

STATE OF ARKANSAS

ARKANSAS GEOLOGICAL COMMISSION

Norman F. Williams, State Geologist

WATER RESOURCES CIRCULAR NO. 9

WATER-SUPPLY CHARACTERISTICS OF SELECTED ARKANSAS STREAMS

By
MARION S. HINES
U.S. GEOLOGICAL SURVEY

Prepared by the U.S. Geological Survey in cooperation with the
Arkansas Geological Commission
Little Rock, Arkansas

1965

STATE OF ARKANSAS
Orval E. Faubus, Governor

ARKANSAS GEOLOGICAL COMMISSION
Norman F. Williams, State Geologist

COMMISSIONERS

V. S. Parham, Chairman - - - - - Magnolia
Dr. G. Allen Robinson, Vice Chairman - - - - - Harrison
T. A. French - - - - - Rector
Donald L. Libbey - - - - - Hot Springs
Roland Morris - - - - - Pocahontas
Dean Murphy - - - - - Hope
J. F. Rieves, Jr. - - - - - Marion

CONTENTS

	Page
Abstract - - - - -	1
Introduction - - - - -	1
Purpose and scope - - - - -	1
Acknowledgments - - - - -	4
Records available - - - - -	4
Flow duration - - - - -	5
Flow duration at gaging stations - - - - -	5
Flow duration at partial-record sites - - - - -	6
Use of flow-duration data - - - - -	8
Low-flow frequency - - - - -	10
Low-flow frequency at gaging stations - - - - -	10
Low-flow frequency at partial-record sites - - - - -	10
Use of low-flow-frequency data - - - - -	10
Discussion of results - - - - -	12
Low-flow inference at ungaged sites - - - - -	12
Regulation and diversion - - - - -	12
Relationship of duration and frequency data to daily, monthly, and yearly flow - - - - -	14
Summary - - - - -	19
Selected references - - - - -	19
Station descriptions - - - - -	20
Tabular data - - - - -	33
Flow duration - - - - -	33
Low-flow frequency - - - - -	35
Low-flow characteristics - - - - -	40

LIST OF ILLUSTRATIONS

Figure	Page
1. Diagrams showing source and use of water - - - - -	2
2. Map showing source and quantity of water used - - - - -	3
3. Map of Arkansas showing location of stream-gaging stations - -	4
4. Electronic computer summary showing duration distribution of daily flows and lowest average flows - - - - -	6
5. Flow-duration curves for Cossatot River near DeQueen - - - -	7
6. Flow-duration curves of four gaging stations - - - - -	9
7. Low-flow frequency curves for Cossatot River near DeQueen - -	11
8. Map of Arkansas showing physiographic areas and low-flow index - - - - -	13
9. Hydrograph of daily mean flow of Cossatot River near DeQueen -	15
10. Graph of monthly mean flow of Cossatot River near DeQueen - -	17
11. Graph of yearly mean flow of Cossatot River near DeQueen - - -	18

T A B L E S

Table	Page
1. Duration of daily flow at gaging stations on selected Arkansas streams - - - - -	33
2. Magnitude and frequency of annual low flows at gaging stations on selected Arkansas streams - - - - -	35
3. Low-flow characteristics of selected Arkansas streams - - - - -	40

WATER-SUPPLY CHARACTERISTICS OF SELECTED ARKANSAS STREAMS

By Marion S. Hines

ABSTRACT

Water-supply characteristics of streams are determined by their low-flow frequency and flow duration. In Arkansas the frequency of low flows and the duration of daily flows have been determined from records at 65 gaging stations and 97 partial-record sites. The analyses show that tributary streams in the northeastern part of the Coastal Plain, in the Springfield-Salem Plateau, in the Novaculite Uplift, and in the Athens-Piedmont Plateau, have dependable water supplies, and that streams in the central and southern part of the Coastal Plain, in the Boston Mountains, in the Arkansas Valley, and in the Fourche Mountains do not have dependable supplies. However, larger streams such as the White, Black, Saline and Ouachita Rivers have dependable water supplies along their courses in Arkansas.

INTRODUCTION

Water is one of Arkansas' most valuable natural resources. Water use in the State in 1960 was at the rate of 2,350 cfs (cubic feet per second) (1,520 million gallons per day), of which one-third was supplied from surface-water sources and two-thirds from ground-water sources. (See fig. 1 and 2.) All estimates indicate that Arkansas' need for water will grow tremendously in the next several decades. Increases in the per capita use of water, in industrial needs, and in water demands for agriculture, are some of the factors that are causing the increase in total use of water. Increased use will create competition for available supplies, and new sources of water supply must be developed.

The surface-water supply available to the State is abundant, but its distribution in time and place is erratic—too much at times and, possibly within the same season, too little (see fig. 9). The casual observation of streamflow does not reveal the characteristics of flow that are necessary for efficient water management and sound development, because of the variation in flow from day to day, month to month, year to year, and place to place. This variation in flow must be analyzed to reveal the dependable range of streamflow available for development. The high flows of winter and spring are no longer available when the maximum demand for water develops in the hot and dry months of summer. Unless supplemented by storage only the mini-

mum flow of a stream may be considered dependable in assessing the water-supply potentialities of a stream. The duration of daily flow and the magnitude and frequency of low flows, as presented in this report, are essential to the determination of the surface-water supply available to meet specific needs.

Purpose and Scope

The purpose of this report is to present information on water-supply characteristics of selected Arkansas streams that will facilitate orderly development, conservation, control of pollution, and wise use of the State's surface-water resources. This report deals only with the time distribution of flow quantities. Storage is used to supplement streamflow during dry periods, or when the rate of withdrawal exceeds the natural flow. Storage will be treated in detail in a separate report. Chemical- and physical-quality characteristics of water are equally important and should be delimited, but are beyond the scope of this investigation. However, the duration and frequency data will be useful in pollution control and design of treatment facilities.

This study provided information on: (1) Flow duration—the percentage of time during the period of record that the daily mean flow at a gaging station was equal to, or greater than, a certain value; (2) Low-flow-frequency distri-

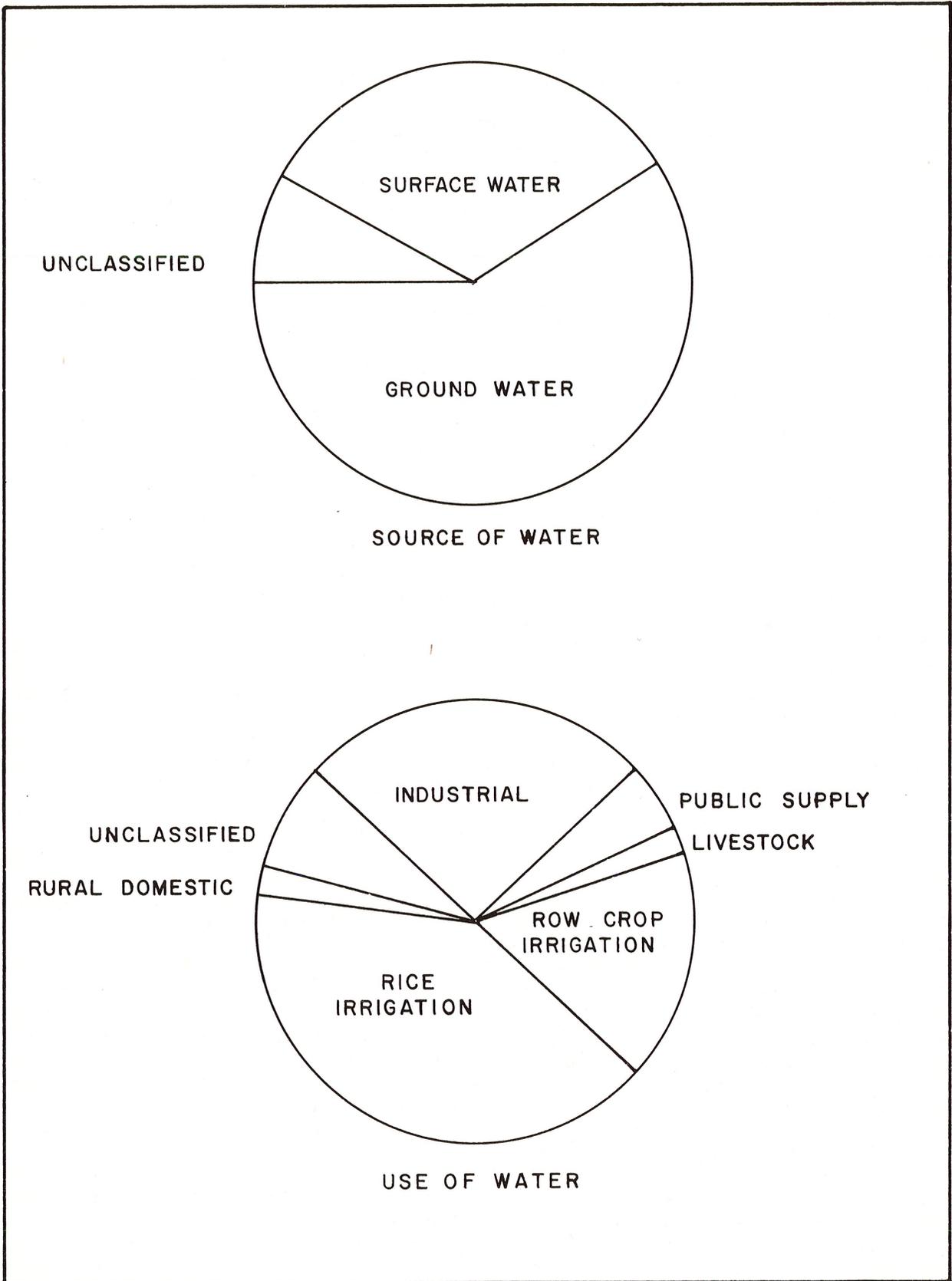
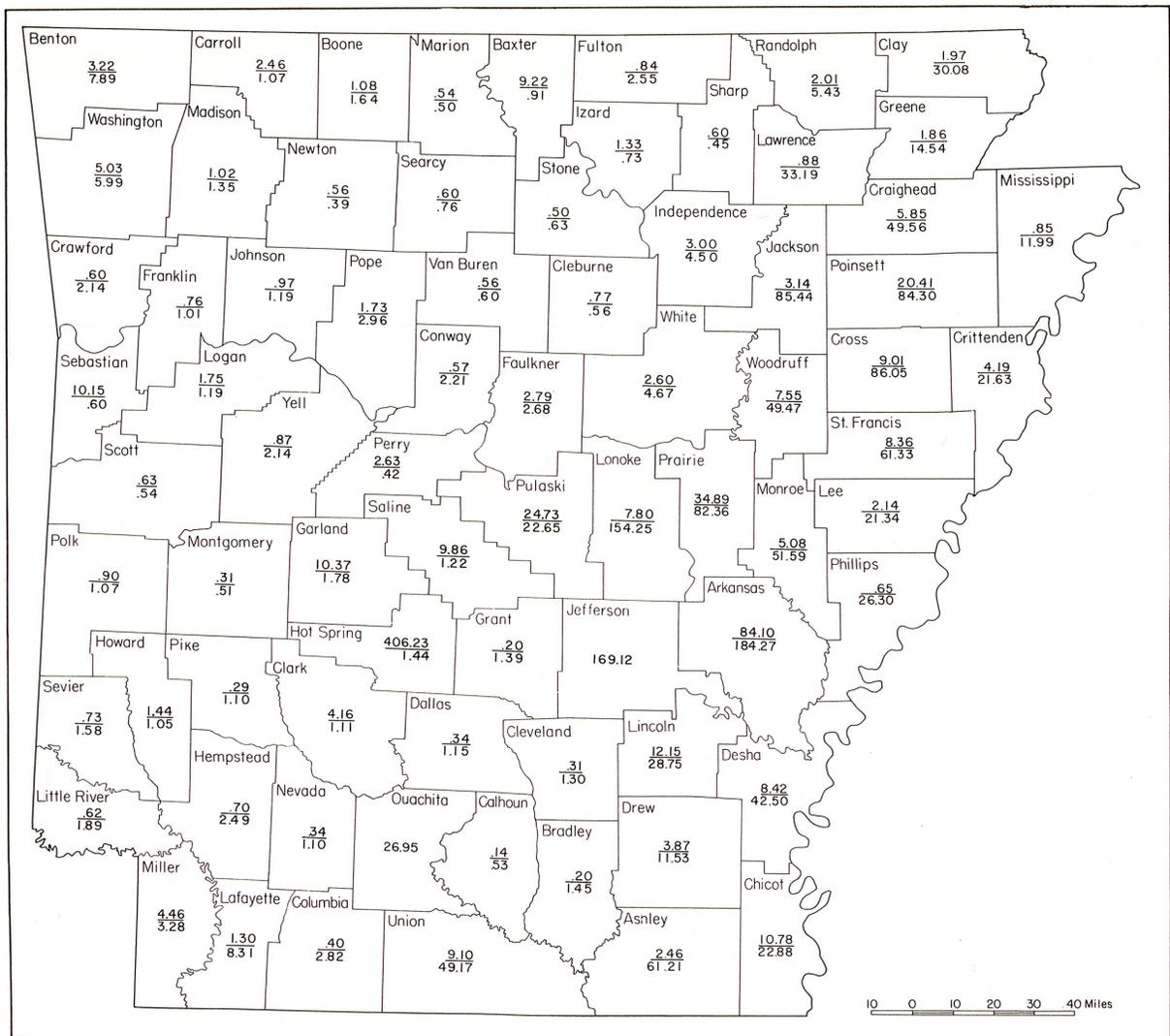


Fig. 1.—Source and daily use of water in Arkansas, 1960 (from Stephens and Halberg).



Explanation

Numerator indicates use of surface water. Denominator indicates use of ground water. Single figure indicates total use of water. Quantities are in cubic feet per second (from Stephens and Halberg, 1960).

Figure 2.—Source and average daily use of water in Arkansas, 1960.

bution—how often the annual lowest average flow for a selected number of days at a station was equal to, or less than, a certain value.

Two general types of data are involved in the basic analysis for this report:

- (1) Data collected regularly and systematically at continuous-record gaging stations; and
- (2) data collected periodically at low-flow partial-record gaging stations.

The analysis of gaging-station records provides detailed duration distribution of daily flow and magnitude and frequency of low flows (tables 1 and 2), while the analysis of data at

partial-record stations results in limited duration and frequency information (table 3).

Flow-duration and low-flow-frequency information presented in this report have been determined from station records extended in time by statistical methods, to provide results equivalent to at least 20 years of record at each station.

Additional basic data are needed to delineate areas of different hydrologic characteristics, thus providing a basis for low-flow inference at ungaged sites, and extending areal coverage to permit a more comprehensive low-flow analysis. Analytical techniques available at the present time do not permit an unrestricted extrapolation of data to ungaged streams. The data may be

used to estimate streamflow characteristics at ungaged sites, but careful consideration should be given to the factors affecting streamflow in the area.

Acknowledgments

Most of the data in this report were collected, compiled, and prepared for publication by the U.S. Geological Survey in cooperation with the Arkansas Geological Commission. Other records were obtained through cooperation with other Federal agencies, principally the Corps of Engineers.

RECORDS AVAILABLE

The streamflow data analyzed for this report were collected at 162 sites on streams in Arkansas, and in Louisiana and Oklahoma near the

State lines. At 65 of the sites, gaging stations were operated to obtain a continuous record of daily discharge. At 97 of the sites, low-flow partial-record gaging stations were operated to obtain periodic measurements of base flow. The locations of these gaging stations and partial-record stations are shown on figure 3, with each station identified by a permanently assigned downstream order number.

Data collection at 13 gaging stations was begun in 1939, at 29 stations prior to that time, and at 23 stations subsequently. Most of the data for partial-record stations were collected from 1958 to 1963, but flow measurements were made at a few stations in earlier years. Gaging stations with less than 5 years of record were analyzed as partial-record stations. Brief descriptions for each station, beginning on page

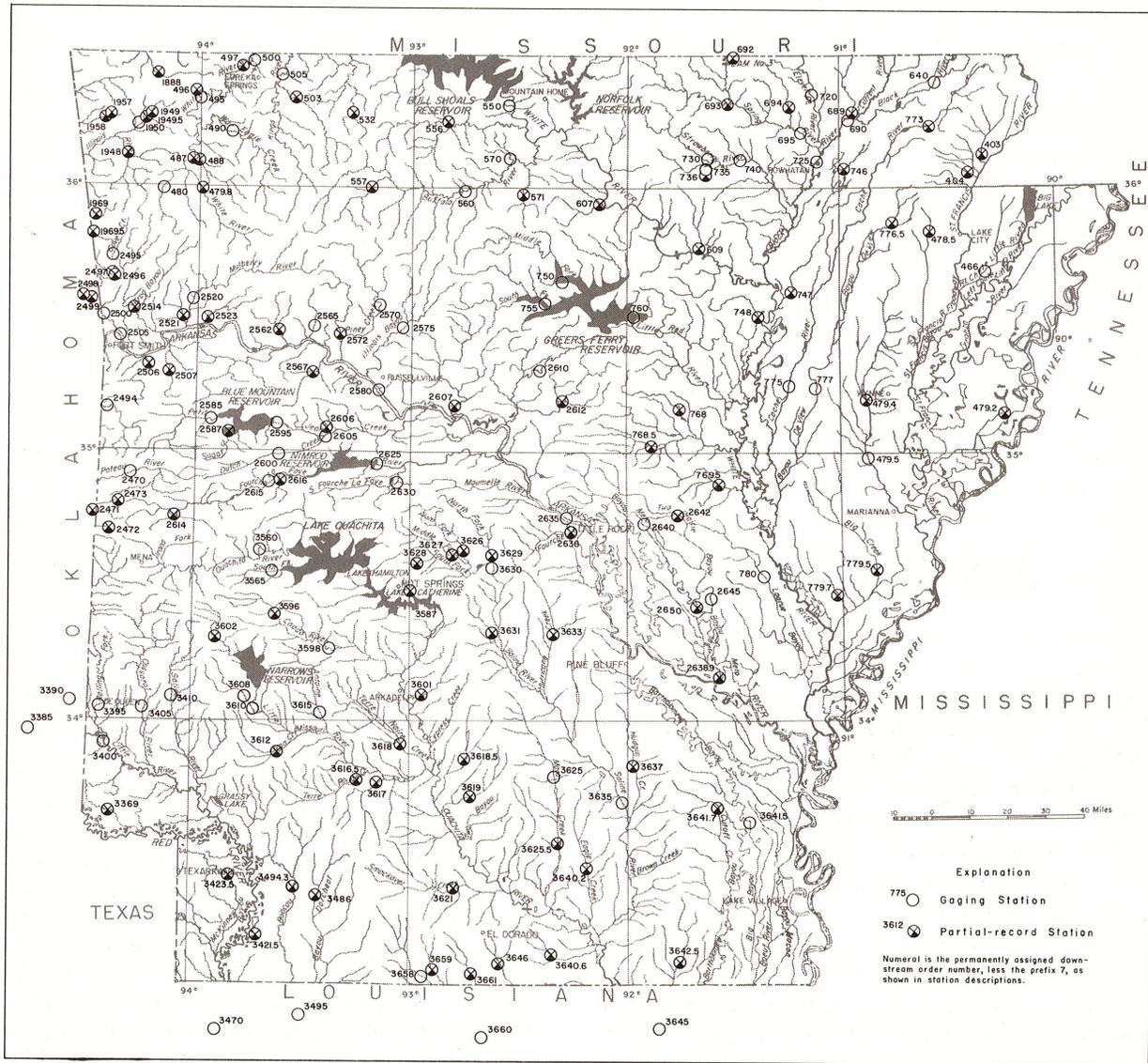


Figure 3—Location map of gaging stations and partial-record stations.

20, give information relative to location, drainage area, records analyzed, and remarks concerning the flow or analysis of flow.

The daily-flow data obtained at gaging stations have been reduced by electronic computer, resulting in summary tables of duration of daily flow and tables of lowest mean discharge for selected periods as shown in figure 4. The duration tables are on a water-year basis, which begins October 1 of one year and ends September 30 of the following year. The lowest-mean-flow tables are on a climatic-year basis, which begins April 1 of one year and ends March 31 of the following year. The climatic year begins and ends during the normal seasons of high flow, so that all related low flows of a particular drought are contained in the same climatic year.

Electronic-computer processing reduces the basic data to a form more suited for use in water-supply studies. The frequency data thus provided have been combined by statistical techniques to permit extension of the data as much as possible in keeping with sound hydrologic principles, but not beyond the equivalent of about 20 years of record. The extension process involves what might be called "borrowing the hydrologic and climatic experience of nearby long-term gaging stations." This process neutralizes the effects of a series of wet years or dry years, which may be a major share of a short record.

Extension of short-term records was done graphically by plotting flow events of the short-term station against comparable events at one or more long-term stations to define a regression line. Estimates of low-flow events outside the period of record at the short-term station were obtained by transferring the corresponding event of the long-term station through the regressed relation.

Many variable factors affect streamflow. In some areas these factors are of such a nature that regression could not be adequately defined, and the information given for these stations is based on station records only. This fact is noted in the brief station descriptions beginning on page 20.

FLOW DURATION

Flow Duration at Gaging Stations

The flow-duration curve is a cumulative-frequency curve that shows the percentage of time during which specified discharges were equaled or exceeded in a given period of time (Searcy, 1959). Flow-duration information for gaging stations given in table 1, near the end of the report, was obtained from curves similar to

figure 5. For example: Referring to figure 5, the daily mean flow of Cossatot River near DeQueen, Ark., was 50 cfs (32.3 million gallons per day) or more for 70 percent of the time during the period 1929-57 (1 cfs = 0.646 mgd). This is not intended to imply that the daily mean flow was 50 cfs or more for 255 days each year, but does indicate the flow was 50 cfs or more for about 7,400 days, randomly spaced, during 1929-57. The flow-duration relation does not retain the sequence of events but does include the full range of daily discharge of the station.

If streamflow during the period analyzed represents the long-term flow of the stream, the flow-duration curve may be considered a probability curve and used to estimate the percentage of time that a specified discharge will be equaled or exceeded in the future (Searcy, 1959). Predicting a future hydrologic event is not a forecast, because there is no supporting evidence that the sequence of hydrologic events of the past will ever be repeated.

The flow-duration curve represents an average of events that occurred through a wide range of experience, and the duration of flow during any given period may deviate considerably from the long-term curve. Again referring to figure 5, the duration curve for 1959-60 departs considerably from the long-term curve, 1929-57, in the range of higher percentages, because lower minimum flows were not experienced during 1959-60. Extension of short-term records was mentioned in the previous section. The effect of this extension is shown in figure 5 by comparison of the curves for 1939-58, the period of observation; and the curve for 1929-57, the period of record based on a combination of observed data and estimated data.

The computer summary (figure 4), referred to previously, provides a tabulation of daily flow distribution within a range of selected increments, i.e., the number of days each year of record that the daily mean flow equaled or exceeded a certain class value, but was less than the flow at the next higher class. Referring to figure 4, there were 66 days during the 1940 water year, and 688 days during the period 1939-58, when the daily mean flow of Cossatot River near DeQueen, Ark., was 77 cfs or more, but less than 130 cfs. There was a total of 4,678 days during the period 1939-58 when the daily mean flow was 77 cfs or more, which represents 64 percent of the time. The value of flow from figure 5 for the period 1929-57 is 70 cfs at the 64 percent point; the difference of 7 cfs is a result of the statistical treatment, mentioned under "Records Available," used to adjust the

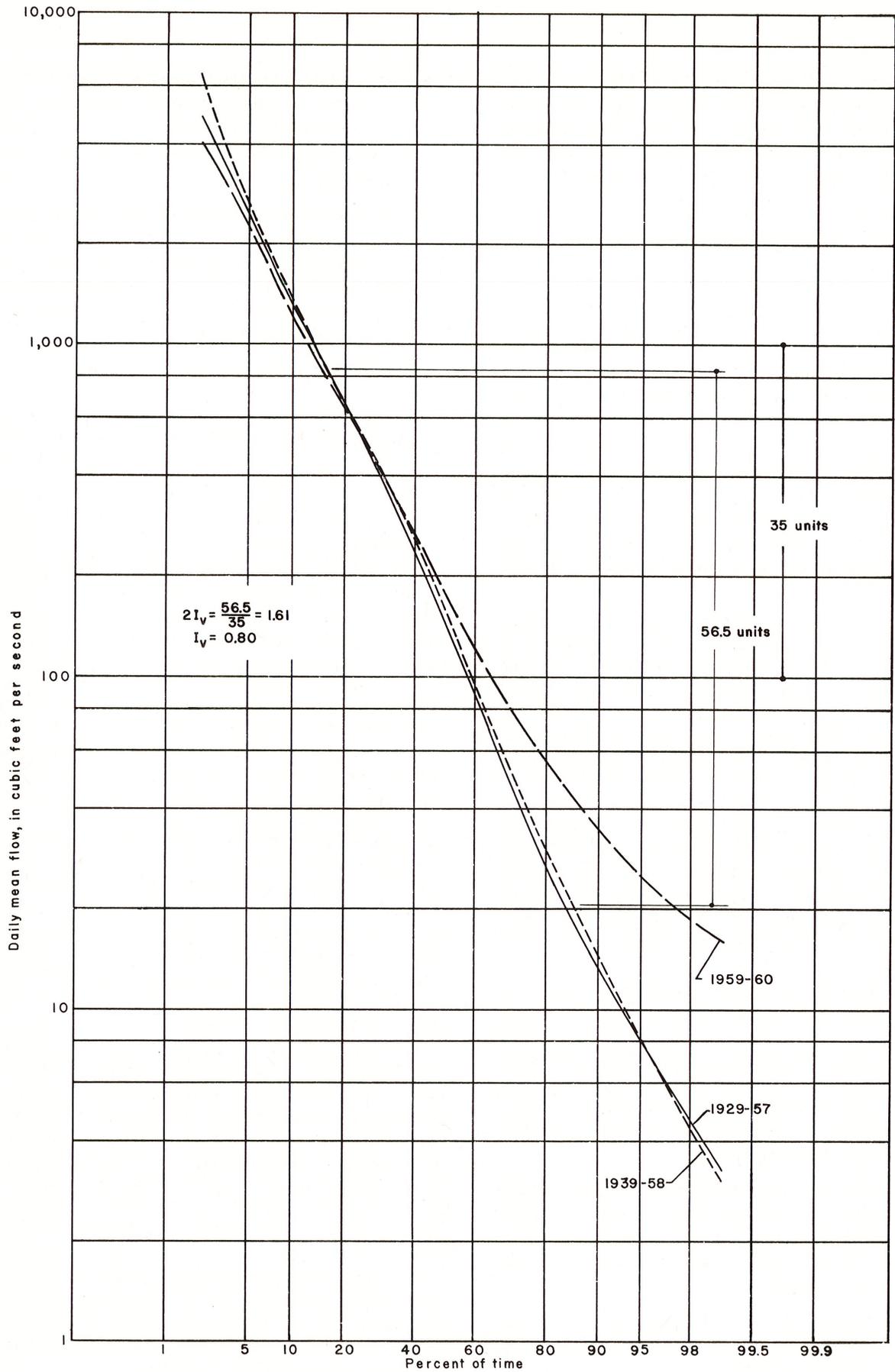


Figure 5—Duration of daily mean flow of Cossatot River near DeQueen, Ark.

and, because of the many variables affecting streamflow, additional refinement is not justified without continuous records. The duration values in table 3 are expressed in cubic feet per second per square mile, with the regular gaging-station data shown for comparison purposes.

Use of Flow-Duration Data

Flow-duration data given in this report are helpful in making preliminary estimates for water supply, in reconnaissance studies, in selection of sites worthy of detailed investigation, and in other hydrologic analysis. More detailed investigations should be made before final water-development plans are made.

A partial inventory of surface-water supplies is provided by duration data in tables 1 and 3. If a specified amount of water is needed for a given percentage of time, the sites where streamflow is adequate to meet these requirements may be determined directly from the table.

Flow-duration analysis can be used to determine the percentage of time when streamflow is adequate to dilute wastes and, consequently, the percentage of time effluent would have to be stored or treated before release into the stream. Successful disposal by dilution is dependent upon many factors: (1) condition of the sewage, (2) proper mixing of sewage and streamflow, (3) oxygen content of water in the stream, (4) temperature of the water, (5) biochemical-oxygen demand of the sewage, (6) required dissolved-oxygen residual in streamflow, and others. Once the required quantity of streamflow is determined, the flow-duration data will be useful in the preliminary design of disposal facilities.

This discussion is not intended to imply or recommend that stream-flow dilution of waste is a substitute for adequate treatment, but rather to suggest a means of insuring sufficient waste treatment before release into streams. Continuous records of flow and chemical analysis are necessary to maintain proper control of pollution in problem areas.

The following example (Searcy, 1959, p. 29) will illustrate how duration information is used in the preliminary design of treatment facilities:

1. No contamination above point under investigation.
2. Allowable BOD (biochemical oxygen demand) for stream below the disposal plant is 4 ppm.

3. The allowable BOD (4 ppm) may be exceeded not more than 1 percent of the time, on the average.
4. Flow equals or exceeds 10 cfs 99 percent of the time.
5. Sewage flow is 1,000,000 gallons per day (1.55 cfs).
6. BOD of untreated sewage is 200 ppm.

Compute the degree of treatment required:

The allowable BOD below disposal plant outlet = 4 ppm \times (10 cfs + 1.55 cfs).

The BOD of the sewage = 200 ppm \times 1.55 cfs.

The degree (D) of BOD not removed by treatment ($D \times 200 \times 1.55$) must not exceed the allowable (4×11.55) or

$$D = \frac{4 \times 11.55}{200 \times 1.55} = 0.15 \text{ or } 15 \text{ percent.}$$

Thus, 85 percent of the BOD must be removed by the sewage disposal plant.

The flow-duration curves may be used to illustrate the effects of different hydraulic characteristics of the streams on streamflow. Figure 6 shows the duration relations of four streams, with discharge expressed in cfsm (cubic feet per second per square mile). The differences at the upper end of the curves, above about 1.0 cfsm are due primarily to topography, physiography, annual precipitation, and size of the drainage basin above the station. The differences at the lower end of the curves are due primarily to differences in ground-water yield to the streams. The variation in streamflow, represented by the variability index I_v , shown in figures 5 and 6, will be discussed in a later section. The differences in hydraulic characteristics between streams in the State, illustrated by the curves shown in figure 6, add emphasis to the need for additional streamflow information and flow-duration and low-flow-frequency analyses.

Flow duration treats flows and corresponding percentages of time without regard to the sequence of events. Flow duration reveals the percentage of time certain minimum flows occurred, but does not indicate whether or not they occurred all at one time during a single drought or were scattered throughout the period of record. Low-flow-frequency analysis will show how often these minimums may be expected to recur.

Minimum flow is considered to be that part of streamflow available for development, and the frequency of low flows, discussed in the next section, is essential to the economics in the design of water-supply facilities.

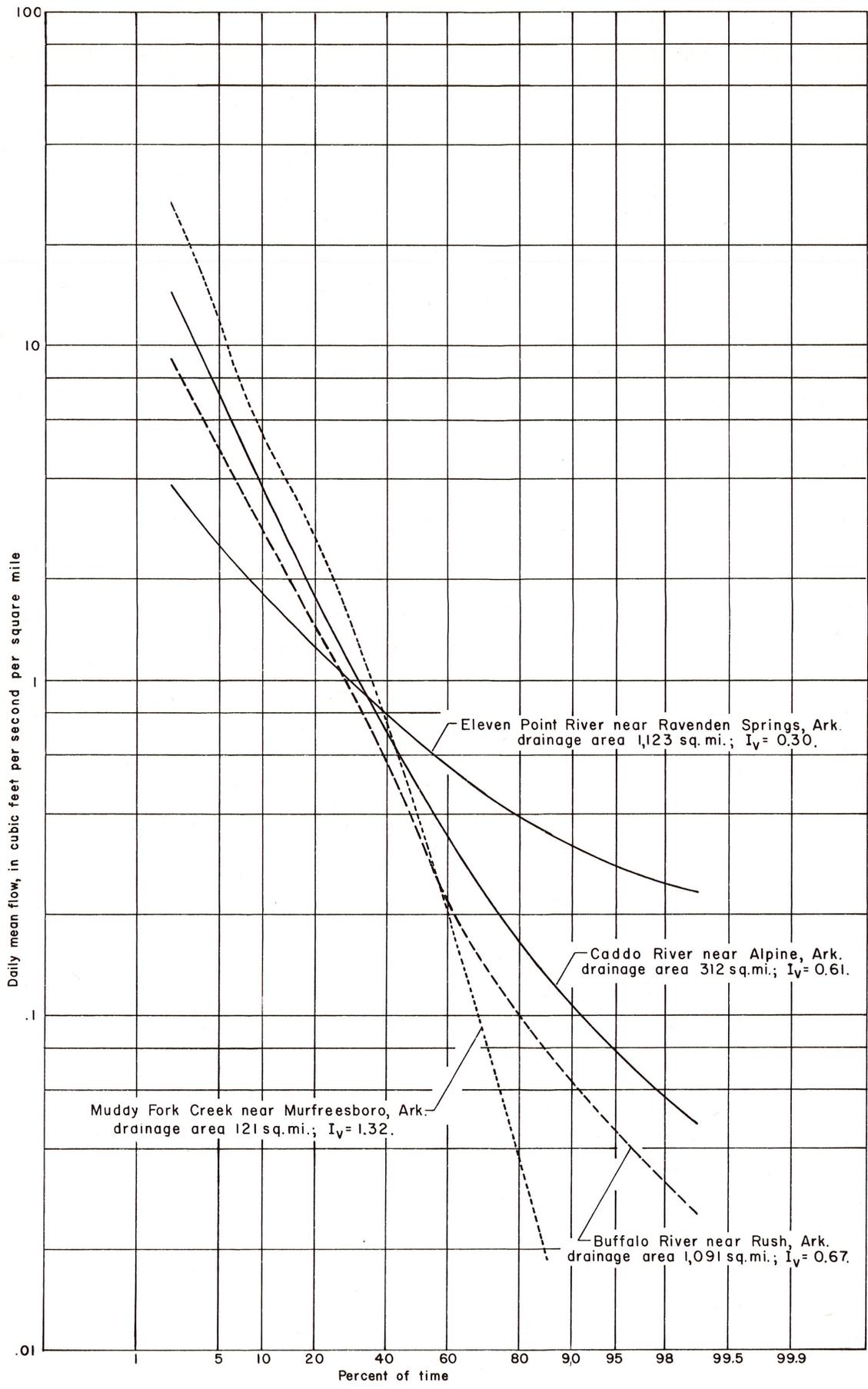


Figure 6—Duration of daily mean flow of four Arkansas streams, 1929-57.

LOW-FLOW FREQUENCY

Low-Flow Frequency at Gaging Stations

The minimum flow of a stream is the controlling factor in determining the dependable amount of water available for development. How often the minimum flow will occur and for what period of time, is of primary importance to water planning and management. Low-flow-frequency analysis provides a basis for estimating the magnitude and the frequency of occurrence of minimum-average flow for selected periods.

Low-flow-frequency information for arbitrary periods of 7, 15, 30, 60, and 120 days for selected streams in Arkansas is shown in tables 2 and 3. The tabular values were determined from curves similar to those in figure 7. The curves were defined as follows:

1. Recorded annual minimum-average flows obtained from the computer summary and those obtained from the regressed relations were combined for each selected period and arranged in order of magnitude, with the smaller value first or of first order;
2. The recurrence interval of each value for each selected period was then computed by the formula:

$$R.I. = \frac{(n + 1)}{m}$$

where n is the number of low-flow values and m is the order number of each;

3. The low-flow values were then plotted against the corresponding recurrence interval and a smooth curve was drawn through the plotted points as shown in figure 7.

The long-term average of low-flow events is shown in tables 2 and 3. The tabular values indicate how often the average flow for a specified number of days was equal to, or less than, that shown and provide an estimate of future probable magnitude of occurrence of low flows for selected frequencies (recurrence interval) at the sites used in this study. The probability of occurrence is given in terms of the average time interval of recurrence of indicated low flows as an annual event. For example, the minimum-average 7-day flow, having a recurrence interval of 10 years, will not necessarily occur once every 10 years—it may occur in any year. However, over a long period of time, the low-flow event will occur on the average of about once for each 10 years, but its chance of occurring in any year is one in ten or 10 percent. When estimates

based on these data are made, consideration should be given to manmade changes as they affect low flow. Changes in climatic conditions should be evaluated and low-flow adjustments made to represent conditions that prevailed during the period of recorded data.

Using the data for Cossatot River near DeQueen, Ark., as an example, we may conclude that the minimum-average 30-day low flow (table 2) over a long period of time will be 11 cfs or less on the average of once in 2 years, or 3.0 cfs or less on the average of once in 10 years. During 20 years of record at this station, the 30-day low flow occurred as follows: 2-year event, 10 times; 5-year event, 3 times; 10-year event, 2 times; and the 20-year event, 1 time. This is in close agreement with values shown in table 2. The recurrence of these events is not uniform and any one of them may happen several times, or not at all, in any given period. This is demonstrated by the occurrence of the 30-day, 2-year low flow of Cossatot River, 4 times in the 9 years from 1948-56, three of which occurred during 1952-54.

Low-Flow Frequency at Partial-Record Sites

Low-flow-frequency data for partial-record stations are given in table 3. These data were determined by transferring the corresponding gaging station low-flow-frequency event through the regressed relation which was discussed under "Flow Duration." Again, for comparison purposes, the equivalent gaging-station data are repeated in table 3, and all values are expressed in cubic feet per second per square mile.

Use of Low-Flow-Frequency Data

The application of the low-flow-frequency data in table 2 may be illustrated by the following example:

Assume an industry would like to locate near a small town. The manufacturing process requires an average of 5 cfs for 7 consecutive days, and could tolerate an insufficient supply once each 5 years. This requirement, when expressed in terms of low-flow frequency, represents the 7-day, 5-year flow. An examination of the data in table 2 indicates several possible locations: St. Joe (station 7-560), Flippin (station 7-550), Evening Shade (station 7-730), Elm Springs (station 7-1950), and others; but it also indicates that at several locations streamflow would not be adequate: Greenland (station 7-480), Hindsville (station 7-490), Cauthron (station 7-2470), and others. Transportation, labor market, raw materials, and many economic factors would reduce considerably the number of suitable sites acceptable to this industry. In many cases, water temperature and quality would be important considerations.

The data in table 3 may be used for preliminary estimates of potential water supply, for

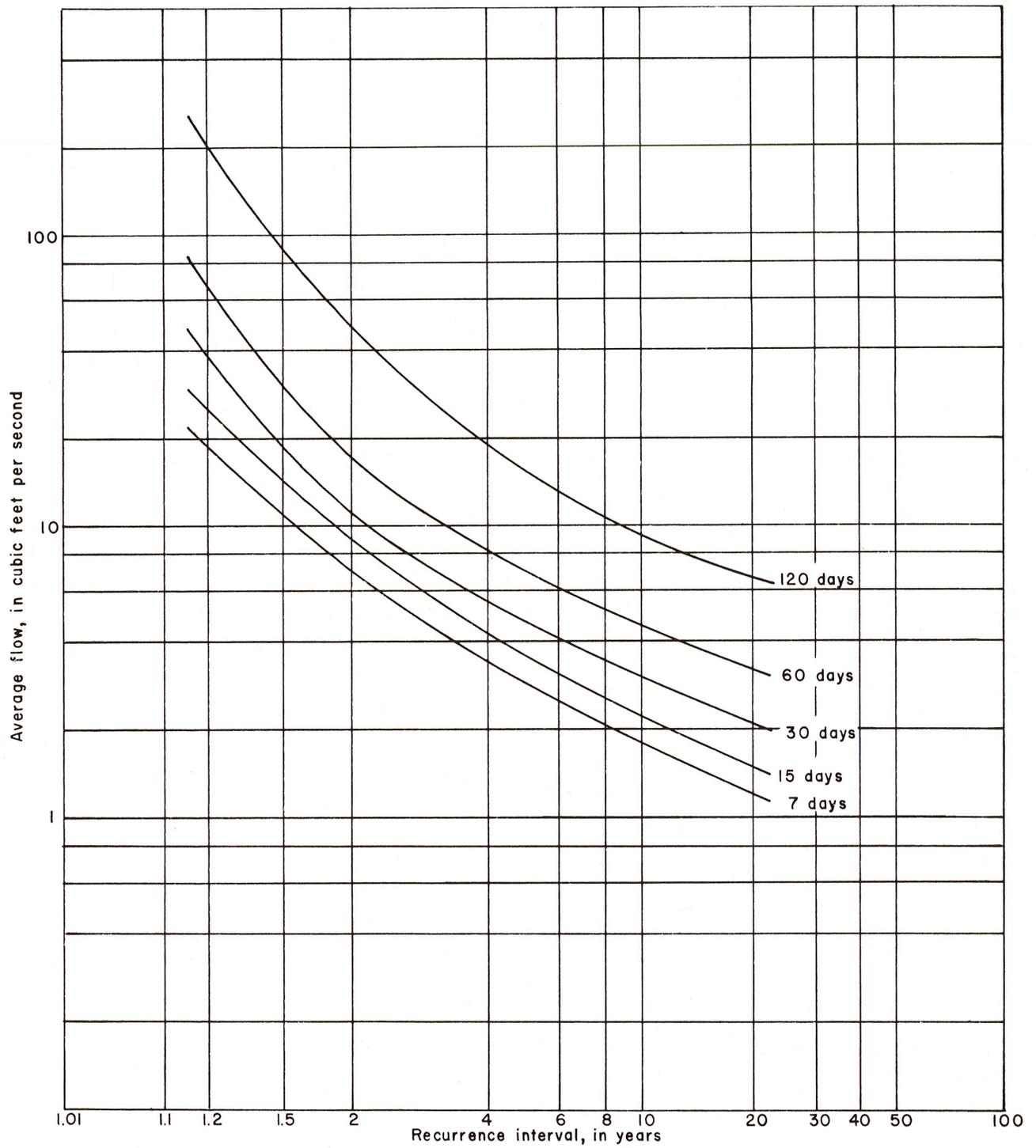


Figure 7—Magnitude and frequency of annual low-flow periods on Cossatot River near DeQueen, Ark., 1929-57.

justification for more detailed studies when searching for certain low-flow characteristics, or for calling attention to areas where there is a possibility of development of ground-water supplies.

The shape of the low-flow frequency curve for periods up to about 60 days is determined by the hydraulic characteristics of the stream and of the geologic formations supplying water to the stream during periods of low flow. Curves with flat slope indicate a sustained ground-water yield to the stream. The magnitude and duration of flow will reveal the relative amount of available storage and rate of yield to the stream. The curves with steep slope indicate either that there is a small amount of ground-water storage, or that ground water drains off quickly, with the possibility of the stream frequently going dry.

The minimum-average-flow data used to define the curves for periods greater than about 60 days are often affected by surface runoff. Therefore, curves for the longer periods may not reveal the ground-water and geologic relation, as do the curves for the shorter periods.

The duration and frequency data contained in tables 1, 2, and 3 will be useful in the development of municipal and industrial water supplied and in the control of pollution by municipal and industrial waste.

DISCUSSION OF RESULTS

Low-Flow Inference at Ungaged Sites

Low flow and physiography are controlled generally by geology. Therefore, the areas of different low-flow characteristics are defined roughly by sections of the physiographic provinces: Ozark Plateaus, Ouachita province, and Coastal Plain (Fenneman and Johnson, 1946), as shown in figure 8. The 7-day, 2-year flow, in cfsm, is used to compare the low-flow yield of streams in the different areas of the State, and is plotted on figure 8 at or near the gaging-station location.

The areas of most favorable low-flow yield are in the Interior Highlands and in the northeastern part of the Coastal Plain. Streams in the Springfield-Salem Plateau, Novaculite Uplift, and Athens-Piedmont Plateau show some of the higher low-flow yields of the State. In the northeastern part of the Coastal Plain, Big Slough Ditch, Little River, and Cache River also provide very favorable low-flow characteristics. The shaded portions of figure 8 are the higher-yielding areas mentioned above.

Streams in the Boston Mountains, Arkansas Valley, and Fourche Mountains sections and in

the southern portion of the Coastal Plain have poor low-flow yields and quite often many of them cease to flow.

Large streams are exceptions to the generalizations mentioned above, and their characteristics may or may not be indicative of the low-flow potential of the areas through which they flow.

Low-flow characteristics of 97 low-flow partial-record stations are presented in table 3. The discussion of partial-record stations, presented in a previous section, would imply that a limited number of base-flow discharge measurements provide the means for establishing a flow relation with a regular gaging station from which certain frequency and duration data may be extracted for the partial-record site. This is essentially true, but the two streams so related should be hydrologically and climatically similar. This requires that an experienced hydrographer make a reconnaissance of the streams at the time the base-flow measurements are made to determine, if possible, which regular gaging stations are best suited for the comparison. This will also reveal any regulation or diversion affecting the flow, and will insure that the discharge measurements represent base-flow conditions. There may be occasions when a flow relation between a partial-record site and a single regular gaging station is not adequate. In which case, additional relations with other regular gaging stations may be useful. The relations that produce erratic data should then be eliminated.

The areas of similar low-flow characteristics, as outlined in figure 8, imply that the streams (gaged and ungaged) in the area are related and every effort should be made to select streams from the same area for comparison purposes. This is especially true in the realm of low flow because geology is the dominant factor and the area outlines are determined generally by geology. The requirement of climatic similarity can be best served by developing suitable comparisons with gaging stations that are as close as possible to the point of study.

Regulation and Diversion

Many streams in Arkansas are affected by diversion and regulation. At some locations water supplies are diverted upstream from gaging stations, and this amount of flow is not registered by the gage. In some instances, a municipal water supply is taken above the gaging station and sewage effluent discharged below the gaging station or into another river basin. The most noticeable affect due to regula-

tion is in connection with hydroelectric power generation where water is stored during high-flow periods and released as needed during periods of low flow.

The station records used in this report have been examined, and the effects of regulation and diversion are assumed to have remained fairly constant, resulting in minor alterations in the frequency and duration relation except as mentioned below. Where there is diversion from a stream above the gaging station, the frequency and duration data define a yield somewhat less than the true stream potential. Regulation due to storage for recreation or conservation may reduce base flow to some extent. However, regulation may increase the low flow and produce minimum values somewhat higher than the true stream potential. To insure that these factors are not overlooked in the use of data in tables 1, 2, and 3, attention is directed to those stations where these conditions exist.

For those stations that are severely regulated, the data presented are based on station data collected prior to the beginning of major regulation. Data are also included for stations on White River at Beaver, South Fork Little Red River near Clinton, Lagrue Bayou near Stuttgart, Bayou Meto near Stuttgart, and Corney Bayou near Lillie, La., which are no longer in operation, but the information is considered representative of present conditions (1964) and provides areal coverage for comparison purposes.

Flow at station on White River near Flippin was slightly regulated by Lake Taneycomo, 100 miles upstream, during the data-collection period, and has been completely regulated since July 24, 1951, by Bull Shoals Reservoir. The data presented were based on records for the period prior to complete regulation. Flow of Black River has been regulated at Corning, and slightly regulated at Pocahontas and at Black

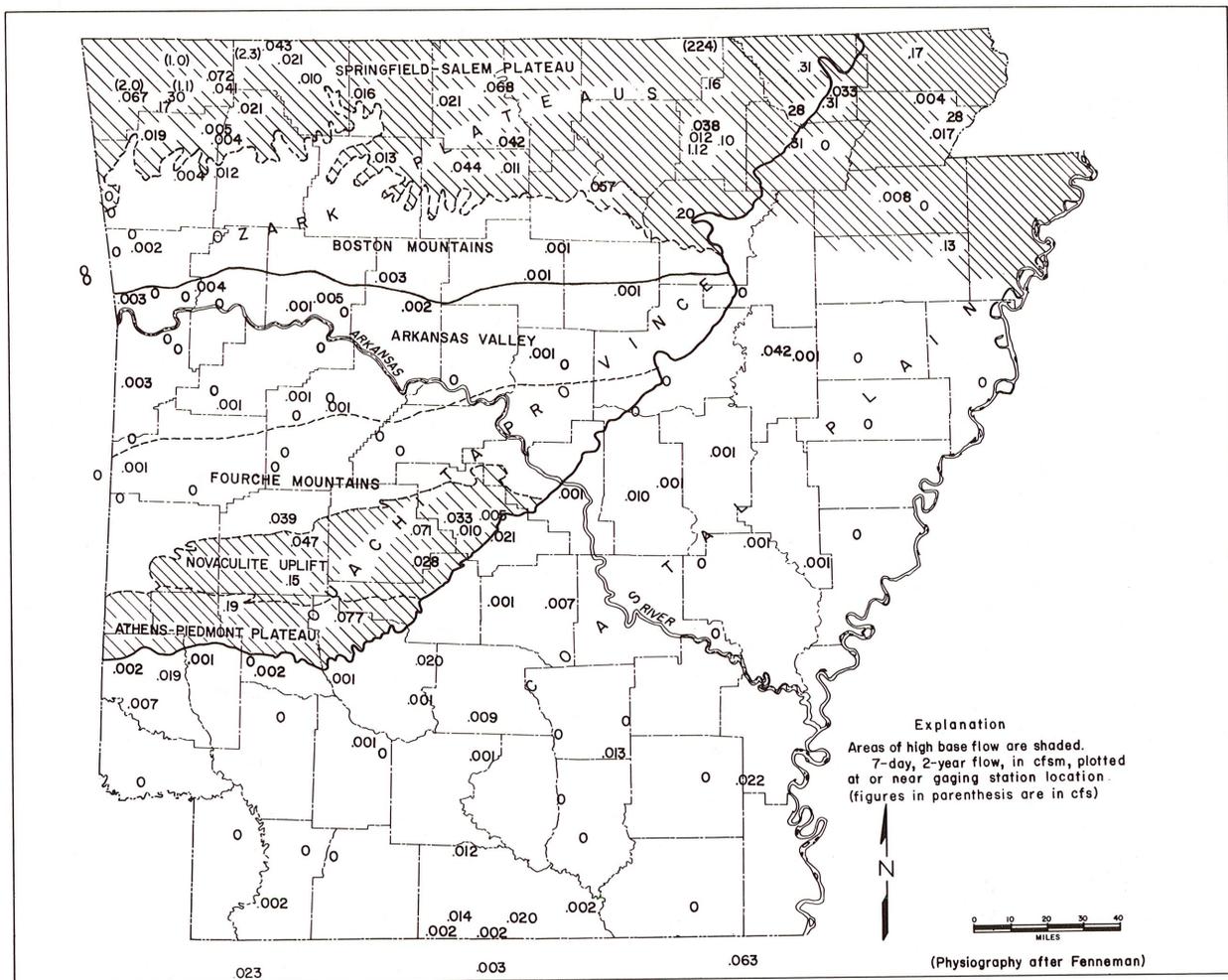


Figure 8—Physiographic areas in Arkansas and low-flow index of selected streams.

Rock by Clearwater Reservoir since 1948. The reservoir is 105, 167, and 189 miles, respectively, upstream from the stations, and records collected since 1948 were included in the analysis.

Powerplants on Spring River slightly regulate low flow at station on Spring River at Imboden, but not to the extent that minimum average flows are significantly affected. Upstream from station on Spadra Creek, the city of Clarksville diverts about 0.8 cfs for municipal water supply. Flow at station on Bodcau Bayou near Sarepta, La., is slightly regulated by Lake Erling, 15 miles upstream. A papermill at Springhill, La., takes water from wells and discharges effluent into Bodcau Bayou about 8 miles upstream from station near Sarepta, La., when flow is sufficient for proper dilution. An average of about 33 cfs is diverted from Saline River, upstream from station at Benton, for municipal water supply of Little Rock and Benton. Little Rock diverts an average of about 31 cfs from Lake Winona on Alum Fork and discharges sewage effluent into Arkansas River, while Benton diverts an average of about 2 cfs from Saline River above station at Benton and discharges sewage effluent downstream from the station. Corney Lake regulates flow at station on Corney Bayou near Lillie, La., which is 6.0 miles downstream.

Stations on Little Red River near Heber Springs, Petit Jean creek near Waveland, Petit Jean Creek at Danville, Fourche La Fave River near Nimrod, and Little Missouri River near Murfreesboro, are presently regulated by major reservoirs upstream.

The flow at stations on the Arkansas River main stem is regulated by storage reservoirs and power development. The data are presented here because of popular interest. The comparison in table 3 is not indicative of the characteristics of the contributing area from Van Buren to Little Rock, due to the effects of channel storage.

Relationship of Duration and Frequency Data to Daily, Monthly, and Yearly Flow

The variation of streamflow from day to day, month to month, year to year, and place to place, obscures the characteristics of flow that are necessary for efficient water management and sound development.

An understanding of the variation in flow will assist in the appraisal of a stream's potential to supply a seasonal need for water, and will direct attention to problems resulting from the unique hydrologic characteristics of the stream. As an example, a graphical comparison of flow-duration and low-flow-frequency data

with the daily, monthly, and yearly flow of Cossatot River near DeQueen is given in figures 9, 10, and 11. Most of the unregulated streams in Arkansas would show a variability of flow much like that of Cossatot River shown in these figures.

The ordinate values of the hydrograph in figure 9 represent the daily average rate of flow that passed the station on Cossatot River at U.S. Highway 71 near DeQueen during the 1939 climatic year. The magnitude of flow for the 2-year frequency distribution for different periods is shown along the left margin. The magnitude of flow that was equaled or exceeded for a certain percentage of time (flow duration) is shown along the right margin. The comparison in figure 9 reveals that portion of the day-to-day flow which is represented by the flow-duration and low-flow-frequency data in tables 1, 2, and 3. The 7-day, 2-year flow is generally accepted as the maximum dependable flow without storage. Figure 9 reveals the tremendous amount of water lost when the utility of this stream is limited to the 7-day, 2-year flow.

The 7-day, 2-year flow of 7.0 cfs, table 2, will be exceeded about 95 percent of the time and a water supply from some other source would be required 5 percent of the time. This alternate source of water supply could come from ground water or from a storage reservoir.

The variation of flow within the different periods is illustrated near the center of figure 9. As shown here, the 7-day, 15-day, and 30-day average flows quite often occur during a recession in flow, or during an extended period of low flow with little or no surface runoff present. The longer periods usually contain surface runoff in various amounts. For this reason, the shorter periods are used for water-supply studies without storage, and the longer periods are used when storage is considered for supplemental supply. A small amount of storage would be needed in any event because the demand for water is not uniform throughout the day. This is usually accomplished by the creation of a supply pool in the stream channel.

Figures 10 and 11 show a comparison of duration and frequency data with monthly mean and yearly mean flow, respectively. There may be occasion to base water-supply design on an analysis of monthly mean or yearly mean flows, but the comparison in figures 10 and 11 clearly indicates that economic design should take into consideration the characteristics revealed by a flow-duration and low-flow-frequency analysis.

The slope of the duration and frequency curves is a measure of the variability of streamflow.

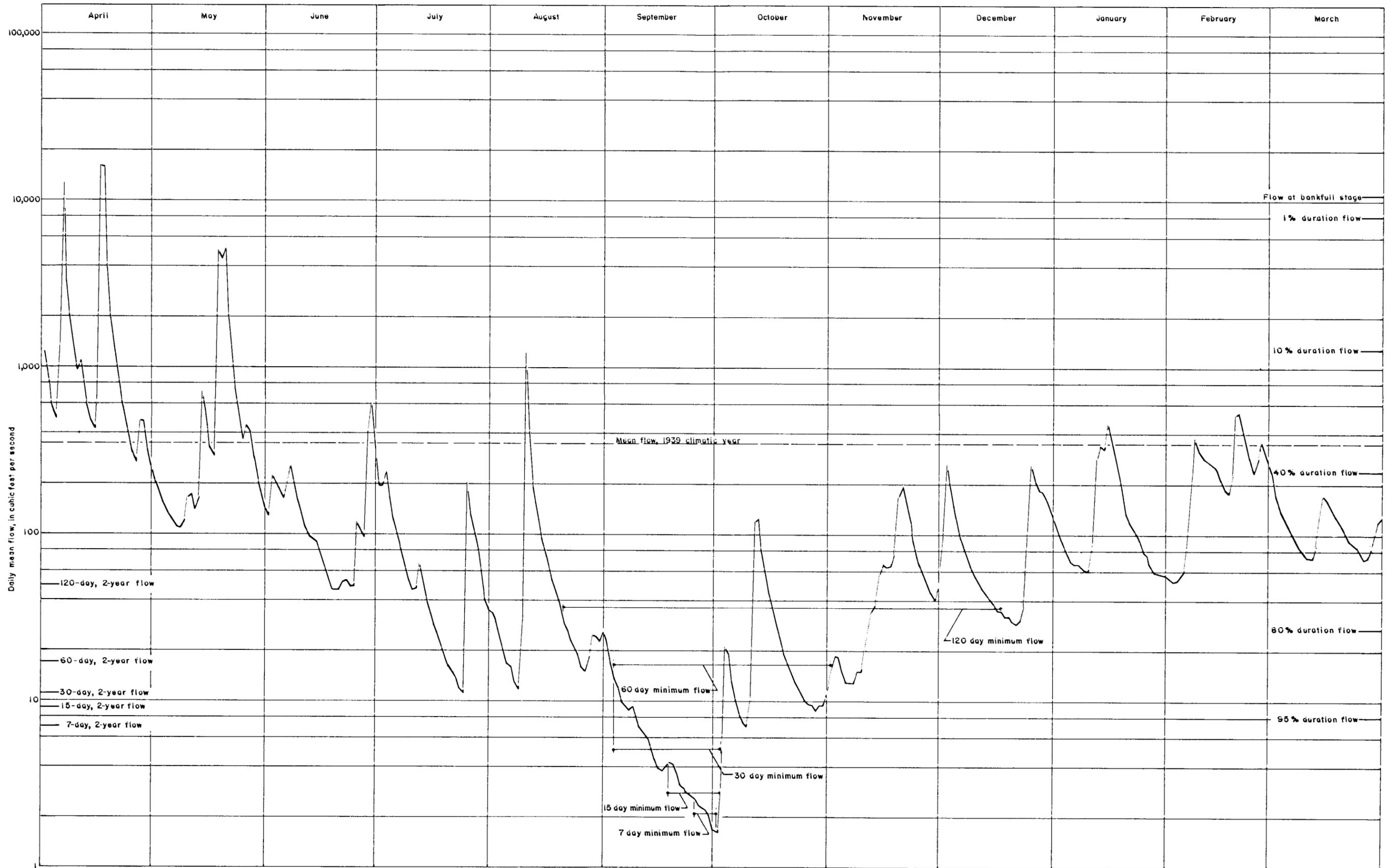


Figure 9—Hydrograph of daily mean flow of Cossatot River near DeQueen, Ark., climatic year 1939, showing comparison with duration and frequency data for period 1929-57.

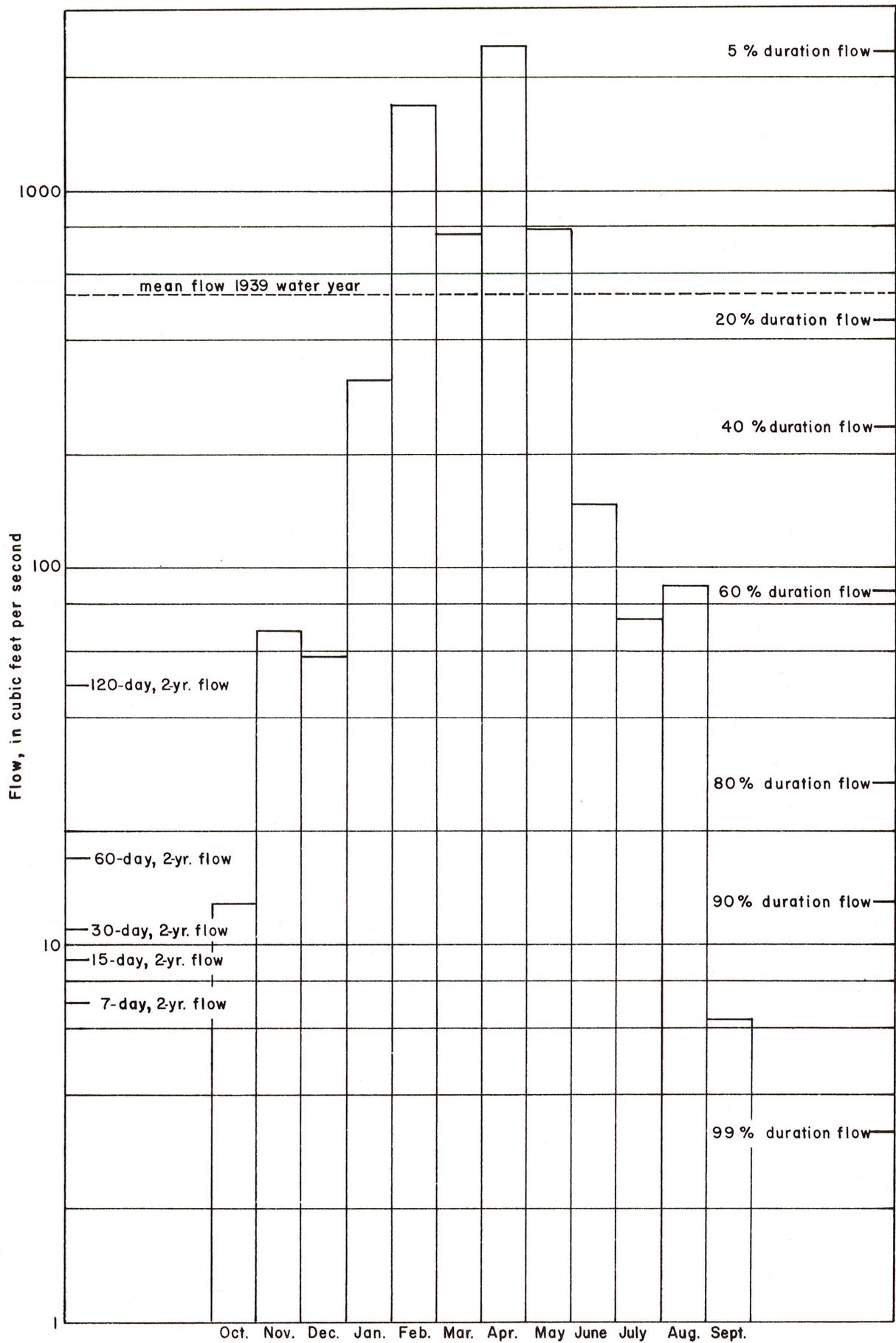


Figure 10—Monthly mean flow of Cossatot River near DeQueen, Ark., water year 1939 (duration and frequency data for period 1929-57).

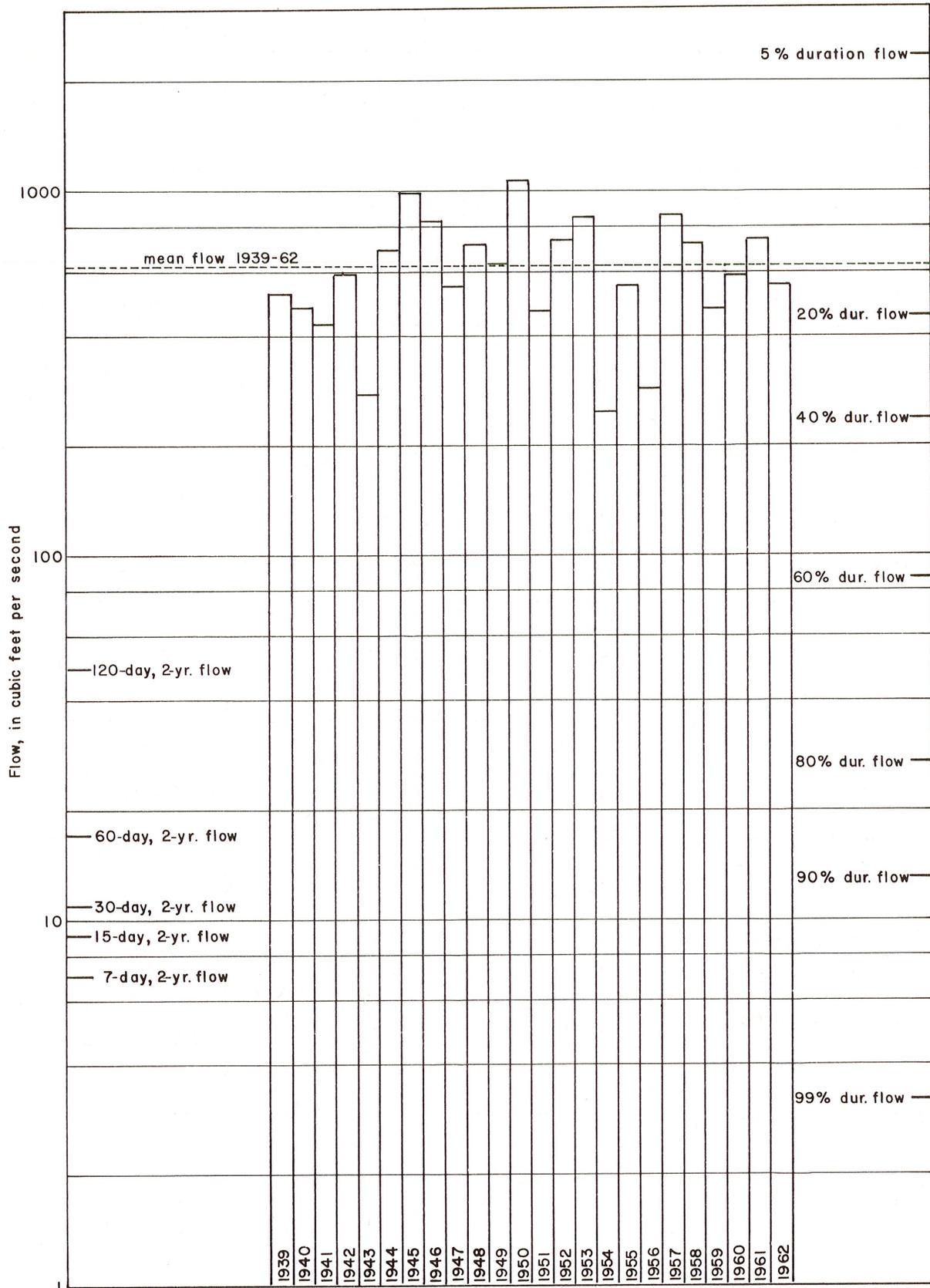


Figure 11—Yearly mean flow of Cossatot River near DeQueen, Ark., (duration and frequency data for period 1929-57).

In this report, the index of variability is represented by the symbol I_v , where $2I_v$ is an indication of the slope of the duration curve between the 16-percent and 84-percent points expressed in log cycles. This is the variability index as defined by Lane and Lei (1950). The variability index, I_v , is shown in table 3, and is useful for comparison purposes. Streams having low values for I_v usually have higher values of dependable flow, receiving a considerable portion of low flows from natural or artificial storage. Natural storage may be underground or in the stream channel. The variability indices for streams in the higher-yielding areas, outlined in figure 8, range from 0.30 to 0.76, while those for streams in the low-yielding areas range from 0.72 to 2.28. The Arkansas River main stem is an exception.

SUMMARY

This report is another step in providing useful streamflow information for the efficient use and conservation of Arkansas surface-water resources.

The data in tables 1, 2, and 3 clearly indicate there is an abundance of streamflow available.

However, this abundance is not uniformly distributed. Areas are outlined where supplies may be taken directly from the streams with a minimum of development, and where surface storage will be required to meet a continuous need.

The information given in this report may be used for preliminary studies in connection with:

1. Appraising areas over the State where dependable surface-water supplies are available, or where storage is necessary to maintain flow during dry periods.
2. Selection of surface-water supplies for industrial, irrigation, municipal, or domestic use.
3. Allocation of surface waters where the combined demand exceeds the supply.
4. Further analysis of streamflow characteristics of different streams and of different areas.

Additional data are needed to properly evaluate the effects on streamflow of manmade changes and to provide the information necessary for the water requirements of an expanding economy.

SELECTED REFERENCES

- Fenneman, N. M., 1938, *Physiography of Eastern United States*, McGraw-Hill Book Co., Inc. 714 p.
- Lane, E. W. and Lei, Kai, 1950, Streamflow variability: *Am. Soc. Civil Engineers, Trans.*, v. 115 p. 1084-1134.
- Page, L. V., 1963, Water supply characteristics of Louisiana streams, Technical Report Number 1: Louisiana Department of Public Works, 109 p.
- Patterson, J. L., 1961, Floods in Arkansas, magnitude and frequency: Arkansas State Highway Commission, open-file report, 128 p.
- Searcy, J. K., 1959, Flow-duration curves: U.S. Geol. Survey, Water-Supply Paper 1542-A, 33 p.
- Speer, P. G., Hines, M. S., Janson, M. E., and others, 1964, Low-flow characteristics of streams in the Mississippi embayment in northern Arkansas and Missouri: U.S. Geol. Survey Prof. Paper 448, Chapter F (in press).
- Speer, P. G., Hines, M. S., Calandro, A. J., and others, 1964, Low-flow characteristics of streams in the Mississippi embayment in southern Arkansas, northern Louisiana and northeastern Texas: U.S. Geol. Survey Prof. Paper 448, Chapter G (in press).
- Stephens, J. W., and Halberg, H. N., 1961, Water use in Arkansas, 1960: Arkansas Geol. Comm. Spec. Ground-Water Rept. No. 4, (in press).

STATION DESCRIPTIONS

GAGING STATIONS

St. Francis River basin

7-466. Right Hand Chute of Little River at Rivervale, Ark.

Location.—Lat 35°40'20", long 90°20'12", in SW ¼ sec. 10, T.12 N., R.7 E., at bridge on State Highway 135 at Rivervale.

Drainage area.—2,113 sq mi.

Records analyzed.—1948-58.

Remarks.—Data extended on basis of relation with stations 7-305 and 7-410.

7-479.5 L'Anguille River at Palestine, Ark.

Location.—Lat 34°58'20", long 90°53'10", in NW ¼ sec. 10, T.4 N., R.2 E., at bridge on U.S. Highway 70, 1 mile east of Palestine.

Drainage area.—807 sq mi.

Records analyzed.—1950-58.

Remarks.—Data extended on basis of relation with stations 7-570 and 7-3635.

White River basin

7-480. West Fork White River at Greenland, Ark.

Location.—Lat 35°59', long 94°10', in NW ¼ sec. 16, T.15 N., R.30 W., at bridge on U.S. Highway 71, 1 mile south of Greenland, 5½ miles upstream from small tributary, and 10.5 miles upstream from mouth.

Drainage area.—83 sq mi.

Records analyzed.—1946-60.

Remarks.—Data extended on basis of relation with station 7-500.

7-490. War Eagle Creek near Hindsville, Ark.

Location.—Lat 36°12'02", long 93°51'16", in SE ¼ NE ¼ sec. 28, T.18 N., R.27 W., at bridge on State Highway 45, 3.8 miles downstream from Clear Creek and 3.9 miles north of Hindsville.

Drainage area.—262 sq mi.

Records analyzed.—1953-60.

Remarks.—Data extended on basis of relation with station 7-570.

7-495. White River near Rogers, Ark.

Location.—Lat 36°19'59", long 94°01'07", in N ½ sec. 12, T.19 N., R.29 W., at bridge on State Highway 12, 2.6 miles upstream from Prairie Creek, 5½ miles east of Rogers, and at mile 643.2.

Drainage area.—1,020 sq mi.

Records analyzed.—1953-57.

Remarks.—Data extended on basis of relation with station 7-500.

7-500. White River at Beaver, Ark.

Location.—Lat 36°28'20", long 93°45'55", in NE ¼ sec. 20, T.21 N., R.26 W., at Missouri & North Arkansas Railway bridge, a quarter of a mile east of Beaver, 2¾ miles upstream from Leatherwood Creek, and at mile 595.5.

Drainage area.—1,238 sq mi.

Records analyzed.—1910, 1922-58.

Remarks.—Data based on station records only.

7-505. Kings River near Berryville, Ark.

Location.—Lat 36°25'30", long 93°37'20", in E ½ sec. 3, T.20 N., R.25 W., at highway bridge, 1¼ miles downstream from Bee Creek, 2¼ miles upstream

from Clabber Creek, and 5¼ miles northwest of Berryville.

Drainage area.—532 sq mi.

Records analyzed.—1939-60.

Remarks.—Data extended on basis of relation with station 7-500.

7-550. White River near Flippin, Ark.

Location.—Lat 36°18'50", long 92°33'20", in NE ¼ sec. 10, T.19 N., R.15 W., 1.3 miles upstream from Hightower Creek, 3 miles northeast of Flippin, 11.5 miles downstream from Bull Shoals Dam, 11.8 miles upstream from Crooked Creek, and at mile 406.7.

Drainage area.—6,067 sq mi.

Records analyzed.—1929-51.

Remarks.—Flow completely regulated since 1951, and slightly regulated prior to that date. Data extended on basis of relation with station 7-500.

7-560. Buffalo River near St. Joe, Ark.

Location.—Lat 35°59', long 92°45', in SW ¼ sec. 36, T.16 N., R.17 W., at bridge on U.S. Highway 65, 1¼ miles downstream from Mill Creek, 4 miles upstream from Bear Creek, and 4½ miles southeast of St. Joe.

Drainage area.—825 sq mi.

Records analyzed.—1940-60.

Remarks.—Data extended on basis of relation with station 7-570.

7-570. Buffalo River near Rush, Ark.

Location.—Lat 36°07', long 92°33', in NE ¼ sec. 15, T.17 N., R.15 W., on left bank 0.8 mile upstream from Rush Creek, 1.5 miles southeast of Rush, and 24.3 miles upstream from mouth.

Drainage area.—1,091 sq mi.

Records analyzed.—1929-58.

Remarks.—Regionalized data from report by Hardison and Martin, 1962.

7-640. Black River near Corning, Ark.

Location.—Lat 36°24'05", long 90°32'30", near center of sec. 4, T.20 N., R.5 E., at bridge on U.S. Highway 62, 2¼ miles east of Corning, 13.9 miles downstream from Cane Creek, and at mile 152.2.

Drainage area.—1,749 sq mi.

Records analyzed.—1938-58.

Remarks.—Flow slightly regulated since 1948. Data extended on basis of relation with stations 7-305 and 7-375.

7-690. Black River at Pocahontas, Ark.

Location.—Lat 36°15', long 90°58', in SW ¼ sec. 27, T.19 N., R.1 E., at bridge on U.S. Highway 67 at Pocahontas, 1.6 miles downstream from Fourche Creek, 6.1 miles downstream from Current River, 18.1 miles upstream from Spring River, and at mile 90.1.

Drainage area.—4,843 sq mi.

Records analyzed.—1937-58.

Remarks.—Flow slightly regulated since 1948. Data extended on basis of relation with stations 7-375 and 7-570.

7-695. Spring River at Imboden, Ark.

Location.—Lat 36°12', long 91°10', in NE ¼ sec. 15, T.18 N., R.2 W., at bridge on U.S. Highway 62 at Imboden, 3.9 miles downstream from Janes Creek,

- 8.5 miles upstream from Eleven Point River, and 12.1 miles upstream from mouth.
 Drainage area.—1,162 sq mi.
 Records analyzed.—1937-60.
 Remarks.—Flow slightly regulated by powerplant at Mammoth Spring. Data extended on basis of relation with station 7-720.
- 7-720. Eleven Point River near Ravenden Springs, Ark.**
 Location.—Lat 36°21', long 91°07', SE¼SE¼ sec. 30, T.20 N., R.1 W., at bridge on State Highway 90, 4½ miles downstream from small tributary, 6¼ miles northeast of Ravenden Springs, and 21 miles upstream from mouth.
 Drainage area.—1,123 sq mi.
 Records analyzed.—1930-33, 1936-58.
 Remarks.—Data extended on basis of relation with stations 7-375 and 7-570.
- 7-725. Black River at Black Rock, Ark.**
 Location.—Lat 36°06'50", long 91°05'50", in NW¼ sec. 21, T.17 N., R.1 W., on right bank 900 ft downstream from St. Louis-San Francisco Railway bridge at Black Rock, 3.7 miles downstream from Spring River and at mile 68.3.
 Drainage area.—7,323 sq mi.
 Records analyzed.—1930-31, 1940-60.
 Remarks.—Flow slightly regulated since 1948. Data extended on basis of relation with station 7-720.
- 7-730. Strawberry River near Evening Shade, Ark.**
 Location.—Lat 36°06', long 91°36', in NE¼ sec. 27, T.17 N., R.6 W., at bridge on U.S. Highway 167, 2 miles north of Evening Shade and 6.3 miles upstream from Piney Fork.
 Drainage area.—225 sq mi.
 Records analyzed.—1939-60.
 Remarks.—Data extended on basis of relation with station 7-740.
- 7-735. Piney Fork at Evening Shade, Ark.**
 Location.—Lat 36°05', long 91°37', in NE¼ sec. 34, T.17 N., R.6 W., on right bank 20 ft downstream from bridge on U.S. Highway 167, three-quarters of a mile north of Evening Shade and 5.8 miles upstream from mouth.
 Drainage area.—99 sq mi.
 Records analyzed.—1940-58.
 Remarks.—Data extended on basis of relation with station 7-740.
- 7-740. Strawberry River near Poughkeepsie, Ark.**
 Location.—Lat 36°07', long 91°27', in NW¼ sec. 19, T.17 N., R.4 W., at bridge on State Highway 58, half a mile downstream from Hurricane Creek and 2½ miles northeast of Poughkeepsie.
 Drainage area.—476 sq mi.
 Records analyzed.—1937-58.
 Remarks.—Data extended on basis of relation with stations 7-375 and 7-570.
- 7-750. Middle Fork Little Red River at Shirley, Ark.**
 Location.—Lat 35°39', long 92°18', in SW¼ sec. 20, T.12 N., R.12 W., on right bank half a mile downstream from Sugar Camp (or Wevers) Creek and 1 mile east of Shirley.
 Drainage area.—294 sq mi.
 Records analyzed.—1939-60.
 Remarks.—Data extended on basis of relation with station 7-760.
- 7-755. South Fork Little Red River near Clinton, Ark.**
 Location.—Lat 35°34', long 92°23', in NE¼ sec. 29, T.11 N., R.13 W., on left bank 1¼ miles downstream from Peedee Creek, 4¼ miles southeast of Clinton and 6 miles downstream from Archey Fork.
 Drainage area.—316 sq mi.
 Records analyzed.—1939-60.
 Remarks.—Data extended on basis of relation with station 7-760.
- 7-760. Little Red River near Heber Springs, Ark.**
 Location.—Lat 35°31'02", long 90°59'55", in NE¼ sec. 7, T.10 N., R.9 W., on right bank 1,600 ft downstream from Greers Ferry Dam and 3 miles northeast of town of Heber Springs. Prior to Oct. 1, 1960, at site 1¼ miles upstream.
 Drainage area.—1,146 sq mi.
 Records analyzed.—1928-58.
 Remarks.—Flow completely regulated since March 30, 1962. Data extended on basis of relation with stations 7-570, 7-3390, and 7-3635.
- 7-775. Cache River at Patterson, Ark.**
 Location.—Lat 35°15'20", long 91°14'40", in S½ sec. 6, T.7 N., R.2 W., at bridge on U.S. Highway 64 at Patterson and 9.5 miles upstream from Maple Slough.
 Drainage area.—1,041 sq mi.
 Records analyzed.—1928-58.
 Remarks.—Data extended on basis of relation with stations 7-570 and 7-3635.
- 7-777. Bayou DeView at Morton, Ark.**
 Location.—Lat 35°15'07", long 91°06'37", near corner of secs. 4, 5, 8, and 9, T.7 N., R.1 W., at bridge on U.S. Highway 64, 1 mile west of Morton.
 Drainage area.—422 sq mi.
 Records analyzed.—1939-58.
 Remarks.—Data based on station records only.
- 7-780. Lagrue Bayou near Stuttgart, Ark.**
 Location.—Lat 34°31'55", long 91°21'20", in NW¼ sec. 17, T.2 S., R.3 W., at bridge on State Highway 146, 7½ miles downstream from small tributary, 11 miles east of Stuttgart, and 24 miles upstream from Little Lagrue Bayou.
 Drainage area.—175 sq mi.
 Records analyzed.—1936-54.
 Remarks.—Data extended on basis of relation with station 7-3635.

Arkansas River basin

- 7-1950. Osage Creek near Elm Springs, Ark.**
 Location.—Lat 36°13' long 94°17', in sec. 21, T.18 N., R.31 W., on left bank 1 mile downstream from Little Osage Creek and 3¼ miles northwest of Elm Springs.
 Drainage area.—129 sq mi.
 Records analyzed.—1951-60.
 Remarks.—Flow slightly regulated. Data extended on basis of relation with station 7-570.
- 7-2470. Poteau River at Cauthron, Ark.**
 Location.—Lat 34°55'08", long 94°17'55", in SW¼ sec. 16, T.3 N., R.31 W., at highway bridge at Cauthron, 8 miles downstream from Jones Creek.
 Drainage area.—200 sq mi.
 Records analyzed.—1939-60.
 Remarks.—Data based on station records only.
- 7-2494. James Fork near Hackett, Ark.**
 Location.—Lat 35°09'45", long 94°24'25", in NW¼ NW¼ sec. 34, T.6 N., R.32 W., at bridge on State Highway 45, 1.7 miles south of Hackett, 2.0 miles downstream from Elder Branch, 2.0 miles upstream

- from small tributary, and 3.8 miles upstream from Arkansas-Oklahoma State line.
 Drainage area.—148 sq mi.
 Records analyzed.—1958-63.
 Remarks.—Data extended on basis of relation with station 7-2470.
- 7-2495. Cove Creek near Lee Creek, Ark.**
 Location.—Lat 35°43'20", long 94°24'30", in SW¼ NW¼ sec. 16, T.12 N., R.32 W., at highway bridge, 4½ miles northwest of Lee Creek and 5¼ miles upstream from mouth.
 Drainage area.—36.9 sq mi.
 Records analyzed.—1951-60.
 Remarks.—Data extended on basis of relation with station 7-2470.
- 7-2500. Lee Creek near Van Buren, Ark.**
 Location.—Lat 35°29'40", long 92°27'00", in SE¼ sec. 21, T.12 N., R.27 E., Indian Meridian, on right bank 300 ft west of Arkansas-Oklahoma State line, 3.2 miles downstream from Webbers Creek, 6¼ miles northwest of Van Buren, and 7.9 miles upstream from mouth.
 Drainage area.—427 sq mi.
 Records analyzed.—1931-36, 1951-60.
 Remarks.—Data extended on basis of relation with station 7-500.
- 7-2505. Arkansas River at Van Buren, Ark.**
 Location.—Lat 35°25'42", long 94°21'37", in NW¼ sec. 36, T.9 N., R.32 W., at bridge on U.S. Highways 64 and 71 at Van Buren, 1.3 miles downstream from Lee Creek, 8.6 miles downstream from Poteau River, and at mile 353.4.
 Drainage area.—150,483 sq mi, of which 22,241 sq mi is probably noncontributing.
 Records analyzed.—1928-59.
 Remarks.—Flow regulated. Data based on station records only.
- 7-2520. Mulberry River near Mulberry, Ark.**
 Location.—Lat 35°34', long 94°01', in NW¼ sec. 6, T.10 N., R.28 W., on left bank a quarter of a mile upstream from Mill Creek, 5 miles northeast of Mulberry, and 11.3 miles upstream from mouth.
 Drainage area.—372 sq mi.
 Records analyzed.—1939-60.
 Remarks.—Data based on station records only.
- 7-2565. Spadra Creek at Clarksville, Ark.**
 Location.—Lat 35°28', long 93°28', in NW¼ sec. 4, T.9 N., R.23 W., 1,000 ft downstream from bridge on U.S. Highway 64 and 4½ miles upstream from mouth.
 Drainage area.—54.8 sq mi.
 Records analyzed.—1953-60.
 Remarks.—About 0.8 cfs diverted for municipal use. Data extended on basis of relation with station 7-2520.
- 7-2570. Piney Creek near Dover, Ark.**
 Location.—Lat 35°33'00", long 93°09'25", in NE¼ NE¼ sec. 6, T.10 N., R.20 W., on left bank 7¼ miles downstream from Indian Creek and 10 miles north of Dover.
 Drainage area.—274 sq mi.
 Records analyzed.—1951-60.
 Remarks.—Data extended on basis of relation with station 7-2520.
- 7-2575. Illinois Bayou near Scottsville, Ark.**
 Location.—Lat 35°28', long 93°02', in SW¼ sec. 32, T.10 N., R.19 W., at bridge on county road, 1¼ miles north of Scottsville and 3 miles downstream from North Fork Illinois Bayou.
 Drainage area.—242 sq mi.
 Records analyzed.—1948-60.
 Remarks.—Data extended on basis of relation with station 7-2520.
- 7-2580. Arkansas River at Dardanelle, Ark.**
 Location.—Lat 35°13'34", long 93°08'58", in SW¼ sec. 29, T.7 N., R.20 W., at bridge on State Highway 7 at Dardanelle, 1 mile upstream from Whig Creek, 4.7 miles downstream from Illinois Bayou, and at mile 255.8.
 Drainage area.—153,707 sq mi, of which 22,241 probably is noncontributing.
 Records analyzed.—1938-60.
 Remarks.—Flow regulated. Data extended on basis of relation with station 7-2505.
- 7-2585. Petit Jean Creek near Booneville, Ark.**
 Location.—Lat 35°06'25", long 93°55'25", in NW¼ NW¼ sec. 18, T.5 N., R.27 W., at bridge on State Highway 23, 0.5 mile downstream from Fletcher Creek and 2¼ miles south of Booneville.
 Drainage area.—247 sq mi.
 Records analyzed.—1939-60.
 Remarks.—Data extended on basis of relation with station 7-2605, and represent unregulated conditions prior to 1946.
- 7-2595. Petit Jean Creek near Waveland, Ark.**
 Location.—Lat 35°06'17", long 93°37'51", in SE¼ SW¼ sec. 11, T.5 N., R.25 W., on left bank 0.8 mile downstream from Rock Creek, 1.2 miles downstream from Cedar Creek, 1.3 miles south of Waveland, and 1.4 miles downstream from Blue Mountain Dam.
 Drainage area.—517 sq mi.
 Records analyzed.—1939-46.
 Remarks.—Flow completely regulated since 1947. Data extended on basis of relation with stations 7-2585 and 7-2605, and represent unregulated conditions prior to 1947.
- 7-2600. Dutch Creek at Waltreak, Ark.**
 Location.—Lat 34°59', long 93°37', in SE¼ NW¼ sec. 24, T.4 N., R.25 W., on left bank a quarter of a mile north of Waltreak and 20 miles upstream from mouth.
 Drainage area.—74 sq mi.
 Records analyzed.—1946-60.
 Remarks.—Data extended on basis of relation with station 7-2615.
- 7-2605. Petit Jean Creek at Danville, Ark.**
 Location.—Lat 35°04', long 93°24', in SE¼ sec. 25, T.5 N., R.23 W., at bridge on State Highway 10 at Danville, 1,800 ft upstream from Chicago, Rock Island and Pacific Railroad Co. bridge, 0.5 mile upstream from Spring Creek, and 0.6 mile downstream from Dutch Creek.
 Drainage area.—741 sq mi.
 Records analyzed.—1917-47.
 Remarks.—Flow regulated since 1947. Data extended on basis of relation with station 7-2585, and represent unregulated conditions prior to 1947.
- 7-2610. North Fork Cadron Creek near Guy, Ark.**
 Location.—Lat 35°18', long 92°24', in SE¼ sec. 29, T.8 N., R.13 W., at bridge on U.S. Highway 65, 4 miles southwest of Guy and 10.8 miles upstream from Cove Creek.
 Drainage area.—187 sq mi.
 Records analyzed.—1955-60.
 Remarks.—Data extended on basis of relation with station 7-755.

- 7-2615. Fourche La Fave River near Gravelly, Ark.**
 Location.—Lat 34°52', long 93°39', in NW¼ sec. 34, T.3 N., R.25 W., at bridge on State Highway 28, 1 mile downstream from Garner Creek, 1¼ miles east of Gravelly, and 6.4 miles upstream from Gaffords Creek.
 Drainage area.—413 sq mi.
 Records analyzed.—1939-60.
 Remarks.—Data based on station records only.
- 7-2625. Fourche La Fave River near Nimrod, Ark.**
 Location.—Lat 34°57'01", long 93°09'18", in SW¼ sec. 32, T.4 N., R.20 W., on left bank 2,000 ft downstream from Nimrod Dam, 4½ miles southwest of Nimrod, and 9.8 miles upstream from South Fourche La Fave River.
 Drainage area.—680 sq mi.
 Records analyzed.—1936-41.
 Remarks.—Flow regulated since 1942. Data extended on basis of relation with station 7-2615, and represent unregulated conditions prior to 1942.
- 7-2630. South Fourche La Fave River near Hollis, Ark.**
 Location.—Lat 34°55', long 93°03', in NE¼ sec. 18, T.3 N., R.19 W., on left bank 0.6 mile upstream from Big Cove Creek, 4 miles northeast of Hollis, and 5.8 miles upstream from mouth.
 Drainage area.—211 sq mi.
 Records analyzed.—1942-61.
 Remarks.—Data based on station records only.
- 7-2635. Arkansas River at Little Rock, Ark.**
 Location.—Lat 34°45'00", long 92°16'25", in sec. 3, T.1 N., R.12 W., on right bank 130 ft downstream from Main Street Bridge in Little Rock and at mile 165.5.
 Drainage area.—158,201 sq mi, of which 22,241 sq mi probably is noncontributing.
 Records analyzed.—1928-60.
 Remarks.—Flow regulated. Data based on station records only.
- 7-2645. Bayou Meto near Stuttgart, Ark.**
 Location.—Lat 34°27'15", long 91°37'00", in SE¼ sec. 11, T.3 S., R.6 W., at bridge on U.S. Highway 79, 5½ miles southwest of Stuttgart, and 8 miles upstream from Crooked Creek.
 Drainage area.—560 sq mi.
 Records analyzed.—1936-54.
 Remarks.—Part of flow diverted for irrigation. Data extended on basis of relation with stations 7-3635 and 7-3645.

Red River basin

- 7-3385. Little River below Lukfata Creek near Idabel, Okla.**
 Location.—Lat 33°56', long 94°45', in SE¼ sec. 14, T.7 S., R.24 E., Indian Meridian, at bridge on U.S. Highway 70, just downstream from Lukfata Creek, and 5 miles northeast of Idabel.
 Drainage area.—1,226 sq mi.
 Records analyzed.—1946-57.
 Remarks.—Data extended on basis of relation with station 7-3400.
- 7-3390. Mountain Fork River near Eagletown, Okla.**
 Location.—Lat 34°03', long 94°37', in SE¼ sec. 7, T.6 S., R.26 E., Indian Meridian, at bridge on U.S. Highway 70, 2 miles west of Eagletown and 8.9 miles upstream from mouth.
 Drainage area.—787 sq mi.
 Records analyzed.—1924, 1930-57.
 Remarks.—Regionalized data from report by Hardison and Martin, 1962.

- 7-3395. Rolling Fork near DeQueen, Ark.**
 Location.—Lat 34°03', long 94°25', in SW¼ sec. 21, T.8 S., R.32 W., at bridge on U.S. Highway 70, 4 miles west of DeQueen, 6 miles upstream from Rock Creek, and 17 miles upstream from mouth.
 Drainage area.—181 sq mi.
 Records analyzed.—1948-57.
 Remarks.—Data extended on basis of relation with stations 7-3400 and 7-3405.
- 7-3400. Little River near Horatio, Ark.**
 Location.—Lat 33°55'10", long 94°23'15", in NE¼ sec. 10, T.10 S., R.32 W., at bridge on State Highway 41, 0.9 mile downstream from Rolling Fork, 2 miles southwest of Horatio, and 28.5 miles upstream from Cossatot River.
 Drainage area.—2,674 sq mi.
 Records analyzed.—1930-57.
 Remarks.—Data extended on basis of relation with stations 7-570 and 7-3635.
- 7-3405. Cossatot River near DeQueen, Ark.**
 Location.—Lat 34°03', long 94°13', on south edge of SE¼ sec. 20, T.8 S., R.30 W., at bridge on U.S. Highway 71 just downstream from Hale Creek and 7 miles east of DeQueen.
 Drainage area.—361 sq mi.
 Records analyzed.—1938-57.
 Remarks.—Data extended on basis of relation with stations 7-570, 7-3390, and 7-3460.
- 7-3410. Saline River near Dierks, Ark.**
 Location.—Lat 34°06', long 94°05', in W½ sec. 3, T.8 S., R.29 W., at bridge on U.S. Highway 70, 3½ miles upstream from Holly Creek and 4 miles southwest of Dierks.
 Drainage area.—124 sq mi.
 Records analyzed.—1938-57.
 Remarks.—Data extended on basis of relation with station 7-3405.
- 7-3470. Kelly Bayou near Hosston, La.**
 Location.—Lat 32°51'25", long 93°52'20", in SW¼ NE¼ sec. 36, T.22 N., R.15 W., at bridge on U.S. Highway 71, 0.4 mile downstream from Willow Lake lateral, 2.0 miles south of Hosston, and 2.7 miles upstream from mouth.
 Drainage area.—116 sq mi.
 Records analyzed.—1945-58.
 Remarks.—Data extended on basis of relation with stations 2B-4920, 7-3635, 7-3495, and 8-225.
- 7-3495. Bodcau Bayou near Sarepta, La.**
 Location.—Lat 32°54'15", long 93°28'55", in NW¼ sec. 15, T.22 N., R.12 W., at bridge on State Highway 2, 2 miles west of Sarepta and 9.5 miles upstream from Caney Creek.
 Drainage area.—546 sq mi.
 Records analyzed.—1939-58.
 Remarks.—Flow regulated. Data extended on basis of relation with stations 7-3390, 7-3635, and 8-225.
- 7-3560. Ouachita River near Mount Ida, Ark.**
 Location.—Lat 34°26'40", long 93°41'45", in sec. 32, T.1 S., R.25 W., on right bank 350 ft upstream from bridge on U.S. Highway 270, 4½ miles upstream from Fiddlers Creek, and 5½ miles northwest of Mount Ida.
 Drainage area.—410 sq mi.
 Records analyzed.—1942-57.
 Remarks.—Data extended on basis of relation with stations 7-570 and 7-3390.

- 7-3565. South Fork Ouachita River at Mount Ida, Ark.**
 Location.—Lat 34°34', long 93°38', in NW¼ sec. 24, T.2 S., R.25 W., at bridge on U.S. Highway 270 at Mount Ida, 2¾ miles upstream from Williams Creek and 22.5 miles upstream from mouth.
 Drainage area.—64 sq mi.
 Records analyzed.—1950-60.
 Remarks.—Data extended on basis of relation with station 7-3405.
- 7-3598. Caddo River near Alpine, Ark.**
 Location.—Lat 34°16', long 93°22', in SE¼ sec. 28, T.5 S., R.22 W., at Runyan Bridge on gravel road between Alpine and Bismarck, 7.1 miles below Sugar Fork Creek, and 33.8 miles above mouth.
 Drainage area.—312 sq mi.
 Records analyzed.—1939-40, 1947-57.
 Remarks.—Data extended on basis of relation with stations 7-570, 7-3460, and 7-3635.
- 7-3608. Muddy Fork Creek near Murfreesboro, Ark.**
 Location.—Lat 34°05'00", long 93°45'05", in NE¼ sec. 3, T.8 S., R.26 W., 1.8 miles upstream from mouth and 3 miles northwest of Murfreesboro.
 Drainage area.—121 sq mi.
 Records analyzed.—1940-57.
 Remarks.—Data extended on basis of relation with station 7-3405.
- 7-3610. Little Missouri River near Murfreesboro, Ark.**
 Location.—Lat 34°03', long 93°43', in SE¼ sec. 13, T.8 S., R.26 W., at bridge on State Highway 27, 1.9 miles downstream from Muddy Fork Creek, 2 miles southwest of Murfreesboro, 4.6 miles upstream from Prairie Creek, and 11.4 miles downstream from Lake Greeson.
 Drainage area.—380 sq mi.
 Records analyzed.—1929-31, 1938-49.
 Remarks.—Flow regulated since 1949. Data extended on basis of relation with stations 7-570, 7-3640, and 7-3635.
- 7-3615. Antoine River at Antoine, Ark.**
 Location.—Lat 34°02'20", long 93°25'05", in NW¼ sec. 24, T.8 S., R.23 W., at bridge on State Highway 26 at Antoine, 1.6 miles downstream from Brushy Creek, 1.9 miles downstream from Suck Creek, and 8.5 miles upstream from mouth.
 Drainage area.—181 sq mi.
 Records analyzed.—1955-61.
 Remarks.—Data extended on basis of relation with station 7-3598.
- 7-3625. Moro Creek near Fordyce, Ark.**
 Location.—Lat 33°47', long 92°20', in NW¼ sec. 3, T.11 S., R.12 W., at bridge on State Highway 8, 1,100 ft upstream from Caney Creek, 4 miles southeast of Fordyce, and 12 miles upstream from White Water Creek.
 Drainage area.—216 sq mi.
 Records analyzed.—1952-59.
 Remarks.—Data extended on basis of relation with station 7-3630.
- 7-3630. Saline River at Benton, Ark.**
 Location.—Lat 34°34'05", long 92°36'40", in NE¼ sec. 9, T.2 S., R.15 W., on left bank three-quarters of a mile west of Benton and 3 miles downstream from confluence of North Fork and Alum Fork.
 Drainage area.—569 sq mi.
 Records analyzed.—1951-57.
 Remarks.—Little Rock diverts about 31 cfs from Lake Winona on Alum Fork, and Benton diverts about 1.6 cfs just above station. Data extended on basis of relation with stations 7-570 and 7-3635.
- 7-3635. Saline River near Rye, Ark.**
 Location.—Lat 33°42', long 92°02', on line between secs. 3 and 4, T.12 S., R.9 W., at bridge on State Highway 15, 4 miles southwest of Rye and 5 miles upstream from Hudgin Creek.
 Drainage area.—2,062 sq mi.
 Records analyzed.—1938-57.
 Remarks.—Regionalized data from report by Hardison and Martin, 1962.
- 7-3645. Bayou Bartholomew near Beekman, La.**
 Location.—Lat 32°52'20", long 91°52'04", in NW¼ NW¼ sec. 28, T.22 N., R.6 E., at bridge on State Highway 139, 0.8 mile downstream from Bayou De Glaize, 4 miles south of Beekman, and 7 miles north of Bastrop.
 Drainage area.—1,645 sq mi.
 Records analyzed.—1939-58.
 Remarks.—Regionalized data from report by Hardison and Martin, 1962.
- 7-3658. Cornie Bayou near Three Creeks, Ark.**
 Location.—Lat 33°02', long 92°56', in NW¼ sec. 36, T.19 S., R.18 W., at bridge on State Highway 15, 4½ miles downstream from Pidgeon Roost Creek and 6 miles southwest of town of Three Creeks.
 Drainage area.—180 sq mi.
 Records analyzed.—1956-61.
 Remarks.—Data extended on basis of relation with stations 7-3470, 7-3490, and 7-3495.
- 7-3660. Corney Bayou near Lillie, La.**
 Location.—Lat 32°53'15", long 92°39'25", in NE¼ NE¼ sec. 22, T.22 N., R.3 W., at bridge on U.S. Highway 167, 2 miles upstream from Little Corney Bayou, and 3 miles south of Lillie.
 Drainage area.—462 sq mi.
 Records analyzed.—1941-57.
 Remarks.—Flow slightly regulated. Data extended on basis of relation with station 7-3650.

STATION DESCRIPTIONS

PARTIAL-RECORD STATIONS

St. Francis River basin

- 7-403. Big Slough Ditch near Marmaduke, Ark.**
Location.—In SW $\frac{1}{4}$ sec. 9, T.17 N., R.7 E., 5 $\frac{1}{2}$ miles southeast of Marmaduke, Green County.
Drainage area.—245 sq mi.
Records.—14 discharge measurements made during 1958-63.
Remarks.—Analysis based on regression with station 7-410.
- 7-404. Locust Creek Ditch near Paragould, Ark.**
Location.—In NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 1, T.16 N., R.6 E., at bridge on State Highway 25, 6 miles east of Paragould, Green County.
Drainage area.—79.5 sq mi.
Records.—16 discharge measurements made during 1958-63.
Remarks.—Analysis based on regression with station 7-410.
- 7-478.5 Little Bay Ditch near Jonesboro, Ark.**
Location.—In SW $\frac{1}{4}$ sec. 20, T.14 N., R.5 E., at bridge on State Highway 18, 6 $\frac{1}{2}$ miles east of Jonesboro, Craighead County.
Drainage area.—28.7 sq mi.
Records.—7 discharge measurements and 7 observations of no flow made during 1958-63.
Remarks.—Analysis based on field observations.
- 7-479.2 Fifteen Mile Bayou near West Memphis, Ark.**
Location.—In SW $\frac{1}{4}$ sec. 10, T.6 N., R.8 E., at bridge on U.S. Highway 70, 3 $\frac{1}{2}$ miles west of West Memphis, Crittenden County.
Drainage area.—51.0 sq mi.
Records.—13 discharge measurements and 1 observation of no flow made during 1958-63.
Remarks.—Analysis based on regression with station 7-479.5.
- 7-479.4 L'Anguille River near Wynne, Ark.**
Location.—In sec. 28, T.7 N., R.2 E., at highway bridge 2.6 miles below Brushy Creek and 6 miles southwest of Wynne, Cross County.
Drainage area.—503 sq mi.
Records.—10 discharge measurements made during 1957-63.
Remarks.—Analysis based on regression with station 7-479.5.
- 7-479.8 White River near Elkins, Ark.**
Location.—In SE $\frac{1}{4}$ sec. 1, T.15 N., R.29 W., at highway bridge at Elkins, Washington County.
Drainage area.—181 sq mi.
Records.—18 discharge measurements made during 1957-63.
Remarks.—Analysis based on regression with station 7-480.
- 7-487. White River near Goshen, Ark.**
Location.—In NW $\frac{1}{4}$ sec. 31, T.17 N., R.28 W., at bridge on State Highway 45, 0.2 mile upstream from Richland Creek and 1.2 miles west of Goshen, Washington County.
Drainage area.—408 sq mi.
Records.—21 discharge measurements made during 1954, 1956-63.
Remarks.—Analysis based on regression with station 7-495.
- 7-488. Richland Creek at Goshen, Ark.**
Location.—In NE $\frac{1}{4}$ sec. 31, T.17 N., R.28 W., at bridge on State Highway 45, 0.5 mile upstream from mouth and 1 mile west of Goshen, Washington County.
Drainage area.—147 sq mi.
Records.—21 discharge measurements made during 1954, 1956-63.
Remarks.—Analysis based on regression with station 7-490.
- 7-496. Prairie Creek near Rogers, Ark.**
Location.—In NE $\frac{1}{4}$ sec. 2, T.19 N., R.29 W., at bridge on State Highway 12, 4 $\frac{1}{2}$ miles northeast of Rogers, Benton County.
Drainage area.—19.5 sq mi.
Records.—19 discharge measurements made during 1957-63.
Remarks.—Analysis based on regression with station 7-1950.
- 7-497. Blue Spring near Eureka Springs, Ark.**
Location.—In NW $\frac{1}{4}$ sec. 25, T.21 N., R.27 W., at Blue Spring Farm, 6 miles northwest of Eureka Springs, Carroll County.
Drainage area.—Indeterminate.
Records.—20 discharge measurements made during 1951, 1954, 1957-63, which ranged from 0.91 cfs to 12.9 cfs.
Remarks.—Analysis based on regression with station 7-1950.
- 7-503. Osage Creek near Berryville, Ark.**
Location.—In NW $\frac{1}{4}$ sec. 5, T.19 N., R.24 W., at bridge on State Highway 21, 1 $\frac{1}{2}$ miles south of Berryville, Carroll County.
Drainage area.—139 sq mi.
Records.—21 discharge measurements and 1 observation of no flow made during 1952-53, 1955-63.
Remarks.—Analysis based on regression with station 7-505.
- 7-532. Long Creek at Alpena, Ark.**
Location.—In NE $\frac{1}{4}$ sec. 23, T.19 N., R.22 W., at bridge on U.S. Highway 62, 1 mile east of Alpena, Boone County.
Drainage area.—67.3 sq mi.
Records.—20 discharge measurements made during 1957-63.
Remarks.—Analysis based on regression with station 7-505.
- 7-556. Crooked Creek at Pyatt, Ark.**
Location.—In SE $\frac{1}{4}$ sec. 36, T.19 N., R.18 W., at bridge on U.S. Highway 62 at Pyatt, Marion County.
Drainage area.—207 sq mi.
Records.—19 discharge measurements made during 1953-54, 1957-63.
Remarks.—Analysis based on regression with station 7-490.

7-557. Little Buffalo River at Jasper, Ark.

Location.—In SE¼ sec. 27, T.16 N., R.21 W., at bridge on State Highway 7 at Jasper, Newton County.

Drainage area.—124 sq mi.

Records.—19 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-560.

7-571. Big Creek near Big Flat, Ark.

Location.—In NW¼ sec. 4, T.15 N., R.14 W., at bridge on State Highway 14, 4.7 miles southwest of Big Flat, Searcy County.

Drainage area.—90.3 sq mi.

Records.—19 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-750.

7-607. South Sylamore Creek at Allison, Ark.

Location.—Near center of sec. 14, T.15 N., R.11 W., at bridge on State Highway 14 at Allison, Stone County, and 0.9 mile upstream from mouth.

Drainage area.—126 sq mi.

Records.—19 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-730.

7-609. Polk Bayou at Batesville, Ark.

Location.—In NE¼ sec. 17, T.13 N., R.6 W., at bridge on State Highway 69 at Batesville, Independence County, and 1.5 miles upstream from mouth.

Drainage area.—165 sq mi.

Records.—16 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-740.

7-689. Fourche Creek near Pocahontas, Ark.

Location.—In NW¼ sec. 24, T.19 N., R.1 E., at bridge on State Highway 115, 2.7 miles northeast of Pocahontas, Randolph County, and 3.8 miles upstream from mouth.

Drainage area.—305 sq mi.

Records.—15 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-740.

7-692. Mammoth Spring at Mammoth Spring, Ark.

Location.—In SE¼ sec. 8, T.21 N., R.5 W., at mouth, at Mammoth Spring, Fulton County.

Drainage area.—Indeterminate.

Records.—12 discharge measurements made during 1924, 1926, 1932, 1942, 1952-53, 1956-61, which ranged from 225 cfs to 432 cfs.

Remarks.—Analysis based on regression with station 7-695.

7-693. South Fork Spring River near Hardy, Ark.

Location.—On line between secs. 9 and 10, T.19 N., R.5 W., three-quarters of a mile upstream from mouth and 2 miles west of Hardy, Sharp County.

Drainage area.—326 sq mi.

Records.—18 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-740.

7-694. Janes Creek at Ravenden Springs, Ark.

Location.—In SW¼ sec. 7, T.19 N., R.2 W., at bridge

on State Highway 90, 1 mile south of Ravenden Springs, Randolph County.

Drainage area.—78.5 sq mi.

Records.—18 discharge measurements made during 1958-63.

Remarks.—Regression not adequately defined.

Measurement		Measurement		Measurement	
Date	Cfs	Date	Cfs	Date	Cfs
8-21-58	13.7	7-19-60	2.35	10- 3-61	4.84
10-16-58	16.9	8-23-60	3.37	5-21-62	33.6
11-13-58	8.43	9-27-60	.92	8-14-62	2.74
8-27-59	5.85	11- 8-60	1.25	11-20-62	8.55
9-15-59	5.37	8- 8-61	1.15	4-18-63	12.8
11-12-59	10.3	9- 6-61	.30	8-13-63	7.19

7-736. Mill Creek at Evening Shade, Ark.

Location.—In NE¼ sec. 3, T.16 N., R.6 W., at highway bridge a quarter of a mile upstream from mouth and half a mile southeast of Evening Shade, Sharp County.

Drainage area.—12.5 sq mi.

Records.—18 discharge measurements made during 1959-63.

Remarks.—Analysis based on regression with station 7-740.

7-746. Village Creek at Walnut Ridge, Ark.

Location.—In NE¼ sec. 34, T.17 N., R.1 E., at bridge on State Highway 25 at Walnut Ridge, Lawrence County.

Drainage area.—34.3 sq mi.

Records.—12 discharge measurements and 4 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-740.

7-747. Village Creek near Newport, Ark.

Location.—In E½ sec. 5, T.11 N., R.2 W., at bridge on State Highway 14, 3.5 miles east of Newport, Jackson County.

Drainage area.—270 sq mi.

Records.—17 discharge measurements made during 1953, 1957-63.

Remarks.—Regression not adequately defined.

Measurement		Measurement		Measurement	
Date	Cfs	Date	Cfs	Date	Cfs
9-29-53	2.90	12-10-59	32.0	5-22-62	18.8
9-19-57	27.4	7-20-60	35.6	8-15-62	16.1
10-16-58	17.5	10-26-60	26.0	11-19-62	10.6
11-13-58	5.63	9- 5-61	8.22	4-18-63	6.75
8-27-59	6.64	10- 2-61	8.55	8-14-63	16.1
9-17-59	19.3	11- 1-61	4.50		

7-748. Departee Creek near Coffeerville, Ark.

Location.—In NE¼ sec. 11, T.10 N., R.4 W., at bridge on U.S. Highway 67, 1.2 miles northeast of Coffeerville, Jackson County.

Drainage area.—86.5 sq mi.

Records.—14 discharge measurements and 3 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3630.

7-768. Bayou Des Arc near Garner, Ark.

Location.—In SE¼ sec. 3, T.6 N., R.7 W., at bridge on U.S. Highway 67, 2.7 miles northeast of Garner, White County.

Drainage area.—97.1 sq mi.

Records.—18 discharge measurements made during 1954, 1956-63.

Remarks.—Analysis based on regression with station 7-760.

7-768.5 Cypress Bayou near Beebe, Ark.

Location.—In NE¼ sec. 32, T.5 N., R.8 W., at bridge on State Highway 31, 3 miles south of Beebe, White County.

Drainage area.—163 sq mi.

Records.—12 discharge measurements and 5 observations of no flow made during 1954, 1956-61.

Remarks.—Analysis based on regression with station 7-760.

7-769.5 Wattensaw Bayou near Hazen, Ark.

Location.—Near south edge of and on line between secs. 17 and 18, T.3 N., R.5 W., at bridge on State Highway 11, 1 mile downstream from Barnes Creek, and 6.8 miles north of Hazen, Prairie County.

Drainage area.—195 sq mi.

Records.—12 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-775.

7-773. Cache River near Stonewall, Ark.

Location.—In NW¼ sec. 5, T.18 N., R.5 W., 1.2 miles southwest of Stonewall, Greene County.

Drainage area.—285 sq mi.

Records.—14 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-775.

7-776.5 Big Creek near Jonesboro, Ark.

Location.—In SE¼ sec. 10, T.14 N., R.3 E., at bridge on U.S. Highway 63, 2.7 miles northwest of Jonesboro, Craighead County.

Drainage area.—51.1 sq mi.

Records.—17 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-404.

7-779.5 Big Creek near Poplar Grove, Ark.

Location.—In N½ sec. 1, T.2 S., R.2 E., at bridge on State Highway 20, three-quarters of a mile northeast of Poplar Grove, Phillips County.

Drainage area.—389 sq mi.

Records.—8 discharge measurements made during 1959-63.

Remarks.—Analysis based on regression with station 7-479.5.

7-779.7 Big Cypress Creek at Turner, Ark.

Location.—In E½ sec. 5, T.3 S., R.1 E., at bridge on State Highway 1, 1 mile south of Turner, Monroe County.

Drainage area.—125 sq mi.

Records.—8 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-3630.

Arkansas River basin

7-1888. Ford Spring near Bentonville, Ark.

Location.—In NW¼SE¼ sec. 7, T.20 N., R.30 W., 3 miles north of Bentonville, Benton County.

Drainage area.—Indeterminate.

Records.—24 discharge measurements made during 1952-63, which ranged from 0.13 cfs to 29.2 cfs.

Remarks.—Analysis based on regression with station 7-1950.

7-1948. Illinois River at Savoy, Ark.

Location.—In SE¼ sec. 36, T.17 N., R.32 W., at bridge

on State Highway 16, 0.5 mile west of Savoy, Washington County.

Drainage area.—167 sq mi.

Records.—17 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-490.

7-1949. Keith Lake Spring at Cave Springs, Ark.

Location.—Near north line of sec. 12, T.18 N., R.31 W., at Cave Springs, Benton County.

Drainage area.—Indeterminate.

Records.—22 discharge measurements made during 1952-63, which ranged from 0.31 cfs to 10.2 cfs.

Remarks.—Analysis based on regression with station 7-1950.

7-1949.5 Little Osage Creek near Healing Springs, Ark.

Location.—In NW¼ sec. 15, T.18 N., R.31 W., 0.5 mile upstream from mouth and 1.5 miles south of Healing Springs, Benton County.

Drainage area.—40 sq mi.

Records.—22 discharge measurements made during 1954-63.

Remarks.—Analysis based on regression with station 7-1950.

7-1957. Big Spring at Springtown, Ark.

Location.—In NE¼SE¼ sec. 6, T.18 N., R.32 W., at Springtown, Benton County.

Drainage area.—Indeterminate.

Records.—21 discharge measurements made during 1954-63, which ranged from 0.93 cfs to 8.84 cfs.

Remarks.—Analysis based on regression with station 7-1950.

7-1958. Flint Creek at Springtown, Ark.

Location.—In NW¼ sec. 7, T.18 N., R.32 W., at bridge on State Highway 12, 0.8 mile southwest of Springtown, Benton County.

Drainage area.—14 sq mi.

Records.—Daily discharge, June 1961 to September 1963.

Remarks.—Analysis based on regression with station 7-1950.

7-1969. Barren Fork at Dutch Mills, Ark.

Location.—On line between secs. 21 and 22, T.14 N., R.33 W., at bridge on State Highway 59 at Dutch Mills, Washington County, 1¼ miles downstream from Fly Creek, and 2¼ miles upstream from Arkansas-Oklahoma State line.

Drainage area.—43 sq mi.

Records.—Daily discharge from April 1958 to September 1963.

Remarks.—Analysis based on regression with station 7-2495.

7-1969.5 Evansville Creek at Evansville, Ark.

Location.—Near south edge of and on line between sec. 15 and 16, T.13 N., R.33 W., at bridge on State Highway 59, 1 mile north of Evansville, Washington County.

Drainage area.—23.5 sq mi.

Records.—19 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-2495.

7-2471. Black Fork near Page, Okla.

Location.—In sec. 5, T.3 N., R.27 E., Indian Meridian, at highway bridge 2 miles west of Arkansas-Okla-

- homa State line, and 5 miles northeast of Page, LeFlore County.
 Drainage area.—46.6 sq mi.
 Records.—12 discharge measurements and 3 observations of no flow made during 1958-63.
 Remarks.—Analysis based on regression with station 7-2494.
- 7-2472. Big Creek at Howard, Ark.**
 Location.—In sec. 31, T.1 N., R.32 W., 300 ft north of U.S. Highway 270, 1 mile east of Arkansas-Oklahoma State line at Howard, Polk County.
 Drainage area.—10.9 sq mi.
 Records.—14 discharge measurements and 2 observations of no flow made during 1958-63.
 Remarks.—Analysis based on regression with station 7-2494.
- 7-2473. Haws Creek near Black Fork, Ark.**
 Location.—In sec. 32, T.2 N., R.32 W., at highway bridge 2 miles east of Arkansas-Oklahoma State line, and 2 miles north of Black Fork, Scott County.
 Drainage area.—8 sq mi.
 Records.—14 discharge measurements and 2 observations of no flow made during 1958-63.
 Remarks.—Analysis based on regression with station 7-2494.
- 7-2496. Lee Creek at Natural Dam, Ark.**
 Location.—In SW $\frac{1}{4}$ sec. 10, T.11 N., R.32 W., at bridge on State Highway 59 at Natural Dam, Crawford County.
 Drainage area.—168 sq mi.
 Records.—18 discharge measurements and 1 observation of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2500.
- 7-2497. Mountain Fork Creek at Natural Dam, Ark.**
 Location.—In SE $\frac{1}{4}$ sec. 9, T.11 N., R.32 W., 200 ft upstream from mouth and a quarter of a mile west of Natural Dam, Crawford County.
 Drainage area.—36 sq mi.
 Records.—17 discharge measurements made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2495.
- 7-2498. Lee Creek near Short, Okla.**
 Location.—On line between secs. 27 and 32, T.13 N., R.26 E., Indian Meridian, at highway bridge 2 miles west of Short, Sequoyah County.
 Drainage area.—236 sq mi.
 Records.—17 discharge measurements made during 1958-63.
 Remarks.—Analysis based on regression with station 7-2500.
- 7-2499. Little Lee Creek near Short, Okla.**
 Location.—In NW $\frac{1}{4}$ sec. 28, T.13 N., R.26 E., Indian Meridian, at highway bridge $2\frac{1}{4}$ miles upstream from mouth and 3 miles west of Short, Sequoyah County.
 Drainage area.—103 sq mi.
 Records.—16 discharge measurements and 1 observation of no flow made during 1958-63.
 Remarks.—Analysis based on regression with station 7-2500.
- 7-2506. Vache Grasse Creek near Lavaca, Ark.**
 Location.—In NW $\frac{1}{4}$ sec. 5, T.7 N., R.30 W., at bridge on State Highway 22, 2.5 miles south of Lavaca, Sebastian County.
 Drainage area.—111 sq mi.
 Records.—17 discharge measurements and 2 observations of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2494.
- 7-2507. Big Creek at Bloomer, Ark.**
 Location.—In SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 7, T.7 N., R.29 W., at bridge on State Highway 22 at Bloomer, Sebastian County.
 Drainage area.—53.8 sq mi.
 Records.—8 discharge measurements and 12 observations of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2565.
- 7-2514. Cedar Creek near Rudy, Ark.**
 Location.—In SE $\frac{1}{4}$ sec. 22, T.10 N., R.31 W., 200 ft upstream from mouth and 0.5 mile southwest of Rudy, Crawford County.
 Drainage area.—51.2 sq mi.
 Records.—18 discharge measurements and 1 observation of no flow made during 1958-63.
 Remarks.—Analysis based on regression with station 7-2495.
- 7-2521. Little Mulberry Creek near Mulberry, Ark.**
 Location.—In SE $\frac{1}{4}$ sec. 27, T.10 N., R.29 W., at bridge on U.S. Highway 64, 1.2 miles northwest of Mulberry, Crawford County.
 Drainage area.—52.1 sq mi.
 Records.—21 discharge measurements made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2520.
- 7-2523. White Oak Creek near Ozark, Ark.**
 Location.—In SW $\frac{1}{4}$ sec. 26, T.10 N., R.28 W., at bridge on U.S. Highway 64, 7.5 miles west of Ozark, Franklin County.
 Drainage area.—76.9 sq mi.
 Records.—17 discharge measurements and 4 observations of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2500.
- 7-2562. Horsehead Creek at Hartman, Ark.**
 Location.—In SE $\frac{1}{4}$ sec. 13, T.9 N., R.25 W., at bridge on U.S. Highway 64, 0.5 mile east of Hartman, Johnson County.
 Drainage area.—123 sq mi.
 Records.—18 discharge measurements made during 1952, 1957-58, 1960-63.
 Remarks.—Analysis based on regression with station 7-2565.
- 7-2567. Shoal Creek near New Blaine, Ark.**
 Location.—In SE $\frac{1}{4}$ sec. 5, T.7 N., R.23 W., at bridge on State Highway 22, 2 miles west of New Blaine, Logan County.
 Drainage area.—55.2 sq mi.
 Records.—20 discharge measurements made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2570.
- 7-2572. Little Piney Creek near Lamar, Ark.**
 Location.—Near center of sec. 9, T.9 N., R.22 W., at highway bridge 2.5 miles east of Lamar, Johnson County.
 Drainage area.—156 sq mi.
 Records.—19 discharge measurements and 1 observation of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2565.

- 7-2587. Sugar Creek near Sugar Grove, Ark.**
 Location.—In NE¼ sec. 25, T.5 N., R.27 W., at highway bridge 1.1 miles west of Sugar Grove, Logan County.
 Drainage area.—97.7 sq mi.
 Records.—14 discharge measurements and 3 observations of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2585.
- 7-2606. Spring Creek near Danville, Ark.**
 Location.—In SE¼ sec. 13, T.5 N., R.23 W., at bridge on State Highway 27, 1¼ miles north of Danville, Yell County.
 Drainage area.—28.8 sq mi.
 Records.—19 discharge measurements made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2600.
- 7-2607. Point Remove Creek near Morrilton, Ark.**
 Location.—In NW¼ sec. 11, T.6 N., R.17 W., at bridge on U.S. Highway 64, 3 miles northwest of Morrilton, Conway County.
 Drainage area.—484 sq mi.
 Records.—16 discharge measurements made during 1952, 1957-63.
 Remarks.—Analysis based on regression with station 7-2570.
- 7-2612. East Fork Cadron Creek near Enola, Ark.**
 Location.—In NE¼ sec. 28, T.7 N., R.12 W., at highway bridge 4.5 miles west of Enola, Faulkner County.
 Drainage area.—145 sq mi.
 Records.—15 discharge measurements made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2610.
- 7-2614. Mill Creek near Boles, Ark.**
 Location.—In SE¼SE¼ sec. 16, T.1 N., R.29 W., at bridge on U.S. Highway 71, 4 miles south of Boles, Scott County.
 Drainage area.—55 sq mi.
 Records.—15 discharge measurements and 1 observation of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2470.
- 7-2616. Gafford Creek near Bluffton, Ark.**
 Location.—In sec. 24, T.3 N., R.25 W., at bridge on State Highway 28, 0.8 mile southwest of Bluffton, Yell County, and 1 mile upstream from mouth.
 Drainage area.—42.8 sq mi.
 Records.—18 discharge measurements made during 1957-63.
 Remarks.—Analysis based on regression with station 7-2615.
- 7-2636. Fourche Creek at Little Rock, Ark.**
 Location.—In NE¼ sec. 14, T.1 N., R.12 W., at bridge on U.S. Highway 65 at Little Rock, Pulaski County.
 Drainage area.—162 sq mi.
 Records.—14 discharge measurements made during 1957-63.
 Remarks.—Analysis based on regression with station 7-3630.
- 7-2638.9 Little Bayou Meto at Reydel, Ark.**
 Location.—In E½ sec. 20, T.6 S., R.5 W., at bridge on State Highway 88 at Reydel, Jefferson County.
 Drainage area.—450 sq mi.

Records.—9 discharge measurements and 4 observations of no flow made during 1958-63.
 Remarks.—Analysis based on regression with station 7-3635.

- 7-2640. Bayou Meto near Lonoke, Ark.**
 Location.—In SW¼ sec. 6, T.1 N., R.8 W., at bridge on State Highway 31, 3 miles upstream from Brushy Slough and 3½ miles south of Lonoke, Lonoke County.
 Drainage area.—203 sq mi.
 Records.—Daily discharge, October 1954 to September 1963.
 Remarks.—Low-flow regulated at times. Included as partial-record station because regression with station 7-775 poorly defined.

- 7-2642. Two Prairie Bayou at Carlisle, Ark.**
 Location.—In SW¼ sec. 21, T.2 N., R.7 W., at bridge on U.S. Highway 70, 1 mile west of Carlisle, Lonoke County.
 Drainage area.—149 sq mi.
 Records.—15 discharge measurements and 1 observation of no flow made during 1957-63.
 Remarks.—Analysis based on regression with station 7-775.

- 7-2650. Crooked Creek near Humphrey, Ark.**
 Location.—In SE¼ sec. 20, T.3 S., R.6 W., at bridge on U.S. Highway 79, 2 miles east of Humphrey, Arkansas County.
 Drainage area.—87 sq mi.
 Records.—9 discharge measurements and 1 observation of no flow made during 1959-63.
 Remarks.—Regression not adequately defined.

Measurement		Measurement		Measurement	
Date	Cfs	Date	Cfs	Date	Cfs
9-21-59	0.34	10-25-60	0	5-21-62	.05
12- 2-59	7.53	7-11-60	1.60	11-19-62	.55
6-23-60	14.2	9-11-61	26.9	4-17-63	6.59
8- 9-60	2.95	11-14-61	1.32		

Red River basin

- 7-3369. Walnut Bayou near Foreman, Ark.**
 Location.—On east line sec. 12, T.13 S., R.32 W., at highway bridge 5 miles southeast of Foreman, Little River County.
 Drainage area.—83.6 sq mi.
 Records.—17 discharge measurements made during 1958-63.
 Remarks.—Analysis based on regression with station 7-3450.
- 7-3421.5 Maniece Bayou near Canfield, Ark.**
 Location.—In SW¼ sec. 10, T.18 S., R.25 W., at highway bridge 3.1 miles west of Canfield, Lafayette County, and 3.3 miles upstream from mouth.
 Drainage area.—109 sq mi.
 Records.—16 discharge measurements and 2 observations of no flow made during 1958-63.
 Remarks.—Analysis based on regression with station 7-3658.
- 7-3423.5 McKinney Bayou near Garland, Ark.**
 Location.—In SE¼ sec. 29, T.15 S., R.26 W., at bridge on U.S. Highway 82, 1 mile downstream from Red Chute and 6.7 miles northwest of Garland, Miller County.
 Drainage area.—169 sq mi.
 Records.—17 discharge measurements made during 1958-63.
 Remarks.—Analysis based on regression with station 7-3658.

7-3486. Bayou Dorcheat at Buckner, Ark.

Location.—In NW¼ sec. 18, T.16 S., R.22 W., at bridge on U.S. Highway 82, 1 mile east of Buckner, Lafayette County.

Drainage area.—101 sq mi.

Records.—19 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-3658.

7-3494.3 Bodcau Creek at Stamps, Ark.

Location.—In NW¼ sec. 7, T.16 S., R.23 W., at bridge on U.S. Highway 82, 0.1 mile upstream from Tatum Branch and 1 mile west of Stamps, Lafayette County.

Drainage area.—234 sq mi.

Records.—Daily discharge, October 1958 to September 1963.

Remarks.—Analysis based on regression with station 7-3658.

7-3587. Gulpha Creek near Hot Springs, Ark.

Location.—In E½ sec. 13, T.3 S., R.19 W., at bridge on U.S. Highway 270, 4.6 miles southeast of Hot Springs, Garland County.

Drainage area.—50.2 sq mi.

Records.—17 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-3598.

7-3596. Caddo River at Caddo Gap, Ark.

Location.—In NE¼ sec. 13, T.4 S., R.25 W., at highway bridge at Caddo Gap, Montgomery County.

Drainage area.—115 sq mi.

Records.—18 discharge measurements made during 1956-63.

Remarks.—Analysis based on regression with station 7-3598.

7-3601. L'Eau Frais Creek at Joan, Ark.

Location.—In SW¼ sec. 22, T.7 S., R.18 W., at highway bridge 0.5 mile southeast of Joan, Clark County.

Drainage area.—79.4 sq mi.

Records.—20 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-3598.

7-3602. Little Missouri River near Langley, Ark.

Location.—In SW¼ sec. 16, T.5 S., R.27 W., at highway bridge 3.5 miles west of Langley, Pike County.

Drainage area.—66.5 sq mi.

Records.—14 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-3598.

7-3612. Ozan Creek near McCaskill, Ark.

Location.—In NW¼ sec. 17, T.10 S., R.24 W., at bridge on State Highway 24, 3½ miles southeast of McCaskill, Hempstead County.

Drainage area.—148 sq mi.

Records.—10 discharge measurements and 1 observation of no flow made during 1959-61.

Remarks.—Analysis based on regression with station 7-3405.

7-3616.5 Terre Rouge Creek near Prescott, Ark.

Location.—In SW¼ sec. 14, T.11 S., R.2 W., at bridge on State Highway 24, 8.5 miles east of Prescott, Nevada County.

Drainage area.—231 sq mi.

Records.—17 discharge measurements and 1 observation of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3598.

7-3617. Caney Creek near Bluff City, Ark.

Location.—In NW¼ sec. 22, T.11 S., R.20 W., at bridge on State Highway 24, 3.6 miles north of Bluff City, Nevada County.

Drainage area.—167 sq mi.

Records.—12 discharge measurements and 2 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3598.

7-3618. Terre Noire Creek near Gurdon, Ark.

Location.—In SW¼ sec. 27, T.9 S., R.19 W., at highway bridge 7 miles east of Gurdon, Clark County.

Drainage area.—250 sq mi.

Records.—16 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-3598.

7-3618.5 Tulip Creek near Pine Grove, Ark.

Location.—In NW¼ sec. 16, T.10 S., R.16 W., at bridge on State Highway 128, 2 miles southeast of Pine Grove, Dallas County.

Drainage area.—152 sq mi.

Records.—19 discharge measurements made during 1958-63.

Remarks.—Regression not adequately defined.

Measurement		Measurement		Measurement	
Date	Cfs	Date	Cfs	Date	Cfs
6-25-58	15.1	9- 6-60	2.64	7-16-62	3.47
10-16-58	11.3	9-21-60	2.04	8-13-62	3.13
11-12-58	8.06	11- 3-60	5.91	4-17-63	31.5
8-19-59	2.51	6-26-61	6.85	8-12-63	10.8
9-24-59	2.76	8-30-61	7.07	10-21-63	1.92
11- 3-59	4.62	10-26-61	3.59		
7-26-60	5.90	5-21-62	10.2		

7-3619. Bayou Freeo near Eagle Mills, Ark.

Location.—On line between and near south edge of secs. 35 and 36, T.11 S., R.16 W., at bridge on State Highway 9, 2.5 miles north of Eagle Mills, Ouachita County.

Drainage area.—94.8 sq mi.

Records.—19 discharge measurements and 1 observation of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3658.

7-3621. Smackover Creek near Smackover, Ark.

Location.—In SE¼ sec. 32, T.15 S., R.16 W., at bridge on State Highway 7, 0.1 mile downstream from Camp Creek, 3 miles northwest of Smackover, Union County, and 23 miles above mouth.

Drainage area.—377 sq mi.

Records.—14 discharge measurements made during 1954-61, and daily discharge, October 1961 to September 1963.

Remarks.—Analysis based on regression with station 7-3658.

7-3625.5 Moro Creek near Banks, Ark.

Location.—In NW¼ sec. 35, T.13 S., R.12 W., at bridge on State Highway 4, 3.5 miles southwest of Banks, Bradley County.

Drainage area.—374 sq mi.

Records.—13 discharge measurements and 2 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3635.

7-3626. Alum Fork at Crows, Ark.

Location.—In NW ¼ sec. 29, T.1 S., R.16 W., at bridge on State Highway 5, 1 mile east of Crows, Saline County.

Drainage area.—123 sq mi.

Records.—16 discharge measurements made during 1958-63.

Remarks.—Flow regulated by Lake Winona from which Little Rock diverts about 30 cfs. Analysis based on regression with station 7-3630.

7-3627. Middle Fork at Crows, Ark.

Location.—In NW ¼ sec. 25, T.1 S., R.17 W., at bridge on State Highway 5, 0.5 mile west of Crows, Saline County.

Drainage area.—109 sq mi.

Records.—16 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-3630.

7-3628. South Fork near Hot Springs, Ark.

Location.—In SE ¼ sec. 6, T.2 S., R.18 W., at bridge on State Highway 5, 7 miles northeast of Hot Springs, Garland County.

Drainage area.—12.9 sq mi.

Records.—18 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-3630.

7-3629. North Fork near Benton, Ark.

Location.—In SW ¼ sec. 28, T.1 S., R.15 W., at bridge on State Highway 5, 4 miles northwest of Benton, Saline County.

Drainage area.—132 sq mi.

Records.—19 discharge measurements made during 1957-63.

Remarks.—Flow regulated by Lake Norrell. Analysis based on regression with station 7-3630.

7-3631. Francois Creek near Poyen, Ark.

Location.—Near center of sec. 3, T.5 S., R.15 W., at bridge on U.S. Highway 270, 2 miles east of Poyen, Grant County.

Drainage area.—84.1 sq mi.

Records.—15 discharge measurements made during 1958-63.

Remarks.—Analysis based on regression with station 7-3630.

7-3633. Hurricane Creek near Sheridan, Ark.

Location.—In NE ¼ sec. 6, T.5 S., R.12 W., at bridge on U.S. Highway 270, 3½ miles east of Sheridan, Grant County.

Drainage area.—205 sq mi.

Records.—16 discharge measurements made during 1957-63.

Remarks.—Analysis based on regression with station 7-3630.

7-3637. Hudgin Creek near Pansy, Ark.

Location.—In NE ¼ sec. 24, T.10 S., R.9 W., at bridge on State Highway 11, 1.5 miles northeast of Pansy, Cleveland County.

Drainage area.—90.3 sq mi.

Records.—10 discharge measurements and 7 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3658.

7-3640.2 Eagle Creek at Hermitage, Ark.

Location.—In NE ¼ sec. 1, T.15 S., R.11 W., at bridge

on State Highway 15, 0.5 mile southeast of Hermitage, Bradley County.

Drainage area.—167 sq mi.

Records.—6 discharge measurements and 11 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3625.

7-3640.6 Bayou Lapile at Strong, Ark.

Location.—In N ½ sec. 33, T.18 S., R.12 W., at highway bridge 0.5 mile northeast of Strong, Union County.

Drainage area.—93.3 sq mi.

Records.—20 discharge measurements made during 1958-63.

Remarks.—Regression not adequately defined.

Measurement		Measurement		Measurement	
Date	Cfs	Date	Cfs	Date	Cfs
9-10-58	2.75	9- 7-60	1.41	7-16-62	1.58
10-15-58	6.02	9-21-60	1.06	8-13-62	.79
11-12-58	4.89	11- 2-60	3.09	4-17-63	5.60
8-18-59	1.68	8-29-61	3.69	8-13-63	.78
9-23-59	2.01	9-28-61	2.67	10-22-63	.42
11- 4-59	8.14	10-31-61	2.82	12- 4-63	3.24
7-27-60	.63	5-22-62	5.65		

7-3641.5 Bayou Bartholomew near McGehee, Ark.

Location.—In W ½ sec. 30, T.12 S., R.3 W., at bridge on State Highway 4, 2.7 miles west of McGehee, Desha County, and 17.5 miles downstream from Ables Creek.

Drainage area.—592 sq mi.

Records.—Daily discharge, October 1956 to September 1963.

Remarks.—Included as partial-record station because regression with station 7-3635 poorly defined.

7-3641.7 Cutoff Creek near Selma, Ark.

Location.—In SE ¼ sec. 11, T.12 S., R.5 W., at bridge on State Highway 4, 1.6 miles southwest of Selma, Drew County.

Drainage area.—88.4 sq mi.

Records.—10 discharge measurements and 4 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3658.

7-3642.5 Chemin-a-Haut Creek near Berlin, Ark.

Location.—In SW ¼ sec. 31, T.18 S., R.6 W., at highway bridge 1.5 miles north of Berlin, Ashley County.

Drainage area.—216 sq mi.

Records.—14 discharge measurements and 2 observations of no flow made during 1958-63.

Remarks.—Analysis based on regression with station 7-3643.

7-3646. Bayou DeLoutre near El Dorado, Ark.

Location.—In NW ¼ sec. 6, T.19 S., R.14 W., at highway bridge 0.8 mile downstream from Highbank Creek and 8.5 miles southeast of El Dorado, Union County.

Drainage area.—78.4 sq mi.

Records.—18 discharge measurements made during 1958-63.

Remarks.—Regression not adequately defined.

Measurement		Measurement		Measurement	
Date	Cfs	Date	Cfs	Date	Cfs
10-55-58	20.9	9- 7-60	8.82	5-22-62	12.3
11-12-58	15.7	9-21-60	16.3	7-17-62	8.77
8-18-59	5.28	11- 2-60	9.01	8-14-62	5.40
9-23-59	6.93	8-29-61	8.61	4-18-63	8.74
12- 9-59	12.4	9-29-61	8.64	8-13-63	20.6
7-27-60	6.87	10-31-61	10.8	10-22-63	6.72

7-3659. Three Creek near Three Creeks, Ark.

Location.—In SE¼ sec. 17, T.19 S., R.17 W., at bridge on State Highway 15, 2¼ miles southwest of town of Three Creeks, Union County, and 2¼ miles upstream from small tributary.

Drainage area.—46 sq mi.

Records.—Daily discharge, February 1956 to September 1963.

Remarks.—Analysis based on regression with station 7-3658.

7-3661. Little Cornie Bayou near Junction City, Ark.

Location.—In NE¼ sec. 25, T.19 S., R.15 W., at bridge on U.S. Highway 167, 2 miles northwest of Junction City, Union County.

Drainage area.—98.2 sq mi.

Records.—20 discharge measurements made during 1958-63.

Remarks.—Regression not adequately defined.

Measurement		Measurement		Measurement	
Date	Cfs	Date	Cfs	Date	Cfs
9-10-58	6.90	9- 7-60	2.46	7-17-62	4.76
10-15-58	10.4	9-21-60	1.98	8-14-62	3.44
11-12-58	10.6	11- 2-60	5.14	4-18-63	12.2
8-18-59	6.31	8-29-61	8.09	8-13-63	9.93
9-23-59	5.78	9-29-61	10.8	10-22-63	3.60
11- 4-59	13.4	10-31-61	12.3	12- 4-63	7.95
7-27-60	1.82	5-22-62	16.0		

Table 1.--Duration of daily flow at gaging stations on selected Arkansas streams.
Flow, in cubic feet per second, which was equaled or exceeded for percent
of time indicated.

Station number	Station name	Drainage area, in sq mi	Percent of time									
			99	95	90	80	60	40	20	5	1	
	St. Francis River basin											
7- 466.	Right Hand Chute of Little River at Rivervale, Ark.	2,113	131	226	315	530	1,110	2,220	4,500	9,600	18,400	
7-479.5	L'Anguille River at Palestine, Ark.	807	0	.5	15	52	240	820	2,000	5,100	10,200	
	White River basin											
7- 480.	West Fork White River at Greenland, Ark.	83	0	.1	.3	1.7	15	47	133	455	1,560	
7- 490.	War Eagle Creek near Hindsville, Ark.	262	.9	4.1	8.1	17	47	111	300	1,220	4,000	
7- 495.	White River near Rogers, Ark.	1,020	5.6	16	31	68	211	530	1,390	4,830	13,400	
7- 500.	White River at Beaver, Ark.	1,238	16	49	76	127	315	790	1,900	5,800	16,500	
7- 505.	Kings River near Berryville, Ark.	532	1.5	12	21	40	102	282	700	2,370	6,800	
7- 550.	White River near Flippin, Ark.	6,067	187	402	570	860	1,790	4,110	9,200	25,400	60,000	
7- 560.	Buffalo River near St. Joe, Ark.	825	15	32	48	83	202	560	1,370	4,100	12,200	
7- 570.	Buffalo River near Rush, Ark.	1,091	28	51	71	108	248	630	1,620	5,100	15,700	
7- 640.	Black River near Coming, Ark.	1,749	262	298	333	410	665	1,180	2,500	5,700	12,500	
7- 690.	Black River at Pocahontas, Ark.	4,843	1,210	1,460	1,660	1,940	2,270	4,550	8,150	17,100	30,500	
7- 695.	Spring River at Imboden, Ark.	1,162	268	311	345	412	600	920	1,640	3,780	9,200	
7- 720.	Eleven Point River near Ravenden Springs, Ark.	1,123	266	316	361	445	641	920	1,440	2,830	6,100	
7- 725.	Black River at Black Rock, Ark.	7,323	1,930	2,200	2,440	2,930	4,350	6,750	11,500	24,300	45,400	
7- 730.	Strawberry River near Evening Shade, Ark.	225	6.7	8.9	11	17	37	90	215	755	3,180	
7- 735.	Piney Fork at Evening Shade, Ark.	99	.2	1.5	2.8	6.1	17	40	100	375	1,290	
7- 740.	Strawberry River near Poughkeepsie, Ark.	476	40	51	58	72	130	250	550	1,820	6,400	
7- 750.	Middle Fork Little Red River at Shirley, Ark.	294	0	.1	1.3	12	75	219	590	2,040	6,000	
7- 755.	South Fork Little Red River near Clinton, Ark.	316	0	.1	.7	14	98	290	740	2,160	6,800	
7- 760.	Little Red River near Heber Springs, Ark.	1,141	0	.4	5.3	41	276	890	2,220	7,500	23,600	
7- 775.	Cache River at Patterson, Ark.	1,041	24	43	57	90	218	590	2,110	5,400	8,300	
7- 777.	Bayou DeView at Morton, Ark.	422	0	0	0	9.1	53	201	1,100	2,900	4,100	
7- 780.	Lagru Bayou near Stuttgart, Ark.	175	0	.2	1.6	4.6	17	82	305	990	2,410	
	Arkansas River basin											
7-1950.	Osage Creek near Elm Springs, Ark.	129	10	16	21	29	46	70	117	270	740	
7-2470.	Poteau River at Cauthron, Ark.	200	0	0	.1	1.7	13	55	186	850	3,800	
7-2494.	James Fork near Hackett, Ark.	148	0	1.3	3.4	8.1	24	56	138	410	1,600	
7-2495.	Cove Creek near Lee Creek, Ark.	36.9	0	.1	.2	.8	3.4	14	43	150	620	
7-2500.	Lee Creek near Van Buren, Ark.	427	0	0	1.1	9.4	50	188	530	1,980	6,800	
7-2505.	Arkansas River at Van Buren, Ark.	150,483	740	1,740	2,750	4,650	9,100	17,200	41,500	128,000	257,000	
7-2520.	Mulberry River near Mulberry, Ark.	372	0	.3	3.7	18	94	309	780	2,200	6,000	
7-2565.	Spadra Creek at Clarksville, Ark.	54.8	0	0	.5	1.9	11	41	107	340	900	
7-2570.	Piney Creek near Dover, Ark.	274	0	.9	1.5	12	64	205	598	1,890	4,600	
7-2575.	Illinois Bayou near Scottsville, Ark.	242	0	.2	.9	11	70	222	520	1,530	4,500	
7-2580.	Arkansas River at Dardanelle, Ark.	153,707	1,050	2,200	3,360	5,700	12,200	23,400	52,500	145,000	286,000	
7-2585.	Petit Jean Creek near Booneville, Ark.	247	0	0	.2	1.1	17	67	253	1,050	4,240	
7-2595.	Petit Jean Creek near Waveland, Ark.	517	.1	.6	2.2	10	52	183	600	2,370	8,000	
7-2600.	Dutch Creek at Waltreak, Ark.	74	0	0	0	.4	9.1	32	92	380	1,450	
7-2605.	Petit Jean Creek at Danville, Ark.	741	0	3.8	12	31	112	315	910	3,600	10,200	
7-2610.	North Fork Cadron Creek near Guy, Ark.	187	0	.1	.6	10	46	130	360	1,300	3,480	
7-2615.	Fourche La Fave River near Gravelly, Ark.	413	0	0	.8	7.6	72	222	580	2,220	7,600	
7-2625.	Fourche La Fave River near Nimrod, Ark.	680	.1	1.0	5.6	23	108	332	960	3,120	9,850	

Table 1.--Duration of daily flow at gaging stations on selected Arkansas streams--Continued
Flow, in cubic feet per second, which was equaled or exceeded for percent
of time indicated.

Station number	Station name	Drainage area, in sq mi	Percent of time								
			99	95	90	80	60	40	20	5	1
7-2630.	Arkansas River basin--Continued South Fourche La Fave River near Hollis, Ark.	211	0	0	0.3	3.5	25	92	265	1,310	5,100
7-2635.	Arkansas River at Little Rock, Ark.	158,201	1,410	2,850	4,540	7,450	15,000	28,500	62,000	155,000	280,000
7-2645.	Bayou Meto near Stuttgart, Ark.	560	0	0	0	5.6	75	470	1,060	1,990	3,090
	<u>Red River basin</u>										
7-3385.	Little River below Lukfata Creek, near Idabel, Okla.	1,226	.9	8.3	19	54	200	660	2,000	7,200	18,500
7-3390.	Mountain Fork near Eagletown, Okla.	787	0	1.2	9.0	42	213	589	1,580	5,790	17,300
7-3395.	Rolling Fork near DeQueen, Ark.	181	0	.4	1.2	4.7	28	100	295	1,320	4,200
7-3400.	Little River near Horatio, Ark.	2,674	4.3	16	43	130	540	1,680	4,800	18,000	39,500
7-3405.	Cossatot River near DeQueen, Ark.	361	3.2	8.0	13	27	87	237	655	2,400	8,000
7-3410.	Saline River near Dierks, Ark.	124	.1	.2	.4	3.1	21	69	225	790	2,550
7-3470.	Kelly Bayou near Hosston, La.	116	1.9	2.7	3.4	5.3	13	44	146	471	1,120
7-3495.	Bodcau Bayou near Sarepta, La. (Bodcau Creek in Arkansas)	546	.3	.6	1.0	2.9	38	330	970	2,610	5,270
7-3560.	Ouachita River near Mount Ida, Ark.	410	6.9	19	31	50	126	348	860	2,900	7,950
7-3565.	South Fork Ouachita River at Mount Ida, Ark.	64	.3	2.8	5.0	8.2	17	38	95	345	1,450
7-3598.	Caddo River near Alpine, Ark.	312	15	25	34	52	103	230	580	2,200	7,200
7-3608.	Muddy Fork Creek near Murfreesboro Ark.	121	0	0	.1	1.1	12	50	165	630	2,900
7-3610.	Little Missouri River near Murfreesboro, Ark.	380	4.1	7.9	13	25	82	250	720	2,500	7,000
7-3615.	Antoine River at Antoine, Ark.	181	0	.1	.4	2.4	24	95	273	1,150	4,000
7-3625.	Moro Creek near Fordyce, Ark.	216	0	0	0	0	1.8	39	267	1,150	3,380
7-3630.	Saline River at Benton, Ark.	569	2.3	12	23	44	118	328	890	3,500	11,400
7-3635.	Saline River near Rye, Ark.	2,062	11	23	41	84	287	1,190	4,090	11,100	23,600
7-3645.	Bayou Bartholomew near Beekman, La.	1,645	62	88	112	159	345	1,210	3,500	6,400	8,350
7-3658.	Cornie Bayou near Three Creeks, Ark.	180	0	.3	.9	3.0	16	66	266	920	1,950
7-3660.	Corney Bayou near Lillie, La. (Cornie Bayou in Arkansas)	462	0	1.2	3.0	9.0	52	185	580	2,060	4,900

Table 2.--Magnitude and frequency of annual low flows at gaging stations on selected Arkansas streams.

Station number	Station name	Drainage area, square miles	Period, days	Annual low flow, in cubic feet per second, for indicated recurrence interval, in years				
				Years				
				1.2	2	5	10	20
7- 466.	St. Francis River basin Right Hand Chute of Little River at Rivervale, Ark.	2,113	7	550	268	128	90	72
			15	655	310	155	104	80
			30	765	380	194	128	92
			60	1,030	475	236	161	112
			120	1,700	740	335	230	167
7- 479.5	L'Anguille River at Palestine, Ark.	807	7	23	0	-	-	-
			15	36	.4	0	-	-
			30	72	9.4	0	-	-
			60	142	42	14	7.2	3.6
			120	375	143	57	36	24
7- 480.	White River basin West Fork White River at Greenland, Ark.	83	7	1.0	.3	0	-	-
			15	1.3	.4	.1	0	-
			30	2.0	.5	.1	0	-
			60	4.0	1.0	.1	0	-
			120	21	4.4	.8	.3	.2
7- 490.	War Eagle Creek near Hindsville, Ark.	262	7	12	5.6	3.1	1.5	.6
			15	14	6.3	3.6	1.9	.7
			30	17	7.1	4.1	2.3	.9
			60	25	9.7	5.0	3.2	2.1
			120	81	23	10	7.8	6.1
7- 495.	White River near Rogers, Ark.	1,020	7	68	42	21	7.9	-
			15	80	49	23	11	-
			30	92	56	26	12	-
			60	138	74	33	17	-
			120	370	140	64	43	-
7- 500.	White River at Beaver, Ark.	1,238	7	93	53	22	9.1	2.7
			15	106	63	26	12	4.0
			30	120	68	30	13	5.0
			60	170	90	39	21	11
			120	380	162	73	49	35
7- 505.	Kings River near Berryville, Ark.	532	7	25	11	3.1	.8	.3
			15	30	12	4.1	1.0	.4
			30	36	17	5.6	1.4	.5
			60	56	26	9.4	3.3	1.6
			120	140	56	23	16	13
7- 550.	White River near Flippin, Ark.	6,067	7	640	415	210	119	65
			15	720	460	230	138	78
			30	845	515	268	165	100
			60	1,020	630	340	221	145
			120	1,790	1,000	580	422	325
7- 560.	Buffalo River near St. Joe, Ark.	825	7	58	36	22	14	8.5
			15	64	38	25	15	9.2
			30	72	41	27	17	10
			60	92	50	30	19	14
			120	210	94	49	37	30
7- 570.	Buffalo River near Rush, Ark.	1,091	7	79	46	30	22	17
			15	93	53	34	25	19
			30	119	64	40	30	22
			60	157	78	48	36	27
			120	302	141	78	59	46
7- 640.	Black River near Corning, Ark.	1,749	7	400	295	258	240	224
			15	455	312	266	248	231
			30	522	336	278	258	240
			60	670	391	294	274	254
			120	900	540	358	320	290
7- 690.	Black River at Pocahontas, Ark.	4,843	7	1,900	1,520	1,310	1,210	1,120
			15	2,100	1,640	1,350	1,270	1,180
			30	2,250	1,710	1,430	1,330	1,240
			60	2,690	1,970	1,550	1,380	1,270
			120	3,170	2,210	1,650	1,480	1,370
7- 695.	Spring River at Imboden, Ark.	1,162	7	390	320	280	265	250
			15	420	330	290	270	260
			30	460	340	300	280	270
			60	540	365	305	290	275
			120	660	400	330	310	290
7- 720.	Eleven Point River near Ravenden Springs, Ark.	1,123	7	504	352	289	268	250
			15	550	376	305	276	256
			30	598	410	316	286	268
			60	658	450	331	300	279
			120	742	490	351	310	292

Table 2.--Magnitude and frequency of annual low flows at gaging stations on selected Arkansas streams--Continued.

Station number	Station name	Drainage area, square miles	Period, days	Annual low flow, in cubic feet per second, for indicated recurrence interval, in years				
				Years				
				1.2	2	5	10	20
<u>White River basin--Continued</u>								
7- 725.	Black River at Black Rock, Ark.	7,323	7	3,200	2,280	1,800	1,680	1,620
			15	3,370	2,340	1,840	1,710	1,650
			30	3,650	2,500	1,950	1,800	1,740
			60	4,000	2,620	2,000	1,840	1,780
			120	4,640	2,840	2,130	1,950	1,890
7- 730.	Strawberry River near Evening Shade, Ark.	225	7	16	8.5	6.4	5.6	5.2
			15	19	9.4	6.8	6.2	5.8
			30	23	10	7.3	6.6	6.1
			60	36	13	8.8	7.9	7.0
			120	74	22	12	10	9.3
7- 735.	Piney Fork at Evening Shade, Ark.	99	7	5.0	1.2	.5	.2	0
			15	6.4	1.5	.7	.4	.1
			30	9.0	2.2	.9	.5	.2
			60	14	4.8	1.2	.7	.4
			120	28	13	4.7	1.8	1.1
7- 740.	Strawberry River near Poughkeepsie, Ark.	476	7	63	48	43	41	39
			15	70	49	44	42	40
			30	84	52	45	43	41
			60	106	62	47	45	42
			120	172	99	62	57	46
7- 750.	Middle Fork Little Red River at Shirley, Ark.	294	7	5.6	.3	0	-	-
			15	7.9	.5	0	-	-
			30	11	.7	0	0	-
			60	28	2.5	.2	.1	0
			120	89	17	3.0	1.1	.4
7- 755.	South Fork Little Red River near Clinton, Ark.	316	7	4.7	.2	0	-	-
			15	7.2	.3	0	-	-
			30	13	.6	0	-	-
			60	34	2.5	.1	0	-
			120	110	23	3.2	.6	.1
7- 760.	Little Red River near Heber Springs, Ark.	1,141	7	26	1.2	0	-	-
			15	46	2.2	0	-	-
			30	87	5.8	.1	0	-
			60	185	16	.6	0	-
			120	460	100	13	3.4	.9
7- 775.	Cache River at Patterson, Ark.	1,041	7	70	44	29	15	4.9
			15	82	49	33	21	8.0
			30	125	59	37	28	15
			60	226	78	44	34	25
			120	450	117	61	52	43
7- 777.	Bayou DeView at Morton, Ark.	422	7	6.1	.3	0	-	-
			15	9.1	.7	0	-	-
			30	19	2.1	0	-	-
			60	79	5.6	.4	0	0
			120	205	28	10	5.2	2.5
7- 780.	Lagru Bayou near Stuttgart, Ark.	175	7	.7	.1	0	-	-
			15	2.3	.4	.1	0	-
			30	8.0	1.3	.3	.1	.1
			60	22	7.5	1.9	.9	.4
			120	55	18	6.8	4.0	1.9
<u>Arkansas River basin</u>								
7-1950.	Osage Creek near Elm Springs, Ark.	129	7	30	22	15	11	8.0
			15	33	23	16	12	9.2
			30	36	24	18	14	11
			60	44	26	20	16	13
			120	67	39	25	20	17
7-2470.	Poteau River at Cauthron, Ark.	200	7	1.0	0	-	-	-
			15	1.5	0	-	-	-
			30	3.5	.2	0	-	-
			60	9.3	1.3	0	-	-
			120	43	7.9	.5	.1	0
7-2494.	James Fork near Hackett, Ark.	148	7	3.4	.4	0	-	-
			15	5.0	.8	0	-	-
			30	9.3	2.0	0	-	-
			60	19	5.1	0	-	-
			120	44	15	3.5	.5	-
7-2495.	Cove Creek near Lee Creek, Ark.	36.9	7	.5	0	-	-	-
			15	.7	0	-	-	-
			30	1.2	.1	0	-	-
			60	4.3	.6	.1	0	-
			120	16	4.0	.6	.2	0
7-2500.	Lee Creek near Van Buren, Ark.	427	7	4.8	1.1	.1	0	-
			15	5.9	1.4	.1	0	-
			30	8.8	2.2	.2	0	0
			60	22	3.4	.4	.1	0
			120	110	16	3.8	1.8	.6

Table 2.--Magnitude and frequency of annual low flows at gaging stations on selected Arkansas streams--Continued.

Station number	Station name	Drainage area, square miles	Period, days	Annual low flow, in cubic feet per second, for indicated recurrence interval, in years				
				Years				
				1.2	2	5	10	20
7-2505.	Arkansas River basin--Continued Arkansas River at Van Buren, Ark.	150,483	7	6,050	2,620	1,030	600	400
			15	6,750	2,900	1,140	660	440
			30	8,600	3,570	1,350	770	520
			60	10,500	4,600	1,860	1,120	750
			120	16,600	7,800	3,300	1,970	1,240
7-2520.	Mulberry River near Mulberry, Ark.	372	7	10	1.5	0	-	-
			15	13	2.0	0	-	-
			30	20	3.7	.1	0	-
			60	38	8.2	.2	0	-
			120	120	25	5.6	2.2	.7
7-2565.	Spadra Creek at Clarksville, Ark.	548	7	2.3	.3	0	-	-
			15	2.8	.5	0	-	-
			30	4.2	.7	0	-	-
			60	6.8	1.5	.1	0	-
			120	17	3.8	1.3	.6	.1
7-2570.	Piney Creek near Dover, Ark.	274	7	7.5	.7	0	-	-
			15	11	1.1	0	-	-
			30	16	2.4	.1	0	-
			60	24	4.4	.2	.1	0
			120	70	20	3.9	1.3	.4
7-2575.	Illinois Bayou near Scottsville, Ark.	242	7	5.1	.4	0	-	-
			15	7.8	.5	0	-	-
			30	16	1.1	0	-	-
			60	25	2.9	.1	0	-
			120	105	16	1.5	.4	.1
7-2580.	Arkansas River at Dardanelle, Ark.	153,707	7	7,100	3,040	1,200	740	520
			15	8,450	3,450	1,340	810	560
			30	9,700	3,820	1,460	890	640
			60	12,200	5,100	2,050	1,310	890
			120	18,400	8,700	3,800	2,350	1,580
7-2585.	Petit Jean Creek near Booneville, Ark.	247	7	1.5	.1	0	-	-
			15	2.2	.2	0	-	-
			30	5.4	.5	0	-	-
			60	14	2.8	0	-	-
			120	60	8.3	.9	.4	.2
7-2595.	Petit Jean Creek near Waveland, Ark.	517	7	5.7	.5	0	-	-
			15	8.6	1.0	0	-	-
			30	16	2.5	0	-	-
			60	30	7.4	.2	0	-
			120	103	22	3.9	1.5	.9
7-2600.	Dutch Creek at Waltreak, Ark.	74	7	.7	0	-	-	-
			15	1.1	0	-	-	-
			30	2.0	0	-	-	-
			60	6.5	.1	0	-	-
			120	23	1.7	.1	0	-
7-2605.	Petit Jean Creek at Danville, Ark.	741	7	10	1.0	0	-	-
			15	15	1.6	0	-	-
			30	26	4.6	0	-	-
			60	51	15	.4	0	-
			120	171	40	7.5	3.3	2.1
7-2610.	North Fork Cadron Creek near Guy, Ark.	187	7	5.6	.1	0	-	-
			15	8.3	.1	0	-	-
			30	18	.4	0	-	-
			60	41	1.3	0	-	-
			120	100	9.4	.4	.1	.1
7-2615.	Fourche La Fave River near Gravelly, Ark.	413	7	8.3	.2	0	-	-
			15	11	.3	0	-	-
			30	17	.8	0	-	-
			60	39	3.0	.1	0	-
			120	115	19	1.2	.4	.2
7-2625.	Fourche La Fave River near Nimrod, Ark.	680	7	14	.2	0	-	-
			15	20	.6	0	-	-
			30	29	1.3	0	-	-
			60	67	4.7	.1	0	-
			120	192	30	2.4	.8	.5
7-2630.	South Fourche La Fave River near Hollis, Ark.	211	7	1.6	0	-	-	-
			15	3.3	.1	0	-	-
			30	7.0	.6	0	-	-
			60	18	2.6	0	-	-
			120	67	14	1.0	.1	0
7-2635.	Arkansas River at Little Rock, Ark.	158,201	7	9,000	4,100	1,780	1,160	850
			15	9,700	4,350	1,880	1,240	920
			30	11,800	5,240	2,250	1,470	1,080
			60	16,700	7,000	2,800	1,820	1,380
			120	24,800	11,600	4,950	2,960	1,970

Table 2.--Magnitude and frequency of annual low flows at gaging stations on selected Arkansas streams--Continued.

Station number	Station name	Drainage area, square miles	Period, days	Annual low flow, in cubic feet per second, for indicated recurrence interval, in years				
				Years				
				1.2	2	5	10	20
7-2645.	Arkansas River basin--Continued Bayou Meto near Stuttgart, Ark.	560	7	.2	0	-	-	-
			15	2.3	0	-	-	-
			30	16	.6	0	-	-
			60	60	13	.6	.1	0
			120	160	44	9.1	3.0	0
7-3385.	Red River basin Little River below Lukfata Creek near Idabel, Okla.	1,226	7	30	8.2	2.6	.9	.3
			15	40	12	3.8	1.4	.5
			30	76	18	5.7	2.5	.9
			60	145	29	8.6	4.5	1.8
			120	435	110	28	15	8.5
7-3390.	Mountain Fork near Eagletown, Okla.	787	7	23	2.0	0	-	-
			15	36	3.5	.1	0	-
			30	56	6.2	.1	0	-
			60	118	21	1.1	.2	0
			120	354	98	19	6.4	2.2
7-3395.	Rolling Fork near DeQueen, Ark.	181	7	3.9	.4	.1	0	-
			15	5.7	.6	.1	0	-
			30	11	1.3	.1	.1	0
			60	23	3.6	.3	.1	.1
			120	80	16	3.0	.8	.3
7-3400.	Little River near Horatio, Ark.	2,674	7	71	18	5.0	2.7	1.6
			15	100	24	6.0	3.2	1.8
			30	170	39	9.1	4.5	2.5
			60	315	67	15	7.3	3.8
			120	1,140	295	61	32	16
7-3405.	Cossatot River near DeQueen, Ark.	361	7	19	7.0	2.9	1.8	1.2
			15	25	9.1	3.6	2.2	1.5
			30	39	11	4.6	3.0	2.1
			60	68	17	6.9	4.6	3.2
			120	200	49	15	9.2	6.6
7-3410.	Saline River near Dierks, Ark.	124	7	2.0	.1	0	-	-
			15	3.9	.2	0	-	-
			30	6.8	.3	0	-	-
			60	14	1.4	.1	0	-
			120	48	9.4	.9	.2	.1
7-3470.	Kelly Bayou near Hosston, La.	116	7	4.6	2.7	2.0	1.8	1.6
			15	5.2	3.0	2.2	2.0	1.8
			30	6.3	3.5	2.5	2.2	2.0
			60	9.2	4.8	3.1	2.8	2.5
			120	17	7.8	4.6	3.9	3.4
7-3495.	Bodcau Bayou near Sarepta, La. (Bodcau Creek in Arkansas)	546	7	1.8	.4	.2	.1	.1
			15	2.5	.5	.2	.2	.1
			30	4.4	.8	.3	.2	.2
			60	13	2.0	.6	.4	.3
			120	52	6.9	1.6	1.0	.8
7-3560.	Ouachita River near Mount Ida, Ark.	410	7	34	16	8.4	5.6	3.8
			15	41	21	10	6.7	4.5
			30	55	26	13	8.4	5.6
			60	85	37	18	11	7.5
			120	198	72	34	24	18
7-3565.	South Fork Ouachita River at Mount Ida, Ark.	64	7	5.7	3.0	.3	0	-
			15	6.4	3.6	.6	0	-
			30	8.6	4.6	1.4	.3	0
			60	15	5.9	2.4	1.1	.5
			120	40	14	5.2	3.2	2.1
7-3598.	Caddo River near Alpine, Ark.	312	7	42	24	16	12	9.5
			15	46	27	17	13	11
			30	58	32	20	15	12
			60	81	40	23	18	14
			120	152	66	36	28	22
7-3608.	Muddy Fork Creek near Murfreesboro, Ark.	121	7	1.0	0	-	-	-
			15	1.4	0	-	-	-
			30	2.9	.1	0	-	-
			60	7.3	.8	0	-	-
			120	33	4.3	.6	0	-
7-3610.	Little Missouri River near Murfreesboro, Ark.	380	7	20	7.5	4.1	3.0	1.7
			15	26	9.2	4.9	3.5	2.1
			30	38	12	6.4	4.7	3.3
			60	62	19	9.3	6.6	4.8
			120	160	49	18	13	9.7

Table 2.--Magnitude and frequency of annual low flows at gaging stations on selected Arkansas streams--Continued.

Station number	Station name	Drainage area, square miles	Period, days	Annual low flow, in cubic feet per second, for indicated recurrence interval, in years				
				Years				
				1.2	2	5	10	20
<u>Red River basin--Continued</u>								
7-3615.	Antoine River at Antoine, Ark.	181	7	1.5	.1	.1	0	-
			15	2.2	.2	.1	0	-
			30	4.2	.4	.1	.1	0
			60	8.6	1.1	.1	.1	0
			120	29	5.3	.7	.2	.1
7-3625.	Moro Creek near Fordyce, Ark.	216	7	-	-	-	-	-
			15	-	-	-	-	-
			30	0	-	-	-	-
			60	.2	0	-	-	-
			120	2.8	.1	0	-	-
7-3630.	Saline River at Benton, Ark.	569	7	28	12	5.3	2.7	1.4
			15	34	15	6.8	3.6	1.9
			30	48	20	9.0	5.0	2.7
			60	75	28	11	6.9	4.5
			120	194	65	26	18	12
7-3635.	Saline River near Rye, Ark.	2,062	7	56	26	13	9.0	6.6
			15	70	30	15	10	7.7
			30	101	39	18	12	9.0
			60	161	56	25	17	12
			120	428	133	50	34	24
7-3645.	Bayou Bartholomew near Beekman, La.	1,645	7	160	103	70	57	49
			15	174	110	75	62	52
			30	200	121	80	66	55
			60	260	144	90	71	60
			120	450	211	123	96	80
7-3658.	Cornie Bayou near Three Creeks, Ark.	180	7	1.2	.3	.1	.1	0
			15	1.6	.4	.1	.1	0
			30	2.6	.5	.2	.1	.1
			60	7.8	2.3	.7	.5	.3
			120	18	5.3	1.8	1.0	.7
7-3660.	Corney Bayou near Lillie, La. (Cornie Bayou in Arkansas)	462	7	7.6	1.4	.1	0	-
			15	11	2.2	.2	0	-
			30	14	3.3	.5	.1	0
			60	25	6.4	1.2	.3	.1
			120	51	14	3.0	1.1	.4

Table 3.--Low-flow characteristics of selected Arkansas streams. (Class of station: D, daily-discharge station; P, partial-record or short-term daily-discharge station.)

Station number	Station name	Class of station	Drainage area, in square miles	Annual low flow, in cubic feet per second per square mile, for indicated period of consecutive days and indicated recurrence interval, in years				Flow, in cubic feet per second per square mile, which was equaled or exceeded for indicated percent of time		Index of variability, I _v
				7-day		30-day		90	95	
				2 year	10 year	2 year	10 year			
St. Francis River basin										
7- 403.	Big Slough Ditch near Marmaduke, Ark.	P	245	0.28.	0.14	0.37	0.17	0.29	0.22	-
7- 404.	Locust Creek Ditch near Paragould, Ark.	P	79.5	.017	.004	.030	.006	.019	.012	-
7- 466.	Right Hand Chute of Little River at Rivervale, Ark.	D	2,113	.13	.043	.18	.061	.15	.11	0.54
7- 478.5	Little Bay Ditch near Jonesboro, Ark.	P	28.7	0	0	0	0	0	0	-
7- 479.2	Fifteen Mile Bayou near West Memphis, Ark.	P	51.0	†.012	0	.005	0	.008	0	-
7- 479.4	L'Anguille River near Wynne, Ark.	P	503	†.032	0	†.015	0	.022	.001	-
7- 479.5	L'Anguille River at Palestine, Ark.	D	807	†.029	0	.012	0	.019	.001	.92
White River basin										
7- 479.8	White River near Elkins, Ark.	P	181	.012	.001	.017	.001	.012	.005	-
7- 480.	West Fork White River at Greenland, Ark.	D	83	.004	0	.006	†.001	.004	.001	1.16
7- 487.	White River near Goshen, Ark.	P	408	.005	†.001	.008	†.002	.002	.001	-
7- 488.	Richland Creek at Goshen, Ark.	P	147	.004	†.002	.006	.001	.007	.002	-
7- 490.	War Eagle Creek near Hindsville, Ark.	D	262	.021	.006	.027	.009	.031	.016	.74
7- 495.	White River near Rogers, Ark.	D	1,020	.041	.008	.055	.012	.030	.016	.76
7- 496.	Prairie Creek near Rogers, Ark.	P	19.5	.072	.027	.082	.039	.067	.046	-
7- 497.	Blue Spring near Eureka Springs, Ark.	P	-	(2.3)	(1.2)	(2.4)	(1.5)	(2.2)	(1.7)	-
7- 500.	White River at Beaver, Ark.	D	1,238	.043	.007	.055	.011	.061	.040	.68
7- 503.	Osage Creek near Berryville, Ark.	P	139	.010	†.002	.020	.001	.027	.012	-
7- 505.	Kings River near Berryville, Ark.	D	532	.021	.002	.032	.003	.039	.023	.72
7- 532.	Long Creek at Alpena, Ark.	P	67.3	.016	.002	.025	.003	.030	.019	-
7- 550.	White River near Flippin, Ark.	D	6,067	.068	.020	.085	.027	.094	.066	.59
7- 556.	Crooked Creek at Pyatt, Ark.	P	207	.021	.004	.028	.007	.033	.014	-
7- 557.	Little Buffalo River at Jasper, Ark.	P	124	.013	.002	.017	.003	.023	.010	-
7- 560.	Buffalo River near St. Joe, Ark.	D	825	.044	.017	.050	.021	.058	.039	.69
7- 570.	Buffalo River near Rush, Ark.	D	1,091	.042	.020	.059	.027	.065	.047	.67
7- 571.	Big Creek near Big Flat, Ark.	P	90.3	.011	†.002	.004	.001	.025	.005	-
7- 607.	South Sylamore Creek at Allison, Ark.	P	126	.057	.040	.066	.047	.071	.060	-
7- 609.	Polk Bayou at Batesville, Ark.	P	165	.20	.18	.21	.18	.23	.21	-
7- 640.	Black River near Corning, Ark.	D	1,749	.17	.14	.19	.15	.19	.17	.45
7- 689.	Fourche Creek near Pocahontas, Ark.	P	305	.033	.022	.039	.025	.052	.038	-
7- 690.	Black River at Pocahontas, Ark.	D	4,843	.31	.25	.35	.27	.34	.30	.36
7- 692.	Mammoth Spring at Mammoth Spring, Ark.	P	-	(224)	(205)	(230)	(212)	(233)	(222)	-
7- 693.	South Fork Spring River near Hardy, Ark.	P	326	.16	.14	.17	.14	.19	.17	-
7- 695.	Spring River at Imboden, Ark.	D	1,162	.28	.23	.29	.24	.30	.27	.34
7- 720.	Eleven Point River near Ravenden Springs, Ark.	D	1,123	.31	.24	.37	.25	.32	.28	.30
7- 725.	Black River at Black Rock, Ark.	D	7,323	.31	.23	.34	.25	.33	.30	.35
7- 730.	Strawberry River near Evening Shade, Ark.	D	225	.038	.025	.044	.029	.049	.040	.64
7- 735.	Piney Fork at Evening Shade, Ark.	D	99	.012	†.005	.022	.005	.028	.015	.72
7- 736.	Mill Creek at Evening Shade, Ark.	P	12.5	1.12	1.04	1.12	1.04	1.12	1.04	-
7- 740.	Strawberry River near Poughkeepsie, Ark.	D	476	.10	.086	.11	.090	.12	.11	.51

See footnotes at end of table.

Table 3.--Low-flow characteristics of selected Arkansas streams --Continued

Station number	Station name	Class of station	Drainage area, in square miles	Annual low flow, in cubic feet per second per square mile, for indicated period of consecutive days and indicated recurrence interval, in years				Flow, in cubic feet per second per square mile, which was equaled or exceeded for indicated percent of time		Index of variability, I _v
				7-day		30-day		90	95	
				2 year	10 year	2 year	10 year			
White River basin--Continued										
7- 746.	Village Creek at Walnut Ridge, Ark.	P	34.3	+0.001	0	+0.016	0	0.001	0	-
7- 748.	Departee Creek near Coffeyville, Ark.	P	86.5	0	0	.005	0	.003	0	-
7- 750.	Middle Fork Little Red River at Shirley, Ark.	D	294	.001	0	.002	0	.004	0	1.02
7- 755.	South Fork Little Red River near Clinton, Ark.	D	316	.001	0	.002	0	.002	0	1.06
7- 760.	Little Red River near Heber Springs, Ark.	D	1,141	.001	0	.005	0	.005	0	1.05
7- 768.	Bayou Des Arc near Garner, Ark.	P	97.1	+0.017	0	.004	0	.003	0	-
7- 768.5	Cypress Bayou near Beebe, Ark.	P	163	0	0	+0.002	0	#.007	0	-
7- 769.5	Wattensaw Bayou near Hazen, Ark.	P	195	.001	0	.002	0	.002	.001	-
7- 773.	Cache River near Stonewall, Ark.	P	285	.004	.001	.006	.002	.006	.004	-
7- 775.	Cache River at Patterson, Ark.	D	1,041	.042	.014	.057	.027	.055	.041	.78
7- 776.5	Big Creek near Jonesboro, Ark.	P	51.1	.008	.002	.013	.003	.009	.005	-
7- 777.	Bayou DeView at Morton, Ark.	D	422	.001	0	.005	0	*.022	0	1.22
7- 779.5	Big Creek at Poplar Grove, Ark.	P	389	+0.021	0	.008	0	.014	0	-
7- 779.7	Big Cypress Creek at Turner, Ark.	P	125	.001	0	.005	0	.008	.001	-
7- 780.	Lagru Bayou near Stuttgart, Ark.	D	175	.001	0	.007	.001	.009	.001	1.04
Arkansas River basin										
7-1888.	Ford Spring near Bentonville, Ark.	P	-	(1.0)	(.23)	(1.2)	(.40)	(.94)	(.52)	-
7-1948.	Illinois River at Savoy, Ark.	P	167	.019	.005	.023	.007	.027	.017	-
7-1949.	Keith Lake Spring at Cave Springs, Ark.	P	-	(1.1)	(.46)	(1.2)	(.63)	(1.0)	(.74)	-
7-1949.5	Little Osage Creek near Healing Springs, Ark.	P	40.0	.30	.18	.32	.22	.30	.24	-
7-1950.	Osage Creek near Elm Springs, Ark.	D	129	.17	.085	.19	.11	.16	.12	.36
7-1957.	Big Spring at Springtown, Ark.	P	-	(2.0)	(1.0)	(2.2)	(1.3)	(2.0)	(1.5)	-
7-1958.	Flint Creek at Springtown, Ark.	P	14	.067	.025	.079	.036	.064	.044	-
7-1969.	Barren Fork at Dutch Mills, Ark.	P	43	+0.017	0	.004	0	.007	.003	-
7-1969.5	Evansville Creek at Evansville, Ark.	P	23.5	+0.009	0	+0.024	0	.003	.001	-
7-2470.	Poteau River at Cauthron, Ark.	D	200	+0.005	0	.001	0	.001	0	1.24
7-2471.	Black Fork near Page, Okla.	P	46.6	+0.004	0	.001	0	.004	0	-
7-2472.	Big Creek at Howard, Ark.	P	10.9	+0.013	0	.003	0	.013	.001	-
7-2473.	Haws Creek near Black Fork, Ark.	P	8.0	.001	0	.010	0	.020	.005	-
7-2494.	James Fork near Hackett, Ark.	D	148	.003	0	.014	0	.023	.009	.72
7-2495.	Cove Creek near Lee Creek, Ark.	D	36.9	+0.014	0	.003	0	.005	.003	1.00
7-2496.	Lee Creek at Natural Dam, Ark.	P	168	.002	0	.005	0	.002	0	-
7-2497.	Mountain Fork Creek at Natural Dam, Ark.	P	36.0	+0.014	0	.003	0	.006	.003	-
7-2498.	Lee Creek near Short, Okla.	P	236	.003	0	.005	0	.003	0	-
7-2499.	Little Lee Creek near Short, Okla.	P	103	+0.001	0	+0.016	0	*.017	0	-
7-2500.	Lee Creek near Van Buren, Ark.	D	427	.003	0	.005	+0.001	.003	0	1.06
7-2505.	Arkansas River at Van Buren, Ark.	D	150,483	.017	.004	.024	.005	.018	.012	.57
7-2506.	Vache Grasse Creek near Lavaca, Ark.	P	111	+0.006	0	.002	0	.006	.001	-
7-2507.	Big Creek at Bloomer, Ark.	P	53.8	0	0	+0.001	0	#.001	0	-
7-2514.	Cedar Creek near Rudy, Ark.	P	51.2	+0.006	0	.001	0	.002	0	-
7-2520.	Mulberry River near Mulberry, Ark.	D	372	.004	0	.010	0	.010	.001	1.00

See footnotes at end of table.

Table 3.--Low-flow characteristics of selected Arkansas streams --Continued

Station number	Station name	Class of station	Drainage area, in square miles	Annual low flow, in cubic feet per second per square mile, for indicated period of consecutive days and indicated recurrence interval, in years				Flow, in cubic feet per second per square mile, which was equaled or exceeded for indicated percent of time		Index of variability, I _v
				7-day		30-day		90	95	
				2 year	10 year	2 year	10 year			
Arkansas River basin--Continued										
7-2521.	Little Mulberry Creek near Mulberry, Ark.	P	52.1	+0.007	0	0.001	0	0.001	0	-
7-2523.	White Oak Creek near Ozark, Ark.	P	76.9	+0.001	0	+0.002	0	*.002	0	-
7-2562.	Horsehead Creek at Hartman, Ark.	P	123	.001	0	.003	0	.002	0	-
7-2565.	Spadra Creek at Clarksville, Ark.	D	54.8	.005	0	.013	0	.009	0	1.02
7-2567.	Shoal Creek near New Blaine, Ark.	P	55.2	+0.002	0	+0.009	0	*.005	0	-
7-2570.	Piney Creek near Dover, Ark.	D	274	.003	0	.009	0	.005	.003	1.02
7-2572.	Little Piney Creek near Lamar, Ark.	P	156	+0.015	0	.002	0	.001	0	-
7-2575.	Illinois Bayou near Scottsville, Ark.	D	242	.002	0	.005	0	.004	.001	1.02
7-2580.	Arkansas River at Dardanelle, Ark.	D	153,707	.020	.005	.025	.006	.022	.014	.57
7-2585.	Petit Jean Creek near Booneville, Ark.	D	247	+0.006	0	.002	0	.001	0	1.38
7-2587.	Sugar Creek near Sugar Grove, Ark.	P	97.7	.001	0	.006	0	.003	0	-
7-2595.	Petit Jean Creek near Waveland, Ark.	D	517	.001	0	.005	0	.004	.001	1.03
7-2600.	Dutch Creek at Waltreak, Ark.	D	74	+0.009	0	+0.027	0	*.005	0	1.41
7-2605.	Petit Jean Creek at Danville, Ark.	D	741	.001	0	.006	0	.016	.005	.86
7-2606.	Spring Creek near Danville, Ark.	P	28.8	+0.012	0	+0.035	0	*.001	0	-
7-2607.	Point Remove Creek near Morrilton, Ark.	P	484	+0.009	0	.001	0	.001	0	-
7-2610.	North Fork Cadron Creek near Guy, Ark.	D	187	.001	0	.002	0	.003	.001	.96
7-2612.	East Fork Cadron Creek near Enola, Ark.	P	145	+0.026	0	.002	0	.003	0	-
7-2614.	Mill Creek near Boles, Ark.	P	55.0	+0.004	0	+0.029	0	*.010	0	-
7-2615.	Fourche La Fave River near Gravelly, Ark.	D	413	+0.020	0	.002	0	.002	0	1.14
7-2616.	Gafford Creek near Bluffton, Ark.	P	42.8	+0.009	0	.001	0	.001	0	-
7-2625.	Fourche La Fave River near Nimrod, Ark.	D	680	+0.021	0	.002	0	.008	.001	.95
7-2630.	South Fourche La Fave River near Hollis, Ark.	D	211	+0.008	0	.003	0	.001	0	1.14
7-2635.	Arkansas River at Little Rock, Ark.	D	158,201	.026	.007	.033	.009	.029	.018	.54
7-2636.	Fourche Creek at Little Rock, Ark.	P	162	.001	0	.004	+0.001	.005	.001	-
7-2638.9	Little Bayou Meto At Reydel, Ark.	P	450	0	0	0	0	0	0	-
7-2640.	Bayou Meto near Lonoke, Ark.	P	203	.010	.001	.019	.004	.018	.009	-
7-2642.	Two Prairie Bayou at Carlisle, Ark.	P	149	.001	0	.003	0	.002	.001	-
7-2645.	Bayou Meto near Stuttgart, Ark.	D	560	0	0	.001	0	0	0	1.46
Red River basin										
7-3369.	Walnut Bayou near Foreman, Ark.	P	83.6	+0.001	0	+0.003	0	*.005	0	-
7-3385.	Little River below Lukfata Creek near Idabel, Okla.	D	1,226	.007	.001	.015	.002	.015	.007	.92
7-3390.	Mountain Fork near Bagletown, Okla.	D	787	.003	0	.008	0	.011	.002	.95
7-3395.	Rolling Fork near DeQueen, Ark.	D	181	.002	*.001	.007	.001	.007	.002	1.07
7-3400.	Little River near Horatio, Ark.	D	2,674	.007	.001	.015	.002	.016	.006	.93
7-3405.	Cossatot River near DeQueen, Ark.	D	361	.019	.005	.030	.008	.036	.022	.80
7-3410.	Saline River near Dierks, Ark.	D	124	.001	0	.002	0	.003	.002	1.18
7-3421.5	Maniece Bayou near Canfield, Ark.	P	109	.002	*.001	.003	.001	.005	.002	-
7-3423.5	McKinney Bayou near Garland, Ark.	P	169	0	0	0	0	.001	0	-
7-3470.	Kelley Bayou near Hosston, La.	D	116	.023	.016	.030	.019	.029	.023	-
7-3486.	Bayou Dorcheat at Buckner, Ark.	P	101	+0.002	0	+0.006	0	.001	0	-
7-3494.3	Bodcau Creek at Stamps, Ark.	P	234	0	0	+0.006	0	*.009	0	-

See footnotes at end of table.

Table 3.--Low-flow characteristics of selected Arkansas streams--Continued

Station number	Station name	Class of station	Drainage area, in square miles	Annual low flow, in cubic feet per second per square mile, for indicated period of consecutive days and indicated recurrence interval, in years				Flow, in cubic feet per second per square mile, which was equaled or exceeded for indicated percent of time		Index of variability, I _v
				7-day		30-day		90	95	
				2 year	10 year	2 year	10 year			
7-3495.	Red River basin--Continued Bodcau Bayou near Sarepta, La. (Bodcau Creek in Arkansas)	D	546	0.001	0	0.001	#0.001	0.002	0.001	-
7-3560.	Ouachita River near Mount Ida, Ark.	D	410	.039	.014	.063	.020	.076	.046	.71
7-3565.	South Fork Ouachita River at Mount Ida, Ark.	D	64	.047	†.005	.072	.005	.078	.044	.62
7-3587.	Gulpha Creek near Hot Springs, Ark.	P	50.2	.028	.009	.044	.013	.049	.030	-
7-3596.	Caddo River at Caddo Gap, Ark.	P	115	.15	.077	.20	.096	.22	.16	-
7-3598.	Caddo River near Alpine, Ark.	D	312	.077	.038	.10	.048	.11	.080	.61
7-3601.	L'Eau Frais Creek at Joan, Ark.	P	79.4	.020	.005	.035	.008	.039	.021	-
7-3602.	Little Missouri River near Langley, Ark.	P	66.5	.19	.11	.23	.13	.24	.19	-
7-3608.	Muddy Fork Creek near Murfreesboro, Ark.	D	121	†.008	0	.001	0	.001	0	1.32
7-3610.	Little Missouri River near Murfreesboro, Ark.	D	380	.020	.008	.032	.012	.001	.021	.84
7-3612.	Ozan Creek near McCaskill, Ark.	P	148	†.004	0	†.051	0	.001	0	-
7-3615.	Antoine River at Antoine, Ark.	D	181	.001	†.001	.002	.001	.002	.001	1.23
7-3616.5	Terre Rouge Creek near Prescott, Ark.	P	231	.001	0	.002	0	.003	.001	-
7-3617.	Caney Creek near Bluff City, Ark.	P	167	†.004	0	.001	0	.001	0	-
7-3618.	Terre Noire Creek near Gurdon, Ark.	P	250	.001	0	.002	0	.003	.001	-
7-3619.	Bayou Freeo near Eagle Mills, Ark.	P	94.8	.001	0	.001	0	.003	.001	-
7-3621.	Smackover Creek near Smackover, Ark.	P	377	.012	.008	.014	.010	.016	.012	-
7-3625.	Moro Creek near Fordyce, Ark.	D	216	0	0	0	0	0	0	2.28
7-3625.5	Moro Creek near Banks, Ark.	P	374	0	0	.001	0	*.001	0	-
7-3626.	Alum Fork at Crows, Ark.	P	123	.010	.002	.018	.004	.020	.010	-
7-3627.	Middle Fork at Crows, Ark.	P	109	.033	.009	.052	.015	.059	.033	-
7-3628.	South Fork near Hot Springs, Ark.	P	12.9	.071	.022	.11	.036	.12	.071	-
7-3629.	North Fork near Benton, Ark.	P	132	.005	.006	.011	.001	.013	.005	-
7-3630.	Saline River at Benton, Ark.	D	569	.021	.005	.035	.009	.040	.021	.76
7-3631.	Francois Creek near Poyen, Ark.	P	84.1	.001	0	.003	†.001	.005	.001	-
7-3633.	Hurricane Creek near Sheridan, Ark.	P	205	.007	.001	.013	.003	.015	.007	-
7-3635.	Saline River at Rye, Ark.	D	2,062	.013	.004	.019	.006	.020	.011	.95
7-3637.	Hudgin Creek near Pansy, Ark.	P	90.3	0	0	0	0	#.016	0	-
7-3640.2	Eagle Creek at Hermitage, Ark.	P	167	0	0	0	0	#.001	0	-
7-3641.5	Bayou Bartholomew near McGehee, Ark.	P	592	.022	.008	.034	.010	.036	.020	-
7-3641.7	Cutoff Creek near Selma, Ark.	P	88.4	0	0	0	0	#.008	0	-
7-3642.5	Chemin-a-Haut Creek near Berlin, Ark.	P	216	0	0	0	0	0	0	-
7-3645.	Bayou Bartholomew near Beekman, La.	D	1,645	.063	.035	.074	.040	.068	.053	-
7-3658.	Cornie Bayou near Three Creeks, Ark.	D	180	.002	.001	.003	.001	.005	.002	1.12
7-3659.	Three Creek near Three Creeks, Ark.	P	46	.014	.010	.016	.011	.020	.014	-
7-3660.	Corney Bayou near Lillie, La. (Corney Bayou in Arkansas)	D	462	.003	0	.007	†.001	.006	.003	-

† 1.2 year R.I., 2 year flow = 0.0.

* 5 year R.I., 10 year flow = 0.0.

* 80% duration, 90% = 0.0.

70% duration, 80% and 90% = 0.0.

Note.--Values shown in parentheses are in cubic feet per second.