540           |            |                 |                    |                 |
|                            |               |                    |                 | 1961       | Mar. 7, 1961    | 19.84              | 17,300          |
| 1941                       | Apr. 19, 1941 | 16.15              | 9,150           |            | May 9, 1961     | 23.33              | 25,800          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1942                       | June 26, 1942 | 18.42              | 13,000          | 1962       | Mar. 22, 1962   | 19.43              | 15,100          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1943                       | Dec. 28, 1942 | 22.27              | 24,000          | 1963       | May 19, 1963    | 16.86              | 10,600          |
|                            | May 12, 1943  | 22.57              | 25,000          |            |                 |                    |                 |
|                            | May 19, 1943  | 18.43              | 13,000          | 1964       | Mar. 11, 1964   | 20.02              | 16,600          |
|                            |               |                    |                 |            |                 |                    |                 |
| 1944                       | Apr. 24, 1944 | 18.30              | 12,800          | 1965       | Apr. 7, 8, 1965 | 17.34              | 10,600          |

a Annual peak only.

## MERAMEC RIVER BASIN

7-0190. Meramec River near Eureka, Mo.

Location.--Lat 38°30'20", long 90°35'30", in SE¼ sec.32, T.44 N., R.4 E., at bridge on U. S. Highway 66, 2 miles east of Eureka and 3 miles downstream from Big River.

Drainage area.--3,788 sq mi. Slope.--3.44 ft per mi.

Gage.--Nonrecording prior to Sept. 22, 1937; recording thereafter. Prior to July 22, 1906, at site 200 ft upstream at different datum; Oct. 6, 1921, to Jan. 16, 1933, at site 200 ft upstream at datum 1.04 ft higher. Datum of present gage is 406.18 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 116,000 cfs and by slope-area measurement at 175,000 cfs.

Bankfull stage.--22 ft.

Remarks.--Base for partial-duration series, 32,000 cfs.

## Peak stages and discharges

| Water year  | Date            | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|-------------|-----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1904        | Mar. 28, 1904   | 36.2               | 68,100          | 1944       | Apr. 25, 1944 | 17.26              | 26,100          |
|             | Apr. 27, 1904   | 28.7               | 48,600          |            |               |                    |                 |
| <u>1905</u> | Sept. 20, 1905  | <u>29.7</u>        | 51,200          | 1945       | Mar. 8, 1945  | 22.38              | 37,400          |
|             |                 |                    |                 |            | Apr. 2, 1945  | 28.98              | 57,100          |
|             |                 |                    |                 |            | Apr. 17, 1945 | 32.13              | 72,500          |
| 1915        | Aug. 22, 1915   | 39.2               | a175,000        |            | June 11, 1945 | 36.94              | 120,000         |
| <u>1916</u> | Feb. 1, 1916    | 36.0               | a113,000        | 1946       | Feb. 16, 1946 | 23.52              | 40,300          |
| 1922        | Apr. 19, 1922   | 24.45              | 38,600          | 1947       | Apr. 27, 1947 | 31.15              | 66,400          |
| 1923        | Mar. 17, 1923   | 16.95              | 24,800          | 1948       | Jan. 3, 1948  | 17.00              | 25,000          |
| 1924        | May 30, 1924    | 20.50              | 31,000          | 1949       | Jan. 27, 1949 | 20.30              | 32,200          |
| 1925        | Dec. 22, 1924   | 14.60              | 20,100          |            | Feb. 17, 1949 | 21.80              | 35,900          |
| 1926        | Nov. 10, 1925   | 17.18              | 24,800          | 1950       | Jan. 6, 1950  | 33.01              | 79,700          |
|             |                 |                    |                 |            | Jan. 16, 1950 | 20.53              | 32,500          |
|             |                 |                    |                 |            | May 13, 1950  | 21.28              | 34,600          |
| 1927        | Apr. 3, 1927    | 29.47              | 64,000          |            |               |                    |                 |
|             | Apr. 11, 1927   | 21.54              | 34,400          | 1951       | Feb. 21, 1951 | 21.33              | 34,600          |
|             | Apr. 17, 1927   | 25.21              | 44,200          |            | July 15, 1951 | 27.08              | 50,700          |
|             | May 27, 1927    | 21.12              | 33,400          |            |               |                    |                 |
|             | June 4, 1927    | 22.80              | 37,400          | 1952       | Apr. 14, 1952 | 16.99              | 25,500          |
| 1928        | Apr. 8, 9, 1928 | 23.80              | 39,800          | 1953       | Mar. 6, 1953  | 15.00              | 21,800          |
|             | June 11, 1928   | 20.78              | 32,700          |            |               |                    |                 |
|             | June 21, 1928   | 21.07              | 33,400          | 1954       | June 10, 1954 | 11.54              | 15,600          |
| 1929        | May 15, 1929    | 21.10              | 33,400          | 1955       | Mar. 23, 1955 | 17.84              | 28,100          |
| 1930        | Jan. 16, 1930   | 24.41              | 42,200          | 1956       | June 2, 1956  | 11.50              | 15,600          |
| 1931        | May 22, 1931    | 6.10               | 6,420           | 1957       | Mar. 27, 1957 | 20.58              | 34,600          |
|             |                 |                    |                 |            | Apr. 6, 1957  | 24.19              | 44,400          |
| 1932        | Jan. 3, 1932    | 8.35               | 9,540           |            | Apr. 30, 1957 | 21.88              | 38,000          |
|             | Aug. 14, 1932   | 8.35               | 9,540           |            | May 25, 1957  | 29.45              | 59,600          |
|             |                 |                    |                 |            | June 15, 1957 | 31.19              | 66,000          |
| 1933        | Apr. 18, 1933   | 21.82              | 35,700          |            | July 2, 1957  | 35.77              | 99,500          |
|             | May 17, 1933    | 30.72              | 63,400          |            |               |                    |                 |
| 1934        | Sept. 18, 1934  | 17.91              | 27,100          | 1958       | Mar. 26, 1958 | 20.26              | 35,800          |
|             |                 |                    |                 |            | July 19, 1958 | 19.13              | 32,800          |
| 1935        | Mar. 14, 1935   | 30.89              | 62,200          | 1959       | May 18, 1959  | 11.40              | 16,100          |
|             | June 24, 1935   | 26.32              | 48,400          |            |               |                    |                 |
|             | June 29, 1935   | 23.04              | 39,400          | 1960       | Dec. 20, 1959 | 13.87              | 21,800          |
| 1936        | Nov. 12, 1935   | 13.22              | 17,400          | 1961       | May 10, 1961  | 31.58              | 71,200          |
| 1937        | May 6, 1937     | 21.56              | 35,700          | 1962       | Mar. 23, 1962 | 19.51              | 33,900          |
| 1938        | Feb. 20, 1938   | 25.10              | 45,000          | 1963       | May 29, 1963  | 13.67              | 21,900          |
|             | May 25, 1938    | 23.11              | 39,700          |            |               |                    |                 |
|             | June 12, 1938   | 25.47              | 46,100          | 1964       | Mar. 12, 1964 | 18.22              | 29,900          |
| 1939        | Apr. 19, 1939   | 26.95              | 61,600          | 1965       | Apr. 8, 1965  | 14.73              | 22,600          |
| 1940        | June 29, 1940   | 11.41              | 14,800          |            |               |                    |                 |
| 1941        | Apr. 22, 1941   | 22.07              | 38,000          |            |               |                    |                 |
| 1942        | June 28, 1942   | 21.90              | 37,400          |            |               |                    |                 |
| 1943        | Dec. 30, 1942   | 31.78              | 69,600          |            |               |                    |                 |
|             | May 13, 1943    | 24.29              | 42,800          |            |               |                    |                 |
|             | May 21, 1943    | 27.70              | 52,400          |            |               |                    |                 |

a Annual peak only.

## PLATTIN CREEK BASIN

7-0191. Murphy Branch near Crystal City, Mo.

Location.--Lat 38°11'12", long 90°23'46", in NW portion of Missouri Survey No. 1995, T.40 N., R.6 E., on left bank just upstream from culvert under U.S. Highway 61, 0.8 mile north of Platin Creek crossing and 1.0 south of junction of U.S. 61 and 67, and 2.5 miles southwest of Crystal City.

Drainage area.--0.44 sq mi. Slope.--108 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed September 15, 1960, and removed April 15, 1964.

Stage-discharge relation.--Defined at 85, 320, 427, and 947 cfs by indirect measurements. Defined below 3 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | June 25, 1955 | 6.39               | 130             |            |      |                    |                 |
| 1956       | May 6, 1956   | 9.69               | 320             |            |      |                    |                 |
| 1957       | June 8, 1957  | 11.87              | 947             |            |      |                    |                 |
| 1958       | July 31, 1958 | (a)                | (b)             |            |      |                    |                 |
| 1959       | Jan. 20, 1959 | 6.42               | 125             |            |      |                    |                 |
| 1960       | May 18, 1960  | 5.44               | 80              |            |      |                    |                 |
| 1961       | May 8, 1961   | 7.46               | 165             |            |      |                    |                 |
| 1962       | June 6, 1962  | 8.60               | 230             |            |      |                    |                 |
| 1963       | Mar. 31, 1963 | 6.15               | 114             |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 5.60               | 90              |            |      |                    |                 |
| 1965       | Sept. 5, 1965 | 9.30               | 294             |            |      |                    |                 |

a Stage below bottom of gage.

b Less than 60 cfs.

## MISSISSIPPI RIVER MAIN STEM

7-0205. Mississippi River at Chester, Ill.

Location--Lat 37°54'00", long 89°49'50", in SW¼ sec.24, T.7 S., R.7 W., third principal meridian, on left bank 0.4 mile downstream from highway bridge at Chester, 8.3 miles downstream from Kaskaskia River, and at mile 109.5 above Ohio River.

Drainage area--712,600 sq mi, approximately.

Gage--Nonrecording. Datum of gage is 341.05 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation--Continually shifting, defined by frequent current-meter measurements.

Bankfull stage--27 ft.

Remarks--Records prior to July 1942 furnished by Mississippi River Commission. Natural flow of stream affected by many reservoirs and navigation dams in upper Mississippi River basin, and by many reservoirs and diversions for irrigation in Missouri River basin. Discharges prior to the 1942 water year are maximum daily discharges. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1844       | June 30, 1844     | 39.8               | a1,350,000      |            |      |                    |                 |
| 1926       | Sept. 30, 1926    | 23.8               | 501,000         |            |      |                    |                 |
| 1927       | Apr. 27, 1927     | 34.4               | 1,060,000       |            |      |                    |                 |
| 1928       | June 23, 1928     | 28.0               | 626,000         |            |      |                    |                 |
| 1929       | Apr. 29, 1929     | b33.3              | 878,000         |            |      |                    |                 |
| 1930       | June 21, 22, 1930 | 19.7               | 342,000         |            |      |                    |                 |
| 1931       | June 16, 1931     | 14.4               | 221,000         |            |      |                    |                 |
| 1932       | Dec. 1, 1931      | 23.3               | 451,000         |            |      |                    |                 |
| 1933       | May 18, 1933      | 28.9               | 500,000         |            |      |                    |                 |
| 1934       | Apr. 25, 1934     | 10.2               | 137,000         |            |      |                    |                 |
| 1935       | June 10, 1935     | b33.4              | 665,000         |            |      |                    |                 |
| 1936       | Mar. 1, 1936      | 20.8               | 326,000         |            |      |                    |                 |
| 1937       | May 6, 7, 1937    | 24.6               | 422,000         |            |      |                    |                 |
| 1938       | May 28, 1938      | 27.1               | 540,000         |            |      |                    |                 |
| 1939       | Apr. 21, 1939     | 30.6               | 618,000         |            |      |                    |                 |
| 1940       | Apr. 21, 1940     | c13.6              | d193,000        |            |      |                    |                 |
| 1941       | Apr. 24, 1941     | b26.9              | d455,000        |            |      |                    |                 |
| 1942       | July 1, 1942      | 34.0               | 603,000         |            |      |                    |                 |
| 1943       | May 24, 1943      | 38.08              | e873,000        |            |      |                    |                 |
| 1944       | May 2, 1944       | 37.4               | 842,000         |            |      |                    |                 |
| 1945       | Apr. 2, 1945      | f34.4              | 716,000         |            |      |                    |                 |
| 1946       | Jan. 13, 14, 1946 | 27.5               | 502,000         |            |      |                    |                 |
| 1947       | July 3, 1947      | b38.17             | 886,000         |            |      |                    |                 |
| 1948       | Mar. 28, 1948     | 32.8               | 668,000         |            |      |                    |                 |
| 1949       | Apr. 3, 4, 1949   | 24.7               | 426,000         |            |      |                    |                 |
| 1950       | May 15, 1950      | 27.6               | 476,000         |            |      |                    |                 |
| 1951       | July 22, 1951     | b39.3              | 795,000         |            |      |                    |                 |
| 1952       | Apr. 30, 1952     | b34.4              | 685,000         |            |      |                    |                 |
| 1953       | Apr. 5, 1953      | 22.2               | 378,000         |            |      |                    |                 |
| 1954       | June 7, 1954      | 18.8               | 289,000         |            |      |                    |                 |
| 1955       | Feb. 23, 1955     | 19.5               | 332,000         |            |      |                    |                 |
| 1956       | Oct. 9, 1955      | 14.9               | 221,000         |            |      |                    |                 |
| 1957       | May 28, 1957      | 25.6               | 426,000         |            |      |                    |                 |
| 1958       | July 25, 1958     | 29.3               | 510,000         |            |      |                    |                 |
| 1959       | June 4, 1959      | 23.1               | 361,000         |            |      |                    |                 |
| 1960       | Apr. 11, 1960     | 33.7               | 680,000         |            |      |                    |                 |
| 1961       | May 12, 1961      | 34.3               | 691,000         |            |      |                    |                 |
| 1962       | Mar. 26, 1962     | 30.6               | 625,000         |            |      |                    |                 |
| 1963       | Mar. 8, 1963      | 19.12              | 308,000         |            |      |                    |                 |
| 1964       | Apr. 24, 1964     | b20.06             | 304,000         |            |      |                    |                 |
| 1965       | Sept. 29, 1965    | 29.79              | 544,000         |            |      |                    |                 |

a Computed by Corps of Engineers, date approximate.

b Occurred at different time than peak discharge.

c Occurred June 15, 1940.

d Computed on basis of records for stations at St. Louis, Mo., and Thebes, Ill.

e Does not include flow bypassing gage through levee breaks upstream.

f Occurred June 14, 1945.

## APPLE CREEK BASIN

7-0207. Hoehs Branch near Uniontown, Mo.

Location.--Lat 37°37'50", long 89°43'50", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.20, T.34 N., R.12 E., on right downstream abutment of bridge on U.S. Highway 61, 1.2 miles north of Uniontown.

Drainage area.--1.66 sq mi. Slope.--59.4 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 352 and 1,400 cfs by indirect measurements.

Remarks.--Only annual peaks are shown.

| Peak stages and discharges |               |                    |                 |            |      |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
| 1955                       | Mar. 20, 1955 | 10.37              | 352             |            |      |                    |                 |
| 1956                       | May 14, 1956  | 12.73              | 1,400           |            |      |                    |                 |
| 1957                       | May 22, 1957  | 11.81              | 900             |            |      |                    |                 |
| 1958                       | Jan. 21, 1958 | 12.75              | 1,400           |            |      |                    |                 |
| 1959                       | Aug. 17, 1959 | 12.34              | 1,180           |            |      |                    |                 |
| 1960                       | Aug. 20, 1960 | 10.82              | 450             |            |      |                    |                 |
| 1961                       | June 15, 1961 | 12.11              | 1,000           |            |      |                    |                 |
| 1962                       | Jan. 22, 1962 | 10.57              | 420             |            |      |                    |                 |
| 1963                       |               | (a)                | (b)             |            |      |                    |                 |
| 1964                       | Aug. 27, 1964 | 12.55              | 1,300           |            |      |                    |                 |
| 1965                       | July 2, 1965  | 12.45              | 1,200           |            |      |                    |                 |

a Stage below bottom of gage (gage height 8.25).

b Less than 50 cfs.

## HEADWATER DIVERSION CHANNEL BASIN

(CASTOR AND WHITEWATER RIVERS)

7-0210. Castor River at Zalma, Mo.

Location--Lat 37°08'45", long 90°04'30", in SE¼ sec.29, T.29 N., R.9 E., at bridge on State Highway 51 in Zalma, 2½ miles downstream from Perkins Creek.

Drainage area--423 sq mi. Slope--8.92 ft per mi.

Gage--Nonrecording prior to June 9, 1953; recording thereafter. Prior to Oct. 1, 1925, at site 500 ft upstream at datum 49.82 ft lower; Oct. 1, 1925, to Nov. 12, 1930, at site 500 ft upstream at datum 0.18 ft higher. Datum of present gage is 350.38 ft above mean sea level, datum of 1929. Since Dec. 18, 1949, auxiliary staff gage 6 miles downstream. Gage heights given herein converted to present site and datum.

Stage-discharge relation--Defined by current-meter measurements below 25,000 cfs. Slope used as a factor since 1949.

Bankfull stage--19 ft.

Remarks--Peaks for period prior to Sept. 12, 1921, computed from plotted Little River Drainage District gage readings. Work on Headwater Diversion Channel completed about March 1919. Base for partial-duration series, 8,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1920       | May 17, 1920  | 26.1               | 17,400          | 1945       | Feb. 27, 1945  | 25.85              | 22,600          |
|            |               |                    |                 |            | Mar. 7, 1945   | 25.00              | 17,350          |
| 1921       | Apr. 27, 1921 | 22.4               | 7,660           |            | Mar. 20, 1945  | 22.80              | 8,150           |
|            |               |                    |                 |            | Mar. 26, 1945  | 22.95              | 8,550           |
| 1922       | Nov. 20, 1921 | 24.0               | 10,600          |            | Mar. 31, 1945  | 24.30              | 13,550          |
|            | Apr. 1, 1922  | 23.6               | 9,720           |            | Apr. 15, 1945  | 25.20              | 18,550          |
|            |               |                    |                 |            | June 9, 1945   | 26.04              | 24,100          |
| 1923       | Feb. 2, 1923  | 24.0               | 10,600          |            | June 18, 1945  | 23.40              | 9,600           |
| 1924       | May 30, 1924  | 24.6               | 3,160           | 1946       | Feb. 14, 1946  | 24.30              | 13,550          |
|            |               |                    |                 |            | May 2, 1946    | 23.98              | 12,050          |
| 1925       | June 14, 1925 | 23.3               | 2,670           |            | May 17, 1946   | 24.5               | 14,600          |
| 1926       | Feb. 26, 1926 | 20.3               | 5,920           | 1947       | Apr. 26, 1947  | 18.8               | 4,990           |
| 1927       | Apr. 1, 1927  | 24.0               | 10,600          | 1948       | Jan. 1, 1948   | 27.8               | 38,400          |
|            | Apr. 16, 1927 | 24.6               | 12,100          |            |                |                    |                 |
|            | June 2, 1927  | 23.6               | 9,720           | 1949       | Jan. 19, 1949  | 22.6               | 8,530           |
|            |               |                    |                 |            | Jan. 24, 1949  | 28.1               | 40,100          |
| 1928       | Dec. 14, 1927 | 26.5               | 19,400          |            | Mar. 27, 1949  | 24.0               | 13,100          |
|            | June 14, 1928 | 23.6               | 9,720           |            |                |                    |                 |
|            | June 21, 1928 | 24.9               | 13,000          | 1950       | Jan. 4, 1950   | 26.4               | 27,400          |
|            |               |                    |                 |            | Feb. 13, 1950  | 26.6               | 28,800          |
| 1929       | June 14, 1929 | 22.0               | 7,250           |            | Apr. 4, 1950   | 24.8               | 17,100          |
| 1930       | Jan. 14, 1930 | 23.7               | 9,940           | 1951       | Feb. 21, 1951  | 23.20              | 9,950           |
| 1931       | Mar. 8, 1931  | 16.10              | 3,800           | 1952       | Nov. 25, 1951  | 23.50              | 11,000          |
|            |               |                    |                 |            | Mar. 12, 1952  | 23.50              | 11,000          |
| 1932       | Jan. 17, 1932 | 20.22              | 5,920           | 1953       | Mar. 4, 1953   | 18.3               | 4,900           |
| 1933       | Dec. 25, 1932 | 22.82              | 8,180           |            |                |                    |                 |
|            | Jan. 23, 1933 | 23.63              | 9,720           | 1954       | May 3, 1954    | 20.44              | 6,290           |
|            | Apr. 16, 1933 | 24.30              | 11,400          |            |                |                    |                 |
|            | May 12, 1933  | 23.45              | 9,300           | 1955       | Mar. 21, 1955  | 25.10              | 18,800          |
|            | May 14, 1933  | 25.86              | 16,600          |            |                |                    |                 |
|            |               |                    |                 | 1956       | Feb. 19, 1956  | 19.79              | 5,490           |
| 1934       | Mar. 27, 1934 | 12.78              | 2,560           |            |                |                    |                 |
|            |               |                    |                 | 1957       | Apr. 4, 1957   | 26.53              | 28,100          |
| 1935       | Mar. 11, 1935 | 28.20              | 40,000          |            | May 20, 1957   | 23.30              | 10,300          |
|            |               |                    |                 |            | May 23, 1957   | 26.27              | 26,700          |
| 1936       | Nov. 16, 1935 | 9.64               | 1,610           |            | July 1, 1957   | 26.07              | 25,300          |
| 1937       | Jan. 14, 1937 | 27.67              | 40,400          | 1958       | Nov. 19, 1957  | 23.17              | 9,950           |
|            |               |                    |                 |            | Dec. 20, 1957  | 23.78              | 12,200          |
| 1938       | Feb. 19, 1938 | 23.72              | 14,900          |            | Mar. 25, 1958  | 24.90              | 17,600          |
| 1939       | Mar. 6, 1939  | 23.35              | 10,950          | 1959       | Nov. 18, 1959  | 24.35              | 15,000          |
|            | Apr. 17, 1939 | 24.17              | 14,600          |            |                |                    |                 |
| 1940       | Apr. 20, 1940 | 22.10              | 7,730           | 1960       | May 20, 1960   | 19.26              | 5,110           |
| 1941       | Jan. 2, 1941  | 12.3               | 2,480           | 1961       | May 8, 1961    | 25.47              | 21,000          |
|            |               |                    |                 |            |                |                    |                 |
| 1942       | Apr. 9, 1942  | 23.20              | 10,200          | 1962       | Jan. 23, 1962  | 23.11              | 9,660           |
|            |               |                    |                 |            | Mar. 22, 1962  | 23.00              | 9,400           |
| 1943       | Dec. 28, 1942 | 22.45              | 8,150           | 1963       | Mar. 17, 1963  | 20.11              | 5,560           |
|            | May 11, 1943  | 26.60              | 31,600          |            |                |                    |                 |
|            |               |                    |                 | 1964       | Mar. 9, 1964   | 26.95              | 35,000          |
| 1944       | Apr. 24, 1944 | 23.60              | 11,700          |            |                |                    |                 |
|            |               |                    |                 | 1965       | Sept. 23, 1965 | 21.52              | 7,050           |

## HEADWATER DIVERSION CHANNEL BASIN

7-0212. Sunnybrook Creek at Lutesville, Mo.

Location--Lat 37°17'05", long 89°58'55", in NW¼SE¼ sec.7, T.30 N., R.10 E., on left bank just upstream from bridge on State Highway 51, one half mile south of city limits of Lutesville.

Drainage area--0.52 sq mi. Slope--196 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 221 and 440 cfs by indirect measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | May 6, 1955   | 2.59               | 260             |            |      |                    |                 |
| 1956       | Feb. 2, 1956  | 2.29               | 195             |            |      |                    |                 |
| 1957       | June 30, 1957 | 3.07               | 440             |            |      |                    |                 |
| 1958       | Dec. 19, 1957 | 2.92               | 400             |            |      |                    |                 |
| 1959       |               | (a)                | (b)             |            |      |                    |                 |
| 1960       | Oct. 13, 1959 | 2.20               | 180             |            |      |                    |                 |
| 1961       | May 7, 1961   | 2.69               | 300             |            |      |                    |                 |
| 1962       | Feb. 26, 1962 | 2.54               | 250             |            |      |                    |                 |
| 1963       | Mar. 4, 1963  | 2.31               | 200             |            |      |                    |                 |
| 1964       | Mar. 9, 1964  | 2.32               | 200             |            |      |                    |                 |
| 1965       | July 2, 1965  | 2.96               | 400             |            |      |                    |                 |

a Stage below bottom of gage.

b Less than 140 cfs.

## MISSISSIPPI RIVER MAIN STEM

7-0220. Mississippi River at Thebes, Ill.  
(Published as "at Cape Girardeau, Mo." prior to 1941)

Location--Lat 37°13'00", long 89°27'50", in NW¼ sec.17, T.15 S., R.3 W., on downstream side of railroad bridge at Thebes, 5.0 miles downstream from headwater diversion channel and at mile 43.7 above Ohio River.

Drainage area--717,200 sq mi, approximately.

Gage--Nonrecording prior to Dec. 21, 1934, and Apr. 5, 1941, to Sept. 30, 1943; recording Dec. 22, 1934, to Apr. 4, 1941, and since Oct. 1, 1943. Prior to Apr. 5, 1941, at site 8.2 miles upstream at datum 304.65 ft higher than present gage; Apr. 5, 1941, to Sept. 30, 1944, at present site and at datum 300.00 ft higher than present datum. Gage heights given herein beginning with 1941 converted to present datum which is at mean sea level, datum of 1929. Since Oct. 1, 1943, former gage at Cape Girardeau used as auxiliary gage; previously, various auxiliary gages used.

Stage-discharge relation--Affected by backwater from Ohio River. Fall between auxiliary and reference gage used as a factor in computing discharge. Frequent current-meter measurements necessary to define relationship.

Bankfull stage--333 ft.

Remarks--Natural flow of stream affected by many reservoirs and navigation dams in Upper Mississippi River basin, and by many reservoirs and diversions for irrigation in Missouri River basin. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1844       | July 4, 1844   | a42.53             | a1,375,000      |            |      |                    |                 |
| 1933       | May 18, 1933   | b34.4              | 525,000         |            |      |                    |                 |
| 1934       | Apr. 27, 1934  | 14.4               | 140,000         |            |      |                    |                 |
| 1935       | June 10, 1935  | b36.26             | 623,000         |            |      |                    |                 |
| 1936       | Mar. 2, 1936   | 25.19              | 318,000         |            |      |                    |                 |
| 1937       | May 7, 1937    | 30.36              | 420,000         |            |      |                    |                 |
| 1938       | May 28, 1938   | 31.0               | c552,000        |            |      |                    |                 |
| 1939       | Apr. 21, 1939  | 35.8               | c637,000        |            |      |                    |                 |
| 1940       | Apr. 21, 1940  | 19.64              | 199,000         |            |      |                    |                 |
| 1941       | Apr. 24, 1941  | 329.11             | 469,000         |            |      |                    |                 |
| 1942       | June 30, 1942  | b335.65            | 615,000         |            |      |                    |                 |
| 1943       | May 27, 1943   | 340.26             | 893,000         |            |      |                    |                 |
| 1944       | May 6, 1944    | 339.05             | 812,000         |            |      |                    |                 |
| 1945       | Apr. 2, 1945   | b337.90            | 702,000         |            |      |                    |                 |
| 1946       | Jan. 14, 1946  | 333.68             | 506,000         |            |      |                    |                 |
| 1947       | July 6, 1947   | b340.08            | 837,000         |            |      |                    |                 |
| 1948       | Mar. 28, 1948  | b336.97            | 676,000         |            |      |                    |                 |
| 1949       | Apr. 4, 1949   | b331.35            | 447,000         |            |      |                    |                 |
| 1950       | May 15, 1950   | b332.29            | 491,000         |            |      |                    |                 |
| 1951       | July 24, 1951  | b339.91            | 805,000         |            |      |                    |                 |
| 1952       | May 2, 1952    | 337.36             | 685,000         |            |      |                    |                 |
| 1953       | Apr. 6, 1953   | 326.66             | 382,000         |            |      |                    |                 |
| 1954       | June 7, 1954   | 322.25             | 292,000         |            |      |                    |                 |
| 1955       | Feb. 25, 1955  | 324.39             | 329,000         |            |      |                    |                 |
| 1956       | Oct. 9, 1955   | 318.48             | 220,000         |            |      |                    |                 |
| 1957       | May 23, 1957   | b331.62            | 463,000         |            |      |                    |                 |
| 1958       | July 25, 1958  | b333.87            | 534,000         |            |      |                    |                 |
| 1959       | June 5, 1959   | 326.11             | 364,000         |            |      |                    |                 |
| 1960       | Apr. 11, 1960  | 337.19             | 685,000         |            |      |                    |                 |
| 1961       | May 13, 1961   | 338.74             | 739,000         |            |      |                    |                 |
| 1962       | Mar. 27, 1962  | 336.28             | 628,000         |            |      |                    |                 |
| 1963       | Mar. 9, 1963   | 327.16             | 314,000         |            |      |                    |                 |
| 1964       | Apr. 9, 1964   | 324.62             | 313,000         |            |      |                    |                 |
| 1965       | Sept. 29, 1965 | b334.36            | 542,000         |            |      |                    |                 |

a Computed by Corps of Engineers.

b Occurred at different time than peak discharge.

c Computed on basis of records at Chester, Ill.

## ST. FRANCIS RIVER BASIN

7-0330. Wolf Creek near Farmington, Mo.

Location.--Lat 37°45'45", long 90°23'15", in SE $\frac{1}{4}$  sec.5, T.35 N., R.6 E., on downstream side of bridge on U.S. Highways 61 and 67,  $1\frac{1}{4}$  miles below mouth of Sand Creek, and  $1\frac{1}{2}$  miles southeast of Farmington.

Drainage area.--40.3 sq mi. Slope.--19.9 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 9,870 cfs by indirect measurement and below 3,400 cfs by current-meter measurements.

Bankfull stage.--13 ft.

Remarks.--Only annual peaks are shown. Operated as a non-recording gaging station from Feb. 9 to Sept. 30, 1939.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 20, 1955  | 15.44              | 3,500           |            |      |                    |                 |
| 1956       | May 12, 1956   | 11.84              | 1,200           |            |      |                    |                 |
| 1957       | June 30, 1957  | 18.02              | 9,870           |            |      |                    |                 |
| 1958       | Dec. 17, 1957  | 14.67              | 2,700           |            |      |                    |                 |
| 1959       | Apr. 19, 1959  | 14.57              | 2,500           |            |      |                    |                 |
| 1960       | Dec. 17, 1959  | 14.72              | 2,600           |            |      |                    |                 |
| 1961       | Mar. 5, 1961   | 15.62              | 3,700           |            |      |                    |                 |
| 1962       | Jan. 22, 1962  | 15.29              | 3,400           |            |      |                    |                 |
| 1963       | May 18, 1963   | 14.99              | 3,000           |            |      |                    |                 |
| 1964       | May 11, 1964   | 13.72              | 2,100           |            |      |                    |                 |
| 1965       | Sept. 22, 1965 | 15.35              | 3,500           |            |      |                    |                 |

## ST. FRANCIS RIVER BASIN

7-0355. Barnes Creek near Fredericktown, Mo.

Location.--Lat 37°34'20", long 90°23'00", in SW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.4, T.33 N., R.6 E., on right downstream abutment of bridge on State Highway 72, 1.1 miles upstream from Little St. Francis River and 5.3 miles west of Fredericktown.

Drainage area.--4.03 sq mi. Slope.--11.4 ft per mi.

Gage.--Recording.

Stage-discharge relation.--Defined at 4,840 cfs by indirect measurement. Defined below 754 cfs by current-meter measurement.

Remarks.--Base for partial-duration series 200 cfs. Only annual peaks are shown subsequent to 1959.

## Peak stages and discharges

| Water year     | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|----------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1956           | Nov. 15, 1955  | 7.19               | 900             |            |      |                    |                 |
|                | Feb. 1, 1956   | 5.36               | 202             |            |      |                    |                 |
|                | Feb. 17, 1956  | 5.78               | 309             |            |      |                    |                 |
|                | May 15, 1956   | 5.78               | 309             |            |      |                    |                 |
| 1957           | Feb. 26, 1956  | 5.37               | 204             |            |      |                    |                 |
|                | Mar. 24, 1956  | 6.38               | 520             |            |      |                    |                 |
|                | Apr. 3, 1956   | 7.19               | 930             |            |      |                    |                 |
|                | May 18, 1956   | 7.95               | 1,600           |            |      |                    |                 |
|                | May 21, 1956   | 9.62               | 5,550           |            |      |                    |                 |
|                | May 25, 1956   | 6.25               | 428             |            |      |                    |                 |
|                | June 1, 1956   | 8.37               | 2,370           |            |      |                    |                 |
|                | June 30, 1956  | 9.53               | 5,380           |            |      |                    |                 |
| 1958           | Nov. 18, 1957  | 5.50               | 235             |            |      |                    |                 |
|                | Dec. 17, 1957  | 6.36               | 500             |            |      |                    |                 |
|                | Feb. 27, 1958  | 5.43               | 218             |            |      |                    |                 |
|                | Mar. 23, 1958  | 5.63               | 268             |            |      |                    |                 |
|                | June 10, 1958  | 8.08               | 1,950           |            |      |                    |                 |
|                | June 25, 1958  | 5.59               | 337             |            |      |                    |                 |
|                | July 18, 1958  | 8.70               | 3,050           |            |      |                    |                 |
|                | Aug. 1, 1958   | 6.30               | 580             |            |      |                    |                 |
| Sept. 10, 1958 | 6.09           | 505                |                 |            |      |                    |                 |
| 1959           | Nov. 16, 1958  | 6.82               | 810             |            |      |                    |                 |
|                | Jan. 21, 1959  | 5.05               | 210             |            |      |                    |                 |
|                | Apr. 19, 1959  | 5.28               | 255             |            |      |                    |                 |
| 1960           | June 13, 1960  | 5.85               | 418             |            |      |                    |                 |
| 1961           | May 8, 1961    | 6.07               | 488             |            |      |                    |                 |
| 1962           | Jan. 21, 1962  | 7.35               | 1,140           |            |      |                    |                 |
| 1963           | Mar. 30, 1963  | 5.44               | 295             |            |      |                    |                 |
| 1964           | Mar. 9, 1964   | 6.37               | 608             |            |      |                    |                 |
| 1965           | Sept. 22, 1965 | 9.20               | 4,250           |            |      |                    |                 |

## ST. FRANCIS RIVER BASIN

7-0375. St. Francis River near Patterson, Mo.

Location--Lat 37°11'40", long 90°30'10", in NE¼ sec.16, T.29 N., R.5 E., at bridge on State Highway 34, 1 mile upstream from Clark Creek and 3 miles east of Patterson.

Drainage area--956 sq mi. Slope--7.24 ft per mi.

Gage--Nonrecording prior to Apr. 12, 1939, and Sept. 6, 1956, to Sept. 26, 1958. Recording Apr. 13, 1939, to Sept. 5, 1956, and since Sept. 27, 1958. Prior to Oct. 1, 1938, at datum 2.00 ft higher. Datum of present gage is 370.45 ft above mean sea level, datum of 1929. Gage heights given herein converted to present datum.

Stage-discharge relation--Defined by current-meter measurements below 55,000 cfs; shifts in relation occur.

Bankfull stage--16 ft.

Remarks--Occasional backwater from Wappapello Reservoir since Apr. 1, 1941. Base for partial-duration series, 21,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1915       | August 1915   | 33.8               | a100,000        | 1939       | Mar. 5, 1939  | 21.90              | 34,600          |
| 1921       | -             | 22.0               | a36,600         |            | Apr. 6, 1939  | 20.80              | 30,700          |
|            |               |                    |                 |            | Apr. 17, 1939 | 21.48              | 33,200          |
| 1922       | Nov. 19, 1921 | 22.0               | 36,600          | 1940       | Apr. 19, 1940 | 17.92              | 21,700          |
|            | Mar. 31, 1922 | 18.95              | 26,700          |            |               |                    |                 |
|            |               |                    |                 | 1941       | Jan. 2, 1941  | 14.40              | 12,600          |
| 1923       | Feb. 1, 1923  | 21.20              | 34,000          | 1942       | Nov. 1, 1941  | 20.40              | 25,800          |
|            | Mar. 16, 1923 | 21.38              | 34,600          |            |               |                    |                 |
|            | May 16, 1923  | 19.40              | 28,000          | 1943       | Dec. 28, 1942 | 22.87              | 33,300          |
| 1924       | May 29, 1924  | 15.50              | 16,600          |            | May 11, 1943  | 29.70              | 68,100          |
| 1925       | Apr. 18, 1925 | 10.85              | 6,880           | 1944       | Apr. 23, 1944 | 19.05              | 20,600          |
| 1926       | Nov. 8, 1925  | 22.50              | 38,200          | 1945       | Feb. 26, 1945 | 24.60              | (b)             |
|            | Feb. 25, 1926 | 17.90              | 23,300          |            | Mar. 6, 1945  | 21.79              | (b)             |
| 1927       | Apr. 1, 1927  | 26.70              | 50,000          |            | Mar. 20, 1945 | 20.10              | (b)             |
|            | Apr. 14, 1927 | 27.00              | 51,000          |            | Mar. 26, 1945 | 21.17              | (b)             |
|            | May 25, 1927  | 21.60              | 33,000          |            | Mar. 31, 1945 | 27.26              | (b)             |
|            | June 1, 1927  | 20.60              | 30,200          |            | Apr. 14, 1945 | 31.00              | (b)             |
|            |               |                    |                 |            | June 9, 1945  | 29.20              | a64,900         |
| 1928       | Dec. 14, 1927 | 27.20              | 51,700          | 1946       | Oct. 22, 1945 | 22.30              | 31,100          |
|            | Apr. 6, 1928  | 21.98              | 34,300          |            | Feb. 14, 1946 | 25.00              | 42,300          |
|            | June 9, 1928  | 22.25              | 34,900          |            | May 1, 1946   | 23.80              | 37,000          |
|            | June 13, 1928 | 22.80              | 36,900          |            | May 16, 1946  | 23.40              | 35,300          |
|            | June 21, 1928 | 25.60              | 46,100          |            | May 25, 1946  | 22.80              | 32,900          |
| 1929       | Jan. 25, 1929 | 20.80              | 30,500          | 1947       | Apr. 25, 1947 | 23.30              | 34,900          |
|            | Apr. 9, 1929  | 19.30              | 26,000          |            |               |                    |                 |
|            | May 6, 1929   | 20.80              | 30,500          | 1948       | Jan. 1, 1948  | 24.86              | 41,800          |
|            | May 13, 1929  | 21.60              | 33,000          |            |               |                    |                 |
| 1930       | Jan. 13, 1930 | 21.70              | 33,200          | 1949       | Jan. 25, 1949 | 28.20              | 59,000          |
| 1931       | Mar. 7, 1931  | 15.52              | 15,300          |            | Feb. 15, 1949 | 20.20              | 24,100          |
| 1932       | Dec. 30, 1931 | 15.86              | 16,300          | 1950       | Oct. 22, 1949 | 21.76              | 29,300          |
| 1933       | Dec. 24, 1932 | 19.75              | 27,500          |            | Jan. 4, 1950  | 26.37              | 53,400          |
|            | Jan. 22, 1933 | 17.80              | 21,500          |            | Jan. 14, 1950 | 18.28              | 21,300          |
|            | Apr. 16, 1933 | 25.07              | 44,400          |            | Feb. 13, 1950 | 24.00              | 41,700          |
|            | May 14, 1933  | 28.80              | 57,400          |            | Apr. 3, 1950  | 19.25              | 23,800          |
|            |               |                    |                 |            | May 10, 1950  | 23.80              | 40,900          |
| 1934       | Apr. 7, 1934  | 13.2               | 10,200          | 1951       | Feb. 7, 1951  | 19.40              | 24,400          |
|            |               |                    |                 |            | Feb. 21, 1951 | 19.46              | 24,800          |
| 1935       | Mar. 11, 1935 | 30.70              | 79,200          | 1952       | Nov. 23, 1951 | 19.29              | 24,100          |
|            | May 5, 1935   | 20.70              | 30,200          |            | Mar. 11, 1952 | 19.20              | 23,800          |
|            | May 20, 1935  | 21.40              | 32,400          | 1953       | Mar. 4, 1953  | 17.87              | 20,300          |
|            | June 21, 1935 | 21.50              | 32,700          |            |               |                    |                 |
| 1936       | Nov. 10, 1935 | 12.75              | 9,600           | 1954       | May 2, 1954   | 20.1               | 26,700          |
|            |               |                    |                 |            | June 8, 1954  | 19.85              | 25,700          |
| 1937       | Nov. 3, 1936  | 19.45              | 26,300          | 1955       | Mar. 21, 1955 | 21.3               | 30,900          |
|            | Dec. 31, 1936 | 19.50              | 26,600          |            |               |                    |                 |
|            | Jan. 8, 1937  | 20.00              | 28,100          | 1956       | May 16, 1956  | 16.56              | 17,200          |
|            | Jan. 15, 1937 | 26.50              | 55,200          |            |               |                    |                 |
| 1938       | Feb. 18, 1938 | 22.65              | 37,300          | 1957       | Apr. 4, 1957  | 27.05              | 57,500          |
|            | Mar. 29, 1938 | 18.70              | 24,100          |            | May 23, 1957  | 23.00              | 36,500          |
|            | Mar. 31, 1938 | 20.00              | 28,100          |            | June 30, 1957 | 28.50              | 66,500          |
| 1939       | Jan. 30, 1939 | 19.01              | 25,000          | 1958       | Dec. 18, 1957 | 20.00              | 25,000          |
|            | Feb. 28, 1939 | 17.97              | 22,000          |            | Mar. 24, 1958 | 22.14              | 36,500          |
|            |               |                    |                 |            | July 19, 1958 | 18.80              | 23,700          |

## ST. FRANCIS RIVER BASIN

## Peak stages and discharges of St. Francis River near Patterson, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1959       | Nov. 17, 1958  | 18.55              | 23,100          |            |      |                    |                 |
|            | Jan. 21, 1959  | 18.15              | 21,800          |            |      |                    |                 |
| 1960       | Dec. 18, 1959  | 18.15              | 21,800          |            |      |                    |                 |
| 1961       | Mar. 6, 1961   | 19.60              | 26,600          |            |      |                    |                 |
|            | May 7, 1961    | 22.10              | 36,500          |            |      |                    |                 |
| 1962       | Jan. 22, 1962  | 22.8               | 39,600          |            |      |                    |                 |
|            | Mar. 21, 1962  | 22.2               | 37,400          |            |      |                    |                 |
| 1963       | May 18, 1963   | 16.35              | 16,600          |            |      |                    |                 |
| 1964       | Mar. 10, 1964  | 25.30              | 47,800          |            |      |                    |                 |
|            | Apr. 6, 1964   | 18.90              | 21,500          |            |      |                    |                 |
| 1965       | Sept. 22, 1965 | 23.40              | 38,300          |            |      |                    |                 |

a Annual peak only.

b Peak discharge indeterminate, affected by backwater from Wappapello Reservoir.

## ST. FRANCIS RIVER BASIN

## 7-0377. Clark Creek near Piedmont, Mo.

Location-- Lat 37°11'10", long 90°37'45", in SE¼NE¼ sec.17, T.29 N., R.4 E., at bridge on State Highway 34, 3.5 miles northeast of Piedmont, Mo.

Drainage area--4.39 sq mi. Slope--63.9 ft per mi.

Gage--Recording.

Stage-discharge relation--Defined at 727 and 1,350 cfs by indirect measurements, and below 360 cfs by current-meter measurements.

Remarks--Base for partial-duration series 250 cfs. Only annual peaks are shown subsequent to 1959.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | Apr. 3, 1957   | 4.78               | 762             |            |      |                    |                 |
|            | May 18, 1957   | 4.76               | 739             |            |      |                    |                 |
|            | May 21, 1957   | 4.04               | 448             |            |      |                    |                 |
|            | May 22, 1957   | 6.10               | 1,400           |            |      |                    |                 |
|            | May 25, 1957   | 4.64               | 694             |            |      |                    |                 |
|            | June 9, 1957   | 3.81               | 371             |            |      |                    |                 |
|            | June 30, 1957  | 4.36               | 566             |            |      |                    |                 |
|            | July 28, 1957  | 5.10               | 902             |            |      |                    |                 |
| 1958       | Mar. 23, 1958  | 3.52               | 288             |            |      |                    |                 |
|            | May 2, 1958    | 4.95               | 831             |            |      |                    |                 |
|            | June 11, 1958  | 4.43               | 607             |            |      |                    |                 |
| 1959       | Nov. 16, 1958  | 5.82               | 1,250           |            |      |                    |                 |
| 1960       | May 19, 1960   | 4.38               | 586             |            |      |                    |                 |
| 1961       | May 7, 1961    | 5.22               | 950             |            |      |                    |                 |
| 1962       | Feb. 26, 1962  | 4.27               | 527             |            |      |                    |                 |
| 1963       | May 26, 1963   | 3.35               | 235             |            |      |                    |                 |
| 1964       | Mar. 8, 1964   | 5.45               | 727             |            |      |                    |                 |
| 1965       | Sept. 22, 1965 | 6.25               | 1,350           |            |      |                    |                 |

## ST. FRANCIS RIVER BASIN

7-0380. Clark Creek at Patterson, Mo.

Location--Lat 37°11'25", long 90°32'20", in NE¼ sec.18, T.29 N., R.5 E., at bridge on State Highway 34, 1 3/4 miles above Rings Creek and 3 miles above mouth, 0.6 mile east of Patterson.

Drainage area--37.5 sq mi. Slope--29.4 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 11,200 cfs by indirect measurement. Define below 910 cfs by current-meter measurements.

Remarks--Only annual peaks are shown. Operated as a conrecording station Feb. 18 to Sept. 30, 1939.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs)    | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|--------------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 20, 1955  | 12.53              | 11,200             |            |      |                    |                 |
| 1956       | May 15, 1956   | 8.36               | 2,600              |            |      |                    |                 |
| 1957       | May 21, 1957   | 11.49              | 8,000              |            |      |                    |                 |
| 1958       | May 2, 1958    | 8.94               | 3,300 <sup>a</sup> |            |      |                    |                 |
| 1959       | Nov. 11, 1958  | 10.70              | 6,500              |            |      |                    |                 |
| 1960       | May 19, 1960   | 9.10               | 3,500              |            |      |                    |                 |
| 1961       | May 7, 1961    | 10.92              | 7,000              |            |      |                    |                 |
| 1962       | Jan. 22, 1962  | 9.84               | 5,000              |            |      |                    |                 |
| 1963       |                | (a)                | (b)                |            |      |                    |                 |
| 1964       | Mar. 9, 1964   | 11.34              | 8,000              |            |      |                    |                 |
| 1965       | Sept. 22, 1965 | 11.79              | 9,000              |            |      |                    |                 |

a Stage below bottom of gage (gage height 8.3).

b. Less than 260 cfs.

## ST. FRANCIS RIVER BASIN

7-0395. St. Francis River at Wappapello, Mo.

Location.--Lat 36°55'41", long 90°15'55", in NW $\frac{1}{4}$ SE $\frac{1}{4}$  sec.2, T.26 N., R.7 E., on right bank at downstream side of highway bridge, 0.5 mile southeast of Wappapello and 1.25 miles downstream from Wappapello Dam.

Drainage area.--1,311 sq mi. Slope.--5.88 ft per mi.

Gage.--Nonrecording prior to Oct. 14, 1940; recording thereafter. Datum of gage is 325.15 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage.--22 ft.

Remarks.--Records furnished by Corps of Engineers. Flow regulated by Wappapello Reservoir (capacity at spillway crest, 625,000 acre-ft). Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date               | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|--------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1941       | Jan. 5, 1941       | 10.76              | 3,320           |            |      |                    |                 |
| 1942       | Nov. 2, 1941       | 19.65              | 7,640           |            |      |                    |                 |
| 1943       | Dec. 30, 1942      | 21.81              | 9,270           |            |      |                    |                 |
| 1944       | Mar. 3, 1944       | 11.21              | 3,320           |            |      |                    |                 |
| 1945       | Apr. 16, 1945      | 25.60              | 22,300          |            |      |                    |                 |
| 1946       | Feb. 15-17, May 18 | a22.60             | 10,600          |            |      |                    |                 |
| 1947       | Apr. 26, 1947      | b21.98             | 10,000          |            |      |                    |                 |
| 1948       | Jan. 3, 1948       | 21.35              | 10,000          |            |      |                    |                 |
| 1949       | Feb. 4, 1949       | 22.46              | 10,900          |            |      |                    |                 |
| 1950       | Jan. 18, 1950      | 22.42              | 10,500          |            |      |                    |                 |
| 1951       | Feb. 23, 1951      | 21.75              | 9,990           |            |      |                    |                 |
| 1952       | Nov. 26, 1951      | 21.49              | 9,410           |            |      |                    |                 |
| 1953       | Mar. 6, 1953       | 17.22              | 6,060           |            |      |                    |                 |
| 1954       | June 11, 1954      | 18.67              | 7,190           |            |      |                    |                 |
| 1955       | Mar. 22, 1955      | 21.04              | 9,850           |            |      |                    |                 |
| 1956       | Feb. 19, 1956      | 17.00              | 6,130           |            |      |                    |                 |
| 1957       | Apr. 11, 1957      | 22.15              | 10,300          |            |      |                    |                 |
| 1958       | Mar. 27, 1958      | c21.37             | 10,200          |            |      |                    |                 |
| 1959       | Nov. 19, 1958      | 20.11              | 8,300           |            |      |                    |                 |
| 1960       | Dec. 19, 1959      | 18.50              | 7,410           |            |      |                    |                 |
| 1961       | May 8, 1961        | 21.92              | 10,350          |            |      |                    |                 |
| 1962       | Mar. 22, 1962      | 20.54              | 9,030           |            |      |                    |                 |
| 1963       | May 29, 1963       | 16.06              | 6,270           |            |      |                    |                 |
| 1964       | Mar. 10, 1964      | d22.11             | 10,400          |            |      |                    |                 |
| 1965       | Sept. 23, 1965     | e18.80             | 7,950           |            |      |                    |                 |

a Occurred Feb. 16, 1946.

b Occurred on following day.

c Occurred Mar. 30, 1958

d Occurred Mar. 16, 1964

e Occurred Sept. 26, 1965

## ST. FRANCIS RIVER BASIN

7-0401.1. Delaware Creek Tributary near Bloomfield, Mo.

Location--Lat 36°51'32", long 89°56'10", in NW<sup>1</sup>NE<sup>1</sup> sec.35, T.26 N., R.10 E., on right downstream wingwall of double box culvert under State Highway 25, 1.8 miles southwest of Bloomfield.

Drainage area--0.38 sq mi. Slope--85.5 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 455, 628, and 651 cfs by indirect measurements. Defined below 77 cfs by current-meter measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | May 27, 1955   | 12.04              | 380             |            |      |                    |                 |
| 1956       | Aug. 31, 1956  | 12.31              | 455             |            |      |                    |                 |
| 1957       | June 29, 1957  | 12.87              | 628             |            |      |                    |                 |
| 1958       | Mar. 24, 1958  | 10.76              | 80              |            |      |                    |                 |
| 1959       |                | (a)                | (b)             |            |      |                    |                 |
| 1960       | June 27, 1960  | 12.21              | 430             |            |      |                    |                 |
| 1961       | June 14, 1961  | 12.57              | 540             |            |      |                    |                 |
| 1962       | Feb. 26, 1962  | 12.84              | 620             |            |      |                    |                 |
| 1963       | Sept. 13, 1963 | c 13.55            | c650            |            |      |                    |                 |
| 1964       | Mar. 9, 1964   | c 12.87            | c470            |            |      |                    |                 |
| 1965       | Sept. 11, 1965 | 13.58              | 650             |            |      |                    |                 |

a Stage below bottom of gage.

b Less than 300 cfs.

c Revised.

## ST. FRANCIS RIVER BASIN

7-0410. Little River ditch 81 near Kennett, Mo.

Location--Lat 36°14'10", long 89°58'55", in NE¼ sec.4, T.18 N., R.10 E., at bridge on State Highway 84, about 4 miles east of Kennett.

Drainage area--111 sq mi. Slope--1.0 ft per mi.

Gage--Nonrecording. Datum of gage is 241.00 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Stage-discharge relation--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage--10 ft.

Remarks--Records not comparable with those of station at Kirk, 1921-26, because of additional ditch construction. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1927       | Apr. 21, 1927     | 15.11              | a2,760          |            |      |                    |                 |
| 1928       | June 30, 1928     | 13.06              | 2,710           |            |      |                    |                 |
| 1929       | Feb. 27, 1929     | 10.88              | 2,000           |            |      |                    |                 |
| 1930       | Jan. 10, 14, 1930 | 11.38              | 1,770           |            |      |                    |                 |
| 1931       | Mar. 8, 1931      | 4.48               | 303             |            |      |                    |                 |
| 1932       | Jan. 18, 1932     | 9.80               | 1,370           |            |      |                    |                 |
| 1933       | Jan. 1, 1933      | 10.34              | 1,380           |            |      |                    |                 |
| 1934       | Mar. 27, 1934     | 10.28              | 1,490           |            |      |                    |                 |
| 1935       | Mar. 15, 1935     | 12.11              | 2,610           |            |      |                    |                 |
| 1936       | Apr. 7, 1936      | 5.27               | 386             |            |      |                    |                 |
| 1937       | Jan. 26, 1937     | 12.53              | 2,310           |            |      |                    |                 |
| 1938       | Feb. 18, 1938     | 11.46              | 1,960           |            |      |                    |                 |
| 1939       | Apr. 18, 1939     | 10.36              | 1,600           |            |      |                    |                 |
| 1940       | Apr. 20, 1940     | 7.10               | 837             |            |      |                    |                 |
| 1941       | Jan. 25, 1941     | 4.57               | 330             |            |      |                    |                 |
| 1942       | Apr. 9, 1942      | 10.1               | 1,850           |            |      |                    |                 |
| 1943       | May 12, 1943      | 9.3                | 1,380           |            |      |                    |                 |
| 1944       | Apr. 13, 1944     | 10.36              | 1,950           |            |      |                    |                 |
| 1945       | June 18, 1945     | 12.18              | 2,620           |            |      |                    |                 |
| 1946       | Jan. 9, 1946      | 10.15              | 1,890           |            |      |                    |                 |
| 1947       | Apr. 12, 1947     | 6.3                | 805             |            |      |                    |                 |
| 1948       | Mar. 27, 1948     | 8.5                | 1,400           |            |      |                    |                 |
| 1949       | Jan. 28, 1949     | 11.26              | 2,300           |            |      |                    |                 |
| 1950       | Feb. 16, 1950     | 11.90              | 2,440           |            |      |                    |                 |
| 1951       | Feb. 21, 1951     | 11.21              | 2,200           |            |      |                    |                 |
| 1952       | Jan. 5, 1952      | 11.44              | 2,230           |            |      |                    |                 |
| 1953       | Mar. 18, 1953     | 8.38               | 1,310           |            |      |                    |                 |
| 1954       | Jan. 21, 1954     | b 5.45             | 548             |            |      |                    |                 |
| 1955       | Mar. 21, 1955     | 9.2                | 1,550           |            |      |                    |                 |
| 1956       | Feb. 18, 1956     | 10.84              | 2,060           |            |      |                    |                 |
| 1957       | July 2, 1957      | 11.50              | 2,300           |            |      |                    |                 |
| 1958       | Nov. 19, 1957     | 11.86              | 2,440           |            |      |                    |                 |
| 1959       | Feb. 14, 1959     | 9.00               | 1,490           |            |      |                    |                 |
| 1960       | May 21, 1960      | 8.37               | 1,310           |            |      |                    |                 |
| 1961       | May 7, 1961       | 12.3               | 2,580           |            |      |                    |                 |
| 1962       | Feb. 28, 1962     | 12.46              | 2,470           |            |      |                    |                 |
| 1963       | Mar. 5, 1963      | 8.76               | 1,430           |            |      |                    |                 |
| 1964       | Mar. 10, 1964     | 12.45              | 2,610           |            |      |                    |                 |
| 1965       | Feb. 10, 1965     | 11.00              | 2,130           |            |      |                    |                 |

a Includes some flow from levee break on St. Francis River.

b Observed.

## ST. FRANCIS RIVER BASIN

7-0420. Little River ditch 1 near Kennett, Mo.

Location.--Lat 36°14'10", long 89°58'50", in NE¼ sec.4, T.18 N., R.10 E., at bridge on State Highway 84, about 4 miles east of Kennett.

Drainage area.--235 sq mi. Slope.--1.0 ft per mi.

Gage.--Nonrecording. Datum of gage is 241.00 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Stage-discharge relation.--Defined by current-meter measurements; large shifts occur frequently.

Bankfull stage.--13 ft.

Remarks.--Records not comparable with those of station at Kirk, 1921-26, because of additional ditch construction. A spillway 6.3 miles upstream diverted water at high stages from ditches 66, 66-A, and 251 to ditch 1. This spillway was washed out and closed April 1951. Crests have been adjusted where necessary for spillway diversion with data supplied by the Little River Drainage District. Ditch 1 near Kennett has no connection with ditch 1 near Morehouse. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date             | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1927       | Apr. 25, 1927    | 16.56              | a7,520          |            |      |                    |                 |
| 1928       | June 24, 1928    | 10.34              | 2,990           |            |      |                    |                 |
| 1929       | Feb. 27, 1929    | 11.63              | 4,010           |            |      |                    |                 |
| 1930       | Jan. 15, 1930    | 13.24              | 5,040           |            |      |                    |                 |
| 1931       | Mar. 9, 1931     | 5.05               | 545             |            |      |                    |                 |
| 1932       | Jan. 18, 1932    | 10.95              | 3,510           |            |      |                    |                 |
| 1933       | May 16, 1933     | 11.16              | 3,040           |            |      |                    |                 |
| 1934       | Mar. 27, 1934    | 12.37              | 2,810           |            |      |                    |                 |
| 1935       | Mar. 17, 1935    | 16.22              | 4,800           |            |      |                    |                 |
| 1936       | Apr. 7, 1936     | 8.32               | 1,180           |            |      |                    |                 |
| 1937       | Jan. 25, 1937    | 16.80              | 7,260           |            |      |                    |                 |
| 1938       | Feb. 19, 1938    | 12.65              | 3,940           |            |      |                    |                 |
| 1939       | Apr. 18, 1939    | 12.22              | b3,700          |            |      |                    |                 |
| 1940       | Apr. 21, 1940    | 7.08               | 2,310           |            |      |                    |                 |
| 1941       | Jan. 25, 1941    | 3.7                | 582             |            |      |                    |                 |
| 1942       | Apr. 10, 1942    | 10.8               | 4,080           |            |      |                    |                 |
| 1943       | May 12, 1943     | 11.6               | 3,550           |            |      |                    |                 |
| 1944       | Apr. 14, 1944    | 12.8               | 5,010           |            |      |                    |                 |
| 1945       | June 15, 1945    | 16.41              | b6,730          |            |      |                    |                 |
| 1946       | Jan. 10, 1946    | 12.26              | b4,460          |            |      |                    |                 |
| 1947       | Apr. 12, 1947    | 7.4                | 2,250           |            |      |                    |                 |
| 1948       | Mar. 27, 1948    | 11.10              | 4,130           |            |      |                    |                 |
| 1949       | Feb. 16-18, 1949 | 15.68              | b5,740          |            |      |                    |                 |
| 1950       | Jan. 14, 1950    | 16.57              | b7,360          |            |      |                    |                 |
| 1951       | Jan. 16, 1951    | 14.60              | b5,840          |            |      |                    |                 |
| 1952       | Jan. 5, 1952     | 14.50              | 5,900           |            |      |                    |                 |
| 1953       | Mar. 19, 1953    | 9.70               | 3,020           |            |      |                    |                 |
| 1954       | Jan. 21, 1954    | 7.12               | 1,860           |            |      |                    |                 |
| 1955       | Mar. 21, 1955    | 11.1               | 3,840           |            |      |                    |                 |
| 1956       | Feb. 18, 1956    | 11.97              | 4,330           |            |      |                    |                 |
| 1957       | May 25, 1957     | 14.77              | 5,200           |            |      |                    |                 |
| 1958       | Mar. 25, 1958    | 16.65              | 6,250           |            |      |                    |                 |
| 1959       | Feb. 15, 1959    | 11.80              | 3,720           |            |      |                    |                 |
| 1960       | May 21, 1960     | 11.2               | 3,630           |            |      |                    |                 |
| 1961       | May 7, 1961      | 14.2               | 5,690           |            |      |                    |                 |
| 1962       | Feb. 28, 1962    | 13.00              | 4,880           |            |      |                    |                 |
| 1963       | Mar. 5, 1963     | 9.30               | 2,830           |            |      |                    |                 |
| 1964       | Mar. 11, 1964    | 14.39              | 6,200           |            |      |                    |                 |
| 1965       | Feb. 12, 1965    | 12.06              | 4,820           |            |      |                    |                 |

a Includes some inflow from levee breaks on St. Francis River.

b Adjusted for inflow from ditches 66, 66-A, and 251.

## ST. FRANCIS RIVER BASIN

7-0425. Little River ditch 251 near Lilbourn, Mo.

Location.--Lat 36°33'20", long 89°40'10", on line between secs.8 and 17, T.22 N., R.13 E., at bridge on U. S. Highway 62, 3.7 miles southwest of Lilbourn and 4 miles northwest of Marston.

Drainage area.--235 sq mi. Slope.--2.0 ft per mi.

Gage.--Nonrecording. Datum of gage is 263.46 ft above mean sea level, datum of 1929 (levels by State Highway Department).

Stage-discharge relation--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage.--14 ft.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1945       | June 1945         | 15.6               | 3,200           |            |      |                    |                 |
| 1946       | May 27, 1946      | 13.35              | 2,500           |            |      |                    |                 |
| 1947       | Apr. 11, 1947     | 9.10               | 1,300           |            |      |                    |                 |
| 1948       | Mar. 27, 1948     | 12.0               | 2,100           |            |      |                    |                 |
| 1949       | Jan. 28, 1949     | 14.88              | 3,120           |            |      |                    |                 |
| 1950       | Feb. 15, 1950     | 15.16              | 3,210           |            |      |                    |                 |
| 1951       | Feb. 21, 1951     | 13.55              | 2,700           |            |      |                    |                 |
| 1952       | Jan. 4, 1952      | 13.37              | 2,780           |            |      |                    |                 |
| 1953       | Mar. 17, 1953     | 10.6               | 1,950           |            |      |                    |                 |
| 1954       | Jan. 20, 1954     | 7.20               | 994             |            |      |                    |                 |
| 1955       | Mar. 21, 1955     | 11.6               | 2,240           |            |      |                    |                 |
| 1956       | Feb. 18, 1956     | 12.06              | 2,390           |            |      |                    |                 |
| 1957       | May 23, 1957      | 14.15              | 2,970           |            |      |                    |                 |
| 1958       | Nov. 18, 19, 1957 | 14.72              | 3,150           |            |      |                    |                 |
| 1959       | Jan. 21, 1959     | 10.80              | 1,890           |            |      |                    |                 |
| 1960       | May 20, 1960      | 10.00              | 1,660           |            |      |                    |                 |
| 1961       | May 9, 1961       | 13.90              | 2,930           |            |      |                    |                 |
| 1962       | Feb. 24, 1962     | 12.62              | 2,540           |            |      |                    |                 |
| 1963       | Mar. 5, 1963      | 11.50              | 2,100           |            |      |                    |                 |
| 1964       | Mar. 10, 1964     | 15.00              | 3,530           |            |      |                    |                 |
| 1965       | Feb. 12, 1965     | 13.30              | 2,660           |            |      |                    |                 |

## ST. FRANCIS RIVER BASIN

7-0430. Castor River at Aquilla, Mo.

Location--Lat 36°57'10", long 89°54'25", in NE¼SE¼ sec.25, T.27.N., R.10 E., at bridge on State Highway 25, half a mile north of Aquilla and 4 miles north of Bloomfield.

Drainage area--175 sq mi. Slope--0.80 ft per mi.

Gage--Nonrecording. Datum of gage is 317.11 ft above mean sea level (levels by State Highway Department).

Stage-discharge relation--Defined by current-meter measurements; large shifts in relation occur frequently.

Bankfull stage--13 ft.

Remarks--Entire flow from headwaters of Castor River is diverted 22 miles above station to Headwater diversion channel. See Castor River at Zalma for records of flow above diversion. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1945       | June 1, 1945  | 14.2               | 3,600           |            |      |                    |                 |
| 1946       | May 3, 1946   | 11.02              | 2,000           |            |      |                    |                 |
| 1947       | Apr. 11, 1947 | 9.65               | 1,560           |            |      |                    |                 |
| 1948       | Jan. 1, 1948  | 10.95              | 2,220           |            |      |                    |                 |
| 1949       | Jan. 25, 1949 | 12.75              | 3,000           |            |      |                    |                 |
| 1950       | Jan. 4, 1950  | 13.45              | 3,430           |            |      |                    |                 |
| 1951       | Jan. 15, 1951 | 11.56              | 1,760           |            |      |                    |                 |
| 1952       | Mar. 11, 1952 | 12.20              | 1,960           |            |      |                    |                 |
| 1953       | Mar. 22, 1953 | 10.69              | 1,500           |            |      |                    |                 |
| 1954       | May 3, 1954   | 8.0                | 810             |            |      |                    |                 |
| 1955       | Mar. 22, 1955 | 11.46              | 1,730           |            |      |                    |                 |
| 1956       | Feb. 18, 1956 | 10.97              | 1,580           |            |      |                    |                 |
| 1957       | May 23, 1957  | 14.00              | 4,100           |            |      |                    |                 |
| 1958       | Mar. 24, 1958 | 13.25              | 2,980           |            |      |                    |                 |
| 1959       | Jan. 21, 1959 | 10.40              | 1,300           |            |      |                    |                 |
| 1960       | Mar. 21, 1960 | 9.40               | 1,010           |            |      |                    |                 |
| 1961       | May 7, 1961   | 14.43              | 4,700           |            |      |                    |                 |
| 1962       | Feb. 27, 1962 | 13.22              | 2,980           |            |      |                    |                 |
| 1963       | Mar. 17, 1963 | 10.93              | 1,470           |            |      |                    |                 |
| 1964       | Mar. 9, 1964  | 15.7               | 5,900           |            |      |                    |                 |
| 1965       | Apr. 4, 1965  | 11.92              | 2,160           |            |      |                    |                 |

## ST. FRANCIS RIVER BASIN

7-0435. Little River ditch 1 near Morehouse, Mo.

Location.--Lat 36°50'05", long 89°43'50", in NW¼SE¼ sec.2, T.25 N., R.12 E., at bridge on U. S. Highway 60, 1½ miles downstream from Little River ditch 39 and 2 miles west of Morehouse.

Drainage area.--450 sq mi. Slope.--2.0 ft per mi.

Gage.--Nonrecording. Datum of gage is 280.76 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements; large shift in relation occurred during summer of 1947 due to channel enlargement.

Bankfull stage.--13 ft.

Remarks.--This ditch has no connection with ditch 1 near Kennett. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date            | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1945       | June 1945       | 19.85              | 5,830           |            |      |                    |                 |
| 1946       | May 3, 1946     | 17.2               | 4,600           |            |      |                    |                 |
| 1947       | Apr. 12, 1947   | 13.92              | 3,230           |            |      |                    |                 |
| 1948       | Jan. 2, 1948    | 13.6               | 4,760           |            |      |                    |                 |
| 1949       | Jan. 25, 1949   | 15.35              | 6,270           |            |      |                    |                 |
| 1950       | Jan.13,16, 1950 | 16.30              | 6,920           |            |      |                    |                 |
| 1951       | Jan. 15, 1951   | 14.60              | 5,570           |            |      |                    |                 |
| 1952       | Mar. 11, 1952   | 16.50              | 7,020           |            |      |                    |                 |
| 1953       | Mar. 23, 1953   | 13.15              | 4,540           |            |      |                    |                 |
| 1954       | May 3, 1954     | 7.60               | 1,300           |            |      |                    |                 |
| 1955       | Mar. 21, 1955   | 15.6               | 6,170           |            |      |                    |                 |
| 1956       | Feb. 18, 1956   | 14.27              | 5,340           |            |      |                    |                 |
| 1957       | May 26, 1957    | 16.35              | 6,250           |            |      |                    |                 |
| 1958       | Mar. 25, 1958   | 18.26              | 7,660           |            |      |                    |                 |
| 1959       | Jan. 21, 1959   | 11.60              | 3,320           |            |      |                    |                 |
| 1960       | Mar. 21, 1960   | 9.30               | 2,130           |            |      |                    |                 |
| 1961       | May 10, 1961    | 19.35              | 8,250           |            |      |                    |                 |
| 1962       | Feb. 28, 1962   | 18.55              | 7,180           |            |      |                    |                 |
| 1963       | Mar. 17, 1963   | 14.80              | 4,480           |            |      |                    |                 |
| 1964       | Mar. 11, 1964   | 19.81              | 6,940           |            |      |                    |                 |
| 1965       | Feb. 12, 1965   | 15.80              | 5,120           |            |      |                    |                 |

## ST. FRANCIS RIVER BASIN

7-0440. Little River ditch 251 near Kennett, Mo.  
(Includes records for ditches 66 and 66-A published separately in  
annual water-supply papers)

Location--Lat 36°14'10", long 89°58'40", in NW¼ sec.3, T.18 N., R.10 E., at bridge on State Highway 84, about 4 miles east of Kennett.

Drainage area--883 sq mi, including that of Little River ditches 66 and 66-A. Slope--1.0 ft per mi.

Gage--Nonrecording. Datum of gage is 241.00 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Stage-discharge relation--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage--15 ft.

Remarks--Ditch 251 completed after November 1926. At high stages a spillway 6.3 miles upstream diverted water from ditches 66, 66-A, and 251 into ditch 1. This spillway was washed out and closed April 1951. Crests have been corrected where necessary for spillway diversion with data supplied by the Little River Drainage District. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1927       | Apr. 25, 1927     | 17.67              | 12,500          |            |      |                    |                 |
| 1928       | June 24, 1928     | 14.95              | 9,040           |            |      |                    |                 |
| 1929       | Feb. 28, 1929     | 15.37              | 9,500           |            |      |                    |                 |
| 1930       | Jan. 14, 15, 1930 | 16.41              | 11,000          |            |      |                    |                 |
| 1931       | Mar. 9, 1931      | 10.12              | 4,110           |            |      |                    |                 |
| 1932       | Jan. 18, 1932     | 14.50              | 8,250           |            |      |                    |                 |
| 1933       | May 16, 1933      | 15.18              | 8,190           |            |      |                    |                 |
| 1934       | Mar. 28, 1934     | 13.66              | 6,260           |            |      |                    |                 |
| 1935       | Mar. 16, 1935     | 16.40              | 8,960           |            |      |                    |                 |
| 1936       | Apr. 8, 1936      | 11.28              | 4,190           |            |      |                    |                 |
| 1937       | Jan. 25, 1937     | 18.20              | 12,700          |            |      |                    |                 |
| 1938       | Feb. 20, 1938     | 15.76              | 9,280           |            |      |                    |                 |
| 1939       | Mar. 7, 1939      | 15.59              | a9,130          |            |      |                    |                 |
| 1940       | Apr. 21, 1940     | 13.35              | 6,980           |            |      |                    |                 |
| 1941       | Jan. 26, 1941     | 7.75               | 2,240           |            |      |                    |                 |
| 1942       | Apr. 10, 1942     | 15.3               | 8,480           |            |      |                    |                 |
| 1943       | May 14, 1943      | 14.9               | 6,830           |            |      |                    |                 |
| 1944       | Apr. 13, 1944     | 15.6               | 8,470           |            |      |                    |                 |
| 1945       | June 13, 1945     | 17.71              | a11,000         |            |      |                    |                 |
| 1946       | Jan. 11, 1946     | 17.0               | a10,200         |            |      |                    |                 |
| 1947       | Apr. 12, 1947     | 13.7               | 6,110           |            |      |                    |                 |
| 1948       | Mar. 28, 1946     | 15.36              | a7,900          |            |      |                    |                 |
| 1949       | Jan. 28, 1949     | 18.75              | a12,700         |            |      |                    |                 |
| 1950       | Jan. 16, 1950     | 18.17              | a11,700         |            |      |                    |                 |
| 1951       | Feb. 22, 1951     | 18.80              | a12,100         |            |      |                    |                 |
| 1952       | Jan. 6, 1952      | 19.60              | 11,000          |            |      |                    |                 |
| 1953       | Mar. 24, 1953     | 13.07              | 4,990           |            |      |                    |                 |
| 1954       | June 11, 1954     | 9.10               | 2,500           |            |      |                    |                 |
| 1955       | Mar. 23, 1955     | 17.1               | 8,350           |            |      |                    |                 |
| 1956       | Feb. 19, 1956     | 17.00              | 8,290           |            |      |                    |                 |
| 1957       | May 26, 1957      | b21.70             | 11,700          |            |      |                    |                 |
| 1958       | Nov. 20, 1957     | 21.18              | 13,100          |            |      |                    |                 |
| 1959       | Jan. 22, 1959     | 15.82              | 6,820           |            |      |                    |                 |
| 1960       | May 21, 1960      | 12.85              | 4,400           |            |      |                    |                 |
| 1961       | May 9, 1961       | 20.40              | 13,000          |            |      |                    |                 |
| 1962       | Mar. 1, 1962      | 20.10              | 12,200          |            |      |                    |                 |
| 1963       | Mar. 6, 1963      | 15.90              | 6,900           |            |      |                    |                 |
| 1964       | Mar. 11, 1964     | 21.80              | 13,400          |            |      |                    |                 |
| 1965       | Feb. 13, 1965     | 15.44              | 11,400          |            |      |                    |                 |

a Corrected for diversion into ditch 1.

b Occurred May 24, 1957.

## ST. FRANCIS RIVER BASIN

7-0460. Little River ditch 259 near Kennett, Mo.

Location--Lat 36°14'10", long 89°58'35", in NW¼ sec.3, T.18 N., R.10 E., at bridge on State Highway 84, about 4 miles east of Kennett.

Drainage area--89.0 sq mi. Slope--1.0 ft per mile.

Gage--Nonrecording. Datum of gage is 241.00 ft above mean sea level, datum of 1929 (Corps of Engineers bench mark).

Stage-discharge relation--Defined by current-meter measurements, large shifts in relation occur frequently.

Bankfull stage--10 ft.

Remarks--Ditch completed after November 1926. Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1927       | Apr. 29, 1927     | 15.57              | 4,140           |            |      |                    |                 |
| 1928       | June 24, 1928     | 8.15               | 966             |            |      |                    |                 |
| 1929       | Feb. 26, 1929     | 9.43               | 1,330           |            |      |                    |                 |
| 1930       | Jan. 14, 1930     | 11.04              | 1,820           |            |      |                    |                 |
| 1931       | Apr. 27, 1931     | 4.50               | 212             |            |      |                    |                 |
| 1932       | Jan. 17, 1932     | 9.82               | 1,350           |            |      |                    |                 |
| 1933       | Apr. 23, 1933     | 10.72              | 1,360           |            |      |                    |                 |
| 1934       | Mar. 29, 1934     | 11.38              | 1,160           |            |      |                    |                 |
| 1935       | Mar. 15, 1935     | 11.30              | 1,150           |            |      |                    |                 |
| 1936       | July 3, 1936      | 7.72               | 454             |            |      |                    |                 |
| 1937       | Jan. 23, 1937     | 12.23              | 3,420           |            |      |                    |                 |
| 1938       | Feb. 19, 1938     | 11.10              | 1,940           |            |      |                    |                 |
| 1939       | Feb. 3, 1939      | 10.63              | 1,780           |            |      |                    |                 |
| 1940       | Apr. 20, 1940     | 7.84               | 1,110           |            |      |                    |                 |
| 1941       | Jan. 24, 1941     | 4.3                | 355             |            |      |                    |                 |
| 1942       | Apr. 10, 1942     | 10.69              | 1,720           |            |      |                    |                 |
| 1943       | Mar. 20, 1943     | 9.3                | 962             |            |      |                    |                 |
| 1944       | Apr. 12, 1944     | 11.27              | 1,540           |            |      |                    |                 |
| 1945       | June 12-15, 1945  | 11.6               | 1,890           |            |      |                    |                 |
| 1946       | Jan. 11, 1946     | 10.98              | 1,730           |            |      |                    |                 |
| 1947       | Apr. 11, 1947     | 8.95               | 1,200           |            |      |                    |                 |
| 1948       | Mar. 23, 1948     | 9.45               | 1,360           |            |      |                    |                 |
| 1949       | Mar. 27, 1949     | 10.78              | 1,470           |            |      |                    |                 |
| 1950       | Feb. 15, 16 1950  | 11.73              | 2,370           |            |      |                    |                 |
| 1951       | Feb. 22, 23, 1951 | 11.37              | 2,110           |            |      |                    |                 |
| 1952       | Mar. 11, 1952     | 11.95              | 2,670           |            |      |                    |                 |
| 1953       | Mar. 18, 1953     | 6.37               | 1,080           |            |      |                    |                 |
| 1954       | May 29, 1954      | 7.0                | 1,120           |            |      |                    |                 |
| 1955       | May 29, 1955      | 9.1                | 2,000           |            |      |                    |                 |
| 1956       | Feb. 18, 1956     | 10.95              | 3,080           |            |      |                    |                 |
| 1957       | July 4, 1957      | 11.81              | 2,920           |            |      |                    |                 |
| 1958       | Nov. 20, 1957     | 11.40              | 2,720           |            |      |                    |                 |
| 1959       | Jan. 21, 1959     | 10.20              | 2,440           |            |      |                    |                 |
| 1960       | May 21, 1960      | 8.00               | 1,650           |            |      |                    |                 |
| 1961       | May 7, 1961       | 10.8               | 2,680           |            |      |                    |                 |
| 1962       | Jan. 15, 1962     | 11.90              | 3,280           |            |      |                    |                 |
| 1963       | Mar. 5, 1963      | 8.00               | 1,650           |            |      |                    |                 |
| 1964       | Mar. 15, 1964     | 10.70              | 2,920           |            |      |                    |                 |
| 1965       | Feb. 12, 1965     | 10.38              | 2,230           |            |      |                    |                 |

## WHITE RIVER BASIN

7-0500. White River at Beaver, Ark.

Location.--Lat 36°28'20", long 93°45'55", in NE¼ sec.20, T.21 N., R.26 W., on upstream side of Missouri & North Arkansas Railway bridge, a quarter of a mile east of Beaver, 2 3/4 miles upstream from Leatherwood Creek, and at mile 595.5.

Drainage area.--1,238 sq mi. Slope.--4.48 ft per mi.

Gage.--Nonrecording. Datum of gage is 883.04 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 90,000 cfs.

Bankfull stage.--30 ft.

Remarks.--Peaks for period 1921-23 computed from plotted Empire District Electric Co. gage readings at site 1,500 ft upstream revised to read same as present gage. Base for partial-duration series, 22,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1898       | -             | 40                 | a94,000         | 1943       | Dec. 29, 1942 | 31.95              | 59,500          |
|            |               |                    |                 |            | May 12, 1943  | 42.33              | 105,000         |
| 1910       | May 17, 1910  | 17.35              | a21,500         |            |               |                    |                 |
| 1922       | Apr. 6, 1922  | 10.50              | 9,400           | 1944       | June 16, 1944 | 22.3               | 31,300          |
| 1923       | Feb. 2, 1923  | 21.08              | 28,200          | 1945       | Feb. 23, 1945 | 23.00              | 33,000          |
| 1924       | May 1, 1924   | 18.35              | 23,500          |            | Feb. 28, 1945 | 21.40              | 29,200          |
| 1925       | Dec. 20, 1924 | 18.12              | 22,900          |            | Mar. 4, 1945  | 19.96              | 26,100          |
| 1926       | Oct. 11, 1925 | 12.3               | b12,300         |            | Mar. 20, 1945 | 28.25              | 47,100          |
|            |               |                    |                 |            | Apr. 1, 1945  | 22.65              | 32,000          |
| 1927       | Jan. 25, 1927 | 21.70              | 29,400          |            | Apr. 16, 1945 | 40.9               | 98,200          |
|            | Apr. 16, 1927 | 37.0               | 80,200          |            | May 17, 1945  | 18.38              | 22,600          |
|            | Apr. 20, 1927 | 25.10              | 36,300          |            | June 12, 1945 | 29.75              | 52,000          |
| 1928       | Oct. 2, 1927  | 25.65              | 39,700          | 1946       | Feb. 15, 1946 | 22.55              | 32,000          |
|            | Oct. 4, 1927  | 26.85              | 43,000          |            | May 26, 1946  | 32.50              | 61,400          |
|            | Dec. 15, 1927 | 30.60              | 48,900          | 1947       | Nov. 11, 1946 | 20.60              | 27,400          |
|            | Apr. 7, 1928  | 22.10              | 30,800          |            | Dec. 12, 1946 | 20.97              | 28,300          |
|            | Apr. 22, 1928 | 26.50              | 42,200          | 1948       | Aug. 16, 1948 | 24.52              | 36,800          |
|            | June 14, 1928 | 23.73              | 34,800          | 1949       | Jan. 26, 1949 | 26.3               | 41,600          |
|            | June 22, 1928 | 18.78              | 23,500          |            | Feb. 16, 1949 | 28.5               | 48,000          |
| 1929       | Jan. 26, 1929 | 23.85              | 33,900          | 1950       | Jan. 6, 1950  | 19.9               | 25,900          |
|            | Apr. 10, 1929 | 19.01              | 23,900          |            | Jan. 15, 1950 | 21.0               | 28,300          |
|            | May 10, 1929  | 20.99              | 28,300          |            | Feb. 14, 1950 | 20.1               | 26,300          |
|            | July 9, 1929  | 22.00              | 30,600          |            | May 12, 1950  | 31.95              | 59,500          |
| 1930       | May 12, 1930  | 19.15              | 24,500          |            | July 20, 1950 | 21.3               | 29,000          |
|            |               |                    |                 |            | Aug. 7, 1950  | 20.1               | 26,300          |
| 1931       | Feb. 10, 1931 | 19.69              | 25,100          | 1951       | Feb. 20, 1951 | 27.75              | 45,900          |
| 1932       | Jan. 18, 1932 | 16.15              | 19,100          | 1952       | Mar. 12, 1952 | 18.58              | 23,100          |
|            |               |                    |                 |            | Apr. 14, 1952 | 19.10              | 24,100          |
| 1933       | Dec. 25, 1932 | 20.46              | 27,200          | 1953       | Mar. 16, 1953 | 21.10              | 25,900          |
|            | May 15, 1933  | 27.70              | 42,200          |            | May 14, 1953  | 21.65              | 27,100          |
|            | Sept. 5, 1933 | 18.89              | 23,700          | 1954       | May 4, 1954   | 13.8               | 12,100          |
| 1934       | Oct. 23, 1933 | 14.83              | 16,500          | 1955       | Mar. 22, 1955 | 20.20              | 23,900          |
| 1935       | Mar. 13, 1935 | 22.74              | 32,300          | 1956       | May 17, 1956  | 23.7               | 31,800          |
|            | June 4, 1935  | 23.73              | 34,800          | 1957       | Apr. 5, 1957  | 33.50              | 61,600          |
|            | June 9, 1935  | 21.70              | 29,900          |            | Apr. 28, 1957 | 19.3               | 22,000          |
|            | June 19, 1935 | 27.55              | 41,100          |            | May 19, 1957  | 24.5               | 34,400          |
| 1936       | Dec. 8, 1935  | 12.32              | 12,000          |            | May 25, 1957  | 33.0               | 59,700          |
| 1937       | Jan. 16, 1937 | 18.58              | 23,400          | 1958       | Aug. 3, 1958  | 16.72              | 17,700          |
| 1938       | Feb. 19, 1938 | 26.80              | 40,300          |            |               |                    |                 |
|            | May 24, 1938  | 19.82              | 25,700          |            |               |                    |                 |
| 1939       | Apr. 18, 1939 | 16.70              | 19,700          |            |               |                    |                 |
| 1940       | Apr. 13, 1940 | 16.00              | 18,400          |            |               |                    |                 |
| 1941       | Jan. 3, 1941  | 19.44              | 24,800          |            |               |                    |                 |
|            | Apr. 20, 1941 | 26.3               | 39,500          |            |               |                    |                 |
| 1942       | Nov. 1, 1941  | 20.5               | 27,200          |            |               |                    |                 |
|            | Apr. 10, 1942 | 20.35              | 27,000          |            |               |                    |                 |

a Annual peak only.

b Maximum crest discharge; maximum discharge, 19,300 cfs at 2400 Sept. 30, 1926, rising stage.

## WHITE RIVER BASIN

7-0507. James River near Springfield, Mo.

Location.--Lat 37°12'12", long 93°09'00", in NE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.11, T.28 N., R.21 W., 2 $\frac{1}{2}$  miles southeast of Springfield.Drainage area.--246 sq mi. Slope.--6.50 ft per mi.Gage.--Nonrecording prior to Dec. 19, 1955; recording thereafter. Datum of gage is 1,143.27 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).Stage-discharge relation.--Defined by current-meter measurements below 13,000 cfs and by flow over dam measurement at 24,800 cfs.Bankfull stage.--13 ft.Remarks.--Base for partial-duration series 4,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1956       | May 15, 1956  | 15.20              | 12,400          |            |      |                    |                 |
|            | June 25, 1956 | 13.35              | 6,150           |            |      |                    |                 |
| 1957       | Mar. 24, 1957 | 12.78              | 5,090           |            |      |                    |                 |
|            | Apr. 3, 1957  | 14.85              | 10,800          |            |      |                    |                 |
|            | May 21, 1957  | 14.28              | 8,880           |            |      |                    |                 |
|            | May 23, 1957  | 15.57              | 14,100          |            |      |                    |                 |
|            | May 25, 1957  | 14.91              | 11,200          |            |      |                    |                 |
|            | June 2, 1957  | 12.19              | 4,400           |            |      |                    |                 |
|            | Sept. 2, 1957 | 11.83              | 4,040           |            |      |                    |                 |
| 1958       | Dec. 17, 1957 | 18.20              | 24,800          |            |      |                    |                 |
|            | Mar. 9, 1958  | 11.86              | 4,130           |            |      |                    |                 |
|            | Mar. 23, 1958 | 13.95              | 7,860           |            |      |                    |                 |
|            | July 7, 1958  | 15.80              | 14,800          |            |      |                    |                 |
|            | July 17, 1958 | 15.40              | 13,200          |            |      |                    |                 |
|            | July 31, 1958 | 12.83              | 5,090           |            |      |                    |                 |
| 1959       | June 1, 1959  | 8.22               | 1,590           |            |      |                    |                 |
| 1960       | Oct. 4, 1959  | 11.91              | 4,130           |            |      |                    |                 |
|            | Dec. 18, 1959 | 13.38              | 6,150           |            |      |                    |                 |
|            | May 6, 1960   | 14.66              | 10,400          |            |      |                    |                 |
| 1961       | May 1, 1961   | 12.65              | 4,820           |            |      |                    |                 |
|            | May 5, 1961   | 13.10              | 5,570           |            |      |                    |                 |
|            | May 9, 1961   | 12.43              | 4,590           |            |      |                    |                 |
| 1962       | Mar. 21, 1962 | 11.04              | 3,340           |            |      |                    |                 |
| 1963       | May 13, 1963  | 13.55              | 6,630           |            |      |                    |                 |
|            | May 26, 1963  | 15.95              | 15,600          |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 12.00              | 4,220           |            |      |                    |                 |
| 1965       | Apr. 4, 1965  | 15.00              | 11,600          |            |      |                    |                 |
|            | Apr. 6, 1965  | 17.05              | 19,800          |            |      |                    |                 |
|            | Sept. 5, 1965 | 14.20              | 8,540           |            |      |                    |                 |

## WHITE RIVER BASIN

7-0508. Maple Grove Branch near Ozark, Mo.

Location.--Lat 37°04'20", long 93°13'05", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.3, T.27 N., R.21 W., on left bank just upstream from culvert under old State Highway 65, 3.4 miles north of Ozark.

Drainage area.--0.64 sq mi. Slope.--59.5 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed May 19, 1965.

Stage-discharge relation.--Defined at 113 and 298 cfs by indirect measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | Sept. 2, 1957 | 6.95               | 243             |            |      |                    |                 |
| 1958       | Dec. 16, 1957 | 6.63               | 218             |            |      |                    |                 |
| 1959       | May 31, 1959  | 7.65               | 298             |            |      |                    |                 |
| 1960       |               | (a)                | (b)             |            |      |                    |                 |
| 1961       | June 7, 1961  | 7.58               | 293             |            |      |                    |                 |
| 1962       |               | (a)                | (b)             |            |      |                    |                 |
| 1963       | May 13, 1963  | 5.20               | 103             |            |      |                    |                 |
| 1964       | July 1, 1964  | 6.58               | 213             |            |      |                    |                 |
| 1965       | Apr. 5, 1965  | 10.05              | 774             |            |      |                    |                 |

a Stage below bottom of gage.

b Less than 50 cfs.

## WHITE RIVER BASIN

7-0515. James River below Battlefield, Mo.  
(Published as "near Battlefield" prior to June 1929)

Location--Lat 37°05'30", long 93°21'25", in NE¼ sec.32, T.28 N., R.22 W., at Blue Spring Highway bridge, 1.6 miles southwest of Battlefield and 3 miles upstream from Wilson Creek.

Drainage area--328 sq mi; 303 sq mi prior to May 13, 1929. Slope--6.33 ft per mi.

Gage--Nonrecording. Feb. 17, 1926, to May 13, 1929, at site 3 miles upstream at datum about 10 ft higher. May 13, 1929, to Jan. 7, 1932, at last used site and datum. Altitude of gage at last used site is 1,090 ft (from topographic map).

Stage-discharge relation--Defined by current-meter measurements below 8,800 cfs.

Remarks--Base for partial-duration series, 4,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1926       | Sept.30, 1926 | 6.30               | 1,920           |            |      |                    |                 |
| 1927       | Mar. 31, 1927 | 14.3               | 13,300          |            |      |                    |                 |
|            | Apr. 9, 1927  | 10.70              | 7,020           |            |      |                    |                 |
|            | Apr. 15, 1927 | 15.00              | 14,600          |            |      |                    |                 |
|            | Apr. 19, 1927 | 10.50              | 6,700           |            |      |                    |                 |
|            | June 21, 1927 | 9.40               | 5,010           |            |      |                    |                 |
|            | Aug. 8, 1927  | 12.0               | 9,200           |            |      |                    |                 |
|            | Aug. 17, 1927 | 10.7               | 7,020           |            |      |                    |                 |
| 1928       | Nov. 15, 1927 | 11.5               | 8,350           |            |      |                    |                 |
|            | Dec. 14, 1927 | 11.6               | 8,520           |            |      |                    |                 |
|            | Apr. 6, 1928  | 14.3               | 13,300          |            |      |                    |                 |
|            | Apr. 22, 1928 | 11.3               | 8,010           |            |      |                    |                 |
|            | June 9, 1928  | 15.80              | 16,200          |            |      |                    |                 |
|            | June 13, 1928 | 9.00               | 4,450           |            |      |                    |                 |
|            | June 28, 1928 | 16.10              | 16,800          |            |      |                    |                 |
| 1929       | Apr. 9, 1929  | 11.20              | 8,010           |            |      |                    |                 |
|            | May 13, 1929  | 9.60               | 5,450           |            |      |                    |                 |
|            | May 28, 1929  | 10.04              | 5,450           |            |      |                    |                 |
| 1930       | Jan. 14, 1930 | 9.82               | 4,630           |            |      |                    |                 |
| 1931       | Aug. 6, 1931  | 10.50              | 5,350           |            |      |                    |                 |

## WHITE RIVER BASIN

7-0520. Wilson Creek near Springfield, Mo.

Location.--Lat 37°11'35", long 93°20'20", in NW¼SE¼ sec.28, T.29 N., R.22 W., three-quarters of a mile downstream from Jordan Creek and 2 miles southwest of Springfield.

Drainage area.--19.4 sq mi. Slope.--23.3 ft per mi.

Gage.--Recording. Datum of gage is 1,196.16 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 900 cfs and extended to 2,440 cfs on basis of area-velocity studies.

Bankfull stage.--5 ft.

Remarks.--Base for partial-duration series, 400 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1932       | June 27, 1932  | 7.62               | a2,440          |            |      |                    |                 |
| 1933       | Dec. 23, 1932  | 4.12               | 520             |            |      |                    |                 |
|            | Apr. 15, 1933  | 4.12               | 520             |            |      |                    |                 |
|            | May 13, 1933   | 4.69               | 732             |            |      |                    |                 |
|            | July 8, 1933   | 5.07               | 922             |            |      |                    |                 |
|            | Sept. 2, 1933  | 3.98               | 488             |            |      |                    |                 |
| 1934       | June 15, 1934  | 3.82               | 424             |            |      |                    |                 |
| 1935       | Mar. 11, 1935  | 4.58               | 692             |            |      |                    |                 |
|            | Mar. 15, 1935  | 4.50               | 654             |            |      |                    |                 |
|            | May 29, 1935   | 4.46               | 654             |            |      |                    |                 |
|            | June 2, 1935   | 4.27               | 580             |            |      |                    |                 |
|            | June 7, 1935   | 5.13               | 882             |            |      |                    |                 |
|            | June 14, 1935  | 5.40               | 1,000           |            |      |                    |                 |
|            | June 16, 1935  | 5.57               | 1,080           |            |      |                    |                 |
|            | July 2, 1935   | 4.12               | 512             |            |      |                    |                 |
|            | Aug. 12, 1935  | 3.85               | 424             |            |      |                    |                 |
|            | Aug. 27, 1935  | 4.65               | 692             |            |      |                    |                 |
| 1936       | Sept. 28, 1936 | 3.77               | 398             |            |      |                    |                 |
| 1937       | Oct. 6, 1936   | 4.00               | 480             |            |      |                    |                 |
|            | Oct. 25, 1936  | 4.30               | 580             |            |      |                    |                 |
|            | Nov. 2, 1936   | 4.60               | 692             |            |      |                    |                 |
|            | Jan. 8, 1937   | 3.90               | 452             |            |      |                    |                 |
|            | Jan. 14, 1937  | 4.55               | 692             |            |      |                    |                 |
|            | Jan. 30, 1937  | 4.10               | 512             |            |      |                    |                 |
|            | Apr. 29, 1937  | 4.64               | 692             |            |      |                    |                 |
|            | May 21, 1937   | 4.10               | 512             |            |      |                    |                 |
|            | June 2, 1937   | 5.04               | 858             |            |      |                    |                 |
|            | June 9, 1937   | 4.90               | 806             |            |      |                    |                 |
|            | June 14, 1937  | 6.87               | 1,880           |            |      |                    |                 |
|            | July 19, 1937  | 3.95               | 480             |            |      |                    |                 |
|            | Sept. 5, 1937  | 4.20               | 544             |            |      |                    |                 |
| 1938       | Jan. 20, 1938  | 3.80               | 424             |            |      |                    |                 |
|            | Feb. 18, 1938  | 3.90               | 452             |            |      |                    |                 |
|            | May 6, 1938    | 4.10               | 512             |            |      |                    |                 |
|            | May 23, 1938   | 3.95               | 480             |            |      |                    |                 |
|            | June 16, 1938  | 5.35               | 980             |            |      |                    |                 |

a Annual peak only.

## WHITE RIVER BASIN

7-0525. James River at Galena, Mo.

Location.--Lat 36°48'20", long 93°27'50", in NW¼ sec.7, T.24 N., R.23 W., at bridge on State Highways 13 and 44 in Galena, half a mile upstream from Railey Creek and 42.3 miles above mouth.

Drainage area.--987 sq mi. Slope.--4.75 ft per mi.

Gage.--Nonrecording prior to July 22, 1939; recording thereafter. Prior to Dec. 11, 1927, at site 500 ft downstream at datum 1.48 ft higher; Dec. 11, 1927, to Sept. 30, 1953, at present site at datum 2.00 ft higher. Datum of present gage is 921.37 ft above mean sea level, datum of 1929. Gage heights given herein converted to present site and datum.

Stage-discharge relation.--Defined by current-meter measurements; shifts in relation occur.

Remarks.--Base for partial-duration series, 12,000 cfs.

| Peak stages and discharges |                |                    |                 |               |               |                    |                 |
|----------------------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| Water year                 | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
| 1922                       | Apr. 1, 1922   | 10.3               | 7,220           | 1944          | Apr. 11, 1944 | 15.48              | 14,400          |
| 1923                       | Mar. 12, 1923  | 11.9               | 9,940           | 1945          | Feb. 22, 1945 | 14.70              | 16,800          |
| 1924                       | July 12, 1924  | 15.5               | 15,600          | Mar. 3, 1945  | 17.80         | 24,100             |                 |
|                            | Aug. 11, 1924  | 15.2               | 15,000          | Mar. 7, 1945  | 17.29         | 22,800             |                 |
| 1925                       | Dec. 19, 1924  | 16.7               | 18,000          | Apr. 3, 1945  | 19.55         | 28,900             |                 |
|                            |                |                    |                 | Apr. 15, 1945 | 23.87         | 41,000             |                 |
| 1926                       | Sept. 30, 1926 | 9.8                | 5,700           | 1946          | Feb. 14, 1946 | 15.07              | 17,600          |
| 1927                       | Apr. 1, 1927   | 20.4               | 25,500          | 1947          | Apr. 25, 1947 | 23.65              | 40,100          |
|                            |                |                    |                 | Apr. 10, 1927 | 18.6          | 21,700             | 1948            |
| 1928                       | Apr. 15, 1927  | 27.1               | 41,900          | 1949          | Feb. 16, 1949 | 13.6               | 14,700          |
|                            | Apr. 19, 1927  | 17.1               | 18,700          |               |               |                    |                 |
|                            | May 9, 1927    | 14.4               | 13,000          | 1950          | Oct. 22, 1949 | 20.65              | 31,600          |
|                            | Aug. 9, 1927   | 18.1               | 20,600          |               | Jan. 4, 1950  | 12.8               | 13,200          |
|                            | Aug. 16, 1927  | 17.9               | 20,400          |               | Jan. 14, 1950 | 15.0               | 17,500          |
|                            | 1929           | Nov. 15, 1927      | 15.2            | 14,800        | May 11, 1950  | 18.4               | 25,600          |
|                            |                | Apr. 7, 1928       | 19.78           | 24,200        | 1951          | Feb. 19, 1951      | 14.59           |
| June 10, 1928              |                | 21.94              | 28,900          | June 23, 1951 |               | 14.86              | 17,400          |
| June 21, 1928              |                | 16.68              | 17,700          | July 1, 1951  |               | 18.90              | 26,900          |
| June 29, 1928              |                | 20.72              | 26,100          | July 5, 1951  | 19.95         | 29,900             |                 |
| 1929                       | Apr. 9, 1929   | 14.30              | 16,800          | 1952          | Feb. 2, 1952  | 16.62              | 16,800          |
|                            | May 13, 1929   | 12.74              | 13,600          | 1953          | Mar. 15, 1953 | 8.87               | 4,900           |
| 1930                       | Jan. 14, 1930  | 10.68              | 9,760           | 1954          | May 3, 1954   | 8.87               | 4,900           |
| 1931                       | Aug. 6, 1931   | 14.55              | 17,500          | 1955          | Feb. 20, 1955 | 16.40              | 16,400          |
| 1932                       | June 28, 1932  | 11.50              | 11,000          | 1956          | May 15, 1956  | 20.98              | 27,200          |
| 1933                       | Dec. 24, 1932  | 15.20              | 18,700          | 1957          | Apr. 4, 1957  | 19.20              | 22,600          |
|                            | Apr. 16, 1933  | 13.20              | 14,600          |               | May 24, 1957  | 20.36              | 25,600          |
|                            | May 14, 1933   | 22.08              | 34,200          |               | May 26, 1957  | 18.90              | 21,900          |
| 1934                       | Apr. 6, 1934   | 4.77               | 2,130           | June 3, 1957  | 15.00         | 13,800             |                 |
| 1935                       | Mar. 11, 1935  | 27.05              | 50,200          | 1958          | Dec. 18, 1957 | 21.46              | 28,600          |
|                            | June 3, 1935   | 14.83              | 17,900          |               | Mar. 24, 1958 | 17.37              | 19,500          |
|                            | June 7, 1935   | 14.81              | 17,900          |               | July 8, 1958  | 14.96              | 13,800          |
|                            | June 18, 1935  | 17.00              | 22,800          |               | July 18, 1958 | 16.80              | 17,200          |
| 1936                       | Sept. 23, 1936 | 10.85              | 10,300          | 1959          | June 1, 1959  | 11.18              | 7,950           |
| 1937                       | Jan. 9, 1937   | 14.54              | 13,200          | 1960          | May 7, 1960   | 15.80              | 15,200          |
|                            | Jan. 15, 1937  | 16.80              | 17,900          | 1961          | May 9, 1961   | 26.20              | 41,900          |
|                            | Jan. 31, 1937  | 14.90              | 14,000          |               | May 23, 1961  | 14.80              | 13,500          |
|                            | June 14, 1937  | 15.40              | 15,000          |               | 1962          | Mar. 22, 1962      | 9.08            |
| 1938                       | Feb. 19, 1938  | 16.08              | 16,400          | 1963          | May 14, 1963  | 16.00              | 15,600          |
| 1939                       | Feb. 20, 1939  | 13.0               | 10,700          | May 27, 1963  | 16.40         | 16,400             |                 |
| 1940                       | Apr. 12, 1940  | 14.44              | 13,100          | June 16, 1963 | 15.54         | 14,700             |                 |
| 1941                       | Apr. 17, 1941  | 15.50              | 14,300          | 1964          | Apr. 6, 1964  | 13.75              | 11,800          |
|                            | Apr. 20, 1941  | 28.87              | 49,900          |               | 1965          | Apr. 4, 1965       | 22.97           |
| 1942                       | Oct. 31, 1941  | 17.54              | 18,100          | Apr. 7, 1965  | 23.70         | 34,700             |                 |
|                            | Apr. 9, 1942   | 14.20              | 12,000          |               |               |                    |                 |
|                            | June 18, 1942  | 15.10              | 13,600          |               |               |                    |                 |
| 1943                       | Dec. 28, 1942  | 23.26              | 33,500          |               |               |                    |                 |
|                            | May 11, 1943   | 25.39              | 39,600          |               |               |                    |                 |
|                            | May 20, 1943   | 29.82              | 52,700          |               |               |                    |                 |

## WHITE RIVER BASIN

7-0527. Brawley Hollow near Cassville, Mo.

Location--Lat 36°38'50", long 93°54'15", in NE¼SE¼ sec.1, T.22 N., R.28 W., on left bank just upstream from culvert on State Highway 37, 1.9 miles southwest on State Highway 37, from junctions of State Highways 37, 44, and 86 and approximately 3.1 miles southwest of Cassville.

Drainage area--2.61 sq mi. Slope--57.6 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 88 and 525 cfs by indirect measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1960       | June 23, 1960 | 12.32              | 110             |            |      |                    |                 |
| 1961       | May 7, 1961   | 16.43              | 525             |            |      |                    |                 |
| 1962       |               | (a)                | (b)             |            |      |                    |                 |
| 1963       | June 16, 1963 | 11.01              | 30              |            |      |                    |                 |
| 1964       | June 13, 1964 | 16.97              | 600             |            |      |                    |                 |
| 1965       | Apr. 2, 1965  | 13.69              | 225             |            |      |                    |                 |

a Below zero of gage.

b Less than 25 cfs.

## WHITE RIVER BASIN

7-0530. White River near Reeds Spring, Mo.

Location.--Lat 36°37'20", long 93°25'20", in NE¼SE¼ sec.9, T.22 N., R.23 W., at bridge on State Highway 13, 5 3/4 miles downstream from James River, 12 miles south of Reeds Spring, and at mile 543.8.

Drainage area.--3,617 sq mi. Slope.--3.53 ft per mi.

Gage.--Nonrecording prior to Dec. 17, 1938, May 11 to Oct. 1, 1943, and Mar. 11, 1945, to Feb. 14, 1947; recording Dec. 18, 1938, to May 10, 1943 (destroyed by flood), Oct. 2, 1943, to Mar. 10, 1945 (destroyed by flood), and Feb. 15, 1947, to Sept. 30, 1952. Datum of gage is 739.00 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 175,000 cfs.

Bankfull stage.--15 ft.

Remarks.--Base for partial-duration series, 30,000 cfs.

## Peak stages and discharges

| Water year    | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|---------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1927          | Apr. 15, 1927 | 46.8               | a195,000        |            |      |                    |                 |
| 1938          | Feb. 18, 1938 | 31.0               | 95,100          |            |      |                    |                 |
|               | Mar. 30, 1938 | 15.3               | 31,300          |            |      |                    |                 |
|               | May 24, 1938  | 19.9               | 47,400          |            |      |                    |                 |
| 1939          | Feb. 21, 1939 | 15.03              | 30,300          |            |      |                    |                 |
|               | Apr. 18, 1939 | 18.55              | 42,700          |            |      |                    |                 |
|               | May 13, 1939  | 19.74              | 46,700          |            |      |                    |                 |
| 1940          | Apr. 13, 1940 | 15.57              | 32,300          |            |      |                    |                 |
| 1941          | Apr. 16, 1941 | 19.2               | 44,800          |            |      |                    |                 |
|               | Apr. 20, 1941 | 34.8               | 107,000         |            |      |                    |                 |
| 1942          | Nov. 1, 1941  | 22.35              | 53,900          |            |      |                    |                 |
|               | Apr. 10, 1942 | 19.1               | 42,200          |            |      |                    |                 |
| 1943          | Oct. 31, 1942 | 15.50              | 30,800          |            |      |                    |                 |
|               | Dec. 28, 1942 | 32.15              | 94,300          |            |      |                    |                 |
|               | May 11, 1943  | 44.9               | 183,000         |            |      |                    |                 |
|               | May 20, 1943  | 30.05              | 84,200          |            |      |                    |                 |
| 1944          | Apr. 11, 1944 | 15.33              | 30,100          |            |      |                    |                 |
| 1945          | Feb. 23, 1945 | 20.09              | 46,500          |            |      |                    |                 |
|               | Feb. 28, 1945 | 17.57              | 38,000          |            |      |                    |                 |
|               | Mar. 4, 1945  | 23.52              | 58,200          |            |      |                    |                 |
|               | Mar. 21, 1945 | 26.25              | 68,400          |            |      |                    |                 |
|               | Apr. 2, 1945  | 25.60              | 66,000          |            |      |                    |                 |
|               | Apr. 16, 1945 | 47.00              | 196,000         |            |      |                    |                 |
|               | May 17, 1945  | 17.8               | 38,700          |            |      |                    |                 |
| June 12, 1945 | 27.75         | 75,000             |                 |            |      |                    |                 |
| 1946          | Feb. 15, 1946 | 20.95              | 49,600          |            |      |                    |                 |
|               | May 27, 1946  | 26.94              | 71,200          |            |      |                    |                 |
| 1947          | Dec. 12, 1946 | 21.2               | 50,300          |            |      |                    |                 |
|               | Apr. 26, 1947 | 20.9               | 49,300          |            |      |                    |                 |
| 1948          | Aug. 17, 1948 | 16.57              | 34,800          |            |      |                    |                 |
| 1949          | Jan. 27, 1949 | 21.5               | 51,300          |            |      |                    |                 |
|               | Feb. 16, 1949 | 26.56              | 70,000          |            |      |                    |                 |
| 1950          | Jan. 5, 1950  | 17.62              | 38,000          |            |      |                    |                 |
|               | Jan. 15, 1950 | 20.00              | 46,200          |            |      |                    |                 |
|               | Feb. 14, 1950 | 18.04              | 39,400          |            |      |                    |                 |
|               | May 12, 1950  | 38.65              | 135,000         |            |      |                    |                 |
|               | July 20, 1950 | 15.56              | 31,700          |            |      |                    |                 |
| 1951          | Feb. 21, 1951 | 27.80              | 75,000          |            |      |                    |                 |
|               | July 2, 1951  | 18.76              | 42,100          |            |      |                    |                 |
|               | July 5, 1951  | 18.71              | 41,800          |            |      |                    |                 |
| 1952          | Mar. 12, 1952 | 15.90              | 32,600          |            |      |                    |                 |
|               | Apr. 14, 1952 | 17.09              | 36,400          |            |      |                    |                 |

a Annual peak only.

## WHITE RIVER BASIN

7-0535. White River near Branson, Mo.  
(Published as "at Forsyth" prior to 1953)

Location.--Lat 36°35'51", long 93°17'42", SE¼NE¼ sec.22, T.22 N., R.22 W., on left bank 0.9 mile downstream from Table Rock Dam, 5 miles southwest of Branson, 7.4 miles upstream from Missouri Pacific Railroad Co. bridge, and at mile 527.8.

Drainage area.--4,022 sq mi; 4,544 sq miles prior to Oct. 1, 1952. Slope.--3.36 ft per mi.

Gage.--Recording. Prior to Oct. 1, 1952, at site 24 miles downstream at datum 55.36 ft lower. Datum of present gage is 696.00 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements; shifts in relation occur.

Bankfull stage.--35 ft.

Remarks.--Flow completely regulated by Table Rock Reservoir since Sept. 9, 1956. Base for partial-duration series, 36,000 cfs "at Forsyth", 33,000 cfs "near Branson".

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date             | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------------------|--------------------|-----------------|
| 1898       | -              | 38.80              | a160,000        | 1948       | June 19, 1948    | 17.43              | 46,100          |
| 1927       | Apr. 16, 1927  | 45.36              | a212,000        | 1949       | Jan. 27, 1949    | 22.0               | 65,700          |
| 1930       | May 12, 1930   | 14.50              | 31,100          |            | Feb. 17, 1949    | 23.37              | 72,000          |
| 1931       | Feb. 11, 1931  | 14.50              | 31,100          | 1950       | Jan. 5, 1950     | 16.28              | 41,500          |
| 1932       | Jan. 17, 1932  | 15.70              | 35,500          |            | Jan. 15, 1950    | 18.17              | 49,400          |
| 1933       | Dec. 25, 1932  | 19.18              | 47,400          |            | Feb. 14, 1950    | 16.66              | 43,200          |
|            | May 15, 1933   | 29.3               | 84,600          | 1951       | May 12, 1950     | 38.75              | 161,000         |
| 1934       | Apr. 7, 1934   | 11.25              | 21,300          |            | Feb. 20, 1951    | 25.64              | 82,400          |
| 1935       | Mar. 11, 1935  | 35.23              | 127,000         |            | July 2, 1951     | 16.88              | 44,000          |
|            | Mar. 25, 1935  | 18.57              | 50,700          |            | July 4, 1951     | 17.10              | 44,800          |
|            | June 4, 1935   | 23.10              | 68,700          | 1952       | Mar. 12, 1952    | 14.22              | 36,100          |
|            | June 8, 1935   | 23.68              | 71,100          |            | Apr. 14, 1952    | 15.07              | 40,100          |
|            | June 19, 1935  | 26.31              | 81,600          | 1953       | Mar. 16, 1953    | 21.22              | 32,600          |
| 1936       | Sept. 29, 1936 | 12.53              | 28,100          | 1954       | May 4, 1954      | 15.18              | 17,800          |
| 1937       | Jan. 16, 1937  | 18.49              | 50,600          | 1955       | Dec. 30, 1954    | 21.91              | 35,500          |
|            | Feb. 1, 1937   | 15.18              | 37,900          |            | Feb. 21, 1955    | 22.24              | 36,400          |
| 1938       | Feb. 18, 1938  | 29.84              | 110,000         | 1956       | May 16, 1956     | 36.9               | 89,100          |
|            | Mar. 29, 1938  | 15.22              | 37,600          | 1957       | June 10-11, 1957 | 18.53              | 25,900          |
|            | May 24, 1938   | 17.93              | 49,800          | 1958       | May 16, 1958     | 12.50              | 10,600          |
| 1939       | Apr. 19, 1939  | 16.19              | 42,000          | 1959       | Nov. 20, 1958    | -                  | 7,300           |
|            | May 13, 1939   | 18.83              | 54,100          | 1960       | May 15, 1960     | -                  | 18,000          |
| 1940       | Apr. 12, 1940  | 16.32              | 42,500          | 1961       | May 12, 1961     | 20.70              | b 33,000        |
| 1941       | Apr. 16, 1941  | 20.17              | 56,900          | 1962       | Dec. 20, 1961    | -                  | b 7,840         |
|            | Apr. 20, 1941  | 30.57              | 106,000         | 1963       | July 18, 1963    | -                  | b 4,010         |
| 1942       | Nov. 1, 1941   | 20.00              | 56,000          | 1964       | Aug. 4, 1964     | -                  | b 5,370         |
|            | Apr. 11, 1942  | 17.15              | 44,000          | 1965       | Aug. 25, 1965    | -                  | b 5,150         |
| 1943       | Dec. 29, 1942  | 28.45              | 96,000          |            |                  |                    |                 |
|            | May 12, 1943   | 42.0               | 193,000         |            |                  |                    |                 |
|            | May 20, 1943   | 28.68              | 97,500          |            |                  |                    |                 |
| 1944       | Mar. 22, 1944  | 14.76              | 34,600          |            |                  |                    |                 |
| 1945       | Feb. 22, 1945  | 18.83              | 51,300          |            |                  |                    |                 |
|            | Mar. 1, 1945   | 16.38              | 41,200          |            |                  |                    |                 |
|            | Mar. 4, 1945   | 21.05              | 61,300          |            |                  |                    |                 |
|            | Mar. 21, 1945  | 23.36              | 71,600          |            |                  |                    |                 |
|            | Apr. 2, 1945   | 26.92              | 88,600          |            |                  |                    |                 |
|            | Apr. 16, 1945  | 43.77              | 209,000         |            |                  |                    |                 |
|            | May 18, 1945   | 16.00              | 39,500          |            |                  |                    |                 |
|            | June 13, 1945  | 23.83              | 73,800          |            |                  |                    |                 |
| 1946       | Feb. 15, 1946  | 18.63              | 50,500          |            |                  |                    |                 |
|            | May 27, 1946   | 22.90              | 69,800          |            |                  |                    |                 |
| 1947       | Nov. 6, 1946   | 17.80              | 47,500          |            |                  |                    |                 |
|            | Nov. 10, 1946  | 16.50              | 42,400          |            |                  |                    |                 |
|            | Dec. 12, 1946  | 20.46              | 59,200          |            |                  |                    |                 |
|            | Apr. 26, 1947  | 18.40              | 50,100          |            |                  |                    |                 |

a Annual peak only.

b Maximum daily discharge.

## WHITE RIVER BASIN

7-0539.5. Ingenthron Hollow near Forsyth, Mo.

Location--Lat 36°43'52", long 93°07'30", in SW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.17, T.24 N., R.20 W., on right bank, just upstream from culvert under County Road H, 2 miles north of Forsyth.

Drainage area--0.65 sq mi. Slope--186 ft per mi.

Gage--Crest-stage gage; supplemental recording gage installed Aug. 7, 1962 and removed June 7, 1966.

Stage-discharge relation--Defined at 98, 224, and 1,190 cfs by indirect measurements. Defined below 17 cfs by current-meter measurement.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | May 22, 1957  | 14.61              | 224             |            |      |                    |                 |
| 1958       | Sept.16, 1958 | 14.44              | 210             |            |      |                    |                 |
| 1959       | June 1, 1959  | 12.92              | 108             |            |      |                    |                 |
| 1960       | May 6, 1960   | 21.3               | 1,190           |            |      |                    |                 |
| 1961       | May 7, 1961   | 14.61              | 224             |            |      |                    |                 |
| 1962       | Sept.15, 1962 | 12.36              | 80              |            |      |                    |                 |
| 1963       | June 15, 1963 | 13.88              | 175             |            |      |                    |                 |
| 1964       | June 13, 1964 | 14.58              | 220             |            |      |                    |                 |
| 1965       | July 6, 1965  | 14.43              | 210             |            |      |                    |                 |

## WHITE RIVER BASIN

7-0541. Cedar Hollow at Bradleyville, Mo.

Location--Lat 36°46'45", long 92°55'25", in NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.10, T.24 N., R.18 W., on right bank just upstream from culvert under State Highway 76, 0.8 mile southwest of Bradleyville.

Drainage area--0.83 sq mi. Slope--204 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 515, 643, and 1,230 cfs by indirect measurement. Defined below 35 cfs by current-meter measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1956       | Aug. 29, 1956 | 8.92               | 643             |            |      |                    |                 |
| 1957       | May 22, 1957  | 7.88               | 515             |            |      |                    |                 |
| 1958       | Aug. 1, 1958  | 7.20               | 430             |            |      |                    |                 |
| 1959       | Nov. 16, 1958 | 4.20               | 80              |            |      |                    |                 |
| 1960       | May 6, 1960   | 11.76              | 1,160           |            |      |                    |                 |
| 1961       |               | (a)                | (b)             |            |      |                    |                 |
| 1962       | Sept.15, 1962 | 6.85               | 370             |            |      |                    |                 |
| 1963       | May 13, 1963  | 7.8                | 510             |            |      |                    |                 |
| 1964       |               | (a)                | (b)             |            |      |                    |                 |
| 1965       | May 10, 1965  | 7.95               | 520             |            |      |                    |                 |

a Stage below bottom of gage.  
b Discharge less than 70 cfs .

## WHITE RIVER BASIN

7-0542. Yandell Branch near Kirbyville, Mo.

Location.--Lat 36°36'36", long 93°05'47", in NE¼SW¼ sec.27, T.23 N., R.20 W., on right bank just upstream from corrugated metal culvert on County Road K, 2.8 miles southeast of Kirbyville, 7½ miles southeast of Branson and 5 miles south of Forsyth.

Drainage area.--0.33 sq mi. Slope.--116 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed June 8, 1966.

Stage-discharge relation.--Defined at 48, 168, and 291 cfs by indirect measurements. Defined below 7 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 20, 1955 | 14.01              | 48              |            |      |                    |                 |
| 1956       | May 13, 1956  | 16.63              | 168             |            |      |                    |                 |
| 1957       | Feb. 5, 1957  | 13.26              | 20              |            |      |                    |                 |
| 1958       | Mar. 8, 1958  | 13.73              | 37              |            |      |                    |                 |
| 1959       | Sept. 4, 1959 | 13.70              | 32              |            |      |                    |                 |
| 1960       | May 6, 1960   | 18.90              | 291             |            |      |                    |                 |
| 1961       | May 7, 1961   | (a)                | (b)             |            |      |                    |                 |
| 1962       | Dec. 16, 1961 | 13.50              | 12              |            |      |                    |                 |
| 1963       | June 16, 1963 | 15.56              | 115             |            |      |                    |                 |
| 1964       | Aug. 22, 1964 | 13.23              | 4               |            |      |                    |                 |
| 1965       | Apr. 3, 1965  | 15.97              | 140             |            |      |                    |                 |

a Table Rock Reservoir backed over gage.

b Discharge not determined.

## WHITE RIVER BASIN

7-0543. Gray Branch at Lutie, Mo.

Location.--Lat 36°35'05", long 92°42'30", in NE¼SW¼ sec.15, T.22 N., R.16 W., on left bank just upstream from culvert under U.S. Highway 160, 0.1 mile west of junction of Highways 95 and 160, 1.0 mile east of junction of P and 160 and 1.7 miles west of Lutie.

Drainage area.--0.23 sq mi. Slope.--279 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed July 15, 1959, removed Aug. 6, 1962.

Stage-discharge relation.--Defined at 58, 96, 223, and 262 cfs by indirect measurements. Defined below 2 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | June 26, 1955  | 8.82               | 210             |            |      |                    |                 |
| 1956       | May 14, 1956   | 9.57               | 246             |            |      |                    |                 |
| 1957       | Apr. 3, 1957   | 7.59               | 150             |            |      |                    |                 |
| 1958       | Sept. 16, 1958 | 6.86               | 115             |            |      |                    |                 |
| 1959       | Nov. 16, 1958  | 5.18               | 52              |            |      |                    |                 |
| 1960       | May 6, 1960    | 7.42               | 140             |            |      |                    |                 |
| 1961       | May 7, 1961    | 9.13               | 225             |            |      |                    |                 |
| 1962       | Apr. 10, 1962  | 5.92               | 77              |            |      |                    |                 |
| 1963       | June 16, 1963  | 6.17               | 96              |            |      |                    |                 |
| 1964       | Aug. 27, 1964  | 6.03               | 90              |            |      |                    |                 |
| 1965       | Apr. 3, 1965   | 7.75               | 170             |            |      |                    |                 |

## WHITE RIVER BASIN

7-0575. North Fork River near Tecumseh, Mo.

Location.--Lat 36°37'22", long 92°14'53", in NE¼SE¼ sec.35, T.23 N., R.12 W., on right bank 3.2 miles downstream from Spring Creek and 3½ miles northeast of Tecumseh.

Drainage area.--561 sq mi. Slope.--8.29 ft per mi.

Gage.--Nonrecording prior to May 11, 1945, at datum 0.22 ft lower; recording since May 12, 1945, at present datum. Datum of present gage is 584.67 ft above mean sea level, datum of 1929 (Levels by Corps of Engineers). Gage heights given herein converted to present datum.

Stage-discharge relation.--Defined by current-meter measurements below 22,000 cfs.

Bankfull stage.--14 ft.

Remarks.--Base for partial-duration series, 5,000 cfs.

## Peak stages and discharges

| Water year   | Date          | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
|--------------|---------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| 1945         | Feb. 21, 1945 | 9.0                | 9,590           | 1960          | Dec. 27, 1959 | 6.56               | 5,050           |
|              | Feb. 26, 1945 | 13.2               | 17,700          |               | 1961          | Mar. 6, 1961       | 6.63            |
|              | Mar. 6, 1945  | 6.6                | 5,400           | May 7, 1961   |               | 13.72              | 18,100          |
|              | Mar. 19, 1945 | 8.0                | 7,610           | 1962          | Jan. 22, 1962 | 8.30               | 7,810           |
|              | Mar. 30, 1945 | 10.7               | 12,800          |               | 1963          | May 26, 1963       | 8.27            |
|              | Apr. 2, 1945  | 8.1                | 7,790           | June 16, 1963 |               | 9.53               | 9,950           |
|              | Apr. 15, 1945 | 16.7               | 25,100          | 1964          | Mar. 10, 1964 | 7.01               | 5,650           |
|              | May 10, 1945  | 7.2                | 6,400           |               | Apr. 6, 1964  | 10.63              | 12,000          |
|              | June 9, 1945  | 6.38               | 5,400           | 1965          | Apr. 4, 1965  | 6.63               | 5,050           |
|              | June 11, 1945 | 8.75               | 9,590           |               |               |                    |                 |
|              | June 17, 1945 | 10.60              | 12,900          |               |               |                    |                 |
|              | 1946          | Feb. 14, 1946      | 12.22           | 15,100        |               |                    |                 |
| Mar. 6, 1946 |               | 7.60               | 6,620           |               |               |                    |                 |
| May 16, 1946 |               | 11.23              | 13,100          |               |               |                    |                 |
| May 25, 1946 |               | 9.81               | 10,500          |               |               |                    |                 |
| 1947         | Nov. 10, 1946 | 9.94               | 10,700          |               |               |                    |                 |
|              | Dec. 12, 1946 | 7.79               | 6,790           |               |               |                    |                 |
|              | Apr. 25, 1947 | 8.22               | 7,640           |               |               |                    |                 |
| 1948         | Jan. 1, 1948  | 7.25               | 5,970           |               |               |                    |                 |
|              | June 18, 1948 | 7.46               | 6,450           |               |               |                    |                 |
| 1949         | Jan. 19, 1949 | 7.4                | 6,290           |               |               |                    |                 |
|              | Jan. 24, 1949 | 14.9               | 20,600          |               |               |                    |                 |
|              | Jan. 28, 1949 | 8.76               | 8,690           |               |               |                    |                 |
|              | Feb. 15, 1949 | 11.9               | 14,500          |               |               |                    |                 |
|              | June 11, 1949 | 8.44               | 7,980           |               |               |                    |                 |
|              | July 7, 1949  | 8.83               | 8,690           |               |               |                    |                 |
| 1950         | Jan. 4, 1950  | 18.05              | 27,400          |               |               |                    |                 |
|              | Jan. 13, 1950 | 9.30               | 9,590           |               |               |                    |                 |
|              | Feb. 13, 1950 | 7.69               | 6,790           |               |               |                    |                 |
|              | Apr. 4, 1950  | 6.91               | 5,500           |               |               |                    |                 |
|              | May 10, 1950  | 12.80              | 16,300          |               |               |                    |                 |
|              | June 10, 1950 | 6.64               | 5,050           |               |               |                    |                 |
| 1951         | Feb. 11, 1951 | 7.47               | 6,450           |               |               |                    |                 |
|              | July 11, 1951 | 7.30               | 6,130           |               |               |                    |                 |
| 1952         | Nov. 24, 1951 | 7.94               | 7,130           |               |               |                    |                 |
|              | Mar. 11, 1952 | 9.17               | 9,410           |               |               |                    |                 |
|              | Apr. 12, 1952 | 9.74               | 10,300          |               |               |                    |                 |
| 1953         | Apr. 18, 1953 | 5.83               | 3,920           |               |               |                    |                 |
| 1954         | Mar. 24, 1954 | 5.67               | 3,780           |               |               |                    |                 |
| 1955         | Mar. 21, 1955 | 16.95              | 25,100          |               |               |                    |                 |
| 1956         | May 15, 1956  | 15.65              | 22,100          |               |               |                    |                 |
| 1957         | Apr. 4, 1957  | 13.10              | 16,900          |               |               |                    |                 |
|              | Apr. 27, 1957 | 8.13               | 7,470           |               |               |                    |                 |
|              | May 19, 1957  | 6.83               | 5,350           |               |               |                    |                 |
|              | May 23, 1957  | 13.60              | 17,900          |               |               |                    |                 |
|              | May 25, 1957  | 8.48               | 8,150           |               |               |                    |                 |
| 1958         | Dec. 18, 1957 | 6.60               | 5,050           |               |               |                    |                 |
|              | Mar. 24, 1958 | 9.45               | 9,770           |               |               |                    |                 |
|              | July 12, 1958 | 10.15              | 11,200          |               |               |                    |                 |
|              | July 17, 1958 | 9.66               | 10,300          |               |               |                    |                 |
| 1959         | Nov. 16, 1958 | 8.50               | 8,150           |               |               |                    |                 |

## WHITE RIVER BASIN

7-0580. Bryant Creek near Tecumseh, Mo.

Location.--Lat 36°37'35", long 92°18'25", in E½ sec.32, T.23 N., R.12 W., three-quarters of a mile downstream from Pine Creek, 3 miles northwest of Tecumseh, and 5 miles upstream from mouth.

Drainage area.--570 sq mi. Slope.--8.83 ft per mi.

Gage.--Nonrecording prior to July 30, 1945; recording thereafter. Datum of gage is 573.15 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 27,000 cfs.

Bankfull stage.--15 ft.

Remarks.--Base for partial-duration series, 6,000 cfs.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |       |
|------------|-------------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|-------|
| 1945       | Feb. 21, 1945     | 15.50              | 16,200          | 1960       | May 6, 1960   | 8.80               | 4,400           |       |
|            | Feb. 26, 1945     | 15.80              | 17,000          | 1961       | May 8, 1961   | 16.52              | 18,800          |       |
|            | Mar. 6, 1945      | 10.85              | 6,230           |            |               |                    |                 |       |
|            | Mar. 19, 1945     | 11.45              | 7,110           | 1962       | Jan. 22, 1962 | 8.64               | 4,200           |       |
|            | Mar. 31, 1945     | 11.00              | 6,500           |            |               |                    |                 |       |
|            | Apr. 2, 1945      | 11.40              | 7,110           | 1963       | Mar. 5, 1963  | 10.52              | 6,100           |       |
|            | Apr. 14, 15, 1945 | 18.00              | 22,600          |            |               |                    |                 |       |
|            | May 10, 1945      | 10.75              | 6,100           |            |               |                    |                 |       |
|            | 1946              | June 11, 1945      | 11.20           | 6,800      | 1964          | Apr. 6, 1964       | 12.21           | 8,500 |
|            |                   | June 17, 1945      | 14.50           | 15,000     |               |                    |                 |       |
| 1946       | Feb. 14, 1946     | 15.86              | 17,200          | 1965       | Apr. 5, 1965  | 12.78              | 9,760           |       |
|            | May 16, 1946      | 14.21              | 13,900          |            |               |                    |                 |       |
| 1947       | Nov. 10, 1946     | 16.17              | 18,000          |            |               |                    |                 |       |
|            | Dec. 12, 1946     | 10.76              | 6,230           |            |               |                    |                 |       |
|            | Apr. 25, 1947     | 11.19              | 6,800           |            |               |                    |                 |       |
| 1948       | June 19, 1948     | 11.00              | 6,500           |            |               |                    |                 |       |
| 1949       | Jan. 25, 1949     | 14.3               | 14,200          |            |               |                    |                 |       |
|            | Jan. 28, 1949     | 12.55              | 9,260           |            |               |                    |                 |       |
|            | Feb. 15, 1949     | 14.75              | 16,000          |            |               |                    |                 |       |
|            | July 8, 1949      | 11.2               | 6,800           |            |               |                    |                 |       |
|            | July 10, 1949     | 10.88              | 6,360           |            |               |                    |                 |       |
| 1950       | Jan. 4, 1950      | 19.50              | 26,500          |            |               |                    |                 |       |
|            | Jan. 13, 1950     | 12.87              | 9,960           |            |               |                    |                 |       |
|            | Feb. 13, 1950     | 12.29              | 8,640           |            |               |                    |                 |       |
|            | Apr. 4, 1950      | 10.80              | 6,230           |            |               |                    |                 |       |
|            | May 12, 1950      | 14.99              | 15,000          |            |               |                    |                 |       |
|            | Aug. 8, 1950      | 12.9               | 9,960           |            |               |                    |                 |       |
| 1951       | Aug. 28, 1950     | 10.96              | 6,500           |            |               |                    |                 |       |
|            | Feb. 19, 1951     | 10.99              | 6,500           |            |               |                    |                 |       |
|            | July 1, 1951      | 13.22              | 10,700          |            |               |                    |                 |       |
|            | July 4, 1951      | 11.66              | 7,590           |            |               |                    |                 |       |
| 1952       | July 11, 1951     | 11.45              | 7,110           |            |               |                    |                 |       |
|            | Mar. 11, 1952     | 12.45              | 8,840           |            |               |                    |                 |       |
| 1953       | Apr. 12, 1952     | 12.10              | 8,280           |            |               |                    |                 |       |
|            | Mar. 18, 1953     | 7.89               | 3,490           |            |               |                    |                 |       |
| 1954       | Mar. 24, 1954     | 8.72               | 4,140           |            |               |                    |                 |       |
| 1955       | Mar. 21, 1955     | 16.71              | 19,200          |            |               |                    |                 |       |
| 1956       | May 15, 1956      | 19.64              | 26,800          |            |               |                    |                 |       |
| 1957       | Apr. 4, 1957      | 14.20              | 13,100          |            |               |                    |                 |       |
|            | May 23, 1957      | 15.65              | 16,500          |            |               |                    |                 |       |
|            | May 25, 1957      | 14.30              | 13,300          |            |               |                    |                 |       |
|            | June 2, 1957      | 10.70              | 6,310           |            |               |                    |                 |       |
|            | June 5, 1957      | 10.80              | 6,420           |            |               |                    |                 |       |
| 1958       | Mar. 24, 1958     | 12.95              | 10,200          |            |               |                    |                 |       |
|            | May 30, 1958      | 13.75              | 12,100          |            |               |                    |                 |       |
|            | July 12, 1958     | 12.78              | 9,760           |            |               |                    |                 |       |
|            | July 17, 1958     | 12.26              | 8,700           |            |               |                    |                 |       |
| 1959       | July 5, 1959      | 13.06              | 10,400          |            |               |                    |                 |       |

## WHITE RIVER BASIN

7-0585. North Fork River at Tecumseh, Mo.  
(Published as "North Fork of White River" prior to 1940)

Location.--Lat 36°36'16", long 92°17'19", in NW $\frac{1}{4}$ NE $\frac{1}{4}$  sec.16, T.22 N., R.12 W., at bridge on U. S. Highway 160 at Tecumseh, half a mile downstream from Bryant Creek, 3 miles upstream from Lick Creek, and 9 miles upstream from Missouri-Arkansas border.

Drainage area.--1,157 sq mi. Slope.--8.04 ft per mi.

Gage.--Nonrecording prior to May 31, 1940; recording June 1, 1940, to Feb. 28, 1945. Prior to June 29, 1924, at site 200 ft downstream at different datum. Datum of present gage is 547.75 ft above mean sea level, datum of 1929. Gage heights given herein converted to present datum.

Stage-discharge relation.--Defined by current-meter measurements below 48,000 cfs and extended above by logarithmic plotting. Shifts in relation occur.

Bankfull stage.--24 ft.

Remarks.--Station discontinued because of backwater from Norfolk Dam. Base for partial-duration series, 10,000 cfs.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1905       | July 1905         | 31.6               | a85,000         | 1943       | Dec. 27, 1942 | 22.28              | 51,000          |
| 1915       | August 1915       | 31.0               | a80,000         |            | Dec. 29, 1942 | 11.90              | 21,300          |
| 1922       | Mar. 31, 1922     | 7.1                | 8,180           |            | May 11, 1943  | 22.86              | 52,900          |
| 1923       | Feb. 1, 1923      | 18.6               | 34,400          |            | May 18, 1943  | 21.67              | 48,700          |
|            | Mar. 16, 1923     | 8.4                | 10,500          | 1944       | May 20, 1943  | 13.23              | 24,800          |
| 1924       | June 11, 1924     | 20.0               | 38,300          |            | June 23, 1943 | 8.50               | 13,200          |
| 1925       | Dec. 19, 1924     | 10.50              | 14,600          |            | Apr. 11, 1944 | 3.82               | 3,830           |
| 1926       | Oct. 17, 1925     | 5.70               | 5,980           |            |               |                    |                 |
| 1927       | Apr. 1, 1927      | 10.36              | 14,300          |            |               |                    |                 |
|            | Apr. 14, 1927     | 20.80              | 41,300          |            |               |                    |                 |
|            | Apr. 19, 1927     | 15.31              | 24,200          |            |               |                    |                 |
|            | May 6, 1927       | 8.73               | 11,500          |            |               |                    |                 |
|            | June 21, 1927     | 12.90              | 18,800          |            |               |                    |                 |
|            | Aug. 15, 1927     | 11.39              | 16,000          |            |               |                    |                 |
| 1928       | Nov. 8, 1927      | 8.97               | 12,000          |            |               |                    |                 |
|            | Dec. 14, 1927     | 16.20              | 26,600          |            |               |                    |                 |
|            | Apr. 6, 1928      | 8.70               | 11,500          |            |               |                    |                 |
|            | Apr. 21, 1928     | 10.30              | 14,100          |            |               |                    |                 |
|            | June 9, 1928      | 11.48              | 16,200          |            |               |                    |                 |
|            | June 13, 1928     | 24.00              | 53,000          |            |               |                    |                 |
| 1929       | Jan. 25, 1929     | 9.10               | 12,200          |            |               |                    |                 |
| 1930       | Jan. 14, 1930     | 8.50               | 11,200          |            |               |                    |                 |
| 1931       | Feb. 9, 1931      | 4.30               | 4,550           |            |               |                    |                 |
| 1932       | Jan. 17, 23, 1932 | 4.18               | 4,250           |            |               |                    |                 |
| 1933       | May 14, 1933      | 15.70              | 25,200          |            |               |                    |                 |
| 1934       | Mar. 28, 1934     | 2.44               | 1,850           |            |               |                    |                 |
| 1935       | Mar. 11, 1935     | 20.53              | 39,900          |            |               |                    |                 |
|            | June 3, 1935      | 10.99              | 15,300          |            |               |                    |                 |
|            | June 18, 1935     | 8.95               | 12,000          |            |               |                    |                 |
| 1936       | Sept. 24, 1936    | 4.75               | 5,300           |            |               |                    |                 |
| 1937       | Jan. 15, 1937     | 10.33              | 14,100          |            |               |                    |                 |
|            | May 2, 1937       | 9.06               | 12,200          |            |               |                    |                 |
|            | June 10, 1937     | 10.60              | 14,600          |            |               |                    |                 |
| 1938       | Feb. 18, 1938     | 16.80              | 28,600          |            |               |                    |                 |
|            | Mar. 29, 1938     | 8.86               | 11,600          |            |               |                    |                 |
|            | May 23, 1938      | 14.00              | 21,400          |            |               |                    |                 |
| 1939       | Apr. 17, 1939     | 12.6               | 19,200          |            |               |                    |                 |
| 1940       | Apr. 11, 1940     | 8.9                | 13,800          |            |               |                    |                 |
| 1941       | Apr. 16, 1941     | 10.95              | 18,700          |            |               |                    |                 |
| 1942       | Oct. 18, 1941     | 9.25               | 15,000          |            |               |                    |                 |
|            | Oct. 31, 1941     | 12.4               | 22,500          |            |               |                    |                 |
|            | June 18, 1942     | 9.37               | 15,300          |            |               |                    |                 |

a Annual peak only.

## WHITE RIVER BASIN

7-0613. East Fork Black River at Lesterville, Mo.

Location--Lat 37°27'00", long 90°49'40", in NE¼SE¼ sec. 16, T.32 N., R.2 E., at bridge on State Highway 21, at Lesterville, and three-quarters of a mile upstream from Black River.

Drainage area--94.5 sq mi. Slope--29.7 ft per mi.

Gage--Recording. Datum of gage is 655.34 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 4,500 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1961       | Nov. 15, 1960 | 7.17               | 2,350           |            |      |                    |                 |
|            | Mar. 5, 1961  | 9.50               | 6,490           |            |      |                    |                 |
|            | May 7, 1961   | 9.80               | 7,200           |            |      |                    |                 |
|            | June 15, 1961 | 8.10               | 3,760           |            |      |                    |                 |
| 1962       | Jan. 22, 1962 | 6.95               | 2,070           |            |      |                    |                 |
|            | Mar. 21, 1962 | 7.55               | 2,920           |            |      |                    |                 |
| 1963       | May 26, 1963  | 6.75               | 1,810           |            |      |                    |                 |
| 1964       | Mar. 9, 1964  | 8.05               | 4,480           |            |      |                    |                 |
| 1965       | Mar. 7, 1965  | 5.33               | 858             |            |      |                    |                 |

## WHITE RIVER BASIN

7-0615. Black River near Annapolis, Mo.

Location.--Lat 37°20'10", long 90°47'15", in SW¼NW¼ sec.25, T.31 N., R.2 E., 0.4 mile downstream from Mayberry Branch, 7 miles southwest of Annapolis, 11 miles downstream from East Fork, and at mile 278.5.

Drainage area.--484 sq mi. Slope.--10.9 ft per mi.

Gage.--Recording. Datum of gage is 569.72 ft above mean sea level, datum of 1929 (levels by Corps of Engineers). Prior to Aug. 21, 1942, at site 415 ft upstream at same datum.

Stage-discharge relation.--Defined by current-meter measurements below 33,000 cfs.

Remarks.--Gage-height record prior to Oct. 1, 1939, furnished by Corps of Engineers. Base for partial-duration series, 7,000 cfs.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1939       | Apr. 17, 1939 | 17.4               | a 32,500        | 1957       | May 19, 1957   | 11.62              | 14,600          |
|            |               |                    |                 |            | May 23, 1957   | 15.75              | 28,300          |
| 1940       | Apr. 19, 1940 | 8.51               | 6,920           |            | May 25, 1957   | 9.69               | 9,400           |
|            |               |                    |                 |            | June 30, 1957  | 11.45              | 14,000          |
| 1941       | Apr. 17, 1941 | 10.14              | 9,330           |            | July 2, 1957   | 12.47              | 17,400          |
| 1942       | Oct. 31, 1941 | 9.60               | 8,240           | 1958       | Dec. 17, 1957  | 17.45              | 34,400          |
|            | Jan. 31, 1942 | 10.27              | 9,560           |            | Mar. 24, 1958  | 13.36              | 20,200          |
|            |               |                    |                 |            | July 17, 1958  | 8.87               | 7,600           |
| 1943       | Oct. 30, 1942 | 9.15               | 7,740           |            |                |                    |                 |
|            | Dec. 27, 1942 | 17.60              | 33,400          | 1959       | Nov. 17, 1958  | 10.86              | 12,600          |
|            | May 11, 1943  | 18.9               | 37,900          |            | Apr. 20, 1959  | 8.55               | 7,010           |
|            | May 18, 1943  | 10.1               | 9,520           |            |                |                    |                 |
|            |               |                    |                 | 1960       | Dec. 18, 1959  | 10.50              | 11,500          |
| 1944       | Apr. 23, 1944 | 10.13              | 9,520           |            |                |                    |                 |
|            | May 3, 1944   | 11.58              | 13,400          | 1961       | Mar. 6, 1961   | 14.50              | 23,800          |
|            |               |                    |                 |            | May 7, 1961    | 15.87              | 28,600          |
| 1945       | Mar. 31, 1945 | 16.6               | 31,300          |            |                |                    |                 |
|            | Apr. 14, 1945 | 17.7               | 35,600          | 1962       | Mar. 21, 1962  | 14.00              | 22,200          |
|            | June 8, 1945  | 20.1               | 45,400          |            |                |                    |                 |
|            | June 10, 1945 | 20.1               | 45,400          | 1963       | May 26, 1963   | 10.60              | 12,300          |
| 1946       | Jan. 9, 1946  | 9.40               | 8,680           |            |                |                    |                 |
|            | Feb. 13, 1946 | 16.67              | 31,700          | 1964       | Mar. 9, 1964   | 14.46              | 23,800          |
|            | Mar. 6, 1946  | 9.90               | 9,900           |            | Apr. 6, 1964   | 12.24              | 16,600          |
|            | May 1, 1946   | 10.4               | 11,200          |            |                |                    |                 |
|            | May 16, 1946  | 12.6               | 17,700          | 1965       | Apr. 6, 1965   | 9.49               | 9,600           |
|            | May 25, 1946  | 15.6               | 27,600          |            | Sept. 22, 1965 | 10.34              | 11,600          |
| 1947       | Apr. 25, 1947 | 15.22              | 26,200          |            |                |                    |                 |
|            | June 27, 1947 | 12.30              | 16,700          |            |                |                    |                 |
| 1948       | Jan. 1, 1948  | 13.72              | 21,200          |            |                |                    |                 |
| 1949       | Jan. 19, 1949 | 11.6               | 14,600          |            |                |                    |                 |
|            | Jan. 24, 1949 | 17.15              | 33,600          |            |                |                    |                 |
|            | Jan. 28, 1949 | 9.03               | 7,820           |            |                |                    |                 |
|            | Feb. 15, 1949 | 12.66              | 18,000          |            |                |                    |                 |
| 1950       | Oct. 21, 1949 | 9.55               | 9,160           |            |                |                    |                 |
|            | Jan. 4, 1950  | 17.63              | 35,200          |            |                |                    |                 |
|            | Jan. 12, 1950 | 9.66               | 9,400           |            |                |                    |                 |
|            | Feb. 13, 1950 | 9.61               | 9,160           |            |                |                    |                 |
|            | May 10, 1950  | 12.38              | 17,000          |            |                |                    |                 |
|            | June 10, 1950 | 8.57               | 7,080           |            |                |                    |                 |
| 1951       | Feb. 7, 1951  | 8.95               | 7,820           |            |                |                    |                 |
|            | Feb. 19, 1951 | 11.22              | 13,400          |            |                |                    |                 |
|            | June 24, 1951 | 9.57               | 9,160           |            |                |                    |                 |
|            | June 30, 1951 | 11.82              | 15,200          |            |                |                    |                 |
|            | July 10, 1951 | 11.22              | 13,400          |            |                |                    |                 |
|            | July 13, 1951 | 12.99              | 19,000          |            |                |                    |                 |
| 1952       | Nov. 12, 1951 | 9.13               | 8,020           |            |                |                    |                 |
|            | Mar. 11, 1952 | 10.84              | 12,300          |            |                |                    |                 |
|            | Apr. 4, 1952  | 9.13               | 8,020           |            |                |                    |                 |
|            | Apr. 13, 1952 | 9.34               | 8,460           |            |                |                    |                 |
| 1953       | Mar. 4, 1953  | 9.20               | 8,240           |            |                |                    |                 |
| 1954       | June 8, 1954  | 9.15               | 8,240           |            |                |                    |                 |
| 1955       | Mar. 21, 1955 | 11.56              | 14,600          |            |                |                    |                 |
| 1956       | May 15, 1956  | 12.76              | 18,300          |            |                |                    |                 |
| 1957       | Mar. 25, 1957 | 8.60               | 7,010           |            |                |                    |                 |
|            | Apr. 4, 1957  | 19.30              | 42,100          |            |                |                    |                 |
|            | Apr. 22, 1957 | 11.94              | 15,500          |            |                |                    |                 |
|            | Apr. 27, 1957 | 12.70              | 18,000          |            |                |                    |                 |

a Annual peak only.

## WHITE RIVER BASIN

7-0618. Brawley Hollow near Centerville, Mo.

Location.--Lat 37°21'00", long 90°58'15", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.29, T.31 N., R.1 E., on left bank just upstream from 4.5 x 10 ft double box culvert under State Highway 21, about 6 miles south of Centerville.

Drainage area.--1.00 sq mi. Slope.--133 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 90 and 134 cfs by indirect measurements. Defined below 42 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 20, 1955 | 5.15               | 90              |            |      |                    |                 |
| 1956       | May 14, 1956  | 5.58               | 134             |            |      |                    |                 |
| 1957       | May 22, 1957  | 5.98               | 250             |            |      |                    |                 |
| 1958       | Mar. 24, 1958 | 4.92               | 42              |            |      |                    |                 |
| 1959       |               | (a)                | (b)             |            |      |                    |                 |
| 1960       |               | (a)                | (b)             |            |      |                    |                 |
| 1961       | May 7, 1961   | 5.62               | 160             |            |      |                    |                 |
| 1962       | Jan. 22, 1962 | 5.22               | 100             |            |      |                    |                 |
| 1963       | May 25, 1963  | 5.62               | 160             |            |      |                    |                 |
| 1964       | Mar. 9, 1964  | 5.31               | 90              |            |      |                    |                 |
| 1965       | Sept. 5, 1965 | 5.37               | 95              |            |      |                    |                 |

a Stage below bottom of gage.

b Less than 40 cfs.

## WHITE RIVER BASIN

7-0625. Black River at Leeper, Mo.

Location.--Lat 37°04'45", long 90°42'50", in SE $\frac{1}{4}$ SW $\frac{1}{4}$  sec.22, T.28 N., R.3 E., at bridge on State Highway 34, half a mile northwest of Leeper, 2 miles downstream from McKenzie Creek, 6 miles downstream from Clearwater Dam, and at mile 251.0.

Drainage area.--957 sq mi. Slope.--8.51 ft per mi.

Gage.--Nonrecording prior to Oct. 21, 1937, and Jan. 22 to Apr. 6, 1942; recording Oct. 22, 1937, to Jan. 21, 1942, and since Apr. 7, 1942. Prior to Apr. 7, 1942, gages at site 1,900 ft downstream at datum 3.85 ft lower. Datum of present gage is 428.51 ft above mean sea level, datum of 1929. Gage heights given herein converted to present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 55,000 cfs.

Bankfull stage.--11 ft.

Remarks.--Flow regulated since June 3, 1948, by Clearwater Reservoir (capacity, 413,700 acre-ft). Base for partial-duration series, 9,000 cfs. Only annual peaks are shown subsequent to 1947.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date            | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|-----------------|--------------------|-----------------|
| 1904       | March 1904    | 22.3               | a125,000        | 1939       | Mar. 6, 1939    | 8.54               | 12,500          |
| 1915       | August 1915   | 18.8               | a90,000         |            | Apr. 17, 1939   | 12.60              | 33,400          |
| 1922       | Nov. 19, 1921 | 11.1               | 24,000          | 1940       | Apr. 20, 1940   | 8.05               | 10,800          |
|            | Mar. 31, 1922 | 10.0               | 20,700          | 1941       | Apr. 18, 1941   | 7.10               | 8,000           |
|            | Apr. 18, 1922 | 7.74               | 10,400          | 1942       | Nov. 1, 1941    | 8.37               | 12,000          |
|            | Apr. 28, 1922 | 7.46               | 9,460           |            | Jan. 31, 1942   | 7.88               | 10,300          |
| 1923       | Feb. 1, 1923  | 9.90               | 19,600          | 1943       | Dec. 28, 1942   | 14.32              | 47,200          |
|            | Mar. 12, 1923 | 8.22               | 12,030          |            | May 11, 1943    | 16.36              | 54,400          |
|            | Mar. 16, 1923 | 10.50              | 21,900          |            | May 19, 1943    | 8.76               | 13,600          |
|            | May 16, 1923  | 10.48              | 21,870          | 1944       | Apr. 23, 1944   | 9.04               | 14,400          |
| 1924       | June 12, 1924 | 6.72               | 7,250           |            | May 4, 1944     | 8.40               | 12,100          |
| 1925       | Dec. 20, 1924 | 4.63               | 2,520           | 1945       | Feb. 22, 1945   | 9.08               | 14,300          |
| 1926       | Nov. 8, 1925  | 8.90               | 14,600          |            | Feb. 26, 1945   | 12.16              | 28,200          |
| 1927       | Apr. 1, 1927  | 13.75              | 42,400          |            | Mar. 7, 1945    | 10.85              | 21,500          |
|            | Apr. 15, 1927 | 13.90              | 44,100          |            | Mar. 31, 1945   | 13.86              | 37,400          |
|            | Apr. 20, 1927 | 9.00               | 14,900          |            | Apr. 14, 1945   | 15.10              | 45,100          |
|            | May 25, 1927  | 12.65              | 33,400          |            | June 8, 1945    | 17.08              | 59,700          |
|            | June 1, 1927  | 13.45              | 40,000          |            | June 10, 1945   | 16.08              | 52,200          |
|            |               |                    |                 |            | June 17, 1945   | 8.16               | 11,200          |
| 1928       | Dec. 14, 1927 | 13.10              | 36,900          | 1946       | Jan. 9, 1946    | 8.45               | 11,900          |
|            | Apr. 6, 1928  | 8.64               | 13,500          |            | Feb. 14, 1946   | 14.35              | 40,400          |
|            | Apr. 22, 1928 | 7.33               | 9,050           |            | Mar. 7, 1946    | 8.10               | 11,900          |
|            | June 10, 1928 | 13.00              | 36,200          |            | May 1, 1946     | 8.95               | 14,700          |
|            | June 13, 1928 | 13.20              | 37,700          |            | May 17, 1946    | 11.10              | 23,300          |
|            | June 17, 1928 | 7.68               | 10,200          |            | May 25, 1946    | 14.7               | 42,400          |
|            | June 21, 1928 | 11.90              | 29,000          | 1947       | Apr. 11, 1947   | 7.8                | 10,200          |
| 1929       | Jan. 25, 1929 | 9.50               | 18,100          |            | Apr. 25, 1947   | 13.27              | 34,000          |
|            | Apr. 10, 1929 | 9.20               | 15,640          |            | June 28, 1947   | 11.45              | 25,200          |
|            | May 7, 1929   | 10.30              | 21,000          | 1948       | Jan. 2, 1948    | 8.65               | 12,600          |
|            | May 13, 1929  | 13.10              | 36,900          | 1949       | Jan. 24, 1949   | 6.90               | 7,470           |
|            | June 13, 1929 | 7.95               | 11,200          | 1950       | Apr. 3, 1950    | 7.22               | 8,250           |
| 1930       | Jan. 14, 1930 | 9.10               | 18,500          | 1951       | Feb. 20, 1951   | 6.09               | 5,560           |
| 1931       | Mar. 8, 1931  | 6.10               | 6,000           | 1952       | Dec. 6, 1951    | 5.64               | 4,200           |
| 1932       | Jan. 23, 1932 | 5.90               | 5,600           | 1953       | Mar. 10, 1953   | 5.51               | 3,950           |
| 1933       | Apr. 16, 1933 | 14.55              | 49,200          | 1954       | Feb. 18, 1954   | 5.31               | 3,630           |
|            | May 14, 1933  | 17.5               | 78,400          | 1955       | Mar. 20, 1955   | 8.40               | 11,400          |
| 1934       | Aug. 22, 1934 | 5.50               | 4,280           | 1956       | May 22,23, 1956 | 5.53               | 3,200           |
| 1935       | Mar. 11, 1935 | 16.9               | 72,300          | 1957       | May 23, 1957    | 8.10               | 10,400          |
|            | June 21, 1935 | 9.65               | 17,900          | 1958       | Dec. 19, 1957   | 5.91               | 4,470           |
| 1936       | Nov. 5, 1935  | 7.15               | 8,660           | 1959       | Nov. 17, 1958   | 7.47               | 8,550           |
| 1937       | Oct. 9, 1936  | 8.00               | 10,800          | 1960       | Dec. 21, 1959   | 5.13               | 3,300           |
|            | Jan. 8, 1937  | 7.75               | 9,820           |            |                 |                    |                 |
|            | Jan. 15, 1937 | 11.85              | 28,400          |            |                 |                    |                 |
| 1938       | Feb. 18, 1938 | 13.0               | 36,200          |            |                 |                    |                 |
|            | May 24, 1938  | 8.25               | 11,500          |            |                 |                    |                 |

## WHITE RIVER BASIN

## Peak stages and discharges of Black River at Leeper, Mo.--Continued

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1961       | May 7, 1961    | 6.65               | 6,290           |            |      |                    |                 |
| 1962       | Mar. 25, 1962  | 5.70               | 4,110           |            |      |                    |                 |
| 1963       | Apr. 2, 1963   | 5.40               | 3,620           |            |      |                    |                 |
| 1964       | Mar. 9, 1964   | 7.57               | 8,840           |            |      |                    |                 |
| 1965       | Sept. 22, 1965 | 6.15               | 5,060           |            |      |                    |                 |

a Annual peak only.

## WHITE RIVER BASIN

7-0630. Black River at Poplar Bluff, Mo.

Location.--Lat 36°45'35", long 90°23'15", in SW¼NW¼ sec.2, T.24 N., R.6 E, 1,500 ft upstream from bridge on U. S. Highway 60 in Poplar Bluff, 4 3/4 miles downstream from Indian Creek, and at mile 211.2.

Drainage area.--1,245 sq mi. Slope.--6.23 ft per mi.

Gage.--Nonrecording prior to June 8, 1955; recording thereafter. Prior to July 17, 1935, at site 300 ft downstream at datum 1.89 ft higher. July 17, 1935, to Sept. 30, 1940, at present site at datum 2.00 ft higher. Datum of present gage is 317.38 ft above mean sea level, datum of 1929. Gage heights given herein converted to present site and datum.

Stage-discharge relation.--Defined by current-meter measurements below 44,000 cfs; shifts in relation occur. Stage-discharge relation affected by right-bank levee constructed 1906-10 and left-bank levee constructed 1918-22.

Bankfull stage.--16 ft.

Remarks.--Flow regulated since June 3, 1948, by Clearwater Reservoir (capacity, 413,700 acre-ft). Peaks prior to Oct. 1, 1936, and Oct. 1, 1937, to Sept. 30, 1939, computed from plotted U. S. Weather Bureau gage readings. Base for partial-duration series, 6,000 cfs. Only annual peaks are shown subsequent to 1948.

| Peak stages and discharges |               |                    |                 |            |                 |                    |                 |
|----------------------------|---------------|--------------------|-----------------|------------|-----------------|--------------------|-----------------|
| Water year                 | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date            | Gage height (feet) | Discharge (cfs) |
| 1904                       | March 1904    | -                  | a100,000        | 1939       | Feb. 1, 1939    | 16.3               | 7,260           |
|                            |               |                    |                 |            | Mar. 7, 1939    | 17.9               | 13,900          |
| 1915                       | August 1915   | a21.1              | -               |            | Apr. 19, 1939   | 19.4               | 24,800          |
| 1923                       | Jan. 21, 1923 | 16.3               | 7,260           | 1940       | Apr. 21, 1940   | 17.8               | 10,300          |
|                            | Feb. 3, 1923  | 19.3               | 23,900          |            |                 |                    |                 |
|                            | Mar. 17, 1923 | 18.5               | 17,700          | 1941       | Apr. 19, 1941   | 13.6               | 4,880           |
|                            | May 6, 1923   | 17.1               | 9,900           |            |                 |                    |                 |
|                            | May 17, 1923  | 19.2               | 23,100          | 1942       | Nov. 3, 1941    | 17.38              | 8,520           |
| 1924                       | May 31, 1924  | 14.8               | 5,000           |            | Feb. 2, 1942    | 16.26              | 6,770           |
|                            |               |                    |                 |            | Apr. 10, 1942   | 17.3               | 8,290           |
| 1925                       | June 14, 1925 | 15.9               | 6,420           | 1943       | Dec. 29, 1942   | 19.56              | 21,500          |
|                            |               |                    |                 |            | May 12, 1943    | 20.77              | 52,600          |
| 1926                       | Oct. 18, 1925 | 15.8               | 6,250           |            | May 21, 1943    | 17.53              | 8,770           |
|                            | Nov. 10, 1925 | 17.5               | 11,700          |            |                 |                    |                 |
| 1927                       | Jan. 23, 1927 | 18.0               | 14,500          | 1944       | Apr. 25, 1944   | 17.40              | 8,520           |
|                            | Mar. 19, 1927 | 17.2               | 10,300          |            | May 5, 1944     | 15.68              | 6,190           |
|                            | Apr. 2, 1927  | 19.8               | 28,100          | 1945       | Feb. 24, 1945   | 16.00              | 6,260           |
|                            | Apr. 16, 1927 | 20.3               | 32,500          |            | Feb. 28, 1945   | 19.70              | 27,000          |
|                            | May 10, 1927  | 16.7               | 8,420           |            | Mar. 8, 1945    | 18.82              | 14,800          |
|                            | May 27, 1927  | 19.3               | 23,900          |            | Mar. 21, 1945   | 17.18              | 8,080           |
|                            | June 3, 1927  | 20.0               | 29,800          |            | Apr. 1, 1945    | 19.85              | 28,800          |
| 1928                       | Dec. 15, 1927 | 20.1               | 30,700          |            | Apr. 16, 1945   | 20.54              | 43,400          |
|                            | Apr. 8, 1928  | 18.5               | 17,700          |            | June 10, 1945   | 20.80              | 50,800          |
|                            | Apr. 23, 1928 | 17.9               | 13,900          |            | June 19, 1945   | 17.78              | 9,670           |
|                            | June 15, 1928 | 19.9               | 29,000          | 1946       | Jan. 11, 1946   | 16.73              | 7,210           |
|                            | June 23, 1928 | 19.8               | 28,100          |            | Feb. 15, 1946   | 19.53              | 23,500          |
| 1929                       | Jan. 27, 1929 | 18.5               | 17,700          |            | May 3, 1946     | 17.77              | 9,670           |
|                            | Apr. 11, 1929 | 18.0               | 14,500          |            | May 18, 1946    | 18.21              | 11,200          |
|                            | May 15, 1929  | 20.2               | 31,600          |            | May 26, 1946    | 20.02              | 32,600          |
|                            | June 15, 1929 | 17.2               | 10,300          | 1947       | Apr. 13, 1947   | 16.29              | 6,620           |
| 1930                       | Jan. 16, 1930 | 19.3               | 23,900          |            | Apr. 27, 1947   | 18.81              | 14,800          |
|                            |               |                    |                 |            | June 29, 1947   | 16.25              | 6,490           |
| 1931                       | Mar. 9, 1931  | 14.6               | 4,820           | 1948       | Jan. 3, 1948    | 18.09              | 10,800          |
| 1932                       | Jan. 24, 1932 | 14.6               | 4,820           | 1949       | Jan. 25, 1949   | 18.85              | 14,800          |
| 1933                       | Dec. 31, 1932 | 16.6               | 8,100           | 1950       | Feb. 14, June 5 | 17.9               | 10,000          |
|                            | Jan. 23, 1933 | 16.8               | 8,760           |            |                 |                    |                 |
|                            | Apr. 17, 1933 | 19.5               | 25,600          | 1951       | Feb. 21, 1951   | 16.81              | 6,060           |
|                            | May 16, 1933  | 20.6               | 35,300          |            |                 |                    |                 |
| 1934                       | Mar. 27, 1934 | 10.0               | 2,880           | 1952       | Nov. 25, 1951   | 16.66              | 7,210           |
|                            |               |                    |                 |            |                 |                    |                 |
| 1935                       | Mar. 12, 1935 | 21.1               | 40,200          | 1953       | Mar. 29, 1953   | 11.50              | 3,630           |
|                            | May 6, 1935   | 15.7               | 6,090           | 1954       | May 9, 1954     | 9.49               | 2,840           |
|                            | June 23, 1935 | 17.7               | 12,700          |            |                 |                    |                 |
| 1936                       | Apr. 6, 1936  | 12.6               | 3,796           | 1955       | Mar. 22, 1955   | 16.85              | 7,370           |
|                            |               |                    |                 | 1956       | Feb. 18, 1956   | 12.92              | 4,400           |
| 1937                       | Oct. 11, 1936 | 16.2               | 7,020           |            |                 |                    |                 |
|                            | Jan. 10, 1937 | 17.2               | 10,300          | 1957       | Apr. 5, 1957    | 18.59              | 14,300          |
|                            | Jan. 16, 1937 | 19.66              | 27,300          |            |                 |                    |                 |
|                            | May 4, 1937   | 16.51              | 7,800           | 1958       | Mar. 25, 1958   | 17.81              | 10,200          |
| 1938                       | Feb. 20, 1938 | 19.42              | 24,800          | 1959       | Nov. 18, 1958   | 16.35              | 7,220           |
|                            | Mar. 31, 1938 | 17.81              | 13,300          |            |                 |                    |                 |
|                            | May 26, 1938  | 15.9               | 6,420           | 1960       | May 21, 1960    | 12.30              | 3,800           |

## WHITE RIVER BASIN

## Peak stages and discharges of Black River at Poplar Bluff, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1961       | May 8, 1961   | 18.65              | 14,300          |            |      |                    |                 |
| 1962       | Feb. 27, 1962 | 15.80              | 6,550           |            |      |                    |                 |
| 1963       | Mar. 17, 1963 | 12.22              | 4,000           |            |      |                    |                 |
| 1964       | Mar. 10, 1964 | 19.72              | 17,200          |            |      |                    |                 |
| 1965       | Apr. 4, 1965  | 13.04              | 4,420           |            |      |                    |                 |

a Annual peak only, estimated.

## WHITE RIVER BASIN

## 7-0632. Pike Creek Tributary near Poplar Bluff, Mo.

Location.--Lat 36°47'02", long 90°25'41", in SW¼SW¼ sec.28, T.25 N., R.6 E., on right bank just upstream from 6 x 6 ft box culvert under U.S. Highway 67 and 2 miles northwest of Poplar Bluff.

Drainage area.--0.28 sq mi. Slope.--111 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed July 16, 1959, and removed Mar. 26, 1964.

Stage-discharge relation.--Defined at 77, 171, 211, and 366 cfs by indirect measurements. Defined below 15 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 20, 1955 | 14.73              | 77              |            |      |                    |                 |
| 1956       | Feb. 18, 1956 | 13.58              | 28              |            |      |                    |                 |
| 1957       | May 23, 1957  | 16.31              | 171             |            |      |                    |                 |
| 1958       | Nov. 7, 1957  | 17.30              | 211             |            |      |                    |                 |
| 1959       | May 11, 1959  | 14.24              | 57              |            |      |                    |                 |
| 1960       | Dec. 11, 1959 | 13.99              | 47              |            |      |                    |                 |
| 1961       | May 6, 1961   | 16.82              | 198             |            |      |                    |                 |
| 1962       | Feb. 25, 1962 | 16.16              | 160             |            |      |                    |                 |
| 1963       | June 15, 1963 | 15.56              | 122             |            |      |                    |                 |
| 1964       | Mar. 8, 1964  | 19.23              | 366             |            |      |                    |                 |
| 1965       | Nov. 28, 1964 | 14.66              | 77              |            |      |                    |                 |

## WHITE RIVER BASIN

7-0645. Big Creek near Yukon, Mo.

Location--Lat 37°14'00", long 91°51'00", in SW¼NW¼ sec.5, T.29 N., R.8 W., on downstream side of right pier of bridge on State Highway 137, 3 miles south of Yukon.

Drainage area--8.36 sq mi. Slope--53.3 ft per mi.

Gage--Recording. Datum of gage is 1,194.81 ft above mean sea level, datum of 1929.

Stage-discharge relation--Defined by current-meter measurements below 2,900 cfs, and extended above on basis of contracted-opening measurement at 4,860 cfs.

Historical data--Flood of April 1945 reached a stage of about 10.5 ft and next highest flood (since 1932) reached a stage of about 10 ft in February 1935 from information by local resident.

Bankfull stage--5 ft.

Remarks--Base for partial-duration series, 500 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year     | Date         | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|----------------|--------------|--------------------|-----------------|
| 1950       | Jan. 4, 1950   | 3.36               | 1,120           | 1963           | Mar. 4, 1963 | 3.30               | 1,030           |
|            | Jan. 13, 1950  | 3.84               | 1,980           |                | May 16, 1963 | 3.34               | 1,090           |
|            | Apr. 2, 1950   | 3.14               | 820             |                | May 25, 1963 | 3.40               | 1,180           |
|            | May 7, 1950    | 3.27               | 990             | 1964           | Mar. 9, 1964 | 3.15               | 835             |
|            | May 10, 1950   | 4.35               | 3,120           |                | Apr. 5, 1964 | 3.65               | 1,620           |
|            | May 11, 1950   | 3.32               | 1,060           |                | 1965         | Sept. 5, 1965      | 4.07            |
|            | June 10, 1950  | 2.90               | 565             | Sept. 21, 1965 |              | 3.16               | 908             |
| 1951       | Feb. 18, 1951  | 2.90               | 620             |                |              |                    |                 |
|            | Feb. 20, 1951  | 2.87               | 600             |                |              |                    |                 |
|            | Apr. 6, 1951   | 3.28               | 1,000           |                |              |                    |                 |
|            | June 29, 1951  | 3.70               | 1,170           |                |              |                    |                 |
|            | June 30, 1951  | 4.28               | 2,950           |                |              |                    |                 |
|            | July 10, 1951  | 3.60               | 1,530           |                |              |                    |                 |
| 1952       | Oct. 22, 1951  | 3.00               | 690             |                |              |                    |                 |
|            | Oct. 27, 1951  | 3.37               | 1,140           |                |              |                    |                 |
|            | Mar. 10, 1952  | 3.07               | 699             |                |              |                    |                 |
|            | Apr. 12, 1952  | 2.82               | 568             |                |              |                    |                 |
| 1953       | Mar. 3, 1953   | 2.70               | 475             |                |              |                    |                 |
| 1954       | Mar. 25, 1954  | 2.68               | 462             |                |              |                    |                 |
| 1955       | Feb. 20, 1955  | 2.99               | 672             |                |              |                    |                 |
|            | Mar. 20, 1955  | 3.20               | 895             |                |              |                    |                 |
| 1956       | May 15, 1956   | 6.15               | 4,860           |                |              |                    |                 |
| 1957       | Apr. 3, 1957   | 3.32               | 1,080           |                |              |                    |                 |
|            | Apr. 20, 1957  | 3.28               | 1,030           |                |              |                    |                 |
|            | Apr. 26, 1957  | 3.15               | 883             |                |              |                    |                 |
|            | May 18, 1957   | 3.60               | 1,430           |                |              |                    |                 |
|            | May 22, 1957   | 3.40               | 1,120           |                |              |                    |                 |
|            | May 25, 1957   | 3.40               | 1,120           |                |              |                    |                 |
|            | May 31, 1957   | 3.12               | 802             |                |              |                    |                 |
| 1958       | Dec. 17, 1957  | 4.07               | 2,480           |                |              |                    |                 |
|            | Mar. 22, 1958  | 2.70               | 540             |                |              |                    |                 |
|            | July 17, 1958  | 3.38               | 1,150           |                |              |                    |                 |
|            | July 31, 1958  | 3.13               | 811             |                |              |                    |                 |
|            | Sept. 10, 1958 | 3.05               | 728             |                |              |                    |                 |
|            | Sept. 16, 1958 | 3.24               | 1,090           |                |              |                    |                 |
| 1959       | Nov. 16, 1958  | 2.83               | 554             |                |              |                    |                 |
|            | Nov. 17, 1958  | 3.18               | 871             |                |              |                    |                 |
|            | Nov. 17, 1958  | 2.78               | 523             |                |              |                    |                 |
| 1960       | Nov. 4, 1959   | 2.88               | 587             |                |              |                    |                 |
|            | Dec. 27, 1959  | 3.28               | 1,000           |                |              |                    |                 |
|            | May 6, 1960    | 3.08               | 756             |                |              |                    |                 |
| 1961       | Dec. 10, 1960  | 2.75               | 517             |                |              |                    |                 |
|            | Mar. 5, 1961   | 2.83               | 568             |                |              |                    |                 |
|            | Mar. 6, 1961   | 3.21               | 936             |                |              |                    |                 |
|            | May 7, 1961    | 4.95               | 4,780           |                |              |                    |                 |
|            | May 8, 1961    | 2.90               | 600             |                |              |                    |                 |
| 1962       | Mar. 4, 1963   | 2.82               | 548             |                |              |                    |                 |
|            | Sept. 30, 1962 | 2.84               | 561             |                |              |                    |                 |

## WHITE RIVER BASIN

7-0647. Fudge Hollow near Licking, Mo.

Location.--Lat 37°31'50", long 91°44'15", in NW¼SW¼ sec.29, T.33 N., R.7 W., at bridge on State Highway 32, 7.5 miles east of junction of U.S. Highway 63 and State Highway 32 in Licking.

Drainage area.--1.72 sq mi. Slope.--68.1 ft per mi.

Gage.--Recording. Datum of gage is 1,157.59 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined at 76 and 607 cfs by indirect measurements. Defined below 10 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1957       | May 21, 1957  | 4.20               | 140             |            |      |                    |                 |
| 1958       | July 25, 1958 | 4.72               | 200             |            |      |                    |                 |
| 1959       | Oct. 9, 1958  | 3.08               | 49              |            |      |                    |                 |
| 1960       | Dec. 17, 1959 | 3.17               | 54              |            |      |                    |                 |
| 1961       | Nov. 15, 1960 | 3.25               | 58              |            |      |                    |                 |
| 1962       | May 8, 1962   | 3.53               | 76              |            |      |                    |                 |
| 1963       | May 25, 1963  | 3.53               | 76              |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 3.23               | 57              |            |      |                    |                 |
| 1965       | Sept. 4, 1965 | 6.46               | 580             |            |      |                    |                 |

## WHITE RIVER BASIN

7-0660. Jacks Fork at Eminence, Mo.

Location.--Lat 37°09'15", long 91°21'30", in W½ sec.26, T.29 N., R.4 W., at bridge on State Highway 19 at Eminence, 1½ miles downstream from Mahans Creek and 8.0 miles upstream from mouth.

Drainage area.--398 sq mi. Slope.--9.50 ft per mi.

Gage.--Nonrecording. Prior to July 27, 1934, at site 1,400 ft upstream at datum 2.11 ft higher. Datum of present gage is 617.91 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 21,000 cfs; shifts in relation occur.

Bankfull stage.--28 ft.

Remarks.--Base for partial-duration series, 3,900 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |  |
|------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|--|
| 1922       | Nov. 19, 1921  | 7.65               | 7,240           | 1940          | Apr. 12, 1940 | 6.5                | 4,450           |  |
|            | Mar. 31, 1922  | 7.07               | 6,300           |               |               |                    |                 |  |
|            | Apr. 11, 1922  | 5.90               | 4,240           |               |               |                    |                 |  |
| 1923       | Jan. 21, 1923  | 6.30               | 4,890           | 1942          | Oct. 18, 1941 | 6.53               | 4,450           |  |
|            | Feb. 1, 1923   | 10.00              | 12,200          |               | Oct. 31, 1941 | 8.6                | 8,050           |  |
|            | Mar. 12, 1923  | 6.12               | 5,070           |               | Apr. 9, 1942  | 7.59               | 5,970           |  |
|            | Mar. 16, 1923  | 7.83               | 8,040           |               | May 31, 1942  | 6.70               | 4,480           |  |
|            | May 16, 1923   | 7.10               | 6,780           |               | June 18, 1942 | 6.60               | 4,330           |  |
|            | June 13, 1923  | 6.75               | 6,260           |               |               |                    |                 |  |
|            |                |                    |                 |               |               |                    |                 |  |
| 1924       | June 21, 1924  | 4.69               | 2,970           | 1943          | Dec. 27, 1942 | 14.50              | 27,500          |  |
| 1925       | Apr. 28, 1925  | 6.10               | 5,070           |               | May 11, 1943  | 12.60              | 20,000          |  |
|            |                |                    |                 |               | May 20, 1943  | 8.09               | 6,960           |  |
| 1926       | Oct. 17, 1925  | 5.65               | 4,270           | 1944          | May 3, 1944   | 5.26               | 2,570           |  |
| 1927       | Apr. 1, 1927   | 6.63               | 5,920           | 1945          | Feb. 22, 1945 | 6.92               | 4,790           |  |
|            | Apr. 14, 1927  | 8.46               | 9,350           |               | Feb. 26, 1945 | 11.36              | 16,100          |  |
|            | Apr. 19, 1927  | 8.69               | 9,730           |               | Mar. 6, 1945  | 7.02               | 5,310           |  |
|            | May 6, 1927    | 7.40               | 7,320           |               | Mar. 31, 1945 | 10.95              | 14,800          |  |
|            | May 25, 1927   | 6.69               | 6,090           |               | Apr. 2, 1945  | 7.56               | 6,450           |  |
|            | June 2, 1927   | 8.80               | 10,900          |               | Apr. 14, 1945 | 11.5               | 16,400          |  |
|            | Aug. 15, 1927  | 5.50               | 4,110           |               | June 10, 1945 | 7.47               | 6,250           |  |
|            |                |                    |                 |               | June 17, 1945 | 10.60              | 13,600          |  |
| 1928       | Dec. 14, 1927  | 11.00              | 14,200          | 1946          | Feb. 13, 1946 | 11.7               | 16,700          |  |
|            | Apr. 6, 1928   | 8.81               | 9,920           |               | Mar. 6, 1946  | 7.93               | 7,050           |  |
|            | June 9, 1928   | 8.98               | 10,300          |               | May 16, 1946  | 7.03               | 5,310           |  |
|            | June 13, 1928  | 16.24              | 40,000          |               | May 25, 1946  | 10.20              | 12,460          |  |
|            | June 21, 1928  | 6.50               | 4,700           |               | Aug. 14, 1946 | 11.50              | 16,400          |  |
| 1929       | Jan. 25, 1929  | 8.60               | 8,360           | 1947          | Nov. 10, 1946 | 9.1                | 9,640           |  |
|            | May 9, 1929    | 6.12               | 4,060           |               | Apr. 25, 1947 | 9.0                | 9,400           |  |
|            | May 14, 1929   | 7.30               | 5,980           |               |               |                    |                 |  |
|            | June 13, 1929  | 7.30               | 5,980           |               |               |                    |                 |  |
| 1930       | Jan. 14, 1930  | 7.70               | 7,420           | 1948          | Jan. 1, 1948  | 8.25               | 7,670           |  |
|            | Feb. 26, 1930  | 6.05               | 3,920           |               | June 19, 1948 | 8.85               | 8,960           |  |
| 1931       | Oct. 8, 1930   | 4.80               | 2,740           | 1949          | Jan. 19, 1949 | 9.1                | 9,640           |  |
|            |                |                    |                 |               | Jan. 24, 1949 | 13.85              | 24,600          |  |
| 1932       | Jan. 18, 1932  | 4.70               | 2,610           | Jan. 28, 1949 | 7.5           | 6,250              |                 |  |
|            |                |                    |                 | Feb. 15, 1949 | 10.85         | 14,200             |                 |  |
|            |                |                    |                 | Mar. 27, 1949 | 6.5           | 4,490              |                 |  |
|            |                |                    |                 | May 24, 1949  | 7.8           | 6,850              |                 |  |
|            |                |                    |                 | June 13, 1949 | 9.55          | 10,900             |                 |  |
| 1933       | May 14, 1933   | 11.50              | 17,000          | July 8, 1949  | 8.5           | 8,300              |                 |  |
| 1934       | Sept. 15, 1934 | 4.60               | 1,270           | 1950          | Dec. 22, 1949 | 6.1                | 3,900           |  |
| 1935       | Mar. 11, 1935  | 14.26              | 26,700          |               | Jan. 4, 1950  | 13.2               | 22,300          |  |
|            |                |                    |                 | Jan. 13, 1950 | 7.0           | 5,800              |                 |  |
|            |                |                    |                 | Feb. 13, 1950 | 7.0           | 5,800              |                 |  |
| 1936       | Nov. 10, 1935  | 5.67               | 2,620           | Apr. 3, 1950  | 8.8           | 9,340              |                 |  |
|            |                |                    |                 | May 10, 1950  | 14.5          | 27,500             |                 |  |
|            |                |                    |                 | May 20, 1950  | 5.9           | 4,000              |                 |  |
| 1937       | Jan. 8, 1937   | 7.22               | 5,220           | June 10, 1950 | 5.9           | 4,000              |                 |  |
|            |                |                    |                 | Jan. 15, 1937 | 8.34          | 7,590              |                 |  |
|            |                |                    |                 | May 2, 1937   | 8.37          | 7,820              |                 |  |
| 1938       | Feb. 18, 1938  | 10.56              | 13,600          | 1951          | Feb. 19, 1951 | 8.5                | 8,650           |  |
|            |                |                    |                 |               | Feb. 21, 1951 | 7.15               | 6,160           |  |
|            |                |                    |                 |               | Mar. 12, 1951 | 6.6                | 5,120           |  |
|            |                |                    |                 |               | July 1, 1951  | 7.0                | 5,800           |  |
|            |                |                    |                 |               | July 10, 1951 | 9.0                | 9,860           |  |
| 1939       | Jan. 30, 1939  | 7.38               | 6,060           | 1952          | Nov. 13, 1951 | 6.28               | 4,630           |  |
|            |                |                    |                 |               | Nov. 24, 1951 | 6.46               | 4,950           |  |
|            |                |                    |                 |               | Mar. 11, 1952 | 8.59               | 8,870           |  |
|            | Apr. 6, 1939   | 6.75               | 4,960           |               |               |                    |                 |  |
|            | Apr. 17, 1939  | 11.1               | 15,100          |               |               |                    |                 |  |

## WHITE RIVER BASIN

Peak stages and discharges of Jacks Fork at Eminence, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Dis charge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|------------------|
| 1952       | Apr. 5, 1952  | 6.36               | 4,790           |            |      |                    |                  |
|            | Apr. 13, 1952 | 8.17               | 8,030           |            |      |                    |                  |
| 1953       | Mar. 4, 1953  | 6.00               | 4,150           |            |      |                    |                  |
| 1954       | May 28, 1954  | 5.5                | 3,400           |            |      |                    |                  |
| 1955       | Feb. 20, 1955 | 6.8                | 5,460           |            |      |                    |                  |
|            | Mar. 21, 1955 | 12.60              | 20,500          |            |      |                    |                  |
| 1956       | May 15, 1956  | 13.85              | 24,800          |            |      |                    |                  |
| 1957       | Apr. 4, 1957  | 12.70              | 21,600          |            |      |                    |                  |
|            | Apr. 22, 1957 | 6.95               | 5,900           |            |      |                    |                  |
|            | Apr. 27, 1957 | 8.58               | 9,340           |            |      |                    |                  |
|            | May 19, 1957  | 7.12               | 6,100           |            |      |                    |                  |
|            | May 23, 1957  | 12.00              | 19,200          |            |      |                    |                  |
| 1958       | Mar. 24, 1958 | 10.00              | 13,000          |            |      |                    |                  |
|            | May 5, 1958   | 5.92               | 4,000           |            |      |                    |                  |
|            | July 17, 1958 | 9.60               | 11,900          |            |      |                    |                  |
| 1959       | Nov. 17, 1958 | 9.05               | 10,300          |            |      |                    |                  |
|            | Apr. 20, 1959 | 6.01               | 4,150           |            |      |                    |                  |
| 1960       | Dec. 28, 1960 | 10.00              | 13,000          |            |      |                    |                  |
| 1961       | Mar. 6, 1961  | 7.50               | 6,900           |            |      |                    |                  |
|            | May 7, 1961   | 12.00              | 19,200          |            |      |                    |                  |
| 1962       | Jan. 22, 1962 | 7.00               | 5,900           |            |      |                    |                  |
|            | Mar. 21, 1962 | 8.30               | 8,620           |            |      |                    |                  |
| 1963       | Oct. 1, 1962  | 6.90               | 5,720           |            |      |                    |                  |
|            | Mar. 5, 1963  | 8.00               | 7,900           |            |      |                    |                  |
|            | May 17, 1963  | 13.45              | 24,200          |            |      |                    |                  |
|            | May 26, 1963  | 9.50               | 11,600          |            |      |                    |                  |
|            | June 16, 1963 | 7.60               | 7,300           |            |      |                    |                  |
| 1964       | Mar. 10, 1964 | 8.00               | 7,900           |            |      |                    |                  |
|            | Apr. 6, 1964  | 9.70               | 12,200          |            |      |                    |                  |
| 1965       | Apr. 4, 1965  | 7.57               | 7,100           |            |      |                    |                  |
|            | Apr. 6, 1965  | 6.20               | 4,740           |            |      |                    |                  |

## WHITE RIVER BASIN

7-0665. Current River near Eminence, Mo.

Location.--Lat 37°11'00", long 91°15'30", in SW¼NW¼ sec.15, T.29 N., R.3 W., 1 mile downstream from Jacks Fork, 8 miles north-east of Eminence, and at mile 123.0.

Drainage area.--1,272 sq mi. Slope.--7.58 ft per mi.

Gage.--Nonrecording prior to Dec. 8, 1934; recording thereafter. Prior to Oct. 20, 1921, at site 1,200 ft upstream at different datum. Datum of present gage is 568.82 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurement below 48,000 cfs.

Historical data.--Floodmark for flood in March 1904 was 36 ft above water surface at a point 1 mile upstream from present gage at the time gage in use prior to Oct. 20, 1921, read 1.65 ft.

Remarks.--Base for partial-duration series, 12,000 cfs.

## Peak stages and discharges

| Water year   | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |        |
|--------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|--------|
| 1922         | Nov. 19, 1921  | 14.2               | 25,800          | 1944          | Apr. 23, 1944 | 9.97               | 11,400          |        |
|              | Mar. 31, 1922  | 11.5               | 17,800          |               | 1945          | Feb. 22, 1945      | 13.20           | 19,800 |
|              | Apr. 17, 1922  | 11.0               | 16,400          | Feb. 26, 1945 |               | 14.59              | 23,700          |        |
| 1923         | Feb. 1, 1923   | 13.4               | 23,700          | Mar. 7, 1945  |               | 12.40              | 17,700          |        |
|              | Mar. 16, 1923  | 13.5               | 24,000          | Mar. 31, 1945 | 16.25         | 28,800             |                 |        |
|              | May 16, 1923   | 12.5               | 21,200          | Apr. 2, 1945  | 12.35         | 17,700             |                 |        |
| 1924         | June 21, 1924  | 6.4                | 6,920           | 1946          | Apr. 14, 1945 | 21.23              | 47,600          |        |
|              |                |                    |                 |               | June 10, 1945 | 14.30              | 22,800          |        |
|              |                |                    |                 |               | June 17, 1945 | 13.46              | 20,600          |        |
| 1925         | Apr. 28, 1925  | 7.0                | 8,000           | 1946          | Feb. 14, 1946 | 18.96              | 39,800          |        |
| 1926         | Oct. 17, 1925  | 8.3                | 10,700          |               | Mar. 6, 1946  | 11.67              | 16,300          |        |
|              |                |                    |                 |               | May 16, 1946  | 10.89              | 14,300          |        |
| 1927         | Apr. 1, 1927   | 14.1               | 25,100          | May 25, 1946  | 20.20         | 44,300             |                 |        |
|              | Apr. 15, 1927  | 16.0               | 39,000          | Aug. 14, 1946 | 23.95         | 60,200             |                 |        |
|              | Apr. 19, 1927  | 12.1               | 19,500          | 1947          | Nov. 10, 1946 | 12.00              | 17,000          |        |
|              | May 25, 1927   | 12.0               | 19,000          |               | Apr. 25, 1947 | 14.7               | 25,300          |        |
|              | June 2, 1927   | 20.0               | 43,800          |               | 1948          | June 19, 1948      | 10.52           | 13,400 |
| 1928         | Dec. 14, 1927  | 15.5               | 27,900          | 1949          |               | Jan. 19, 1949      | 12.6            | 18,800 |
|              | June 9, 1928   | 24.3               | 59,400          |               |               | Jan. 25, 1949      | 20.40           | 45,000 |
| 1929         | June 13, 1928  | 21.0               | 46,900          | Feb. 15, 1949 | 15.77         | 28,900             |                 |        |
|              | Jan. 25, 1929  | 10.3               | 13,600          | June 13, 1949 | 10.6          | 13,800             |                 |        |
|              | May 13, 1929   | 13.8               | 21,200          | July 8, 1949  | 11.10         | 15,000             |                 |        |
| 1930         | Jan. 14, 1930  | 10.2               | 13,600          | 1950          | Jan. 4, 1950  | 22.35              | 53,000          |        |
| 1931         | Mar. 8, 1931   | 6.6                | 6,250           |               | Jan. 14, 1950 | 12.95              | 20,700          |        |
|              |                |                    |                 |               | Apr. 3, 1950  | 13.23              | 21,300          |        |
| 1932         | Jan. 23, 1932  | 5.7                | 4,850           |               | May 10, 1950  | 20.6               | 47,300          |        |
| 1933         | Apr. 16, 1933  | 17.9               | 35,900          |               | May 12, 1950  | 12.80              | 20,100          |        |
|              |                |                    |                 | May 14, 1933  | 21.4          | 48,300             | June 10, 1950   | 13.00  |
| 1934         | Sept. 15, 1934 | 5.47               | 4,760           | 1951          | Feb. 19, 1951 | 13.20              | 21,300          |        |
|              |                |                    |                 |               | July 1, 1951  | 13.47              | 22,200          |        |
|              |                |                    |                 |               | July 11, 1951 | 12.90              | 20,400          |        |
|              |                |                    |                 |               | July 13, 1951 | 14.50              | 25,300          |        |
| 1935         | Mar. 11, 1935  | 24.35              | 59,600          | 1952          | Nov. 24, 1951 | 9.70               | 12,500          |        |
|              | June 3, 1935   | 12.62              | 19,500          |               | Mar. 11, 1952 | 12.37              | 19,000          |        |
|              | June 26, 1935  | 11.50              | 16,700          |               | Apr. 13, 1952 | 12.92              | 20,400          |        |
| 1936         | Nov. 10, 1935  | 7.27               | 7,860           | 1953          | Mar. 4, 1953  | 7.29               | 7,790           |        |
| 1937         | Jan. 15, 1937  | 13.05              | 20,500          |               | May 28, 1954  | 7.00               | 7,250           |        |
|              | May 3, 1937    | 13.35              | 21,600          | 1955          | Mar. 21, 1955 | 17.30              | 35,000          |        |
| 1938         | Feb. 18, 1938  | 16.48              | 31,200          |               | 1956          | May 15, 1956       | 23.27           | 58,400 |
|              | Mar. 29, 1938  | 10.16              | 13,700          |               |               | 1957               | Apr. 4, 1957    | 20.97  |
|              | May 23, 1938   | 14.84              | 25,700          | Apr. 22, 1957 |               |                    | 13.47           | 22,200 |
|              | July 17, 1938  | 10.75              | 15,000          | Apr. 27, 1957 | 13.05         | 20,700             |                 |        |
| 1939         | Apr. 17, 1939  | 19.43              | 41,100          | May 11, 1957  | 9.62          | 12,300             |                 |        |
| 1940         | Apr. 17, 1940  | 8.64               | 9,790           | 1957          | May 19, 1957  | 10.55              | 14,500          |        |
|              |                |                    |                 |               | May 23, 1957  | 17.32              | 35,000          |        |
|              |                |                    |                 |               | May 26, 1957  | 12.70              | 19,900          |        |
| 1941         | Apr. 17, 1941  | 5.11               | 4,210           | 1958          | Dec. 17, 1957 | 13.30              | 21,600          |        |
| 1942         | Nov. 1, 1941   | 9.70               | 11,100          |               | Mar. 24, 1958 | 15.91              | 30,100          |        |
|              | 1943           | Dec. 27, 1942      | 26.97           | 75,100        | 1959          | Nov. 17, 1958      | 11.14           | 15,700 |
|              |                | May 11, 1943       | 21.49           | 48,800        |               |                    |                 |        |
| May 19, 1943 | 14.56          | 23,400             |                 |               |               |                    |                 |        |

## WHITE RIVER BASIN

Peak stages and discharges of Current River near Eminence, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1960       | Dec. 28, 1959 | 16.57              | 32,500          |            |      |                    |                 |
| 1961       | Mar. 7, 1961  | 10.84              | 15,000          |            |      |                    |                 |
|            | May 8, 1961   | 19.55              | 43,500          |            |      |                    |                 |
| 1962       | Mar. 21, 1962 | 12.10              | 18,200          |            |      |                    |                 |
| 1963       | May 17, 1963  | 14.13              | 24,000          |            |      |                    |                 |
|            | May 26, 1963  | 14.20              | 24,300          |            |      |                    |                 |
| 1964       | Mar. 10, 1964 | 11.88              | 17,700          |            |      |                    |                 |
|            | Apr. 6, 1964  | 15.62              | 29,000          |            |      |                    |                 |
| 1965       | Apr. 6, 1965  | 8.96               | 11,000          |            |      |                    |                 |

## WHITE RIVER BASIN

7-0668. Sycamore Creek near Winona, Mo.

Location.--Lat 37°02'45", long 91°19'30", in S½W¼ sec.31, T.28 N., R.3 W., on left bank just upstream from culvert under State Highway 19, about 3 miles north of Winona.

Drainage area.--0.88 sq mi. Slope.--66.4 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed Apr. 14, 1964.

Stage-discharge relation.--Defined at 136, 308, and 740 cfs by indirect measurements. Defined below 36 cfs by current-meter measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 20, 1955 | 6.21               | 308             |            |      |                    |                 |
| 1956       | May 14, 1956  | 6.27               | 310             |            |      |                    |                 |
| 1957       | May 11, 1957  | 6.61               | 360             |            |      |                    |                 |
| 1958       | Mar. 23, 1958 | 3.72               | 65              |            |      |                    |                 |
| 1959       |               | (a)                | (b)             |            |      |                    |                 |
| 1960       | Oct. 4, 1959  | 5.14               | 170             |            |      |                    |                 |
| 1961       | May 7, 1961   | 4.80               | 134             |            |      |                    |                 |
| 1962       | Jan. 22, 1962 | 4.56               | 115             |            |      |                    |                 |
| 1963       | May 25, 1963  | 4.00               | 105             |            |      |                    |                 |
| 1964       | Mar. 10, 1964 | 4.26               | 120             |            |      |                    |                 |
| 1965       | Apr. 3, 1965  | 3.67               | 77              |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge less than 45 cfs.

## WHITE RIVER BASIN

7-0670. Current River at Van Buren, Mo.

Location--Lat 36°59'30", long 91°00'55", in NE¼NW¼ sec.25, T.27 N., R.1 W., at downstream side of bridge on U. S. Highway 60 in Van Buren, 0.4 mile downstream from Pike Creek, 4.7 miles upstream from Big Spring, and at mile 90.4.

Drainage area--1,667 sq mi. Slope--5.92 ft per mi.

Gage--Nonrecording prior to Oct. 19, 1934; recording thereafter. Prior to Sept. 1, 1926, at site 100 ft downstream at different datum; Sept. 1, 1926, to Oct. 1, 1939, at present site at datum 3.00 ft higher. Datum of present gage is 442.78 ft above mean sea level, datum of 1929. Gage heights given herein converted to present site and datum.

Stage-discharge relation--Defined by current-meter measurements below 62,000 cfs; shifts in relation occur.

Bankfull stage--20 ft.

Historical data--Flood of Mar. 26, 1904, reached a stage of 29.0 ft and that of Aug. 21, 1915, a stage of 25.9 ft as determined by State Highway Commission from several reliable high-water marks in vicinity of gage. Investigations by J. C. Lester, Project Engineer, State Highway Commission, led to the conclusion that the discharge of the flood in 1904 was less than that in 1915. At points upstream and downstream from the gage, the 1904 flood crest was the lower of the two floods.

Remarks--Peak discharges prior to June 1, 1921, from records of Prof. T. J. Rodhouse, University of Missouri (based on stages measured from a reference point). Base for partial-duration series, 14,000 cfs. Only annual peaks are shown prior to 1922.

## Peak stages and discharges

| Water year | Date  | Gage height (feet)                                 | Discharge (cfs)  | Water year | Date   | Gage height (feet)   | Discharge (cfs)  |
|------------|---|--|--|------------|--|--|--|
| 1904       | Mar. 26, 1904   | 29.0   | -  | 1933       | Apr. 16, 1933<br>May 14, 1933  | 17.01<br>19.7  | 40,900<br>56,000   |
| 1913       | Mar. 26, 1913   | -  | 11,500   | 1934       | Sept. 15, 1934   | 8.12   | 5,720  |
| 1914       | Apr. 29, 1914   | -  | 36,000   | 1935       | Mar. 11, 1935<br>June 3, 1935<br>June 27, 1935   | 22.84<br>12.53<br>11.50                                    | 86,600<br>19,200<br>15,500   |
| 1916       | Jan. 31, 1916   | -  | 85,000   | 1936       | Nov. 11, 1935  | 8.23   | 6,800  |
| 1917       | Apr. 8, 1917  | -  | 11,800   | 1937       | Jan. 15, 1937<br>May 3, 1937   | 13.00<br>12.86   | 25,100<br>24,500   |
| 1918       | May 12, 1918  | -  | 29,000   | 1938       | Feb. 19, 1938<br>May 24, 1938<br>July 18, 1938   | 15.66<br>13.38<br>11.36                                    | 37,700<br>26,820<br>17,900   |
| 1919       | June 4, 1919  | -  | 16,000   | 1939       | Apr. 18, 1939  | 17.09  | 45,400   |
| 1920       | Mar. 26, 1920   | -  | 22,900   | 1940       | Apr. 19, 1940  | 9.57   | 12,000   |
| 1921       | Apr. 28, 1921   | -  | 22,200   | 1941       | Apr. 18, 1941  | 6.47   | 4,700  |
| 1922       | Nov. 20, 1921<br>Apr. 1, 1922<br>Apr. 18, 1922  | 13.2<br>12.0<br>11.5                               | 22,100<br>17,600<br>15,600                               | 1942       | Nov. 1, 1941   | 10.38  | 14,800   |
| 1923       | Feb. 2, 1923<br>Mar. 17, 1923<br>May 17, 1923   | 13.2<br>13.0<br>12.8                               | 21,800<br>21,000<br>20,200                               | 1943       | Dec. 28, 1942<br>May 11, 1943<br>May 19, 1943  | 21.66<br>19.01<br>13.57                                    | 77,000<br>57,100<br>25,100   |
| 1924       | May 31, 1924  | 9.7  | 9,500  | 1944       | Apr. 23, 1944  | 13.11  | 22,800   |
| 1925       | Apr. 29, 1925   | 8.2  | 5,800  | 1945       | Feb. 22, 1945<br>Feb. 26, 1945<br>Mar. 7, 1945<br>Mar. 31, 1945<br>Apr. 15, 1945<br>June 10, 1945<br>June 18, 1945 | 12.72<br>14.82<br>12.69<br>16.30<br>19.5<br>13.73<br>13.56 | 21,200<br>31,100<br>21,100<br>39,500<br>60,600<br>25,600<br>25,100 |
| 1926       | Oct. 17, 1925   | 9.67   | 9,500  | 1946       | Feb. 14, 1946<br>Mar. 7, 1946<br>May 17, 1946<br>May 26, 1946<br>Aug. 15, 1946                                     | 17.14<br>11.66<br>11.16<br>18.26<br>20.74                  | 44,400<br>17,300<br>15,300<br>52,300<br>69,400                     |
| 1927       | Apr. 1, 1927<br>Apr. 15, 1927<br>May 26, 1927<br>June 2, 1927                                     | 14.48<br>16.10<br>13.02<br>16.22                   | 27,400<br>34,500<br>21,200<br>35,000                     | 1947       | Nov. 11, 1946<br>Apr. 26, 1947   | 14.42<br>14.53   | 29,000<br>29,500   |
| 1928       | Dec. 14, 1927<br>Apr. 7, 1928<br>Apr. 22, 1928<br>June 10, 1928<br>June 13, 1928<br>June 22, 1928 | 15.34<br>12.56<br>12.25<br>19.45<br>18.59<br>12.40 | 31,000<br>19,400<br>18,300<br>49,300<br>45,700<br>18,800 | 1948       | Jan. 2, 1948   | 12.52  | 19,900   |
| 1929       | Jan. 25, 1929<br>Apr. 10, 1929<br>May 7, 1929<br>May 9, 1929<br>May 13, 1929<br>June 13, 1929     | 11.12<br>11.29<br>12.20<br>11.08<br>13.48<br>12.21 | 14,100<br>14,800<br>18,100<br>14,100<br>23,100<br>18,100 | 1949       | Jan. 19, 1949<br>Jan. 25, 1949<br>Jan. 28, 1949<br>Feb. 16, 1949   | 12.6<br>19.26<br>11.7<br>14.9                              | 20,700<br>59,200<br>17,300<br>31,600                               |
| 1930       | Jan. 15, 1930   | 13.32  | 22,300   | 1950       | Jan. 5, 1950<br>Jan. 14, 1950  | 19.90<br>12.75   | 61,500<br>21,600   |
| 1931       | Mar. 8, 1931  | 9.80   | 11,000   |            |  |  |  |
| 1932       | Jan. 23, 1932   | 8.76   | 7,560  |            |  |  |  |

## WHITE RIVER BASIN

## Peak stages and discharges of Current River at Van Buren, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1950       | Feb. 13, 1950 | 10.79              | 15,600          |            |      |                    |                 |
|            | Apr. 4, 1950  | 13.95              | 26,800          |            |      |                    |                 |
|            | May 11, 1950  | 19.26              | 56,900          |            |      |                    |                 |
|            | June 11, 1950 | 13.31              | 23,900          |            |      |                    |                 |
| 1951       | Feb. 19, 1951 | 12.95              | 22,700          |            |      |                    |                 |
|            | July 1, 1951  | 11.92              | 18,600          |            |      |                    |                 |
|            | July 11, 1951 | 13.42              | 24,300          |            |      |                    |                 |
|            | July 14, 1951 | 13.17              | 23,500          |            |      |                    |                 |
| 1952       | Nov. 24, 1951 | 11.28              | 16,600          |            |      |                    |                 |
|            | Mar. 12, 1952 | 12.44              | 20,400          |            |      |                    |                 |
|            | Apr. 13, 1952 | 12.44              | 20,400          |            |      |                    |                 |
| 1953       | Mar. 4, 1953  | 8.34               | 8,240           |            |      |                    |                 |
| 1954       | May 2, 1954   | 9.28               | 10,600          |            |      |                    |                 |
| 1955       | Mar. 21, 1955 | 15.56              | 34,300          |            |      |                    |                 |
| 1956       | May 16, 1956  | 19.34              | 56,900          |            |      |                    |                 |
| 1957       | Apr. 4, 1957  | 19.12              | 51,000          |            |      |                    |                 |
|            | Apr. 22, 1957 | 13.30              | 23,100          |            |      |                    |                 |
|            | Apr. 28, 1957 | 13.15              | 22,700          |            |      |                    |                 |
|            | May 11, 1957  | 11.86              | 18,000          |            |      |                    |                 |
|            | May 20, 1957  | 10.70              | 14,200          |            |      |                    |                 |
|            | May 24, 1957  | 16.45              | 36,600          |            |      |                    |                 |
| 1958       | Dec. 18, 1957 | 12.97              | 21,900          |            |      |                    |                 |
|            | Mar. 24, 1958 | 16.40              | 36,600          |            |      |                    |                 |
| 1959       | Nov. 18, 1958 | 11.98              | 18,300          |            |      |                    |                 |
| 1960       | Dec. 28, 1959 | 14.30              | 27,100          |            |      |                    |                 |
| 1961       | Mar. 7, 1961  | 11.45              | 16,300          |            |      |                    |                 |
|            | May 8, 1961   | 17.90              | 44,400          |            |      |                    |                 |
|            | July 20, 1961 | 10.96              | 14,400          |            |      |                    |                 |
| 1962       | Mar. 21, 1962 | 12.27              | 19,300          |            |      |                    |                 |
| 1963       | May 18, 1963  | 12.25              | 19,000          |            |      |                    |                 |
|            | May 27, 1963  | 13.80              | 25,100          |            |      |                    |                 |
| 1964       | Mar. 10, 1964 | 12.70              | 21,400          |            |      |                    |                 |
|            | Apr. 6, 1964  | 13.90              | 25,600          |            |      |                    |                 |
| 1965       | Apr. 7, 1965  | 9.03               | 10,300          |            |      |                    |                 |

## WHITE RIVER BASIN

7-0680. Current River at Doniphan, Mo.

Location.--Lat 36°37'25", long 90°50'55", in NW¼NW¼ sec.27, T.23 N., R.2 E., half a mile upstream from U. S. Highway 160, 1 mile west of Doniphan, 2½ miles upstream from Briar Creek, and at mile 51.3.

Drainage area.--2,038 sq mi. Slope.--4.75 ft per mi.

Gage.--Nonrecording prior to July 2, 1936; recording thereafter. Prior to May 22, 1928 at site 2,700 ft downstream at datum 0.06 ft higher; May 22, 1928, to Sept. 30, 1929, at site 2,800 ft downstream at datum 0.07 ft lower; Oct. 1, 1929, to Sept. 30, 1932, at site 2,800 ft downstream at datum 1.07 ft lower; Oct. 1, 1932, to July 2, 1936, at site 2,800 ft downstream at datum 3.07 ft lower. Datum of present gage is 322.21 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 60,000 cfs.

Bankfull stage.--12 ft.

Remarks.--Peaks for 1919-21 computed from plotted Corps of Engineer gage readings. Base for partial-duration series, 14,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1904       | March 1904     | 23.4               | 130,000         | 1938       | Feb. 19, 1938 | 15.72              | 43,100          |
| 1915       | August 1915    | 22.2               | 105,000         |            | Mar. 31, 1938 | 10.26              | 15,500          |
|            |                |                    |                 |            | May 25, 1938  | 11.74              | 20,100          |
| 1919       | June 5, 1919   | 10.0               | 19,400          | 1939       | Mar. 5, 1939  | 10.10              | 14,900          |
| 1920       | Mar. 27, 1920  | 10.1               | 19,700          |            | Apr. 18, 1939 | 16.41              | 49,300          |
| 1921       | Mar. 26, 1921  | 9.8                | 18,800          | 1940       | Apr. 20, 1940 | 9.02               | 12,500          |
|            | Apr. 27, 1921  | 14.3               | 35,400          | 1941       | Jan. 3, 1941  | 5.00               | 5,110           |
| 1922       | Nov. 21, 1921  | 11.10              | 21,000          | 1942       | Nov. 2, 1941  | 9.89               | 15,400          |
|            | Apr. 1, 1922   | 11.50              | 22,000          |            | Apr. 9, 1942  | 9.80               | 15,100          |
| 1923       | Feb. 3, 1923   | 13.00              | 29,600          | 1943       | Dec. 29, 1942 | 19.13              | 63,600          |
|            | Mar. 17, 1923  | 11.02              | 20,800          |            | May 12, 1943  | 18.06              | 55,400          |
|            | May 17, 1923   | 11.22              | 21,300          |            | May 20, 1943  | 12.65              | 24,100          |
| 1924       | May 31, 1924   | 5.48               | 8,300           | 1944       | Apr. 24, 1944 | 11.70              | 20,300          |
| 1925       | June 13, 1925  | 4.50               | 6,540           | 1945       | Feb. 27, 1945 | 15.11              | 35,200          |
| 1926       | Oct. 18, 1925  | 6.50               | 10,300          |            | Mar. 8, 1945  | 11.92              | 21,000          |
| 1927       | Apr. 7, 1927   | 12.55              | 28,600          |            | Apr. 1, 1945  | 15.65              | 38,000          |
|            | Apr. 15, 1927  | 17.30              | 48,800          |            | Apr. 16, 1945 | 19.05              | 62,800          |
|            | Apr. 20, 1927  | 12.58              | 28,600          |            | June 11, 1945 | 14.10              | 30,200          |
|            | May 27, 1927   | 9.45               | 17,600          |            | June 19, 1945 | 13.40              | 27,000          |
|            | June 2, 1927   | 15.98              | 43,000          | 1946       | Feb. 15, 1946 | 15.70              | 38,600          |
| 1928       | Dec. 15, 1927  | 14.80              | 37,600          |            | Mar. 8, 1946  | 9.75               | 15,600          |
|            | Apr. 7, 1928   | 9.35               | 17,600          |            | May 18, 1946  | 9.3                | 14,300          |
|            | Apr. 23, 1928  | 10.33              | 20,400          |            | May 26, 1946  | 16.71              | 44,900          |
|            | June 10, 1928  | 15.94              | 42,600          |            | Aug. 16, 1946 | 17.46              | 50,600          |
|            | June 14, 1928  | 15.98              | 43,000          | 1947       | Nov. 12, 1946 | 11.80              | 20,600          |
|            | June 23, 1928  | 10.42              | 20,700          |            | Apr. 27, 1947 | 13.2               | 26,800          |
| 1929       | Jan. 26, 1929  | 9.55               | 18,200          | 1948       | Jan. 2, 1948  | 11.50              | 20,600          |
|            | Apr. 11, 1929  | 8.84               | 16,000          | 1949       | Jan. 20, 1949 | 10.8               | 18,400          |
|            | May 8, 1929    | 9.60               | 18,200          |            | Jan. 26, 1949 | 18.3               | 57,000          |
|            | May 14, 1929   | 12.40              | 27,800          |            | Jan. 29, 1949 | 10.8               | 18,400          |
|            | June 14, 1929  | 8.60               | 15,500          |            | Feb. 16, 1949 | 13.5               | 28,000          |
| 1930       | Jan. 15, 1930  | 12.10              | 25,500          |            | Mar. 27, 1949 | 9.3                | 14,700          |
| 1931       | Mar. 9, 1931   | 6.95               | 9,500           | 1950       | Jan. 5, 1950  | 18.0               | 54,600          |
| 1932       | Jan. 24, 1932  | 6.41               | 8,300           |            | Jan. 15, 1950 | 10.82              | 18,400          |
| 1933       | Jan. 22, 1933  | 11.20              | 14,500          |            | Feb. 15, 1950 | 9.2                | 14,500          |
|            | Apr. 17, 1933  | 17.65              | 35,200          |            | Apr. 5, 1950  | 14.7               | 33,500          |
|            | May 15, 1933   | 19.93              | 49,000          |            | May 11, 1950  | 18.2               | 56,200          |
| 1934       | Sept. 16, 1934 | 6.63               | 6,210           | 1951       | June 12, 1950 | 11.3               | 20,000          |
| 1935       | Mar. 12, 1935  | 23.89              | 94,400          |            | Feb. 20, 1951 | 12.11              | 23,700          |
|            | June 4, 1935   | 13.47              | 20,200          |            | July 2, 1951  | 10.20              | 17,700          |
| 1936       | Nov. 11, 1936  | 7.45               | 7,400           |            | July 11, 1951 | 12.26              | 24,400          |
| 1937       | Jan. 14, 1937  | 16.28              | 48,400          |            | July 15, 1951 | 10.90              | 19,700          |
|            | May 4, 1937    | 12.28              | 22,400          | 1952       | Nov. 25, 1951 | 10.46              | 18,600          |
|            |                |                    |                 |            | Mar. 12, 1952 | 11.73              | 22,200          |
|            |                |                    |                 |            | Apr. 14, 1952 | 11.22              | 20,600          |
|            |                |                    |                 | 1953       | Mar. 5, 1953  | 6.23               | 8,530           |

## WHITE RIVER BASIN

## Peak stages and discharges of Current River at Doniphan, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1954       | May 3, 1954   | 6.68               | 9,530           |            |      |                    |                 |
| 1955       | Mar. 22, 1955 | 13.88              | 30,900          |            |      |                    |                 |
| 1956       | May 16, 1956  | 17.17              | 49,000          |            |      |                    |                 |
| 1957       | Apr. 5, 1957  | 17.98              | 54,600          |            |      |                    |                 |
|            | Apr. 23, 1957 | 12.20              | 24,000          |            |      |                    |                 |
|            | Apr. 29, 1957 | 12.55              | 25,500          |            |      |                    |                 |
|            | May 12, 1957  | 9.50               | 15,900          |            |      |                    |                 |
|            | May 24, 1957  | 15.20              | 37,000          |            |      |                    |                 |
| 1958       | Dec. 19, 1957 | 10.80              | 19,400          |            |      |                    |                 |
|            | Mar. 25, 1958 | 15.72              | 39,600          |            |      |                    |                 |
|            | May 5, 1958   | 10.66              | 19,100          |            |      |                    |                 |
| 1959       | Nov. 17, 1958 | 13.38              | 28,700          |            |      |                    |                 |
| 1960       | Dec. 29, 1959 | 11.63              | 21,900          |            |      |                    |                 |
| 1961       | Mar. 8, 1961  | 9.40               | 15,600          |            |      |                    |                 |
|            | May 9, 1961   | 17.00              | 47,600          |            |      |                    |                 |
| 1962       | Mar. 22, 1962 | 10.50              | 18,600          |            |      |                    |                 |
| 1963       | May 19, 1963  | 9.21               | 15,200          |            |      |                    |                 |
|            | May 28, 1963  | 12.64              | 25,500          |            |      |                    |                 |
| 1964       | Mar. 10, 1964 | 13.71              | 30,100          |            |      |                    |                 |
|            | Apr. 7, 1964  | 12.10              | 23,800          |            |      |                    |                 |
| 1965       | Apr. 8, 1965  | 6.93               | 10,700          |            |      |                    |                 |

a Annual peak only.

## WHITE RIVER BASIN

7-0682. North Prong Little Black River at Hunter, Mo.

Location--Lat 36°53'25", long 90°50'30", in NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec.21, T.26 N., R.2 E., on right bank just upstream from culvert under State Highway 21, at junction of Highways 21 and E, at Hunter.

Drainage area--1.23 sq mi. Slope--61.7 ft per mi.

Gage--Crest-stage gage; supplemental recording gage installed Mar. 26, 1964.

Stage-discharge relation--Defined at 98, 250, 427, and 626 cfs by indirect measurements. Defined below 3 cfs by current-meter measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1958       | May 4, 1958   | 13.92              | 427             |            |      |                    |                 |
| 1959       | Nov. 16, 1958 | 15.33              | 626             |            |      |                    |                 |
| 1960       | Oct. 13, 1959 | 10.5               | 45              |            |      |                    |                 |
| 1961       | May 7, 1961   | 14.59              | 502             |            |      |                    |                 |
| 1962       | June 23, 1962 | 11.64              | 150             |            |      |                    |                 |
| 1963       | Mar. 15, 1963 | 12.09              | 200             |            |      |                    |                 |
| 1964       | Mar. 9, 1964  | 12.47              | 242             |            |      |                    |                 |
| 1965       | Mar. 29, 1965 | 11.70              | 155             |            |      |                    |                 |

## WHITE RIVER BASIN

7-0685. Little Black River near Fairdealing, Mo.

Location.--Lat 36°39'40", long 90°34'25", in NW¼NW¼ sec.7, T.23 N., R.5 E., at bridge on State Highway 14, 2½ miles downstream from Beaverdam Creek and 2½ miles east of Fairdealing.

Drainage area.--187 sq mi. Slope.--10.8 ft per mi.

Gage.--Nonrecording Feb. 27, 1936, to Sept. 30, 1942; crest-stage gage since Oct. 26, 1954. Prior to Oct. 1, 1939, at site 100 ft upstream at datum 1.5 ft higher. Datum of gage is 297.15 ft above mean sea level, datum of 1929. Gage heights given herein converted to present gage.

Stage-discharge relation.--Defined by current-meter measurements below 5,000 cfs and by contracted opening measurement at 29,600 cfs.

Bankfull stage.--13 ft.

Remarks.--Peaks for period prior to Oct. 1, 1939, computed from plotted Corps of Engineers gage readings. Base for partial-duration series, 4,000 cfs. Only annual peaks are shown subsequent to 1954.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1936       | Apr. 6, 1936  | 18.6               | 5,230           |            |      |                    |                 |
|            | Sept. 2, 1936 | 19.5               | 6,750           |            |      |                    |                 |
| 1937       | Nov. 3, 1936  | 19.3               | 6,410           |            |      |                    |                 |
|            | Dec. 31, 1936 | 18.9               | 5,730           |            |      |                    |                 |
|            | Jan. 15, 1937 | 22.5               | 13,600          |            |      |                    |                 |
| 1938       | Feb. 18, 1938 | 21.4               | 10,400          |            |      |                    |                 |
|            | Mar. 29, 1938 | 20.3               | 8,190           |            |      |                    |                 |
| 1939       | Jan. 30, 1939 | 19.5               | 6,750           |            |      |                    |                 |
|            | Mar. 5, 1939  | 19.1               | 6,070           |            |      |                    |                 |
|            | Apr. 17, 1939 | 19.9               | 7,470           |            |      |                    |                 |
| 1940       | Apr. 12, 1940 | 18.12              | 4,220           |            |      |                    |                 |
| 1941       | Jan. 25, 1941 | 9.7                | 825             |            |      |                    |                 |
| 1942       | Apr. 9, 1942  | 20.0               | 6,270           |            |      |                    |                 |
| 1955       | May 20, 1955  | 19.31              | 5,430           |            |      |                    |                 |
| 1956       | Feb. 18, 1956 | 17.96              | 4,130           |            |      |                    |                 |
| 1957       | May 23, 1957  | 22.16              | 40,000          |            |      |                    |                 |
| 1958       | Mar. 24, 1958 | 20.08              | 6,400           |            |      |                    |                 |
| 1959       | Nov. 17, 1958 | 19.28              | 5,100           |            |      |                    |                 |
| 1960       | May 6, 1960   | 16.40              | 2,600           |            |      |                    |                 |
| 1961       | May 7, 1961   | 21.28              | 18,000          |            |      |                    |                 |
| 1962       | Apr. 11, 1962 | 16.81              | 3,000           |            |      |                    |                 |
| 1963       | Mar. 16, 1963 | 18.43              | 4,400           |            |      |                    |                 |
| 1964       | Mar. 9, 1964  | 21.84              | 29,600          |            |      |                    |                 |
| 1965       | Apr. 3, 1965  | 15.12              | 2,300           |            |      |                    |                 |

## WHITE RIVER BASIN

7-0691. Adams Branch near West Plains, Mo.

Location--Lat 36°41'35", long 91°48'06", in SE $\frac{1}{4}$ NW $\frac{1}{4}$  sec.1, T.23 N., R.8 W., on left bank just upstream from culvert under U.S. Highway 63, 4 miles southeast of West Plains.

Drainage area--2.27 sq mi. Slope--44.3 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 153, 222, 249, 515, and 1,040 cfs by indirect measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 20, 1955  | 3.97               | 222             |            |      |                    |                 |
| 1956       | May 14, 1956   | 4.59               | 350             |            |      |                    |                 |
| 1957       | Apr. 3, 1957   | 4.23               | 270             |            |      |                    |                 |
| 1958       | July 12, 1958  | 6.23               | 1,040           |            |      |                    |                 |
| 1959       | Nov. 16, 1958  | 4.80               | 480             |            |      |                    |                 |
| 1960       | Dec. 27, 1959  | 4.37               | 350             |            |      |                    |                 |
| 1961       | June 8, 1961   | 5.02               | 520             |            |      |                    |                 |
| 1962       | Jan. 21, 1962  | 4.36               | 350             |            |      |                    |                 |
| 1963       | June 14, 1963  | 6.16               | 515             |            |      |                    |                 |
| 1964       | June 12, 1964  | 4.89               | 315             |            |      |                    |                 |
| 1965       | Sept. 22, 1965 | 4.1                | 200             |            |      |                    |                 |

## WHITE RIVER BASIN

7-0700. Kings Creek near Willow Springs, Mo.

Location--Lat 36°58'15", long 91°55'40", in NW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.34, T.27 N., R.9 W., at bridge on U.S. Highway 60, 0.5 mile upstream from Eleven Point River and 2 $\frac{1}{2}$  miles southeast of Willow Springs.

Drainage area--4.91 sq mi. Slope--45.0 ft per mi.

Gage--Recording.

Stage-discharge relation--Defined at 568 and 666 cfs by indirect measurements. Defined below 50 cfs by current-meter measurements.

Remarks--Base for partial-duration series 200 cfs. Only annual peaks are shown subsequent to 1959.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1956       | May 4, 1956   | 8.90               | 568             |            |      |                    |                 |
| 1957       | Apr. 3, 1957  | 7.70               | 316             |            |      |                    |                 |
|            | Apr. 20, 1957 | 7.57               | 290             |            |      |                    |                 |
|            | Apr. 26, 1957 | 7.57               | 290             |            |      |                    |                 |
|            | May 21, 1957  | 8.27               | 424             |            |      |                    |                 |
|            | May 22, 1957  | 7.52               | 281             |            |      |                    |                 |
| 1958       | July 17, 1958 | 8.15               | 403             |            |      |                    |                 |
| 1959       | Nov. 17, 1958 | 6.98               | 204             |            |      |                    |                 |
| 1960       | Dec. 27, 1959 | 6.47               | 135             |            |      |                    |                 |
| 1961       | May 7, 1961   | 5.91               | 76              |            |      |                    |                 |
| 1962       | Mar. 20, 1962 | 5.60               | 52              |            |      |                    |                 |
| 1963       | May 16, 1963  | 8.22               | 413             |            |      |                    |                 |
| 1964       | Apr. 5, 1964  | 7.34               | 666             |            |      |                    |                 |
| 1965       | Apr. 3, 1965  | 4.85               | 90              |            |      |                    |                 |

## WHITE RIVER BASIN

7-0702. Burnham Branch near Willow Springs, Mo.

Location.--Lat 36°56'00", long 91°56'00", in NW¼NE¼ sec.16, T.26 N., R.9 W., on right bank 10 ft upstream from culvert under U.S. Highway 63, 4¼ miles southeast of Willow Springs.

Drainage area.--1.27 sq mi. Slope.--58.6 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 206, 259, and 620 cfs by indirect measurements.

Remarks.--Only annual peaks are shown. Gage installed upstream from culvert on Nov. 2, 1959 and used as reference gage subsequent to that date. Prior to Aug. 1959 gage on downstream wingwall used as reference gage.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | Mar. 1955     | 9.58               | 206             |            |      |                    |                 |
| 1956       | May 1956      | 11.96              | 288             |            |      |                    |                 |
| 1957       | May 1957      | 12.15              | 295             |            |      |                    |                 |
| 1958       | July 17, 1958 | 12.63              | 312             |            |      |                    |                 |
| 1959       | Nov. 17, 1958 | 9.26               | 194             |            |      |                    |                 |
| 1960       | Dec. 27, 1959 | 11.73              | 155             |            |      |                    |                 |
| 1961       |               | (a)                | (b)             |            |      |                    |                 |
| 1962       | May 25, 1962  | 9.94               | (b)             |            |      |                    |                 |
| 1963       | June 16, 1963 | 16.16              | 620             |            |      |                    |                 |
| 1964       | May 11, 1964  | 12.50              | 220             |            |      |                    |                 |
| 1965       |               | (a)                | (b)             |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge less than 60 cfs.

## WHITE RIVER BASIN

7-0705. Eleven Point River near Thomasville, Mo.

Location.--Lat 36°47'05", long 91°29'30", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.3, T.24 N., R.5 W., on left bank attached to bluff at end of Grandpappy Ridge, 500 ft upstream from Posy Spring, 1 $\frac{1}{2}$  miles downstream from Barren Fork, and 2 $\frac{1}{2}$  miles east of Thomasville.

Drainage area.--361 sq mi. Slope.--13.7 ft per mi.

Gage.--Recording. Altitude of gage is 610 ft (from topographic map).

Stage-discharge relation.--Defined by current-meter measurements below 2,400 cfs, and by slope-area measurements at 6,850 and 16,900 cfs.

Bankfull stage.--7 ft.

Remarks.--Base for partial-duration series, 1,800 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1951       | Feb. 18, 1951  | 9.93               | 3,790           |            |      |                    |                 |
|            | Feb. 20, 1951  | 8.33               | 2,740           |            |      |                    |                 |
|            | July 10, 1951  | 10.60              | 4,280           |            |      |                    |                 |
| 1952       | Oct. 23, 1951  | 7.68               | 2,370           |            |      |                    |                 |
|            | Nov. 24, 1951  | 11.75              | 5,170           |            |      |                    |                 |
|            | Mar. 10, 1952  | 9.63               | 3,580           |            |      |                    |                 |
|            | Apr. 13, 1952  | 7.30               | 2,130           |            |      |                    |                 |
| 1953       | Apr. 18, 1953  | 6.30               | 1,660           |            |      |                    |                 |
| 1954       | Mar. 24, 1954  | 8.36               | 2,800           |            |      |                    |                 |
|            | Apr. 15, 1954  | 11.85              | 5,170           |            |      |                    |                 |
|            | May 2, 1954    | 12.15              | 5,480           |            |      |                    |                 |
| 1955       | Feb. 20, 1955  | 7.10               | 2,010           |            |      |                    |                 |
|            | Mar. 21, 1955  | 13.8               | 6,850           |            |      |                    |                 |
| 1956       | May 15, 1956   | 11.10              | 4,640           |            |      |                    |                 |
| 1957       | Apr. 3, 1957   | 17.95              | 16,900          |            |      |                    |                 |
|            | Apr. 22, 1957  | 8.96               | 3,110           |            |      |                    |                 |
|            | Apr. 25, 1957  | 7.70               | 2,260           |            |      |                    |                 |
|            | Apr. 27, 1957  | 7.78               | 2,320           |            |      |                    |                 |
|            | May 22, 1957   | 8.25               | 2,580           |            |      |                    |                 |
|            | May 23, 1957   | 11.26              | 4,800           |            |      |                    |                 |
|            | May 25, 1957   | 7.68               | 2,260           |            |      |                    |                 |
| 1958       | Mar. 24, 1958  | 10.42              | 4,140           |            |      |                    |                 |
|            | May 5, 1958    | 12.32              | 5,560           |            |      |                    |                 |
|            | July 12, 1958  | 7.26               | 2,130           |            |      |                    |                 |
|            | July 17, 1958  | 7.85               | 2,430           |            |      |                    |                 |
| 1959       | Nov. 15, 1958  | 6.88               | 1,900           |            |      |                    |                 |
|            | Nov. 16, 1958  | 16.40              | 11,400          |            |      |                    |                 |
| 1960       | Oct. 5, 1959   | 7.65               | 2,310           |            |      |                    |                 |
|            | Oct. 13, 1959  | 8.18               | 2,670           |            |      |                    |                 |
|            | Dec. 28, 1959  | 11.60              | 5,020           |            |      |                    |                 |
|            | May 6, 1960    | 7.20               | 2,070           |            |      |                    |                 |
| 1961       | May 7, 1961    | 15.45              | 9,050           |            |      |                    |                 |
| 1962       | Jan. 22, 1962  | 9.70               | 3,650           |            |      |                    |                 |
| 1963       | May 17, 1963   | 7.94               | 2,490           |            |      |                    |                 |
|            | June 16, 1963  | 11.80              | 5,170           |            |      |                    |                 |
| 1964       | Mar. 9, 1964   | 12.55              | 5,800           |            |      |                    |                 |
|            | Apr. 6, 1964   | 7.68               | 2,260           |            |      |                    |                 |
|            | Apr. 24, 1964  | 8.49               | 2,780           |            |      |                    |                 |
| 1965       | Sept. 22, 1965 | 4.05               | 570             |            |      |                    |                 |

## WHITE RIVER BASIN

7-0715. Eleven Point River near Bardley, Mo.

Location.--Lat 36°38'55", long 91°12'03", in NE¼SE¼ sec.17, T.23 N., R.2 W., at bridge on U. S. Highway 160, 7 miles southwest of Bardley and 7½ miles upstream from Fredericks Fork.

Drainage area.--793 sq mi. Slope.--10.1 ft per mi.

Gage.--Nonrecording prior to Oct. 20, 1939; recording thereafter. Datum of gage is 410.84 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 25,000 cfs.

Bankfull stage.--12 ft.

Remarks.--Base for partial-duration series, 4,000 cfs.

## Peak stages and discharges

| Water year | Date              | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|-------------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1915       | Aug. 20, 1915     | 19.7               | 44,000          | 1943       | Nov. 18, 1942 | 6.86               | 4,620           |
|            |                   |                    |                 |            | Nov. 22, 1942 | 6.56               | 4,230           |
| 1922       | Mar. 31, 1922     | 10.0               | 7,560           |            | Dec. 28, 1942 | 14.10              | 22,200          |
|            |                   |                    |                 |            | May 11, 1943  | 15.18              | 25,800          |
| 1923       | Feb. 2, 1923      | 10.1               | 7,600           |            |               |                    |                 |
|            | Mar. 12, 1923     | 7.2                | 4,400           | 1944       | Apr. 23, 1944 | 8.36               | 6,840           |
|            | Mar. 16, 1923     | 10.6               | 9,450           |            | May 3, 1944   | 8.12               | 6,360           |
|            | May 15, 1923      | 8.8                | 6,120           |            |               |                    |                 |
|            | June 11, 1923     | 8.1                | 5,350           | 1945       | Feb. 27, 1945 | -                  | b15,000         |
| 1924       | Aug. 10, 1924     | 3.9                | 1,680           |            | Mar. 3, 1945  | -                  | b4,000          |
|            |                   |                    |                 |            | Mar. 7, 1945  | -                  | b7,200          |
| 1925       | June 13, 1925     | 7.2                | 4,400           |            | Mar. 20, 1945 | -                  | b6,900          |
|            |                   |                    |                 |            | Mar. 31, 1945 | 15.5               | 27,200          |
| 1926       | Nov. 8, 1925      | 5.1                | 2,490           |            | Apr. 15, 1945 | 13.6               | 20,360          |
|            |                   |                    |                 |            | June 11, 1945 | 10.01              | 9,600           |
|            |                   |                    |                 |            | June 18, 1945 | 8.32               | 6,680           |
| 1927       | Apr. 14, 1927     | 18.7               | 40,000          |            |               |                    |                 |
|            | Apr. 19, 1927     | 11.6               | 11,400          | 1946       | Jan. 9, 1946  | 7.30               | 5,280           |
|            | May 5, 1927       | 10.0               | 8,640           |            | Feb. 14, 1946 | 10.88              | 11,400          |
|            | June 1, 1927      | 10.2               | 8,960           |            | Mar. 6, 1946  | 8.21               | 6,570           |
|            | June 21, 1927     | 8.2                | 6,040           |            | May 17, 1946  | 7.07               | 5,010           |
| 1928       | Dec. 14, 1927     | 15.0               | 18,700          |            | May 25, 1946  | 9.30               | 8,330           |
|            | Apr. 6, 1928      | 11.6               | 11,400          |            | Aug. 14, 1946 | 7.42               | 5,420           |
|            | Apr. 21, 1928     | 9.3                | 7,560           | 1947       | Dec. 12, 1946 | 5.50               | 3,100           |
|            | June 13, 1928     | 15.6               | 27,200          |            |               |                    |                 |
|            | June 21, 1928     | 7.8                | 5,560           | 1948       | Jan. 1, 1948  | 7.75               | 5,980           |
| 1929       | Jan. 25, 1929     | 9.5                | 8,000           |            | June 19, 1948 | 9.54               | 8,680           |
|            | Feb. 26, 1929     | 6.9                | 4,480           | 1949       | Jan. 18, 1949 | 6.9                | 4,750           |
|            | Apr. 9, 1929      | 7.3                | 4,960           |            | Jan. 24, 1949 | 16.7               | 33,200          |
| 1930       | Jan. 13, 1930     | 8.0                | 5,800           |            | Jan. 28, 1949 | 8.3                | 6,700           |
|            |                   |                    |                 |            | Feb. 14, 1949 | 7.1                | 5,010           |
| 1931       | Aug. 6, 1931      | 5.2                | 2,640           |            | Feb. 16, 1949 | 8.6                | 7,180           |
| 1932       | Jan. 23, 24, 1932 | 3.6                | 1,280           | 1950       | Jan. 4, 1950  | 12.80              | 16,200          |
|            |                   |                    |                 |            | Feb. 13, 1950 | 8.67               | 7,340           |
| 1933       | Apr. 16, 1933     | 10.9               | 10,100          |            | May 11, 1950  | 9.55               | 8,860           |
|            | May 14, 1933      | 9.5                | 8,000           |            | May 30, 1950  | 7.22               | 5,140           |
| 1934       | Sept. 15, 1934    | 3.5                | 1,190           |            | June 3, 1950  | 8.20               | 6,570           |
| 1935       | Mar. 12, 1935     | 13.7               | 20,200          | 1951       | Feb. 21, 1951 | 8.50               | 7,020           |
|            | June 3, 1935      | 9.5                | 7,840           |            | July 11, 1951 | 8.00               | 6,270           |
|            | June 17, 1935     | 7.8                | 5,560           | 1952       | Nov. 24, 1951 | 9.66               | 9,040           |
| 1936       | Dec. 8, 1935      | 3.1                | 900             |            | Mar. 11, 1952 | 9.16               | 8,160           |
| 1937       | Jan. 14, 1937     | 13.9               | 20,900          |            | Apr. 13, 1952 | 6.41               | 4,120           |
| 1938       | Feb. 19, 1938     | 10.0               | 9,100           | 1953       | Apr. 18, 1953 | 4.90               | 2,530           |
|            | Mar. 29, 1938     | 9.3                | 7,640           | 1954       | Apr. 16, 1954 | 8.66               | 7,340           |
|            | May 24, 1938      | 8.1                | 5,880           |            | May 2, 1954   | 10.60              | 10,800          |
| 1939       | Mar. 5, 1939      | 8.4                | 6,670           | 1955       | Mar. 21, 1955 | 11.23              | 12,000          |
|            | Apr. 17, 1939     | 13.9               | 20,900          | 1956       | May 16, 1956  | 7.37               | 5,420           |
| 1940       | Apr. 12, 1940     | 8.3                | 6,530           | 1957       | Apr. 4, 1957  | 15.76              | 28,600          |
| 1941       | Apr. 4, 1941      | 3.4                | 976             |            | Apr. 22, 1957 | 6.64               | 4,360           |
| 1942       | Oct. 31, 1941     | 10.1               | 9,830           |            | Apr. 28, 1957 | 8.25               | 6,570           |
|            | Apr. 8, 1942      | 7.7                | 5,750           |            | May 11, 1957  | 7.80               | 5,980           |
|            | May 31, 1942      | 15.7               | 28,300          | 1958       | May 23, 1957  | 10.38              | 10,400          |
|            |                   |                    |                 |            | May 25, 1957  | 8.60               | 7,180           |
|            |                   |                    |                 |            | Mar. 24, 1958 | 10.15              | 9,980           |
|            |                   |                    |                 |            | May 3, 1958   | 6.64               | 4,360           |
|            |                   |                    |                 |            | May 5, 1958   | 10.35              | 10,400          |

## WHITE RIVER BASIN

## Peak stages and discharges of Eleven Point River near Bardley, Mo.--Continued

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1959       | Nov. 17, 1958 | 16.10              | 30,100          |            |      |                    |                 |
| 1960       | Dec. 28, 1959 | 7.41               | 5,420           |            |      |                    |                 |
| 1961       | May 7, 1961   | 12.80              | 16,200          |            |      |                    |                 |
| 1962       | Jan. 22, 1962 | 6.63               | 4,400           |            |      |                    |                 |
|            | Feb. 26, 1962 | 8.30               | 6,720           |            |      |                    |                 |
| 1963       | June 17, 1963 | 7.94               | 6,120           |            |      |                    |                 |
|            | July 5, 1963  | 6.57               | 4,400           |            |      |                    |                 |
| 1964       | Mar. 9, 1964  | 12.81              | 16,200          |            |      |                    |                 |
|            | June 17, 1964 | 11.25              | 12,000          |            |      |                    |                 |
| 1965       | Apr. 16, 1965 | 3.85               | 1,750           |            |      |                    |                 |

a Annual peak only.

b Estimated on basis of records for station near Ravendon Springs, Ark.

## WHITE RIVER BASIN

7-0718. Williams Spring Branch near Alton, Mo.

Location.--Lat 36°40'35", long 91°20'10", in SE¼SW¼ sec.6, T.23 N., R.3 W., on right bank just upstream from bridge on U.S. Highway 160 and 4 miles east of Alton.

Drainage area.--4.24 sq mi. Slope.--63.3 ft per mi.

Gage.--Crest-stage gage.

Stage-discharge relation.--Defined at 168, 224, and 1,350 cfs by indirect measurements. Defined at 184 cfs by current-meter measurement.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date          | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|---------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | May 20, 1955  | 12.61              | 224             |            |      |                    |                 |
| 1956       | June 15, 1956 | 12.17              | 185             |            |      |                    |                 |
| 1957       | May 22, 1957  | 14.04              | 600             |            |      |                    |                 |
| 1958       | Nov. 7, 1957  | 12.60              | 224             |            |      |                    |                 |
| 1959       | Nov. 16, 1958 | 15.43              | 1,350           |            |      |                    |                 |
| 1960       | May 6, 1960   | 12.32              | 195             |            |      |                    |                 |
| 1961       | May 7, 1961   | 15.31              | 1,200           |            |      |                    |                 |
| 1962       |               | (a)                | (b)             |            |      |                    |                 |
| 1963       | Mar. 4, 1963  | 12.55              | 215             |            |      |                    |                 |
| 1964       | June 18, 1964 | 13.55              | 460             |            |      |                    |                 |
| 1965       |               | (a)                | (b)             |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge less than 125 cfs.

## ARKANSAS RIVER BASIN

7-1855. Stahl Creek near Miller, Mo.

Location.--Lat 37°11'40", long 93°50'40", in SE¼ sec.26, T.29 N., R.27 W., on downstream side of left abutment of bridge on State Highway 39, 1½ miles south of Miller and 6.4 miles upstream from mouth.

Drainage area.--3.86 sq mi. Slope.--41.3 ft per mi.

Gage.--Recording. Datum of gage is 1,184 ft above mean sea level, datum of 1929 (State Highway Commission bench mark).

Stage-discharge relation.--Defined by current-meter measurements below 730 cfs.

Bankfull stage.--4 ft.

Remarks.--Base for partial-duration series, 150 cfs. Only annual peaks are shown subsequent to 1959.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1951       | Oct. 3, 1950   | 3.78               | 195             |            |      |                    |                 |
|            | Feb. 20, 1951  | 3.94               | 224             |            |      |                    |                 |
|            | June 22, 1951  | 3.85               | 206             |            |      |                    |                 |
|            | July 4, 1951   | 6.18               | 904             |            |      |                    |                 |
| 1952       | Nov. 15, 1951  | 4.00               | 232             |            |      |                    |                 |
|            | Feb. 1, 1952   | 4.66               | 363             |            |      |                    |                 |
| 1953       | Mar. 14, 1953  | 3.38               | 133             |            |      |                    |                 |
| 1954       | Sept. 29, 1954 | 4.08               | 250             |            |      |                    |                 |
| 1955       | Oct. 11, 1954  | 4.41               | 308             |            |      |                    |                 |
|            | Oct. 21, 1954  | 4.18               | 269             |            |      |                    |                 |
|            | Oct. 25, 1954  | 5.15               | 497             |            |      |                    |                 |
|            | Feb. 19, 1955  | 4.56               | 176             |            |      |                    |                 |
|            | Mar. 20, 1955  | 3.71               | 184             |            |      |                    |                 |
|            | June 5, 1955   | 4.27               | 278             |            |      |                    |                 |
| 1956       | May 31, 1956   | 3.54               | 157             |            |      |                    |                 |
|            | June 7, 1956   | 5.87               | 745             |            |      |                    |                 |
| 1957       | May 22, 1957   | 5.36               | 560             |            |      |                    |                 |
|            | May 30, 1957   | 4.60               | 344             |            |      |                    |                 |
|            | June 13, 1957  | 4.91               | 424             |            |      |                    |                 |
|            | July 1, 1957   | 6.24               | 929             |            |      |                    |                 |
| 1958       | July 7, 1958   | 6.40               | 1,010           |            |      |                    |                 |
|            | July 17, 1958  | 4.80               | 396             |            |      |                    |                 |
| 1959       | Feb. 9, 1959   | 4.43               | 308             |            |      |                    |                 |
| 1960       | Oct. 4, 1959   | 6.75               | 1,150           |            |      |                    |                 |
| 1961       | July 7, 1961   | 7.25               | 1,430           |            |      |                    |                 |
| 1962       | June 10, 1962  | 5.08               | 482             |            |      |                    |                 |
| 1963       | May 13, 1963   | 6.40               | 1,000           |            |      |                    |                 |
| 1964       | June 11, 1964  | 7.27               | 1,440           |            |      |                    |                 |
| 1965       | Apr. 3, 1965   | 5.43               | 593             |            |      |                    |                 |

## ARKANSAS RIVER BASIN

7-1856. South Fork Stahl Creek near Miller, Mo.

Location--Lat 37°11'15", long 93°50'25", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.35, T.29 N., R.27 W., on left bank just upstream from culvert on Highway 39, about 600 feet south of junction with Highway 66, about one-half mile above mouth, 2 miles south of Miller, and 6 miles north of Mt. Vernon.

Drainage area--0.94 sq mi. Slope--66.7 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 140, 180, 380, and 816 cfs by indirect measurements. Defined below 4 cfs by current-meter measurements.

Remarks--Only annual peaks are shown. Gage on upstream wingwall used as reference gage prior to Oct. 1, 1963.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1951       | July 4, 1951   | 2.34               | 90              |            |      |                    |                 |
| 1952       | Feb. 1, 1952   | 1.82               | 54              |            |      |                    |                 |
| 1953       |                | (a)                | (b)             |            |      |                    |                 |
| 1954       | Sept. 29, 1954 | 1.82               | 54              |            |      |                    |                 |
| 1955       | Feb. 19, 1955  | 3.18               | 180             |            |      |                    |                 |
| 1956       | June 7, 1956   | 4.38               | 380             |            |      |                    |                 |
| 1957       | July 1, 1957   | 3.77               | 260             |            |      |                    |                 |
| 1958       | July 16, 1958  | 3.05               | 160             |            |      |                    |                 |
| 1959       | Apr. 18, 1959  | 3.59               | 240             |            |      |                    |                 |
| 1960       | Oct. 4, 1959   | 3.92               | 295             |            |      |                    |                 |
| 1961       | July 7, 1961   | 4.40               | 385             |            |      |                    |                 |
| 1962       |                | (a)                | (b)             |            |      |                    |                 |
| 1963       | June 15, 1963  | 3.29               | 200             |            |      |                    |                 |
| 1964       | June 11, 1964  | 7.08               | 818             |            |      |                    |                 |
| 1965       | Apr. 3, 1965   | 2.78               | 135             |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge less than 30 cfs.

## ARKANSAS RIVER BASIN

7-1857. Spring River at Larussell, Mo.

Location--Lat 37°09'15", long 94°03'20", in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.12, T.28 N., R.29 W., on right bank on upstream side of Bower Mills Bridge, three-quarters of a mile north of Larussell, and 2 $\frac{1}{2}$  miles upstream from Cave Spring Branch.

Drainage area--306 sq mi. Slope--9.84 ft per mi.

Gage--Nonrecording prior to Oct. 18, 1961; recording thereafter. Altitude of gage is 1,030 ft (from topographic map).

Stage-discharge relation--Defined by current-meter measurements below 12,000 cfs.

Bankfull stage--12 ft.

Remarks--Base for partial-duration series, 3,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1958       | Mar. 24, 1958  | 9.00               | 2,220           |            |      |                    |                 |
| 1959       | Sept. 28, 1959 | 8.50               | 1,890           |            |      |                    |                 |
| 1960       | Oct. 4, 1959   | 12.40              | 6,160           |            |      |                    |                 |
|            | Oct. 13, 1959  | 11.60              | 4,930           |            |      |                    |                 |
| 1961       | May 5, 1961    | 10.85              | 3,890           |            |      |                    |                 |
|            | May 8, 1961    | 15.30              | 16,300          |            |      |                    |                 |
|            | May 23, 1961   | 10.20              | 3,330           |            |      |                    |                 |
| 1962       | June 10, 1962  | 10.25              | 3,430           |            |      |                    |                 |
| 1963       | June 17, 1963  | 9.97               | 3,130           |            |      |                    |                 |
|            | July 1, 1963   | 9.90               | 3,030           |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 9.36               | 2,580           |            |      |                    |                 |
| 1965       | Apr. 5, 1965   | 13.09              | 7,420           |            |      |                    |                 |

## ARKANSAS RIVER BASIN

7-1859. O'Possum Creek at Jasper, Mo.

Location--Lat 37°19'20", long 94°18'09", in NE $\frac{1}{4}$ NE $\frac{1}{4}$  sec.26, T.30 N., R.31 W., on left downstream wingwall of bridge on U.S. Highway 71 just south of Jasper and 1.2 miles south of intersection of County Roads H and K with U.S. 71 in Jasper.

Drainage area--9.67 sq mi. Slope--16.0 ft per mi.

Gage--Crest-stage gage.

Stage-discharge relation--Defined at 63, 330, and 1,860 cfs by indirect measurements.

Remarks--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | June 27, 1955  | 14.12              | 1,670           |            |      |                    |                 |
| 1956       | June 6, 1956   | 11.44              | 330             |            |      |                    |                 |
| 1957       | June 9, 1957   | 13.24              | 1,110           |            |      |                    |                 |
| 1958       | July 25, 1958  | 12.72              | 840             |            |      |                    |                 |
| 1959       | Mar. 4, 1959   | 13.19              | 1,080           |            |      |                    |                 |
| 1960       | Oct. 2, 1959   | 13.99              | 1,560           |            |      |                    |                 |
| 1961       | May 8, 1961    | 14.40              | 1,860           |            |      |                    |                 |
| 1962       | Sept. 22, 1962 | 12.01              | 540             |            |      |                    |                 |
| 1963       | June 4, 1963   | 13.46              | 1,240           |            |      |                    |                 |
| 1964       | June 14, 1964  | 13.20              | 1,100           |            |      |                    |                 |
| 1965       | Apr. 4, 1965   | 12.48              | 730             |            |      |                    |                 |

## ARKANSAS RIVER BASIN

7-1860. Spring River near Waco

Location.--Lat 37°14'45", long 94°33'55", on line between SE $\frac{1}{4}$  sec.7 and NE $\frac{1}{4}$  sec.18, T.29 N., R.33 W., at county highway bridge three-quarters of a mile downstream from Blackberry Creek,  $1\frac{1}{2}$  miles east of Waco, and 47.6 miles above mouth.

Drainage area.--1,164 sq mi. Slope.--6.08 ft per mi.

Gage.--Nonrecording prior to Feb. 23, 1935; recording thereafter. Datum of gage is 833.23 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 87,000 cfs.

Bankfull stage.--19 ft.

Remarks.--Base for partial-duration series, 13,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date           | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|----------------|--------------------|-----------------|
| 1923       | -              | 22                 | a21,000         | 1945       | Mar. 20, 1945  | 16.18              | 13,600          |
|            |                |                    |                 |            | Apr. 14, 1945  | 23.61              | 33,400          |
| 1924       | May 29, 1924   | 20.12              | 18,200          |            | Apr. 16, 1945  | 24.65              | 38,300          |
|            | June 11, 1924  | 19.63              | 17,500          |            | Apr. 22, 1945  | 17.38              | 15,600          |
|            |                |                    |                 |            | May 27, 1945   | 17.33              | 15,400          |
| 1925       | Sept. 22, 1925 | 10.37              | 6,550           |            | June 6, 1945   | 18.00              | 16,500          |
|            |                |                    |                 |            | June 17, 1945  | 16.36              | 13,900          |
| 1926       | Sept. 5, 1926  | 16.40              | 13,400          |            | Sept. 26, 1945 | 21.98              | 26,800          |
| 1927       | Oct. 4, 1926   | 16.20              | 13,100          | 1946       | June 1, 1946   | 19.1               | 18,400          |
|            | Apr. 1, 1927   | 23.58              | 28,100          |            |                |                    |                 |
|            | Apr. 10, 1927  | 21.78              | 22,100          | 1947       | Apr. 11, 1947  | 16.16              | 13,700          |
|            | Apr. 15, 1927  | 20.13              | 18,400          |            | Apr. 25, 1947  | 24.6               | 38,300          |
|            | Apr. 19, 1927  | 20.05              | 18,200          |            |                |                    |                 |
|            | July 23, 1927  | 18.10              | 15,500          | 1948       | June 22, 1948  | 24.63              | 38,300          |
|            | Aug. 9, 1927   | 20.14              | 18,400          |            | June 26, 1948  | 17.62              | 15,900          |
|            | Aug. 17, 1927  | 28.6               | 57,400          |            | July 26, 1948  | 18.79              | 17,800          |
| 1928       | Oct. 2, 1927   | 17.26              | 14,500          | 1949       | Jan. 24, 1949  | 15.50              | 13,000          |
|            | June 10, 1928  | 20.80              | 19,800          |            |                |                    |                 |
|            | June 18, 1928  | 16.30              | 13,300          | 1950       | Aug. 28, 1950  | 24.50              | 37,800          |
|            | June 22, 1928  | 20.54              | 19,200          |            |                |                    |                 |
|            |                |                    |                 | 1951       | Feb. 21, 1951  | 19.52              | 19,200          |
| 1929       | Apr. 9, 1929   | 20.57              | 19,400          |            | July 1, 1951   | 15.95              | 13,700          |
|            | Apr. 20, 1929  | 21.15              | 20,600          |            | July 4, 1951   | 16.20              | 13,900          |
|            | May 13, 1929   | 22.65              | 25,000          |            | Sept. 10, 1951 | 16.43              | 14,200          |
|            | May 19, 1929   | 19.78              | 17,900          |            | Sept. 13, 1951 | 17.74              | 16,000          |
| 1930       | June 16, 1930  | 12.96              | 9,350           | 1952       | Nov. 12, 1951  | 16.28              | 14,000          |
|            |                |                    |                 |            | Feb. 2, 1952   | 20.08              | 20,700          |
| 1931       | May 19, 1931   | 11.92              | 8,140           |            |                |                    |                 |
|            |                |                    |                 | 1953       | Apr. 24, 1953  | 7.63               | 3,710           |
| 1932       | June 28, 1932  | 20.88              | 19,800          |            |                |                    |                 |
|            |                |                    |                 | 1954       | Sept. 30, 1954 | 8.14               | 4,160           |
| 1933       | Dec. 25, 1932  | 17.84              | 15,100          |            |                |                    |                 |
|            | May 14, 1933   | 16.64              | 13,600          | 1955       | June 28, 1955  | 17.70              | 16,000          |
| 1934       | Apr. 15, 1934  | 7.70               | 3,950           | 1956       | May 31, 1956   | 7.91               | 3,680           |
| 1935       | Mar. 12, 1935  | 20.23              | 18,700          | 1957       | May 23, 1957   | 19.12              | 16,400          |
|            | June 7, 1935   | 18.00              | 15,300          |            | May 25, 1957   | 20.34              | 19,100          |
|            |                |                    |                 |            | June 2, 1957   | 19.20              | 16,600          |
| 1936       | Sept. 28, 1936 | 15.70              | 12,500          |            | June 9, 1957   | 24.20              | 34,500          |
|            |                |                    |                 |            | June 14, 1957  | 18.52              | 15,400          |
| 1937       | Nov. 3, 1936   | 17.57              | 14,800          |            |                |                    |                 |
|            | Jan. 14, 1937  | 16.59              | 13,500          | 1958       | July 12, 1958  | 17.20              | 13,800          |
|            | June 10, 1937  | 19.42              | 17,200          |            |                |                    |                 |
|            |                |                    |                 | 1959       | Mar. 5, 1959   | 15.93              | 12,200          |
| 1938       | May 31, 1938   | 18.50              | 16,000          |            |                |                    |                 |
|            | June 16, 1938  | 17.23              | 14,300          | 1960       | Oct. 3, 1959   | 21.35              | 22,400          |
| 1939       | May 22, 1939   | 15.34              | 11,900          |            | May 6, 1960    | 17.07              | 13,700          |
| 1940       | July 23, 1940  | 11.46              | 7,700           | 1961       | May 1, 1961    | 17.70              | 15,300          |
|            |                |                    |                 |            | May 9, 1961    | 25.90              | 47,900          |
|            |                |                    |                 |            | May 23, 1961   | 16.25              | 13,400          |
| 1941       | Apr. 16, 1941  | 17.50              | 15,400          | 1962       | Mar. 21, 1962  | 11.38              | 7,480           |
|            | Apr. 20, 1941  | 24.66              | 38,800          |            |                |                    |                 |
| 1942       | Oct. 5, 1941   | 24.4               | 37,300          | 1963       | June 15, 1963  | 9.73               | 5,530           |
|            | Oct. 31, 1941  | 23.66              | 33,500          |            |                |                    |                 |
|            |                |                    |                 | 1964       | June 13, 1964  | 19.54              | 17,300          |
| 1943       | Dec. 27, 1942  | 18.08              | 16,400          |            |                |                    |                 |
|            | May 11, 1943   | 22.75              | 29,900          | 1965       | Apr. 4, 1965   | 19.54              | 18,400          |
|            | May 19, 1943   | 30.94              | 103,000         |            |                |                    |                 |
|            | June 4, 1943   | 15.97              | 13,200          |            |                |                    |                 |
| 1944       | Apr. 11, 1944  | 16.30              | 13,700          |            |                |                    |                 |
|            | June 20, 1944  | 16.60              | 14,200          |            |                |                    |                 |

a Annual peak only.

## ARKANSAS RIVER BASIN

7-1865. Turkey Creek at Joplin, Mo.

Location.--Lat 37°06'46", long 94°31'34", in NW¼NW¼ sec.24, T.28 N., R.33 W., 80 ft downstream from bridge on Lone Elm Road, a quarter of a mile downstream from Joplin Creek, and about 1 mile northwest of Joplin.

Drainage area.--33 sq mi, approximately. Slope.--17.3 ft per mi.

Gage.--Recording. Datum of gage is 903.98 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 700 cfs.

Bankfull stage.--6 ft.

Historical data.--Highest stage known in over 36 years (1932), 10.0 ft, date unknown, from information by road district employee.

Remarks.--Base for partial-duration series, 510 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1933       | Dec. 24, 1932  | 7.38               | 1,090           |            |      |                    |                 |
|            | Apr. 20, 1933  | 7.57               | 1,150           |            |      |                    |                 |
|            | May 13, 1933   | 6.58               | 876             |            |      |                    |                 |
|            | May 15, 1933   | 5.70               | 658             |            |      |                    |                 |
|            | May 24, 1933   | 5.51               | 610             |            |      |                    |                 |
|            | Aug. 3, 1933   | 6.50               | 850             |            |      |                    |                 |
| 1934       | Sept. 29, 1934 | 5.01               | 500             |            |      |                    |                 |
| 1935       | Mar. 11, 1935  | 7.30               | 1,090           |            |      |                    |                 |
| 1936       | May 1, 1936    | 5.44               | 610             |            |      |                    |                 |
|            | July 1, 1936   | 6.65               | 890             |            |      |                    |                 |
|            | Sept. 27, 1936 | 7.15               | 890             |            |      |                    |                 |
| 1937       | Oct. 6, 1936   | 9.86               | 1,980           |            |      |                    |                 |
|            | Oct. 8, 1936   | 6.43               | 838             |            |      |                    |                 |
|            | Jan. 14, 1937  | 5.81               | 696             |            |      |                    |                 |
|            | Jan. 30, 1937  | 5.53               | 630             |            |      |                    |                 |
| 1938       | Mar. 30, 1938  | 6.48               | 864             |            |      |                    |                 |
| 1939       | May 12, 1939   | 5.04               | 530             |            |      |                    |                 |
|            | May 22, 1939   | 5.12               | 550             |            |      |                    |                 |

## ARKANSAS RIVER BASIN

7-1869.50. North Fork Carver Creek at Diamond, Mo.

Location.--Lat 36°59'45", long 94°19'50", in SW¼SW¼ sec.4, T.26 N., R.31 W., on right bank just upstream from culvert under County Road V, 0.8 mile west of Diamond and 9 miles northeast of Neosho.

Drainage area.--0.33 sq mi. Slope.--100 ft per mi.

Gage.--Crest-stage gage; supplemental recording gage installed Sept. 13, 1960, and removed June 6, 1966.

Stage-discharge relation.--Defined at 92, 110, and 191 cfs by indirect measurements.

Remarks.--Only annual peaks are shown.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|------|--------------------|-----------------|
| 1955       | June 27, 1955  | 8.36               | 110             |            |      |                    |                 |
| 1956       | May 30, 1956   | 7.83               | 92              |            |      |                    |                 |
| 1957       | May 21, 1957   | 8.36               | 110             |            |      |                    |                 |
| 1958       | July 25, 1958  | 8.10               | 100             |            |      |                    |                 |
| 1959       |                | (a)                | (b)             |            |      |                    |                 |
| 1960       | Oct. 2, 1959   | 9.49               | 191             |            |      |                    |                 |
| 1961       | May 8, 1961    | 7.63               | 78              |            |      |                    |                 |
| 1962       | Sept. 22, 1962 | 10.09              | 250             |            |      |                    |                 |
| 1963       | Mar. 4, 1963   | 6.17               | 14              |            |      |                    |                 |
| 1964       | Apr. 5, 1964   | 6.58               | 28              |            |      |                    |                 |
| 1965       | Apr. 3, 1965   | 8.35               | 110             |            |      |                    |                 |

a Stage below bottom of gage.

b Discharge less than 30 cfs.

## ARKANSAS RIVER BASIN

7-1870. Shoal Creek above Joplin, Mo.  
(Published as "near Joplin" prior to 1942)

Location.--Lat 37°00'45", long 94°28'45", in NE¼ sec.1, T.26 N., R.33 W., at bridge on U.S. Highway 71, 4 miles southeast of Joplin, 6 miles downstream from Baynham Branch, and 15.0 miles above mouth.

Drainage area.--410 sq mi; 439 sq mi prior to Oct. 1, 1941. Slope.--8.34 ft per mi.

Gage.--Nonrecording prior to Apr. 25, 1934; recording thereafter. At site 5.0 miles downstream prior to Oct. 1, 1941. At datum 44.21 ft lower prior to Apr. 25, 1934. At datum 45.21 ft lower Apr. 25, 1934, to Sept. 30, 1941. Datum of present gage is 902.37 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 41,000 cfs at former site. Defined by current-meter measurements at present site. Shifts in relation occur.

Bankfull stage.--10 ft.

Remarks.--Records for sites "near" and "above" Joplin considered equivalent for flood-frequency study. Base for partial-duration series, 6,000 cfs.

## Peak stages and discharges

| Water year | Date   | Gage height (feet)                             | Discharge (cfs)                                      | Water year | Date  | Gage height (feet)      | Discharge (cfs)            |       |                                  |                |                  |      |                   |       |        |
|------------|--|--|--|------------|---|-------------------------|----------------------------|-------|----------------------------------|----------------|------------------|------|-------------------|-------|--------|
| 1924       | July 13, 1924  | 13.08  | a14,200  | 1945       | Apr. 13, 1945                                 | 13.3                    | 24,800                     |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            | Apr. 15, 1945                                 | 12.8                    | 21,000                     |       |                                  |                |                  |      |                   |       |        |
| 1925       | Apr. 9, 1925   | 4.83   | 2,580  | 1945       | May 10, 1945                                  | 11.57                   | 14,000                     |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            | May 17, 1945                                  | 10.35                   | 8,650                      |       |                                  |                |                  |      |                   |       |        |
| 1926       | Sept. 6, 1926  | 8.33   | 6,230  | 1945       | Sept. 24, 1945                                | 12.84                   | 20,400                     |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            | 1946  | May 31, 1946            | 10.56                      | 9,840 |                                  |                |                  |      |                   |       |        |
| 1927       | Apr. 15, 1927<br>Apr. 19, 1927<br>Aug. 8, 1927<br>Aug. 18, 1927                              | 12.33<br>12.42<br>10.50<br>8.70                | 12,700<br>12,900<br>9,550<br>6,780                   | 1947       | Apr. 10, 1947<br>Apr. 25, 1947                | 10.80<br>12.73          | 10,300<br>20,400           |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1948  | June 23, 1948<br>July 26, 1948   | 9.36<br>9.90   | 6,070<br>7,440   |      |                   |       |        |
|            |  |  |  |            |   |                         |                            |       |                                  |                |                  | 1949 | June 14, 15, 1949 | 8.07  | 3,620  |
|            |  |  |  |            |   |                         |                            | 1950  | Jan. 14, 1950<br>Aug. 5, 1950    | 9.57<br>10.75  | 6,570<br>10,500  |      |                   |       |        |
| 1929       | Apr. 9, 1929<br>Apr. 21, 1929<br>May 9, 1929<br>May 13, 1929<br>May 18, 1929<br>June 3, 1929 | 9.42<br>11.50<br>9.08<br>12.92<br>9.17<br>8.42 | 7,450<br>11,000<br>7,000<br>13,400<br>7,150<br>6,020 | 1951       | June 30, 1951                                 | 10.87                   | 10,900                     |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1952  | Aug. 22, 1952                    | 7.68           | 3,110            |      |                   |       |        |
|            |  |  |  |            |   |                         |                            |       |                                  |                |                  | 1953 | Mar. 15, 1953     | 6.10  | 1,300  |
|            |  |  |  |            |   |                         |                            | 1930  | Sept. 10, 1930<br>Sept. 16, 1930 | 13.92<br>10.92 | 15,200<br>9,930  |      |                   |       |        |
| 1931       | July 26, 1931  | 6.33   | 3,760  | 1955       | Mar. 21, 1955                                 | 9.96                    | 7,740                      |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1932  | June 2, 1932<br>June 27, 1932    | 9.00<br>15.00  | 6,850<br>17,200  | 1956 | May 16, 1956      | 10.00 | 7,740  |
| 1933       | Dec. 25, 1932<br>May 14, 1933  | 12.33<br>13.0                                  | 9,930<br>11,900                                      | 1957       | May 22, 1957<br>May 25, 1957<br>June 10, 1957 | 11.85<br>12.03<br>12.04 | 15,000<br>16,100<br>16,100 |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1934  | Oct. 23, 1933                    | 3.16           | 1,260            | 1958 | July 26, 1958     | 10.34 | 8,100  |
|            |  |  |  |            |   |                         |                            |       |                                  |                |                  |      |                   |       |        |
| 1936       | Sept. 27, 1936   | 8.88   | 5,220  | 1960       | Oct. 2, 1959                                  | 13.5                    | 26,500                     |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1937  | June 10, 1937                    | 8.92           | 5,330            | 1961 | May 8, 1961       | 13.23 | 20,500 |
| 1938       | June 8, 1938   | 10.10  | 6,610  | 1962       | Sept. 22, 1962                                | 9.93                    | 6,030                      |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1939  | May 13, 1939                     | 8.35           | 4,420            | 1963 | June 17, 1963     | 5.95  | 1,230  |
| 1940       | Aug. 18, 1940  | 4.78   | 1,630  | 1964       | June 14, 1964                                 | 11.88                   | 10,800                     |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1941  | Apr. 19, 1941                    | 28.0           | 54,000           | 1965 | Apr. 4, 1965      | 10.20 | 5,860  |
| 1942       | Oct. 5, 1941   | 11.86  | 11,500   | 1943       | May 10, 1943<br>May 18, 1943                  | 12.16<br>16.8           | 16,600<br>62,100           |       |                                  |                |                  |      |                   |       |        |
|            |  |  |  |            |   |                         |                            | 1943  | May 10, 1943<br>May 18, 1943     | 12.16<br>16.8  | 16,600<br>62,100 | 1944 | June 20, 1944     | 10.0  | 7,260  |

a Annual peak only.

## ARKANSAS RIVER BASIN

7-1885. Lost Creek at Seneca, Mo.

Location.--Lat 36°50', long 94°36', in SW $\frac{1}{4}$ SW $\frac{1}{4}$  sec.36, T.25 N., R.34 W., on left bank on downstream side of Seneca Street Bridge in Seneca, half a mile upstream from Little Lost Creek and 9 $\frac{1}{2}$  miles upstream from mouth.

Drainage area.--42 sq mi. Slope.--23.6 ft per mi.

Gage.--Recording to Sept. 30, 1959; crest-stage gage since Oct. 1, 1960. Datum of gage is 839.96 ft above mean sea level, datum of 1929.

Stage-discharge relation.--Defined by current-meter measurements below 1,400 cfs and extended above by logarithmic plotting.

Remarks.--Base for partial-duration series, 175 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|------------|---------------|--------------------|-----------------|
| 1943       | May 16, 1943   | 11.7               | -               | 1964       | June 12, 1964 | 9.69               | 8,690           |
| 1945       | September 1945 | 11.7               | -               | 1965       | Apr. 2, 1965  | 5.61               | 2,000           |
| 1949       | Feb. 15, 1949  | 2.79               | 361             |            |               |                    |                 |
|            | Apr. 27, 1949  | 2.39               | 252             |            |               |                    |                 |
|            | Sept. 13, 1949 | 2.08               | 178             |            |               |                    |                 |
|            | Sept. 18, 1949 | 2.38               | 252             |            |               |                    |                 |
| 1950       | Jan. 13, 1950  | 2.37               | 249             |            |               |                    |                 |
|            | May 11, 1950   | 2.15               | 207             |            |               |                    |                 |
|            | July 10, 1950  | 2.33               | 241             |            |               |                    |                 |
|            | Aug. 27, 1950  | 6.78               | 3,280           |            |               |                    |                 |
|            | Sept. 15, 1950 | 2.89               | 377             |            |               |                    |                 |
| 1951       | Oct. 3, 1950   | 2.67               | 301             |            |               |                    |                 |
|            | Feb. 20, 1951  | 3.22               | 488             |            |               |                    |                 |
|            | June 30, 1951  | 8.05               | 4,600           |            |               |                    |                 |
|            | July 10, 1951  | 2.48               | 267             |            |               |                    |                 |
| 1952       | May 23, 1952   | 3.18               | 472             |            |               |                    |                 |
| 1953       | Apr. 24, 1953  | 1.77               | 107             |            |               |                    |                 |
| 1954       | Sept. 30, 1954 | 2.04               | 274             |            |               |                    |                 |
| 1955       | Oct. 26, 1954  | 2.33               | 296             |            |               |                    |                 |
|            | Mar. 20, 1955  | 1.80               | 187             |            |               |                    |                 |
|            | June 27, 1955  | 1.96               | 218             |            |               |                    |                 |
|            | July 6, 1955   | 2.29               | 287             |            |               |                    |                 |
|            | July 17, 1955  | 1.90               | 206             |            |               |                    |                 |
| 1956       | May 31, 1956   | 1.49               | 132             |            |               |                    |                 |
| 1957       | Mar. 31, 1957  | 2.95               | 596             |            |               |                    |                 |
|            | Apr. 3, 1957   | 1.98               | 281             |            |               |                    |                 |
|            | Apr. 16, 1957  | 2.79               | 539             |            |               |                    |                 |
|            | Apr. 20, 1957  | 3.59               | 890             |            |               |                    |                 |
|            | May 16, 1957   | 1.72               | 213             |            |               |                    |                 |
|            | May 21, 1957   | 7.54               | 4,690           |            |               |                    |                 |
|            | May 25, 1957   | 8.21               | 5,760           |            |               |                    |                 |
|            | May 29, 1957   | 2.82               | 539             |            |               |                    |                 |
|            | June 2, 1957   | 2.65               | 486             |            |               |                    |                 |
|            | June 9, 1957   | 7.20               | 4,270           |            |               |                    |                 |
|            | July 1, 1957   | 1.72               | 208             |            |               |                    |                 |
| 1958       | Mar. 23, 1958  | 2.25               | 361             |            |               |                    |                 |
|            | Mar. 30, 1958  | 1.70               | 210             |            |               |                    |                 |
|            | June 21, 1958  | 1.77               | 230             |            |               |                    |                 |
|            | July 7, 1958   | 2.48               | 337             |            |               |                    |                 |
|            | July 25, 1958  | 4.46               | 1,420           |            |               |                    |                 |
|            | July 28, 1958  | 1.71               | 231             |            |               |                    |                 |
| 1959       | Mar. 5, 1959   | 2.36               | 372             |            |               |                    |                 |
|            | Apr. 18, 1959  | 1.50               | 186             |            |               |                    |                 |
|            | May 17, 1959   | 1.56               | 197             |            |               |                    |                 |
|            | Sept. 30, 1959 | 3.01               | 555             |            |               |                    |                 |
| 1960       | Oct. 2, 1959   | 12.98              | 20,000          |            |               |                    |                 |
| 1961       | May 7, 1961    | 4.67               | 1,370           |            |               |                    |                 |
| 1962       | Nov. 5, 1961   | 2.24               | 348             |            |               |                    |                 |
| 1963       | Mar. 8, 1963   | 1.17               | 128             |            |               |                    |                 |

## ARKANSAS RIVER BASIN

7-1890. Elk River near Tiff City, Mo.

Location.--Lat 36°38', long 94°35', in NE¼ sec.22, T.22 N., R.34 W., on downstream side of right pier of bridge on State Highway 43, three-quarters of a mile downstream from Blackfoot Branch, 2 3/4 miles upstream from Buffalo Creek, 3 miles southeast of Tiff City, and at mile 15.8.

Drainage area.--872 sq mi. Slope.--7.09 ft per mi.

Gage.--Recording. Datum of gage is 750.61 ft above mean sea level, datum of 1929 (levels by Corps of Engineers).

Stage-discharge relation.--Defined by current-meter measurements below 60,000 cfs and extended on basis of slope-area measurement at 137,000 cfs.

Bankfull stage.--15 ft.

Remarks.--Base for partial-duration series, 9,000 cfs.

## Peak stages and discharges

| Water year | Date           | Gage height (feet) | Discharge (cfs) | Water year    | Date          | Gage height (feet) | Discharge (cfs) |
|------------|----------------|--------------------|-----------------|---------------|---------------|--------------------|-----------------|
| 1940       | Apr. 12, 1940  | 11.62              | 9,480           | 1957          | Apr. 4, 1957  | 18.37              | 23,900          |
| 1941       | Apr. 16, 1941  | 21.46              | 48,000          | May 19, 1957  | 12.13         | 10,900             |                 |
|            | Apr. 19, 1941  | 28.4               | 137,000         | May 21, 1957  | 24.72         | 70,800             |                 |
| 1942       | Oct. 5, 1941   | 11.60              | 9,480           | May 25, 1957  | 21.12         | 38,000             |                 |
|            | Oct. 31, 1941  | 19.69              | 36,400          | June 3, 1957  | 12.85         | 12,200             |                 |
|            | Apr. 9, 1942   | 12.66              | 11,700          | June 10, 1957 | 12.51         | 11,600             |                 |
|            |                |                    |                 | June 13, 1957 | 11.66         | 10,200             |                 |
| 1943       | Oct. 31, 1942  | 16.70              | 23,000          | 1958          | Mar. 24, 1958 | 12.75              | 12,200          |
|            | Nov. 6, 1942   | 12.99              | 12,400          | May 3, 1958   | 13.53         | 13,500             |                 |
|            | Dec. 28, 1942  | 14.35              | 15,600          | May 9, 1958   | 11.20         | 9,340              |                 |
|            | Apr. 12, 1943  | 12.26              | 11,000          | July 12, 1958 | 11.40         | 9,680              |                 |
|            | May 10, 1943   | 23.55              | 62,400          | July 26, 1958 | 18.53         | 26,000             |                 |
|            | May 18, 1943   | 23.60              | 62,900          | 1959          | May 18, 1959  | 10.60              | 8,320           |
| 1944       | Apr. 11, 1944  | 15.36              | 18,500          | 1960          | May 21, 1960  | 12.07              | 10,900          |
|            | June 21, 1944  | 14.46              | 16,600          | 1961          | May 5, 1961   | 17.57              | 23,200          |
| 1945       | Feb. 22, 1945  | 14.90              | 18,000          | May 7, 1961   | 21.48         | 40,500             |                 |
|            | Mar. 3, 1945   | 17.54              | 26,200          | May 20, 1961  | 12.02         | 10,800             |                 |
|            | Mar. 7, 1945   | 13.57              | 14,900          | 1962          | June 3, 1962  | 7.27               | 3,480           |
|            | Mar. 19, 1945  | 16.16              | 21,700          | 1963          | Oct. 8, 1962  | 11.07              | 9,170           |
|            | Mar. 25, 1945  | 13.46              | 14,700          | Oct. 13, 1962 | 10.97         | 9,000              |                 |
|            | Apr. 15, 1945  | 23.5               | 63,200          | 1964          | June 14, 1964 | 22.58              | 48,600          |
|            | May 10, 1945   | 12.46              | 12,200          | 1965          | Apr. 3, 1965  | 18.63              | 29,000          |
|            | May 17, 1945   | 15.83              | 20,500          | Apr. 6, 1965  | 14.89         | 17,000             |                 |
|            | May 27, 1945   | 11.20              | 10,400          | Apr. 15, 1965 | 12.89         | 12,900             |                 |
|            | June 18, 1945  | 10.61              | 9,320           |               |               |                    |                 |
|            | Sept. 25, 1945 | 12.84              | 13,300          |               |               |                    |                 |
| 1946       | Feb. 14, 1946  | 13.79              | 15,200          |               |               |                    |                 |
|            | May 25, 1946   | 11.22              | 10,400          |               |               |                    |                 |
| 1947       | Dec. 10, 1946  | 15.94              | 20,800          |               |               |                    |                 |
|            | Apr. 11, 1947  | 14.29              | 16,500          |               |               |                    |                 |
|            | Apr. 25, 1947  | 16.10              | 21,400          |               |               |                    |                 |
| 1948       | Aug. 15, 1948  | 10.50              | 8,410           |               |               |                    |                 |
| 1949       | May 20, 1949   | 11.29              | 9,860           |               |               |                    |                 |
| 1950       | Jan. 14, 1950  | 15.13              | 18,500          |               |               |                    |                 |
|            | May 11, 1950   | 21.72              | 45,900          |               |               |                    |                 |
|            | July 20, 1950  | 17.52              | 24,000          |               |               |                    |                 |
|            | Aug. 6, 1950   | 19.60              | 33,000          |               |               |                    |                 |
|            | Aug. 27, 1950  | 11.83              | 10,500          |               |               |                    |                 |
| 1951       | Feb. 19, 1951  | 17.00              | 22,000          |               |               |                    |                 |
| 1952       | Aug. 22, 1952  | 11.85              | 10,300          |               |               |                    |                 |
| 1953       | Mar. 15, 1953  | 10.06              | 7,270           |               |               |                    |                 |
| 1954       | May 3, 1954    | 11.06              | 9,030           |               |               |                    |                 |
| 1955       | Feb. 20, 1955  | 14.69              | 16,100          |               |               |                    |                 |
|            | Mar. 21, 1955  | 11.47              | 9,750           |               |               |                    |                 |
| 1956       | May 15, 1956   | 23.14              | 49,900          |               |               |                    |                 |

## PART II

## Peak Discharges at Miscellaneous Sites

| Site Location<br>(in downstream order)   | Drainage<br>area<br>(sq. mi.) | Peak Discharge<br>Date | Cfs     |
|--|-------------------------------|------------------------|---------|
| <u>Rock Creek basin</u><br>Rock Creek at Rockport,<br>Atchison County                              | 40.1                          | July 18, 1965          | 8,260   |
| Boney Branch at Rockport,<br>Atchison County   | 0.76                          | July 18, 1965          | 5,080   |
| <u>Nodaway River basin</u><br>Lincoln Creek 2 miles<br>south of Fillmore,<br>Andrew County         | 20.7                          | July 19, 1965          | 6,170   |
| <u>Platte River basin</u><br>Malden Creek 3 miles<br>northwest of Gower,<br>Buchanan County        | 9.24                          | July 20, 1965          | 12,100  |
| Mitchell Branch 1.5 miles<br>north of Edgerton,<br>Platte County                                   | 1.56                          | July 19, 1965          | 3,490   |
| Grove Creek Tributary<br>1.5 miles southeast<br>of Edgerton, Platte<br>County                      | 1.03                          | July 19, 1965          | 2,770   |
| Alger Creek 0.5 miles<br>southeast of Camden<br>Point, Platte County                               | 2.36                          | July 19, 1965          | 3,000   |
| Linn Branch Tributary at<br>Grayson, Clinton County  | 0.79                          | July 19, 1965          | 2,410   |
| Camp Branch at Arley,<br>Clay County   | 9.78                          | July 19, 1965          | 5,430   |
| Second Creek at Linkville,<br>Platte County  | 9.99                          | July 19, 1965          | 10,000  |
| First Creek 2 miles east<br>of Linkville, Platte<br>County   | 5.23                          | July 19, 1965          | 4,430   |
| Little Platte River<br>tributary 2 miles<br>northwest of Smithville,<br>Platte County              | 0.44                          | July 19, 1965          | 1,270   |
| Platte River at Inter-<br>state Highway 29 at<br>Platte City, Platte<br>County                     | 2,400                         | July 20, 1965          | 114,000 |
| <u>Fishing River basin</u><br>Fishing River 2.2 miles<br>northeast of Roosterville,<br>Clay County | 24.7                          | July 19, 1965          | 13,500  |

|   |      |               |        |
|---|------|---------------|--------|
| Fishing River 1.5 miles south of Kearney, Clay County   | 39.4 | June 22, 1947 | 30,000 |
| Clear Creek 2.9 miles northwest of Holt, Clinton County   | 7.37 | June 22, 1947 | 15,000 |
| Clear Creek 3 miles west of Holt, Clay County   | 19.4 | June 22, 1947 | 22,000 |
| Clear Creek 2 miles north of Kearney, Clay County   | 29.4 | July 19, 1965 | 17,900 |
| Fishing River 0.5 mile north of Miltondale, Clay County   | 238  | July 20, 1965 | 80,200 |
| <u>Grand River basin</u><br>Shoal Creek 2 miles east of Turney, Clinton County  | 23.3 | July 19, 1965 | 9,640  |
| <u>Osage River basin</u><br>Crane Creek 3 miles southeast of Hermitage, Hickory County  | 16.4 | May 30, 1956  | 16,800 |
| Jordan Branch 2 miles east of Wheatland, Hickory County   | 2.46 | May 30, 1956  | 4,990  |
| <u>Gasconade River basin</u><br>Bow Creek 1.5 miles northwest of Odin, Wright County  | 4.94 | Oct. 21, 1949 | 5,400  |
| <u>White River basin</u><br>Dry Fork Tributary 1 mile west of Fordland, Webster County  | 0.41 | June 13, 1963 | 475    |
| Railey Creek Tributary at Reeds Spring, Stone County  | 0.64 | June 12, 1965 | 873    |
| <u>Plattin Creek basin</u><br>Plattin Creek 3 miles south of Crystal City, Jefferson County                                   | 83.4 | June 17, 1964 | 30,100 |
| <u>Isle du Bois Creek basin</u><br>Isle du Bois Creek 8 miles southeast of Crystal City, Jefferson-Ste. Genevieve County line | 16.4 | June 17, 1964 | 28,400 |
| <u>Establishment Creek basin</u><br>Kinsey Creek at Kinsey, Ste. Genevieve County   | 3.18 | June 17, 1964 | 11,600 |

APPENDIX II  
Flood Frequency Data for Streamgaging Stations in Missouri

| Station number | Station name                             | Drainage area (sq mi) | Slope (ft per mi) | Period of record          | Magnitude of flood, in cubic feet per second, for indicated recurrence interval in years |        |        |        |        |        |
|----------------|--|-----------------------|-------------------|---------------------------|--|--------|--------|--------|--------|--------|
|                |  |                       |                   |                           | 1.2  | 2.33   | 5      | 10     | 25     | 50     |
| 5-4950.00      | Fox River at Wayland, Mo.                | 400                   | 4.5               | 1923-65                   | 3,200  | 6,600  | 9,800  | 12,300 | 18,800 | 23,500 |
| 5-4951.00      | Big Branch tributary near Wayland, Mo.   | 0.70                  | 80.8              | 1955-65                   | 50   | 115    | 215    | 305    | ----   | ----   |
| 5-4960.00      | Wyaconda River above Canton, Mo.         | 393                   | 4.5               | 1922-65                   | 2,800  | 5,700  | 8,900  | 11,700 | 15,500 | 18,300 |
| 5-4970.00      | North Fabius River at Monticello, Mo.    | 452                   | 4.8               | 1923-65                   | 4,400  | 8,200  | 11,300 | 13,800 | 17,000 | 19,200 |
| 5-4975.00      | Middle Fabius River near Baring, Mo.     | 185                   | 6.8               | 1931-61,<br>1963-65       | 2,400  | 4,900  | 6,900  | 8,400  | 9,800  | 10,900 |
| 5-4977.00      | Bridge Creek Branch near Baring, Mo.     | 2.54                  | 43.2              | 1955-65                   | 185  | 425    | 615    | 770    | ----   | ----   |
| 5-4980.00      | Middle Fabius River near Monticello, Mo. | 393                   | 4.1               | 1946-65                   | 3,500  | 6,100  | 8,200  | 10,300 | 13,000 | 15,700 |
| 5-4985.00      | North Fabius River at Taylor, Mo.        | 930                   | 4.0               | 1929,<br>1931-42          | 5,100  | 10,700 | 15,000 | 18,700 | 23,300 | 27,000 |
| 5-5000.00      | South Fabius River near Taylor, Mo.      | 620                   | 3.4               | 1935-65                   | 3,400  | 7,400  | 10,800 | 13,400 | 17,000 | 19,400 |
| 5-5005.00      | North River at Bethel, Mo.               | 58                    | 5.0               | 1937-65                   | 900  | 2,300  | 3,800  | 5,200  | 7,000  | 8,400  |
| 5-5010.00      | North River at Palmyra, Mo.              | 373                   | 5.0               | 1935-65                   | 5,200  | 10,300 | 15,200 | 19,400 | 25,000 | 29,000 |
| 5-5012.00      | Nichols Branch near Palmyra, Mo.         | 2.58                  | 52.5              | 1949,<br>1955-65          | 160  | 500    | 860    | 1,220  | ----   | ----   |
| 5-5020.00      | Bear Creek at Hannibal, Mo.              | 31.0                  | 15.4              | 1939-42,<br>1948-65       | 1,200  | 2,900  | 4,300  | 5,400  | 6,900  | ----   |
| 5-5025.00      | Salt River near Shelbina, Mo.            | 481                   | 3.9               | 1931-65                   | 3,000  | 6,800  | 10,200 | 12,800 | 17,000 | 20,600 |
| 5-5027.00      | Easdale Branch near Shelbyville, Mo.     | 0.71                  | 76.1              | 1958-65                   | 180  | 390    | 610    | 800    | ----   | ----   |
| 5-5030.00      | Douglas Creek near Emden, Mo.            | 2.64                  | 32.3              | 1956-65                   | 400  | 620    | 830    | 1,000  | ----   | ----   |
| 5-5035.00      | Salt River near Hunnewell, Mo.           | 626                   | 3.0               | 1931-40                   | 4,200  | 7,400  | 10,200 | 12,600 | 15,800 | 18,200 |
| 5-5050.00      | South Fork Salt River at Sante Fe, Mo.   | 298                   | 3.6               | 1940-65                   | 4,200  | 8,100  | 10,200 | 12,000 | 14,200 | 15,800 |
| 5-5060.00      | Youngs Creek near Mexico, Mo.            | 67.4                  | 7.5               | 1937-65                   | 1,350  | 2,700  | 3,800  | 4,650  | 5,800  | 6,650  |
| 5-5065.00      | Middle Fork Salt River at Paris, Mo.     | 356                   | 2.9               | 1940-65                   | 3,000  | 5,100  | 7,000  | 8,900  | 12,800 | 17,000 |
| 5-5070.00      | Elk Fork Salt River near Paris, Mo.      | 262                   | 3.5               | 1928,<br>1931-54,<br>1958 | 4,000  | 8,100  | 11,500 | 14,300 | 17,900 | 20,700 |
| 5-5080.00      | Salt River near New London, Mo.          | 2,480                 | 2.5               | 1923-65                   | 16,000   | 28,000 | 39,000 | 48,000 | 60,000 | 69,000 |
| 5-5134.00      | Knox Branch near Elsberry, Mo.           | 1.17                  | 91.5              | 1955-61                   | 310  | 430    | 530    | 615    | ----   | ----   |
| 5-5134.50      | Lost Creek tributary near Elsberry, Mo.  | 0.33                  | 253               | 1955-61                   | 110  | 225    | 335    | 425    | ----   | ----   |
| 5-5134.70      | North Fork Lost Creek near Elsberry, Mo. | 2.23                  | 70.5              | 1955-61                   | 240  | 640    | 1,020  | 1,360  | ----   | ----   |
| 5-5135.00      | Lost Creek at Elsberry, Mo.              | 12.2                  | 64.6              | 1954-61                   | 1,500  | 2,400  | 3,700  | 4,900  | ----   | ----   |
| 5-5136.00      | Camp Creek near Elsberry, Mo.            | 1.50                  | 126               | 1955-65                   | 150  | 430    | 660    | 860    | ----   | ----   |
| 5-5136.50      | Hurricane Creek near Elsberry, Mo.       | 3.06                  | 86.3              | 1955-65                   | 350  | 860    | 1,280  | 1,600  | ----   | ----   |
| 5-5137.00      | Mams Slough Creek near Wellsville, Mo.   | 5.08                  | 14.3              | 1955-57,<br>1961-65       | 200  | 500    | 770    | 990    | ----   | ----   |

APPENDIX II--continued  
Flood Frequency Data for Streamgaging Stations in Missouri

| Station number | Station name                                      | Drainage area (sq mi) | Slope (ft per mi) | Period of record               | Magnitude of flood, in cubic feet per second, for indicated recurrence interval in years |        |        |        |        |        |
|----------------|---|-----------------------|-------------------|--------------------------------|--|--------|--------|--------|--------|--------|
|                |   |                       |                   |                                | 1.2  | 2.33   | 5      | 10     | 15     | 50     |
| 5-5142.00      | Reid Branch near Bowling Green, Mo.               | 0.54                  | 93.3              | 1955-65                        | 70   | 215    | 350    | 465    | ----   | ----   |
| 5-5145.00      | Cuivre River near Troy, Mo.                       | 903                   | 4.6               | 1923-65                        | 12,500   | 25,000 | 35,000 | 43,400 | 53,500 | 61,500 |
| 6-8130.00      | Tarkio River at Fairfax, Mo.                      | 508                   | 4.93              | 1923-65                        | 3,700  | 8,400  | 11,800 | 14,000 | 16,700 | 18,500 |
| 6-8155.50      | Staples Branch near Burlington Junction, Mo.      | 0.49                  | 61.1              | 1959-65                        | 130  | 258    | 375    | 473    | ----   | ----   |
| 6-8160.00      | Mill Creek at Oregon, Mo.                         | 4.90                  | 42.3              | 1950-65                        | 320  | 740    | 1,090  | 1,360  | ----   | ----   |
| 6-8175.00      | Nodaway River near Burlington Junction, Mo.       | 1,240                 | 4.21              | 1923-65                        | 6,700  | 17,500 | 21,800 | 25,000 | 29,300 | 32,700 |
| 6-8189.00      | Platte River at Ravenwood, Mo.                    | 486                   | 4.45              | 1922-23,<br>1929-32<br>1959-65 | 4,700  | 7,900  | 9,800  | 11,300 | 13,300 | -----  |
| 6-8195.00      | One Hundred and Two River near Maryville, Mo.     | 500                   | 5.72              | 1926,<br>1933-65               | 3,800  | 7,600  | 10,500 | 12,900 | 15,800 | 17,700 |
| 6-8200.00      | White Cloud Creek near Maryville, Mo.             | 6.06                  | 19.5              | 1949-65                        | 350  | 1,050  | 1,970  | 2,850  | 4,100  | ----   |
| 6-8203.00      | Big Slough near Wilcox, Mo.                       | 1.30                  | 35.5              | 1950-65                        | 250  | 440    | 610    | 760    | 950    | ----   |
| 6-8205.00      | Platte River near Agency, Mo.                     | 1,760                 | 3.76              | 1925-30,<br>1933-65            | 6,900  | 15,200 | 23,000 | 30,500 | 40,000 | 47,000 |
| 6-8210.00      | Jenkins Branch at Gower, Mo.                      | 2.72                  | 34.0              | 1950-65                        | 300  | 820    | 1,530  | 2,240  | 3,250  | ----   |
| 6-8211.3       | First Creek near Nashua, Mo.                      | 0.55                  | 59.5              | 1959-65                        | 65   | 140    | 255    | 375    | ----   | ----   |
| 6-8935.00      | Blue River near Kansas City, Mo.                  | 188                   | 12.4              | 1940-65                        | 5,200  | 9,500  | 15,600 | 23,600 | 36,300 | 47,000 |
| 6-8940.00      | Little Blue River near Lake City, Mo.             | 184                   | 6.26              | 1949-65                        | 1,900  | 3,900  | 5,500  | 6,900  | 9,900  |        |
| 6-8945.00      | East Fork Fishing River at Excelsior Springs, Mo. | 20.0                  | 21.9              | 1951-65                        | 700  | 2,700  | 5,100  | 7,300  | 10,400 | ----   |
| 6-8950.00      | Crooked River near Richmond, Mo.                  | 159                   | 5.17              | 1949-65                        | 1,700  | 4,000  | 7,200  | 11,500 | ----   | ----   |
| 6-8960.00      | Wakenda Creek at Carrollton, Mo.                  | 248                   | 5.27              | 1949-65                        | 2,850  | 5,150  | 6,600  | 7,300  | 8,000  | ----   |
| 6-8961.80      | Demoss Branch near Stanberry, Mo.                 | 0.38                  | 106               | 1955-65                        | 105  | 200    | 295    | 380    | ----   | ----   |
| 6-8965.00      | Thompson Branch near Albany, Mo.                  | 5.58                  | 30.9              | 1956-65                        | 500  | 1,020  | 1,540  | 2,020  | ----   | ----   |
| 6-8967.00      | O'Neill Branch at Osborn, Mo.                     | 0.80                  | 50.9              | 1955-65                        | 130  | 350    | 620    | 880    | ----   | ----   |
| 6-8970.00      | East Fork Big Creek near Bethany, Mo.             | 95                    | 7.24              | 1909,<br>1935-65               | 1,300  | 2,950  | 4,450  | 5,650  | 7,250  | 8,450  |
| 6-8972.00      | Simpson Branch near Bethany, Mo.                  | 4.72                  | 27.6              | 1955-65                        | 875  | 2,000  | 3,300  | 4,560  | ----   | ----   |
| 6-8975.00      | Grand River near Gallatin, Mo.                    | 2,250                 | 4.11              | 1909,<br>1922-65               | 12,500   | 27,500 | 39,300 | 49,000 | 61,500 | 70,000 |
| 6-8985.00      | Weldon River near Mercer, Mo.                     | 246                   | 7.54              | 1939-65                        | 4,200  | 10,300 | 16,200 | 21,400 | 28,000 | 33,300 |
| 6-8990.00      | Weldon River at Mill Grove, Mo.                   | 494                   | 5.05              | 1909,<br>1930-65               | 4,400  | 10,400 | 16,200 | 21,400 | 28,200 | 33,400 |
| 6-8995.00      | Thompson River at Trenton, Mo.                    | 1,670                 | 3.67              | 1909,<br>1922-23,<br>1929-65   | 10,500   | 24,000 | 34,800 | 43,500 | 54,700 | 64,000 |
| 6-8996.00      | West Fork Leaky Branch near Chillicothe, Mo.      | 0.21                  | 63.8              | 1955-65                        | 50   | 133    | 225    | 308    | ----   | ----   |
| 6-9000.00      | Medicine Creek near Galt, Mo.                     | 225                   | 5.00              | 1909,<br>1922-28,<br>1930-65   | 2,400  | 6,500  | 10,400 | 13,800 | 18,200 | 21,600 |
| 6-9013.00      | Moffet Branch near Reger, Mo.                     | 0.13                  | 150               | 1955-65                        | 132  | 217    | 293    | 358    | ----   | ----   |

APPENDIX II--continued  
Flood Frequency Data for Streamgaging Stations in Missouri

| Station number | Station name   | Drainage area (sq mi) | Slope (ft per mi) | Period of record                      | Magnitude of flood, in cubic feet per second, for indicated recurrence interval in years |        |        |        |         |         |
|----------------|--|-----------------------|-------------------|---------------------------------------|--|--------|--------|--------|---------|---------|
|                |  |                       |                   |                                       | 1.2  | 2.33   | 5      | 10     | 25      | 50      |
| 6-9015.00      | Locust Creek near Linneus, Mo.                             | 550                   | 4.22              | 1909, 1929-65                         | 4,700  | 9,500  | 13,500 | 17,000 | 22,000  | 26,500  |
| 6-9020.00      | Grand River near Sumner, Mo.                               | 6,880                 | 3.15              | 1909, 1924-65                         | 28,000   | 57,000 | 80,000 | 99,000 | 123,000 | 140,000 |
| 6-9025.00      | Hamilton Branch near New Boston, Mo.                       | 2.51                  | 27.0              | 1956-65                               | 300  | 590    | 770    | 890    | ----    | ----    |
| 6-9028.00      | Onion Branch at St. Catherine, Mo.                         | 1.04                  | 49.3              | 1955-65                               | 80   | 290    | 580    | 865    | ----    | ----    |
| 6-9030.00      | Yellow Creek near Rothville, Mo.                           | 405                   | 4.27              | 1909, 1929-32, 1947, 1949-51, 1961-65 | 2,800  | 5,700  | 8,100  | 10,100 | 12,500  |         |
| 6-9045.00      | Chariton River at Novinger, Mo.                            | 1,370                 | 2.63              | 1917, 1922-52, 1955-65                | 5,000  | 10,200 | 15,600 | 19,400 | 24,800  | 28,800  |
| 6-9047.00      | Strop Branch near Novinger, Mo.                            | 0.96                  | 94.7              | 1955-65                               | 140  | 400    | 750    | 1,100  | ----    | ----    |
| 6-9055.00      | Chariton River near Prairie Hill, Mo.                      | 1,870                 | 2.25              | 1929-65                               | 8,000  | 13,600 | 18,000 | 21,500 | 26,000  | 31,400  |
| 6-9057.00      | Puzzle Creek near Salisbury, Mo.                           | 0.80                  | 55.6              | 1955-65                               | 90   | 165    | 280    | 410    | ----    | ----    |
| 6-9066.00      | Burge Branch near Arrow Rock, Mo.                          | 0.33                  | 76.0              | 1960-65                               | 25   | 52     | 87     | 120    | ----    | ----    |
| 6-9067.00      | Flat Creek near Sedalia, Mo.                               | 148                   | 8.1               | 1959-65                               | 3,500  | 8,300  | 13,500 | 18,300 | ----    | ----    |
| 6-9070.00      | Lamine River at Clifton City, Mo.                          | 598                   | 3.6               | 1905, 1907, 1923-65                   | 7,000  | 16,400 | 27,400 | 37,400 | 51,200  | 62,000  |
| 6-9072.00      | Shaver Creek tributary near Clifton City, Mo.              | 1.65                  | 46.4              | 1955-65                               | 330  | 720    | 1,110  | 1,450  | ----    | ----    |
| 6-9075.00      | South Fork Blackwater River near Elm, Mo.                  | 16.4                  | 22.2              | 1955-65                               | 1,000  | 2,150  | 3,700  | 5,200  | ----    | ----    |
| 6-9077.00      | Blackwater River at Valley City, Mo.                       | 547                   | 5.05              | 1959-65                               | 7,500  | 21,500 | 37,000 | 51,500 | ----    | ----    |
| 6-9080.00      | Blackwater River at Blue Lick, Mo.                         | 1,120                 | 2.50              | 1905, 1923-33, 1939-65                | 4,400  | 11,000 | 18,500 | 25,600 | 35,000  | 42,000  |
| 6-9083.00      | Trent Branch near Waverly, Mo.                             | 0.97                  | 69.2              | 1955-65                               | 260  | 440    | 720    | 1,030  |         |         |
| 6-9085.00      | Shiloh Branch near Marshall, Mo.                           | 2.87                  | 40.1              | 1952-65                               | 285  | 610    | 880    | 1,100  | ----    | ----    |
| 6-9094.00      | Cottonwood Creek tributary at Estill, Mo.                  | 0.30                  | 87.0              | 1958-65                               | 44   | 74     | 120    | 174    | ----    | ----    |
| 6-9095.00      | Moniteau Creek near Fayette, Mo.                           | 81                    | 8.47              | 1944, 1949-65                         | 2,000  | 3,150  | 4,100  | 4,900  | 5,900   | ----    |
| 6-9097.00      | Petite Saline Creek tributary near Bellair, Mo.            | 0.49                  | 78.4              | 1955-65                               | 85   | 170    | 360    | 610    | ----    | ----    |
| 6-9100.00      | Petite Saline Creek near Boonville, Mo.                    | 182                   | 6.35              | 1921, 1949-65                         | 2,400  | 4,300  | 5,900  | 7,200  | 8,800   | ----    |
| 6-9102.00      | Cow Branch near Columbia, Mo.                              | 1.01                  | 57.3              | 1955-65                               | 220  | 365    | 520    | 670    | ----    | ----    |
| 6-9102.50      | Traxler Branch near Columbia, Mo.                          | 0.55                  | 119               | 1958-65                               | 150  | 290    | 450    | 600    | ----    | ----    |
| 6-9103.00      | Peden Branch near Jefferson City, Mo.                      | 0.18                  | 220               | 1957-65                               | 50   | 98     | 152    | 200    | ----    | ----    |
| 6-9104.00      | Baldwin Branch near Jefferson City, Mo.                    | 0.60                  | 144               | 1957-65                               | 230  | 540    | 850    | 1,140  | ----    | ----    |
| 6-9105.00      | Moreau River near Jefferson City, Mo.                      | 531                   | 4.64              | 1948-65                               | 9,500  | 16,200 | 22,500 | 28,000 | 37,300  | ----    |
| 6-9107.00      | Hazel Branch tributary near Wardsville, Mo.                | 0.13                  | 141               | 1957-65                               | 52   | 102    | 164    | 222    | ----    | ----    |
| 6-9182.00      | North Fork Panther Creek tributary near Appleton City, Mo. | 0.08                  | 222               | 1955-65                               | 33   | 49     | 76     | 105    | ----    | ----    |

## APPENDIX II--continued

## Flood Frequency Data for Streamgaging Stations in Missouri

| Station name | Station name                                     | Drainage area (sq mi) | Slope (ft per mi) | Period of record             | Magnitude of flood, in cubic feet per second, for indicated recurrence interval in years |        |        |        |         |         |
|--------------|--|-----------------------|-------------------|------------------------------|--|--------|--------|--------|---------|---------|
|              |  |                       |                   |                              | 1.2  | 2.33   | 5      | 10     | 25      | 50      |
| 6-9183.00    | West Fork Clear Creek tributary near Nevada, Mo. | 0.51                  | 36.2              | 1955-65                      | 155  | 290    | 460    | 620    | ----    | ----    |
| 6-9184.00    | Pickereel Creek tributary near Republic, Mo.     | 0.57                  | 68.8              | 1957-65                      | 76   | 142    | 208    | 266    | ----    | ----    |
| 6-9187.00    | Oak Grove Branch near Brighton, Mo.              | 1.30                  | 94.2              | 1957-65                      | 90   | 280    | 490    | 690    | ----    | ----    |
| 6-9187.50    | Franca Branch near Brighton, Mo.                 | 0.59                  | 109               | 1955-65                      | 90   | 190    | 350    | 490    | ----    | ----    |
| 6-9190.00    | Sac River near Stockton, Mo.                     | 1,160                 | 4.23              | 1896, 1909, 1922-65          | 8,000  | 22,000 | 39,000 | 55,500 | 78,000  | 95,000  |
| 6-9192.00    | Sac River tributary near Caplinger Mills, Mo.    | 0.14                  | 149               | 1955-65                      | 28   | 102    | 196    | 284    | ----    | ----    |
| 6-9195.00    | Cedar Creek near Pleasant View, Mo.              | 420                   | 4.78              | 1909, 1924-26, 1943, 1949-65 | 5,200  | 11,200 | 17,800 | 23,800 | 31,700  | 37,700  |
| 6-9205.00    | Osage River at Osceola, Mo.                      | 8,220                 | 1.66              | 1844, 1896, 1918-29, 1931-65 | 24,000   | 45,000 | 63,000 | 78,000 | 101,000 | 123,000 |
| 6-9208.00    | Big Muddy Creek at Lowry City, Mo.               | 0.31                  | 48.7              | 1955-65                      | 68   | 136    | 202    | 260    | ----    | ----    |
| 6-9210.00    | Pomme de Terre River near Bolivar, Mo.           | 225                   | 9.0               | 1951-65                      | 3,900  | 9,500  | 15,500 | 21,000 | 28,500  | ----    |
| 6-9211.00    | Olinger Creek near Buffalo, Mo.                  | 1.96                  | 47.8              | 1957-65                      | 430  | 580    | 900    | 1,300  | ----    | ----    |
| 6-9212.00    | Lindley Creek near Polk, Mo.                     | 112                   | 11.6              | 1914, 1958-65                | 4,900  | 11,200 | 18,000 | 24,500 | ----    | ----    |
| 6-9213.00    | North Fork Ingalls Creek near Louisburg, Mo.     | 0.32                  | 87.3              | 1958-65                      | 43   | 85     | 127    | 163    | ----    | ----    |
| 6-9214.00    | Ferguson Branch at Nemo, Mo.                     | 0.18                  | 154               | 1957-65                      | 33   | 40     | 56     | 100    | ----    | ----    |
| 6-9215.00    | Pomme de Terre River at Hermitage, Mo.           | 655                   | 4.8               | 1922-65                      | 8,500  | 19,000 | 30,500 | 41,200 | 55,500  | 66,500  |
| 6-9217.00    | West Branch Crawford Creek near Lees Summit, Mo. | 0.80                  | 59.6              | 1955-65                      | 190  | 370    | 600    | 850    | ----    | ----    |
| 6-9218.00    | Granddaddy Creek near Urich, Mo.                 | 0.92                  | 36.2              | 1958-65                      | 240  | 500    | 850    | 1,150  | ----    | ----    |
| 6-9220.00    | South Grand River near Brownington, Mo.          | 1,660                 | 2.1               | 1915, 1922-65                | 7,000  | 14,500 | 24,500 | 36,000 | 52,500  | 66,500  |
| 6-9226.00    | Little Turkey Creek tributary near Warsaw, Mo.   | 0.18                  | 178               | 1959-65                      | 80   | 115    | 170    | 227    | ----    | ----    |
| 6-9227.00    | Chub Creek near Lincoln, Mo.                     | 2.86                  | 40.3              | 1958-65                      | 610  | 720    | 860    | 990    | ----    | ----    |
| 6-9230.00    | Niangua Branch at Marshfield, Mo.                | 0.82                  | 116               | 1951-65                      | 130  | 230    | 375    | 520    | 720     | ----    |
| 6-9240.00    | Niangua River near Decaturville, Mo.             | 627                   | 4.7               | 1923-65                      | 6,200  | 12,800 | 19,500 | 25,500 | 33,400  | 39,400  |
| 6-9252.00    | Starks Creek at Preston, Mo.                     | 4.18                  | 31.0              | 1957-65                      | 480  | 850    | 1,400  | 2,020  | ----    | ----    |
| 6-9252.70    | Dry Auglaize Creek tributary near Lebanon, Mo.   | 0.21                  | 115               | 1955-65                      | 30   | 55     | 99     | 148    | ----    | ----    |
| 6-9253.00    | Prairie Branch near Decaturville, Mo.            | 1.48                  | 84.1              | 1955-65                      | 360  | 940    | 1,740  | 2,540  | ----    | ----    |
| 6-9254.50    | Little Gravois Creek near Versailles, Mo.        | 4.74                  | 64.0              | 1955-65                      | 750  | 1,750  | 3,250  | 4,900  | ----    | ----    |
| 6-9262.00    | Van Cleve Branch near Meta, Mo.                  | 0.75                  | 95.4              | 1957-65                      | 60   | 380    | 800    | 1,200  | ----    | ----    |
| 6-9268.00    | Long Branch near Vienna, Mo.                     | 0.32                  | 112               | 1957-65                      | 70   | 150    | 260    | 370    | ----    | ----    |
| 6-9270.00    | Maries River at Westphalia, Mo.                  | 257                   | 8.91              | 1937, 1948-65                | 6,600  | 10,200 | 14,000 | 17,500 | 22,000  | ----    |

APPENDIX II--continued  
Flood Frequency Data for Streamgaging Stations in Missouri

| Station Name | Station name                                    | Drainage area (sq mi) | Slope (ft per mi) | Period of record       | Magnitude of flood, in cubic feet per second, for indicated recurrence interval in years |        |        |        |        |         |
|--------------|---|-----------------------|-------------------|------------------------|--|--------|--------|--------|--------|---------|
|              |   |                       |                   |                        | 1.2  | 2.33   | 5      | 10     | 25     | 50      |
| 6-9271.00    | Doane Branch near Kingdom City, Mo.             | 0.54                  | 70.2              | 1955-63, 1965          | 50   | 100    | 150    | 250    | ----   | ----    |
| 6-9272.00    | Big Hollow near Fulton, Mo.                     | 4.05                  | 34.0              | 1957-65                | 340  | 650    | 960    | 1,230  | ----   | ----    |
| 6-9276.00    | Wheeler Branch near Mountain Grove, Mo.         | 1.34                  | 48.8              | 1955-65                | 185  | 330    | 560    | 820    | ----   | ----    |
| 6-9280.00    | Gasconade River near Hazelgreen, Mo.            | 1,250                 | 3.97              | 1916, 1929-65          | 8,800  | 23,500 | 39,000 | 53,000 | 71,500 | 85,500  |
| 6-9282.00    | Laquey Branch near Hazlegreen, Mo.              | 1.58                  | 87.4              | 1958-65                | 300  | 480    | 870    | 1,330  | ----   | ----    |
| 6-9285.00    | Gasconade River near Waynesville, Mo.           | 1,680                 | 3.18              | 1915-65                | 9,800  | 25,500 | 40,500 | 54,000 | 71,500 | 85,000  |
| 6-9290.00    | Coyle Branch at Houston, Mo.                    | 1.10                  | 95.9              | 1950-55, 1959-65       | 70   | 210    | 420    | 640    | ----   | ----    |
| 6-9300.00    | Big Piney River near Big Piney, Mo.             | 560                   | 5.65              | 1922-65                | 6,300  | 13,000 | 19,800 | 25,800 | 33,700 | 39,700  |
| 6-9310.00    | Beaver Creek near Rolla, Mo.                    | 14.0                  | 39.5              | 1949-58, 1960-65       | 1,250  | 2,100  | 3,000  | 3,800  | 4,900  | ----    |
| 6-9315.00    | Little Beaver Creek near Rolla, Mo.             | 6.41                  | 65.6              | 1948-65                | 700  | 1,500  | 2,600  | 4,300  | 6,900  | ----    |
| 6-9320.00    | Little Piney Creek at Newburg, Mo.              | 200                   | 14.0              | 1915, 1929-65          | 2,200  | 7,000  | 13,600 | 20,000 | 29,000 | 36,000  |
| 6-9335.00    | Gasconade River at Jerome, Mo.                  | 2,840                 | 3.01              | 1897, 1904-05, 1924-65 | 14,500   | 32,000 | 52,000 | 72,000 | 98,000 | 118,000 |
| 6-9337.00    | Penzer Hollow near Rolla, Mo.                   | 0.27                  | 190               | 1956-65                | 40   | 110    | 175    | 230    | ----   | ----    |
| 6-9350.00    | Rumbo Branch near Danville, Mo.                 | 1.40                  | 44.9              | 1953-65                | 120  | 225    | 255    | 480    | 655    | ----    |
| 6-9355.00    | Loutre River at Mineola, Mo.                    | 202                   | 10.4              | 1928, 1948-65          | 5,800  | 10,500 | 14,400 | 18,000 | 23,000 | 28,000  |
| 6-9357.00    | Little Berger Creek tributary near Hermann, Mo. | 0.25                  | 178               | 1955-65                | 45   | 135    | 270    | 400    | ----   | ----    |
| 7-0112.00    | Love Creek near Salem, Mo.                      | 0.89                  | 106               | 1955-65                | 60   | 107    | 165    | 222    | -----  | -----   |
| 7-0115.00    | Green Acre Branch near Rolla, Mo.               | 0.62                  | 82                | 1948-65                | 150  | 425    | 650    | 830    | 1,060  | -----   |
| 7-0120.00    | Behmke Branch near Rolla, Mo.                   | 1.05                  | 77                | 1949-65                | 195  | 420    | 635    | 860    | 1,180  | -----   |
| 7-0120.50    | Dry Fork near St. James, Mo.                    | 370                   | 5.60              | 1944-50                | 3,400  | 8,400  | 12,600 | 16,300 | -----  | -----   |
| 7-0130.00    | Meramec River near Steelville, Mo.              | 781                   | 6.29              | 1915, 1917-65          | 7,200  | 16,600 | 25,300 | 32,600 | 44,000 | 52,300  |
| 7-0145.00    | Meramec River near Sullivan, Mo.                | 1,475                 | 4.98              | 1915, 1922-33, 1944-65 | 11,000   | 22,500 | 33,000 | 42,500 | 57,000 | 73,000  |
| 7-0150.00    | Bourbeuse River near St. James, Mo.             | 21.3                  | 34                | 1948-65                | 2,400  | 4,350  | 5,900  | 7,200  | -----  | -----   |
| 7-0155.00    | Lanes Fork near Rolla, Mo.                      | 0.22                  | 41.1              | 1952-65                | 46   | 93     | 127    | 147    | -----  | -----   |
| 7-0157.00    | Lanes Fork near Vichy, Mo.                      | 24.1                  | 27                | 1944-45, 1948-65       | 2,100  | 3,800  | 5,300  | 6,700  | 8,800  | -----   |
| 7-0158.00    | Langenberg Branch near Rosebud, Mo.             | 0.64                  | 100               | 1960-65                | 48   | 98     | 160    | 220    | -----  | -----   |
| 7-0160.00    | Bourbeuse River near Spring Bluff, Mo.          | 608                   | 3.92              | 1915, 1944-65          | 8,500  | 15,700 | 23,500 | 30,600 | 40,500 | 47,500  |
| 7-0165       | Bourbeuse River at Union, Mo.                   | 808                   | 2.76              | 1897, 1915-65          | 8,000  | 13,400 | 20,000 | 26,000 | 34,500 | 41,000  |
| 7-0170.00    | Meramec River at Robertsville, Mo.              | 2,673                 | 3.83              | 1915, 1940-51          | 13,500   | 34,000 | 54,000 | 70,000 | 90,000 | -----   |
| 7-0175.00    | Dry Branch near Bonne Terre, Mo.                | 3.35                  | 48.5              | 1956-65                | 360  | 670    | 980    | 1,260  | -----  | -----   |
| 7-0177.00    | Fountain Farm Branch near Potosi, Mo.           | 2.16                  | 71.8              | 1957-65                | 200  | 280    | 460    | 740    | -----  | -----   |
| 7-0180.00    | Big River near DeSoto, Mo.                      | 718                   | 4.63              | 1915, 1949-65          | 8,500  | 16,500 | 24,000 | 31,000 | 40,000 | 49,000  |

APPENDIX II--continued  
Flood Frequency Data for Streamgaging Stations in Missouri

| Station number | Station name                                  | Drainage area (sq mi) | Slope (ft per mi) | Period of record          | Magnitude of flood, in cubic feet per second, for indicated recurrence interval in years |        |        |        |        |         |
|----------------|---|-----------------------|-------------------|---------------------------|--|--------|--------|--------|--------|---------|
|                |   |                       |                   |                           | 1.2  | 2.33   | 5      | 10     | 25     | 50      |
| 7-0185.00      | Big River at Byrnesville, Mo.                 | 917                   | 3.36              | 1915, 1923-65             | 7,800  | 15,500 | 23,000 | 29,000 | 37,500 | 44,000  |
| 7-0190.00      | Meramec River near Eureka, Mo.                | 3,788                 | 3.44              | 1904-05, 1915-16, 1922-65 | 18,000   | 35,000 | 55,000 | 73,000 | 98,000 | 116,000 |
| 7-0191.00      | Murphy Branch near Crystal City, Mo.          | 0.44                  | 108               | 1955-65                   | 80   | 160    | 310    | 460    | -----  | -----   |
| 7-0207.00      | Hoehs Branch near Uniontown, Mo.              | 1.66                  | 59.4              | 1955-65                   | 580  | 940    | 1,270  | 1,540  | -----  | -----   |
| 7-0210.00      | Castor River at Zalma, Mo.                    | 423                   | 8.92              | 1920-65                   | 4,000  | 12,500 | 21,500 | 30,000 | 41,500 | 50,000  |
| 7-0212.00      | Sunnybrook Creek at Lutesville, Mo.           | 0.52                  | 196               | 1955-65                   | 150  | 260    | 385    | 495    | -----  | -----   |
| 7-0330.00      | Wolf Creek near Farmington, Mo.               | 40.3                  | 19.9              | 1955-65                   | 1,400  | 3,500  | 5,600  | 7,600  | 10,100 | -----   |
| 7-0355.00      | Barnes Creek near Fredericktown, Mo.          | 4.03                  | 114               | 1956-65                   | 600  | 1,550  | 2,900  | 4,250  | -----  | -----   |
| 7-0375.00      | St. Francis River near Patterson, Mo.         | 956                   | 7.24              | 1915, 1921-65             | 17,000   | 36,000 | 51,000 | 63,000 | 79,000 | 91,000  |
| 7-0377.00      | Clark Creek near Piedmont, Mo.                | 4.39                  | 63.9              | 1957-65                   | 520  | 920    | 1,360  | 1,760  | -----  | -----   |
| 7-0380.00      | Clark Creek at Patterson, Mo.                 | 37.5                  | 29.4              | 1955-65                   | 3,100  | 5,600  | 7,700  | 9,500  | -----  | -----   |
| 7-0401.10      | Delaware Creek tributary near Bloomfield, Mo. | 0.38                  | 85.5              | 1955-65                   | 375  | 510    | 630    | 730    | -----  | -----   |
| 7-0410.00      | Little River ditch 81 near Kennett, Mo.       | 111                   | 1.0               | 1927-65                   | 980  | 2,020  | 2,450  | 2,620  | 2,750  | 2,820   |
| 7-0420.00      | Little River ditch 1 near Kennett, Mo.        | 235                   | 1.0               | 1927-65                   | 2,500  | 4,550  | 5,700  | 6,550  | 7,500  | 8,200   |
| 7-0425.00      | Little River ditch 251 near Lilbourn, Mo.     | 235                   | 2.0               | 1945-65                   | 1,450  | 2,370  | 2,820  | 3,130  | 3,440  | 3,660   |
| 7-0430.00      | Castor River at Aquilla, Mo.                  | 175                   | 0.80              | 1945-65                   | 1,450  | 2,300  | 3,050  | 3,750  | 4,850  | 6,000   |
| 7-0435.00      | Little River ditch 1 near Morehouse, Mo.      | 450                   | 2.0               | 1946-65                   | 3,500  | 5,600  | 6,700  | 7,400  | 8,100  | 8,700   |
| 7-0440.00      | Little River ditch 251 near Kennett, Mo.      | 883                   | 1.0               | 1927-65                   | 5,500  | 9,800  | 11,800 | 12,700 | 13,400 | 13,800  |
| 7-0460.00      | Little River ditch 259 near Kennett, Mo.      | 89.0                  | 1.0               | 1927-65                   | 950  | 1,930  | 2,600  | 3,130  | 3,780  | 4,260   |
| 7-0507.00      | James River near Springfield, Mo.             | 246                   | 6.50              | 1956-65                   | 4,200  | 11,000 | 17,000 | 22,200 | 28,800 | -----   |
| 7-0508.00      | Maple Grove Branch near Ozark, Mo.            | 0.64                  | 59.5              | 1957-65                   | 90   | 230    | 410    | 580    | -----  | -----   |
| 7-0515.00      | James River below Battlefield, Mo.            | 328                   | 6.33              | 1926-31                   | 4,000  | 10,000 | 14,800 | 18,800 | -----  | -----   |
| 7-0525.00      | James River at Galena, Mo.                    | 987                   | 4.75              | 1922-65                   | 8,800  | 21,300 | 32,000 | 41,000 | 52,500 | 61,500  |
| 7-0527.00      | Brawley Hollow near Cassville, Mo.            | 2.61                  | 57.6              | 1960-65                   | 190  | 328    | 475    | 610    | -----  | -----   |
| 7-0539.50      | Ingenthron Hollow near Forsyth, Mo.           | 0.65                  | 186               | 1957-65                   | 110  | 210    | 380    | 560    | -----  | -----   |
| 7-0541.00      | Cedar Hollow at Bradleyville, Mo.             | 0.83                  | 204               | 1956-65                   | 190  | 430    | 680    | 900    | -----  | -----   |
| 7-0542.00      | Yandell Branch near Kirbyville, Mo.           | 0.33                  | 116               | 1955-65                   | 28   | 75     | 140    | 200    | -----  | -----   |
| 7-0543.00      | Gray Branch at Lutie, Mo.                     | 0.23                  | 279               | 1955-65                   | 75   | 145    | 210    | 268    | -----  | -----   |
| 7-0575.00      | North Fork River near Tecumseh, Mo.           | 561                   | 8.29              | 1945-65                   | 2,800  | 11,000 | 17,500 | 23,000 | 29,800 | 35,000  |
| 7-0580.00      | Bryant Creek near Tecumseh, Mo.               | 570                   | 8.83              | 1945-65                   | 5,700  | 12,000 | 17,800 | 22,800 | 29,300 | 34,300  |
| 7-0585.00      | North Fork River at Tecumseh, Mo.             | 1,157                 | 8.04              | 1945-65                   | 8,000  | 22,500 | 37,500 | 50,500 | 67,500 | 81,000  |
| 7-0615.00      | Black River near Annapolis, Mo.               | 484                   | 10.9              | 1940-65                   | 7,000  | 22,000 | 32,500 | 41,000 | 50,500 | 58,000  |

APPENDIX II--continued  
Flood Frequency Data for Streamgaging Stations in Missouri

| Station number | Station name                                  | Drainage area (sq mi) | Slope (ft per mi) | Period of record    | Magnitude of flood, in cubic feet per second for indicated recurrence interval in years |        |        |        |        |         |
|----------------|---|-----------------------|-------------------|---------------------|---|--------|--------|--------|--------|---------|
|                |   |                       |                   |                     | 1.2   | 2.33   | 5      | 10     | 25     | 50      |
| 7-0618.00      | Brawley Hollow near Centerville, Mo.          | 1.00                  | 133               | 1955-65             | 55  | 110    | 165    | 218    | -----  | -----   |
| 7-0632.00      | Pike Creek tributary near Poplar Bluff, Mo.   | 0.28                  | 111               | 1955-65             | 50  | 130    | 225    | 305    | -----  | -----   |
| 7-0645.00      | Big Creek near Yukon, Mo.                     | 8.36                  | 53.3              | 1935, 1945, 1950-65 | 350   | 1,470  | 2,700  | 3,800  | 5,300  | -----   |
| 7-0647.00      | Fudge Hollow near Licking, Mo.                | 1.72                  | 68.1              | 1957-65             | 45  | 85     | 170    | 275    | -----  | -----   |
| 7-0660.00      | Jacks Fork at Eminence, Mo.                   | 398                   | 9.50              | 1922-65             | 2,750   | 12,000 | 19,500 | 25,600 | 33,500 | 39,000  |
| 7-0665.00      | Current River near Eminence, Mo.              | 1,272                 | 7.58              | 1922-65             | 9,000   | 27,000 | 41,500 | 53,500 | 68,000 | 79,000  |
| 7-0668.00      | Sycamore Creek near Winona, Mo.               | 0.88                  | 66.4              | 1955-65             | 65  | 140    | 225    | 305    | -----  | -----   |
| 7-0670.00      | Current River at Van Buren, Mo.               | 1,667                 | 5.92              | 1904, 1913-65       | 12,000  | 28,500 | 48,000 | 65,000 | 89,000 | 108,000 |
| 7-0680.00      | Current River at Doniphan, Mo.                | 2,038                 | 4.75              | 1904, 1915, 1919-65 | 9,000   | 32,000 | 53,000 | 70,000 | 92,000 | 109,000 |
| 7-0682.00      | North Prong Little Black River at Hunter, Mo. | 1.23                  | 61.7              | 1958-65             | 175   | 310    | 450    | 575    | -----  | -----   |
| 7-0685.00      | Little Black River near Fairdeal, Mo.         | 187                   | 10.8              | 1936-42, 1955-65    | 2,500   | 8,000  | 15,500 | 22,600 | 32,500 | -----   |
| 7-0691.00      | Adams Branch near West Plains, Mo.            | 2.27                  | 44.3              | 1955-65             | 240   | 380    | 560    | 720    | -----  | -----   |
| 7-0700.00      | Kings Creek near Willow Springs, Mo.          | 4.91                  | 45.0              | 1956-65             | 165   | 300    | 430    | 535    | -----  | -----   |
| 7-0702.00      | Burnham Branch near Willow Springs, Mo.       | 1.27                  | 58.6              | 1955-65             | 120   | 220    | 340    | 450    | -----  | -----   |
| 7-0705.00      | Eleven Point River near Thomasville, Mo.      | 361                   | 13.7              | 1951-65             | 1,400   | 5,700  | 10,200 | 14,200 | 19,700 | -----   |
| 7-0715.00      | Eleven Point River near Bardley, Mo.          | 793                   | 10.1              | 1915, 1922-65       | 3,000   | 10,500 | 18,500 | 26,500 | 37,000 | 45,500  |
| 7-0718.00      | Williams Spring Branch near Alton, Mo.        | 4.24                  | 63.3              | 1955-65             | 120   | 330    | 610    | 880    | -----  | -----   |
| 7-1855.00      | Stahl Creek near Miller, Mo.                  | 3.86                  | 41.3              | 1951-65             | 290   | 750    | 1,160  | 1,500  | 1,920  | -----   |
| 7-1856.00      | South Fork Stahl Creek near Miller, Mo.       | 0.94                  | 66.7              | 1951-65             | 60  | 200    | 360    | 510    | 730    | -----   |
| 7-1857.00      | Spring River at Larussell, Mo.                | 306                   | 9.84              | 1958-65             | 2,600   | 5,200  | 8,800  | 12,400 | -----  | -----   |
| 7-1859.00      | O' Possum Creek at Jasper, Mo.                | 9.67                  | 16.0              | 1955-65             | 600   | 1,150  | 1,600  | 1,960  | -----  | -----   |
| 7-1860.00      | Spring River near Waco, Mo.                   | 1,164                 | 6.08              | 1924-65             | 8,200   | 20,000 | 32,000 | 42,700 | 59,000 | 77,000  |
| 7-1865.00      | Turkey Creek at Joplin, Mo.                   | 33                    | 17.3              | 1933-39             | 700   | 1,370  | 2,000  | 2,600  | -----  | -----   |
| 7-1869.50      | North Fork Carver Creek at Diamond, Mo.       | 0.33                  | 100               | 1955-65             | 44  | 103    | 163    | 217    | -----  | -----   |
| 7-1870.00      | Shoal Creek above Joplin, Mo.                 | 410                   | 8.34              | 1924-65             | 3,500   | 10,000 | 17,500 | 25,000 | 35,000 | 43,000  |
| 7-1885.00      | Fost Creek at Seneca, Mo.                     | 42                    | 23.6              | 1943, 1945, 1949-65 | 200   | 2,200  | 4,800  | 7,300  | 12,000 | -----   |
| 7-1890.00      | Elk River near Tiff City, Mo.                 | 872                   | 7.09              | 1940-65             | 5,000   | 18,000 | 36,000 | 55,000 | 82,000 | 104,000 |

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| <u>Station Name</u>                | <u>Downstream<br/>Order<br/>Number</u> |
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| Chariton River near Prairie Hill             | 6-9055           |
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| Clark Creek at Patterson                     | 7-0380           |
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| Cuivre River near Troy                       | 5-5145           |
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| Current River at Van Buren                   | 7-0670           |
| Current River near Eminence                  | 7-0665           |
| Delaware Creek tributary near Bloomfield     | 7-0401.1         |
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| Lanes Fork near Vichy                      | 7-0157           |
| Langenberg Branch near Rosebud             | 7-0158           |
| Laquey Branch near Hazlegreen              | 6-9282           |
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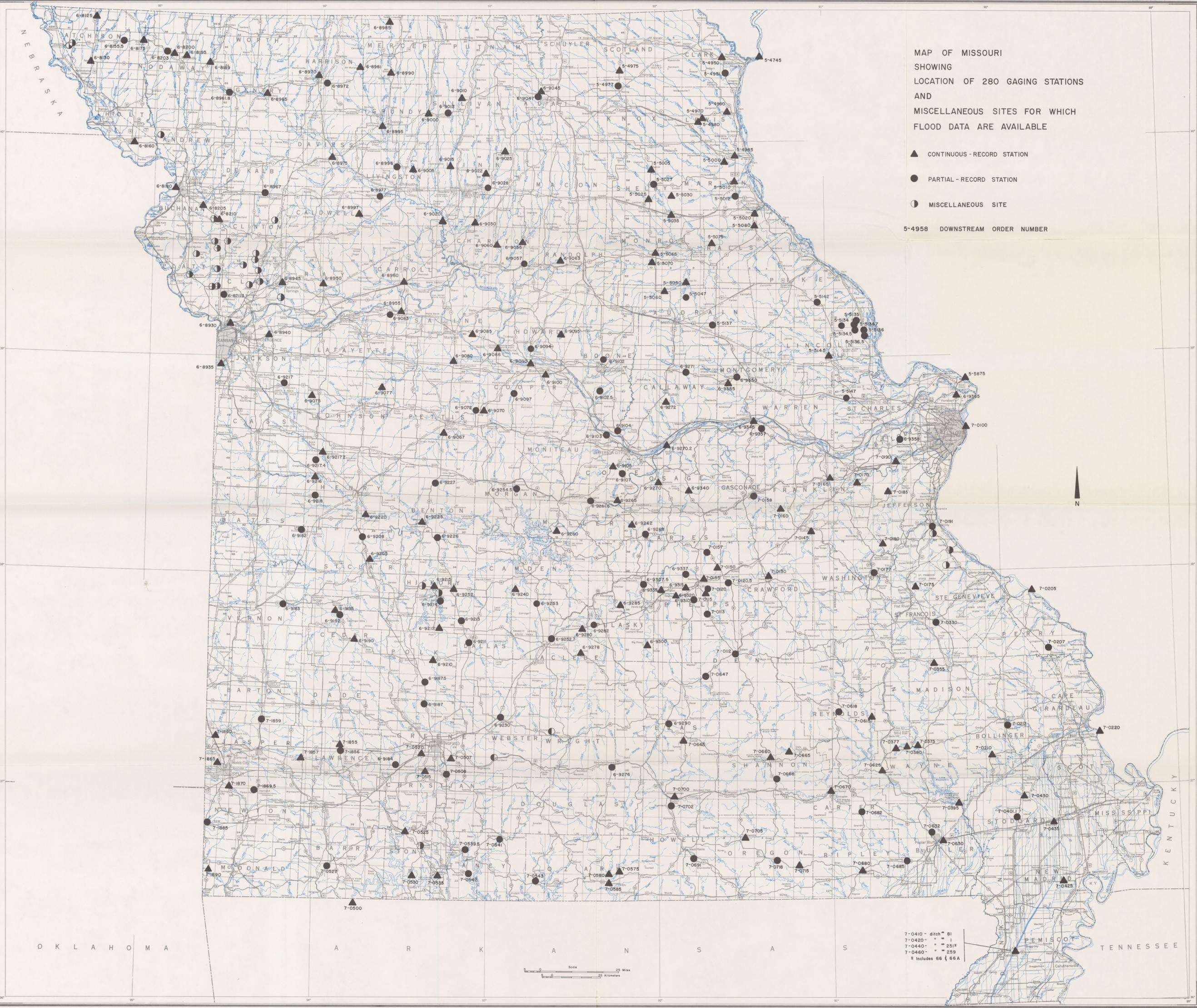
|  |                  |
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| Puzzle Creek near Salisbury              | 6-9057           |
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| South Grand River near Brownington       | 6-9220           |
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MAP OF MISSOURI SHOWING LOCATION OF 280 GAGING STATIONS AND MISCELLANEOUS SITES FOR WHICH FLOOD DATA ARE AVAILABLE

- ▲ CONTINUOUS-RECORD STATION
- PARTIAL-RECORD STATION
- MISCELLANEOUS SITE

5-4958 DOWNSTREAM ORDER NUMBER



7-0410 - ditch # 81  
 7-0420 - " " 1  
 7-0440 - " " 251#  
 7-0460 - " " 259  
 \* Includes 66 & 66A

Scale  
 0 25 Miles  
 0 25 Kilometers