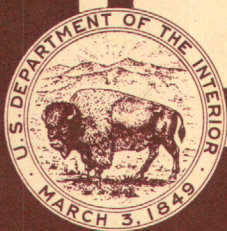
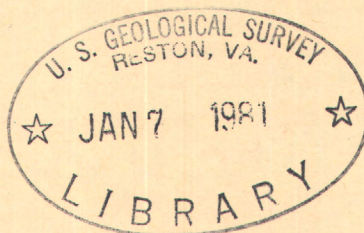


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Water Resources Data for Oklahoma

Part 1. Surface Water Records



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

Prepared in cooperation with the State of Oklahoma
and with other agencies

CALENDAR FOR WATER YEAR 1973

1972

OCTOBER

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1973

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1973

Water Resources Data for Oklahoma

Part 1. Surface Water Records



**UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY**

**Prepared in cooperation with the State of Oklahoma
and with other agencies**

Prepared in cooperation with
Oklahoma Water Resources Board
Oklahoma Department of Highways
City of Oklahoma City
Corps of Engineers, U.S. Army
Soil Conservation Service, U.S. Department of Agriculture
Bureau of Reclamation, U.S. Department of the Interior

Water-resources records, 1973, for Oklahoma are given in the following reports of the U.S. Geological Survey:

1. Water Resources Data for Oklahoma
Part 1: Surface Water Records
2. Water Resources Data for Oklahoma
Part 2: Water Quality Records

Copies of this report may be obtained from
District Chief, Water Resources Division
U.S. Geological Survey
Room 621, Old Post Office Building
Oklahoma City, Okla. 73102

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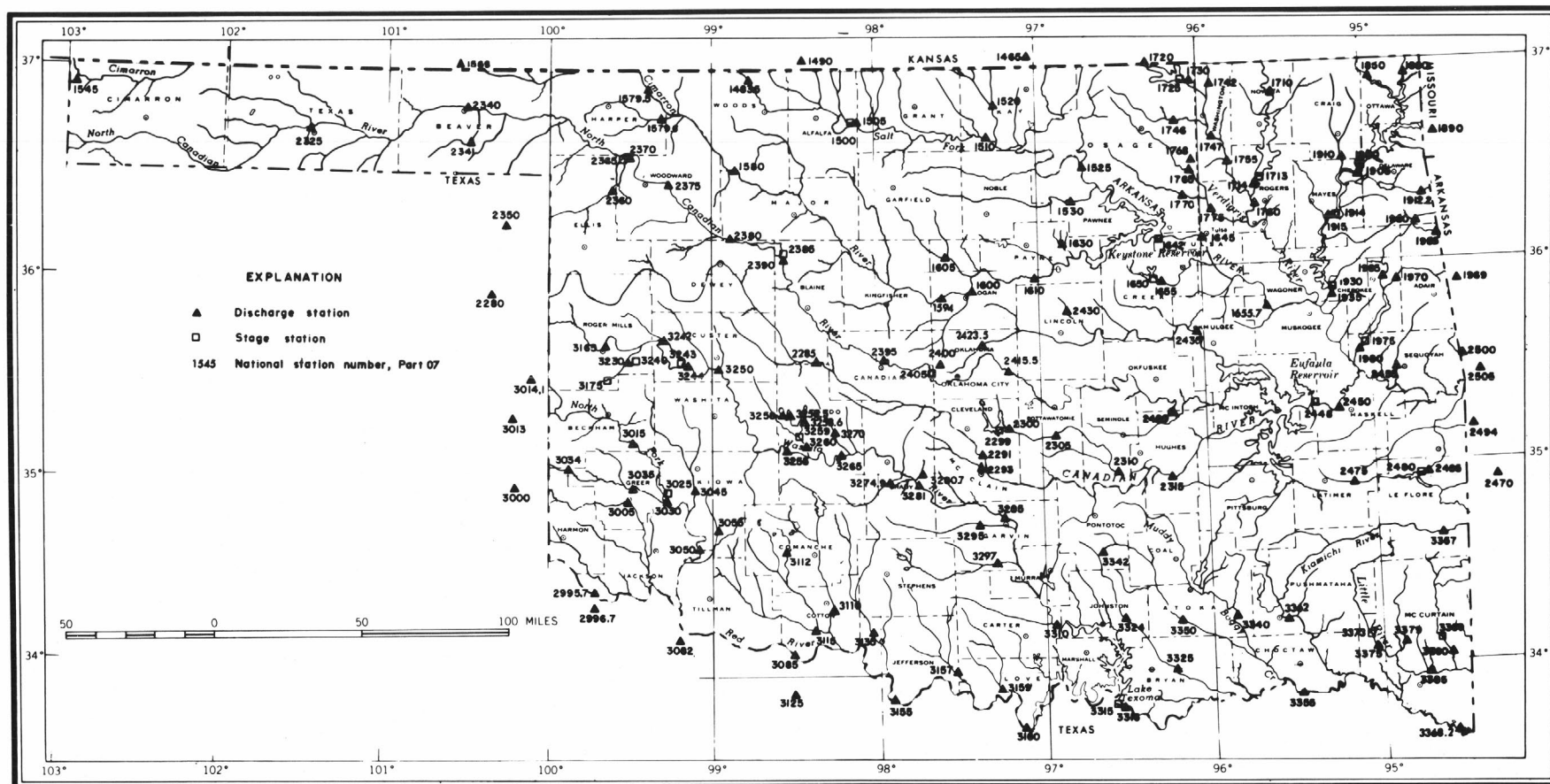


Figure 1.— Map of Oklahoma showing location of continuous record stations, water year 1973

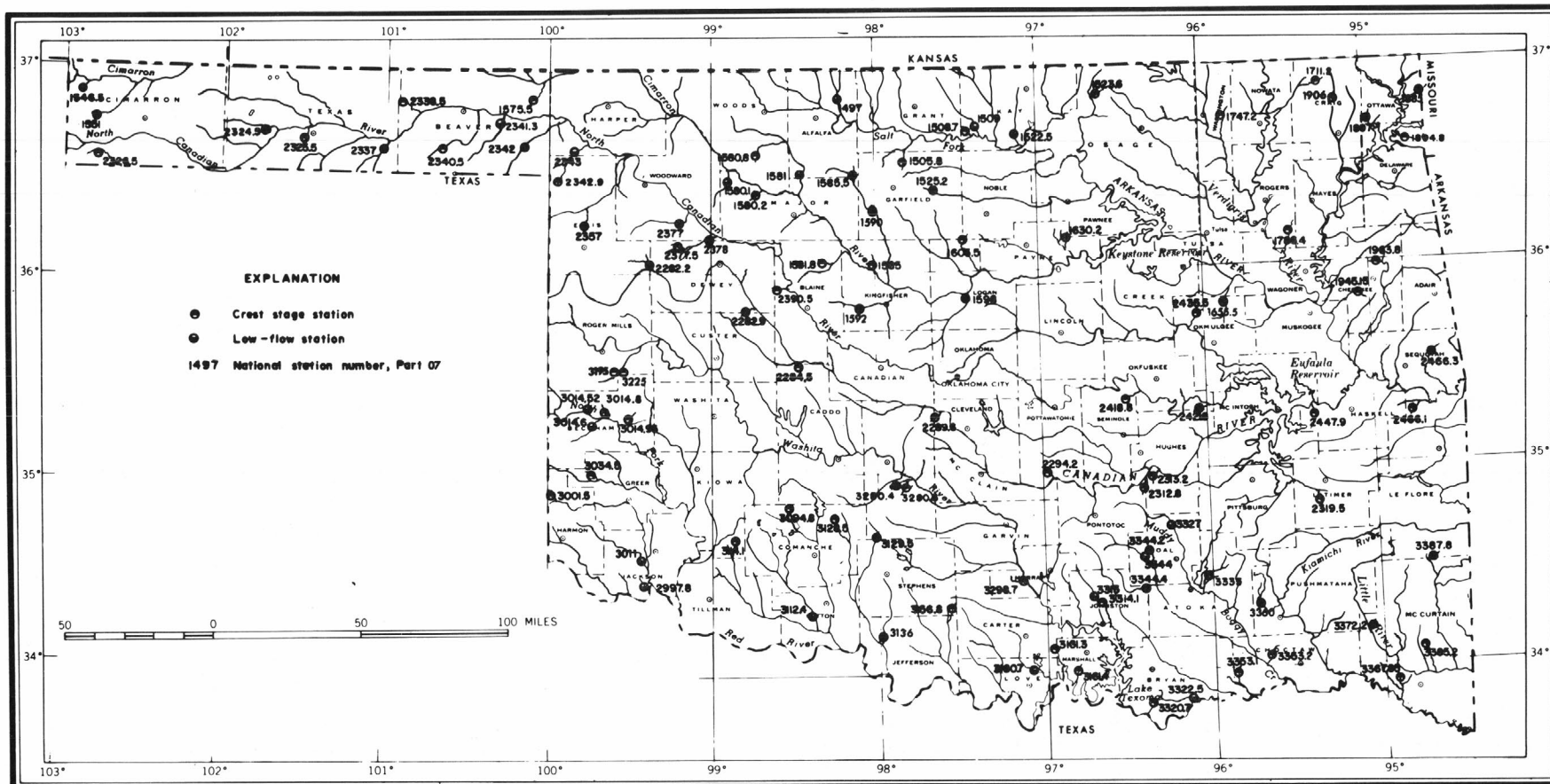


Figure 2.—Map of Oklahoma showing location of partial record stations, water year 1973

WATER RESOURCES DATA FOR OKLAHOMA, 1973

PART 1. SURFACE-WATER RECORDS

by W.J. Murphy Jr.

INTRODUCTION

Surface-water records for the 1973 water year for Oklahoma, including records of streamflow or reservoir storage at gaging stations, partial-record stations, and miscellaneous sites, are given in this report and their locations shown in figures 1, 2. Records for a few pertinent gaging stations in bordering States are also included. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of J. H. Irwin, district chief. Oklahoma district personnel who contributed significantly to the collection and preparation of data included in this report were: W.B. Mills, W.O. Thomas, R.L. Goemaat, D.L. Hart Sr., T.L. Huntzinger, D.V. Mitchell, R.K. Corley, C.R. Haddock, J.F. James, L.D. Mize, D.K. White, D.M. Walters, R.W. Chadd, T.E. Coffey, C.J. Henry, M.R. Johnston, C.A. Richard, and B.T. Gaines. These data represent that portion of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Oklahoma.

Through September 30, 1960, the records of discharge and stage of streams and canals and contents and stage of lakes or reservoirs were published in an annual series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States". Beginning with the 1961 water year, records will be published at 5-year intervals.

Beginning with the 1961 water year, surface-water records have been released by the Geological Survey in annual reports on a State-boundary basis. Distribution of these reports is limited; they are designed primarily for rapid release of data shortly after the end of the water year to meet local needs. The discharge and reservoir storage records for 1961-65 also have been published in a Geological Survey water-supply paper series entitled "Surface Water Supply of the United States 1961-65".

COOPERATION

The U.S. Geological Survey and organizations of the State of Oklahoma have had cooperative agreements for the systematic collection of surface-water records since 1935. Organizations that supplied data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Oklahoma Water Resources Board, Don Arch King, Chairman,
succeeded by Lloyd E. Church, Forrest Nelson, executive
director.

Oklahoma Department of Highways, Richard A. Ward, Director.

Oklahoma City Water Department, B. M. Petitt, Jr., Director
of water services, succeeded by J. H. Almond Jr., Acting Director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, in collecting records for 77 gaging stations published in this report. Assistance for 14 stations was furnished by the Soil Conservation Service, U.S. Department of Agriculture, and 4 stations by the Bureau of Reclamation, U.S. Department of the Interior.

The following organizations aided in collecting records:

Grand River Dam authority; Central Oklahoma Master Conservancy District; Fort Cobb Reservoir Master Conservancy District; Lugert-Altus Irrigation District; the cities of Ada, Altus, Lawton, Shawnee, and Tulsa; the Department of Transportation, Federal Highway Administration; and the Agricultural Research Service, U.S. Department of Agriculture.

DEFINITION OF TERMS

Terms related to streamflow and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System of units (SI) on page 13.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or 325,851 gallons.

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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

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

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

Cubic foot per second(cfs) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second, and is equivalent to 7.48 gallons per second or 448.8 gallons per minute.

Discharge is the volume of water(or more broadly, total fluids), that passes a given point within a given period of time.

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

Gage height(G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Partial-record station is a particular site where limited stream-flow data are collected systematically over a period of years for use in hydrologic analyses.

Runoff in inches (IN.) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

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

WRD is used as an abbreviation for "Water-Resources Data" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

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

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a

bench-mark station may be used to separate effects of natural from man-made changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

DOWNSTREAM ORDER AND STATION NUMBERS

Records listed in a downstream direction along the main stream, and stations on tributaries are listed between stations on the main stream in the order in which those tributaries enter the main stream. Stations on tributaries entering above all mainstream stations are listed before the first mainstream station. Stations on tributaries to tributaries are listed in a similar manner. In the list of gaging stations in the front of this report the rank of tributaries is indicated by indention, each indention representing one rank.

As an added means of identification, each gaging station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Gaps are left in the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 07194500, includes the part number "07" and a 6-digit station number. In previous reports, the nonessential zeros were not shown.

All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

EXPLANATION OF SURFACE-WATER DATA

Collection and Computation of Data

The base data collected at gaging stations consists of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage

recorder that gives a continuous graph of the fluctuations (for digital recorders, a tape punched at 15-minute intervals) or from direct readings on a nonrecording gage. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks on the measurement of stream discharge. (See also SELECTED REFERENCES.) Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

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

At some stream-gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. Information required for determining the slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in determining discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves

defined by surveys. Discharge over spillways is computed from a stage-discharge relation curve defined by discharge measurements. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of basic data. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Records are published for a "WATER YEAR", which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, and general remarks. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey, unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for Stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. The maximum discharge (or

contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or the minimum contents), and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). In the first paragraph headed "Current year:" the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record:" the data given are for the period of record given in the PERIOD OF RECORD paragraph. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a non-recording gage read at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge or contents, it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of Water Quality records, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir, is also given under "REMARKS."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISIONS (WATER YEARS)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge were revised, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revisions of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

Skeleton capacity tables are published for all reservoirs for which records of contents are published on a daily basis.

The daily tables for stream-gaging stations give the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

The daily tables for reservoir stations give the contents corresponding to the water-surface elevation at a given time, usually at 2400 each day. For some reservoirs the elevation at a given time is given in the daily table.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures; it is the total cubic feet per second per day for the month. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN.") or in acre-feet (line headed "AC-FT"). Figures of cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large non-contributing areas, or if the average rainfall on the drainage basin is usually less than 20 inches.

For reservoir stations the monthly summary gives the elevation (or gage height) at the end of the month and the change in contents during the month. For some reservoirs a tabulation of monthly diversions from the reservoir also is included.

In the yearly summary below the monthly summary, the figures of maximum are the maximum daily discharges for the calendar and water years; likewise, the minimums in this summary are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calendar year and for the water year. For some reservoirs the yearly diversion also is included.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream

for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030 and 1:30 p.m. is 1330.

In a general footnote, introduced by the word "NOTE" certain periods are indicated for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs. Footnotes to reservoir tables may be used to explain the use of new capacity tables or for other special conditions.

Accuracy of Data

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

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges is within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 cfs; to tenths between 1.0 and 10 cfs; to whole numbers between 10 and 1,000 cfs; and to 3 significant figures above 1,000 cfs. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumptive use, regulation, evaporation, or other factors. For such stations, discharge in cubic feet per second per square mile and runoff in inches are not published unless satisfactory adjustments can be made for such effects. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed

runoff may occur if adjustments or unadjusted losses (consumptive use, evaporation, seepage, etc.) are large in comparison with the observed discharge.

Publications

Daily records for a 5-year period, water years 1961-65, have been published in two volumes of a new continuing series. Data for the Red River basin are contained in Water Supply Paper 1920 "Surface Water Supply of the United States, 1961-65: Part 7, Volume 1, Lower Mississippi River Basin . . ."; data for the Arkansas River basin are contained in Volume 2 (WSP 1921). Records for subsequent years will be published at five-year intervals.

Each volume of the 1965 series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States" contains a listing of the numbers of all water-supply papers in which records of surface-water data have been published for the area covered by the individual volumes. Each volume also contains a list of water-supply papers that give detailed information on major floods for the area.

Monthly records through September 1950 for the area covered by this report have been compiled and published in Water Supply Paper 1311; records for October 1950 to September 1960 have been compiled and published in Water Supply Paper 1731. These reports contain summaries of monthly and annual discharge and monthend storage for all previously published records, as well as some records not contained in the annual series of water-supply papers. All records were reexamined and revised where warranted. Estimates of discharge were made to fill short gaps whenever practical. The yearly summary table for each gaging station lists the numbers of the water-supply papers in which daily records were published for that station.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the district office.

Other Data Available

Data collected at partial-record stations and at miscellaneous sites are given in three tables at the end of the surface-water records in this report. The first is a table of discharge measurements at low-flow partial-record stations, the second is a table of annual maximum stage and discharge at crest-stage stations, and the third is a table of discharge measurements at miscellaneous sites.

More detailed information than that published for most of the gaging stations, such as discharge measurements, gage-height records, and rating tables, is on file in the district office. Many gaging-station records in Oklahoma through 1968 have been analyzed to give several statistical summaries: (1) the number of days in each year that the daily discharge was between selected limits (duration tables); (2) the lowest mean discharge for selected numbers of consecutive days in each year; and (3) the highest mean discharge for selected numbers of consecutive days in each year.

At or near some gaging stations, water-quality records also are collected. Data are obtained on the chemical quality of the stream water, on water temperature, on suspended-sediment concentration, and on the particle-size distribution of suspended sediment and bed material. These data are given in Part 2 of this report. Under the "REMARKS" paragraph of the gaging-station description, reference is made to water-quality records collected on a regular basis.

HYDROLOGIC CONDITIONS

Yearly runoff was above normal in all sections of Oklahoma except the extreme west central and the panhandle areas where yearly means were well below average mean discharge. In the north-central and eastern sections of the State, yearly mean discharge varied from 100 to 500 percent of the average mean discharge for the period of record.

Peak discharges, except in the northwest, were many and significant. The highest peak of record occurred at the Cimarron River near Buffalo, Mud Creek near Courtney, Cobb Creek near Eakly, Lake Creek near Eakly, Willow Creek near Albert, Winter Creek near Alex, and Wildhorse near Hoover. Many stations in north-central and eastern Oklahoma had the second or third highest peak of record and many peaks above base. The Washita River at Durwood, in south-central Oklahoma, index station was 413 percent of median for the year.

Peak stages occurred at eleven crest-stage partial-record sites. Five were in southeast Oklahoma on October 31 and November 1, and the remainder were scattered throughout the State, the result of very local runoff.

Reservoir storage in central and eastern Oklahoma were generally at or above normal maximum at the end of the year and varied from 96 percent to 145 percent of normal. New maximum contents occurred at Keystone, Oologah, Hudson and Eufaula Lakes in April.

SELECTED REFERENCES

- Carter, R.W., and Davidian, Jacob, 1968, General procedure for gaging streams: U.S. Geol. Survey Techniques Water-Resources Inv., book 3, chap. A6, 13 p.
- Corbett, D M., and others, 1943, Stream-gaging procedure, a manual describing methods and practices of the Geological Survey: U.S. Geol. Survey Water-Supply Paper 888, 245 p.
- Langbien, W. B., and Iseri, D. T., 1960, General introduction and hydrologic definitions: U.S. Geol. Survey Water-Supply Paper 1541-A, 29 p.

Factors for Converting English Units to International System (SI) Units

The following factors may be used to convert the English units published herein to the International System of Units (SI). Subsequent reports will contain both the English and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply English Units	By	To obtain SI units
Length		
inches (in)	25.4	millimetre (mm)
feet (ft)	.0254	metres (m)
yards (yd)	.3048	metres (m)
rods	.9144	metres (m)
miles (mi)	5.0292	metres (m)
	1.609	kilometres (km)
Area		
acres	4047	square metres (sq m)
	.4047	*hectares (ha)
	.4047	square hectometre (sq hm)
	.004047	square kilometres (sq km)
square miles (sq mi)	2.590	square kilometres (sq km)
Volume		
gallons (gal)	3.785	**liters (l)
	3.785	cubic decimetres (cu dm)
million gallons (10 ⁶ gal)	3.785x10 ⁻³	cubic metres (cu m)
	3785	cubic metres (cu m)
	3.785x10 ⁻³	cubic hectometres (cu hm)
cubic feet (cu ft)	28.32	cubic decimetres (cu dm)
	.02832	cubic metres (cu m)
cfs-day (cfs/s day)	2447	cubic metres (cu m)
	2.447x10 ⁻³	cubic hectometres (cu hm)
acre-feet (acre-ft)	1233	cubic metres (cu m)
	1.233x10 ⁻³	cubic hectometres (cu hm)
	1.233x10 ⁻⁶	cubic kilometres (cu km)
Flow		
cubic feet per second (cfs)	28.32	liters per second (l/s)
	28.32	cubic decimetres per second (cu dm/s)
	.02832	cubic metres per second (cu m/s)
gallons per minute (gpm)	.06309	liters per second (l/s)
	.06309	cubic decimetres per second (cu dm/s)
	6.309x10 ⁻⁵	cubic metres per second (cu m/s)
million gallons per day (mgd)	43.81	cubic decimetres per second (cu dm/s)
	.04381	cubic metres per second (cu m/s)
Mass		
ton (short)	.9072	tonne (t)

*The unit hectare is approved for use with the International System (SI) for a limited time. See NBS Special Bulletin 330, p. 15, 1972 edition.

**The unit liter is accepted for use with the International System (SI). See NBS Special Bulletin 300, p. 13, 1972 edition.

GAGING STATION RECORDS

14

ARKANSAS RIVER BASIN

07146500 ARKANSAS RIVER AT ARKANSAS CITY, KS

LOCATION.--Lat 37°03'23", long 97°03'32", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.34 S., R.3 E., Cowley County, near left bank at downstream side of bridge on U.S. Highway 166, 0.1 mi (0.2 km) downstream from St. Louis - San Francisco Railway Co. bridge, 0.5 mi (0.8 km) west of Arkansas City, 5.4 mi (8.7 km) upstream from Walnut River and at mile 701.4 (1,128.6 km).

DRAINAGE AREA.--43,713 mi² (113,220 km²), of which 7,607 mi² (19,700 km²) is probably noncontributing.

PERIOD OF RECORD.--September 1902 to September 1906, September 1921 to current year. Published as "near Arkansas City" 1903-4. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,050.04 ft (320.052 m) above mean sea level (levels by Corps of Engineers). Sept. 23, 1902, to July 31, 1906, nonrecording gage at site 0.5 mi (0.8 km) upstream at datum 9.5 ft (2.90 m) higher. Sept. 10, 1921, to Sept. 27, 1929, nonrecording gage and Sept. 28, 1929, to Aug. 28, 1956, water-stage recorder at site 0.5 mi (0.8 km) upstream at datum 2.97 ft (0.905 m) higher than present datum.

AVERAGE DISCHARGE.--56 years, 1,764 ft³/s (49.96 m³/s), 1,278,000 acre-ft/yr (1.58 km³/yr).

EXTREMES.--Current year: Maximum discharge, 49,900 ft³/s (1,410 m³/s), Apr. 2, gage height, 22.84 ft (6.962 m); minimum, 346 ft³/s (9.8 m³/s) Oct. 14, 15, 19-21.
Period of record: Maximum discharge, 103,000 ft³/s (2,920 m³/s) June 10, 1923, gage height, 25.46 ft (7.760 m), from floodmarks, site and datum then in use, from rating curve extended above 8,000 ft³/s (226.6 m³/s) on basis of field estimate, maximum gage height, 25.55 ft (7.788 m) May 18, 1957; minimum discharge, 1.0 ft³/s (0.028 m³/s) Oct. 9, 1921, result of diversion by local power canal.
Maximum stage known since at least 1877, 25.55 ft (7.788 m) May 18, 1957, from information by local residents.

REMARKS.--Records good. Flow moderately regulated by John Martin Reservoir since 1943 (see sta 07130000) and Cheney Reservoir since 1964 (see sta 07144790). Diversions above station for irrigation. Records of chemical analyses, water temperatures, suspended sediment loads and specific conductance for the water year 1973 are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1311: 1905. WSP 1341: 1922-23, 1927, 1929, 1931, 1933, 1940, 1945-46(M), drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448	435	694	963	4,090	1,060	36,300	6,160	1,610	957	2,300	452
2	436	542	674	1,300	14,200	1,120	45,900	11,600	1,610	968	1,940	452
3	423	554	644	1,490	14,900	1,160	30,700	8,300	1,550	956	1,840	444
4	417	493	622	1,560	10,200	1,450	31,300	6,000	1,450	897	1,660	436
5	405	468	590	1,140	8,840	9,820	27,400	5,830	1,880	845	1,480	444
6	395	447	434	758	7,310	16,400	21,100	5,590	3,600	787	1,340	460
7	388	444	470	600	5,200	11,900	18,900	5,420	3,230	752	1,200	484
8	379	529	511	560	3,360	11,300	17,100	5,220	2,150	732	1,090	572
9	385	463	623	500	2,300	19,900	12,700	4,830	1,880	718	998	1,060
10	384	466	625	500	2,020	26,100	9,410	4,580	1,740	706	912	1,140
11	376	504	635	520	1,840	38,300	7,650	4,580	1,630	955	971	950
12	358	504	629	540	1,710	40,400	6,890	4,200	1,530	850	948	870
13	352	767	666	540	1,630	25,900	6,490	3,750	1,480	721	904	1,020
14	352	1,130	698	580	1,550	18,400	6,150	3,660	1,440	743	924	1,170
15	352	944	743	600	1,480	19,700	5,880	3,110	1,420	1,170	900	1,010
16	413	716	730	700	1,380	15,100	6,370	2,780	1,380	1,020	867	950
17	378	677	731	900	1,510	10,400	10,600	2,590	1,320	824	872	950
18	364	713	730	1,420	1,250	7,390	8,810	2,440	1,250	754	889	1,030
19	352	703	761	3,220	1,220	6,130	7,990	2,320	1,180	766	880	1,010
20	346	736	839	2,890	1,270	6,110	9,990	2,210	1,160	681	798	980
21	382	746	965	2,700	1,180	6,380	8,940	2,090	1,140	643	730	910
22	462	758	865	3,590	1,140	6,330	7,340	1,990	1,110	784	689	930
23	489	762	838	2,770	1,110	6,170	7,080	1,970	1,100	1,200	644	2,390
24	442	747	810	2,340	1,090	5,400	5,730	2,420	1,080	1,400	604	6,390
25	400	776	773	1,830	1,060	11,500	5,410	2,240	1,070	1,240	564	7,340
26	391	829	835	1,720	1,050	24,300	4,610	2,010	1,040	1,170	508	10,600
27	382	810	982	1,720	1,050	25,800	4,780	1,890	1,010	1,550	468	21,700
28	377	755	986	1,950	1,080	18,800	4,490	1,840	993	2,640	468	51,000
29	381	715	998	1,730	-----	18,200	4,040	1,830	991	3,040	468	36,600
30	371	708	1,410	1,520	-----	17,000	4,320	1,760	976	3,300	452	42,300
31	378	-----	1,170	1,450	-----	24,800	-----	1,680	-----	2,960	468	-----
TOTAL	12,158	19,841	23,681	44,601	95,820	452,720	384,370	116,890	45,000	36,709	29,776	176,044
MEAN	392	661	764	1,439	3,422	14,600	12,810	3,771	1,500	1,184	961	5,868
MAX	489	1,130	1,410	3,590	14,900	40,400	45,900	11,600	3,600	3,300	2,300	42,300
MIN	346	435	434	500	1,050	1,060	4,040	1,680	976	643	452	436
AC-FT	24,120	39,350	46,970	88,470	190,100	898,000	762,400	231,900	89,260	72,810	59,060	349,200

CAL YR 1972 TOTAL 259,843 MEAN 710 MAX 3,810 MIN 212 AC-FT 515,400
WTR YR 1973 TOTAL 1,437,610 MEAN 3,939 MAX 45,900 MIN 346 AC-FT 2,851,000

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
02-02	2400	17.27	19,100	03-27	0600	19.39	29,000	05-02	1400	15.30	12,400
03-06	0100	17.04	18,200	04-02	0500	22.84	49,900	09-30	1100	22.00	44,000
03-12	1400	21.59	41,500	04-17	1600	15.32	12,500				

ARKANSAS RIVER BASIN

15

07147800 WALNUT RIVER AT WINFIELD, KS

LOCATION.--Lat 37°13'27", long 96°59'40", in SW¼SW¼NE¼ sec.33, T.32 S., R.4 E., Cowley County, at downstream side of bridge on U.S. Highway 77, 1.0 mi (1.6 km) south of Winfield, 1.0 mi (1.6 km) upstream from Black Creek, and at mile 24.8 (39.9 km).

DRAINAGE AREA.--1,872 mi² (4,848 km²).

PERIOD OF RECORD.--October 1921 to current year. October to November 1921 monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,082.86 ft (330.056 m) above mean sea level (Corps of Engineers bench mark). Prior to Oct. 1, 1934, nonrecording gage on upstream side of former bridge just upstream from present gage at same datum.

AVERAGE DISCHARGE.--52 years, 777 ft³/s (22.00 m³/s), 562,900 acre-ft/yr (694 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 31,800 ft³/s (901 m³/s) Mar. 11, gage height, 30.78 ft (9.382 m); minimum, 5.2 ft³/s (0.147 m³/s) Oct. 15.

Period of record: Maximum discharge, 105,000 ft³/s (2,970 m³/s) Apr. 23, 1944, gage height, 38.30 ft (11.674 m); no flow at times in 1929, 1936, 1954-56.

Maximum floods known since at least 1877, that of Apr. 23, 1944; Nov. 18, 1928, discharge, 94,400 ft³/s (2,670 m³/s), gage height, 41.0 ft (12.50 m), from graph based on gage readings at former site.

REMARKS.--Records good. Some regulation at low flow by City Water Works Dam and Timber Creek Reservoir above station. Records of chemical analyses, water temperatures, and suspended sediment loads for the water year 1973 are published in Part 2 of the Kansas State report.

REVISIONS (WATER YEARS).--WSP 607: 1923(M). WSP 1117: Drainage area. WSP 1241: 1922(M), 1923, 1926-27, 1928-29(M), 1934, 1940-41.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	55	372	2,560	6,560	401	10,200	1,110	282	127	74	24
2	20	227	530	1,220	13,200	467	7,730	4,710	275	125	74	24
3	18	289	295	1,480	14,500	784	2,790	3,520	268	117	80	45
4	16	209	265	2,950	1,770	6,950	1,940	1,320	271	107	79	51
5	15	145	247	2,240	2,180	13,000	1,570	981	400	100	70	42
6	14	117	207	800	1,620	15,600	1,350	848	2,310	94	62	34
7	12	98	189	600	1,340	15,900	1,210	844	1,760	90	57	35
8	12	86	196	500	1,250	15,000	1,210	1,140	536	85	54	48
9	16	86	169	450	1,110	19,200	1,440	1,210	366	83	52	46
10	13	76	156	380	945	24,000	1,380	895	304	81	54	45
11	11	182	162	370	885	30,400	1,220	747	270	78	53	45
12	9.0	306	163	360	854	26,900	1,080	674	245	73	59	58
13	8.0	2,020	158	360	817	20,400	978	595	227	69	66	72
14	7.2	4,410	159	370	784	7,360	912	534	216	72	114	69
15	6.2	2,270	151	366	729	5,530	905	496	213	75	127	61
16	6.9	1,270	148	552	662	3,090	4,700	468	218	126	117	56
17	6.8	801	145	3,960	591	2,190	6,090	438	221	153	93	51
18	9.0	582	150	6,770	565	1,800	3,320	421	215	120	76	50
19	16.0	468	283	3,940	549	1,580	3,360	402	197	179	66	49
20	16	415	744	1,730	537	1,720	6,280	367	179	101	59	50
21	29	397	1,050	1,340	523	1,830	4,670	370	167	80	51	52
22	43	398	1,060	3,150	499	1,480	2,760	362	154	108	46	52
23	81	414	864	4,350	484	1,260	2,510	344	147	260	43	48
24	63	459	624	3,350	466	1,520	1,600	465	141	120	39	84
25	85	753	500	2,560	455	10,300	1,300	493	131	168	37	275
26	81	1,070	386	2,670	434	13,800	1,170	357	124	165	35	2,500
27	67	932	319	2,910	414	11,700	1,080	329	137	123	31	8,740
28	56	709	283	2,720	405	3,900	959	316	157	113	28	12,000
29	49	546	363	2,100	-----	2,440	869	310	134	95	26	11,800
30	44	441	2,290	1,450	-----	2,110	817	306	124	91	26	4,790
31	45	-----	4,120	1,450	-----	9,460	-----	296	-----	84	24	-----
TOTAL	898.1	20,231	16,548	59,908	61,128	272,072	77,400	25,688	10,389	3,462	1,872	41,296
MEAN	29.0	674	534	1,933	2,183	8,777	2,580	829	346	112	60.4	1,377
MAX	85	4,410	4,120	6,770	14,500	30,400	10,200	4,710	2,310	260	127	12,000
MIN	6.2	55	145	360	405	401	817	296	124	69	24	24
AC-FT	1,780	40,130	32,820	118,800	121,200	539,700	153,500	50,950	20,610	6,870	3,710	81,910

CAL YR 1972 TOTAL 95,020.1 MEAN 260 MAX 6,130 MIN 6.2 AC-FT 188,500
WTR YR 1973 TOTAL 590,892.1 MEAN 1,619 MAX 30,400 MIN 6.2 AC-FT 1,172,000

PEAK DISCHARGE (BASE, 9,600 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
02-03	1300	17.69	14,700	03-31	1300	14.39	10,800
03-11	1300	30.78	31,800	09-29	0400	16.01	12,700
03-26	1800	17.09	14,000				

ARKANSAS RIVER BASIN

07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OKLA.

LOCATION.--Lat 36°57'45", long 98°46'55", in NE 1/4 SE 1/4 sec.26, T.29 N., R.15 W., Woods County, near left bank on downstream side of pier of county road bridge, 1 mi (1.6 km) northeast of Winchester, 2.5 mi (4.0 km) upstream from Greenwood Creek, 4.9 mi (7.9 km) downstream from Yellowstone Creek, 5 mi (8.0 km) downstream from State line, 19 mi (30.6 km) northwest of Alva, and at mile 156.2 (251.3 km).

DRAINAGE AREA.--856 sq mi (2,220 sq km).

PERIOD OF RECORD.--October 1959 to current year. Monthly discharge only for some periods, published in WSP 1731.

GAGE.--Water-stage recorder. Datum of gage is 1,409.6 ft (429.6 m) above mean sea level.

AVERAGE DISCHARGE.--14 years, 83.8 cfs (2.373 cu m/s), 60,710 acre-ft/yr (74.9 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 24,700 cfs (700 cu m/s) Mar. 30, gage height, 11.74 ft (3.578 m); minimum daily, 0.09 cfs (0.003 cu m/s), Aug. 22.

Period of record: Maximum discharge, 52,000 cfs (1,473 cu m/s) Aug. 19, 1961, gage height, 13.95 ft (4.252 m), from rating curve extended above 17,400 cfs (493 cu m/s); no flow at times in 1961, 1964-72. Flood in May 1957 reached a stage of 15.4 ft (4.69 m), from information by county engineer.

REMARKS.--Records good except for winter periods, which are fair.

REVISIONS (WATER YEARS).--WSP 1731: Drainage area. WSP 1921: 1960.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	25	30	83	344	70	1,950	566	86	15	26	.2
2	3.4	25	27	76	264	92	939	419	87	10	19	.2
3	3.2	24	24	70	175	97	608	347	80	6.4	15	.3
4	3.0	20	15	60	136	102	452	311	74	4.9	12	.5
5	2.8	18	10	54	111	103	354	282	67	3.3	7.5	.4
6	2.7	16	7.0	50	97	96	317	277	63	2.1	4.5	.4
7	2.6	13	10	47	90	83	294	259	63	1.2	2.7	.8
8	2.5	12	13	37	61	175	312	234	58	.78	1.6	.5
9	2.4	13	11	30	47	356	356	221	50	.68	1.3	.4
10	2.3	14	9.0	34	96	1,820	395	212	36	1.1	.96	.4
11	2.1	14	10	28	92	5,360	444	200	33	.67	.84	.4
12	2.0	18	12	25	87	1,260	383	186	33	.53	.75	13
13	1.9	43	9.6	50	82	653	322	174	34	6.8	.67	15
14	2.7	27	13	80	73	415	295	168	47	71	.56	11
15	2.1	24	11	130	71	326	370	162	37	74	.45	21
16	1.8	25	13	220	70	263	646	155	24	55	.35	9.7
17	1.7	26	25	178	69	226	346	147	18	31	.28	6.4
18	1.6	29	45	123	73	214	300	142	16	14	.21	5.3
19	1.5	34	80	99	75	208	373	140	14	7.5	.16	4.8
20	1.9	33	110	88	72	200	309	128	13	6.1	.14	4.7
21	7.4	35	130	88	67	182	1,010	121	13	3.8	.12	4.8
22	11	35	150	90	61	173	351	113	14	4.0	.09	4.2
23	9.7	33	110	99	59	203	244	103	14	4.5	.15	3.8
24	8.8	33	101	97	58	1,050	1,570	99	11	54	.17	299
25	8.3	38	80	100	61	1,250	5,220	94	9.3	461	.12	1,350
26	8.4	36	77	102	64	609	1,960	96	6.8	96	.12	2,210
27	8.8	39	77	90	64	354	2,210	86	5.1	46	.14	5,390
28	9.2	37	78	60	66	445	953	87	5.4	40	.16	2,100
29	8.6	35	78	80	-----	611	688	75	6.5	31	.17	508
30	11	32	91	117	-----	8,110	580	76	7.4	25	.18	292
31	14	-----	94	137	-----	11,200	-----	81	-----	32	.29	-----
TOTAL	153.3	806	1,550.6	2,622	2,685	36,306	24,551	5,761	1,025.5	1,109.36	96.68	12,257.2
MEAN	4.95	26.9	50.0	84.6	95.9	1,171	818	186	34.2	35.8	3.12	409
MAX	14	43	150	220	344	11,200	5,220	566	87	461	26	5,390
MIN	1.5	12	7.0	25	47	70	244	75	5.1	.53	.09	.20
AC-FT	304	1,600	3,080	5,200	5,330	72,010	48,700	11,430	2,030	2,200	192	24,310

CAL YR 1972 TOTAL 25,651.95 MEAN 70.1 MAX 6,050 MIN .18 AC-FT 50,880
WTR YR 1973 TOTAL 88,923.64 MEAN 244 MAX 11,200 MIN .09 AC-FT 176,400

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-11	0430	9.59	8,810	4-25	0945	9.65	9,110
3-30	2100	11.74	24,700	9-27	1600	10.04	11,200

ARKANSAS RIVER BASIN

17

07149000 MEDICINE LODGE RIVER NEAR KIOWA, KS

LOCATION.--Lat 37°02'17", long 98°28'04", in SE¼SW¼ sec.36, T.34 S., R.11 W., Barber County, at downstream side of bridge on State Highway 14, 200 ft (61 m) downstream from the Atchison, Topeka and Santa Fe Railway Co. bridge, 1.5 mi (2.4 km) northeast of Kiowa, and at mile 22.2 (35.7 km).

DRAINAGE AREA.--903 mi² (2,340 km²).

PERIOD OF RECORD.--May 1895 to October 1896, October 1937 to September 1950, October 1954 to September 1955, June 1959 to current year. Published as Medicine River near Kiowa 1895-96. All figures of discharge above 2,000 ft³/s (57 m³/s) for June and July 1896, published in Eighteenth Annual Report of the Geological Survey (Part 4), have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 1,286.99 ft (392.275 m) above mean sea level (levels by Corps of Engineers). May 1895 to October 1896, nonrecording gage at site 2.0 mi (3.2 km) upstream at different datum. Feb. 11 to Mar. 2, 1938, nonrecording gage and Mar. 3, 1938, to Sept. 30, 1944, water-stage recorder at present site at datum 3.00 ft (0.914 m) higher. Oct. 1, 1944, to Sept. 30, 1950, and Oct. 1, 1954, to Sept. 30, 1955, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--28 years (1937-50, 1954-55, 1959-73), 137 ft³/s (3.880 m³/s), 99,260 acre-ft/yr (122 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,920 ft³/s (196 m³/s) Mar. 31, gage height, 11.14 ft (3.395 m); minimum observed, 0.60 ft³/s (0.017 m³/s) Aug. 27.

Period of record: Maximum discharge, 16,000 ft³/s (453 m³/s) Oct. 22, 1941, gage height, 11.75 ft (3.581 m), present datum; no flow at times in most years.

Floods of May 8, 1922, and June 1957 reached stages of about 16 ft (4.9 m) and 15.5 ft (4.7 m), respectively, present site and datum, from the Atchison, Topeka and Santa Fe Railway Co. records and information by local resident.

REMARKS.--Records fair except those for winter periods, which are poor.

REVISIONS (WATER YEARS).--WSP 1117: Drainage area. WSP 1391: 1938(M), 1942(M). WSP 1921: Drainage area. See also PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	66	84	142	299	144	4,790	815	155	30	30	.75
2	36	72	82	129	536	159	2,100	654	145	28	30	.75
3	31	72	77	134	395	171	1,190	549	140	19	24	.80
4	31	69	66	127	255	193	945	501	135	15	22	.90
5	28	63	60	104	221	223	748	468	129	14	18	1.0
6	28	58	30	80	201	201	666	450	121	12	15	1.3
7	28	60	28	76	189	187	621	444	111	11	12	1.8
8	29	60	28	74	181	272	609	417	107	9.2	10	5.5
9	29	60	28	72	171	401	684	390	99	7.0	10	10
10	31	63	30	72	167	902	684	375	92	5.5	7.0	13
11	28	72	32	74	165	2,100	651	363	89	5.5	7.0	14
12	27	74	35	80	163	1,810	612	345	86	4.8	11	34
13	27	94	40	100	163	634	558	321	83	5.5	11	129
14	28	90	45	150	157	508	522	300	86	22	10	161
15	27	88	50	223	151	449	531	294	88	24	8.5	94
16	28	88	60	300	146	341	1,090	282	107	117	5.5	75
17	27	86	80	389	144	290	764	267	83	77	2.5	69
18	26	94	100	223	142	275	564	249	75	50	2.1	66
19	26	94	173	161	147	278	540	240	70	26	1.4	62
20	28	90	205	147	147	513	591	231	66	18	1.1	59
21	40	88	231	147	142	329	958	225	62	13	.90	57
22	40	88	278	149	140	268	664	222	57	13	.80	54
23	38	88	308	147	140	343	495	249	50	19	.70	105
24	38	92	268	151	140	1,730	658	213	42	32	.70	156
25	36	98	227	147	140	2,090	2,500	203	30	133	.65	488
26	34	100	187	146	140	1,110	2,050	188	26	72	.65	780
27	34	98	167	161	140	642	1,470	178	26	57	.60	1,950
28	34	94	146	165	138	570	1,200	172	20	57	.65	3,400
29	34	90	138	183	-----	557	796	168	18	38	.65	2,270
30	38	86	138	169	-----	1,280	706	160	22	30	.70	680
31	42	-----	148	163	-----	4,690	-----	155	-----	30	.70	-----
TOTAL	989	2,435	3,569	4,585	5,260	23,660	30,957	10,088	2,420	994.5	245.80	10,738.80
MEAN	31.9	81.2	115	148	188	763	1,032	325	80.7	32.1	7.93	358
MAX	42	100	308	389	536	4,690	4,790	815	155	133	30	3,400
MIN	26	58	28	72	138	144	495	155	18	4.8	.60	.60
AC=FT.	1,960	4,830	7,080	9,090	10,430	46,930	61,400	20,010	4,800	1,970	488	21,300

CAL YR 1972 TOTAL 26,125.60 MEAN 71.4 MAX 857 MIN 2.0 AC=FT 51,820
WTR YR 1973 TOTAL 95,942.10 MEAN 263 MAX 4,790 MIN .60 AC=FT 190,300

PEAK DISCHARGE (BASE, 3,700 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
03-31	2400	11.14	6,920	09-28	2000	9.60	3,900

ARKANSAS RIVER BASIN

07150000 GREAT SALT PLAINS LAKE NEAR JET, OKLA.

LOCATION.--Lat 36°44'40", long 98°08'08", in NW 1/4 SE 1/4 sec.11, T.26 N., R.9 W., Alfalfa County, at right end of Great Salt Plains Dam on Salt Fork Arkansas River, 4.5 mi (7.2 km) upstream from Wagon Creek, 5.5 mi (8.8 km) northeast of Jet, and at mile 103.3 (166.2 km).

DRAINAGE AREA.--3,200 sq mi (8,288 sq km), of which 8 sq mi (20.7 sq km) is probably noncontributing.

PERIOD OF RECORD.--July 1941 to current year. Prior to October 1970, published as Great Salt Plains Reservoir near Jet.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 139,100 acre-ft (172 cu hm) Apr. 3, elevation, 1,132.85 ft (345.293 m); minimum, 17,180 acre-ft (21.2 cu hm) Sept. 6, elevation, 1,123.16 ft (342.339 m).

Period of record: Maximum contents, 189,400 acre-ft (234 cu hm) July 2, 1951, elevation, 1,134.38 ft (345.759 m); minimum, 17,180 acre-ft (21.2 cu hm) Sept. 6, 1973, elevation, 1,123.16 ft (342.339 m).

REMARKS.--Reservoir is formed by earth dam. Outlet works consist of a 310 ft (94.5 m) uncontrolled concrete spillway containing a series of three weirs to form a cascade. Storage began in June 1941; conservation pool was first filled Oct. 21, 1941. Capacity, 257,700 acre-ft (318 cu hm) at elevation 1,138.5 ft (347.01 m), crest of upper weir, and 31,420 acre-ft (38.7 cu hm) at elevation 1,125.0 ft (342.90 m), crest of intermediate weir and conservation pool. Reservoir is used for flood control and as a wildlife refuge. Figures given herein represent total contents. Revised capacity table, based on survey in 1971, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

REVISIONS.--WSP 1117: Drainage area.

Capacity table (elevation, in feet, and contents, in acre-feet)

1123	16,080	1129	75,970
1125	31,420	1131	106,200
1127	51,180	1133	142,000

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31,770	34,630	33,630	34,540	39,720	35,640	133,400	66,040	35,360	31,160	30,560	18,010
2	31,420	32,740	33,540	34,540	39,910	35,450	138,700	72,070	35,910	30,820	29,880	17,870
3	31,600	32,650	33,360	35,360	41,890	36,470	133,600	69,820	35,360	30,820	29,120	17,800
4	31,420	32,470	32,920	34,990	41,890	37,220	123,200	64,940	35,640	30,390	28,370	18,440
5	31,420	32,390	33,450	34,900	41,490	37,790	112,900	61,340	34,990	30,130	27,460	17,940
6	31,250	32,650	33,100	34,630	40,700	39,420	102,400	57,250	34,720	30,130	26,810	17,730
7	31,160	32,560	33,010	34,540	39,720	39,130	93,090	54,230	34,630	29,880	26,410	18,580
8	30,560	32,030	32,920	34,350	39,720	45,260	87,650	51,180	34,350	29,880	25,210	19,650
9	30,730	33,360	32,920	34,080	39,040	47,690	80,980	48,770	34,260	29,540	24,590	19,430
10	31,080	32,030	32,740	33,990	37,980	62,940	75,020	45,990	33,990	29,290	23,810	19,360
11	30,820	32,030	32,830	33,810	37,510	72,730	71,540	45,050	33,630	29,200	23,280	19,290
12	30,730	32,650	33,010	33,810	38,360	79,990	66,470	43,710	33,100	28,870	22,520	19,720
13	30,560	33,450	32,920	33,810	37,790	81,980	62,200	42,490	33,630	29,880	21,920	19,430
14	30,390	33,010	33,010	33,900	37,410	75,430	58,920	41,290	33,630	30,390	21,550	19,430
15	30,560	32,920	32,830	33,990	36,660	69,690	56,660	40,990	33,720	30,300	21,330	19,650
16	30,560	33,100	32,740	33,990	36,570	64,440	53,430	39,810	33,540	30,300	21,400	19,720
17	30,130	32,920	32,740	34,810	36,660	58,560	52,980	39,330	33,010	30,130	21,250	19,720
18	30,130	34,080	32,920	34,990	36,190	55,270	50,960	38,750	32,650	29,710	20,960	19,940
19	30,130	34,450	33,010	34,900	36,380	52,300	50,960	37,980	32,830	29,290	20,960	19,790
20	30,560	34,260	33,100	35,730	36,100	49,200	49,420	37,790	32,740	28,870	20,740	19,790
21	31,420	34,450	33,010	37,790	36,010	46,940	49,530	37,790	32,470	28,450	20,520	19,940
22	32,120	34,630	33,190	37,510	36,100	45,370	50,300	37,130	32,300	30,050	20,300	19,870
23	31,860	34,080	33,540	37,410	35,730	44,850	50,630	36,750	32,920	30,300	20,300	19,430
24	31,770	34,170	33,720	36,940	35,450	48,230	56,310	36,380	31,950	29,710	20,300	20,520
25	31,860	34,630	34,080	36,850	35,450	65,700	59,880	36,100	31,950	33,810	19,940	20,300
26	31,860	33,810	34,260	36,660	35,360	81,690	68,010	36,850	32,030	33,810	19,510	28,040
27	31,860	33,810	34,540	36,660	35,180	81,270	71,930	36,660	31,250	32,920	19,290	37,220
28	31,680	33,720	34,630	37,510	34,990	77,070	71,540	35,360	31,250	32,120	19,080	45,780
29	31,510	33,900	35,180	36,940	-----	71,010	69,300	34,990	31,080	32,030	18,790	54,570
30	32,740	33,630	34,990	36,750	-----	81,830	65,450	35,450	31,080	31,680	18,720	55,850
31	32,830	-----	34,450	37,980	-----	111,900	-----	35,270	-----	30,990	18,440	-----
MAX	32,830	34,630	35,180	37,980	41,890	111,900	138,700	72,070	35,910	33,810	30,560	55,850
MIN	30,130	32,030	32,740	33,810	34,990	35,450	49,420	34,990	31,080	28,450	18,440	17,730
(†)	1,125.16	1,125.25	1,125.34	1,125.72	1,125.40	1,131.34	1,128.20	1,125.43	1,124.96	1,124.95	1,123.34	1,127.41
(‡)	+710	+800	+820	+3,530	-2,990	+76,910	-46,450	-30,180	-4,190	-90	-12,550	+37,410

CAL YR 1972..... +280
WTR YR 1973..... +23,730

Note.--Contents from revised capacity table, Dec. 31, 1971, 34,170 acre-ft and Sept. 30, 1972, 32,120 acre-ft.

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

ARKANSAS RIVER BASIN

19

07150500 SALT FORK ARKANSAS RIVER NEAR JET, OKLA.

LOCATION.--Lat 36°45'11", long 98°07'44", in NE 1/4 NE 1/4 sec.11, T.26 N., R.9 W., Alfalfa County, near center of span on downstream side of county road bridge, 0.6 mi (0.97 km) downstream from Great Salt Plains Dam, 4 mi (6.4 km) upstream from Wagon Creek, 6 mi (9.7 km) northeast of Jet, and at mile 102.7 (165.2 km).

DRAINAGE AREA.--3,202 sq mi (8,293 sq km), of which 8 sq mi (20.7 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,092.20 ft (332.903 m) above mean sea level (levels by Corps of Engineers). Prior to Mar. 17, 1938, nonrecording gage at site 2.5 miles (4.0 km) upstream at datum 13.46 ft (4.103 m) higher. Mar. 17, 1938, to Apr. 26, 1953, water-stage recorder at site 200 ft (61.0 m) upstream, datum 5.00 ft (1.524 m) higher prior to Oct. 1, 1950.

AVERAGE DISCHARGE.--36 years, 354 cfs (10.03 cu m/s), 256,500 acre-ft/yr (316 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 10,600 cfs (300 cu m/s) Apr. 2, gage height, 11.31 ft (3.447 m); minimum daily, 0.76 cfs (0.022 cu m/s) Aug. 23.
Period of record: Maximum discharge, 25,900 cfs (733 cu m/s) May 19, 1938, gage height, 13.80 ft (4.206 m), present datum; no flow at times in 1939-41, 1944, 1955-56.

REMARKS.--Records good. Flow regulated since June 1941 by Great Salt Plains Lake (see sta. 07150000). Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	165	134	229	613	275	9,920	4,000	317	16	330	1,4
2	30	131	120	230	679	297	10,500	4,390	363	13	329	1,8
3	23	53	89	323	778	276	10,300	4,700	360	9,9	328	1,9
4	19	49	100	313	908	496	9,600	4,200	321	6,6	326	2,2
5	19	53	71	298	870	474	8,780	3,540	315	5,3	325	2,2
6	18	61	104	325	819	615	7,800	3,070	286	3,4	324	2,8
7	10	58	94	307	747	683	6,980	2,600	277	3,3	324	2,6
8	8,9	50	76	270	717	865	6,340	2,170	256	3,2	323	2,8
9	8,2	69	156	245	678	1,400	5,740	1,870	243	43	323	2,5
10	20	54	101	223	595	1,830	4,910	1,610	238	18	322	2,5
11	13	21	62	215	549	1,740	4,490	1,310	211	55	320	2,5
12	7,3	24	91	201	555	3,430	4,060	1,210	184	3,2	321	3,6
13	6,4	184	79	194	557	5,160	3,500	1,050	173	20	163	2,6
14	8,1	104	75	192	513	5,120	3,040	934	187	4,0	1,8	2,6
15	6,9	75	72	196	472	4,600	2,650	848	230	3,7	1,7	2,3
16	6,4	96	62	190	421	4,170	2,350	765	222	85	1,5	3,2
17	6,4	80	70	248	435	3,450	2,150	710	143	176	1,3	3,0
18	7,8	121	57	319	420	2,860	2,040	652	160	169	1,1	2,8
19	6,5	199	77	317	401	2,430	2,170	614	128	169	1,2	2,9
20	5,1	197	88	335	406	2,050	1,800	570	135	169	1,2	3,1
21	4,9	198	89	433	358	1,770	1,740	557	116	171	1,1	2,3
22	17	202	85	541	382	1,580	1,770	516	93	187	,79	2,8
23	16	185	94	525	363	1,290	1,900	502	132	173	,76	2,4
24	12	170	101	494	343	1,360	2,170	498	88	172	1,3	4,0
25	14	225	116	470	326	2,620	2,890	443	61	323	,90	2,8
26	13	191	131	463	326	5,090	3,630	463	52	395	,93	8,4
27	14	144	157	478	299	6,000	4,620	670	21	451	1,1	126
28	15	149	185	542	257	5,660	4,770	352	21	403	1,1	828
29	9,2	141	249	490	-----	4,980	4,600	318	12	373	1,1	1,870
30	37	172	362	461	-----	4,880	4,200	321	12	360	1,1	2,600
31	41	-----	271	472	-----	6,900	-----	333	-----	341	14	-----
TOTAL	455,1	3,621	3,618	10,539	14,787	84,351	141,410	45,786	5,357	4,324,6	4,091,98	5,498,0
MEAN	14,7	121	117	340	528	2,721	4,714	1,477	179	140	132	183
MAX	41	225	362	542	908	6,900	10,500	4,700	363	451	330	2,600
MIN	4,9	21	57	190	257	275	1,740	318	12	3,2	,76	1,4
AC=FT	903	7,180	7,180	20,900	29,330	167,300	280,500	90,820	10,630	8,580	8,120	10,910

CAL YR 1972 TOTAL 40,506,90 MEAN 111 MAX 666 MIN 2,1 AC=FT 80,350
WTR YR 1973 TOTAL 323,838,68 MEAN 887 MAX 10,500 MIN ,76 AC=FT 642,300

ARKANSAS RIVER BASIN

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OKLA.

LOCATION.--Lat 36°40'13", long 97°18'33", in NW 1/4 SE 1/4 sec.4, T.25 N., R.1 W., Kay County, near right bank on downstream side of pier of bridge on U.S. Highway 77 in Tonkawa, 4 mi (6.4 km) downstream from Thompson Creek, 7.8 mi (12.6 km) upstream from Chikaskia River, and at mile 33.8 (34.4 km).

DRAINAGE AREA.--4,528 sq mi (11,728 sq km) of which 8 sq mi (20.7 sq km) is probably noncontributing.

PERIOD OF RECORD.--September 1903 to October 1905 (gage heights only), October 1935 to current year.

Monthly discharge only for some periods, published as Arkansas River (Salt Fork) near Tonkawa 1903-4 and as "near Tonkawa" 1905.

GAGE.--Water-stage recorder. Datum of gage is 930.22 ft (283.531 m) above mean sea level (Corps of Engineers bench mark). September 1903 to October 1905, nonrecording gage near present site at different datum. Jan. 2, 1936, to Jan. 22, 1939 nonrecording gage, and Jan. 23, 1939, to June 20, 1960, water-stage recorder at site 100 ft (30.5 m) upstream at same datum.

AVERAGE DISCHARGE.--38 years, 647 cfs (18.32 cu m/s), 468,800 acre-ft/yr (578 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 22,800 cfs (646 cu m/s) Mar. 11, gage height, 22.03 ft (6.715 m); minimum, 51 cfs (1.44 cu m/s) Sept. 24.

Period of record: Maximum discharge, 40,800 cfs (1,160 cu m/s) May 20, 1938, gage height, 22.82 ft (6.956 m); maximum gage height, 23.48 ft (7.157 m) Oct. 5, 1959; no flow Aug. 31 to Oct. 12, Oct. 14-16, 1956.

Flood of June 10, 1923, reached a stage of 26.8 ft (8.17 m), from information by Corps of Engineers.

Flood of July 11, 1904, reached a stage of 14.6 ft (4.45 m), datum then in use.

REMARKS.--Records good. Some regulation since June 1941 by Great Salt Plains Lake, 69.5 miles (111.8 km) upstream (see sta. 07150000). Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	158	153	261	700	321	16,000	6,470	439	144	673	73
2	71	272	156	234	840	313	17,200	6,990	476	135	464	74
3	71	311	140	384	1,210	331	13,500	6,510	467	125	403	74
4	71	279	127	855	1,110	632	9,730	5,630	524	122	382	313
5	72	187	100	671	1,030	451	9,210	5,180	634	121	380	206
6	71	133	76	450	1,090	671	8,710	4,600	477	120	366	78
7	73	108	84	400	1,010	850	8,140	4,170	438	114	362	85
8	74	96	95	300	931	2,990	7,880	3,620	407	109	367	165
9	75	90	98	250	820	12,900	8,990	3,090	394	112	395	112
10	76	86	95	300	786	17,800	8,270	2,620	380	103	883	81
11	77	80	90	200	739	22,100	7,780	2,240	370	101	832	75
12	77	84	100	200	661	19,200	6,120	1,870	359	116	516	68
13	80	154	88	230	608	13,900	5,330	1,640	338	106	400	65
14	82	429	80	300	605	8,040	4,750	1,450	320	127	371	62
15	81	428	90	400	592	6,840	4,450	1,290	317	112	306	62
16	83	289	100	550	560	5,850	4,880	1,140	306	127	187	65
17	84	203	110	1,300	531	4,830	4,190	1,050	320	136	155	61
18	84	164	141	1,100	498	4,090	3,570	923	319	112	128	57
19	84	154	167	900	485	3,470	3,600	864	273	157	116	58
20	85	173	316	800	471	2,950	6,450	805	260	193	109	57
21	87	262	302	844	447	2,500	6,190	741	234	193	104	59
22	83	332	255	4,110	429	2,120	7,380	695	233	206	100	58
23	80	338	236	3,950	389	1,850	8,700	691	223	213	96	55
24	70	317	229	2,470	380	1,710	4,430	638	206	243	91	114
25	60	282	197	1,430	372	2,560	11,500	626	202	469	89	407
26	59	242	162	842	357	7,860	14,000	605	201	540	84	2,120
27	59	245	145	670	345	10,600	9,630	543	173	2,030	82	7,370
28	55	237	137	751	334	8,540	6,250	592	167	1,290	79	7,180
29	54	188	144	868	-----	7,570	5,290	766	162	918	77	6,860
30	62	169	162	849	-----	6,780	5,360	481	149	605	76	5,220
31	92	-----	185	742	-----	11,200	-----	447	-----	615	79	-----
TOTAL	2,304	6,490	4,560	27,611	18,330	191,819	237,480	68,977	9,768	9,814	8,752	31,334
MEAN	74.3	216	147	891	655	6,188	7,916	2,225	326	317	282	1,044
MAX	92	429	316	4,110	1,210	22,100	17,200	6,990	634	2,030	883	7,370
MIN	54	80	76	200	334	313	3,570	447	149	101	76	55
AC=FT	4,570	12,870	9,040	54,770	36,360	380,500	471,000	136,800	19,370	19,470	17,360	62,150

CAL YR 1972 TOTAL 64,182 MEAN 175 MAX 1,320 MIN 21 AC=FT 127,300
WTR YR 1973 TOTAL 617,239 MEAN 1,691 MAX 22,100 MIN 54 AC=FT 1,224,000

PEAK DISCHARGE (BASE, 11,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-11	0915	22.03	22,800	4-2	1015	20.21	17,500
3-27	0430	16.03	11,300	4-25	2400	18.41	14,800

ARKANSAS RIVER BASIN

21

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OKLA.

LOCATION.--Lat 36°48'31", long 97°16'39", in NE 1/4 NW 1/4 sec.23, T.27 N., R.1 W., Kay County, near left bank on downstream side of pier of St. Louis-San Francisco Railway Co. bridge at northeast edge of Blackwell, 0.2 mi (0.32 km) downstream from Bitter Creek, and at mile 28.2 (45.4 km).

DRAINAGE AREA.--1,859 sq mi (4,815 sq km).

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 967.41 ft (29.487 m) above mean sea level (levels by Corps of Engineers). See WSP 1921 for history of changes prior to April, 1952.

AVERAGE DISCHARGE.--38 years, 468 cfs (13.25 cu m/s), 339,100 acre-ft/yr (418 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 36,000 cfs (1,020 cu m/s) Mar. 11, gage height, 30.95 ft (9.434 m); maximum gage height, 31.91 ft (9.726 m) Sept. 28; minimum discharge, 20 cfs (0.57 cu m/s) Aug. 21.

Period of record: Maximum discharge, 85,000 cfs (2,410 cu m/s), June 22, 1942, gage height, 33.3 ft (10.15 m), from floodmark, present site and datum; no flow at times in 1954, 1956.

Flood of June 10, 1923 reached a stage of about 34 ft (10.4 m), present site and datum, from information by local residents, discharge 100,000 cfs (283 cu m/s).

REMARKS.--Records good. Some regulation at low flow by Lake Blackwell, capacity, 3,600 acre-ft (4.44 cu hm), 12.6 mi (20.3 km) above station. Small diversion made from reservoir for municipal supply of city of Blackwell.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	64	82	117	1,140	260	19,600	2,990	289	137	110	42
2	57	73	70	103	5,390	327	8,300	7,490	295	134	98	49
3	52	76	68	256	3,230	353	2,880	2,920	290	131	88	47
4	50	69	45	681	1,040	250	1,580	1,190	292	130	88	39
5	46	68	35	205	790	3,320	1,170	951	439	126	94	40
6	45	67	60	140	700	2,920	958	837	318	125	70	40
7	41	63	68	120	635	250	841	1,390	312	122	55	44
8	39	63	45	90	567	205	939	858	308	119	51	48
9	40	59	40	60	496	6,000	2,250	719	200	118	53	48
10	43	58	90	45	470	17,000	2,200	640	200	116	51	35
11	42	54	111	35	432	33,900	1,260	593	220	114	53	29
12	40	56	77	35	402	21,300	969	549	265	114	47	25
13	38	104	40	36	384	5,230	841	513	267	111	62	25
14	37	284	38	40	360	3,280	756	485	257	113	52	28
15	36	173	35	70	332	3,920	763	462	223	111	45	59
16	37	101	76	154	297	1,560	1,370	448	184	110	39	51
17	38	83	61	1,770	284	1,080	2,510	433	175	111	34	49
18	37	70	55	3,480	288	869	1,440	428	172	115	30	44
19	34	62	61	1,200	292	762	1,840	400	166	119	26	43
20	32	81	69	232	296	1,140	5,620	390	163	118	24	43
21	44	97	159	183	298	1,630	2,400	370	161	150	20	42
22	61	139	193	3,080	295	797	2,580	360	159	800	33	314
23	63	131	163	2,010	292	589	1,700	350	160	300	29	5,510
24	56	120	159	895	297	744	1,310	330	158	250	34	4,110
25	53	117	144	441	300	4,710	6,540	320	152	600	51	7,940
26	49	130	119	313	304	9,170	4,780	310	148	450	40	11,200
27	45	157	109	271	305	6,390	2,020	290	146	300	38	20,200
28	44	130	108	516	306	2,180	1,430	280	141	200	39	25,400
29	44	106	100	637	-----	1,430	1,110	270	138	130	37	20,200
30	51	92	146	450	-----	1,250	1,000	260	136	125	39	6,100
31	56	-----	191	423	-----	8,590	-----	250	-----	120	40	-----
TOTAL	1,413	2,947	2,817	18,088	20,222	141,406	82,957	28,076	6,534	5,819	1,570	101,844
MEAN	45.6	98.2	90.9	583	722	4,561	2,765	906	218	188	50.6	3,395
MAX	63	284	193	3,480	5,390	33,900	19,600	7,490	439	800	110	25,400
MIN	32	54	35	35	284	205	756	250	136	110	20	25
AC=FT	2,800	5,850	5,590	35,880	40,110	280,500	164,500	55,690	12,960	11,540	3,110	202,000

CAL YR 1972 TOTAL 36,627.0 MEAN 100 MAX 2,430 MIN 5.9 AC=FT 72,650
WTR YR 1973 TOTAL 413,693.0 MEAN 1,133 MAX 33,900 MIN 20 AC=FT 820,600

PEAK DISCHARGE (BASE, 8,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
3-11	1700	30.95	36,000	5-2	0915	22.66	8,320
3-26	1800	26.26	9,860	9-28	0030	31.91	27,400
4-1	1400	30.65	21,900				

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OKLA.

LOCATION.--Lat 36°30'09", long 96°43'22", in NW 1/4 sec.1, T.23 N., R.5 E., Osage County, near left bank on downstream side of pier of bridge on State Highway 18 at Ralston, 2 mi (3.2 km) downstream from Salt Creek, 2 mi (3.2 km) upstream from Grayhorse Creek, and at mile 594.0 (955.7 km).

DRAINAGE AREA.--54,465 sq mi (141,064 sq km), of which 7,615 sq mi (19,723 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1922 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 776.70 ft (236.738 m) above mean sea level. Oct. 1, 1925, to Nov. 13, 1935, nonrecording gage at site of former highway bridge 1,200 ft (366 m) downstream at same datum. Nov. 14, 1935, to Feb. 23, 1939, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--48 years, 4,592 cfs (130.0 cu m/s), 3,327,000 acre-ft/yr (4.10 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 121,000 cfs (3,420 cu m/s) Mar. 12, gage height, 19.41 ft (5.916 m); minimum, 544 cfs (15.4 cu m/s) Oct. 18.
Period of record: Maximum discharge, 179,000 cfs (5,070 cu m/s) Apr. 25, 1944, gage height, 22.82 ft (6.956 m) in gage well, 23.65 ft (7.209 m), from outside gage; minimum, 14 cfs (0.40 cu m/s) Oct. 12, 1956.
Flood of June 11, 1923, reached a stage of 23.8 ft (7.25 m), referred to outside gage on basis of stages observed in 1923 and 1944 at site 1,200 ft (366 m) downstream.

REMARKS.--Records good. Some regulation by John Martin Reservoir in Colorado and Great Salt Plains Lake (see sta. 07150000). Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,160	3,720	2,720	13,300	8,470	2,520	60,600	18,200	4,080	2,060	4,770	1,150
2	1,040	3,130	2,500	7,380	9,690	2,660	75,800	19,100	4,040	1,960	4,350	1,200
3	975	2,520	2,330	10,700	22,300	2,550	91,300	26,400	3,950	1,880	3,960	1,160
4	927	1,850	2,230	12,300	31,600	4,150	60,500	28,900	3,810	1,820	3,280	1,140
5	881	1,660	2,100	12,300	21,800	7,260	49,200	19,200	3,860	1,750	2,940	1,120
6	840	1,620	1,800	4,000	16,500	23,400	44,800	16,800	4,570	1,710	2,780	1,100
7	808	1,440	1,500	2,000	12,900	40,400	37,200	16,600	5,220	1,600	2,660	1,090
8	782	1,330	1,190	1,550	10,800	39,800	34,600	15,500	5,640	1,500	2,560	1,500
9	764	1,240	1,050	1,700	8,710	48,800	38,900	13,500	5,780	1,540	3,470	1,600
10	738	1,170	1,000	1,800	7,100	78,300	35,000	12,200	4,640	2,000	2,990	1,550
11	703	1,140	1,040	1,700	5,980	93,900	27,200	11,000	3,860	1,620	2,730	1,420
12	692	1,140	1,080	1,600	5,330	114,000	22,600	10,100	3,480	1,590	2,860	1,330
13	679	3,800	1,150	1,800	4,860	116,000	19,200	9,250	3,280	1,550	2,190	1,320
14	684	4,020	1,300	2,200	4,500	100,000	17,400	8,550	3,160	1,620	1,900	1,300
15	652	5,040	1,500	2,900	4,250	51,600	20,100	8,000	3,120	1,840	1,700	1,300
16	631	6,400	1,800	4,000	4,060	42,400	30,500	7,500	3,000	1,740	1,600	1,290
17	601	5,220	2,000	6,120	3,840	33,200	25,800	6,800	2,800	1,620	1,580	1,300
18	566	3,830	2,520	7,380	3,650	24,400	26,200	6,260	2,900	1,580	1,550	1,300
19	576	3,340	2,200	11,800	3,450	19,900	25,100	6,010	4,200	1,610	1,500	1,320
20	561	3,050	2,000	13,800	3,290	16,900	21,100	5,690	4,900	1,570	1,460	1,330
21	664	2,860	2,200	9,970	3,170	16,300	29,700	5,470	3,600	1,570	1,400	1,350
22	873	2,720	2,620	9,540	3,060	16,100	27,800	5,220	2,720	1,690	1,360	1,360
23	823	2,700	3,150	13,000	2,960	15,400	23,800	5,090	2,510	1,810	1,310	1,370
24	827	2,730	3,720	16,400	2,870	18,600	24,500	4,950	2,200	1,780	1,270	1,410
25	812	3,090	3,330	12,400	2,760	26,000	23,500	5,060	2,120	2,140	1,250	6,610
26	806	3,270	2,960	11,000	2,720	41,000	30,200	5,170	2,090	2,610	1,200	16,000
27	784	3,430	2,680	8,780	2,630	56,200	31,000	5,090	1,990	3,040	1,200	40,100
28	757	3,570	2,490	7,580	2,570	61,600	22,400	4,590	1,940	3,400	1,190	60,900
29	737	3,460	2,490	7,300	-----	42,600	17,300	4,330	1,990	3,890	1,150	71,100
30	849	3,070	4,940	7,470	-----	36,500	14,800	4,330	2,020	3,970	1,130	78,400
31	2,450	-----	16,600	6,650	-----	42,700	-----	4,380	-----	4,550	1,090	-----
TOTAL	25,642	87,560	82,190	230,420	215,820	1,235.1M	1,008.1M	319,240	103,470	64,610	66,380	304,420
MEAN	827	2,919	2,651	7,433	7,708	39,840	33,600	10,300	3,449	2,084	2,141	10,150
MAX	2,450	6,400	16,600	16,400	31,600	116,000	91,300	28,900	5,780	4,550	4,770	78,400
MIN	561	1,140	1,000	1,550	2,570	2,520	14,800	4,330	1,940	1,500	1,090	1,090
AC=FT	50,860	173,700	163,000	457,000	428,100	2,450M	2,000M	633,200	205,200	128,200	131,700	603,800

CAL YR 1972 TOTAL 653,459 MEAN 1,785 MAX 16,600 MIN 389 AC=FT 1,296,000
WTR YR 1973 TOTAL 3,742,992 MEAN 10,250 MAX 116,000 MIN 561 AC=FT 7,424,000

PEAK DISCHARGE (BASE 30,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
2-4	0845	11.88	33,500	4-16	0300	10.56	33,900
3-12	2100	19.41	121,000	5-4	0245	10.52	33,600
3-28	0715	14.34	65,400	9-30	2115	15.70	80,400
4-3	1100	16.92	95,000				

ARKANSAS RIVER BASIN

23

07153000 BLACK BEAR CREEK AT PAWNEE, OKLA.

LOCATION.--Lat 36°20'37", long 96°47'57", on east line of SE 1/4 NE 1/4 sec.31, T.22 N., R.5 E., Pawnee County, on downstream side of left pier of bridge on State Highway 18 in north Pawnee, 300 ft (91.4 m) downstream from Skedee Creek, and at mile 23.4 (37.7 km).

DRAINAGE AREA.--576 sq mi (1,492 sq km).

PERIOD OF RECORD.--July 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 802.73 ft (244.672 m) above mean sea level (levels by Corps of Engineers). Prior to Sept. 21, 1944, nonrecording gage at present site and datum except for Aug. 27, 1953, to Apr. 29, 1954, nonrecording gage at site 500 ft (152 m) downstream at same datum.

AVERAGE DISCHARGE.--29 years, 159 cfs (4.503 cu m/s), 115,200 acre-ft/yr (142 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 6,920 cfs (196 cu m/s) Mar. 10, gage height, 18.03 ft (5.496 m); no flow at times
Period of record: Maximum discharge, 30,200 cfs (855 cu m/s) Oct. 3, 1959, gage height, 31.43 ft (9.580 m); no flow at times in many years.
Flood of May 19, 1943, reached a stage of 28.19 ft (8.592 m), from floodmark, discharge, 17,800 cfs (504 cu m/s).

REMARKS.--Records good.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	1,450	9.1	546	1,260	28	1,840	537	43	6.2	107	3.0
2	2.3	671	6.1	284	779	25	722	1,520	91	5.2	43	2.8
3	.87	266	4.6	1,600	365	38	458	613	102	4.4	31	22
4	.35	116	3.6	2,200	211	140	320	307	202	3.8	23	32
5	.14	63	3.1	948	132	282	226	195	613	4.1	13	79
6	.12	43	2.5	322	91	1,820	169	606	554	4.7	8.1	286
7	.03	27	2.0	203	121	1,990	134	1,570	215	3.6	4.5	68
8	.02	33	1.5	100	194	1,720	397	487	105	2.9	14	331
9	.02	52	1.3	50	81	3,020	1,760	227	65	2.6	2,300	330
10	.02	32	1.1	40	50	4,950	1,240	144	43	2.3	3,130	193
11	0	19	1.0	30	44	5,180	560	105	31	1.9	889	78
12	0	19	.90	25	41	5,300	352	82	24	1.5	313	44
13	.02	685	.88	25	46	3,590	233	66	18	1.4	195	40
14	.02	855	.90	30	41	1,150	171	54	18	1.5	134	39
15	0	272	.90	35	29	910	1,560	43	19	107	86	107
16	0	127	1.0	181	23	632	5,280	37	16	262	56	54
17	.12	72	2.0	315	19	420	3,100	33	15	47	39	26
18	.99	46	7.0	451	19	294	1,150	29	14	20	35	20
19	.74	40	90	241	21	213	892	28	14	10	33	17
20	1.5	44	230	125	24	153	1,190	26	16	5.2	31	15
21	7.0	54	126	94	23	105	792	24	14	3.4	26	13
22	94	38	46	973	21	79	482	22	13	2.7	23	13
23	122	33	39	1,110	20	73	378	28	13	2.6	18	11
24	39	30	23	429	18	1,410	688	29	13	4.0	14	29
25	20	21	15	243	17	2,750	1,240	33	12	15	14	1,090
26	13	25	12	1,660	19	2,420	1,070	92	11	269	12	1,260
27	4.9	31	9.8	1,330	17	985	654	94	9.3	173	8.1	3,580
28	4.8	25	7.4	567	19	997	365	55	12	43	5.2	4,180
29	2.8	17	6.9	372	-----	1,200	242	36	14	51	3.8	4,310
30	13	13	583	220	-----	847	173	27	9.6	45	2.9	1,280
31	766	-----	1,980	201	-----	2,750	-----	38	-----	120	2.7	-----
TOTAL	1,103.56	5,219	3,217.58	14,950	3,745	45,471	27,838	7,187	2,338.9	1,226.0	7,614.3	17,552.8
MEAN	35.6	174	104	482	134	1,467	928	232	78.0	39.5	246	585
MAX	766	1,450	1,980	2,200	1,260	5,300	5,280	1,570	613	269	3,130	4,310
MIN	0	13	.88	25	17	25	134	22	9.3	1.4	2.7	2.8
AC-FT	2,190	10,350	6,380	29,650	7,430	90,190	55,220	14,260	4,640	2,430	15,100	34,820
CAL YR 1972	TOTAL	20,282.01	MEAN	55.4	MAX	1,980	MIN	0	AC-FT	40,230		
WTR YR 1973	TOTAL	137,463.14	MEAN	377	MAX	5,300	MIN	0	AC-FT	272,700		

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
3-10	1630	18.03	6,920
4-15	2345	17.03	6,320

ARKANSAS RIVER BASIN

07154500 CIMARRON RIVER NEAR KENTON, OKLA.

LOCATION.--Lat 36°55'36", long 102°57'31", in SE 1/4 sec.4, T.5 N., R.1 E., Cimarron County, near right bank on downstream side of pier of county road bridge, 1.5 mi (2.41 km) upstream from North Carrizo Creek, 1.7 mi (2.74 km) northeast of Kenton, 2.2 mi (3.54 km) downstream from Carrizozo Creek, and at mile 594.0 (955.7 km).

DRAINAGE AREA.--1,106 sq mi (2,865 sq km), of which 68 sq mi (176.1 sq km) is probably noncontributing.

PERIOD OF RECORD.--April 1904 to July 1905 (gage heights only), October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,262.08 ft (1,299.082 m) above mean sea level, (levels by State Highway Department). April 1904 to July 1905 nonrecording gage at site 0.9 mi (1.45 km) upstream, at different datum. Oct. 1, 1950, to Sept. 19, 1967, water-stage recorder at same site and at datum 5.00 ft (1.524 m) higher.

AVERAGE DISCHARGE.--23 years (1950-73), 23.7 cfs (0.6712 cu m/s), 17,170 acre-ft/yr (21.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 15,000 cfs (425 cu m/s) Sept. 24, gage height, 17.81 ft (5.428 m); no flow at times.

Period of record: Maximum discharge, 43,400 cfs (1,230 cu m/s) Oct. 17, 1965, gage height, 22.32 ft (6.803 m), present datum, from rating curve extended above 7,000 cfs (198 cu m/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

REMARKS.--Records fair. Extensive diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1711: 1956(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.16	.16	1.5	1.1	.60	5.6	1.9		0	.54	0
2	0	.08	.18	1.4	.90	.36	4.6	2.1		0	.25	0
3	0	.08	.15	1.2	.80	.64	4.0	1.1		0	.10	0
4	0	.07	.14	1.1	1.0	.51	2.9	.71		0	.05	0
5	0	.07	.13	1.1	1.0	.55	1.8	.65		0	.01	0
6	0	.07	.06	1.2	.85	.51	1.4	.76		0		0
7	0	.09	.18	1.0	.64	.90	1.8	1.1		0	51	0
8	0	.10	.16	.90	.54	1.0	4.3	.75		0	105	0
9	0	.09	.20	.80	.52	.99	1.9	.75		0	14	0
10	0	.07	.14	.84	.58	1.2	1.4	.43		0	4.2	0
11	0	.08	.31	.84	1.0	.73	1.3	.50		0	2.3	0
12	0	.09	.33	.74	1.0	.47	1.4	.39		0	1.3	0
13	0	.10	.30	.86	.86	.48	1.1	.52		0	.92	0
14	0	.10	.32	1.0	.96	.79	1.1	.70		0	.83	0
15	0	.03	.34	1.2	.87	.64	1.4	.49		0	.78	0
16	0	0	.44	1.0	.75	.62	2.1	.46		0	.65	0
17	0	0	.60	.70	.80	.61	2.1	.44		0	.53	0
18	0	.01	.90	.70	.73	.73	.70	.39		0	.41	0
19	0	.03	.96	.55	.73	.98	.28	.31		0	.31	0
20	0	.07	.90	.55	.47	.85	.32	.33		0	.18	0
21	0	.10	.94	.58	.45	.53	.46	.28		0	0	0
22	41	.05	1.1	.62	.48	.60	2.4	.22		0	0	0
23	6.2	.17	1.0	.52	.46	1.1	2.4	.23		1.1	0	.11
24	.25	.27	.96	.56	.49	3.3	2.8	.29		.96	0	3,300
25	.04	.13	1.1	.58	.51	2.1	4.2	.06		825	0	45
26	.04	.16	1.2	.85	.41	1.1	3.3	.02		88	0	6.0
27	.03	.12	1.3	.54	.34	.84	1.7	.01		2.6	0	4.8
28	.04	.08	1.1	.45	.42	1.3	1.1	0		.05	0	2.6
29	.04	.12	1.2	.44	-----	1.6	.82	0		10	0	2.0
30	.02	.17	1.6	.80	-----	5.0	.44	0		7.1	0	1.6
31	.21	-----	1.5	1.4	-----	7.9	-----	0	-----	1.4	0	-----
TOTAL	47.87	2.76	19.90	26.52	19.66	39.53	61.12	15.89	0	936.21	183.36	3,362.11
MEAN	1.54	.092	.64	.86	.70	1.28	2.04	.51	0	30.2	5.91	112
MAX	41	.27	1.6	1.5	1.1	7.9	5.6	2.1	0	825	105	3,300
MIN	0	0	.06	.44	.34	.36	.28	0	0	0	0	0
AC-FT	95	5.5	39	53	39	78	121	32	0	1,860	364	6,670

CAL YR 1972 TOTAL 3,861.57 MEAN 10.6 MAX 1,380 MIN 0 AC-FT 7,660
WTR YR 1973 TOTAL 4,714.93 MEAN 12.9 MAX 3,300 MIN 0 AC-FT 9,350

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE TIME G.HT. DISCHARGE
9-24 0415 17.81 15,000

ARKANSAS RIVER BASIN

25

07156900 CIMARRON RIVER NEAR FORGAN, OKLA.

LOCATION.--Lat 37°00'45", long 100°29'39", in SE 1/4 SE 1/4 sec.8, T.35 S., R.24 E., Mead County, Kans., near center of span on downstream side of pier of bridge on Kansas State Highway 23, 0.8 mi (1.3 km) north of Oklahoma-Kansas State line, 7.8 mi (12.5 km) north of Forgan, and at mile 375.7 (604.5 km).

DRAINAGE AREA.--8,536 sq mi (22,108 sq km), of which 4,316 sq mi (11,178 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,325 ft (708.7 m) (from topographic map).

AVERAGE DISCHARGE.--8 years, 88.8 cfs (2.515 cu m/s), 64,340 acre-ft/yr (79.3 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 1,350 cfs (38.2 cu m/s) Sept. 26, gage height, 4.53 ft (1.381 m); minimum daily, 37 cfs (1.05 cu m/s) Aug. 27, 28.
Period of record: Maximum discharge, 21,200 cfs (600 cu m/s) Oct. 20, 1965, gage height, 8.10 ft (2.469); minimum daily, 21 cfs (0.59 cu m/s) Aug. 8, 1970.

REMARKS.--Records good except for winter periods, which are fair. Extensive diversion for irrigation above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	90	141	79	86	99	119	92	90	50	68	51
2	55	71	151	81	59	86	98	83	78	44	88	48
3	58	70	157	81	72	72	105	85	78	42	142	46
4	57	73	90	72	66	68	100	85	75	41	90	51
5	56	70	76	70	70	71	107	89	71	38	67	47
6	54	74	56	68	72	57	107	91	70	40	52	46
7	55	80	62	64	70	57	108	86	68	39	45	47
8	58	85	68	60	64	58	134	87	64	39	54	49
9	61	104	62	54	70	72	110	81	64	42	55	51
10	60	120	60	60	90	209	105	79	60	48	67	51
11	56	104	62	52	99	252	99	77	59	44	72	48
12	58	116	66	50	87	145	102	85	59	40	71	114
13	67	161	62	70	82	110	94	86	63	46	67	118
14	65	108	66	120	75	80	102	86	55	65	65	100
15	66	88	64	180	73	77	101	81	49	54	62	82
16	70	79	60	105	76	73	90	69	50	48	57	79
17	71	68	64	68	83	83	97	70	54	49	62	76
18	73	87	80	74	82	76	87	76	55	39	67	70
19	81	103	120	75	79	71	111	81	56	41	58	70
20	93	95	250	67	73	75	84	82	58	45	53	67
21	89	99	384	54	74	87	80	76	56	43	50	65
22	93	103	174	50	77	84	74	62	51	71	48	63
23	80	93	97	80	77	161	85	70	54	63	48	60
24	78	84	81	94	78	214	85	62	49	58	47	80
25	73	92	71	89	77	90	87	67	48	68	45	99
26	71	79	64	88	76	100	100	68	40	66	39	548
27	76	97	71	91	83	112	101	66	38	450	37	344
28	80	72	117	72	84	149	106	73	48	341	37	153
29	79	108	127	62	-----	121	96	77	53	126	38	80
30	82	114	98	78	-----	179	91	97	53	84	40	61
31	86	-----	76	82	-----	253	-----	98	-----	133	55	-----
TOTAL	2,153	2,787	3,177	2,390	2,154	3,441	2,965	2,467	1,766	2,397	1,846	2,864
MEAN	69.5	92.9	102	77.1	76.9	111	98.8	79.6	58.9	77.3	59.5	95.5
MAX	93	161	384	180	99	253	134	98	90	450	142	548
MIN	52	68	56	50	59	57	74	62	38	38	37	46
AC-FT	4,270	5,530	6,300	4,740	4,270	6,830	5,880	4,890	3,500	4,750	3,660	5,680

CAL YR 1972 TOTAL 36,652 MEAN 100 MAX 1,370 MIN 32 AC-FT 72,700
WTR YR 1973 TOTAL 30,407 MEAN 83.3 MAX 548 MIN 37 AC-FT 60,310

PEAK DISCHARGE (BASE, 3,000 CFS).--No peak above base.

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OKLA.

LOCATION.--Lat 36°55'28", long 99°23'56", in NW 1/4 SW 1/4 sec.7, T.28 N., R.20 W., Harper County, on left bank 800 ft (244 m) downstream from unnamed tributary, 6 miles (9.7 km) upstream from Keno Creek, 7 mi (11.3 km) upstream from bridge on U.S. Highway 64, 14 mi (22.5 km) northeast of Buffalo, and at mile 296.0 (476.3 km).

DRAINAGE AREA.--11,930 sq mi (30,900 sq km), of which 4,813 sq mi (12,466 sq km) is probably noncontributing.

PERIOD OF RECORD.--May 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,650 ft (502.9 m), from river profile map.

AVERAGE DISCHARGE.--13 years, 158 cfs (4.475 cu m/s), 114,400 acre-ft/yr (141 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 26,400 cfs (748 cu m/s) Sept. 26, gage height, 5.57 ft (1.698 m); no flow July 14, Aug. 18-Sept. 3.

Period of record: Maximum discharge, 26,400 cfs (748 cu m/s) Sept. 26, 1973, gage height, 5.57 ft (1.698 m); no flow at times each year.

REMARKS.--Records good. Extensive diversions for irrigation above station. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	98	149	97	611	150	10,300	438	198	18	127	0
2	27	134	140	93	560	171	4,650	475	159	15	106	0
3	25	117	129	114	350	203	3,230	386	132	13	71	0
4	21	97	90	85	270	213	3,000	334	110	9.9	46	208
5	17	85	52	72	190	209	1,290	317	115	9.8	29	149
6	14	82	22	68	150	206	861	305	108	6.7	28	87
7	13	71	26	62	130	197	777	269	94	4.0	23	77
8	14	69	30	54	90	233	570	260	82	2.6	18	369
9	15	73	28	45	102	322	515	266	73	.99	15	154
10	17	76	24	52	130	1,080	570	254	64	.20	13	95
11	16	85	26	43	160	3,020	674	233	58	.22	11	55
12	15	102	28	40	179	3,000	609	220	52	.10	8.8	568
13	13	108	25	50	131	2,050	504	218	47	.01	6.4	2,940
14	15	130	30	70	105	1,570	450	208	49	0	3.5	1,530
15	17	145	28	104	98	1,110	482	198	49	11	2.1	350
16	21	130	26	254	107	1,030	739	187	49	77	.73	159
17	24	112	29	490	117	1,380	504	177	46	35	.07	150
18	24	124	35	259	153	1,370	388	187	37	20	0	129
19	23	141	50	165	147	1,100	424	187	31	8.2	0	112
20	31	156	70	152	137	1,040	1,570	170	25	3.6	0	106
21	51	154	90	158	123	751	716	152	20	.73	0	103
22	59	144	135	184	125	623	416	141	20	31	0	87
23	66	141	242	170	125	665	349	143	17	25	0	68
24	64	133	276	161	126	2,670	615	142	16	67	0	515
25	59	127	233	162	125	4,070	1,750	134	13	72	0	1,820
26	56	144	169	157	125	3,550	973	136	11	67	0	12,500
27	54	154	113	130	128	4,050	853	129	9.8	106	0	8,200
28	54	150	95	90	137	5,650	546	122	13	85	0	1,190
29	53	164	105	140	-----	4,800	422	151	17	567	0	672
30	59	159	116	318	-----	3,440	374	155	20	216	0	616
31	64	-----	102	442	-----	7,360	-----	167	-----	148	0	-----
TOTAL	1,031	3,605	2,713	4,481	4,931	57,283	39,121	6,861	1,734.8	1,620.05	508.60	33,009
MEAN	33.3	120	87.5	145	176	1,848	1,304	221	57.8	52.3	16.4	1,100
MAX	66	164	276	490	611	7,360	10,300	475	198	567	127	12,500
MIN	13	69	22	40	90	150	349	122	9.8	0	0	0
AC-FT	2,040	7,150	5,380	8,890	9,780	113,600	77,600	13,610	3,440	3,210	1,010	65,470
CAL YR 1972	TOTAL	41,344.92	MEAN	113	MAX	1,310	MIN	.62	AC-FT	82,010		
WTR YR 1973	TOTAL	156,898.45	MEAN	430	MAX	12,500	MIN	0	AC-FT	311,200		

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-11	0630	3.70	3,400	4-4	0545	3.40	3,950
3-25	0200	3.77	5,370	9-13	0415	3.75	4,300
3-28	0415	3.74	7,120	9-26	2300	5.57	26,400
4-1	0600	4.31	13,500				

ARKANSAS RIVER BASIN

27

07157960 BUFFALO CREEK NEAR LOVEDALE, OKLA.

LOCATION.--Lat 36°46'08", long 99°21'58", in NW 1/4 NW 1/4 sec.4, T.26 N., R.20 W., Harper County, near center of channel on downstream side of pier of bridge on State Highway 34, 1.2 mi (1.9 km) east of Lovedale, 1.3 mi (2.1 km) upstream from Sleeping Bear Creek, and at mile 7.6 (12.2 km).

DRAINAGE AREA.--408 sq mi (1,057 sq km).

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,602.56 ft (488.460 m) above mean sea level (State Highway Department bench mark).

AVERAGE DISCHARGE.--7 years, 7.02 cfs (0.199 cu m/s) 5,086 acre-ft/yr (6.27 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 473 cfs (13.4 cu m/s) Mar. 30, gage height, 6.48 ft (1.975 m); no flow at times.
Period of record: Maximum discharge, 15,800 cfs (447 cu m/s) Aug. 9, 1967 gage height, 14.80 ft (4.511 m), extended above 7,000 cfs (198 cu m/s); no flow each year.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.72	3.8	1.3	81	38	21	.28	.08	0
2			0	.66	3.8	1.3	48	34	20	.18	.04	0
3			0	.78	3.3	1.3	35	33	17	.12	.02	0
4			0	.84	2.9	1.3	29	29	14	.12	0	1.7
5			0	.84	2.6	1.3	25	26	9.3	.12	0	.56
6			0	.84	2.4	1.3	23	26	5.8	.10	0	0
7			0	.84	2.3	1.2	21	22	3.1	.06	0	.12
8			0	.84	2.3	1.8	27	22	2.4	.04	0	.12
9			0	.84	2.1	2.0	31	19	1.8	.02	0	.02
10			0	.84	2.2	4.9	37	19	1.4	.02	0	0
11			0	.84	2.2	164	52	17	1.1	.02	0	0
12			0	.84	2.2	44	48	16	.96	0	0	.12
13			0	.84	1.9	24	37	14	.90	0	0	.18
14			0	.96	1.8	19	32	14	.84	.10	0	.16
15			0	1.5	1.7	16	30	12	.66	.10	0	.14
16			0	4.0	1.7	11	28	11	.58	.08	0	.14
17			0	2.7	1.6	9.5	26	8.9	.54	.02	0	.20
18			0	1.9	1.7	8.3	23	8.0	.48	0	0	.22
19			0	1.6	1.5	7.8	28	6.6	.42	0	0	.22
20			0	1.5	1.4	10	27	5.8	.40	0	0	.22
21			.52	1.8	1.4	9.4	25	5.9	.38	0	0	.22
22			1.8	2.1	1.4	8.4	22	5.7	.36	0	0	.18
23			1.5	2.4	1.3	9.8	20	6.8	.32	.06	0	.16
24			1.1	2.4	1.3	129	35	8.6	.26	0	0	1.7
25			.84	2.3	1.3	40	59	11	.22	.24	0	170
26			.58	2.4	1.3	25	36	14	.18	1.6	0	195
27			.50	3.1	1.3	17	33	15	.16	.56	0	168
28			.50	9.8	1.3	15	28	17	.20	.30	0	80
29			.52	6.1	-----	15	29	17	.24	.28	0	40
30			.78	2.8	-----	183	30	19	.32	.14	0	20
31		-----	.90	2.7	-----	265	-----	22	-----	.10	0	-----
TOTAL	0	0	9.54	62.62	56.0	1,047.9	1,005	523.3	105.32	4.66	.14	679.38
MEAN	0	0	.31	2.02	2.00	33.8	33.5	16.9	3.51	.15	.005	22.6
MAX	0	0	1.8	9.8	3.8	265	81	38	21	1.6	.08	195
MIN	0	0	0	.66	1.3	1.2	20	5.7	.16	0	0	0
AC-FT	0	0	19	124	111	2,080	1,990	1,040	209	9.2	.3	1,350
CAL YR 1972	TOTAL	146.50	MEAN	.40	MAX	7.5	MIN	0	AC-FT	291		
WTR YR 1973	TOTAL	3,493.86	MEAN	9.57	MAX	265	MIN	0	AC-FT	6,930		

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

ARKANSAS RIVER BASIN

07158000 CIMARRON RIVER NEAR WAYNOKA, OKLA.

LOCATION.--Lat 36°31'02", long 98°52'45", near center of sec.35, T.24 N., R. 16 W., Woods County, near left bank on downstream side of bridge on U.S. Highway 281, 0.8 mi (1.39 km) downstream from Main Creek, 5 mi (8.0 km) south of Waynoka, and at mile 247.0 (397 km).

DRAINAGE AREA.--13,334 sq mi (34,535 sq km), of which 4,830 sq mi (12,510 sq km) is probably noncontributing.

PERIOD OF RECORD.--September 1903 to December 1905 (gage heights and discharge measurements only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,367.50 ft (416.814 m) above mean sea level (levels by Corps of Engineers). September 1903 to December 1905, nonrecording gage at The Atchison, Topeka and Santa Fe Railway Co. bridge 5 mi (8.0 km) upstream at different datum. Feb. 4 to Mar. 3, 1938, nonrecording gage and Mar. 4, 1938, to Oct. 24, 1956, water-stage recorder, on former highway bridge 50 ft (15.2 m) downstream at present datum.

AVERAGE DISCHARGE.--36 years (1937-73), 354 cfs (10.03 cu m/s), 256,500 acre-ft/yr (316 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 36,800 cfs (1,040 cu m/s) Sept. 27, gage height, 9.56 ft (2.914 m); no flow at times.

Period of record: Maximum discharge, 94,500 cfs (2,676 cu m/s) May 16, 1957, gage height, 15.10 ft (4.602 m), from rating curve extended above 45,000 cfs (1,274 cu m/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

A stage of about 14 ft (4.3 m) occurred probably in 1914.

REMARKS.--Records good. Extensive diversions for irrigation above station. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 897: 1939. WSP 1341: Drainage area. WSP 1731: 1950(M). WSP 1921: 1960.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	137	170	217	674	173	8,920	4,900	269	8.2	128	0
2	22	186	158	197	622	186	7,350	1,220	246	11	89	0
3	18	138	139	210	384	208	4,510	779	227	.05	73	0
4	16	156	100	160	347	265	6,050	611	178	0	62	94
5	14	126	70	130	269	312	3,840	489	143	0	45	1,040
6	11	103	35	120	245	314	1,820	467	119	0	32	109
7	9.8	86	40	110	240	289	1,180	404	115	0	21	51
8	7.9	77	43	90	190	352	1,550	376	102	0	16	59
9	6.4	70	41	74	140	435	1,810	354	86	0	14	74
10	6.1	66	39	84	150	1,020	1,740	360	74	0	8.5	160
11	4.8	70	41	72	186	4,430	1,810	318	64	0	4.5	97
12	4.4	81	42	70	203	4,240	1,460	291	57	0	1.9	164
13	4.1	142	41	100	279	2,500	1,020	280	61	0	.13	461
14	3.8	157	45	140	236	1,900	776	270	61	0	0	3,100
15	3.8	139	42	210	199	1,490	715	265	48	0	0	1,420
16	3.9	161	40	194	184	983	1,360	256	38	0	0	692
17	3.4	128	45	267	181	851	862	250	33	0	0	470
18	3.4	119	58	577	196	872	631	250	28	0	0	454
19	4.4	159	80	381	192	750	659	241	21	0	0	409
20	14	157	105	259	183	586	600	224	17	0	0	370
21	33	151	143	236	187	548	1,710	212	12	0	0	337
22	62	164	227	252	171	412	1,210	202	11	0	0	304
23	54	156	235	295	166	375	496	216	8.0	0	0	269
24	52	151	346	255	159	1,130	738	200	3.9	0	0	263
25	58	182	362	227	158	5,140	2,960	173	2.5	102	0	901
26	52	171	328	221	158	4,110	2,460	166	1.8	382	0	2,650
27	49	167	306	170	159	2,690	1,560	168	1.1	45	0	22,400
28	49	171	284	110	154	4,340	1,020	195	5.1	17	0	4,230
29	48	165	251	190	-----	6,070	700	171	5.2	57	0	2,130
30	53	160	272	161	-----	10,300	612	167	7.0	109	0	1,530
31	69	-----	288	183	-----	10,800	-----	287	-----	274	0	-----
TOTAL	766.2	4,096	4,416	5,962	6,612	68,071	62,129	14,762	2,044.6	1,005.25	495.03	44,238
MEAN	24.7	137	142	192	236	2,196	2,071	476	68.2	32.4	16.0	1,475
MAX	69	186	362	577	674	10,800	8,920	4,900	269	382	128	22,400
MIN	3.4	66	35	70	140	173	496	166	1.1	0	0	0
AC=FT	1,520	8,120	8,760	11,830	13,110	135,000	123,200	29,280	4,060	1,990	982	87,750

CAL YR 1972 TOTAL 43,523.32 MEAN 119 MAX 1,690 MIN 0 AC=FT 86,330
WTR YR 1973 TOTAL 214,597.08 MEAN 588 MAX 22,400 MIN 0 AC=FT 425,700

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE
3-30	2315	8.92	22,400
9-27	1100	9.56	36,800

ARKANSAS RIVER BASIN

29

07159750 COTTONWOOD CREEK AT SEWARD, OKLA.

LOCATION.--Lat 35°47'43", long 97°29'32", in SW 1/4 sec.2, T.15 N., R.3 W., Logan County, on downstream right bank, 0.3 mi (0.5 km) west of Seward, 7.7 mi (12.4 km) southwest of Guthrie, and at mile 19.2 (30.9 km).

DRAINAGE AREA.--316 sq mi (818 sq km).

PERIOD OF RECORD.--March to September.

GAGE.--Water-stage recorder. Datum of gage is 946.49 ft (288.490 m) above mean sea level.

EXTREMES.--Maximum discharge during period, 3,640 cfs (103 cu m/s) Sept. 28, gage height, 20.40 ft (6.218 m); minimum daily, 13 cfs (0.37 cu m/sec) Aug. 25-26, 28, 30.

REMARKS.--Records fair. Low flow sustained by part of sewage effluent from Oklahoma City. Records of chemical analysis and of water temperatures for the current water year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						32	231	73	439	237	88	19
2						34	161	70	1,220	86	53	21
3						38	631	62	2,960	60	40	27
4						39	484	59	1,720	45	34	1,020
5						47	219	58	2,910	47	30	1,970
6						359	151	158	2,860	63	26	411
7						527	117	575	777	37	36	288
8						217	129	147	323	40	32	264
9						161	400	87	212	38	42	213
10						907	210	69	173	47	48	129
11						754	129	65	139	95	95	94
12						259	103	56	119	69	52	79
13						229	87	50	107	52	38	1,520
14						206	81	50	149	46	30	2,030
15						168	148	49	141	240	26	282
16						113	1,270	49	116	170	19	155
17						90	550	47	100	80	17	116
18						82	208	45	96	46	17	145
19						71	283	44	77	42	17	150
20						68	484	51	93	49	18	87
21						67	240	46	75	50	18	80
22						64	165	40	63	92	20	71
23						65	134	184	56	203	41	67
24						504	117	227	51	93	18	63
25						2,510	105	105	52	61	13	63
26						2,370	96	89	46	48	13	78
27						566	90	61	40	45	14	2,130
28						614	83	55	35	40	13	3,230
29					-----	542	78	48	37	34	14	1,270
30					-----	246	75	40	174	33	13	320
31		-----			-----	311	-----	220	-----	113	17	-----
TOTAL						12,260	7,259	2,979	15,360	2,401	952	16,392
MEAN						395	242	96.1	512	77.5	30.7	546
MAX						2,510	1,270	575	2,960	240	95	3,230
MIN						32	75	40	35	33	13	19
AC=FT						24,320	14,400	5,910	30,470	4,760	1,890	32,510

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
3-25	1415	19.77	3,090
6-05	1615	20.39	3,630
9-28	1100	20.40	3,640

ARKANSAS RIVER BASIN

07160000 CIMARRON RIVER NEAR GUTHRIE, OKLA.

LOCATION.--Lat 35°55'10", long 97°25'35", in NE 1/4 SE 1/4 sec.29, T.17 N., R.2 W., Logan County, on left bank 125 ft (38.1 m) upstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 1.2 mi (1.9 km) downstream from Cottonwood Creek, 2.5 mi (4.0 km) north of Guthrie, 6.5 mi (10.5 km) upstream from Skeleton Creek, and at mile 121.8 (196.0 km).

DRAINAGE AREA.--16,892 sq mi (43,750 sq km), of which 4,926 sq mi (12,758 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP's 1311 and 1731.

GAGE.--Water-stage recorder. Datum of gage is 900.50 ft (274.472 m) above mean sea level (Corps of Engineers bench mark). Prior to Mar. 19, 1939, nonrecording gage at railway bridge 125 ft (38.1 m) downstream at same datum. Since Sept. 14, 1967, supplementary water-stage recorder, at site 2,000 ft (609.7 m) downstream and at datum 4.00 ft (1.219 m) lower.

AVERAGE DISCHARGE.--36 years, 852 cfs (24.13 cu m/s), 617,300 acre-ft/yr (761 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 43,500 cfs (1,232 cu m/s) Apr. 1, gage height, 14.58 ft (4.444 m); minimum, 26 cfs (0.736 cu m/s) Oct. 20.
Period of record: Maximum discharge, 158,000 cfs (4,473 cu m/s) May 17, 1957, gage height, 18.58 ft (5.663 m); minimum, 0.1 cfs (2.88 cu dm/s) Nov. 2, 1939.

REMARKS.--Records good.

REVISIONS.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	1,160	259	1,100	900	326	33,200	2,100	943	426	371	57
2	84	1,850	259	700	870	336	12,800	4,650	2,040	315	313	69
3	75	831	263	1,000	1,800	374	11,900	6,920	5,480	228	275	51
4	66	417	251	2,100	1,600	440	10,700	4,560	4,050	191	259	286
5	60	254	246	1,300	1,350	811	6,610	2,160	4,290	193	240	2,700
6	54	214	200	900	1,000	716	6,130	1,990	6,030	261	225	1,610
7	50	197	170	700	810	1,640	4,000	2,000	2,720	373	210	1,090
8	46	173	150	500	675	1,300	2,940	1,560	1,080	321	193	1,290
9	43	176	145	440	605	6,560	3,820	1,260	789	221	209	1,040
10	40	158	140	420	574	13,700	4,620	1,130	657	216	602	1,050
11	37	142	145	410	542	30,000	3,380	1,020	576	370	1,300	731
12	37	134	150	400	514	15,600	3,170	949	520	650	581	533
13	37	173	150	440	471	9,310	3,430	887	481	409	388	914
14	34	188	155	450	432	6,570	2,710	834	456	324	290	2,670
15	31	454	155	500	416	5,350	2,740	789	450	714	242	1,520
16	30	307	160	560	412	3,930	5,780	764	506	2,130	209	850
17	32	226	170	610	449	3,220	5,820	720	473	948	183	1,370
18	29	216	190	662	457	2,600	2,860	700	459	576	176	1,200
19	27	246	221	775	431	2,100	2,930	675	468	417	156	913
20	26	222	232	419	420	1,610	2,920	645	462	332	136	730
21	74	269	258	422	404	1,540	2,880	620	412	311	127	621
22	136	289	296	2,100	392	1,390	2,860	605	368	340	113	551
23	160	290	325	2,760	386	1,300	3,570	620	319	478	97	500
24	130	318	315	1,700	368	1,620	3,710	1,310	283	477	93	457
25	117	302	257	1,500	363	6,240	2,780	1,180	259	547	86	424
26	88	291	257	1,800	353	14,100	4,240	760	242	443	81	494
27	96	283	297	1,500	336	11,000	8,370	640	226	581	80	4,760
28	79	265	375	1,100	330	6,660	3,990	547	215	633	70	14,800
29	74	267	461	1,000	-----	7,090	2,450	490	228	513	58	13,700
30	98	275	1,200	950	-----	4,980	2,300	449	227	415	59	5,660
31	247	-----	2,100	920	-----	33,400	-----	549	-----	339	49	-----
TOTAL	2,230	10,587	9,952	30,138	17,660	195,813	169,610	44,083	35,709	14,692	7,471	62,641
MEAN	71.9	353	321	972	631	6,317	5,654	1,422	1,190	474	241	2,088
MAX	247	1,850	2,100	2,760	1,800	33,400	33,200	6,920	6,030	2,130	1,300	14,800
MIN	26	134	140	400	330	326	2,300	449	215	191	49	51
AC-FT	4,420	21,000	19,740	59,780	35,030	388,400	336,400	87,440	70,830	29,140	14,820	124,200

CAL YR 1972 TOTAL 91,186 MEAN 249 MAX 2,160 MIN 14 AC-FT 180,900
WTR YR 1973 TOTAL 600,586 MEAN 1,645 MAX 33,400 MIN 26 AC-FT 1,191,000

PEAK DISCHARGE (BASE, 16,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE
3-11	1400	13.50	35,800
4-1	0215	14.58	43,500
9-29	0015	11.33	21,100

ARKANSAS RIVER BASIN

31

07160500 SKELETON CREEK NEAR LOVELL, OKLA.

LOCATION.--Lat 36°03'36", long 97°35'05", in NW 1/4 SW 1/4 sec.1, T.18 N., R.4 W., Logan County, near right bank on downstream side of pier of bridge on State Highway 74, 2 mi (3.2 km) upstream from Otter Creek, 2.8 mi (4.5 km) east of Lovell, and at mile 14.6 (23.5 km).

DRAINAGE AREA.--410 sq mi (1,062 sq km).

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 914.76 ft (278.819 m) above mean sea level (State Highway Department bench mark). Prior to Dec. 5, 1949, nonrecording gage at site 60 ft (18.3 m) downstream at datum 0.30 ft (91.4 mm) lower.

AVERAGE DISCHARGE.--24 years, 100 cfs (2.832 cu m/s), 72,450 acre-ft/yr (89.3 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 6,980 cfs (198 cu m/s) Mar. 11, gage height, 23.56 ft (7.181 m); minimum, 1.7 cfs (0.048 cu m/s) Oct. 19.

Period of record: Maximum discharge, 75,200 cfs (2,130 cu m/s) May 16, 1957, gage height, 34.58 ft (10.540 m); no flow at times in 1953-54, 1956.

Flood of Aug. 17, 1932, reached a stage of 32.0 ft (9.75 m), from floodmarks.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	882	11	43	140	20	2,010	375	57	38	29	6.8
2	4.5	867	10	26	270	20	270	1,500	211	30	16	6.5
3	4.5	135	9.3	423	176	34	192	172	329	23	11	4.5
4	4.2	40	9.0	926	74	36	158	71	74	21	12	21
5	3.9	19	9.0	267	57	53	118	57	50	22	7.5	189
6	4.7	13	9.8	70	50	139	100	* 51	58	16	4.3	241
7	4.0	10	7.3	58	49	307	91	49	41	21	8.0	50
8	3.7	14	6.1	55	48	369	186	44	32	16	35	52
9	4.0	18	6.6	37	34	1,870	1,090	40	28	16	203	211
10	4.2	11	8.0	31	38	3,900	671	37	26	97	978	68
11	4.4	7.0	8.4	26	39	6,450	207	36	23	61	358	30
12	3.6	6.8	8.0	23	37	2,720	112	33	22	49	78	22
13	4.0	70	7.6	20	37	329	84	30	21	45	51	218
14	4.7	418	7.7	21	32	322	71	28	23	181	29	244
15	4.3	94	8.0	34	26	232	267	28	47	866	20	29
16	3.9	39	7.9	119	23	119	1,990	26	51	73	11	15
17	3.5	23	8.5	469	24	86	666	25	14	47	14	14
18	2.7	17	9.6	347	26	75	153	23	4.8	36	11	13
19	2.1	19	19	103	30	68	1,080	21	3.6	22	13	11
20	2.7	37	117	53	28	59	1,160	21	19	37	11	10
21	5.8	40	69	170	26	53	189	20	15	37	7.5	9.8
22	11	27	39	1,000	24	50	154	18	14	29	10	9.3
23	69	26	24	731	23	50	107	23	13	70	11	8.4
24	40	24	18	119	23	98	71	31	12	90	11	7.5
25	12	18	14	67	22	751	132	33	10	197	4.5	6.8
26	7.8	16	14	241	21	1,490	544	32	7.1	542	7.2	202
27	5.7	24	14	324	20	319	125	23	5.6	142	6.5	1,520
28	4.9	20	12	181	20	389	74	23	3.8	47	8.0	2,650
29	4.0	14	121	116	-----	592	62	21	2.9	24	7.5	1,910
30	5.9	12	1,560	77	-----	216	54	21	13	16	7.2	106
31	372	-----	153	74	-----	1,420	-----	39	-----	16	7.2	-----
TOTAL	616.4	2,960.8	2,325.8	6,251	1,417	22,636	12,188	2,951	1,230.8	2,927	1,987.4	7,885.6
MEAN	19.9	98.7	75.0	202	50.6	730	406	95.2	41.0	94.4	64.1	263
MAX	372	882	1,560	1,000	270	6,450	2,010	1,500	329	866	978	2,650
MIN	2.1	6.8	6.1	20	20	20	54	18	2.9	16	4.3	4.5
AC-FT	1,220	5,870	4,610	12,400	2,810	44,900	24,170	5,850	2,440	5,810	3,940	15,640
CAL YR 1972	TOTAL	10,797.18	MEAN	29.5	MAX	1,560	MIN	.34	AC-FT	21,420		
WTR YR 1973	TOTAL	65,376.80	MEAN	179	MAX	6,450	MIN	2.1	AC-FT	129,700		

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
12-30	0715	14.22	2,030	4-01	0815	14.50	2,450	5-2	1315	12.14	1,900
3-11	0900	23.56	6,980	4-16	1430	13.73	2,280	9-28	2130	16.08	2,820
3-26	1445	10.96	1,640	4-19	2015	11.88	1,840				

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OKLA.

LOCATION.--Lat 35°57'32", long 97°01'49", in SW 1/4 SW 1/4 sec.7, T.17 N., R.3 E., Payne County, near right bank at downstream side of bridge on U.S. Highway 177, 1.0 mi (1.6 km) south of Perkins, 1.5 mi (2.4 km) upstream from Dugout Creek, 4.0 mi (6.4 km) downstream from Wildhorse Creek, and at mile 87.3 (140.5 km).

DRAINAGE AREA.--17,852 sq mi (46,237 sq km) of which 4,926 sq mi (12,758 sq km) is probably noncontributing.

PERIOD OF RECORD.--June 1939 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at same site since 1927 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 819.88 ft (249.899 m) above mean sea level (levels by Corps of Engineers). Prior to June 26, 1940, and Jan. 9, to Apr. 7, 1957, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--34 years, 1,109 cfs (31.41 cu m/s), 803,500 acre-ft/yr (991 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 42,800 cfs (1,210 cu m/s) Apr. 1, gage height, 13.68 ft (4.170 m); minimum, 33 cfs (0.93 cu m/s), Oct. 19, 20.
Period of record: Maximum discharge, 149,000 cfs (4,220 cu m/s) May 17, 1957, gage height, 19.53 ft (5.953 m); minimum, 0.8 cfs (0.023 cu m/s) Dec. 8, 1954.
Flood of Oct. 4, 5, 1926, reached a stage of 17.0 ft (5.18 m) from floodmarks, from information by Corps of Engineers.

REMARKS.--Records good. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	199	1,850	342	1,890	1,210	471	32,700	2,800	1,160	370	451	112
2	160	2,750	328	879	1,170	466	13,200	3,740	2,560	583	465	119
3	135	2,620	316	1,460	1,480	466	11,600	6,890	4,770	487	419	132
4	120	1,060	305	2,980	1,770	515	10,500	6,910	6,940	372	364	208
5	107	650	303	4,120	2,000	595	7,750	3,730	4,280	323	326	768
6	94	455	252	1,500	1,260	992	5,890	2,640	6,340	311	340	2,920
7	82	388	306	830	1,030	1,090	5,360	4,000	6,090	350	292	1,800
8	78	334	318	235	965	1,820	4,200	2,530	2,710	528	281	1,580
9	70	294	249	200	910	3,410	4,800	1,960	1,670	458	2,160	1,710
10	65	291	182	240	824	23,000	6,250	1,730	1,290	430	2,010	1,570
11	61	256	194	330	770	34,800	4,870	1,590	1,100	520	1,990	1,390
12	56	256	197	370	740	20,900	4,270	1,460	971	580	1,700	975
13	51	579	197	310	698	12,300	3,920	1,400	871	970	819	1,140
14	50	441	182	266	645	7,800	3,950	1,320	802	690	529	1,690
15	46	646	167	286	615	6,390	3,920	1,260	749	520	393	2,950
16	42	639	166	390	595	4,990	8,540	1,130	726	1,770	316	1,600
17	43	457	137	740	570	3,730	9,590	1,110	876	2,250	271	1,120
18	40	357	188	1,000	615	2,910	5,010	1,040	806	1,170	241	1,680
19	37	327	266	1,410	615	2,430	3,760	995	867	717	224	1,450
20	34	332	318	1,120	590	2,150	5,440	953	824	486	208	1,140
21	117	324	344	865	580	2,050	4,360	918	755	435	188	916
22	449	366	393	1,460	550	1,950	2,990	889	686	409	169	791
23	239	378	386	4,990	540	1,900	3,120	1,080	576	411	151	672
24	201	375	383	3,920	530	3,360	4,400	962	504	543	142	593
25	235	417	380	1,620	515	6,520	3,860	2,250	452	603	131	550
26	191	389	338	2,110	500	15,000	3,110	1,620	411	815	126	677
27	153	364	311	2,010	490	15,700	6,620	1,140	381	1,090	124	4,850
28	131	366	345	1,880	476	8,670	6,510	943	358	973	118	12,700
29	121	350	453	1,280	-----	7,600	4,100	791	364	940	119	18,800
30	153	338	1,650	1,060	-----	8,300	3,970	728	391	688	110	9,420
31	744	-----	4,470	962	-----	14,500	-----	1,150	-----	543	112	-----
TOTAL	4,304	18,649	14,366	42,713	23,253	216,775	198,560	61,659	51,280	21,335	15,289	76,023
MEAN	139	622	463	1,378	830	6,993	6,619	1,989	1,709	688	493	2,534
MAX	744	2,750	4,470	4,990	2,000	34,800	32,700	6,910	6,940	2,250	2,160	18,800
MIN	34	256	137	200	476	466	2,990	728	358	311	110	112
AC-FT	8,540	36,990	28,490	84,720	46,120	430,000	393,800	122,300	101,700	42,320	30,330	150,800
CAL YR 1972	TOTAL 130,196	MEAN 356	MAX 4,470	MIN 28	AC-FT 258,200							
WTR YR 1973	TOTAL 744,206	MEAN 2,039	MAX 34,800	MIN 34	AC-FT 1,476,000							

PEAK DISCHARGE (BASE, 16,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-11	2100	13.20	38,000	4-1	1000	13.68	42,800
3-26	2200	10.55	19,800	9-29	1130	10.92	21,600

07163000 COUNCIL CREEK NEAR STILLWATER, OKLA.

LOCATION.--Lat 36°07'07", long 96°52'00", in SE 1/4 SW 1/4 sec.15, T.19 N., R.4 E., Payne County, on right bank 200 ft (61.8 m) upstream from bridge on State Highway 51, 10.0 mi (16.1 km) east of Stillwater, and at mile 10.0 (16.1 km).

DRAINAGE AREA.--31 sq mi (80.3 sq km).

PERIOD OF RECORD.--March 1934 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 838.28 ft (255.077 m) above mean sea level, adjustment of 1912. Prior to May 4, 1934, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--39 years, 10.5 cfs (0.297 cu m/s), 4.60 in/yr (117 mm/yr), 7,610 acre-ft/yr (9.38 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 2,010 cfs (56.9 cu m/s) Mar. 10, gage height, 9.53 ft (2.905 m); no flow at times.

Period of record: Maximum discharge, 25,000 cfs (708 cu m/s) Oct. 2, 1959, gage height, 18.9 ft (5.76 m), from floodmarks, from rating curve extended above 2,500 cfs (70.8 cu m/s) on basis of slope-area measurements at gage heights 13.4 (4.08 m) and 17.5 ft (5.33 m); no flow at times in each year.

Flood of Apr. 27, 1912, reached a stage of 16.6 ft (5.06 m) at gage, based on floodmarks set by local resident at site 900 ft (274 m) downstream.

REMARKS.--Records good.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	153	.68	2.0	156	3.2	16	4.4	2.9	.45	.08	0
2	0	6.0	.61	1.3	22	3.4	11	3.8	28	.26	.05	0
3	0	1.6	.43	452	7.7	3.1	84	3.8	12	.17	.03	74
4	0	.93	.33	35	5.7	8.4	16	4.0	3.5	.13	.01	16
5	0	.60	.35	6.2	4.7	5.5	9.5	4.0	14	.11	0	1.2
6	0	.34	.25	3.4	4.1	286	8.1	25	2.7	.10	0	.47
7	0	.23	.19	2.5	8.1	24	7.7	21	1.5	.10	0	.37
8	0	.22	.32	2.4	8.2	123	81	4.8	1.2	.08	.03	47
9	0	.21	.36	1.9	3.8	99	47	3.7	1.0	.06	1.1	3.3
10	0	.16	.21	1.7	3.5	706	11	3.4	.92	.23	.13	.71
11	0	.15	.21	1.6	3.6	42	8.7	2.8	.86	.57	.06	.26
12	0	44	.49	1.3	3.7	15	7.8	2.3	.83	.12	.03	239
13	0	198	.45	1.5	3.6	11	6.7	2.2	.83	.05	0	27
14	0	6.5	.52	4.6	3.2	8.4	6.4	2.2	1.5	.05	0	2.2
15	0	2.0	.48	11	2.6	6.6	354	2.2	1.6	1.3	0	.90
16	0	.95	.39	7.1	2.3	5.8	129	2.3	1.1	.13	0	.61
17	0	.67	1.2	6.3	2.4	5.3	19	2.1	.85	.05	0	.56
18	0	1.3	16	4.3	3.4	5.1	12	2.0	.84	.02	0	.44
19	0	9.5	33	2.7	4.2	5.0	17	2.3	2.2	.01	0	.44
20	0	4.1	5.7	2.1	3.2	4.5	10	1.9	1.4	0	0	.68
21	12	2.2	3.3	7.3	2.8	4.7	8.1	1.8	.74	0	0	.51
22	93	3.7	1.8	8.2	3.1	5.1	7.2	1.8	.58	0	0	6.0
23	2.6	2.9	1.4	3.2	3.3	15	6.7	69	.47	0	0	1.3
24	.30	2.1	1.4	2.1	3.7	299	9.2	3.6	.30	0	0	.42
25	.07	6.5	1.2	4.0	3.4	305	13	3.1	.25	2.6	0	.41
26	.01	4.1	1.0	413	3.3	31	7.0	2.5	.24	.82	0	156
27	0	2.2	.92	27	3.1	14	5.5	2.4	.20	.16	0	104
28	0	1.2	.74	17	3.1	70	5.0	2.2	.18	.46	0	5.1
29	0	.86	6.1	7.4	-----	15	4.7	2.1	.32	.28	0	1.8
30	44	.73	67	7.0	-----	167	4.4	2.5	.59	.11	0	1.0
31	191	-----	4.6	33	-----	106	-----	10	-----	.13	0	-----
TOTAL	342.99	456.95	151.63	1,080.1	281.8	2,402.1	932.7	201.2	83.60	8.55	1.52	691.68
MEAN	11.1	15.2	4.89	34.8	10.1	77.5	31.1	6.49	2.79	.28	.049	23.1
MAX	191	198	67	452	156	706	354	69	28	2.6	1.1	239
MIN	0	.15	.19	1.3	2.3	3.1	4.4	1.8	.18	0	0	0
CFSM	.36	.49	.16	1.12	.33	2.50	1.00	.21	.09	.009	.002	.75
IN.	.41	.55	.18	1.30	.34	2.88	1.12	.24	.10	.01	.001	.83
AC-FT	680	906	301	2,140	559	4,760	1,850	399	166	17	3.0	1,370

CAL YR 1972 TOTAL 1,312.40 MEAN 3.59 MAX 198 MIN 0 CFSM .12 IN 1.57 AC-FT 2,600
WTR YR 1973 TOTAL 6,634.82 MEAN 18.2 MAX 706 MIN 0 CFSM .59 IN 7.96 AC-FT 13,160

PEAK DISCHARGE (BASE, 1,200 CFS)

DATE	TIME	G.H.T.	DISCHARGE
1-3	0730	7.15	1,240
3-10	1130	9.53	2,010
9-12	1730	7.33	1,290

ARKANSAS RIVER BASIN

07164200 KEYSTONE LAKE NEAR SAND SPRINGS, OKLA.

LOCATION.--Lat 36°09'05", long 96°15'05", in SW 1/4 SE 1/4 sec.4, T.19 N., R.10 E., Tulsa County, in stair tower of intake structure near left end of Keystone Dam on Arkansas River, 8.5 mi (13.7 km) west of Sand Springs, and at mile 538.8 (866.9 km).

DRAINAGE AREA.--74,506 sq mi (192,971 sq km), of which 12,541 sq mi (32,481 sq km) is probably noncontributing.

PERIOD OF RECORD.--September 1964 to current year. Prior to October 1970 published as Keystone Reservoir near Sand Springs.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Nov. 1, 1964, nonrecording gage nearby at same datum.

EXTREMES.--Current year: Maximum contents, 1,705,000 acre-ft (21.0 cu km) Apr. 4, elevation, 751.59 ft (229.085 m); minimum, 453,400 acre-ft (559 cu hm) Oct. 20, elevation, 715.82 ft (218.182 m).

Period of record: Maximum contents, 1,705,000 acre-ft (21.0 cu km) Apr. 4, 1973, elevation, 751.59 ft (229.085 m); minimum since power pool was first filled, 297,800 acre-ft (367 cu hm) Jan. 19, 1965, elevation, 705.07 ft (214.905 m).

REMARKS.--Reservoir is formed by rolled-fill earth dam. Spillway is concrete ogee weir controlled by 18 40-foot (12.2 m) taintor gates. Outlet works consist of nine sluices. Regulated storage began Sept. 11, 1964; power pool was first filled Nov. 20, 1964. Capacity, 1,836,000 acre-ft (2.26 cu km), at elevation 754.0 ft (229.82 m), top of flood control pool, 618,000 acre-ft (762 cu hm), at elevation 723.0 ft (220.37 m) top of power pool, 520,700 acre-ft (642 cu hm) at elevation 719.0 ft (219.15 m). Crest of controlled spillway, and 287,500 acre-ft (354 cu hm) at elevation 706.0 ft (215.19 m), minimum power pool. Figures given herein represent total contents. Reservoir is designed for flood control, power development, and conservation. Revised capacity table, based on survey in 1969, used since Oct. 1, 1972. Records of chemical analysis for the current year are published in Part 2 of this report.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in thousands of acre-feet)

715	437.4	730	820.8	745	1,387
720	543.9	735	988.4	752	1,727
725	671.9	740	1,176		

CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	490.9	517.0	600.3	656.7	680.8	601.5	1,538	1,551	692.1	611.0	576.2	493.5
2	491.4	532.1	604.1	661.0	669.9	598.0	1,614	1,534	686.5	609.0	579.6	494.7
3	492.4	543.4	605.1	687.3	669.3	605.1	1,685	1,531	681.4	609.5	576.9	486.3
4	492.4	552.8	602.6	693.8	705.3	615.1	1,698	1,540	678.3	613.6	578.6	488.6
5	492.4	559.0	601.3	692.1	730.1	611.5	1,661	1,520	673.8	613.6	584.1	489.9
6	492.2	558.5	593.4	682.2	737.2	654.7	1,619	1,504	663.5	610.5	577.9	495.6
7	491.6	553.3	586.3	660.5	733.7	710.8	1,568	1,488	659.1	611.0	570.8	500.3
8	491.6	553.3	580.1	637.7	721.9	764.6	1,519	1,463	659.7	614.4	568.3	507.8
9	490.7	553.3	580.6	619.0	706.7	810.7	1,488	1,432	658.6	610.8	567.9	514.3
10	489.7	552.6	576.9	606.1	687.3	939.5	1,463	1,395	651.5	612.8	572.2	517.3
11	486.7	552.8	572.2	593.9	666.3	1,124	1,427	1,357	642.8	612.3	584.3	518.4
12	484.0	566.6	565.2	580.6	648.7	1,321	1,393	1,316	639.3	609.2	590.9	531.6
13	480.0	584.8	561.1	580.6	639.0	1,483	1,360	1,273	636.9	604.3	589.4	536.9
14	477.0	588.1	557.5	580.6	625.5	1,560	1,327	1,229	632.9	614.1	584.8	534.9
15	477.0	587.1	557.0	577.1	611.8	1,523	1,343	1,217	628.7	619.5	577.4	540.0
16	475.8	586.6	556.1	577.6	603.6	1,459	1,390	1,236	625.8	617.2	572.5	548.1
17	470.3	587.8	556.6	591.1	603.6	1,386	1,415	1,244	621.1	614.4	564.7	544.1
18	465.6	588.4	558.0	598.5	611.5	1,311	1,425	1,186	616.4	608.2	564.0	544.1
19	459.2	584.3	560.6	602.6	604.9	1,236	1,433	1,126	620.3	598.5	567.1	543.2
20	453.6	579.9	564.7	618.0	597.2	1,178	1,433	1,061	610.5	590.6	558.7	540.4
21	464.2	574.9	565.2	629.0	599.0	1,144	1,446	994.3	608.2	594.2	549.3	539.7
22	478.7	570.5	571.7	625.0	600.0	1,115	1,487	932.0	602.8	591.9	541.8	539.7
23	482.7	573.5	579.1	625.0	601.0	1,090	1,515	879.0	609.7	585.1	533.7	543.4
24	483.8	574.7	583.6	640.4	601.8	1,094	1,551	829.7	612.3	575.7	525.1	535.8
25	484.2	579.9	589.9	654.5	604.3	1,141	1,569	793.5	607.7	572.5	519.8	528.6
26	484.6	584.3	586.8	673.2	603.3	1,204	1,586	778.3	606.1	565.9	521.9	544.6
27	485.9	589.9	589.9	688.7	601.8	1,296	1,597	767.3	604.9	567.1	514.1	584.6
28	486.7	593.9	590.9	687.0	600.3	1,377	1,598	751.8	604.3	575.4	503.7	663.5
29	486.5	599.5	593.7	683.9	-----	1,400	1,584	736.0	603.1	578.6	499.8	780.7
30	488.4	599.7	601.8	678.8	-----	1,408	1,566	719.2	606.9	577.4	497.7	911.6
31	496.9	-----	623.7	676.9	-----	1,442	-----	706.2	-----	575.2	489.7	-----
MAX	496.9	599.7	623.7	693.8	737.2	1,560	1,698	1,551	692.1	619.5	590.9	911.6
MIN	453.6	517.0	556.1	577.1	597.2	598.0	1,327	706.2	602.8	565.9	489.7	486.3
(+)	717.92	722.29	723.22	725.18	722.31	746.23	748.82	726.21	722.57	721.31	717.58	732.79
(+)	+6.0	+102.8	+24.0	+53.2	-76.6	+841.7	+124.0	-859.8	-99.3	-31.7	-85.5	+421.9

CAL YR 1972.....† +11.9
WTR YR 1973.....† +420.7

Note.--Contents, in thousands of acre-feet, from revised capacity table, Dec. 31, 1971, 611.8 and Sept. 30, 1972, 490.9.

† Elevation, in feet, at end of month.

† Change in contents, in thousands of acre-feet.

ARKANSAS RIVER BASIN

35

07164500 ARKANSAS RIVER AT TULSA, OKLA.

LOCATION.--Lat 36°08'37", long 96°00'13", in NW 1/4 sec.11, T.19 N., R.12 E., Tulsa County, near left bank on downstream side of pier of bridge on U.S. Highway 66 in Tulsa, 10.1 mi (16.3 km) upstream from Polecat Creek, 15.1 mi (24.3 km) downstream from Keystone Dam, and at mile 523.7 (842.6 km).

DRAINAGE AREA.--74.615 sq mi (193, 253 sq km), of which 12,541 sq mi (32,481 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1904 are published in reports of the U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 615.23 ft (187.522 m) above mean sea level (Corps of Engineers bench mark). Prior to Feb. 2, 1939, nonrecording gage and Feb. 2, 1939, to Sept. 30, 1952, water-stage recorder at datum 3.00 ft (0.914 m) higher.

AVERAGE DISCHARGE.--48 years, 6,425 cfs (182.0 cu m/s), 4,655,000 acre-ft/yr (5.74 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 82,300 cfs (2,330 cu m/s) Mar. 15, gage height, 12.52 ft (3.816 m); minimum daily, 170 cfs (4.81 cu m/s) Sept. 9.
Period of record: Maximum discharge, 246,000 cfs (6,970 cu m/s) Oct. 5, 1959, gage height, 22.00 ft (6.706 m); minimum, 27 cfs (0.76 cu m/s) Oct. 12, 13, 1956.
Maximum stage since 1904, 22.8 ft (6.949 m) June 13, 1923, present datum, from reports of U.S. Weather Bureau.

REMARKS.--Records good. Except for 109 sq mi (282 sq km) intervening area, flow completely regulated by Keystone Lake (see sta. 07164200) since September 1964. Prior minor regulation by John Martin Lake in Colorado and by Great Salt Plains Lake (see sta. 07150000). Records of chemical analyses and of water temperatures for site 7 miles (11.3 km) upstream (Published as "at Sand Springs Bridge near Tulsa") for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	971	2,110	3,290	2,980	16,800	5,750	50,200	31,300	13,200	889	4,470	3,000
2	1,660	2,410	1,890	8,840	21,100	8,580	60,500	30,700	12,600	1,590	3,890	368
3	1,060	1,960	1,630	13,400	21,100	3,650	67,800	30,700	11,200	2,690	4,450	3,900
4	758	675	3,800	20,500	21,200	2,900	73,700	32,100	11,400	1,750	4,380	2,030
5	1,030	591	3,620	20,500	21,200	11,200	78,600	36,100	13,300	726	1,300	2,600
6	1,040	2,360	4,430	20,100	21,100	14,000	80,200	33,700	13,400	3,000	3,100	1,270
7	1,230	4,210	5,840	19,900	21,100	22,000	73,100	34,100	13,300	2,330	5,920	259
8	1,190	2,320	5,030	18,000	21,600	21,200	75,200	33,700	10,700	1,670	7,000	1,200
9	877	1,930	2,340	13,900	21,800	25,400	69,500	33,700	10,500	1,520	6,980	170
10	1,210	1,040	2,780	11,100	21,700	42,500	60,100	34,200	10,700	2,780	6,350	463
11	1,590	2,420	5,600	10,700	21,000	42,200	57,900	33,700	10,300	2,120	3,760	1,840
12	2,500	1,220	6,470	9,700	19,900	42,100	51,700	33,500	6,930	2,850	2,200	2,650
13	2,290	3,330	5,330	5,310	15,400	50,300	45,800	33,400	6,260	3,810	4,660	3,510
14	2,510	5,060	4,790	2,780	15,400	69,900	41,500	33,400	6,000	3,090	5,840	3,440
15	2,090	6,850	3,270	6,990	15,400	82,000	41,800	23,000	6,850	488	6,180	3,290
16	791	6,850	2,190	6,010	12,900	78,600	32,100	1,200	6,990	1,220	7,030	245
17	2,530	6,850	2,660	3,830	7,400	77,300	30,800	1,430	5,180	3,660	6,540	2,640
18	2,960	6,990	1,640	7,250	4,100	70,300	30,600	28,100	6,130	5,020	4,040	3,340
19	3,340	7,000	3,160	10,900	8,070	66,400	30,600	35,400	5,740	7,800	1,770	2,440
20	3,500	6,950	2,150	9,880	10,500	51,600	31,000	36,800	11,100	7,000	3,150	4,040
21	2,480	6,950	3,310	10,100	6,400	36,400	32,300	36,200	6,680	3,370	6,040	3,030
22	1,820	6,980	2,390	14,700	5,230	33,400	21,200	35,500	6,750	1,610	5,730	3,050
23	1,060	1,770	1,720	14,700	5,790	33,000	13,800	34,700	3,130	5,440	5,200	2,290
24	949	3,390	1,060	14,800	4,770	33,100	17,400	32,600	420	5,730	5,670	2,830
25	560	1,690	636	14,700	3,530	27,000	24,300	24,600	3,470	7,460	4,270	6,170
26	900	1,500	3,560	15,000	5,680	15,900	23,800	15,600	4,590	6,040	2,940	6,130
27	923	1,220	2,190	14,700	6,020	23,800	26,600	12,800	3,650	4,790	2,600	14,900
28	571	1,470	2,250	14,600	5,780	33,300	30,700	12,700	3,430	2,080	5,180	20,900
29	566	1,630	2,210	14,500	-----	41,900	30,700	12,800	3,110	1,090	4,600	20,900
30	1,440	2,950	1,300	14,700	-----	43,200	30,400	12,900	2,790	4,450	2,760	20,900
31	4,570	-----	857	15,000	-----	48,900	-----	13,100	-----	6,130	3,630	-----
TOTAL	50,966	102,676	93,393	380,070	381,970	1,157,8M	1,333,9M	833,730	229,800	104,193	141,630	143,795
MEAN	1,644	3,423	3,013	12,260	13,640	37,350	44,460	26,890	7,660	3,361	4,569	4,793
MAX	4,570	7,000	6,470	20,500	21,800	82,000	80,200	36,800	13,400	7,800	7,030	20,900
MIN	560	591	636	2,780	3,530	2,900	13,800	1,200	420	488	1,300	170
AC=FT	101,100	203,700	185,200	753,900	757,600	2,296M	2,646M	1,654M	455,800	206,700	280,900	285,200
CAL YR 1972 TOTAL	893,770			MEAN 2,442	MAX 7,280	MIN 448	AC=FT 1,773,000					
WTR YR 1973 TOTAL	4,953,903			MEAN 13,570	MAX 82,000	MIN 170	AC=FT 9,826,000					

ARKANSAS RIVER BASIN

07165000 HEYBURN LAKE NEAR HEYBURN, OKLA.

LOCATION.--Lat 35°56'52", long 96°17'55", in SE 1/4 sec.13, T.17 N., R.9 E., Creek County, at intake structure at right abutment of Heyburn Dam on Polecat Creek, 2.5 mi (4.0 km) northwest of Heyburn, 3.4 mi (5.5 km) upstream from bridge on U.S. Highway 66, 11.0 mi (17.7 km) southwest of Sapulpa, and at mile 48.6 (28.2 km).

DRAINAGE AREA.--123 sq mi (318.6 sq km).

PERIOD OF RECORD.--October 1950 to current year. Prior to October 1970, published as Heyburn Reservoir near Heyburn.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 21,820 acre-ft (26.9 cu hm) Apr. 22, elevation, 772.36 ft (235.415 m); minimum, 4,410 acre-ft (5.44 cu hm) Oct. 20, 21, elevation, 758.49 ft (231.188 m).
Period of record: Maximum contents, 26,670 acre-ft (32.9 cu hm), June 25, 1958, elevation, 772.60 ft (235.488 m); minimum since conservation pool was first filled, 5,780 acre-ft (7.13 cu hm), Aug. 23, 1972, elevation 758.66 ft (231.240m).

REMARKS.--Reservoir is formed by an earth dam. Outlet works consist of an 8.25 ft (2.515 m) diameter concrete conduit extending from an uncontrolled concrete drop inlet at the upstream side of dam to a concrete stilling basin near downstream toe of dam and three 36-inch (.91 m) gated low-flow pipes which drain into the conduit below the drop inlet. Spillway is 200-foot (61.0 m) channel in a natural saddle about 1,000 ft (304.8 m) west of right abutment. Storage began Sept. 29, 1950; conservation pool was first filled Mar. 10, 1951. Capacity, 144,800 acre-ft (179 cu hm), at elevation 802.0 ft (244.45 m) maximum pool, 55,030 acre-ft (67.9 cu hm), at elevation 784.0 ft (238.96 m), spillway crest and top of flood-control pool, and 6,620 acre-ft (8.2 cu hm) at elevation 761.5 (232.11 m), conservation pool. Dead storage, 226 acre-ft (3,280 cu m) below elevation 740.0 ft (225.55 m), invert of low-flow sluices. Reservoir was designed for flood control and conservation. Figures given herein represent total contents. Revised capacity table, based on survey in 1971, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)

755	2,630	770	17,500
760	5,420	775	27,550
765	10,430		

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4,600	7,880	6,800	6,880	8,140	7,030	8,060	7,490	7,110	6,770	6,760	7,030
2	4,600	7,620	6,800	6,850	7,830	7,150	7,820	7,330	11,290	6,760	6,730	7,000
3	4,590	7,400	6,790	9,130	7,580	7,190	8,690	7,230	9,390	6,730	6,710	6,940
4	4,580	7,220	6,770	8,540	7,420	8,550	8,240	7,150	8,850	6,710	6,670	6,920
5	4,580	7,100	6,770	8,020	7,270	8,130	7,880	7,080	8,270	6,680	6,640	6,970
6	4,600	7,080	6,740	7,670	7,180	12,220	7,650	8,870	7,830	6,660	6,630	6,920
7	4,600	7,130	6,730	7,640	7,200	10,300	7,500	8,420	7,530	6,640	6,600	6,900
8	4,560	7,060	6,730	7,610	7,210	9,120	7,750	7,950	7,330	6,600	6,670	6,860
9	4,550	7,000	6,730	7,580	7,160	8,420	7,810	7,630	7,200	6,510	7,600	6,820
10	4,540	6,940	6,710	7,540	7,110	12,920	7,620	7,440	7,090	6,530	7,370	6,800
11	4,530	6,870	6,710	7,500	7,060	10,680	7,480	7,260	7,010	6,180	7,200	6,770
12	4,520	7,840	6,730	7,450	7,030	9,290	7,380	7,160	6,990	6,100	7,060	7,130
13	4,520	9,050	6,730	7,390	7,010	8,590	7,280	7,070	6,940	6,050	6,980	7,220
14	4,520	8,100	6,740	7,300	6,980	8,150	7,220	7,010	6,910	6,140	6,900	7,110
15	4,500	7,730	6,730	7,220	6,960	7,800	12,100	6,970	6,880	6,660	6,980	7,010
16	4,450	7,480	6,740	7,150	6,920	7,560	10,890	6,940	6,850	6,650	7,060	6,960
17	4,450	7,300	6,730	7,100	6,910	7,410	9,440	6,900	6,830	6,640	6,990	6,900
18	4,450	7,240	6,740	7,080	6,920	7,290	8,610	6,880	6,820	6,620	6,920	6,860
19	4,430	7,270	6,800	7,050	6,920	7,240	8,180	6,860	6,840	6,590	6,870	6,820
20	4,410	7,250	6,850	7,050	6,910	7,160	9,520	6,850	6,820	6,570	6,810	6,780
21	4,560	7,200	6,880	7,110	6,900	7,100	16,720	6,830	6,790	6,550	6,780	6,770
22	6,120	7,160	6,880	7,090	6,890	7,060	20,380	6,820	6,770	6,540	6,760	6,770
23	6,140	7,100	6,870	7,030	6,870	7,070	17,550	6,920	6,750	6,530	6,730	6,770
24	6,130	7,050	6,840	7,000	6,870	9,270	14,830	6,950	6,730	6,510	6,710	6,770
25	6,120	7,030	6,820	7,030	6,850	10,210	12,100	6,920	6,710	6,660	6,680	6,760
26	6,110	6,990	6,810	7,540	6,850	9,150	10,020	6,910	6,710	6,660	6,660	7,500
27	6,100	6,950	6,790	7,520	6,850	8,450	8,900	6,870	6,710	6,640	6,640	8,040
28	6,100	6,920	6,770	7,400	6,840	8,200	8,240	6,830	6,690	6,670	6,620	7,700
29	6,090	6,880	6,790	7,270	-----	7,870	7,850	6,800	6,790	6,770	6,690	7,440
30	6,240	6,860	6,890	7,170	-----	8,260	7,610	6,780	6,790	6,770	6,680	7,250
31	7,480	-----	6,890	7,520	-----	8,490	-----	7,110	-----	6,780	6,650	-----
MAX	7,480	9,050	6,890	9,130	8,140	12,920	20,380	8,870	11,290	6,780	7,600	8,040
MIN	4,410	6,860	6,710	6,850	6,840	7,030	7,220	6,780	6,690	6,600	6,600	6,760
(†)	762.38	761.76	761.79	762.42	761.74	763.33	762.51	762.02	761.69	761.68	761.54	762.16
(‡)	+2,870	-620	+30	+630	-680	+1,650	-880	-500	-320	-10	-130	+600

CAL YR 1972.....‡ -280
WTR YR 1973.....‡ +2,640

Note.--Contents from revised capacity table Dec. 31, 1971, 7,170 acre-ft and Sept. 30, 1972, 4,610 acre-ft.

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

07165500 POLECAT CREEK BELOW HEYBURN LAKE, NEAR HEYBURN, OKLA.

LOCATION.--35°56'42", 96°17'39", in NW 1/4 NW 1/4 sec.19, T.17 N., R.10 E., Creek County, on right bank of outlet dchannel, 1,100 feet (335 m) downstream from Heyburn dam, 3.2 mi (5.1 km) upstream from bridge on U.S. Highway 66, 11 mi (17.7 km) southwest of Sapulpa, and at mile 48.4 (77.9 km).

DRAINAGE AREA.--123 sq mi (319 sq km).

PERIOD OF RECORD.--October 1943 to current year. Prior to October 1956, published as Polecat Creek at Heyburn and October 1956 to September 1970 as Polecat Creek below Heyburn Reservoir near Heyburn.

GAGE.--Water-stage recorder. Datum of gage is 718.00 ft (218.846 m) above mean sea level. Prior to Feb. 22, 1949, nonrecording gage and Feb. 22, 1949, to Feb. 16, 1956, water-stage recorder at site 3.2 mi (5.1 km) downstream at datum 706.47 ft (215.332 m). Mar. 8, 1958 to Sept. 30, 1971, water-stage recorder at intake structure at right abutment of Heyburn Dam 1,100 ft (335 m) upstream at datum 760.00 ft (231.648 m), present site used supplementary gage.

AVERAGE DISCHARGE.--30 years, 50.3 cfs (1.424 cu m/s), 36,440 acre-ft/yr (44.9 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 2,000 cfs (56.6 cu m/s) Apr. 22, gage height about 13.5 ft (4.11 m) computed from outflow 1,100 ft (335 m) upstream; no flow at times.

Period of record: Maximum discharge, 17,300 cfs (490 cu m/s) June 23, 1948 and May 19, 1949, from rating curve extended above 6,100 cfs (173 cu m/s); maximum gage height, 28.53 ft (8.696 m) May 19, 1949, site and datum then in use; no flow at times in most years.

Flood of Sept. 4, 1949, reached a stage of 31.5 ft (9.60 m), from flood mark, at former site and datum.

REMARKS.--Records fair. Flow regulated since September 1950 by Heyburn Lake (see sta. 07165000) with occasional prior regulation from March 1950 by lake construction operations.

COOPERATION.--Gage-height record, 24 discharge measurements and 2 observations of no flow furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1411: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	351	24	16	274	15	310	116	40	9.4	6.4	73
2	0	193	9.7	14	260	41	202	94	706	7.0	3.6	33
3	0	106	8.5	337	171	44	331	67	1,430	4.8	1.8	26
4	0	70	7.0	558	117	335	355	53	808	4.3	.70	19
5	0	48	9.1	340	81	322	245	42	534	2.3	.40	25
6	0	38	6.1	197	61	1,120	158	195	342	1.0	0	25
7	0	44	4.7	123	51	1,310	113	499	151	.50	0	21
8	0	40	4.7	81	54	772	98	311	92	.35	0	15
9	0	32	4.7	45	53	466	176	185	62	50	105	13
10	0	25	3.2	35	46	1,120	144	119	46	83	113	8.2
11	0	19	1.8	50	40	1,450	104	78	34	61	74	6.1
12	0	70	4.7	48	36	862	79	55	27	27	50	13
13	0	681	4.7	22	34	494	61	42	23	12	37	61
14	0	558	4.7	20	31	331	51	32	19	12	27	50
15	0	220	5.4	22	25	214	680	27	15	13	29	37
16	8.1	134	4.7	32	21	152	1,590	22	13	6.0	37	27
17	0	84	4.7	36	19	104	960	19	11	.18	38	21
18	0	65	4.7	40	17	77	550	15	8.8	0	27	14
19	0	64	6.8	38	17	62	341	14	8.8	0	20	9.7
20	0	65	11	32	17	52	693	11	8.2	0	14	7.6
21	.84	60	15	33	17	44	841	9.7	7.6	0	9.4	6.7
22	2.6	52	17	38	17	38	1,910	8.2	5.8	0	5.5	6.1
23	0	44	13	36	15	35	1,880	13	4.8	0	2.8	6.1
24	0	38	11	31	13	233	1,810	18	3.8	0	1.8	5.5
25	0	36	9.7	26	13	1,000	1,680	19	2.9	.25	.70	5.3
26	0	30	8.2	78	12	794	1,220	17	1.5	.35	.10	14
27	0	25	7.6	116	11	474	679	17	2.0	.10	0	287
28	0	22	12	106	10	332	385	13	2.0	0	0	227
29	0	19	16	77	-----	238	228	8.2	4.8	3.6	0	137
30	1.2	16	16	58	-----	178	158	5.8	10	5.5	0	86
31	39	-----	14	55	-----	395	-----	27	-----	7.9	0	-----
TOTAL	51.74	3,249	274.4	2,740	1,533	13,104	18,032	2,151.9	4,424.0	311.53	604.20	1,285.3
MEAN	1.67	108	8.85	88.4	54.8	423	601	69.4	147	10.0	19.5	42.8
MAX	39	681	24	558	274	1,450	1,910	499	1,430	83	113	287
MIN	0	16	1.8	14	10	15	51	5.8	1.5	0	0	5.3
AC=FT	103	6,440	544	5,430	3,040	25,990	35,770	4,270	8,780	618	1,200	2,550

CAL YR 1972 TOTAL 7,346.55 MEAN 20.1 MAX 681 MIN 0 AC=FT 14,570
WTR YR 1973 TOTAL 47,761.07 MEAN 131 MAX 1,910 MIN 0 AC=FT 94,730

ARKANSAS RIVER BASIN

07165570 ARKANSAS RIVER NEAR HASKELL, OKLA.

LOCATION.--Lat 35°49'23", long 95°38'39", in NE 1/4 sec.31, T.16 N., R.16 E., Muskogee County, near right bank on downstream side of bridge on State Highway 104, 2 mi (3.2 km) east of Haskell, 23.5 mi (37.8 km) upstream from Verdigris River, and at mile 483.7 (778.3 km).

DRAINAGE AREA.--75,473 sq mi (195,475 sq km), of which 12,541 sq mi (32,481 sq km) probably is noncontributing.

PERIOD OF RECORD.--June 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 530.00 ft (161.544 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 86,000 cfs (2,436 cu m/s) Mar. 15, gage height, 16.06 ft (4.895 m); minimum daily, 679 cfs (19.2 cu m/s) Sept. 11.

Period of record: Maximum discharge, 86,000 cfs (2,440 cu m/s) Mar. 15, 1973, gage height, 16.06 ft (4.895 m); minimum daily, 679 cfs (19.2 cu m/s) Sept. 11, 1973.

REMARKS.--Records good. Flow regulated by Keystone Lake (see sta. 07164200), 55.1 mi (88.7 km) upstream.

COOPERATION.--Gage-height record and discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,240	14,100	1,980	1,480	13,800	4,070	49,600	33,700	15,200	3,010	6,580	3,820
2	924	9,430	3,120	2,440	17,800	6,950	52,100	33,400	17,300	1,620	5,050	3,450
3	1,450	4,070	2,700	12,000	20,900	8,480	68,200	32,900	27,900	1,950	4,120	1,320
4	1,020	2,890	1,420	22,200	20,500	8,070	74,900	32,800	19,500	2,730	5,050	3,550
5	792	1,420	3,050	25,300	20,400	9,800	74,200	36,700	18,800	2,140	4,280	3,790
6	871	1,110	3,440	23,400	20,300	12,000	79,000	37,900	16,400	1,120	2,080	3,070
7	945	1,530	4,130	22,900	20,600	17,000	75,100	39,600	15,000	2,810	3,200	1,890
8	1,040	4,000	4,870	22,100	23,500	24,000	73,800	38,800	13,700	2,420	6,370	933
9	934	3,310	4,240	17,900	21,700	23,500	72,900	36,600	11,500	1,700	8,800	1,450
10	912	1,950	2,800	13,800	21,100	40,900	60,600	36,600	11,400	1,500	7,930	915
11	896	1,480	1,930	10,200	20,500	54,100	57,600	36,500	11,400	2,760	8,020	679
12	1,130	2,560	4,060	9,640	20,100	46,000	51,600	36,300	10,400	2,220	4,280	1,710
13	2,050	4,670	4,760	9,320	17,500	46,300	46,400	35,900	7,640	2,750	2,730	2,690
14	2,320	7,690	3,660	4,420	13,900	66,700	41,500	34,400	6,930	3,780	5,180	3,410
15	2,340	6,540	3,350	3,050	13,600	81,700	43,400	35,600	7,060	3,430	6,400	3,770
16	2,260	7,380	2,910	5,620	12,800	79,800	53,400	14,400	7,500	1,000	8,150	3,330
17	983	7,140	1,800	5,180	9,840	78,800	38,100	2,350	6,990	1,120	8,110	917
18	1,350	6,980	1,930	3,760	5,550	72,500	34,300	5,690	6,020	3,580	7,340	2,100
19	2,840	7,470	1,400	6,870	2,890	69,600	32,700	36,900	6,990	5,410	4,290	3,270
20	2,980	7,860	1,650	9,130	7,150	60,400	32,400	37,600	6,710	8,270	2,310	2,440
21	3,510	7,600	1,840	9,900	8,550	43,000	32,000	38,700	10,700	7,420	3,510	3,700
22	4,160	7,340	2,810	11,500	4,360	35,400	35,300	38,000	6,880	3,600	6,160	3,220
23	3,240	6,990	2,820	14,600	3,590	34,200	20,300	37,600	6,660	2,230	5,680	3,600
24	1,770	2,910	1,430	13,700	3,840	36,800	19,800	36,500	3,080	6,130	5,380	2,590
25	1,140	2,840	1,100	13,400	3,330	45,100	29,100	31,700	1,430	7,570	5,720	2,700
26	1,210	2,710	1,000	13,600	2,610	24,600	30,400	23,800	3,710	8,620	4,300	6,140
27	927	1,850	2,410	14,600	3,690	20,900	28,000	16,600	4,200	7,060	3,000	10,500
28	1,030	1,580	3,230	13,900	4,100	28,600	33,100	14,600	3,540	4,920	2,780	20,000
29	778	1,600	2,090	13,200	-----	39,700	33,900	14,400	4,610	2,590	5,410	21,700
30	859	1,770	2,770	12,900	-----	43,200	33,700	14,300	6,190	1,460	4,250	21,400
31	2,780	-----	2,780	12,700	-----	57,100	-----	15,400	-----	5,020	2,830	-----
TOTAL	50,681	140,770	83,480	374,710	358,500	1,219,3M	1,407,4M	916,240	295,340	111,940	159,290	144,054
MEAN	1,635	4,692	2,693	12,090	12,800	39,330	46,910	29,560	9,845	3,611	5,138	4,802
MAX	4,160	14,100	4,870	25,300	23,500	81,700	79,000	39,600	27,900	8,620	8,800	21,700
MIN	778	1,110	1,000	1,480	2,610	4,070	19,800	2,350	1,430	1,000	2,080	679
AC-FT	100,500	279,200	165,600	743,200	711,100	2,418M	2,792M	1,817M	585,800	222,000	316,000	285,700

WTR YR 1973 TOTAL 5,261,675 MEAN 14,420 MAX 81,700 MIN 679 AC-FT 10,440,000

07170500 VERDIGRIS RIVER AT INDEPENDENCE, KS

LOCATION.--Lat 37°13'26", long 95°40'43", in NW¼NE¼NE¼ sec.32, T.32 S., R.16 E., Montgomery County, near right bank at downstream side of bridge on U.S. Highway 160, 1.0 mi (1.6 km) east of Independence, 3.6 mi (5.8 km) downstream from Elk River, and at mile 194.3 (312.6 km).

DRAINAGE AREA.--2,892 mi² (7,490 km²).

PERIOD OF RECORD.--August 1895 to September 1904 (monthly figures only, published in WSP 1311), October 1921 to current year.

GAGE.--Water-stage recorder. Datum of gage is 716.63 ft (218.429 m) above mean sea level. Aug. 2, 1895, to Nov. 30, 1903, nonrecording gage at former milldam 5.0 mi (8.0 km) downstream and 2.5 mi (4.0 km) northwest of Liberty, at datum about 4.00 ft (1.219 m) lower. Apr. 20 to Sept. 25, 1904, nonrecording gage at Myrtle Street highway bridge 0.8 mi (1.3 km) upstream at different datum. Nov. 14, 1921, to Sept. 30, 1929, nonrecording gage at Myrtle Street bridge at datum 0.87 ft (0.265 m) higher than present datum. Oct. 1, 1929, to Dec. 25, 1933, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--61 years, 1,617 ft³/s (45.79 m³/s), 1,172,000 acre-ft/yr (1.45 km³/yr).

EXTREMES.--Current year: Maximum discharge, 24,600 ft³/s (697 m³/s) Mar. 10, gage height, 32.26 ft (9.833 m); minimum, 31 ft³/s (0.88 m³/s) Aug. 30.

Period of record: Maximum discharge, 117,000 ft³/s (3,310 m³/s) Apr. 17, 1945, gage height, 47.28 ft (14.411 m); maximum gage height, 47.60 ft (14.508 m) May 19, 1943; no flow at times in 1932, 1934, 1936, 1939-40, 1953-55. Maximum stage known since at least 1885, that of May 19, 1943.

REMARKS.--Records good. Flow regulated since 1949 by Fall River Lake (see sta 07168000) and since 1960 by Toronto Lake (see sta 07165900). Since 1966, some regulation by Elk City Lake (see sta 07170050). Records of chemical analyses for the water year 1973 are published in Part 2 of the Kansas State report.

COOPERATION.--Gage-height record and 26 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 977: 1922, 1927-29. WSP 1117: Drainage area. WSP 1341: 1923-25(M), 1939.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	6,150	2,260	2,430	11,300	969	14,400	6,080	2,180	80	987	39
2	68	3,510	2,730	2,340	15,200	1,950	3,400	8,060	1,410	75	437	51
3	63	2,710	2,680	9,440	13,100	2,210	1,410	4,400	624	70	282	52
4	56	2,860	2,240	16,000	4,410	6,940	1,090	3,840	500	65	210	73
5	53	2,630	1,310	15,400	3,400	14,500	1,180	3,690	675	60	137	81
6	51	2,030	930	11,700	5,040	17,200	2,160	4,420	661	60	120	64
7	47	784	820	4,190	9,430	17,700	2,410	9,680	553	55	113	51
8	46	358	892	3,060	11,700	16,100	2,720	11,400	482	55	108	58
9	47	318	876	5,180	11,300	14,400	3,930	5,000	453	50	100	73
10	47	307	807	5,740	7,600	21,100	3,960	4,570	435	50	83	218
11	45	360	810	6,150	2,330	20,800	4,690	5,810	435	45	89	324
12	44	2,200	879	5,380	1,680	12,600	5,310	7,360	495	43	105	158
13	44	14,800	769	2,420	1,870	11,400	5,250	8,280	695	42	81	330
14	45	8,950	708	1,440	2,200	15,400	5,180	8,200	752	44	76	1,410
15	46	5,150	666	1,280	2,210	14,300	7,770	8,080	727	76	76	1,490
16	48	5,730	620	1,940	2,010	11,500	19,700	8,670	368	111	76	1,710
17	48	6,140	628	4,850	1,410	10,700	18,400	8,940	221	99	71	1,710
18	46	6,970	673	6,880	904	11,600	5,090	6,440	265	84	68	1,670
19	43	6,470	1,830	5,510	859	13,300	1,930	8,190	243	78	67	1,450
20	42	6,660	2,570	2,300	857	16,000	5,860	11,000	163	75	63	1,330
21	61	4,830	2,950	6,790	874	15,200	13,200	11,200	142	89	59	728
22	2,100	3,650	2,720	15,600	944	15,900	11,000	9,230	139	220	55	285
23	912	3,190	2,080	11,000	986	15,900	2,690	7,740	125	457	47	149
24	636	3,040	1,930	7,690	1,040	17,800	1,220	6,210	121	2,440	48	101
25	302	3,680	1,840	8,790	1,030	22,400	1,590	5,930	102	990	55	80
26	194	4,280	1,770	6,530	964	20,800	2,220	5,060	78	716	47	609
27	149	3,040	1,710	7,270	927	7,780	1,580	4,630	571	491	39	3,560
28	125	2,410	1,680	9,240	1,120	8,420	2,340	4,550	182	377	35	11,600
29	113	2,170	1,690	9,070	-----	12,000	3,690	4,060	126	325	32	12,200
30	204	2,070	3,750	8,070	-----	13,800	3,710	2,930	91	310	32	9,990
31	2,370	-----	4,640	7,080	-----	17,700	-----	2,660	-----	1,190	33	-----
TOTAL	8,176	114,447	52,458	210,760	116,695	418,369	159,080	206,310	14,014	8,922	3,831	51,644
MEAN	264	3,815	1,692	6,799	4,168	13,500	5,303	6,655	467	288	124	1,721
MAX	2,370	11,800	4,640	16,000	15,200	22,400	19,700	11,400	2,180	2,440	987	12,200
MIN	42	307	620	1,280	857	969	1,090	2,660	78	42	32	39
AC=FT	16,220	227,000	104,100	418,000	231,500	829,800	315,500	409,200	27,800	17,700	7,600	102,400
CAL YR 1972 TOTAL	419,655											
WTR YR 1973 TOTAL	1,364,706											
MEAN	1,147											
MAX	14,400											
MIN	36											
AC=FT	832,400											
AC=FT	2,707,000											

PEAK DISCHARGE (BASE, 14,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
01-04	1915	25.06	16,200	03-10	2030	32.26	24,600	03-31	0530	27.72	19,000
01-22	0445	25.73	16,800	03-14	1830	25.01	16,100	04-16	0630	28.98	20,300
02-02	2245	24.87	16,000	03-25	1430	31.72	23,900	04-21	2400	23.71	14,800
03-06	1800	27.65	18,900								

ARKANSAS RIVER BASIN

07171000 VERDIGRIS RIVER NEAR LENAPAH, OKLA.

LOCATION.--Lat 36°51'05", long 95°35'06", at center of sec.3, T.27 N., R.16 E., Nowata County, near right bank on downstream side of pier of county road bridge, 2.8 mi (4.5 km) east of Lenaph, 4.5 mi (7.2 km) unstream from Cedar Creek, and at mile 144.6 (232.7 km).

DRAINAGE AREA.--3,639 sq mi (942.5 sq km).

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 644.89 ft (196.562 m) above mean sea level.

AVERAGE DISCHARGE.--35 years, 2,135 cfs (60.46 cu m/s), 1,547,000 ac-ft/yr (1.91 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 31,400 cfs (889 cu m/s) Mar. 26, gage height, 30.93 ft (9.43 m); minimum, 33 cfs (0.95 cu m/s) Aug 29-Sept. 1.

Period of record: Maximum discharge, 137,000 cfs (3,880 cu m/s) May 20, 1943, gage height, 40.44 ft (12.326 m), from floodmarks; no flow at times in 1939-40, 1956.

REMARKS.--Records good. Some regulation, by dams in Kansas, since April 1949.

COOPERATION.--Gage-height record and 58 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 977: 1942(M). WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	376	17,300	2,260	3,970	11,700	1,490	23,800	5,600	2,430	132	1,420	220
2	214	11,100	2,710	2,520	15,800	4,090	12,600	10,300	1,950	100	820	392
3	156	3,750	2,820	7,000	15,600	3,580	3,540	6,210	1,300	83	421	2,780
4	122	3,200	2,750	17,000	9,880	8,990	2,500	4,380	1,000	73	284	405
5	98	2,930	1,870	15,000	4,250	16,900	1,500	3,700	1,900	67	217	348
6	85	2,720	1,330	10,000	3,900	20,200	1,600	3,150	1,500	63	151	196
7	75	1,640	1,030	6,000	8,330	26,700	2,100	7,980	1,300	73	123	130
8	69	826	989	3,700	12,000	22,100	3,300	11,400	1,000	60	111	93
9	66	487	900	3,500	12,300	17,100	4,200	8,130	850	52	106	89
10	63	444	850	4,350	10,600	20,500	4,900	4,150	700	70	135	100
11	61	424	890	3,800	5,540	28,700	4,740	4,910	630	302	135	215
12	58	2,400	890	3,100	2,220	25,100	5,530	6,260	570	146	86	436
13	53	22,300	880	2,500	2,210	14,300	5,210	7,680	560	85	106	834
14	53	20,400	790	2,000	2,460	15,000	4,710	8,310	790	384	100	736
15	61	8,780	760	1,790	2,600	16,500	8,740	7,990	820	375	80	1,940
16	64	5,990	740	2,470	2,480	14,800	25,500	7,710	730	234	73	1,690
17	57	6,310	770	5,150	2,090	12,500	25,800	9,370	418	161	71	1,870
18	54	7,370	880	7,980	1,460	12,400	16,500	7,760	339	128	69	1,830
19	54	7,990	3,380	7,730	1,160	13,400	2,880	6,710	314	103	65	1,720
20	51	8,430	6,360	4,270	1,150	16,000	6,820	9,160	276	84	63	1,530
21	97	6,870	4,620	11,000	1,120	17,000	12,500	10,600	187	98	61	1,230
22	17,800	5,190	3,970	24,600	1,160	16,300	18,400	9,990	158	212	58	645
23	12,200	4,060	3,120	21,500	1,200	16,500	8,730	8,530	140	2,150	53	285
24	2,010	3,510	2,630	10,900	1,240	18,900	2,750	7,130	129	2,800	50	163
25	874	4,070	2,420	9,740	1,260	28,800	3,440	6,580	124	2,670	46	5,040
26	484	5,230	2,250	9,740	1,230	31,100	2,550	5,700	107	1,370	40	829
27	318	4,250	2,120	9,310	1,110	26,700	2,290	5,270	947	813	41	8,270
28	242	2,980	2,050	9,660	1,240	11,300	2,710	4,680	859	525	40	16,800
29	201	2,530	2,020	10,000	-----	13,900	3,380	4,500	273	397	36	15,000
30	624	2,350	4,650	9,550	-----	15,400	3,960	3,370	200	339	33	11,100
31	5,900	-----	5,710	8,120	-----	24,800	-----	2,810	-----	525	33	-----
TOTAL	42,640	175,831	69,409	247,950	137,290	531,050	227,180	210,020	22,501	14,674	5,127	76,916
MEAN	1,375	5,861	2,239	7,998	4,903	17,130	7,573	6,775	750	473	165	2,564
MAX	17,800	22,300	6,360	24,600	15,800	31,100	25,800	11,400	2,430	2,800	1,420	16,800
MIN	51	424	740	1,790	1,110	1,490	1,500	2,810	107	52	33	89
AC-FT	84,580	348,800	137,700	491,800	272,300	1,053M	450,600	416,600	44,630	29,110	10,170	152,600
CAL YR 1972	TOTAL	589,292	MEAN	1,610	MAX	22,300	MIN	47	AC-FT	1,169,000		
WTR YR 1973	TOTAL	1,760,588	MEAN	4,824	MAX	31,100	MIN	33	AC-FT	3,492,000		

PEAK DISCHARGE (BASE, 23,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-13	2030	26.96	25,100	3-26	0800	30.93	31,400
1-22	1830	27.29	25,900	3-31	1915	27.77	26,700
3-07	1030	28.09	27,100	4-16	2315	29.63	27,700
3-11	1315	29.39	29,100				

ARKANSAS RIVER BASIN

41

07171300 OOLOGAH LAKE NEAR OOLOGAH, OKLA.

LOCATION.--Lat 36°25'19", long 95°40'43", in NE 1/4 NW 1/4 sec.2, T.22 N., R.15 E., Rogers County, in gage tower 1,000 ft (304.8 m) from left end of dam on Verdigris River, 2.0 mi (3.2 km) southeast of Oologah, and at mile 90.3 (145.3 km).

DRAINAGE AREA.--4,339 sq mi (11,238 sq km).

PERIOD OF RECORD.--May 1963 to current year. Prior to October 1970 published as Oologah Reservoir near Oologah.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 1,426,000 acre-ft (1.76 cu km) Apr. 26, elevation, 659.33 ft (200.964 m); minimum, 424,200 acre-ft (523 cu hm) Sept. 1, elevation, 633.26 ft (193.018 m).
Period of record: Maximum contents, 1,426,000 acre-ft (1.76 cu km) Apr. 26, 1973, elevation, 659.33 ft (200.964 m); minimum since conservation pool first filled 33,750 acre-ft (41.6 cu hm) Aug. 28, Oct. 27, 1969, elevation, 602.87 ft (183.755 m).

REMARKS.--Reservoir is formed by earth dam with concrete outlet structure and emergency spillway. Storage began May 15, 1963; conservation pool was first filled Apr. 4, 1964. Capacity, 1,020,000 acre-ft (1,260 cu hm) at elevation 651.0 ft (198.42 m), crest of uncontrolled spillway and 442,800 acre-ft (546 cu hm) at elevation 634.0 ft (193.24 m), conservation pool, revised. Dead storage, 9,260 acre-ft (11.4 cu hm) below elevation 592.0 ft (180.44 m). Figures given herein represent total contents. Reservoir is used for flood control and conservation.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet).

633	417,600	651	1,020,000
639	583,500	657	1,303,000
645	782,400	660	1,462,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	569.1	626.7	558.3	589.6	604.3	563.0	1,216	1,331	674.3	564.2	441.1	432.2
2	559.5	649.9	559.2	583.8	600.1	569.7	1,249	1,322	669.8	563.3	434.0	433.0
3	556.0	638.8	562.7	597.0	594.2	572.2	1,255	1,303	665.2	560.0	429.0	437.3
4	555.4	616.6	562.0	622.4	587.2	597.3	1,256	1,269	660.6	559.2	428.7	439.3
5	554.3	591.2	566.3	642.7	573.1	622.7	1,254	1,231	656.4	559.5	428.2	441.1
6	555.1	575.8	561.2	654.8	561.8	662.9	1,252	1,225	648.6	558.0	427.7	439.6
7	552.8	564.5	558.0	649.2	563.3	707.7	1,257	1,222	641.1	557.2	427.5	438.5
8	552.8	558.3	559.2	621.2	563.0	744.6	1,263	1,213	632.6	556.6	427.2	438.8
9	551.4	558.0	559.7	588.4	566.3	759.9	1,266	1,190	625.2	555.4	429.5	439.0
10	549.4	557.4	557.4	562.0	568.5	802.0	1,257	1,156	616.3	558.9	429.0	439.0
11	550.8	556.9	556.6	550.5	563.0	864.6	1,233	1,122	608.6	553.4	428.2	438.8
12	552.8	583.5	557.7	549.1	557.2	911.3	1,200	1,090	601.9	545.4	428.7	438.8
13	551.1	648.6	558.0	549.7	559.7	933.5	1,162	1,061	597.6	541.9	428.2	441.1
14	555.1	689.7	558.6	549.7	559.2	955.0	1,126	1,031	593.3	544.5	428.2	441.6
15	550.8	702.2	557.7	552.8	557.7	977.8	1,126	995.5	589.0	543.4	431.0	443.8
16	551.1	692.3	557.7	556.6	557.7	999.8	1,190	961.4	585.6	543.1	434.3	448.1
17	552.0	671.1	555.7	563.0	556.0	1,012	1,246	928.4	580.1	542.5	434.0	449.8
18	555.4	653.8	556.6	571.2	556.6	1,012	1,284	896.3	575.8	535.0	433.8	450.8
19	549.1	640.8	567.6	570.6	556.0	1,012	1,282	861.8	576.1	525.8	433.3	453.2
20	548.8	658.7	579.8	566.9	555.1	995.1	1,295	830.5	574.3	520.1	433.0	455.7
21	553.4	655.1	582.3	581.7	555.1	977.8	1,333	803.9	573.4	510.9	433.0	458.1
22	609.9	632.0	582.6	620.3	555.1	958.8	1,383	780.2	571.2	501.1	431.2	460.5
23	644.3	606.2	584.1	649.6	555.4	941.5	1,402	752.9	568.2	497.9	431.0	460.8
24	643.7	580.7	579.8	660.3	555.7	961.8	1,403	722.7	566.6	495.5	436.2	460.8
25	624.0	567.3	577.4	663.2	555.7	1,036	1,423	695.6	565.7	497.9	428.7	480.2
26	595.8	563.6	573.1	666.2	556.9	1,092	1,419	672.7	564.5	496.3	430.0	489.8
27	578.6	558.6	570.0	669.8	556.9	1,127	1,404	677.9	566.3	486.3	429.2	513.7
28	570.0	5,566	563.6	662.9	556.3	1,124	1,379	682.2	566.6	475.3	428.5	558.3
29	560.9	556.6	564.5	647.9	-----	1,114	1,357	683.8	566.9	464.0	427.7	593.3
30	566.3	557.4	575.8	626.7	-----	1,113	1,339	681.8	566.0	456.7	427.2	616.3
31	583.8	-----	584.7	611.1	-----	1,168	-----	678.6	-----	447.1	426.4	-----
MAX	644.3	5,566	584.7	669.8	604.3	1,168	1,423	1,331	674.3	564.2	441.1	616.3
MIN	548.8	556.6	555.7	549.1	555.1	563.0	1,126	672.7	564.5	447.1	426.4	432.2
(†)	639.01	638.14	639.04	639.90	638.10	654.26	657.70	642.00	638.43	634.17	633.35	640.07
(‡)	+4.9	-26.4	+27.3	+26.4	-54.8	+611.7	+171.0	-660.4	-112.6	-118.9	-20.7	+189.9

CAL YR 1972.....‡ +277.8

WTR YR 1973.....‡ +37.4

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

ARKANSAS RIVER BASIN

07171400 VERDIGRIS RIVER NEAR OOLOGAH, OKLA.

LOCATION.--Lat 36°25'17", long 95°41'01", in NW 1/4 sec.2, T.22 N., R.15 E., Rogert County, on right bank 0.3 mi (0.48 km) downstream from Oologah Dam, 1.2 mi (1.9 km) upstream from Fourmile Creek, 2 mi (3.2 km) southeast of Oologah, and at mile 90.0 (144.8 km).

DRAINAGE AREA.--4,339 sq mi (11,238 sq km).

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 552.00 ft (168.250 m) above mean sea level.

AVERAGE DISCHARGE.--12 years, 2,295 cfs (64.99 cu m/s), 1,663,000 acre-ft/yr (2.05 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 30,000 cfs (850 cu m/s) May 16, gage height, 38.05 ft (11.598 m); minimum daily, 43 cfs (1.22 cu m/s) Aug. 23.
Period of record: Maximum discharge, 30,000 cfs (850 cu m/s) May 16, 1973, gage height, 38.05 ft (11.598 m); no flow Mar. 16-26, 1967, and Sept. 2, 1969.
Flood in May 1943 reached a stage of 65.2 ft (19.87 m), from floodmarks. Flood of May 9, 1961, reached a stage of 52.8 ft (16.09 m).

REMARKS.--Records good. Some regulation by several dams in Kansas prior to May 1963 and completely regulated thereafter by Oologah Lake (see sta. 07171300). Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and 26 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,280	5,560	2,420	2,400	20,300	1,340	142	14,900	4,870	748	4,480	95
2	5,250	6,600	2,420	5,490	20,300	2,170	115	14,900	4,900	743	4,470	94
3	2,630	10,900	2,420	9,890	20,200	3,790	124	16,400	4,910	743	2,810	94
4	476	15,200	2,420	9,800	18,700	5,710	1,010	20,800	4,880	743	86	95
5	472	16,500	2,420	9,870	13,400	6,020	2,710	23,100	4,920	743	85	95
6	335	13,800	2,420	9,820	10,500	7,460	2,670	21,700	4,870	532	83	94
7	149	7,650	2,420	12,900	10,500	7,330	2,640	12,600	4,850	251	83	100
8	119	3,880	1,890	18,300	10,400	7,660	2,670	16,500	4,840	247	84	106
9	102	2,310	1,360	20,900	10,400	10,800	4,630	21,600	4,840	177	84	104
10	103	708	1,350	17,000	10,400	7,730	11,300	24,100	4,820	79	81	105
11	75	460	1,350	11,800	9,750	2,120	17,200	24,100	4,810	2,720	81	104
12	59	898	1,360	7,900	5,800	3,500	24,800	23,900	4,280	4,220	82	105
13	60	1,200	1,360	4,490	3,170	3,510	26,600	23,800	2,930	1,810	82	105
14	58	525	1,360	3,300	3,160	5,600	26,500	24,100	2,930	92	83	105
15	58	2,750	1,360	1,480	3,160	5,490	23,100	26,100	2,930	89	86	105
16	57	11,000	1,350	873	2,880	3,410	1,110	28,700	2,930	89	94	105
17	55	17,500	1,350	2,020	2,320	4,990	118	26,300	2,930	92	82	105
18	58	19,100	1,350	5,560	2,320	10,900	1,430	26,000	2,920	2,770	83	105
19	57	19,200	1,560	8,950	2,320	14,300	6,590	25,800	1,760	4,500	81	105
20	56	896	2,730	8,940	1,800	21,800	8,700	25,600	851	4,480	81	106
21	60	7,150	4,340	9,330	1,310	26,900	8,640	25,400	833	4,480	82	106
22	700	18,900	4,300	9,230	1,310	26,800	1,870	25,200	833	4,460	49	108
23	76	18,900	4,290	9,260	1,300	26,600	3,680	25,100	824	4,450	43	105
24	2,450	18,900	4,280	9,270	1,300	22,700	12,000	24,800	824	4,440	105	107
25	10,400	14,100	4,270	9,150	1,290	1,200	4,330	22,100	505	2,410	106	124
26	15,800	8,600	4,260	10,800	1,290	4,970	6,980	14,200	527	1,820	106	115
27	10,600	7,790	4,260	12,000	1,290	12,500	10,100	7,390	757	5,450	93	164
28	4,690	4,870	4,250	12,100	1,290	16,300	14,000	3,910	752	6,270	94	240
29	4,680	2,430	3,290	16,200	-----	21,200	14,900	3,900	752	6,250	94	53
30	2,490	2,420	2,470	20,100	-----	21,300	14,900	4,420	752	5,260	94	49
31	3,380	-----	2,410	20,000	-----	1,080	-----	4,870	-----	4,490	94	-----
TOTAL	70,835	260,697	79,090	309,123	192,160	317,180	255,559	602,290	85,330	75,648	14,141	3,203
MEAN	2,285	8,690	2,551	9,972	6,863	10,230	8,519	19,430	2,844	2,440	456	107
MAX	15,800	19,200	4,340	20,900	20,300	26,900	26,600	28,700	4,920	6,270	4,480	240
MIN	55	460	1,350	873	1,290	1,080	115	3,900	505	79	43	49
AC-FT	140,500	517,100	156,900	613,100	381,100	629,100	506,900	1,195M	169,300	150,000	28,050	6,350

CAL YR 1972 TOTAL 589,734 MEAN 1,611 MAX 19,200 MIN 27 AC-FT 1,170,000
WTR YR 1973 TOTAL 2,265,256 MEAN 6,206 MAX 28,700 MIN 43 AC-FT 4,493,000

ARKANSAS RIVER BASIN

43

07172000 CANEY RIVER NEAR ELGIN, KS

LOCATION.--Lat 37°00'13", long 96°18'54", in NW¼NW¼SE¼ sec.16, T.35 S., R.10 E., Chautauqua County, at county highway bridge, 2 mi (3 km) west of Elgin, and at mile 117.8 (189.5 km).

DRAINAGE AREA.--445 mi² (1,153 km²).

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 763.32 ft (232.660 m) above mean sea level (levels by Corps of Engineers). Prior to Sept. 13, 1961, at site 300 ft (91.4 m) downstream at same datum.

AVERAGE DISCHARGE.--35 years, 226 ft³/s (6.40 m³/s), 163,700 acre-ft/yr (202 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 15,300 ft³/s (433 m³/s) Mar. 10, gage height, 17.32 ft (5.279 m); no flow Aug. 30 to Sept. 2.

Period of record: Maximum discharge, 62,000 ft³/s (1,760 m³/s) Sept. 13, 1961, gage height, 34.70 ft (10.577 m), from floodmarks; no flow at times.

REMARKS.--Records good.

COOPERATION.--Gage-height record and 28 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	798	393	1,280	2,240	125	1,770	895	64	26	5.0	0
2	5.4	519	345	787	2,200	149	1,140	505	63	19	5.7	0
3	5.2	334	316	3,700	1,200	264	866	357	62	16	5.5	.02
4	4.3	255	277	2,600	901	3,210	684	302	63	13	4.8	.13
5	3.7	209	257	1,300	727	2,750	545	260	280	11	4.2	.24
6	3.2	187	224	900	593	4,110	461	2,430	122	9.5	3.6	.24
7	3.1	173	182	850	515	3,820	404	736	88	8.0	3.2	.24
8	3.4	162	190	700	558	3,190	1,010	395	68	7.2	2.4	.41
9	4.2	147	171	600	452	7,520	1,830	306	54	6.4	22	2.3
10	4.0	140	149	550	400	8,420	875	254	47	5.6	92	3.6
11	3.2	153	149	500	373	5,360	625	241	42	4.7	22	3.4
12	2.3	2,550	155	475	362	2,770	501	216	37	4.5	10	2.9
13	1.8	4,620	149	450	360	1,770	413	188	36	3.9	7.6	3.3
14	1.4	2,010	144	425	319	1,410	377	170	49	3.6	6.4	3.5
15	1.4	1,030	136	425	293	1,120	1,710	153	38	3.6	5.2	3.5
16	1.9	755	124	781	264	898	3,700	124	32	3.6	4.1	3.1
17	1.8	603	121	1,040	239	687	1,460	127	30	3.5	3.4	2.8
18	1.2	511	131	903	235	540	966	117	27	3.2	2.7	2.2
19	1.0	706	466	622	232	862	864	110	24	3.4	2.2	2.0
20	.87	721	524	484	218	2,050	789	103	21	3.6	1.9	2.0
21	1.6	663	433	1,450	199	870	603	94	19	4.2	1.7	1.4
22	9.8	662	357	3,890	196	615	491	88	17	4.6	1.3	1.4
23	26	607	312	1,740	186	497	421	86	15	7.9	1.0	1.4
24	21	666	274	1,160	163	2,830	432	84	13	18	.79	1.5
25	18	1,640	243	893	155	8,160	647	91	11	20	.60	1.7
26	15	1,280	220	1,690	139	3,120	480	89	10	19	.33	9.5
27	15	887	203	1,340	132	1,640	387	80	14	11	.21	344
28	15	652	193	1,210	126	1,540	332	75	10	8.2	.13	154
29	15	516	200	867	-----	1,140	293	61	17	7.0	.04	51
30	33	447	3,060	720	-----	1,160	269	67	38	10	0	38
31	491	-----	2,030	708	-----	4,950	-----	66	-----	6.9	0	-----
TOTAL	719.17	24,603	12,128	35,040	13,977	77,547	25,345	8,870	1,411	276.1	220.00	639.78
MEAN	23.2	820	391	1,130	499	2,502	845	286	47.0	8.91	7.10	21.3
MAX	491	4,620	3,060	3,890	2,240	8,420	3,700	2,430	280	26	92	344
MIN	.87	140	121	425	126	125	269	61	10	3.2	0	0
AC-FT	1,430	48,800	24,060	69,500	27,720	153,800	50,270	17,590	2,800	548	436	1,270

CAL YR 1972 TOTAL 69,631.50 MEAN 190 MAX 5,750 MIN .51 AC-FT 138,100
WTR YR 1973 TOTAL 200,776.05 MEAN 550 MAX 8,420 MIN 0 AC-FT 398,200

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
03-09	0415	14.79	12,100	03-31	0400	11.06	7,960
03-10	1900	17.32	15,300	04-15	2400	10.04	6,830
03-25	0700	14.17	11,400	05-06	1715	13.46	10,600

ARKANSAS RIVER BASIN

07172500 HULAH LAKE NEAR HULAH, OKLA.

LOCATION.--Lat 36°55'44", long 96°05'18", in SE 1/4 sec.2, T.28 N., R.11 E., Osage County, in stair tower at right end of Hulah Dam on Caney River, 0.5 mi (.80 km) downstream from Hickory Creek, 2.0 mi (3.2 km) west of Hulah, 15.7 mi (25.3 km) upstream from Little Caney River, and at mile 96.2 (154.8 km).

DRAINAGE AREA.--732 sq mi (1,896 sq km).

PERIOD OF RECORD.--April 1950 to current year. Prior to October 1970 published as Hulah Reservoir near Hulah.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Feb. 15, 1951, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 218,600 acre-ft (270 cu hm) Apr. 25, elevation, 758.81 ft (231.285 m) minimum, 30,470 acre-ft (37.6 cu hm) Oct. 20, elevation, 731.78 ft (223.047 m).

Period of record: Maximum contents, 293,400 acre-ft (362 cu hm) June 23, 1957, elevation, 764.87 ft (233.132 m); minimum since conservation pool was first filled, 11,250 acre-ft (13.9 cu hm) Mar. 20, 1957, elevation, 723.22 ft (220.437 m).

REMARKS.--Reservoir is formed by an earth dam. Spillway is 472-ft (143.9 m) concrete ogee-type weir controlled by 10 taintor gates. Outlet works consist of nine rectangular sluices, two 24-inch (0.61 m) gated pipes, and one 10-inch (254 mm) water-supply pipe. Closure for diversion made Feb. 6, 1950; regulated storage began Oct. 25, 1950; conservation pool was first filled Sept. 24, 1951. Capacity, 292,600 acre-ft (42.7 cu hm) at elevation 733.0 ft (223.42 m), conservation pool. Dead storage, 506 acre-ft (624,000 cu m) below elevation 706.0 ft (215.19 m), crest of spillway, and 34,660 acre-ft (42.7 cu hm) at herein represent total contents. Reservoir is used for flood control, conservation, and municipal water supply. Revised capacity table, based on survey in 1958, used since Oct. 1, 1958.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)

730	24,840	750	133,200
735	42,300	755	178,800
740	65,600	760	231,800
745	95,540		

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31,830	39,960	35,440	47,400	47,080	36,510	180,000	201,400	45,950	34,360	33,220	31,560
2	31,730	40,580	35,620	47,760	45,290	36,770	182,900	199,300	44,100	34,330	33,110	31,500
3	31,700	39,770	35,730	61,360	43,450	36,990	184,900	193,800	42,180	34,220	33,020	31,630
4	31,600	38,360	35,660	67,770	40,950	45,500	186,400	186,500	40,700	34,180	32,920	32,090
5	31,530	36,880	35,660	69,200	38,290	51,850	187,000	178,800	39,470	34,330	32,780	32,060
6	31,430	35,770	35,440	68,520	37,060	70,280	187,100	182,200	37,880	34,250	32,680	31,930
7	31,360	35,290	35,220	67,720	37,440	80,180	186,300	186,200	36,100	34,140	32,590	31,930
8	31,330	35,250	35,140	63,850	37,510	89,070	189,200	183,700	35,360	34,070	32,550	32,020
9	31,270	35,620	35,250	56,120	37,290	107,900	192,300	176,600	35,250	33,990	32,590	31,990
10	31,170	35,180	35,220	48,560	36,950	132,600	192,000	169,100	35,180	34,030	32,590	31,930
11	31,100	35,100	35,440	40,990	36,550	145,500	190,100	161,600	34,990	33,990	32,550	31,860
12	31,040	39,920	35,580	36,990	36,140	150,900	185,800	153,700	34,920	33,850	32,520	32,020
13	30,940	53,880	35,580	36,770	35,960	154,700	179,200	145,800	34,920	33,740	32,490	31,930
14	30,900	57,680	35,620	36,660	35,400	155,700	172,300	138,100	34,920	33,850	32,420	31,860
15	30,870	59,790	35,550	37,060	35,100	154,800	188,500	130,800	34,920	33,810	32,320	31,790
16	30,840	59,110	35,470	38,180	35,180	151,800	201,000	123,000	34,880	33,700	32,220	31,730
17	30,740	54,300	35,360	38,950	35,440	146,100	204,600	115,600	34,730	33,620	32,160	31,600
18	30,610	48,070	35,510	38,510	35,700	140,200	206,900	108,200	34,770	33,510	32,060	31,530
19	30,540	42,710	37,060	37,620	36,030	136,200	209,500	101,000	34,770	33,360	31,930	31,460
20	30,510	44,560	37,990	37,060	36,210	133,400	212,100	93,760	34,700	33,330	31,860	31,430
21	31,200	44,390	38,030	46,110	36,440	128,700	214,600	86,400	34,590	33,290	31,760	31,400
22	31,430	41,110	37,800	55,330	36,510	123,200	216,100	80,910	34,550	33,360	31,630	31,400
23	31,360	36,550	37,440	58,960	36,470	118,100	216,200	78,780	34,480	33,590	31,530	31,330
24	31,300	35,290	36,810	59,640	36,400	123,300	216,800	75,180	34,360	33,620	31,430	31,300
25	31,230	38,320	36,140	57,540	36,320	149,900	218,200	71,480	34,290	33,770	31,300	31,230
26	31,200	40,250	35,400	62,630	36,250	156,600	217,600	67,830	34,330	33,740	31,200	31,730
27	31,200	40,620	34,990	62,100	36,140	160,400	214,200	64,010	34,400	33,620	31,100	34,550
28	31,130	38,840	34,810	60,670	35,990	163,200	208,700	64,140	34,330	33,550	30,970	35,140
29	31,100	36,880	35,220	55,970	-----	159,400	203,500	56,460	34,400	33,440	30,870	35,290
30	32,450	35,960	41,480	50,050	-----	160,100	199,100	52,660	34,400	33,400	30,800	35,330
31	36,400	-----	45,250	45,540	-----	175,800	-----	48,970	-----	33,290	30,670	-----
MAX	36,400	59,790	45,250	69,200	47,080	175,800	218,200	201,400	45,950	34,360	33,220	35,330
MIN	30,510	35,100	34,810	36,660	35,100	36,510	172,300	48,970	34,290	33,290	30,670	31,230
(†)	733	733	735	735	733	754	757	736	732	732	731	733
(‡)	+4,540	-440	+9,290	+290	-9,550	+139,810	+23,300	-150,130	-14,570	-1,110	-2,620	+4,660

CAL YR 1972.....‡ +7,260

WTR YR 1973.....‡ +3,470

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

ARKANSAS RIVER BASIN

45

07173000 CANEY RIVER NEAR HULAH, OKLA.

LOCATION.--Lat 36°55'06", long 96°04'15", in NW 1/4 SE 1/4 sec.12, T.28 N., R.11 E., Osage County, on left bank 1,000 ft (304.8 m) downstream from the Atchison, Topeka, and Santa Fe Railway Co. bridge, 0.9 mi (1.5 km) downstream from Hulah Dam, 1.5 mi (2.4 km) upstream from Opossum Creek, 2.5 mi (4.0 km) west of Hulah, and at mile 95.3 (153.3 km).

DRAINAGE AREA.--736 sq mi (1,906 sq km).

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 681.96 ft (207.861 m), above mean sea level. Prior to Feb. 18, 1939, nonrecording gage and Feb. 18, 1959, to Sept. 30, 1948, water-stage recorder, at county road bridge 0.8 mi (1.3 km) upstream at datum 3.00 ft (.914 m) higher.

AVERAGE DISCHARGE.--36 years, 343 cfs (9.714 cu m/s), 248,200 acre-ft/yr (306 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 4,300 cfs (122 cu m/s) Mar. 30, gage height, 8.89 ft (2.710 m); minimum daily, 6.3 cfs (0.18 cu m/s) Nov. 15.

Period of record: Maximum discharge, 51,000 cfs (1,444 cu m/s) Apr. 10, 1944, gage height, 39.45 ft (12.024 m), former site and datum; no flow at times in 1939-40, 1946, 1962.

A stage of 40.2 ft (12.25 m) occurred at former site and datum, date unknown, from floodmark, from information by Corps of Engineers.

REMARKS.--Records good. Flow completely regulated since February 1950 by Hulah Lake (see sta. 07172500). About 5 to 9 cfs (0.14 to 0.25 cu m/s) is diverted above station by city of Bartlesville for municipal water supply.

COOPERATION.--Gage-height record and 33 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	* SEP
1	26	21	702	168	3,100	260	24	834	1,540	22	21	19
2	24	377	335	697	2,720	260	19	1,620	1,030	22	21	21
3	13	810	335	1,320	2,070	260	17	2,980	1,040	22	18	21
4	13	1,010	335	13	2,070	279	12	4,100	1,030	22	13	21
5	13	1,010	333	485	2,050	275	342	4,070	1,010	22	14	18
6	13	854	325	1,080	1,280	145	564	2,590	1,010	22	14	13
7	13	389	325	1,080	689	14	902	30	1,010	22	15	13
8	13	173	230	2,080	676	23	1,100	1,790	426	22	16	13
9	13	172	164	4,140	676	34	1,120	3,650	87	22	20	13
10	13	168	167	4,040	676	87	1,120	4,140	90	22	19	13
11	13	168	168	3,940	676	66	1,680	4,120	90	22	18	13
12	13	198	168	2,420	676	57	2,610	4,080	72	21	18	14
13	13	85	168	501	670	58	3,520	4,030	52	21	18	14
14	13	6.8	168	499	660	953	3,940	3,990	52	22	18	13
15	13	6.3	168	505	483	1,540	1,770	3,950	52	21	19	13
16	13	1,110	165	513	283	2,350	31	3,910	52	21	20	14
17	13	2,880	164	1,010	180	3,420	25	3,860	51	21	17	14
18	13	4,010	164	1,350	180	3,400	26	3,810	51	21	15	14
19	16	3,870	164	1,200	180	3,360	27	3,760	51	21	15	13
20	16	14	430	998	180	3,340	27	3,710	51	21	15	13
21	21	846	632	1,030	180	3,320	27	3,650	35	21	15	13
22	30	2,240	639	373	216	3,290	32	2,860	22	22	14	13
23	17	2,810	639	11	248	3,250	522	1,990	22	22	14	13
24	16	1,350	639	840	250	2,850	908	1,980	22	21	14	13
25	16	347	639	2,050	250	40	693	1,980	22	22	15	13
26	15	345	639	2,090	250	25	1,150	1,960	22	21	14	14
27	15	767	466	2,090	250	24	2,040	1,920	22	21	14	28
28	15	1,520	335	2,070	255	1,340	2,890	1,920	22	21	14	14
29	15	1,540	243	3,130	-----	3,060	2,870	1,910	22	22	15	13
30	22	973	168	3,740	-----	2,760	2,760	1,890	22	22	15	13
31	26	-----	168	3,090	-----	37	-----	1,870	-----	22	14	-----
TOTAL	498	30,070.1	10,385	48,553	22,074	40,177	32,768	88,954	9,080	669	502	447
MEAN	16.1	1,002	335	1,566	788	1,296	1,092	2,869	303	21.6	16.2	14.9
MAX	30	4,010	702	4,140	3,100	3,420	3,940	4,140	1,540	22	21	28
MIN	13	6.3	164	11	180	14	12	30	22	21	13	13
AC=FT	988	59,640	20,600	96,300	43,780	79,690	65,000	176,400	18,010	1,330	996	887
CAL YR 1972	TOTAL	76,478.6	MEAN	209	MAX	4,010	MIN	6.3	AC=FT	151,700		
WTR YR 1973	TOTAL	284,177.1	MEAN	779	MAX	4,140	MIN	6.3	AC=FT	563,700		

ARKANSAS RIVER BASIN

07174200 LITTLE CANEY RIVER BELOW COTTON CREEK NEAR COPAN, OKLA.

LOCATION.--Lat 36°53'42", long 95°58'00", in W 1/2 sec.19, T.28 N., R.13 E., Washington County, near right bank on downstream side of pier of bridge on State Highway 10, 2 mi (3.2 km) west of Copan, 4.2 mi (6.8 km) downstream from Cotton Creek, and at mile 8.8 (14.2 km).

DRAINAGE AREA.--502 sq mi (1,300 sq km).

PERIOD OF RECORD.--October 1958 to current year. Prior to October 1962, published as Caney Creek below Cotton Creek, near Copan.

GAGE.--Water-stage recorder. Datum of gage is 672.23 ft (204,900 m) above mean sea level. Since Nov. 16, 1962, auxiliary water-stage recorder 6.0 mi (9.7 km) downstream, at datum 10 ft (3.048 m) lower.

AVERAGE DISCHARGE.--15 years, 237 cfs (6.712 cu m/s), 171,500 acre-ft/yr (211 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 7,480 cfs (212 cu m/s) Apr. 16, gage height, 23.13 ft (7.050 m); minimum, 0.20 cfs (0.006 cu m/s) Aug. 31.
Period of record: Maximum discharge, 23,700 cfs (671 cu m/s) May 9, 1961, gage height, 24.94 ft (7.602 m); no flow at times in 1962-66, 1971.
Flood in April 1944 reached a stage of 29.3 ft (8.93 m), from floodmarks.

REMARKS.--Records good.

COOPERATION.--Gage-height record and 30 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	2,420	190	400	1,220	104	3,950	1,200	57	47	5.3	3.8
2	6.5	1,560	162	253	1,660	1,110	2,380	1,940	51	34	7.6	481
3	4.3	700	144	1,890	1,010	660	1,220	749	47	26	17	38
4	3.1	389	123	3,600	665	1,430	776	477	43	21	10	61
5	2.4	252	110	2,750	473	3,070	516	334	1,120	67	6.6	48
6	2.6	186	94	1,310	358	3,740	380	308	1,050	252	4.5	20
7	2.5	181	80	811	360	4,790	312	2,210	355	72	3.7	13
8	1.9	133	75	548	495	4,550	318	2,470	198	29	3.0	30
9	2.0	97	70	448	301	3,790	1,310	1,350	120	19	2.6	19
10	1.6	77	65	370	251	4,190	1,090	908	86	14	2.0	19
11	1.3	67	65	330	222	5,290	654	617	64	14	2.0	22
12	.76	387	75	300	204	4,960	442	464	50	13	1.9	17
13	.55	3,830	85	280	201	3,930	341	307	41	9.5	2.0	15
14	.55	4,150	86	262	196	2,260	295	229	38	9.5	1.6	21
15	.60	2,870	85	314	177	1,430	1,240	185	73	10	3.5	13
16	.55	1,360	70	563	158	974	6,800	176	48	11	3.5	9.1
17	.55	769	65	730	140	656	5,700	140	34	5.1	2.4	5.9
18	.55	479	69	729	132	460	4,260	109	28	3.7	2.1	3.2
19	.60	645	879	528	136	356	2,340	87	27	3.0	1.5	1.9
20	.63	817	1,270	377	137	611	2,290	75	24	2.5	1.2	1.2
21	5.4	569	681	1,420	125	728	2,170	65	20	4.5	.89	.71
22	2,070	562	395	4,330	115	591	1,850	57	17	8.9	.79	.87
23	630	448	303	4,390	113	430	860	275	14	110	.50	.78
24	122	371	232	2,780	105	1,280	539	264	12	84	.51	.85
25	49	594	179	1,420	96	4,390	1,680	1,180	10	36	.41	1,060
26	26	826	146	2,150	89	5,100	1,570	551	8.8	30	.29	401
27	19	598	121	2,330	82	4,350	857	496	7.7	19	.32	1,670
28	14	419	104	1,400	76	2,850	557	211	6.6	15	.28	3,090
29	12	298	95	857	-----	2,090	393	123	84	11	.24	1,320
30	13	232	850	641	-----	1,290	307	90	69	8.6	.24	412
31	851	-----	695	535	-----	3,730	-----	68	-----	6.7	.20	-----
TOTAL	3,854.14	26,286	7,663	39,046	9,297	75,190	47,397	17,715	3,803.1	996.0	88.67	8,798.31
MEAN	124	876	247	1,260	332	2,425	1,580	571	127	32.1	2.86	293
MAX	2,070	4,150	1,270	4,390	1,660	5,290	6,800	2,470	1,120	252	17	3,090
MIN	.55	67	65	253	76	104	295	57	6.6	2.5	.20	.71
AC-FT	7,640	52,140	15,200	77,450	18,440	149,100	94,010	35,140	7,540	1,980	176	17,450

CAL YR 1972 TOTAL 53,298.69 MEAN 146 MAX 4,150 MIN .28 AC-FT 105,700
WTR YR 1973 TOTAL 240,134.22 MEAN 658 MAX 6,800 MIN .20 AC-FT 476,300

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
3-11	1745	22.69	5,470
3-26	0700	22.61	5,230
4-16	1330	23.13	7,480

ARKANSAS RIVER BASIN

47

07174600 SAND CREEK AT OKESA, OKLA.

LOCATION.--Lat 36°43'10", long 96°07'56", in NW 1/4 NW 1/4 sec.21, T.26 N., R.11 E., Osage County, on downstream side of left abutment of county road bridge, 0.5 mi (0.80 km) northeast of Okesa, 9 mi (14.5 km) southwest of Bartlesville, and at mile 17.2 (27.7 km).

DRAINAGE AREA.--139 sq mi (360 sq km).

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 689.20 ft (210.068 m) above mean sea level. Prior to May 25, 1960, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--14 years, 58.6 cfs (1.660 cu m/s), 42,460 acre-ft/yr (52.4 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 9,800 cfs (278 cu m/s) Apr. 15, gage height, 21.20 ft (6.462 m); no flow Oct. 17-20, Aug. 26-Sept. 2.

Period of record: Maximum discharge, 14,700 cfs (416 cu m/s) Sept. 13, 1961, gage height, 27.7 ft (8.44 m), from floodmarks; no flow at times in each year.

REMARKS.--Records fair.

COOPERATION.--Gage-height record, 24 discharge measurements and one observation of no flow furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	881	31	100	800	32	400	1,230	30	18	1.5	0
2	.19	246	29	60	300	110	200	200	50	11	1.0	0
3	.11	95	26	2,000	150	99	150	150	35	8.0	.80	30
4	.05	51	24	400	100	544	100	100	30	5.9	.60	378
5	.05	33	23	200	94	413	80	70	25	4.7	.40	368
6	.05	38	22	100	80	2,850	75	1,500	19	3.4	.24	56
7	.05	33	21	80	100	665	70	777	17	2.3	.10	27
8	.05	22	20	60	200	592	183	269	14	1.5	.03	16
9	.05	17	20	50	100	849	674	161	12	1.0	.08	20
10	.05	14	20	45	70	2,570	245	118	10	.66	13	20
11	.02	12	19	40	65	772	155	99	9.0	.76	21	9.8
12	.01	638	19	35	65	249	120	82	7.2	.61	12	19
13	.01	2,140	19	30	60	172	93	70	7.0	.43	7.1	41
14	.05	295	19	40	60	144	79	62	6.8	.30	4.6	19
15	.01	122	18	70	55	102	3,750	56	7.0	.43	2.9	13
16	.01	76	18	100	55	78	2,000	52	6.7	.43	3.0	8.9
17	0	58	18	100	50	70	700	49	5.7	.44	3.1	6.7
18	0	56	18	100	50	61	200	49	46	.59	3.7	4.7
19	0	149	200	80	45	64	100	47	88	.59	3.4	3.6
20	0	155	350	50	45	87	200	42	35	.29	2.3	2.9
21	45	105	200	400	40	89	500	39	14	.30	1.4	2.2
22	628	94	150	700	40	66	250	37	8.4	.37	.81	33
23	91	71	100	200	35	56	500	42	7.1	.59	.41	30
24	38	57	70	150	35	1,020	100	315	6.2	10	.13	9.8
25	22	156	50	100	28	2,660	800	1,280	4.3	100	.02	103
26	14	172	42	1,500	26	471	350	203	2.9	30	0	237
27	9.3	86	40	400	26	238	250	100	94	15	0	1,470
28	6.3	61	35	250	25	508	150	70	27	10	0	335
29	4.5	44	35	200	-----	355	100	50	17	5.0	0	118
30	13	37	350	150	-----	444	70	35	26	3.0	0	60
31	386	-----	200	150	-----	2,000	-----	23	-----	2.0	0	-----
TOTAL	1,258.32	6,014	2,206	7,940	2,799	18,430	12,644	7,377	667.3	237.59	83.62	3,441.6
MEAN	40.6	200	71.2	256	100	595	421	238	22.2	7.66	2.70	115
MAX	628	2,140	350	2,000	800	2,850	3,750	1,500	94	100	21	1,470
MIN	0	12	18	30	25	32	70	23	2.9	.29	0	0
AC-FT	2,500	11,930	4,380	15,750	5,550	36,560	25,080	14,630	1,320	471	166	6,830
CAL YR 1972	TOTAL 13,518.97	MEAN 36.9	MAX 2,140	MIN 0	AC-FT 26,810							
WTR YR 1973	TOTAL 63,098.43	MEAN 173	MAX 3,750	MIN 0	AC-FT 125,200							

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-13	0515	12.68	3,700	3-6	1400	15.35	5,560	3-31	0515	13.76	4,450
1-3	1200	13.52	4,280	3-10	1900	15.10	5,390	4-15	2400	21.20	9,800
1-26	1100	11.62	3,010	3-25	0700	13.19	4,050	5-25	0115	13.76	4,450

ARKANSAS RIVER BASIN

07174700 CANEY RIVER NEAR OCHELATA, OKLA.

LOCATION.--Lat 36°38'26", long 95°56'02", in SW 1/4 SW 1/4 sec.16, T.25 N., R.13 E., Washington County, near right bank on downstream side of pier of bridge on U.S. Highway 75, 3.5 mi (5.6 km) upstream from Fish Creek, 4.0 mi (6.4 km) northeast of Ochelata, 8.0 mi (12.9 km) southeast of Bartlesville, and at mile 53.8 (86.6 km).

DRAINAGE AREA.--1.753 sq mi (4,540 sq km).

PERIOD OF RECORD.--April 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 611.98 ft (186.532 m), above mean sea level.

AVERAGE DISCHARGE.--17 years, 889 cfs (25.18 cu m/s), 644,100 acre-ft/yr (794 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 19,400 cfs (549 cu m/s) Apr. 16, gage height, 36.82 ft (11.223 m); minimum, 20 cfs (0.57 cu m/s) Oct. 15, 16, 18, -20.
Period of record: Maximum discharge, 33,800 cfs (957 cu m/s) June 13, 1957, gage height, 38.82 ft (11.832 m); minimum, 0.4 cfs (.011 cu m/s) Sept. 28, 29, 1956.

REMARKS.--Records good. Some regulation by Hulah Lake 42.4 mi (68.2 km) upstream. (See sta. 07172500).

COOPERATION.--Gage-height record 21 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	4,500	1,370	1,340	5,380	481	9,150	4,890	2,200	127	36	26
2	63	4,000	929	877	6,730	2,000	5,120	4,780	1,800	90	32	185
3	48	2,280	565	6,110	4,940	2,150	2,930	3,820	1,230	80	31	391
4	39	1,760	525	11,100	3,530	2,570	1,810	4,260	1,150	70	32	408
5	30	1,560	502	6,500	3,120	5,100	1,210	4,910	1,230	290	34	693
6	26	1,390	479	4,000	2,870	7,190	1,240	4,830	2,510	186	27	310
7	25	1,210	438	2,500	1,810	12,100	1,270	6,090	1,890	238	26	122
8	23	639	350	1,800	2,010	8,210	1,770	3,730	1,380	117	26	85
9	22	359	300	2,500	1,600	7,280	3,780	4,220	599	73	45	67
10	23	313	250	3,500	1,250	8,750	3,710	4,910	243	47	32	68
11	23	285	250	5,000	1,140	13,700	2,760	5,000	206	56	29	63
12	23	1,070	230	4,490	1,090	9,990	3,050	4,790	179	44	27	73
13	21	10,500	220	2,350	1,080	6,880	3,800	4,560	154	39	29	103
14	23	9,410	210	823	1,070	5,360	4,460	4,360	120	36	31	104
15	22	5,370	200	968	1,010	3,790	6,470	4,220	116	37	30	87
16	20	3,130	200	1,260	720	3,290	16,600	4,140	142	39	43	69
17	21	2,820	250	1,630	512	3,830	17,400	4,070	121	37	36	53
18	20	3,920	299	2,470	425	4,320	12,400	3,990	171	35	30	46
19	20	4,870	1,110	2,460	429	4,220	7,470	3,920	572	29	27	44
20	20	4,710	2,960	1,960	435	4,750	5,240	3,850	286	31	27	39
21	267	1,720	2,650	3,550	425	4,480	5,270	3,790	145	33	26	37
22	5,000	2,320	2,050	9,160	398	4,370	5,670	3,720	108	30	23	37
23	4,000	3,440	1,590	7,160	425	4,180	2,860	3,070	90	54	27	46
24	783	3,650	1,400	5,080	447	6,620	2,310	2,850	80	165	26	66
25	270	2,260	1,230	4,080	435	12,300	3,550	3,830	70	183	25	935
26	152	1,900	1,120	6,450	426	12,400	4,010	3,800	65	121	25	1,820
27	116	1,590	1,080	7,890	415	8,260	3,360	2,890	70	68	23	5,090
28	100	1,780	786	5,550	407	6,010	3,670	2,730	100	48	25	8,040
29	82	2,280	660	4,090	-----	6,270	4,030	2,440	90	42	25	4,300
30	424	1,970	2,480	4,560	-----	6,110	3,830	2,320	129	38	24	1,390
31	1,820	-----	2,360	4,710	-----	10,800	-----	2,260	-----	37	22	-----
TOTAL	13,624	87,006	29,043	125,918	44,529	197,761	150,200	123,040	17,246	2,520	901	24,797
MEAN	439	2,900	937	4,062	1,590	6,379	5,007	3,969	575	81.3	29.1	827
MAX	5,000	10,500	2,960	11,100	6,730	13,700	17,400	6,090	2,510	290	45	8,040
MIN	20	285	200	823	398	481	1,210	2,260	65	29	22	26
AC-FT	27,020	172,600	57,610	249,800	88,320	392,300	297,900	244,000	34,210	5,000	1,790	49,180
CAL YR 1972	TOTAL	209,017	MEAN	571	MAX	10,500	MIN	16	AC-FT	414,600		
WTR YR 1973	TOTAL	816,585	MEAN	2,237	MAX	17,400	MIN	20	AC-FT	1,620,000		

PEAK DISCHARGE (BASE, 7,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-13	1900	31.41	12,000	3-7	0545	32.59	13,100	3-31	1745	31.59	12,200
1-4	0545	31.21	11,900	3-11	0930	33.69	14,300	4-16	2315	36.82	19,400
1-22	1315	27.76	9,550	3-26	0015	33.52	14,100	9-28	0715	26.43	8,760

07175500 CANEY RIVER NEAR RAMONA, OKLA.

LOCATION.--Lat 36°30'31", long 95°50'36", in NE 1/4 NW 1/4 sec.5, T.23 N., R.14 E., Washington County, near left bank on downstream side of pier of county road bridge, 1 mi (1.6 km) upstream from Buck Creek, 2.2 mi (3.5 km) downstream from Double Creek, 4.5 mi (7.2 km) southeast of Ramona, and at mile 32.0 (51.5 km).

DRAINAGE AREA.--1,955 sq mi (5,063 sq km).

PERIOD OF RECORD.--October 1935 to February 1939 (published as "near Collinsville"), September 1945 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 586.43 ft (178.744 m) above mean sea level. Dec. 4, 1935, to Feb. 28, 1939, nonrecording gage at site 16.2 mi (26.1 km) downstream at datum 21.41 ft (6.526 m) lower. Sept. 1, 1945, to Feb. 15, 1946, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--31 years (1935-38, 1945-73), 891 cfs (25.23 cu m/s), 645,500 acre-ft/yr (796 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 12,100 cfs (343 cu m/s) Mar. 12, gage height, 28.87 ft (8.800 m); minimum, 16 cfs (0.45 cu m/s) Oct. 18-20.
Period of record: Maximum discharge, 38,500 cfs (1,090 cu m/s) Oct. 3, 1945, gage height, 30.12 ft (9.181 m); no flow Aug. 9 to Sept. 15, 1936, Sept. 11 to Nov. 3, 1956.

REMARKS.--Records good. Some regulation since February 1950 by Hulah Lake (see sta. 07172500). Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and 30 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 1117: Drainage area. WSP 1241: 1939.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	6,450	1,510	1,660	5,240	495	10,500	5,440	2,640	174	49	22
2	101	7,260	1,260	1,140	6,850	1,670	8,660	5,980	2,470	154	47	33
3	68	3,430	801	4,400	6,130	2,500	4,930	4,680	1,750	121	41	506
4	54	2,010	715	8,930	4,120	3,230	2,580	3,730	1,550	95	41	274
5	43	1,690	674	9,510	3,310	5,390	1,750	4,630	1,560	351	44	737
6	34	1,510	644	6,000	2,980	6,840	1,430	4,900	2,380	502	41	729
7	26	1,430	540	3,110	2,320	10,400	1,570	5,970	2,690	320	34	201
8	24	1,050	480	2,220	1,980	10,700	1,790	4,930	1,840	227	36	116
9	21	626	380	2,630	1,870	9,480	3,810	3,990	1,310	124	41	83
10	21	494	360	3,500	1,450	9,260	4,590	4,880	465	99	56	76
11	20	458	340	4,000	1,310	11,100	3,440	5,310	322	136	43	73
12	20	1,220	340	4,000	1,250	11,700	3,070	5,250	279	89	36	66
13	19	8,950	300	3,600	1,220	10,400	3,730	5,050	243	72	33	82
14	19	10,300	280	1,170	1,210	9,420	4,450	4,830	206	63	34	106
15	18	8,640	280	1,140	1,160	6,130	5,770	4,680	174	54	39	101
16	19	5,160	280	1,420	1,020	4,100	10,900	4,600	174	51	47	77
17	17	2,880	260	1,760	738	3,780	14,200	4,570	188	52	50	61
18	16	3,640	260	2,330	531	4,530	15,600	4,520	171	49	43	49
19	16	4,980	1,130	2,630	510	4,500	12,400	4,470	797	45	33	41
20	16	5,410	2,970	2,250	510	5,020	9,600	4,420	950	35	29	36
21	30	2,960	3,010	3,880	506	4,850	8,050	4,390	260	36	27	32
22	6,620	1,900	2,300	8,090	477	4,630	7,660	4,370	180	40	25	37
23	8,180	3,210	1,710	8,670	460	4,440	4,970	4,070	139	40	20	41
24	2,390	3,720	1,470	6,480	507	5,740	3,210	3,170	116	95	22	56
25	566	3,080	1,310	4,620	508	10,200	6,510	3,620	106	185	22	475
26	296	2,060	1,190	5,440	490	11,500	5,340	4,690	95	184	22	1,990
27	211	1,830	1,130	8,040	473	11,400	4,620	3,690	86	110	20	3,910
28	161	1,700	1,010	7,040	461	9,470	3,770	3,290	106	76	17	7,930
29	127	2,130	801	4,890	-----	7,560	4,270	2,980	149	69	19	6,970
30	675	2,220	1,840	4,270	-----	6,920	3,960	2,780	149	57	19	2,820
31	2,610	-----	2,740	4,930	-----	9,510	-----	2,700	-----	50	19	-----
TOTAL	22,655	102,398	32,315	133,750	49,591	216,865	177,130	136,580	23,545	3,755	1,049	27,730
MEAN	731	3,413	1,042	4,315	1,771	6,996	5,904	4,406	785	121	33.8	924
MAX	8,180	10,300	3,010	9,510	6,850	11,700	15,600	5,980	2,690	502	56	7,930
MIN	16	458	260	1,140	460	495	1,430	2,700	86	35	17	22
AC-FT	44,940	203,100	64,100	265,300	98,360	430,200	351,300	270,900	46,700	7,450	2,080	55,000
CAL YR 1972	TOTAL	247,136	MEAN	675	MAX	10,300	MIN	16	AC-FT	490,200		
WTR YR 1973	TOTAL	927,363	MEAN	2,541	MAX	15,600	MIN	16	AC-FT	1,839,000		

PEAK DISCHARGE (BASE, 7,500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-23	0045	25.39	9,300	1-23	0115	24.97	9,080	3-26	2345	28.75	11,800
11-01	2400	24.00	8,600	1-27	1500	23.38	8,290	4-01	1045	27.53	10,600
11-14	0945	27.25	10,400	3-08	0045	27.91	10,900	4-17	2000	29.45	16,200
1-04	2100	26.98	10,200	3-12	1530	28.87	12,100				

ARKANSAS RIVER BASIN

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OKLA.

LOCATION.--Lat 36°18'26", long 95°41'52", in SE 1/4 SW 1/4 sec.10, T.21 N., R.15 E., Rogers County, near left bank on downstream side of pier of bridge on State Highway 20, 2.3 mi (3.7 km) downstream from Caney River, 4.5 mi (7.2 km) west of Claremore, 12.4 mi (20.0 km) upstream from Bird Creek, and at mile 76.0 (122.3 km).

DRAINAGE AREA.--6,534 sq mi (16,923 sq km).

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 538.62 ft (164.171 m) above mean sea level. Prior to Feb. 24, 1939, and May 17 to Aug. 24, 1967, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--38 years, 3,523 cfs (99.77 cu m/s), 2,552,000 acre-ft/yr (3.15 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 32,300 cfs (915 cu m/s) May 16, gage height, 29.69 ft (9.050 m); minimum, 54 cfs (1.53 cu m/s) Aug. 24.

Period of record: Maximum discharge, 182,000 cfs (5,150 cu m/s) May 21, 1943, gage height, 55.05 ft (16.779 m); no flow at times in 1936, 1939-40, 1956.

REMARKS.--Records good. Flow regulated since May 1963 by Oologah Lake 14.3 mi (23.0 km) upstream (see sta. 07171300); some regulation by dams in Kansas since 1949 and by Hulah Lake since 1950. (See sta. 07172500)

COOPERATION.--Gage-height record and 30 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5,610	12,900	4,210	4,590	24,100	1,910	11,000	19,300	7,390	1,100	4,720	129
2	5,450	14,500	3,750	5,670	25,000	3,340	10,900	20,600	7,590	977	4,710	143
3	3,590	16,500	3,330	13,100	25,400	6,110	8,450	21,200	8,610	942	3,880	132
4	509	17,200	3,040	18,100	23,500	11,000	4,370	23,800	8,610	914	205	501
5	487	18,300	3,010	19,500	17,900	12,000	4,560	26,700	7,720	1,140	144	422
6	444	16,200	2,960	18,800	13,900	15,000	3,930	27,600	6,550	1,300	142	763
7	189	11,100	2,930	16,700	13,400	17,800	3,930	21,800	7,340	676	144	571
8	168	5,290	2,580	19,200	12,600	18,200	3,990	22,200	6,840	638	144	316
9	131	3,570	1,930	21,700	12,700	20,000	6,250	24,800	6,380	513	158	239
10	125	1,310	1,790	20,700	12,200	21,700	13,600	27,800	5,770	294	157	197
11	123	857	1,660	16,100	11,600	14,100	17,900	28,300	5,360	2,320	159	187
12	90	1,320	1,750	13,800	8,120	15,200	24,400	28,400	5,030	4,590	155	186
13	84	10,000	1,790	9,370	4,380	15,300	27,300	28,100	3,410	2,870	143	179
14	85	11,100	1,870	6,360	4,350	16,100	28,000	28,000	3,370	269	134	179
15	80	12,000	1,860	2,950	4,300	15,500	28,200	29,100	3,370	244	134	209
16	80	16,800	1,790	2,370	4,080	8,580	13,700	31,800	3,340	196	279	211
17	78	20,000	1,800	3,360	3,120	7,760	11,400	30,100	3,330	191	201	189
18	76	21,300	1,800	6,750	2,950	14,200	13,000	29,600	3,360	2,090	149	171
19	76	22,500	2,670	11,800	2,870	17,700	19,700	29,300	2,820	4,730	139	160
20	75	10,500	4,870	11,700	2,540	24,100	22,600	29,100	2,030	4,710	127	155
21	98	8,680	7,820	13,200	1,880	30,200	21,700	28,900	1,450	4,680	122	150
22	4,530	20,100	7,150	16,500	1,850	30,300	18,200	28,700	1,180	4,670	114	160
23	8,870	20,800	6,380	17,800	1,820	30,000	11,000	28,600	1,080	4,680	76	155
24	7,630	21,400	5,880	17,400	1,840	29,600	15,800	27,700	1,020	1,830	100	151
25	9,860	18,900	5,610	15,200	1,870	15,100	10,500	25,900	857	4,410	135	183
26	16,300	11,800	5,460	15,200	1,850	14,200	14,000	19,500	471	6,550	136	980
27	13,200	10,000	5,310	18,700	1,830	21,900	14,300	12,500	900	6,500	136	2,490
28	5,150	7,500	5,220	19,600	1,810	24,600	17,500	7,610	880	5,150	119	5,680
29	5,040	4,250	4,330	20,200	-----	27,800	18,800	6,630	919	4,700	125	7,340
30	3,510	4,660	3,520	23,100	-----	27,900	19,100	6,750	1,020	4,700	125	5,130
31	5,030	-----	5,230	23,500	-----	14,700	-----	7,370	-----	4,730	125	-----
TOTAL	96,768	371,337	113,300	443,020	243,760	541,900	438,080	727,760	117,997	83,304	17,337	27,658
MEAN	3,122	12,380	3,655	14,290	8,706	17,480	14,600	23,480	3,933	2,687	559	922
MAX	16,300	22,500	7,820	23,500	25,400	30,300	28,200	31,800	8,610	6,550	4,720	7,340
MIN	75	857	1,660	2,370	1,810	1,910	3,930	6,630	471	191	76	129
AC-FT	191,900	736,500	224,700	878,700	483,500	1,075M	868,900	1,444M	234,000	165,200	34,390	54,860
CAL YR 1972	TOTAL	850,889	MEAN	2,325	MAX	22,500	MIN	58	AC-FT	1,688,000		
WTR YR 1973	TOTAL	3,222,221	MEAN	8,828	MAX	31,800	MIN	75	AC-FT	6,391,000		

PEAK DISCHARGE (BASE, 24,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
2-3	0515	25.93	25,700	4-15	1730	27.62	29,200
3-10	1115	24.76	24,900	4-22	0100	24.42	24,400
3-21	1915	28.58	30,700	5-16	1715	29.69	32,300
3-29	2045	27.32	28,800				

07176500 BIRD CREEK NEAR AVANT, OKLA.

LOCATION.--Lat 36°29'11", long 96°03'45", in NW 1/4 sec.7, T.23 N., R.12 E., Osage County, near left bank on downstream side of pier of county road bridge at Avant, 1.5 mi (2.4 km) upstream from Candy Creek, and at mile 54.2 (87.2 km).

DRAINAGE AREA.--364 sq mi (943 sq km).

PERIOD OF RECORD.--August 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 651.28 ft (198.510 m) above mean sea level.

AVERAGE DISCHARGE.--28 years, 174 cfs (4.928 cu m/s), 126,100 acre-ft/yr (155 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 15,700 cfs (445 cu m/s) Apr. 16, gage height, 23.22 ft (7.077 m); minimum daily, 0.03 cfs (0.001 cu m/s) Oct. 20.

Period of record: Maximum discharge, 32,400 cfs (918 cu m/s), Oct. 2, 1959, gage height, 31.40 ft (9.571 m); no flow at times in most years.

Flood in May 1943 reached a stage of 29.6 ft (9.02 m), from floodmark.

REMARKS.--Records good. Small diversions above station for municipal water supply of cities of Pawhuska and Barnsdall.

COOPERATION.--Gage-height record, 27 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	4,750	147	164	2,310	679	1,110	1,920	36	70	7.2	.46
2	24	767	142	102	1,090	1,540	546	618	439	35	5.5	.60
3	15	239	139	6,930	451	449	500	300	149	20	4.0	.60
4	10	124	135	3,260	314	3,500	407	230	124	17	3.4	305
5	7.0	80	131	614	247	1,510	319	193	139	15	2.9	353
6	5.2	75	120	290	200	7,170	283	607	120	13	2.4	96
7	4.1	177	115	240	249	3,940	271	3,130	94	12	2.0	33
8	3.1	149	110	200	426	1,790	618	562	87	11	1.7	20
9	2.6	122	110	150	253	2,330	1,770	310	80	10	3.4	15
10	2.1	113	110	130	173	7,570	612	234	74	10	79	12
11	1.8	108	100	110	152	5,060	389	190	72	10	37	11
12	1.4	1,430	100	100	148	730	324	164	71	10	13	36
13	1.0	8,440	100	120	150	430	292	148	71	13	8.3	258
14	.8	1,030	100	150	146	391	271	142	70	11	5.7	68
15	.6	321	100	239	133	288	5,310	117	44	8.6	4.9	27
16	.5	234	100	296	118	234	11,700	50	29	6.5	15	15
17	.4	194	110	268	109	214	1,300	30	28	5.2	5.4	10
18	.2	172	150	236	109	201	558	26	1,380	4.4	3.6	7.2
19	.1	581	744	171	118	199	520	25	8,610	4.0	2.7	5.8
20	0	489	781	125	124	238	1,780	24	521	3.6	2.2	5.0
21	291	309	419	1,080	119	233	800	24	171	5.9	1.7	4.6
22	7,520	301	292	2,270	110	198	983	24	100	9.7	1.3	51
23	385	202	188	746	107	184	452	25	40	10	1.0	15
24	125	144	142	404	106	4,170	979	33	25	9.8	.96	11
25	63	315	105	302	105	6,680	1,870	1,190	22	11	.85	18
26	37	389	87	3,570	104	1,380	657	171	19	10	.76	79
27	27	212	74	1,580	102	519	621	83	125	18	.70	3,830
28	20	136	64	770	101	1,170	606	52	70	18	.63	721
29	15	116	62	434	-----	877	602	43	200	14	.57	184
30	788	152	1,210	300	-----	1,040	602	35	150	12	.50	73
31	3,090	-----	456	274	-----	5,710	-----	35	-----	11	.46	-----
TOTAL	12,481.9	21,871	6,743	25,625	7,874	60,624	37,052	10,735	13,160	418.7	218.73	6,265.26
MEAN	403	729	218	827	281	1,956	1,235	346	439	13.5	7.06	209
MAX	7,520	8,440	1,210	6,930	2,310	7,570	11,700	3,130	8,610	70	79	3,830
MIN	0	75	62	100	101	184	271	24	19	3.6	.46	.46
AC-FT	24,760	43,380	13,370	50,830	15,620	120,200	73,490	21,290	26,100	830	434	12,430
CAL YR 1972	TOTAL	62,305.62	MEAN	170	MAX	9,190	MIN	0	AC-FT	123,600		
WTR YR 1973	TOTAL	203,068.59	MEAN	556	MAX	11,700	MIN	0	AC-FT	402,800		

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-22	0700	19.42	12,400	3-10	1915	20.32	13,200
11-1	1100	10.14	6,450	3-25	1030	13.33	8,200
11-13	0845	17.33	10,800	3-31	0500	14.50	8,900
1-3	1500	16.71	10,400	4-16	0415	23.22	15,700
3-4	1700	9.40	6,080	5-7	0200	9.92	6,340
3-6	1700	18.78	11,900	6-19	0245	19.55	12,500

ARKANSAS RIVER BASIN

07176800 CANDY CREEK NEAR WOLCO, OKLA.

LOCATION.--Lat 36°32'06", long 96°02'54", in NW 1/4 NW 1/4 sec.29, T.29 N., R.12 E., Osage County, 1.3 mi (2.1 km) east of Wolco, 3.3 mi (5.3 km) northeast of Avant, and at mile 5.6 (9.0 km).

DRAINAGE AREA.--30.6 sq mi (79.3 sq km).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 673.00 ft (205.130 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 8,510 cfs (241 cu m/s) Oct. 22, gage height, 17.31 ft (5.276 m); no flow Aug. 21-Sept. 4.
Period of record: Maximum discharge, 8,510 cfs (241 cu m/s) July 3, 1972, gage height 17.31 ft (5.276 m); no flow at times each year.

REMARKS.--Records fair. Record October 1969 to September 1971 to be published in five year WSP.

COOPERATION.--Gage-height record, 27 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	422	8.3	19	165	173	53	264	1.3	5.8	.33	0
2	4.6	71	7.3	12	55	211	28	44	1.9	3.8	.33	0
3	3.0	31	6.9	1,040	25	49	32	18	2.0	2.9	.30	0
4	2.1	19	6.9	50	16	290	31	11	2.1	2.4	.22	.29
5	1.3	15	6.6	20	14	77	20	8.6	2.4	1.8	.11	9.6
6	.88	21	6.2	10	12	761	17	11	2.8	1.5	.05	1.7
7	.66	34	5.8	9.0	37	169	14	34	3.2	1.2	.05	.77
8	.44	17	5.5	8.0	46	129	93	13	2.3	1.1	.07	.40
9	.44	13	5.2	7.0	19	77	138	7.1	1.6	1.0	.32	.33
10	.44	11	5.0	7.0	12	1,450	46	5.0	1.3	.86	.44	.23
11	.33	12	5.0	6.0	10	134	23	4.2	1.0	.77	.44	.22
12	.22	300	5.0	6.0	9.8	47	16	3.7	.80	.74	.39	.22
13	.04	1,000	5.0	5.0	9.5	38	13	3.3	.63	.63	.26	.22
14	.04	50	5.0	5.0	9.0	51	11	3.1	.55	.55	.22	.22
15	.04	23	5.0	7.0	7.5	26	896	2.8	.55	.55	.13	.13
16	.04	23	5.0	15	6.6	19	390	2.5	.55	.55	.11	.11
17	.04	22	5.0	8.0	5.9	16	61	2.4	.49	.55	.11	.33
18	.04	21	9.3	7.0	5.9	14	32	2.3	525	.55	.11	.44
19	.04	100	75	6.0	5.9	14	35	2.2	425	.55	.11	.44
20	.04	67	73	5.0	5.9	16	420	2.2	47	.63	.11	.44
21	613	41	44	30	5.2	16	295	2.1	15	1.0	.06	.44
22	1,420	41	28	120	5.0	14	141	1.9	7.6	.76	0	1.6
23	62	26	19	50	4.5	13	43	2.1	4.9	.57	0	1.9
24	28	19	14	24	4.5	680	606	2.5	3.6	.33	0	2.5
25	18	57	12	18	4.5	495	326	2.5	2.8	.33	0	8.4
26	12	34	10	302	4.5	82	72	2.5	2.4	.33	0	12
27	9.3	20	7.6	67	4.5	38	35	2.5	10	.33	0	777
28	8.3	14	6.5	41	4.5	75	22	2.0	8.4	.33	0	104
29	8.0	10	6.5	24	-----	44	16	1.5	22	.33	0	27
30	409	9.1	125	18	-----	403	13	1.2	9.9	.33	0	11
31	609	-----	34	19	-----	438	-----	1.2	-----	.33	0	-----
TOTAL	3,219.43	2,543.1	562.6	1,965.0	514.2	6,059	3,938	466.4	1,109.07	33.40	4.27	961.93
MEAN	104	84.8	18.1	63.4	18.4	195	131	15.0	37.0	1.08	.14	32.1
MAX	1,420	1,000	125	1,040	165	1,450	896	264	525	5.8	.44	777
MIN	.04	9.1	5.0	5.0	4.5	13	11	1.2	.49	.33	0	0
AC-FT	6,390	5,040	1,120	3,900	1,020	12,020	7,810	925	2,200	66	8.5	1,910
CAL YR 1972	TOTAL	8,461.30	MEAN	23.1	MAX	1,420	MIN	0	AC-FT	16,780		
WTR YR 1973	TOTAL	21,376.40	MEAN	58.6	MAX	1,450	MIN	0	AC-FT	42,400		

PEAK DISCHARGE (ABSE, 2,500 CFS REVISED)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-22	0030	17.31	8,510	3-30	2330	11.57	3,600
11-12		10.1 ^a	2,660	4-15	2045	10.54	2,920
1-3	0700	11.68	3,680	4-24	1730	12.69	4,380
3-6	0915	10.62	2,970	6-18	2100	12.92	4,540
3-10	1245	14.81	6,050	9-27	1400	10.85	3,110

^aHighwater mark.

ARKANSAS RIVER BASIN

53

07177000 HOMINY CREEK NEAR SKIATOOK, OKLA.

LOCATION.--Lat 36°20'55", long 96°06'35", in SW 1/4 SE 1/4 sec.27, T.22 N., R.11 E., Osage County, near left bank on downstream side of pier of bridge on State Highway 20, 1.0 mi (1.6 km) upstream from Tall Chief Creek, 6.0 mi (9.7 km) west of Skiatook, and at mile 16.7 (26.9 km).

DRAINAGE AREA.--340 sq mi (881 sq km).

PERIOD OF RECORD.--March 1944 to current year.

GAGE.--Water-stage recorder. Datum of gage is 619.66 ft (188.872 m) above mean sea level. Prior to May 26, 1945, nonrecording gage and May 26, 1945, to Sept. 30, 1958, water-stage recorder at site 600 ft (182.9 m) upstream at same datum.

AVERAGE DISCHARGE.--29 years, 168 cfs (4.758 cu m/s) 121,700 acre-ft/yr (150 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 7,980 cfs (226 cu m/s) Apr. 16, gage height, 30.78 ft (9.382 m); minimum, 0.20 cfs (0.006 cu m/s) Oct. 14, 19, 20.

Period of record: Maximum discharge, 35,600 cfs (1,010 cu m/s) Oct. 3, 1959, gage height, 38.82 ft (11.832 m); no flow at times in 1946, 1952-58, 1963-66.

Flood in May 1943 reached a stage of 35.0 ft (10.67 m) from floodmark.

REMARKS.--Records good prior to June and fair thereafter.

COOPERATION.--Gage-height record and 28 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	4,580	62	192	1,470	195	1,700	672	41	99	10	2.4
2	22	2,300	55	107	1,300	1,140	401	1,010	116	44	8.1	3.0
3	13	342	50	3,310	345	533	485	239	129	26	6.9	2.4
4	9.6	166	45	5,790	205	2,040	477	148	75	21	5.9	10
5	6.6	105	42	1,040	156	2,100	233	116	362	19	5.0	86
6	4.5	87	38	249	124	3,510	166	132	210	15	4.1	28
7	1.5	129	33	150	110	6,560	136	1,790	81	13	3.5	27
8	1.4	93	31	120	367	1,750	345	898	50	11	3.0	22
9	1.3	60	29	100	204	1,630	1,590	220	39	10	4.3	18
10	.9	45	28	80	117	4,060	627	138	33	19	30	13
11	.6	35	27	70	97	6,140	244	105	29	54	29	9.5
12	.4	704	28	60	91	1,180	165	83	26	111	13	8.3
13	.3	6,000	29	56	89	387	131	70	80	42	9.3	273
14	.3	3,760	30	61	87	429	107	60	46	22	7.4	118
15	.4	418	32	187	75	266	1,780	50	316	86	7.2	33
16	.4	236	33	318	62	178	7,580	45	222	39	34	14
17	.4	175	35	282	53	141	4,880	40	62	20	49	9.2
18	.4	155	52	262	52	122	582	36	96	12	59	8.3
19	.3	493	585	185	59	112	389	34	3,870	8.9	29	6.2
20	.2	586	719	122	76	108	1,670	31	5,420	7.1	14	4.7
21	98	328	395	286	77	111	909	30	580	11	11	3.8
22	5,120	285	246	935	64	97	821	28	148	61	7.9	24
23	2,760	263	157	476	53	83	422	29	90	112	6.0	99
24	200	172	116	193	48	2,840	559	34	61	30	4.9	24
25	93	190	91	125	46	5,650	3,830	124	45	20	3.9	12
26	58	423	71	1,980	44	3,520	1,680	160	35	112	3.3	22
27	41	226	59	2,340	45	576	439	65	29	125	2.7	2,100
28	30	133	51	475	48	493	266	43	24	42	2.4	874
29	24	92	50	291	-----	785	198	34	82	21	2.1	106
30	429	72	616	180	-----	463	165	29	100	17	2.0	54
31	2,420	-----	667	156	-----	3,610	-----	34	-----	15	1.8	-----
TOTAL	11,381.5	22,653	4,502	20,178	5,564	50,809	32,977	6,527	12,497	1,245.0	379.7	4,014.8
MEAN	367	755	145	651	199	1,639	1,099	211	417	40.2	12.2	134
MAX	5,120	6,000	719	5,790	1,470	6,560	7,580	1,790	5,420	125	59	2,100
MIN	.20	35	27	56	44	83	107	28	24	7.1	1.8	2.4
AC-FT	22,580	44,930	8,930	40,020	11,040	100,800	65,410	12,950	24,790	2,470	753	7,960
CAL YR 1972	TOTAL 51,746.31	MEAN 141	MAX 6,000	MIN .20	AC-FT 102,600							
WTR YR 1973	TOTAL 172,728.00	MEAN 473	MAX 7,580	MIN .20	AC-FT 342,600							

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-22	1915	26.54	6,250	3-25	1745	27.45	5,960
11-13	2115	27.03	6,540	4-16	1945	30.78	7,980
1-4	0815	27.19	6,630	6-20	0415	29.38	7,050
3-7	0945	28.35	7,270				

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OKLA.

LOCATION.--Lat 36°16'42", long 95°57'14", in NW 1/4 NW 1/4 sec.29, T.21 N., R.13 E., Tulsa County, on downstream side of right pier of county road bridge, 1.5 mi (2.4 km) upstream from Delaware Creek, 2.4 mi (3.9 km) downstream from Hominy Creek, 2.5 mi (4.0 km) southeast of Sperry, and at mile 25.0 (40.2 km).

DRAINAGE AREA.--905 sq mi (2,344 sq km).

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 579.43 ft (176.610 m) above mean sea level.

AVERAGE DISCHARGE.--35 years, 459 cfs (13.00 cu m/s), 332,500 acre-ft/yr (410 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 21,000 cfs (595 cu m/s) Apr. 17, gage height, 28.58 ft (8.711 m); minimum, 1.4 cfs (0.040 cu m/s) Oct. 18.

Period of record: Maximum discharge, 90,000 cfs (2,550 cu m/s) Oct. 3, 1959, gage height, 32.60 ft (9.936 m), from rating curve extended above 49,000 cfs (1,390 cu m/s); no flow at times in 1939, 1954-57, 1964-66, 1970.

Flood of May 18, 1943, reached a stage of 31.68 ft (9.656 m), discharge, 72,200 cfs (2,040 cu m/s).

Flood in 1915 reached a stage similar to flood of Oct. 31, 1941, 30.14 ft (9.187 m), from information by local residents.

REMARKS.--Records good. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and 37 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 1117: Drainage area. WSP 1921: 1943.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	7,830	278	738	1,770	302	8,790	1,150	110	277	44	16
2	92	8,140	261	391	4,370	3,880	2,090	3,650	367	178	36	21
3	56	2,030	241	3,330	1,380	2,070	1,360	1,010	617	123	31	19
4	39	552	231	10,300	750	3,880	1,360	573	319	90	27	15
5	28	347	217	7,850	562	7,740	888	442	496	168	24	390
6	21	254	206	1,250	460	6,070	606	567	507	113	22	391
7	16	345	196	619	393	12,500	518	3,250	263	60	21	135
8	13	383	184	473	746	10,800	578	4,060	173	50	23	92
9	11	294	176	409	766	4,900	3,130	896	143	45	35	70
10	9.7	241	178	364	463	6,880	2,540	552	123	42	26	51
11	8.1	217	156	292	374	13,800	972	426	112	51	129	41
12	6.6	733	175	313	343	11,900	663	358	111	80	88	40
13	5.7	8,510	181	228	330	2,680	544	304	110	103	49	145
14	5.5	11,400	191	203	327	2,470	467	275	153	77	35	436
15	4.5	4,240	193	330	308	992	1,620	254	127	128	30	148
16	4.0	743	193	747	269	666	12,800	200	433	98	245	78
17	4.0	560	194	816	236	535	19,100	141	154	62	114	51
18	2.3	489	211	794	222	469	9,080	117	84	46	72	38
19	1.5	1,020	913	627	226	433	1,580	106	4,720	37	69	32
20	1.6	1,540	1,930	459	249	427	4,080	97	11,100	31	45	28
21	28	1,030	1,350	949	264	440	5,130	91	5,930	29	33	24
22	5,620	776	871	3,790	249	411	7,660	89	442	31	26	27
23	9,390	676	586	2,530	226	363	2,120	84	240	81	22	108
24	2,410	482	431	957	209	2,790	1,270	92	167	137	19	106
25	333	461	323	594	199	11,100	6,220	586	125	246	17	59
26	206	950	257	2,440	194	12,600	6,310	927	100	123	15	58
27	141	737	214	6,140	192	4,710	1,670	298	95	132	14	2,560
28	109	434	184	2,460	188	1,340	821	168	266	108	14	5,980
29	86	305	167	1,110	-----	2,380	613	125	159	84	13	1,250
30	217	270	681	705	-----	1,570	511	104	523	62	13	395
31	3,820	-----	1,990	556	-----	8,130	-----	118	-----	48	12	-----
TOTAL	22,875.5	55,989	13,559	52,764	16,265	139,228	105,091	21,110	28,269	2,940	1,363	12,804
MEAN	738	1,866	437	1,702	581	4,491	3,503	681	942	94.8	44.0	427
MAX	9,390	11,400	1,990	10,300	4,370	13,800	19,100	4,060	11,100	277	245	5,980
MIN	1.5	217	156	203	188	302	467	84	84	29	12	15
AC-FT	45,370	111,100	26,890	104,700	32,260	276,200	208,400	41,870	56,070	5,830	2,700	25,400
CAL YR 1972	TOTAL 134,520.5	MEAN 368	MAX 11,400	MIN 1.2	AC-FT 266,800							
WTR YR 1973	TOTAL 472,257.5	MEAN 1,294	MAX 19,100	MIN 1.5	AC-FT 936,700							

PEAK DISCHARGE (BASE, 11,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-14	0915	25.15	12,200	3-26	0700	25.48	13,300
1-4	2100	24.35	11,500	4-17	1000	28.58	21,000
3-7	2230	26.13	13,900	6-20	1400	23.94	11,800
3-11	2345	27.08	15,200				

ARKANSAS RIVER BASIN

55

07185000 NEOSHO RIVER NEAR COMMERCE, OKLA.

LOCATION.--Lat 36°55'43", long 94°57'26", in SW 1/4 SE 1/4 sec.5, T.28 N., R.22 E., Ottawa County, on downstream side of left pier of county road bridge, 1.3 mi (2.1 km) upstream from Mud Creek, 2.2 mi (3.5 km) downstream from Four Mile Creek, 4.5 mi (7.2 km) west of Commerce, and at mile 153.4 (246.8 km).

DRAINAGE AREA.--5,876 sq mi (15,219 sq km).

PERIOD OF RECORD.--June 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 748.97 ft (228.286 m) above mean sea level (Corps of Engineers bench mark).

AVERAGE DISCHARGE.--34 years, 3,461 cfs (98.02 cu m/s), 2,507,000 acre-ft/yr (3.09 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 34,200 cfs (969 cu m/s) Mar. 27, gage height 19.47 ft (5.934 m); minimum, 78 cfs (2.21 cu m/s) Oct. 20.

Period of record: Maximum discharge, 267,000 cfs (7,560 cu m/s) July 15, 1951, computed by flood-routing methods from hydrograph defined at Miami, mile 144.2 (232.0 km), by several discharge measurements, gage-height record, and by comparison with computed inflow into Lake O' The Cherokees; maximum gage height, 34.03 ft (10.327 km) July 16, 1951, from floodmark; no flow at times in 1953-54, 1956.

REMARKS.--Records good. Flow regulated to some extent since 1963 by John Redmond Reservoir in Kansas, 190 mi (306 km) upstream. Records of chemical analyses for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,230	19,700	1,140	7,520	11,400	1,640	28,500	9,710	10,100	526	1,620	252
2	554	24,900	994	4,270	18,600	4,460	28,400	11,700	10,500	524	1,380	2,870
3	357	19,500	961	6,240	20,500	6,130	27,800	14,900	10,500	493	847	10,300
4	276	5,250	1,510	12,300	19,700	8,810	21,600	11,700	11,000	472	580	7,460
5	211	2,160	1,840	21,500	8,270	19,900	14,600	7,740	12,100	459	486	1,210
6	165	1,280	1,780	13,700	8,440	24,100	14,800	8,350	12,400	480	409	333
7	151	1,070	1,690	6,320	11,300	27,900	15,400	17,000	12,600	443	346	234
8	201	1,000	1,540	5,620	14,700	28,600	15,500	12,900	8,360	846	317	204
9	166	912	1,370	5,500	14,900	27,200	17,800	12,200	7,000	1,100	299	360
10	145	802	1,250	4,940	13,600	25,800	18,500	9,120	6,030	763	275	440
11	136	680	1,250	3,950	12,700	28,900	16,000	7,400	4,660	710	268	380
12	130	3,450	1,490	3,340	12,600	29,400	12,500	8,110	4,260	518	181	669
13	114	20,600	1,870	2,880	12,600	28,400	11,100	9,420	4,070	465	158	3,030
14	129	24,600	2,120	2,540	12,500	25,200	10,500	9,190	3,910	596	137	3,640
15	134	12,200	2,250	2,330	11,600	18,400	11,100	8,540	3,900	674	132	8,490
16	131	6,880	2,250	2,290	8,520	17,100	23,500	5,440	3,860	636	401	4,120
17	128	3,260	2,200	6,380	5,940	17,000	23,400	3,380	3,080	605	239	1,400
18	125	2,310	2,120	10,600	3,880	16,400	26,300	3,060	4,540	584	172	695
19	114	3,190	2,890	11,700	2,760	15,800	25,800	3,020	5,310	494	149	473
20	95	4,370	7,810	9,180	2,210	17,200	21,700	5,250	2,530	380	137	387
21	118	4,290	8,550	16,000	2,140	20,500	21,300	8,610	1,440	290	138	363
22	11,200	4,330	6,180	26,800	2,100	22,500	25,100	9,540	1,170	330	380	988
23	17,900	4,330	4,430	29,200	2,060	20,300	26,800	11,000	1,030	284	456	524
24	7,340	4,040	3,230	27,900	1,950	17,100	26,200	14,500	985	3,960	437	627
25	2,610	3,510	2,830	15,100	1,850	28,000	17,200	13,400	952	4,460	453	2,570
26	1,240	4,640	2,560	7,640	1,760	31,200	13,300	8,730	918	3,170	452	6,890
27	766	5,020	2,170	11,400	1,720	33,500	10,800	7,240	921	3,280	440	17,400
28	551	3,410	1,940	11,100	1,670	31,400	9,110	4,410	892	2,770	431	25,600
29	435	2,060	1,820	8,680	-----	30,000	8,320	3,880	788	2,320	426	27,300
30	803	1,430	5,880	7,680	-----	22,400	7,760	6,100	587	1,590	415	25,700
31	6,130	-----	7,490	8,300	-----	25,400	-----	8,370	-----	1,060	346	-----
TOTAL	53,785	195,174	87,405	312,900	241,970	670,640	550,690	273,910	150,393	35,282	12,907	154,909
MEAN	1,735	6,506	2,820	10,090	8,642	21,630	18,360	8,836	5,013	1,138	416	5,164
MAX	17,900	24,900	8,550	29,200	20,500	33,500	28,500	17,000	12,600	4,460	1,620	27,300
MIN	95	680	961	2,290	1,670	1,640	7,760	3,020	587	284	132	204
AC-FT	106,700	387,100	173,400	620,600	479,900	1,330M	1,092M	543,300	298,300	69,980	25,600	307,300

CAL YR 1972 TOTAL 807,523 MEAN 2,206 MAX 24,900 MIN 95 AC-FT 1,602,000
WTR YR 1973 TOTAL 2,739,965 MEAN 7,507 MAX 33,500 MIN 95 AC-FT 5,435,000

PEAK DISCHARGE (BASE, 20,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
11-2	1400	17.43	25,600	2-3	2130	15.23	20,900	4-23	0345	18.10	27,300
11-14	0800	17.50	25,800	3-12	0645	18.89	30,200	5-07	0400	14.84	20,100
1-5	1000	16.44	23,400	3-27	1200	19.47	34,200	9-29	0845	18.28	27,800
1-23	2030	18.86	30,000	4-01	1715	18.67	29,200				

ARKANSAS RIVER BASIN

07188000 SPRING RIVER NEAR QUAPAW, OKLA.

LOCATION.--Lat 36°56'04", long 94°44'45", in NE 1/4 SW 1/4 sec.5, T.28 N., R.24 E., Ottawa County, near center of span on downstream side of pier of county road bridge, 0.1 mi (0.2 km) upstream from Rock Creek, 3.0 mi (48 km) southeast of Quapaw, and at mile 13.9 (22.4 km). Records include flow of Rock Creek.

DRAINAGE AREA.--2,510 sq mi (6,501 sq km), includes that of Rock Creek.

PERIOD OF RECORD.--July 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 746.25 ft (227.457 m) above mean sea level. Nonrecording gage on right bank at same datum used May 20 to Nov. 16, 1943.

AVERAGE DISCHARGE.--34 years, 1,870 cfs (52.96 cu m/s), 10.12 in/yr (257 mm/yr), 1,355,000 acre-ft/yr (1.67 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 47,900 cfs (1,360 cu m/s) Nov. 2, gage height, 24.69 ft (7.526 m); minimum, 227 cfs (6.42 cu m/s) Oct. 14.

Period of record: Maximum discharge, 190,000 cfs (5,380 cu m/s) May 19, 1943, gage height, 43.4 ft (13.23 m), from floodmark, from rating curve extended above 54,000 cfs (1,530 cu m/s) on basis of slope-area measurement of peak flow; minimum daily, 5.8 cfs (0.16 cu m/s) July 8, 1954.

Flood in December 1895 reached a stage similar to that of May 19, 1943, from information by local residents.

REMARKS.--Records good. Low and medium flow regulated by Riverton hydroelectric plant, 15 mi (24 km) above station.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,260	26,200	2,520	2,930	3,740	1,470	23,400	8,180	1,860	1,310	1,500	380
2	1,060	43,200	2,420	2,180	5,580	2,070	12,500	11,300	2,770	1,230	642	860
3	986	39,700	2,280	5,670	4,990	2,580	7,650	9,270	4,490	1,180	733	1,040
4	805	11,800	2,140	11,000	3,700	6,320	6,520	6,170	10,100	1,110	700	710
5	690	6,260	2,030	6,470	3,140	9,630	5,990	4,900	8,440	992	663	1,480
6	616	4,730	1,950	3,960	2,850	16,400	5,310	6,470	7,840	842	634	2,330
7	565	4,180	1,840	2,790	2,960	22,800	4,760	32,800	4,830	886	610	1,590
8	530	3,590	1,750	2,330	4,680	15,300	4,430	19,600	3,680	897	583	1,090
9	499	3,170	1,690	2,000	4,280	9,110	5,770	12,400	3,190	897	561	1,010
10	471	3,050	1,610	1,950	3,390	21,600	5,940	7,050	2,810	1,070	535	980
11	442	2,850	1,570	1,780	2,940	33,600	5,110	6,070	2,540	1,210	674	772
12	412	3,730	1,840	1,700	2,760	29,100	4,360	5,980	2,360	907	680	715
13	355	26,500	2,530	1,650	2,670	12,400	3,750	4,280	2,250	969	883	1,450
14	304	28,800	2,840	1,690	2,590	8,050	3,390	3,840	2,290	1,000	710	1,530
15	378	18,900	2,720	1,740	2,180	6,720	3,450	3,460	2,650	952	600	1,060
16	362	8,720	2,470	2,290	2,070	5,300	22,800	3,200	3,570	979	555	797
17	354	5,560	2,110	4,390	2,040	4,630	29,100	2,960	3,140	955	500	691
18	324	4,560	1,990	8,960	1,960	4,220	19,500	2,770	2,280	926	495	643
19	304	4,790	4,190	14,500	1,920	4,020	11,300	2,610	2,010	618	490	605
20	292	4,970	9,440	9,530	1,850	5,940	10,500	2,460	1,900	946	485	583
21	333	4,750	9,400	22,300	1,830	6,290	17,800	2,340	1,780	711	480	566
22	15,700	4,600	6,810	29,200	1,750	4,560	25,300	2,230	1,650	786	470	614
23	14,000	4,390	4,710	19,900	1,700	3,600	27,300	2,320	1,550	770	460	1,350
24	6,040	4,030	3,670	9,990	1,640	10,100	18,600	4,480	1,470	747	450	1,290
25	3,080	4,050	3,270	5,880	1,580	27,200	19,500	6,460	1,410	1,280	440	4,690
26	2,140	4,920	2,770	5,020	1,520	28,800	26,600	3,850	1,350	1,210	430	5,930
27	1,690	4,590	2,400	4,690	1,470	18,800	16,900	2,810	1,340	737	410	4,990
28	1,430	3,710	2,290	4,250	1,490	9,230	10,500	2,570	1,330	910	400	7,270
29	1,340	2,920	2,020	3,880	-----	10,900	6,880	2,320	1,310	837	390	4,510
30	2,070	2,590	3,330	3,470	-----	9,010	6,080	1,940	1,390	1,010	380	2,880
31	6,880	-----	4,250	3,260	-----	23,800	-----	1,950	-----	1,280	380	-----
TOTAL	66,712	295,810	96,850	201,350	75,270	373,550	370,990	189,240	89,580	30,154	17,923	54,406
MEAN	2,152	9,860	3,124	6,495	2,688	12,050	12,370	6,105	2,986	973	578	1,814
MAX	15,700	43,200	9,440	29,200	5,580	33,600	29,100	32,800	10,100	1,310	1,500	7,270
MIN	292	2,590	1,570	1,650	1,470	1,470	3,390	1,940	1,310	618	380	380
CF8M	.86	3.93	1.24	2.59	1.07	4.80	4.93	2.43	1.19	.39	.23	.72
IN.	.99	4.38	1.44	2.98	1.12	5.54	5.50	2.80	1.33	.45	.27	.81
AC-FT	132,300	586,700	192,100	399,400	149,300	740,900	735,900	375,400	177,700	59,810	35,550	107,900

CAL YR 1972 TOTAL 665,301 MEAN 1,818 MAX 43,200 MIN 82 CF8M .72 IN 9.86 AC-FT 1,320,000
WTR YR 1973 TOTAL 1,861,835 MEAN 5,101 MAX 43,200 MIN 292 CF8M 2.03 IN 27.59 AC-FT 3,693,000

PEAK DISCHARGE (BASE, 18,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-22	1515	18.32	25,400	3-07	1030	17.84	23,900	4-16	1830	19.94	30,200
11-2	2400	24.69	47,900	3-11	2200	22.26	38,100	4-23	1345	19.41	28,600
11-13	1700	19.87	30,000	3-26	1045	19.84	29,900	4-26	1515	19.03	27,500
1-22	0100	20.10	30,700	3-31	1545	19.14	27,800	5-07	0700	22.02	37,200

ARKANSAS RIVER BASIN

57

07189000 ELK RIVER NEAR TIFF CITY, MO.

LOCATION.--Lat 36°37'50", long 94°35'12", in NE 1/4 sec.22, T.22 N., R.34 W., McDonald County, on downstream side of right pier of bridge on State Highway 43, 0.8 mi (1.3 km) downstream from Blackfoot Branch, 2.8 mi (4.5 km) upstream from Buffalo Creek, 3.0 mi (4.8 km) southeast of Tiff City, and at mile 15.8 (25.4 km).

DRAINAGE AREA.--872 sq mi (2,258 sq km).

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 750.61 ft (228.786 m) above mean sea level (levels by Corps of Engineers). Sept. 6, 1960, to Aug. 24, 1961, at site 100 ft (30.5 m) downstream.

AVERAGE DISCHARGE.--34 years, 773 cfs (21.9 cu m/s), 12.04 in/yr (306 mm/yr), 560,000 acre-ft/yr (690 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 26,500 cfs (750 cu m/s), Mar. 11, gage height, 19.37 ft (5.904 m); minimum, 89 cfs (2.52 cu m/s) Oct. 13, 14.

Period of record: Maximum discharge, 137,000 cfs (3,880 cu m/s) Apr. 19, 1941, gage height, 28.4 ft (8.66 m), from floodmark, from rating curve extended above 60,000 cfs (1,700 cu m/s) on basis of slope-area measurement of peak flow; minimum daily, 5.1 cfs (0.14 cu m/s), Sept. 5, 6, 1954.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 927: 1940. WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	321	11,900	1,180	710	1,720	587	6,210	2,420	1,350	583	267	137
2	258	14,200	1,090	698	1,770	897	4,280	3,180	1,800	543	250	182
3	215	5,940	1,020	710	1,730	1,580	3,980	3,070	19,300	508	239	192
4	185	3,300	958	1,020	1,650	1,720	6,600	2,510	13,000	480	229	188
5	163	2,420	890	1,310	1,570	1,640	4,690	2,200	5,700	464	222	232
6	147	1,960	854	1,300	1,470	2,900	3,420	1,990	5,110	443	211	251
7	133	1,820	806	1,240	1,480	5,220	2,830	2,060	3,710	419	202	265
8	121	1,720	734	1,170	2,070	3,930	2,500	2,990	2,890	407	197	250
9	114	1,500	686	1,080	2,410	3,240	2,860	2,530	2,370	396	194	243
10	107	1,320	640	988	2,240	8,610	3,100	2,160	2,010	410	190	227
11	100	1,170	620	911	2,010	20,400	2,780	2,090	1,750	451	236	225
12	95	1,080	668	849	1,790	7,160	2,470	3,000	1,550	418	482	218
13	91	3,980	812	792	1,610	4,420	2,190	2,680	1,430	388	348	212
14	94	6,340	902	739	1,420	3,460	1,980	2,230	1,320	368	294	238
15	99	3,580	938	712	1,250	2,800	2,030	1,930	1,240	399	270	218
16	99	2,680	918	708	1,130	2,400	9,140	1,100	1,180	379	258	202
17	96	2,160	881	690	1,020	2,080	8,100	1,510	1,050	368	243	191
18	93	1,830	846	1,510	938	1,860	4,630	1,350	959	353	231	181
19	91	1,670	848	4,070	860	1,700	3,680	1,240	966	337	218	173
20	91	2,000	999	3,560	812	1,590	4,350	1,140	1,680	321	209	167
21	98	1,900	1,080	5,570	776	1,440	3,740	1,040	1,530	319	193	163
22	647	1,780	1,090	10,300	728	1,300	7,390	948	1,190	313	180	162
23	1,350	1,670	1,070	6,630	686	1,220	8,030	931	1,010	311	172	160
24	1,060	1,550	1,010	4,080	674	2,050	4,950	973	897	344	166	160
25	782	1,450	944	3,060	650	8,070	4,270	979	817	396	160	170
26	631	1,490	938	2,570	625	7,150	4,460	959	738	401	155	200
27	539	1,560	884	2,270	600	4,150	4,200	3,630	692	342	150	226
28	462	1,530	776	2,060	586	3,170	3,590	3,340	641	305	143	306
29	398	1,390	746	1,880	-----	2,750	3,050	2,360	614	290	142	310
30	374	1,280	740	1,760	-----	2,450	2,670	1,880	604	287	144	348
31	2,440	-----	716	1,670	-----	6,050	-----	1,580	-----	284	139	-----
TOTAL	11,494	88,170	27,284	66,617	36,275	117,994	128,170	62,600	79,098	12,027	6,734	6,397
MEAN	371	2,939	880	2,149	1,296	3,806	4,272	2,019	2,637	388	217	213
MAX	2,440	14,200	1,180	10,300	2,410	20,400	9,140	3,630	19,300	583	482	348
MIN	91	1,080	620	690	586	587	1,980	931	604	284	139	137
CFSM	.43	3.37	1.01	2.46	1.49	4.36	4.90	2.32	3.02	.45	.25	.24
IN.	.49	3.76	1.16	2.84	1.55	5.03	5.47	2.67	3.37	.51	.29	.27
AC-FT	22,800	174,900	54,120	132,100	71,950	234,000	254,200	124,200	156,900	23,860	13,360	12,690
CAL YR 1972	TOTAL 228,401	MEAN 624	MAX 14,200	MIN 54	CFSM .72	IN 9.74	AC-FT 453,000					
WTR YR 1973	TOTAL 642,860	MEAN 1,761	MAX 20,400	MIN 91	CFSM 2.02	IN 27.42	AC-FT 1,275,000					

PEAK DISCHARGE (BASE, 9,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-2	0230	17.01	18,000	4-16	2200	14.42	12,500
1-22	0430	13.73	11,200	4-23	0100	13.19	10,300
3-11	0700	19.37	26,500	6-3	2230	19.18	25,700
3-25	2145	13.35	10,600				

ARKANSAS RIVER BASIN

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OKLA.

LOCATION.--Lat 36°28'17", long 95°02'19", in SW 1/4 sec.14, T.23 N., R.21 E., Mayes County, on upstream side of pier at intake structure near right end of Pensacola Dam on Neosho River at Langley, 9.9 mi (15.9 km) upstream from Big Cabin Creek, and at mile 77.0 (123.9 km).

DRAINAGE AREA.--10,298 sq mi (26,672 sq km).

PERIOD OF RECORD.--March 1940 to current year. Prior to October 1940, published as Grand Lake at Langley.

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft (0.335 m) above mean sea level (Corps of Engineers bench mark). Prior to Nov. 14, 1941, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 2,140,000 acre-ft (2.64 cu km) Apr. 25, gage height, 754.05 ft (229.834 m); minimum, 1,410,000 acre-ft (1.74 cu km) Sept. 1, gage height, 738.97 ft (225.238 m).
Period of record: Maximum contents, 2,213,000 acre-ft (2,730 cu hm), May 25, 1957, gage height, 755.27 ft (230.206 m), minimum since power-pool was first filled, 642,900 acre-ft (793 cu hm) Sept. 28, 1954, gage height, 713.41 ft (217.447 m).

REMARKS.--Reservoir is formed by multiple-arch concrete dam, with top of taintor-type spillway gates at gage height 755.0 ft (230.12 m). Storage began Mar. 21, 1940; power-pool was first filled Apr. 19, 1941. Capacity between gage heights 682.0 ft (207.87 m), sill of powerhouse penstock, and 745.0 ft (227.08 m), maximum power pool is 1,492,000 acre-ft (1,840 cu hm). Capacity between gage heights 745.0 ft (227.08 m), and 755.0 ft (230.12 m) is 525,000 acre-ft (647 cu hm) and is reserved for flood control. Dead storage below gage height 682.0 ft (207.87 m) is 180,200 acre-ft (222 cu hm). Figures given herein represent total contents. Reservoir is utilized for power development and flood control.

REVISIONS.--WSP 1117: Drainage area.

Capacity table (gage height, in feet, and contents, in thousands of acre-feet)

738	1,371	747	1,767
740	1,452	751	1,970
743	1,581	755	2,197

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,486	1,696	1,650	1,554	1,698	1,522	2,080	2,042	1,704	1,658	1,567	1,416
2	1,488	1,794	1,635	1,545	1,710	1,513	2,086	2,042	1,732	1,658	1,569	1,424
3	1,479	1,858	1,621	1,555	1,714	1,512	2,089	2,038	1,809	1,652	1,564	1,450
4	1,469	1,829	1,604	1,599	1,717	1,522	2,097	2,020	1,838	1,641	1,559	1,462
5	1,469	1,788	1,592	1,643	1,698	1,566	2,079	1,992	1,836	1,644	1,560	1,462
6	1,470	1,753	1,577	1,665	1,686	1,640	2,062	1,976	1,829	1,645	1,550	1,458
7	1,472	1,718	1,559	1,664	1,696	1,717	2,048	2,026	1,816	1,640	1,539	1,450
8	1,473	1,699	1,545	1,659	1,706	1,757	2,034	2,028	1,789	1,643	1,531	1,446
9	1,474	1,685	1,528	1,650	1,716	1,780	2,027	2,014	1,761	1,645	1,523	1,449
10	1,470	1,673	1,511	1,639	1,718	1,838	2,027	1,990	1,741	1,660	1,523	1,449
11	1,471	1,658	1,494	1,627	1,717	1,943	2,018	1,980	1,726	1,653	1,521	1,448
12	1,470	1,665	1,481	1,614	1,714	1,988	2,004	1,966	1,713	1,642	1,524	1,448
13	1,469	1,742	1,473	1,600	1,712	1,967	1,980	1,956	1,703	1,627	1,519	1,456
14	1,472	1,800	1,469	1,586	1,712	1,958	1,962	1,943	1,695	1,620	1,516	1,465
15	1,470	1,821	1,471	1,570	1,710	1,949	1,963	1,926	1,685	1,622	1,505	1,473
16	1,471	1,788	1,467	1,555	1,700	1,938	2,027	1,906	1,675	1,614	1,503	1,471
17	1,468	1,739	1,455	1,553	1,690	1,937	2,068	1,882	1,668	1,610	1,494	1,469
18	1,464	1,713	1,451	1,587	1,681	1,926	2,071	1,856	1,659	1,605	1,486	1,463
19	1,455	1,712	1,467	1,632	1,670	1,914	2,058	1,833	1,666	1,597	1,478	1,458
20	1,451	1,711	1,504	1,666	1,656	1,906	2,048	1,813	1,660	1,589	1,469	1,450
21	1,459	1,710	1,530	1,739	1,641	1,897	2,055	1,799	1,652	1,594	1,462	1,445
22	1,515	1,707	1,544	1,814	1,626	1,883	2,090	1,790	1,656	1,600	1,458	1,450
23	1,572	1,704	1,564	1,846	1,612	1,869	2,117	1,781	1,660	1,596	1,448	1,450
24	1,586	1,700	1,578	1,853	1,598	1,886	2,140	1,774	1,660	1,592	1,444	1,447
25	1,575	1,695	1,592	1,826	1,583	1,956	2,140	1,774	1,660	1,597	1,436	1,449
26	1,560	1,692	1,590	1,772	1,567	2,016	2,131	1,767	1,662	1,594	1,437	1,448
27	1,544	1,694	1,581	1,733	1,551	2,045	2,108	1,755	1,668	1,587	1,428	1,475
28	1,525	1,688	1,565	1,710	1,534	2,044	2,086	1,739	1,669	1,589	1,422	1,525
29	1,507	1,676	1,548	1,700	-----	2,042	2,064	1,721	1,666	1,588	1,418	1,569
30	1,494	1,663	1,549	1,694	-----	2,031	2,046	1,709	1,663	1,579	1,415	1,607
31	1,518	-----	1,552	1,695	-----	2,049	-----	1,704	-----	1,570	1,410	-----
MAX	1,586	1,858	1,650	1,853	1,718	2,049	2,140	2,042	1,838	1,660	1,569	1,607
MIN	1,451	1,658	1,451	1,545	1,534	1,512	1,962	1,704	1,652	1,570	1,410	1,416
(†)	741.57	744.80	742.35	745.49	741.93	752.45	752.39	745.68	744.81	742.75	738.98	743.57
(‡)	+39	+145	-111	+143	-161	+515	-3	-342	-41	-93	-160	+197

CAL YR 1972.....‡ -78

WTR YR 1973.....‡ +128

† Gage height, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

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DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	18,000	12,400	12,000	16,200	12,000	47,800	20,200	14,500	4,700	4,220	15
2	1,700	32,000	12,400	12,000	20,200	12,000	45,900	22,500	15,600	2,660	933	15
3	6,640	36,000	12,400	12,000	26,700	12,000	39,700	25,000	18,500	4,590	4,310	15
4	6,840	38,000	12,300	12,000	26,700	12,000	32,700	24,900	26,800	8,450	3,200	4,150
5	1,050	34,000	12,100	12,000	26,000	12,000	30,000	24,000	30,500	726	474	4,290
6	92	30,000	12,000	12,000	17,900	15,000	26,400	20,400	30,000	865	6,030	4,290
7	22	25,000	12,000	12,000	16,000	23,200	25,800	26,200	29,300	4,740	5,780	5,900
8	15	15,600	12,000	12,000	16,500	37,400	25,000	33,400	27,900	76	5,830	4,290
9	458	13,100	12,300	12,000	18,600	39,000	24,200	30,100	26,400	1,730	5,380	821
10	2,050	12,900	12,300	12,000	20,500	40,000	24,500	27,300	20,900	5,660	2,360	1,960
11	579	12,900	12,300	11,900	20,500	45,000	24,300	23,300	16,700	6,700	2,090	2,030
12	2,070	12,500	12,300	11,900	20,500	50,700	24,200	20,200	17,000	7,020	321	2,380
13	676	23,000	10,500	11,900	19,100	64,600	23,500	18,000	14,600	9,000	3,060	15
14	832	34,000	9,000	11,900	18,400	50,500	20,700	17,800	12,400	7,100	2,680	15
15	29	38,000	5,200	11,900	18,300	35,700	18,300	17,700	12,300	834	4,200	6,200
16	643	39,500	8,000	11,900	18,300	27,100	29,400	17,700	12,300	6,250	4,720	6,930
17	2,880	37,000	8,800	11,900	13,800	22,300	46,900	17,400	12,500	3,090	5,260	3,520
18	2,960	25,100	8,200	11,900	12,400	25,100	51,900	17,300	12,100	4,250	4,910	3,700
19	3,010	11,300	1,700	11,900	12,400	26,400	49,600	17,000	7,990	4,980	4,380	4,030
20	1,840	12,500	2,000	11,900	12,400	25,900	42,800	17,000	9,470	5,540	5,090	5,110
21	101	12,600	7,900	17,300	12,400	30,500	38,100	17,200	9,510	15	4,490	3,560
22	5,020	12,400	8,800	33,700	12,300	33,100	48,500	17,500	2,420	444	1,890	1,830
23	10,900	12,400	3,800	46,800	12,400	32,400	50,700	19,800	1,050	2,390	4,780	2,060
24	12,100	12,500	5,000	46,100	12,400	32,300	48,700	22,600	3,160	5,580	3,440	4,040
25	12,100	12,400	6,800	44,500	12,400	35,000	49,600	22,700	6,100	5,650	4,340	8,330
26	12,000	12,500	8,800	41,400	12,300	38,200	49,400	22,400	1,190	6,550	269	12,300
27	12,000	12,500	10,500	38,800	12,100	45,000	41,300	22,400	796	7,530	5,140	12,300
28	12,000	12,400	12,000	27,000	12,000	49,800	30,500	21,800	2,530	2,440	3,890	12,400
29	12,000	12,400	11,900	18,700	-----	49,200	23,900	18,800	5,020	4,450	3,370	12,400
30	12,000	12,400	11,900	16,200	-----	48,700	20,800	16,600	5,660	7,450	2,000	12,400
31	12,100	-----	11,900	16,300	-----	48,600	-----	15,700	-----	6,770	2,780	-----
TOTAL	146,659	624,900	299,500	585,800	469,500	1,030,7M	1,055,1M	654,900	405,396	138,230	111,617	141,296
MEAN	4,731	20,830	9,661	18,900	16,770	33,250	35,170	21,130	13,510	4,459	3,601	4,710
MAX	12,100	39,500	12,400	46,800	26,700	64,600	51,900	33,400	30,500	9,000	6,030	12,400
MIN	15	11,300	1,700	11,900	12,000	12,000	18,300	15,700	796	15	269	15
AC-FT	290,900	1,239M	594,100	1,162M	931,300	2,044M	2,093M	1,299M	804,100	274,200	221,400	280,300
CAL YR 1972	TOTAL	1,990,631	MEAN	5,439	MAX	39,500	MIN	15	AC-FT	3,948,000		
WTR YR 1973	TOTAL	5,663,598	MEAN	15,520	MAX	64,600	MIN	15	AC-FT	11,230,000		

ARKANSAS RIVER BASIN

07191000 BIG CABIN CREEK NEAR BIG CABIN, OKLA.

LOCATION.--Lat 36°34'06", long 95°09'07", in NE 1/4 NE 1/4 sec.15, T.24 N., R.20 E., Craig County, on downstream side of right bank end of county road bridge, 4.9 mi (7.9 km) northeast of Big Cabin, 0.9 mi (1.5 km) downstream from White Oak Creek, 6.8 mi (10.9 km) upstream from Mustang Creek and at mile 13.0 (20.9 km).

DRAINAGE AREA.--450 sq mi (1,165 sq km).

PERIOD OF RECORD.--October 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 622.00 ft (189.586 m) above mean sea level (levels by Corps of Engineers). Prior to Sept. 30, 1972, water-stage recorder at site 4.5 mi (7.2 km) downstream at same datum and present site used as auxiliary gage.

AVERAGE DISCHARGE.--26 years, 308 cfs (8.723 cu m/s) 8.98 in/yr (228 mm/yr), 223,100 acre-ft/yr (275 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 22,000 cfs (623 cu m/s) May 7, gage height, 39.19 ft (11.945 m); minimum daily, 2.1 cfs (0.059 cu m/s) Aug. 14, 15.

Period of record: Maximum discharge, 52,000 cfs (1,470 cu m/s) Oct. 3, 1959, gage height, 34.55 ft (10.531 m), at former site; minimum, 0.10 cfs (2.83 l/s) at times in 1954, 1956 and 1963.

Flood of May 18, 1943, reached a stage of 34.96 ft (10.656 m) at former site, discharge, 63,000 cfs (1,780 cu m/s), by slope-area measurement of peak flow.

REMARKS.--Records good. Low flow sustained by sewage from City of Vinita.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	8,490	118	348	1,180	207	3,270	1,140	35	83	4,3	4,0
2	48	6,340	107	215	1,610	2,770	579	1,960	169	20	3,7	1,000
3	39	759	98	2,900	572	913	432	448	2,410	15	3,4	2,000
4	27	358	92	5,490	329	3,850	392	273	398	13	3,0	700
5	20	273	85	711	250	4,880	355	205	1,660	11	2,8	134
6	15	194	80	299	201	3,970	332	547	482	6,2	2,6	68
7	11	158	74	225	369	5,070	317	16,200	183	9,1	2,4	23
8	9,3	153	66	184	1,590	819	333	7,880	101	5,1	2,3	10
9	8,4	125	65	164	435	593	1,710	533	59	3,9	2,2	7,5
10	7,2	103	63	149	265	5,070	767	347	38	4,920	2,2	6,8
11	6,0	90	60	137	220	8,480	462	675	28	1,410	2,2	6,0
12	5,2	709	272	134	199	822	375	932	22	199	2,2	6,0
13	4,0	12,000	512	128	180	492	311	295	22	65	2,2	8,9
14	3,4	8,090	487	137	168	1,280	271	187	23	35	2,1	9,4
15	6,0	640	388	179	154	537	840	143	35	85	2,1	8,0
16	11	364	248	345	117	294	7,860	118	36	93	100	7,2
17	8,5	288	182	718	96	227	1,800	96	36	32	50	6,7
18	11	262	177	1,770	92	181	553	83	30	16	32	6,9
19	13	1,030	1,870	1,660	109	177	705	73	111	8,4	20	6,6
20	12	929	2,940	471	125	709	1,300	58	102	6,4	12	6,2
21	14	436	1,250	5,200	114	378	1,250	47	45	8,2	8,0	6,0
22	4,220	408	599	8,850	95	229	10,200	41	26	7,7	7,0	213
23	3,450	336	358	1,890	81	174	2,320	214	20	6,3	6,2	924
24	350	242	283	545	73	5,590	996	535	17	5,4	5,8	141
25	174	358	207	388	65	13,600	7,640	174	15	5,0	5,3	2,710
26	112	547	167	493	58	4,880	4,620	122	13	5,7	5,0	3,760
27	84	345	140	649	54	754	1,360	421	12	10	4,7	4,110
28	66	218	124	552	48	590	496	190	12	9,6	4,5	9,150
29	55	160	116	422	-----	801	336	100	12	6,7	4,3	2,650
30	49	129	2,290	258	-----	899	270	53	14	5,3	4,1	391
31	1,770	-----	1,330	241	-----	9,890	-----	42	-----	4,6	4,0	-----
TOTAL	10,680,0	44,534	14,848	35,852	8,849	79,126	52,452	34,132	6,166	7,110,6	312,6	28,080,2
MEAN	345	1,484	479	1,157	316	2,552	1,748	1,101	206	229	10,1	936
MAX	4,220	12,000	2,940	8,850	1,610	13,600	10,200	16,200	2,410	4,920	100	9,150
MIN	3,4	90	60	128	48	174	270	41	12	3,9	2,1	4,0
CFSM	.75	3,25	1,05	2,53	.69	5,58	3,82	2,41	.45	.50	.02	2,05
IN.	.87	3,63	1,21	2,92	.72	6,44	4,27	2,78	.50	.58	.03	2,29
AC-FT	21,180	88,330	29,450	71,110	17,550	156,900	104,000	67,700	12,230	14,100	620	55,700

CAL YR 1972 TOTAL 98,737.8 MEAN 270 MAX 12,000 MIN 1.3 CFSM .59 IN 8.04 AC-FT 195,800
WTR YR 1973 TOTAL 322,142.4 MEAN 883 MAX 16,200 MIN 2.1 CFSM 1.93 IN 26.22 AC-FT 639,000

PEAK DISCHARGE (BASE, 9,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-01	1645	19.88	10,700	3-25	1245	35.71	14,600	4-25	0645	31.42	9,320
11-13	2215	21.10	13,500	3-31	1215	32.80	10,900	5-07	1730	39.19	22,000
1-22	0730	18.97	9,660	4-16	1300	32.56	10,600	9-28	0900	31.77	9,670
3-11	0130	32.96	11,100	4-22	1345	33.77	12,000				

ARKANSAS RIVER BASIN

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07191220 SPAVINAW CREEK NEAR SYCAMORE, OKLA.

LOCATION.--Lat 36°19'57", long 94°58'24", in NE 1/4 SW 1/4 sec.4, T.21 N., R.25 E., Delaware County, on right bank 1.8 mi (2.9 km) upstream from Cherokee Creek, 4.8 mi (7.7 km) northeast of Row, 6.5 mi (10.5 km) southeast of Sycamore, and at mile 35.0 (56.3 km).

DRAINAGE AREA.--133 sq mi (344 sq km).

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 875 ft (266.7 m), from topographic map.

AVERAGE DISCHARGE.--12 years, 94.4 cfs (2.673 cu m/s), 9.64 in/yr (245 mm/yr), 68,390 acre-ft/yr (84.3 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 5,670 cfs (161 cu m/s) Mar. 10, gage height, 12.32 ft (3.755 m); minimum, 12.5 cfs (0.35 cu m/s) at times Oct. 17-21.

Period of record: Maximum discharge, 12,000 cfs (340 cu m/s), Apr. 30, 1970, gage height, 14.95 ft (4.559 m); minimum, 1.2 cfs (34.0 l/s) Aug. 9, 1964.

Flood of May 19, 1961, reached a stage of 15.61 ft (4.758 m), from floodmark, discharge 15,000 cfs (425 cu m/s), from rating curve extended above 4,000 cfs (113 cu m/s) at former station 1 mi (1.6 km) upstream.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 2121: 1965(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	902	134	84	237	106	791	486	245	134	62	39
2	21	693	123	82	263	292	566	841	362	123	61	40
3	20	396	114	113	260	397	916	557	2,980	112	60	40
4	19	273	106	235	243	342	1,030	443	1,050	106	59	42
5	18	199	100	279	221	292	666	380	767	102	58	44
6	17	162	94	236	200	341	515	339	615	99	57	78
7	17	140	89	200	200	500	442	360	477	96	56	97
8	16	124	83	169	260	450	400	355	386	93	53	88
9	15	111	79	146	296	387	457	328	323	91	52	84
10	15	99	76	129	273	2,490	442	299	278	119	51	91
11	14	91	73	117	240	1,940	399	446	244	112	51	91
12	14	90	78	107	213	869	360	497	218	106	51	83
13	13	543	93	99	193	604	325	400	200	102	50	90
14	13	561	106	93	176	480	293	343	188	96	49	81
15	13	412	115	88	162	389	348	299	172	93	49	77
16	13	319	117	86	150	332	1,710	260	157	90	50	72
17	13	247	113	85	140	288	910	232	151	88	51	67
18	13	204	109	360	133	256	638	210	142	85	52	63
19	13	183	107	596	127	235	564	195	900	81	53	61
20	13	168	110	449	121	228	565	181	1,070	79	51	58
21	13	162	115	944	116	213	479	169	557	78	50	56
22	23	162	121	1,230	111	200	636	161	395	76	49	54
23	28	164	118	749	108	191	620	172	317	74	48	53
24	34	167	113	523	105	559	534	175	266	73	46	52
25	39	176	107	414	102	1,360	740	162	225	71	45	51
26	42	184	101	349	100	818	684	175	196	72	44	52
27	43	188	95	302	98	565	614	876	175	71	44	62
28	43	176	90	268	96	466	514	508	158	69	43	171
29	41	160	86	240	-----	403	443	386	149	67	42	226
30	41	147	86	219	-----	361	389	315	145	65	40	214
31	196	-----	85	206	-----	1,090	-----	276	-----	64	40	-----
TOTAL	852	7,603	3,136	9,197	4,944	17,444	17,990	10,826	13,508	2,787	1,567	2,377
MEAN	27.5	253	101	297	177	563	600	349	450	89.9	50.5	79.2
MAX	196	902	134	1,230	296	2,490	1,710	876	2,980	134	62	226
MIN	13	90	73	82	96	106	293	161	142	64	40	39
CFSM	.21	1.90	.76	2.23	1.33	4.23	4.51	2.62	3.38	.68	.38	.60
IN.	.24	2.13	.88	2.57	1.38	4.88	5.03	3.03	3.78	.78	.44	.66
AC-FT	1,690	15,080	6,220	18,240	9,810	34,600	35,680	21,470	26,790	5,530	3,110	4,710

CAL YR 1972 TOTAL 25,738 MEAN 70.3 MAX 959 MIN 12 CFSM .53 IN 7.20 AC-FT 51,050
WTR YR 1973 TOTAL 92,231 MEAN 253 MAX 2,980 MIN 13 CFSM 1.90 IN 25.80 AC-FT 182,900

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.HT.	DISCHARGE
3-10	1830	12.32	5,670
6-3	0545	12.05	5,290

ARKANSAS RIVER BASIN

07191400 LAKE HUDSON NEAR LOCUST GROVE, OKLA.

LOCATION.--Lat 36°13'54", long 95°11'36", in SE 1/4 NW 1/4 sec.9, T.20 N., R.20 E., Mayes County, at left side of Robert S. Kerr dam, 2.0 mi (3.2 km) northwest of Locust Grove, 3.5 mi (5.6 km) downstream from Salina Creek, and at mile 47.3 (76.1 km).

DRAINAGE AREA.--11,534 sq mi (29,873 sq km).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Remote-controlled indicator and nonrecording gage. Datum of gage is at mean sea level (levels by Grand River Dam Authority).

EXTREMES.--Current year: Maximum contents, 425,700 acre-ft (529 cu hm) Apr. 26, elevation, 634.98 ft (193.542 m); minimum, 190,200 acre-ft (235 cu hm), Jan. 12, elevation, 618.06 ft (188.385 m).

Period of record: Maximum contents, 425,700 acre-ft (529 cu hm), Apr. 26, 1973, elevation, 634.98 ft (198.542 m); minimum since power pool first filled, 183,100 acre-ft (226 cu hm) Dec. 24, 1967, elevation, 617.38 ft (188.177 m).

REMARKS.--Reservoir is formed by earth dam and gated concrete spillway. Storage began Nov. 12, 1963; power pool first filled June 12, 1964. Capacity, 444,500 acre-ft (548 cu hm) at elevation 636.0 ft (193.85 m), top of taintor gates, 200,300 acre-ft (247 cu hm) at elevation 619.0 ft (188.67 m) power pool, and 48,630 acre-ft (60.0 cu hm) at elevation 599.0 ft (182.58 m), top of spillway crest. Figures given herein represent total contents. Reservoir was designed for flood control and power development.

COOPERATION.--Records furnished by Grand River Dam Authority.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	619.72	708,200	--
Oct. 31.....	619.67	207,700	-1,500
Nov. 30.....	619.82	209,300	+1,600
Dec. 31.....	619.28	203,400	-5,900
CAL YR 1972.....	--	--	-400
Jan. 31.....	619.13	201,700	-1,700
Feb. 28.....	619.35	204,100	+2,400
Mar. 31.....	632.71	386,100	+182,000
Apr. 30.....	631.69	369,200	-16,900
May 31.....	618.84	198,600	-170,600
June 30.....	619.30	203,600	+5,000
July 31.....	619.36	204,200	+600
Aug. 31.....	619.35	204,100	-100
Sept. 30.....	618.72	197,300	-6,800
WTR YR 1973.....	--	--	-11,900

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LOCATION.--Lat 36°14'13", long 95°13'35", in SE 1/4 SE 1/4 sec.1, T.20 N., R.19 E., Mayes County, at county road bridge between Locust Grove and Pryor, 2.5 mi (4.0 km) downstream from Lake Hudson, 5.0 mi (8.0 km) upstream from Pryor Creek, and 7.5 mi (12.1 km) northeast of Chouteau, and at mile 44.7 (71.9 km).

PERIOD OF RECORD.--October 1937 to September 1950, October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 551.83 ft (168.198 m) above mean sea level (levels by Corps of Engineers). Prior to Apr. 3, 1941, nonrecording gage at bridge on State Highway 33, 5.7 mi (9.2 km) downstream, at datum 15.46 ft (9.112 m) lower. Auxiliary water-stage recorder since Oct. 4, 1963, at former site and supplemental water-stage recorder since Apr. 6, 1964 at Kerr Dam 2.5 mi (4.0 km) upstream.

EXTREMES.--Current year: Maximum discharge, 73,200 cfs (2,070 cu m/s) Mar. 13; maximum gage-height, 24.18 ft (7.370 m) Mar. 14; minimum daily discharge, 115 cfs (3.26 cu m/s) Oct. 13.
Period of record: Maximum discharge, 400,000 cfs (11,328 cu m/s) May 20, 1943, gage height, 45.00 ft (13.716 m), from rating curve extended above 140,000 cfs (3,965 cu m/s) on basis of slope-area measurement of peak flow; minimum daily, 12 cfs (.32 cu m/s) Nov. 13, 1963 (caused by closure of Kerr Dam).

REVISIONS.--WSP 1117: Drainage area.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	27,600	9,720	15,700	21,000	16,200	59,300	32,200	16,100	2,140	5,160	433
2	128	35,900	12,300	13,900	23,600	14,100	54,600	31,000	17,200	2,000	951	246
3	5,950	38,600	13,700	13,600	22,400	13,900	47,600	32,100	31,600	5,210	2,610	420
4	9,540	38,600	16,400	24,700	21,100	16,400	41,200	32,300	34,000	8,130	2,160	3,710
5	142	38,500	17,200	14,100	29,900	22,100	39,500	31,900	34,000	3,160	989	4,220
6	2,430	38,500	13,500	11,600	26,700	18,100	35,900	28,800	33,900	973	10,000	8,320
7	141	37,500	11,900	12,800	22,500	30,900	34,600	35,000	31,100	4,960	6,070	5,480
8	138	35,500	5,260	17,300	13,600	35,700	34,100	43,700	31,300	732	3,710	5,870
9	136	23,500	9,860	20,600	18,700	36,500	33,900	41,800	29,900	1,090	9,420	2,500
10	676	9,960	10,100	6,350	20,100	37,600	29,900	35,600	29,400	13,900	1,680	1,020
11	129	10,500	17,100	12,300	19,800	40,000	30,000	32,300	30,400	11,200	1,560	3,970
12	2,250	15,500	12,700	15,200	21,400	52,500	29,700	28,600	21,600	8,240	737	1,580
13	115	36,900	13,000	12,200	21,200	72,600	30,700	26,500	16,900	6,880	2,400	194
14	123	39,200	16,000	7,310	18,800	66,000	36,800	26,400	14,300	10,800	3,920	154
15	120	39,600	1,050	16,300	21,000	47,200	39,000	26,200	16,700	759	3,290	5,800
16	123	39,900	7,720	16,300	14,100	38,400	37,500	26,400	9,740	9,760	7,080	8,540
17	1,620	39,900	11,300	15,700	20,300	34,600	56,300	26,400	10,800	4,160	4,750	1,590
18	3,530	37,200	5,240	15,100	6,660	34,000	60,000	26,000	14,800	3,580	5,690	4,440
19	4,820	18,800	8,080	17,600	12,600	33,900	62,300	26,000	7,880	5,310	3,250	3,520
20	349	17,600	4,620	19,800	13,200	36,200	59,000	25,200	10,900	4,880	7,590	6,380
21	492	24,000	12,800	24,300	14,100	36,200	53,000	24,600	11,500	683	5,030	3,590
22	14,200	14,000	11,900	39,300	12,000	36,200	56,900	24,300	5,750	255	808	1,330
23	17,700	4,430	1,160	40,300	11,600	36,300	55,800	23,800	1,620	3,370	4,740	2,460
24	10,300	20,900	159	44,300	14,700	36,400	53,300	28,000	4,270	6,870	4,340	6,990
25	11,800	18,800	149	53,700	10,600	37,600	63,600	27,800	4,030	6,550	3,960	15,600
26	10,500	9,240	8,590	53,700	12,400	48,700	66,600	27,900	870	7,550	607	13,700
27	12,500	19,500	12,300	53,700	10,400	54,700	59,800	27,500	1,570	8,150	5,300	16,400
28	11,300	12,600	9,180	44,700	9,890	54,300	46,900	28,000	2,500	489	3,520	24,900
29	8,770	12,200	12,600	36,600	-----	57,200	40,400	27,000	5,790	3,650	4,330	24,300
30	14,800	13,100										

ARKANSAS RIVER BASIN

07193000 FORT GIBSON LAKE NEAR FORT GIBSON, OKLA.

LOCATION.--Lat 35°52'16", long 95°13'43", in NW 1/4 NW 1/4 sec.18, T.16 N., R.20 E., Cherokee County, in control tower near left end of Fort Gibson Dam on Neosho River, 4.0 mi (6.4 km) north of Fort Gibson, and at mile 7.7 (12.4 km).

DRAINAGE AREA.--12,492 sq km (32,354 sq km).

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1970 published as Fort Gibson Reservoir near Fort Gibson.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Jan. 13, 1950, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 1,172,000 acre-ft (1.44 cu km) Apr. 24, elevation 579.72 ft (176.699 m); minimum, 338,800 acre-ft (418 cu hm) Oct. 17, elevation, 552.57 ft (168.423 m).
Period of record: Maximum contents, 1,278,000 acre-ft (1,576 cu hm) May 12, 1961, elevation, 581.88 ft (177.357 m); minimum since first use of power pool, 303,800 acre-ft (375 cu hm) May 26, 1955, elevation, 550.56 ft (167.811 m).

REMARKS.--Reservoir is formed by concrete-gravity and earth-fill dam. Regulated storage began Sept. 5, 1949; power pool was first maintained in 1953. Capacity, 1,284,000 acre-ft (1,583 cu hm) at elevation 582.0 ft (177.39 m), flood-control pool, 365,200 acre-ft (450 cu hm) at elevation 554.0 ft (168.86 m), maximum power pool, and 311,300 acre-ft (384 cu hm) at elevation 551.0 ft (167.94 m) (minimum power pool). Figures given herein represent total contents. Reservoir was designed for flood control and power development.

COOPERATION.--Records furnished by Corps of Engineers.

REVISIONS (WATER YEARS).--WSP 1731: 1950(M).

Capacity table (elevation, in feet, and contents, in acre-feet)

552	328,500	573	885,200
559	469,400	580	1,186,000
566	650,900		

CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	343.8	520.4	392.7	397.9	418.5	408.8	1,092	1,035	436.0	367.7	357.0	349.9
2	343.1	549.8	396.1	401.5	415.1	415.3	1,103	1,018	447.0	363.5	356.1	348.8
3	348.8	546.7	403.5	413.2	401.9	408.6	1,120	996.2	505.1	366.3	355.7	349.2
4	357.6	525.4	413.2	425.4	387.5	415.7	1,123	973.7	502.2	372.8	353.8	355.1
5	351.0	505.1	420.2	408.6	400.7	432.3	1,117	956.5	495.2	372.4	355.7	362.7
6	353.4	514.2	416.4	394.5	405.3	448.3	1,105	948.5	485.0	361.8	365.2	371.3
7	350.1	524.1	409.9	393.7	412.8	477.0	1,081	972.1	469.4	362.5	362.9	370.9
8	350.1	506.5	389.3	398.1	392.5	503.4	1,058	1,004	456.2	363.7	355.9	371.7
9	349.6	470.8	387.9	406.5	382.9	526.8	1,049	1,012	435.8	360.1	365.4	370.1
10	347.0	427.9	384.1	395.9	378.9	602.8	1,022	997.0	412.6	376.4	357.2	366.0
11	345.1	411.5	396.9	394.1	379.9	678.4	975.4	971.7	396.3	385.3	361.0	366.3
12	346.5	407.8	402.1	401.5	386.5	729.2	933.3	938.1	378.1	383.3	358.0	356.3
13	342.9	463.9	400.3	403.7	392.3	772.4	897.4	901.2	381.7	373.2	352.1	355.5
14	344.3	492.6	403.5	395.5	394.3	823.4	873.4	863.4	385.1	378.9	350.1	348.7
15	343.1	503.9	380.5	406.1	399.7	853.4	896.6	823.8	391.9	372.2	348.3	359.7
16	339.7	501.5	373.2	417.2	389.1	863.8	979.5	764.6	385.7	383.3	361.4	373.4
17	341.1	494.3	373.8	420.6	392.9	845.7	1,025	677.2	385.3	384.1	364.2	364.4
18	344.7	486.6	364.4	422.9	368.0	822.0	1,037	590.5	389.3	372.6	366.0	367.7
19	348.8	466.0	360.4	421.6	367.1	801.2	1,059	548.5	386.1	364.4	369.0	369.0
20	349.2	503.9	364.4	429.8	367.3	785.0	1,074	526.1	389.9	361.6	373.2	369.0
21	351.4	527.1	370.7	449.2	374.1	765.6	1,072	501.7	392.7	362.7	370.7	367.3
22	376.2	519.1	380.9	480.0	377.0	743.4	1,106	481.4	358.0	362.9	358.0	362.0
23	399.9	484.8	373.4	486.4	378.1	716.1	1,171	482.5	359.3	371.5	355.3	358.7
24	398.5	480.0	361.2	499.3	386.1	759.6	1,163	483.9	347.0	372.2	355.1	361.0
25	401.9	462.3	351.7	514.0	386.9	856.0	1,160	483.0	347.8	374.7	353.4	378.5
26	400.1	426.7	356.8	518.4	390.1	898.1	1,167	484.4	343.3	369.2	352.1	396.3
27	405.9	417.4	367.1	532.8	390.9	906.2	1,159	482.5	348.1	367.7	352.1	417.2
28	407.1	403.9	369.0	529.6	388.7	909.8	1,127	483.0	346.5	352.1	350.3	454.9
29	401.1	400.5	374.1	502.7	-----	926.9	1,093	481.4	361.4	357.2	349.4	486.2
30	418.3	396.9	378.7	449.2	-----	968.4	1,053	465.3	375.3	363.7	347.9	500.3
31	445.9	-----	388.7	420.8	-----	1,046	-----	454.3	-----	358.0	346.7	-----
MAX	445.9	549.8	420.2	532.8	418.5	1,046	1,171	1,035	505.1	385.3	373.2	500.3
MIN	339.7	396.9	351.7	393.7	367.1	408.6	873.4	454.3	343.3	352.1	346.7	348.7
(†)	557.95	555.62	555.21	556.78	555.21	576.96	577.11	558.33	554.53	553.62	553.01	560.32
(‡)	+101.6	-49.0	-8.2	+32.1	-32.1	+673.3	+7.0	-798.7	-79.0	-17.3	-11.3	+153.6

CAL YR 1972.....‡ -15.6

WTR YR 1973.....‡ +156.0

† Elevation, in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

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LOCATION.--Lat 35°51'15", long 95°13'45", in SE 1/4 NW 1/4 sec.19, T.16 N., R.20 E., Cherokee County, on left bank 1.1 mi (1.8 km) downstream from Fort Gibson Dam, 4.5 mi (7.2 km) north of Fort Gibson, and at mile 6.6 (10.6 km).

PERIOD OF RECORD.--May 1950 to current year. Prior to October 1970 published as Neosho River below Fort Gibson Reservoir, near Fort Gibson.

EXTREMES.--Current year: Maximum discharge, 72,000 cfs (2,040 cu m/s) May 17; maximum gage height, 20.66 ft (6.297 m) Apr. 21; minimum daily discharge, 15 cfs (0.42 cu m/s) Sept. 15.
Period of record: Maximum discharge, 223,000 cfs (6,320 cu m/s) May 26, 1957, gage height, 37.60 ft (11.460 m); minimum, 12 cfs (0.34 cu m/s), Oct. 10, 1957, Aug. 23, 1964.

COOPERATION.--Gage-height record and 24 discharge measurements furnished by Corps of Engineers, records computed by Geological Survey.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	20,700	13,400	11,000	24,700	11,100	36,800	50,300	25,700	6,930	7,310	16
2	344	28,100	11,100	10,900	26,400	15,300	51,500	42,700	25,300	4,240	3,440	617
3	498	43,100	10,900	13,100	30,800	21,400	47,000	47,000	28,000	4,390	1,180	23
4	4,600	49,400	11,800	20,200	29,200	21,200	42,500	46,600	42,000	5,650	2,880	2,180
5	3,290	48,400	15,500	26,000	25,300	21,800	45,000	42,300	43,400	5,340	1,330	4,570
6	1,260	35,300	15,500	20,100	25,600	21,600	46,000	36,800	42,800	6,700	1,920	5,030
7	1,550	32,500	15,800	14,500	25,700	23,600	50,000	25,400	41,700	4,870	5,350	5,800
8	23	45,200	13,800	14,300	25,200	29,000	52,100	29,800	41,000	412	6,740	5,670
9	357	46,000	11,000	14,600	25,000	28,100	41,000	41,300	43,800	3,100	6,090	5,200
10	1,420	32,300	11,000	14,400	24,800	19,800	48,000	45,700	44,700	4,770	6,210	4,140
11	1,350	19,700	11,100	13,100	21,700	12,900	52,100	49,000	43,100	9,220	2,290	4,660
12	1,520	19,500	11,000	11,000	19,600	22,900	49,500	48,600	32,200	10,200	1,070	6,090
13	1,700	20,200	12,400	11,000	19,700	52,700	47,100	47,900	17,200	11,100	4,950	4,350
14	16	25,800	16,200	10,900	19,700	45,000	46,500	48,500	13,900	10,100	4,430	4,010
15	18	34,700	14,400	10,900	19,700	33,000	42,000	48,500	13,700	6,020	4,560	15
16	2,040	40,400	11,100	11,000	19,700	32,000	12,000	57,100	13,700	4,950	1,780	2,420
17	499	42,700	11,300	14,200	19,800	42,000	34,000	71,800	13,700	5,300	3,640	6,590
18	1,240	42,400	11,200	19,100	18,600	45,000	52,000	70,000	14,000	8,860	5,240	3,280
19	1,260	34,200	11,300	20,900	15,100	44,200	52,000	49,400	12,400	8,240	1,890	3,140
20	1,300	500	4,530	20,900	13,700	44,900	54,000	37,200	11,500	7,160	5,420	5,940
21	45	11,700	9,110	21,300	11,200	45,800	57,000	38,300	11,300	1,700	6,690	5,460
22	951	19,300	7,310	27,000	11,200	48,600	48,000	38,200	11,600	424	6,550	4,960
23	11,400	21,200	6,420	37,200	11,300	52,000	25,000	26,900	11,700	961	6,070	4,490
24	11,400	23,400	5,310	38,100	11,200	26,900	60,000	26,700	11,300	5,100	4,820	5,020
25	11,300	27,000	4,960	47,500	11,200	2,000	66,000	26,600	3,700	6,650	4,470	5,080
26	11,500	26,300	5,420	53,500	11,100	29,000	67,000	26,600	3,690	9,810	685	7,810
27	11,300	25,400	7,130	49,800	11,000	52,300	66,000	26,900	1,800	9,280	5,020	11,300
28	11,300	20,700	8,490	47,700	11,100	52,400	61,600	26,900	3,650	8,810	4,620	13,900
29	11,300	15,100	9,070	50,700	-----	47,000	55,000	26,800	3,280	1,820	4,740	10,900
30	11,300	15,100	10,700									

ARKANSAS RIVER BASIN

07195500 ILLINOIS RIVER NEAR WATTS, OKLA.

LOCATION.--Lat 36°07'48", long 94°34'12", in NE 1/4 sec.18, T.19 N., R.26 E., Adair County, near right bank on downstream side of pier of bridge on U.S. Highway 59, 1.5 mi (2.4 km) north of Watts, 4.5 mi (7.2 km) downstream from Cincinnati Creek, and at mile 106.2 (170.9 km).

DRAINAGE AREA.--635 sq mi (1,645 sq km).

PERIOD OF RECORD.--August 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 893.78 ft (272.424 m) above mean sea level.

AVERAGE DISCHARGE.--18 years, 565 cfs (16.0 cu m/s), 12.09 inches/yr (307 mm/yr), 409,300 acre-ft/yr (505 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 18,400 cfs (521 cu m/s) Mar. 11, gage height, 18.28 ft (5.572 m); minimum, 63 cfs (1.78 cu m/s) July 27, 28.

Period of record: Maximum discharge, 68,000 cfs (1,930 cu m/s) July 25, 1960, gage height, 25.96 ft (7.913 m), from rating curve extended above 51,000 cfs (1,440 cu m/s); minimum, 8.6 cfs (0.24 cu m/s) Oct. 26, 1955, Sept. 19, Oct. 14, 1956.

REMARKS.--Records good. Some regulation at low flow by Lake Francis Dam, 0.8 mile (1.29 km) above station. Since July 2, 1957, small diversion above station for municipal water supply for city of Siloam Springs, Ark.

COOPERATION.--Gage-height record and 29 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	621	5,450	523	387	1,660	730	2,860	1,630	2,150	626	255	215
2	411	5,730	496	356	1,740	5,380	2,160	1,560	1,650	557	249	271
3	285	2,460	468	466	1,280	3,290	2,560	1,390	8,400	512	243	366
4	242	1,530	447	1,200	1,080	2,110	4,370	1,240	6,920	450	240	259
5	218	1,140	422	939	964	1,680	2,680	1,130	3,780	434	233	602
6	193	1,100	414	779	872	1,670	2,120	1,060	3,510	437	228	476
7	180	2,010	393	693	1,800	2,540	1,830	2,470	2,200	426	226	371
8	167	1,300	369	619	7,920	2,080	1,730	2,520	1,700	416	219	321
9	157	1,020	366	559	3,230	1,690	2,010	1,580	1,410	402	215	334
10	147	787	349	515	2,060	7,220	1,830	1,290	1,220	418	237	305
11	129	752	346	485	1,590	12,000	1,540	1,750	1,080	438	311	260
12	122	693	391	460	1,340	3,690	1,380	3,910	975	421	326	250
13	121	3,120	440	431	1,230	2,490	1,260	1,920	897	393	267	275
14	120	3,580	491	419	1,110	2,180	1,160	1,520	841	375	249	247
15	121	1,800	497	431	960	1,800	1,140	1,290	784	385	258	241
16	119	1,330	466	471	864	1,490	5,940	1,130	715	505	334	232
17	116	1,040	431	479	804	1,310	3,870	1,030	738	549	299	215
18	107	934	415	885	751	1,160	2,410	941	724	541	266	206
19	105	965	437	2,610	717	959	2,760	870	910	351	243	206
20	107	1,020	501	1,510	687	1,630	3,830	807	3,100	378	226	196
21	145	906	499	4,060	656	1,280	3,030	791	1,460	451	217	199
22	627	883	478	5,930	638	1,150	5,380	1,090	1,040	407	213	197
23	881	841	456	3,360	494	1,030	11,500	997	858	318	209	197
24	554	788	427	2,200	455	2,510	4,320	1,060	758	208	203	206
25	430	762	404	1,700	538	11,100	3,620	1,010	685	267	196	235
26	354	771	379	1,530	523	5,060	5,590	930	584	297	191	403
27	304	721	365	1,650	508	3,000	3,990	2,060	568	178	186	356
28	269	654	363	1,380	499	2,260	2,700	2,030	562	68	196	645
29	245	596	355	1,190	-----	1,840	2,160	1,310	550	90	226	1,410
30	262	550	344	968	-----	1,610	1,830	1,090	598	181	280	688
31	1,840	-----	412	985	-----	3,020	-----	1,110	-----	247	238	-----
TOTAL	9,699	45,233	13,144	39,647	36,970	90,959	93,560	44,516	51,367	11,726	7,479	10,384
MEAN	313	1,508	424	1,279	1,320	2,934	3,119	1,436	1,712	378	241	346
MAX	1,840	5,730	523	5,930	7,920	12,000	11,500	3,910	8,400	626	334	1,410
MIN	105	550	344	356	455	730	1,140	791	550	68	186	196
CF8M	.49	2.37	.67	2.01	2.08	4.62	4.91	2.26	2.70	.60	.38	.54
IN	.57	2.65	.77	2.32	2.17	5.33	5.48	2.61	3.01	.69	.44	.61
AC=FT	19,240	89,720	26,070	78,640	73,330	180,400	185,600	88,300	101,900	23,260	14,830	20,600

CAL YR 1972 TOTAL 167,829 MEAN 459 MAX 6,430 MIN 46 CF8M .72 IN 9.83 AC=FT 332,900
WTR YR 1973 TOTAL 454,684 MEAN 1,246 MAX 12,000 MIN 68 CF8M 1.96 IN 26.64 AC=FT 901,900

PEAK DISCHARGE (BASE, 6,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-01	1930	11.66	6,890	3-25	0715	15.54	12,900
1-22	0915	11.39	6,570	4-16	1830	12.59	8,070
2-08	1245	14.89	11,600	4-23	0100	17.45	16,400
3-02	1615	11.68	7,040	6-03	2300	16.14	13,800
3-11	0515	18.28	18,400				

ARKANSAS RIVER BASIN

67

07196000 FLINT CREEK NEAR KANSAS, OKLA.

LOCATION.--Lat 36°11'54", long 94°42'30", in SW 1/4 sec.24, T.20 N., R.24 E., Delaware County, near left bank on downstream side of pier of bridge on State Highway 33, 6.0 mi (9.7 km) southeast of Kansas, 6.0 mi (9.7 km) downstream from Sager Creek, and at mile 2.8 (4.5 km).

DRAINAGE AREA.--110 sq mi (285 sq km).

PERIOD OF RECORD.--August 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 854.59 ft (260.479 m) above mean sea level.

AVERAGE DISCHARGE.--18 years, 104 cfs (2.945 cu m/s), 12.83 in/yr (326 mm/yr), 75,350 acre-ft/yr (92.9 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 8,520 cfs (241 cu m/s) Mar. 10, gage height, 11.40 ft (3.475 m); minimum daily, 19 cfs (0.54 cu m/s) Oct. 9-12.

Period of record: Maximum discharge, 23,600 cfs (668 cu m/s) Aug. 14, 1961, gage height, 15.66 ft (4.773 m), from rating curve extended above 7,200 cfs (204 cu m/s); minimum daily, 0.6 cfs (0.017 cu m/s) Oct. 11-13, 1956.

REMARKS.--Records good. Small diversion above station for irrigation.

COOPERATION.--Gage-height record and 29 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	811	136	86	306	134	648	601	236	148	66	44
2	27	739	129	83	317	702	480	874	248	133	65	50
3	24	436	120	158	286	464	1,010	499	1,720	126	62	51
4	22	316	108	262	264	401	881	394	743	119	60	52
5	21	256	89	212	250	355	583	329	690	114	56	773
6	20	240	84	186	233	396	447	298	528	108	55	238
7	20	251	83	170	313	496	391	544	418	103	55	191
8	20	221	83	152	493	404	355	416	348	99	53	172
9	19	202	82	138	388	381	453	334	301	95	53	231
10	19	180	79	147	328	2,880	379	288	264	129	54	162
11	19	162	79	139	287	1,560	332	671	236	117	60	127
12	19	149	89	129	261	734	307	587	218	109	57	112
13	21	933	97	121	237	563	283	374	214	101	52	108
14	25	557	104	106	220	473	266	305	203	97	51	98
15	31	399	106	101	202	393	333	267	177	166	55	90
16	31	315	102	96	187	345	1,930	243	152	124	73	82
17	33	264	99	95	173	314	759	219	166	133	64	76
18	35	240	95	409	164	288	545	203	166	141	58	75
19	35	232	109	447	152	274	559	187	1,310	111	53	72
20	33	227	125	351	142	283	527	175	996	95	51	70
21	32	221	123	1,060	132	253	410	175	512	88	50	68
22	143	217	120	1,110	120	226	570	196	372	85	49	71
23	117	197	127	694	111	214	874	186	311	84	47	72
24	90	193	122	508	107	786	556	180	275	97	47	71
25	88	197	117	402	103	1,520	887	178	241	93	46	94
26	80	193	112	358	97	795	742	162	216	86	44	99
27	55	185	108	329	93	541	596	243	202	81	43	121
28	43	173	103	290	91	443	469	219	184	77	45	599
29	38	161	96	261	-----	371	398	197	175	76	50	376
30	44	150	95	243	-----	351	347	179	167	73	50	280
31	283	-----	88	232	-----	1,040	-----	235	-----	67	47	-----
TOTAL	1,523	9,017	3,209	9,075	6,057	18,380	17,317	9,958	11,989	3,275	1,671	4,725
MEAN	49.1	301	104	293	216	593	577	321	400	106	53.9	158
MAX	283	933	136	1,110	493	2,880	1,930	874	1,720	166	73	773
MIN	19	149	79	83	91	134	266	162	152	67	43	44
CF8M	.45	2.74	.95	2.66	1.96	5.39	5.25	2.92	3.64	.96	.49	1.44
IN.	.52	3.05	1.09	3.07	2.05	6.22	5.86	3.37	4.05	1.11	.57	1.60
AC-FT	3,020	17,890	6,370	18,000	12,010	36,460	34,350	19,750	23,780	6,500	3,310	9,370

CAL YR 1972 TOTAL 38,239.75 MEAN 104 MAX 2,060 MIN 0 CFSM .95 IN 12.93 AC-FT 75,850
WTR YR 1973 TOTAL 96,196.00 MEAN 264 MAX 2,880 MIN 19 CFSM 2.40 IN 32.53 AC-FT 190,800

PEAK DISCHARGE (BASE, 2,500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-10	1845	11.40	8,520	6-3	0700	9.00	2,930
4-16	0430	9.27	3,500	6-14	1800	9.31	3,580

ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OKLA.

LOCATION.--Lat 35°55'17", long 94°55'15", in SE 1/4 sec.26, T.17 N., R.22 E., Cherokee County, near center of span on downstream side of pier of bridge 0.2 mi (0.3 km) downstream from U.S. Highway 62, 2.2 mi (3.5 km) northeast of Tahlequah, 6.5 mi (10.5 km) upstream from Barren Fork, and at mile 55.8 (89.8 km).

DRAINAGE AREA.--959 sq mi (2,484 sq km).

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1511.

GAGE.--Water-stage recorder. Datum of gage is 664.14 ft (202.430 m) above mean sea level (Corps of Engineers bench mark). Prior to Feb. 23, 1939, nonrecording gage.

AVERAGE DISCHARGE.--38 years, 870 cfs (24.64 cu m/s), 12.32 in/yr (313 mm/yr), 630,300 acre-ft/yr (777 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 18,200 cfs (515 cu m/s) Mar. 12, gage height, 15.89 ft (4.843 m); minimum, 137 cfs (3.88 cu m/s) Oct. 21.
Period of record: Maximum discharge, 150,000 cfs (4,250 cu m/s) May 10, 1950, gage height, 27.94 ft (8.516 m), from rating curve extended above 77,000 cfs (2,180 cu m/s) on basis of slope-area measurement of peak flow; minimum daily, 0.1 cfs (2.8 l/s) Oct. 10-14, 1956.
Flood in January 1916 reached a stage of about 26 ft (7.9 m).

REMARKS.--Records good.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,960	3,500	946	643	1,470	763	5,190	2,580	1,650	1,000	314	362
2	1,110	7,640	892	649	2,090	1,790	4,320	3,800	2,600	1,000	358	351
3	744	7,630	840	723	2,390	6,310	3,590	3,120	5,080	927	366	328
4	548	3,790	786	1,040	1,940	4,920	5,290	2,450	10,900	848	359	424
5	404	2,380	742	1,630	1,680	3,340	6,200	2,040	10,000	878	350	578
6	327	1,880	694	1,590	1,500	2,890	4,050	1,790	5,670	805	340	1,440
7	283	1,700	658	1,430	1,530	3,340	3,120	1,750	4,740	784	331	1,210
8	251	2,170	634	1,290	3,040	3,880	2,680	3,160	3,220	740	321	949
9	227	1,810	603	1,160	8,380	3,320	2,630	3,030	2,530	719	316	1,180
10	205	1,520	579	1,060	5,050	4,310	2,820	2,150	2,100	696	313	1,140
11	190	1,290	563	981	3,190	12,800	2,560	1,810	1,810	728	345	915
12	182	1,190	578	916	2,520	15,400	2,200	2,880	1,620	722	369	735
13	166	1,870	613	865	2,120	5,940	1,950	4,310	1,470	699	420	810
14	155	4,520	647	815	1,870	3,950	1,770	2,570	1,390	654	393	843
15	150	4,870	713	782	1,660	3,190	1,750	1,970	1,300	665	369	720
16	149	2,800	742	765	1,470	2,650	5,310	1,670	1,260	703	682	630
17	150	2,080	728	784	1,340	2,200	9,470	1,470	1,830	759	684	560
18	147	1,710	700	1,000	1,230	1,910	5,840	1,320	1,360	878	572	503
19	146	1,560	697	2,040	1,140	1,700	3,750	1,200	1,390	872	506	451
20	141	1,490	727	3,420	1,080	1,600	4,090	1,100	3,370	763	445	411
21	147	1,500	796	3,420	1,020	1,990	4,680	1,090	4,550	583	396	387
22	556	1,440	829	6,560	968	1,770	4,200	1,110	2,800	671	370	375
23	1,020	1,380	814	8,380	924	1,580	7,190	1,290	2,060	646	353	368
24	1,220	1,340	796	5,230	844	1,980	12,700	1,290	1,690	643	338	363
25	900	1,300	756	3,360	670	7,090	6,520	1,290	1,470	515	322	862
26	772	1,260	723	2,590	738	13,400	5,670	1,260	1,310	459	310	1,200
27	646	1,230	688	2,250	726	6,220	6,830	1,250	1,180	478	300	1,500
28	533	1,180	661	2,170	699	4,480	4,970	2,130	1,060	461	288	5,890
29	438	1,100	643	1,870	-----	3,360	3,550	2,300	1,060	346	282	4,870
30	389	1,020	654	1,630	-----	2,760	2,870	1,660	1,050	276	298	3,510
31	906	-----	635	1,410	-----	3,340	-----	1,530	-----	257	355	-----
TOTAL	15,162	70,150	22,077	62,453	53,279	134,173	137,760	62,370	83,520	21,175	11,765	33,865
MEAN	489	2,338	712	2,015	1,903	4,328	4,592	2,012	2,784	683	380	1,129
MAX	1,960	7,640	946	8,380	8,380	15,400	12,700	4,310	10,900	1,000	684	5,890
MIN	141	1,020	563	643	670	763	1,750	1,090	1,050	257	282	328
CFSM	.51	2.44	.74	2.10	1.98	4.51	4.79	2.10	2.90	.71	.40	1.18
IN	.59	2.72	.86	2.42	2.07	5.20	5.34	2.42	3.24	.82	.46	1.31
AC-FT	30,070	139,100	43,790	123,900	105,700	266,100	273,200	123,700	165,700	42,000	23,340	67,170

CAL YR 1972 TOTAL 249,547 MEAN 682 MAX 7,640 MIN 89 CFSM .71 IN 9.68 AC-FT 495,000
WTR YR 1973 TOTAL 707,749 MEAN 1,939 MAX 15,400 MIN 141 CFSM 2.02 IN 27.45 AC-FT 1,404,000

PEAK DISCHARGE (BASE, 9,000 CFS REVISED)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
2-09	1730	12.52	10,000	4-17	1745	12.45	9,900
3-12	0715	15.89	18,200	4-24	0615	14.28	13,900
3-26	1215	14.58	14,600	6-05	0315	14.03	13,300

ARKANSAS RIVER BASIN

69

07196900 Baron Fork at Dutch Mills, Ark.

LOCATION.--Lat 35°52'48", long 94°29'11", on line between secs.21 and 22, T.14 N., R.33 W., Washington County, near right bank on downstream side of bridge on State Highway 59 at Dutch Mills, 2.2 mi (3.5 km) downstream from Fly Creek, and 2.9 mi (4.7 km) upstream from Arkansas-Oklahoma State line.

DRAINAGE AREA.--46.0 mi² (119 km²).

PERIOD OF RECORD.--April 1958 to current year. Prior to October 1969, published as Barren Fork at Dutch Mills.

GAGE.--Water-stage recorder. Datum of gage is 986.47 ft (300.676 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 37.1 ft³/s (1.05 m³/s), 10.95 in/yr (278 mm/yr), 26,880 acre-ft/yr (33.1 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 14,200 ft³/s (402 m³/s) Apr. '22, gage height, 12.86 ft (3.920 m); minimum, 0.82 ft³/s (0.023 m³/s) Oct. 12-14.

Period of record: Maximum discharge, 17,100 ft³/s (484 m³/s) July 13, 1972, gage height, 13.74 ft (4.188 m), from rating curve extended above 2,900 ft³/s (82.1 m³/s) on basis of contracted-opening measurement at 12,900 ft³/s (365 m³/s); no flow at times in 1963, 1967.

REMARKS.--Records good. Water-quality records for the current year are published in Part 2 of the Arkansas State report.

REVISIONS.--WRD Ark. 1970: Drainage area.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	471	27	25	290	283	127	90	149	42	3.8	6.2
2	1.7	161	25	22	124	362	98	81	555	31	3.5	9.0
3	1.2	74	24	85	91	139	285	66	1,340	24	2.9	3.2
4	1.1	48	22	80	77	115	174	58	225	22	2.9	2.3
5	1.1	35	21	58	67	92	117	52	540	21	2.6	3.2
6	1.7	139	19	46	62	179	95	59	198	19	2.3	4.1
7	1.5	91	17	41	657	232	104	507	120	16	2.3	4.1
8	1.4	55	17	36	318	129	108	121	88	14	2.3	3.5
9	1.4	42	17	31	151	190	126	81	71	13	2.3	2.6
10	1.1	44	16	29	110	1,480	95	63	59	12	4.7	2.3
11	1.0	33	14	26	91	295	81	136	52	17	7.1	2.1
12	.79	32	22	25	84	162	72	78	47	12	4.4	2.1
13	.82	369	29	22	75	123	63	57	42	10	3.5	3.2
14	.90	115	32	22	64	110	58	47	40	9.0	2.6	3.1
15	1.1	78	29	30	54	87	296	41	36	9.0	5.1	2.5
16	.87	63	25	31	44	75	479	37	34	10	16	2.6
17	.90	51	23	29	39	65	176	33	53	11	8.5	2.5
18	.97	50	22	247	36	59	126	30	35	9.6	5.1	2.3
19	1.2	78	24	121	33	54	373	27	112	7.5	4.1	2.2
20	1.2	62	25	129	32	50	186	25	76	6.6	3.5	2.0
21	2.7	55	25	474	31	45	134	23	46	6.2	3.2	1.9
22	19	55	22	235	30	41	2,530	23	55	5.8	2.9	1.9
23	13	49	21	126	28	43	455	26	61	5.4	2.9	1.8
24	11	45	18	93	26	487	233	25	35	5.4	3.2	3.1
25	7.8	47	17	77	25	473	365	27	27	5.1	3.5	8.8
26	6.4	49	16	104	23	257	273	442	23	4.7	3.5	6.0
27	5.8	42	15	92	22	150	178	497	23	4.4	3.8	4.6
28	5.2	36	14	75	21	114	131	97	20	4.1	4.1	89
29	4.9	32	14	61	-----	93	105	66	163	4.1	4.4	24
30	34	30	37	56	-----	83	89	47	82	4.4	4.7	14
31	350	-----	33	62	-----	293	-----	336	-----	4.4	4.7	-----
TOTAL	484.45	2,531	682	2,590	2,705	6,360	7,732	3,298	4,407	369.7	130.4	220.2
MEAN	15.6	84.4	22.0	83.5	96.6	205	258	106	147	11.9	4.21	7.34
MAX	350	471	37	474	657	1,480	2,530	507	1,340	42	16	89
MIN	.79	30	14	22	21	41	58	23	20	4.1	2.3	1.8
CFSM	.34	1.83	.48	1.82	2.10	4.46	5.61	2.30	3.20	.26	.09	.16
IN	.39	2.05	.55	2.09	2.19	5.14	6.25	2.67	3.56	.30	.11	.18
AC-FT	961	5,020	1,350	5,140	5,370	12,620	15,340	6,540	8,740	733	259	437

CAL YR 1972 TOTAL 11,224.71 MEAN 30.7 MAX 1,980 MIN .36 CFSM .67 IN 9.08 AC-FT 22,260
WTR YR 1973 TOTAL 31,509.75 MEAN 86.3 MAX 2,530 MIN .79 CFSM 1.88 IN 25.48 AC-FT 62,500

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
2- 7	1615	7.58	2,690	4-22	0330	12.86	14,200
3-10	1230	9.92	6,310	5-26	2330	9.41	5,330
4-15	2245	7.25	2,320	6- 3	0100	8.98	4,570

ARKANSAS RIVER BASIN

07197000 BARON FORK AT ELDON, OKLA.

LOCATION.--Lat 35°55'16", long 94°50'18", in SE 1/4 sec.27, T.17 N., R.23 E., Cherokee County, on downstream side of left pier of bridge on State Highway 51, 0.4 mi (0.6 km) southeast of Eldon, 6.0 mi (9.7 km) downstream from Tyner Creek, and at mile 8.8 (14.2 km).

DRAINAGE AREA.--307 sq mi (795 sq km).

PERIOD OF RECORD.--October 1948 to current year. Prior to October 1970 published as Barren Fork at Eldon.

GAGE.--Water-stage recorder. Datum of gage is 701.14 ft (213.707 m) above mean sea level (levels by Corps of Engineers). Prior to Dec. 14, 1948, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--25 years, 284 cfs (8.043 cu m/s), 12.55 in/yr (319 cu mm/yr), 205,800 acre-ft/yr (254 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 18,900 cfs (535 cu m/s) Mar. 10, gage height, 17.77 ft (5.416 m); minimum, 29 cfs (0.82 cu m/s) Oct. 11.

Period of record: Maximum discharge, 37,600 cfs (1,070 cu m/s) Apr. 3, 1957, gage height, 20.33 ft (6.197 m), maximum gage height, 21.13 ft (6.440 m), Oct. 27, 1970; minimum, 1.7 cfs (0.048 cu m/s) Oct. 25, 1956.

Flood of Apr. 15, 1945, reached a stage of 23.8 ft (7.25 m), from information by local resident.

REMAKRS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	2,010	303	184	842	234	1,440	744	971	382	99	71
2	42	2,490	282	172	1,040	2,300	1,140	760	690	298	92	79
3	41	1,380	262	190	830	1,770	1,220	663	6,350	251	87	79
4	40	962	242	362	707	1,280	1,880	587	2,480	224	83	69
5	40	740	226	424	626	1,050	1,400	535	2,160	354	79	64
6	39	648	210	402	560	963	1,160	503	1,800	358	75	70
7	38	912	194	379	743	1,550	1,000	1,580	1,250	304	72	68
8	37	728	181	353	3,700	1,350	937	1,290	943	266	69	65
9	36	593	169	326	1,910	1,080	987	881	744	241	68	64
10	34	510	160	301	1,330	5,210	914	698	623	226	82	62
11	33	462	153	278	1,060	7,070	799	659	541	212	129	60
12	32	411	164	257	872	2,410	720	755	480	197	126	62
13	32	992	173	238	750	1,750	661	582	428	182	94	84
14	32	1,410	186	222	645	1,450	602	499	394	167	121	71
15	33	980	201	212	560	1,210	592	445	372	193	159	62
16	32	777	205	212	492	1,060	4,100	404	350	171	146	62
17	31	644	200	214	436	886	2,200	370	386	186	127	60
18	30	562	197	340	398	774	1,490	343	367	191	113	60
19	30	544	199	999	368	694	1,500	322	521	169	102	58
20	30	567	203	832	339	664	1,930	302	880	148	100	56
21	34	537	205	1,670	312	611	1,310	287	684	143	99	55
22	128	518	203	2,080	290	562	5,170	275	546	138	92	54
23	173	496	199	1,500	269	536	5,140	274	483	133	86	52
24	167	471	190	1,140	252	1,130	2,380	265	438	129	81	55
25	151	452	182	916	237	4,740	1,840	252	372	123	77	590
26	131	436	172	790	222	3,010	1,760	245	331	116	73	894
27	117	417	163	775	208	2,060	1,410	1,420	300	111	66	1,040
28	106	385	156	681	195	1,540	1,140	752	274	106	57	2,440
29	97	350	152	599	-----	1,230	954	479	265	105	55	1,370
30	95	324	155	538	-----	1,060	816	375	448	103	65	949
31	509	-----	169	501	-----	1,540	-----	447	-----	101	69	-----
TOTAL	2,412	22,708	6,056	18,087	20,193	52,774	48,592	17,993	26,871	6,028	2,843	8,825
MEAN	77.8	757	195	583	721	1,702	1,620	580	896	194	91.7	294
MAX	509	2,490	303	2,080	3,700	7,070	5,170	1,580	6,350	382	159	2,440
MIN	30	324	152	172	195	234	592	245	265	101	55	52
CFSM	.25	2.47	.64	1.90	2.35	5.54	5.28	1.89	2.92	.63	.30	.96
IN.	.29	2.75	.73	2.19	2.45	6.39	5.89	2.18	3.26	.73	.34	1.07
AC=FT	4,780	45,040	12,010	35,880	40,050	104,700	96,380	35,690	53,300	11,960	5,640	17,500

CAL YR 1972 TOTAL 89,081 MEAN 243 MAX 5,300 MIN 23 CFSM .79 IN 10.79 AC=FT 176,700
WTR YR 1973 TOTAL 233,382 MEAN 639 MAX 7,070 MIN 30 CFSM 2.08 IN 28.28 AC=FT 462,900

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-10	2345	17.77	18,900	4-22	1600	15.20	10,800
4-16	1200	13.06	6,390	6-03	1445	15.48	11,600

07197500 TENKILLER FERRY LAKE NEAR GORE, OKLA.

LOCATION.--Lat 35°35'48", long 95°02'57", in SE 1/4 SW 1/4 sec.14, T.13 N., R.21 E., Sequoyah County, at gage tower on right bank, 0.6 mile (1.0 km) upstream from Tenkiller Ferry Dam on Illinois River, 6.0 mi (9.7 km) northeast of Gore, and at mile 12.8 (20.6 km).

DRAINAGE AREA.--1,610 sq mi (4,170 sq km).

PERIOD OF RECORD.--July 1952 to current year. Prior to October 1970 published as Tenkiller Ferry Reservoir near Gore.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Apr. 5, 1953, nonrecording gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 1,152,000 acre-ft (1.42 cu km) Apr. 25, elevation, 663.14 ft (202.125 m); minimum, 492,800 acre-ft (608 cu hm) Oct. 20, elevation, 618.21 ft (188.430 m).
Period of record: Maximum contents, 1,217,600 acre-ft (1,500 cu hm) June 5, 1957, elevation, 666.36 ft (203.107 m); minimum since conservation pool was first filled, 305,700 acre-ft (377 cu hm) Oct. 21, 1954, elevation, 597.50 ft (182.118 m).

REMARKS.--Reservoir is formed by earth dam. Spillway consists of 590-ft (179.8 m) concrete modified ogee weir in right abutment controlled by 10 taintor gates. Outlet works consist of a 19-foot (5.8 m) diameter tunnel in right abutment controlled by two vertical-lift gates. A similar tunnel conducts water to two hydroelectric turbines. Closure was made for diversion in July 1950 and regulated storage began in July 1952; conservation pool was first filled Apr. 9, 1953. Capacity, 1,231,000 acre-ft (1,520 cu hm) at elevation 667.0 ft (203.302 m), flood-control pool, 791,900 acre-ft (976 cu hm) at elevation 642.0 ft (195.68 m), spillway crest, 628,700 acre-ft at elevation 630.0 ft (192.02 m), maximum power pool, and 283,100 acre-ft (349 cu hm) at elevation 594.5 ft (181.20 m), conservation and minimum power pool. Figures given herein represent total contents. Reservoir is used for flood control and for power development.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)

618	490,700	634	680,300	652	949,000
623	545,200	640	762,500	658	1,055,000
628	604,100	646	852,000	664	1,169,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	504.8	528.3	657.0	639.4	700.9	653.8	926.9	1,103	729.0	666.0	632.0	581.4
2	506.6	549.0	659.6	638.9	701.2	661.0	933.8	1,092	737.5	664.2	632.3	580.5
3	507.6	568.9	661.7	640.9	701.8	672.2	941.8	1,080	758.9	661.8	632.8	580.5
4	508.2	580.2	661.7	640.0	701.3	681.7	951.6	1,065	774.3	659.9	633.3	581.2
5	508.8	587.2	659.9	640.4	700.0	685.9	962.1	1,050	784.4	657.8	633.5	582.0
6	509.3	593.2	656.1	645.1	698.0	691.4	968.0	1,037	781.9	654.1	632.0	583.7
7	509.5	598.4	651.7	646.2	704.0	697.5	971.8	1,028	775.1	651.0	628.9	583.5
8	509.7	604.1	648.3	643.6	712.7	703.7	975.1	1,018	764.1	651.6	624.6	584.9
9	509.7	608.7	649.4	641.7	720.2	708.3	977.4	1,006	751.2	650.4	617.9	585.4
10	509.7	612.7	649.4	639.9	719.4	729.4	979.9	992.6	737.2	649.4	613.3	586.0
11	509.1	616.4	646.2	637.9	712.7	766.0	981.3	977.2	726.6	648.3	613.9	585.9
12	509.1	621.1	643.4	635.6	704.4	800.1	982.4	963.6	719.7	647.2	614.2	585.7
13	507.0	627.5	643.6	634.2	694.8	812.5	980.4	953.6	714.1	645.8	612.6	585.8
14	507.3	637.7	642.3	635.8	684.9	818.4	975.8	940.1	708.7	647.8	611.4	584.4
15	507.0	648.9	642.0	635.7	673.8	822.2	984.9	925.1	702.5	649.1	610.7	585.4
16	505.7	654.4	641.1	635.1	666.7	823.5	1,005	909.2	697.7	649.9	609.4	586.3
17	503.1	655.7	642.3	634.0	663.4	824.1	1,025	892.9	694.2	648.6	608.2	586.8
18	499.8	655.0	643.4	636.1	660.1	823.7	1,037	875.6	689.5	646.5	607.4	587.3
19	496.3	653.8	643.8	638.5	656.7	822.8	1,046	858.8	692.0	644.4	607.2	587.4
20	492.9	657.6	646.1	648.5	653.2	821.6	1,055	841.9	695.1	641.9	605.0	587.3
21	495.0	658.8	646.0	659.5	653.1	820.4	1,064	824.7	698.2	641.7	603.1	585.8
22	497.8	660.0	644.7	674.3	653.4	819.1	1,101	808.7	694.7	642.7	600.7	584.3
23	498.7	660.3	647.0	691.0	654.1	816.9	1,126	793.1	686.6	642.2	598.3	583.9
24	500.8	661.0	647.9	700.5	653.6	826.9	1,149	791.5	677.8	641.5	595.5	582.4
25	502.9	662.5	649.5	703.7	653.8	849.1	1,152	760.1	670.5	640.9	593.4	592.7
26	504.8	662.9	648.3	705.2	652.1	878.6	1,147	749.7	667.2	639.4	591.4	596.0
27	505.8	662.0	645.5	705.6	650.4	895.9	1,144	740.3	667.2	637.2	588.6	606.1
28	507.1	661.6	641.8	705.4	649.4	903.5	1,137	737.6	665.5	637.7	585.7	627.7
29	508.1	659.2	640.0	704.4	-----	908.2	1,127	734.4	669.2	637.9	583.9	642.0
30	511.2	658.0	639.9	702.3	-----	912.5	1,114	729.4	669.2	636.2	582.5	651.5
31	516.5	-----	640.3	701.6	-----	918.4	-----	730.9	-----	634.0	580.6	-----
MAX	516.5	662.9	661.7	705.6	720.2	918.4	1,152	1,103	784.4	666.0	633.5	651.5
MIN	492.9	528.3	639.9	634.0	649.4	653.8	926.9	729.4	665.5	634.0	580.6	580.5
(†)	620.40	632.30	630.94	635.62	631.64	650.17	661.17	637.73	633.15	630.43	626.05	631.80
(‡)	14.5	+141.5	-17.7	+61.3	-52.2	+269.0	+195.6	-383.1	-61.7	-35.2	-53.4	+70.9

CAL YR 1972.....† +13.7

WTR YR 1973.....‡ -149.5

†Elevation, in feet, at end of month.

‡Change in contents, in thousands of acre-ft.

LOCATION.--Lat 35°34'23", long 95°04'07", in NE 1/4 SW 1/4 sec.27, T.13 N., R.21 E., Sequoyah County, on right bank 4.3 mi (6.9 km) downstream from Tenkiller Ferry Dam, 4.5 mi (7.2 km) northeast of Gore, and at mile 8.5 (13.7 km).

PERIOD OF RECORD.--March 1924 to April 1926, April 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

AVERAGE DISCHARGE.--35 years (1924-25, 1939-73), 1,506 cfs (42.65 cu m/s), 1,091,000 acre-ft/yr (1.35 cu km/yr),
adjusted for storage.

EXTREMES.--Current year: Maximum discharge, 11,700 cfs (331 cu m/s) Apr. 25, gage height, 12.43 ft (3.789 m); minimum daily, 59 cfs (1.67 cu m/s) Nov. 12.
Period of record: Maximum discharge, 180,000 cfs (5,100 cu m/s) May 11, 1950, gage height, 29.6 ft (9.02 m), present site and datum, from floodmark, from rating curve extended above 42,000 cfs (1,190 cu m/s) by velocity-area studies; minimum, 2.0 cfs (0.057 cu m/s) Sept. 16, 1959.

REMARKS.--Records good. Except for 16 sq mi (41 sq km) intervening area, flow completely regulated since July 1952 by Tenkiller Ferry Lake (see sta. 07197500). Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and 25 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	979	1,940	1,410	3,760	2,360	3,590	10,900	5,100	3,110	1,380	202
2	274	521	106	1,250	3,720	2,480	3,560	10,800	5,580	2,610	207	726
3	247	517	280	1,110	3,710	3,310	3,670	10,700	5,650	2,520	174	299
4	231	121	1,160	2,210	3,710	3,370	3,620	10,600	7,140	2,080	179	645
5	155	107	2,060	2,260	3,700	3,530	3,590	10,500	10,700	3,140	170	476
6	154	614	2,670	185	3,720	3,710	3,580	10,400	10,400	3,160	1,110	178
7	147	464	3,070	1,510	3,960	3,690	3,570	10,700	10,300	2,800	1,650	1,020
8	128	429	2,710	3,210	3,950	3,660	3,610	10,500	10,300	1,020	3,140	190
9	219	371	397	2,780	6,630	3,680	3,650	10,400	10,200	1,470	3,140	716
10	154	271	703	2,450	8,470	4,070	3,660	10,300	10,200	1,540	3,110	768
11	498	108	2,470	2,460	8,350	3,680	3,660	10,300	8,090	1,560	252	1,190
12	763	59	2,540	2,440	8,280	3,500	3,630	10,300	5,850	1,410	355	1,120
13	728	555	780	2,060	8,200	3,500	4,270	10,200	4,780	1,560	1,210	992
14	155	961	1,850	369	8,160	3,510	5,610	10,200	4,770	189	1,040	1,390
15	125	1,220	1,200	1,170	8,140	3,490	5,850	10,200	4,770	229	1,270	235
16	850	1,670	1,620	1,410	6,160	3,480	4,070	10,100	4,830	415	1,350	165
17	1,390	2,480	436	1,760	3,570	3,480	3,650	10,100	4,900	1,470	1,360	242
18	1,830	3,600	535	1,450	3,550	3,490	3,590	10,000	4,870	1,970	1,030	164
19	1,710	3,400	1,080	1,990	3,550	3,480	3,680	9,980	4,180	2,000	732	369
20	1,770	738	302	773	3,500	3,500	3,620	9,950	3,710	1,920	1,620	469
21	180	1,990	1,320	1,520	1,700	3,520	3,610	10,000	4,090	1,050	1,470	1,210
22	98	1,970	1,990	2,330	1,280	3,520	4,260	9,960	5,600	243	1,510	1,230
23	521	2,100	128	2,290	1,090	3,510	3,660	9,900	6,990	971	1,480	608
24	217	1,830	773	2,540	1,590	3,870	5,920	9,900	6,950	1,320	1,720	1,180
25	67	1,450	317	3,630	1,020	3,790	10,300	9,870	5,960	1,160	1,390	1,560
26	79	1,900	2,040	3,590	2,030	3,640	11,400	9,950	3,430	1,340	1,270	1,200
27	214	2,460	2,130	3,620	1,990	3,570	11,300	8,980	2,010	1,610	1,600	254
28	136	2,350	2,710	3,620	1,620	3,530	11,100	5,040	2,190	375	1,700	526
29	115	2,430	2,670	3,630	-----	3,500	11,100	5,020	1,740	708	1,210	221
30	888	2,130	689	3,650	-----	3,520	11,000	5,030	2,020	1,300	985	169
31	1,170	-----	836	3,680	-----	3,680	-----	5,220	-----	1,340	1,270	-----
TOTAL	15,354	39,795	43,512	68,357	119,110	108,580	161,380	295,890</				

ARKANSAS RIVER BASIN

73

07228000 Canadian River near Canadian, Tex.

LOCATION.--Lat 35°56'01", long 100°22'06", Hemphill County, near left bank on downstream side of pier of bridge on U.S. Highways 60 and 83, 500 ft (152 m) downstream from Panhandle and Santa Fe Railway Co. bridge, 1.2 miles (1.9 km) downstream from Red Deer Creek, 1.6 miles (2.6 km) northeast of Canadian, and at mile 433.9 (698.1 km).

DRAINAGE AREA.--22,866 mi² (59,222 km²), of which 4,688 mi² (12,142 km²) is probably noncontributing.

PERIOD OF RECORD.--July 1924 to August 1925 (gage heights only), January 1938 to current year. Prior to April 1938, monthly discharge only published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 2,301.50 ft (701.50 m) above mean sea level. July 1, 1924, to Aug. 31, 1925, and Apr. 21 to Dec. 15, 1938, nonrecording gage; Dec. 16, 1938, to Sept. 30, 1953, water-stage recorder and nonrecording gages; all at site 300 ft (91 m) upstream at same datum.

AVERAGE DISCHARGE.--26 years (1938-64) prior to completion of Lake Meredith, 549 ft³/s (15.5 m³/s), 397,800 acre-ft/yr (490 hm³/yr); 9 years (1964-73) after completion of Lake Meredith, 98.7 ft³/s (2.80 m³/s), 71,510 acre-ft/yr (88.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 27,800 ft³/s (787.3 m³/s) Apr. 15, gage height, 9.83 ft (3.00 m); minimum daily, 0.32 ft³/s (9.1 dm³/s) July 20.

Period of record: Maximum discharge, 122,000 ft³/s (3,460 m³/s) Sept. 23, 1941, gage height, 9.8 ft (3.0 m), from graph based on gage readings, from rating curves for two channels extended above 8,000 and 54,000 ft³/s (227 and 1,530 m³/s); no flow at times. Maximum stage 20.0 ft (6.1 m) Oct. 2, 1904. Floods of May 2, 1914, and Oct. 5, 1923, second highest known, reached stages of 12 ft (4 m).

REMARKS.--Records fair. Extreme low flow maintained by springs which enter river about 600 ft (183 m) above gage. Some regulation and diversions upstream by Lake Meredith 75 miles (121 km) upstream (station 07227900).

REVISIONS.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	46	66	16	120	80	355	206	56	.80	8.5	.46
2	.74	38	64	16	100	78	254	105	48	.74	16	.46
3	.80	28	53	16	80	78	370	117	42	.74	5.5	.46
4	.74	24	24	15	70	75	380	80	38	.68	3.2	1.3
5	.68	21	24	15	56	72	186	72	20	.62	1.5	.97
6	.74	18	20	14	46	69	134	72	13	.51	1.4	.97
7	.74	17	24	13	42	64	109	66	8.5	.46	3.0	1.6
8	.68	14	20	12	30	78	124	64	6.3	.42	7.5	1.8
9	.68	11	15	11	40	105	139	61	3.4	.38	5.2	1.2
10	.62	8.0	12	10	50	782	116	58	2.4	.62	3.4	1.2
11	.62	7.5	10	10	75	1,770	97	56	1.6	.46	2.2	.97
12	.62	19	10	12	83	959	90	48	1.2	.42	1.1	.97
13	.62	36	12	15	64	354	206	51	.97	.38	1.1	1.1
14	.56	38	14	25	69	187	221	64	.80	.51	.97	1.1
15	.46	38	16	50	69	129	7,660	66	.62	.38	.97	1.1
16	.56	36	20	100	66	113	1,880	66	.51	.42	.88	1.1
17	.62	35	26	129	66	101	1,060	56	.42	.38	.88	1.6
18	.46	33	35	94	86	94	390	46	.42	.38	.88	1.3
19	.74	32	67	38	94	90	609	36	.38	.35	.74	1.2
20	3.4	30	103	40	75	83	270	42	.42	.32	.74	1.2
21	7.5	35	80	30	66	78	158	42	.42	6.2	.68	1.2
22	9.1	30	44	26	66	72	109	42	.46	28	.62	1.1
23	6.3	30	42	21	116	114	124	139	.35	21	.56	1.1
24	5.9	40	36	19	134	1,160	322	139	.46	1.3	.51	.97
25	5.9	50	30	16	129	324	199	94	.42	.74	.42	.97
26	5.2	60	24	27	120	179	272	69	.42	.56	.42	2.0
27	6.3	50	24	46	101	173	390	51	.46	.46	.42	1.9
28	8.0	45	30	21	75	199	199	30	.88	314	.38	1.4
29	6.3	40	22	58	-----	189	124	16	2.0	124	.42	1.5
30	7.1	50	19	109	-----	4,180	115	14	1.1	28	.46	1.4
31	26	-----	17	116	-----	2,640	-----	64	-----	43	.51	-----
TOTAL	109.56	959.5	1,003	1,140	2,188	14,669	16,662	2,132	251.91	577.23	71.06	35.60
MEAN	3.53	32.0	32.4	36.8	78.1	473	555	68.8	8.40	18.6	2.29	1.19
MAX	26	60	103	129	134	4,180	7,660	206	56	314	16	2.0
MIN	.46	7.5	10	10	30	64	90	14	.35	.32	.38	.46
AC-FT	217	1,900	1,990	2,260	4,340	29,100	33,050	4,230	500	1,140	141	71

CAL YR 1972 TOTAL 22,230.48 MEAN 60.7 MAX 1,450 MIN .46 AC-FT 44,090
WTR YR 1973 TOTAL 39,798.86 MEAN 109 MAX 7,660 MIN .32 AC-FT 78,940

PEAK DISCHARGE (BASE, 8,900 FT³/S).--Mar. 30 (1900) 9,740 ft³/s (6.37 ft); Apr. 15 (0600) 27,800 ft³/s (9.83 ft).

ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OKLA.

LOCATION.--Lat 35°34'00", long 98°22'45", in SE 1/4 SW 1/4 sec.28, T.13 N., R.11 W., Blaine County, on downstream side of left abutment of Chicago, Rock Island and Pacific Railroad Co. bridge, 1.0 mi (1.6 km) north of Bridgeport, 2.8 mi (4.5 km) upstream from Lumpmouth Creek, and at mile 267.1 (429.8 km).

DRAINAGE AREA.--25,229 sq mi (65,343 sq km), of which 4,801 sq mi (12,435 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1944 to September 1964; October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,384.25 ft (421.919 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1947, at site 0.2 mi (0.3 km) downstream at same datum. Oct. 1, 1947, to Sept. 30, 1948, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--24 years, 422 cfs (11.95 cu m/s), 305,700 acre-ft/yr (377 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 22,800 cfs (646 cu m/s) Mar. 31, gage height, 10.21 ft (3.112 m); minimum daily, 1.8 cfs (0.051 cu m/s) Oct. 1-4.

Period of record: Maximum discharge, about 150,000 cfs (4,250 cu m/s) June 23, 1948, gage-height, 14.60 ft (4.450 m), from floodmarks, from rating curve extended above 50,000 cfs (1,420 cu m/s), no flow at times in 1946, 1951-56, 1964, 1970.

Flood in May 1914 reached a stage of about 19.4 ft (5.91 m), a higher stage probably occurred during flood in October 1904.

REMARKS.--Records poor. Occasional slight regulation by Conchas Reservoir in New Mexico, and by Lake Meredith in Texas since 1964. Records of chemical analysis for the current year are published in Part 2 of this report.

REVISION.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	40	70	60	200	172	3,640	1,300	1,020	20	15	9.6
2	1.8	20	80	60	200	182	3,820	4,330	5,120	19	14	11
3	1.8	10	90	200	240	195	3,190	1,750	1,200	18	13	22
4	1.8	8.0	90	100	250	246	1,390	738	599	17	13	1,500
5	2.0	7.0	90	80	300	210	771	372	276	17	12	700
6	2.0	5.7	80	70	305	251	400	300	211	13	11	400
7	2.0	5.0	60	50	279	234	300	200	170	12	10	300
8	2.0	5.0	60	40	267	1,170	250	100	133	12	11	200
9	2.2	4.0	50	35	253	1,420	220	80	100	12	11	100
10	2.2	4.0	50	25	230	7,570	200	70	78	17	11	70
11	2.2	3.0	40	20	220	3,720	160	60	64	28	10	50
12	2.2	5.0	35	27	210	2,030	110	52	52	17	9.0	35
13	2.0	10	30	40	200	2,340	100	47	45	14	8.2	25
14	2.0	5.0	40	50	210	2,350	200	42	40	143	7.0	18
15	2.0	4.0	50	70	228	1,310	1,740	38	35	195	10	15
16	2.0	4.0	40	100	222	753	1,500	35	34	70	25	18
17	2.0	3.0	50	600	224	510	1,070	31	29	35	20	78
18	2.0	10	62	1,000	225	352	4,760	28	27	20	16	64
19	2.0	20	70	671	218	296	1,780	26	23	17	13	34
20	5.0	15	70	542	200	250	841	25	21	15	11	29
21	50	21	60	560	200	230	515	40	23	20	9.4	22
22	20	30	60	500	195	230	411	54	20	30	6.8	17
23	10	25	60	355	195	240	350	2,490	18	36	5.5	12
24	8.6	60	550	277	190	330	250	1,810	17	33	4.5	10
25	7.0	80	700	217	180	319	290	928	16	30	3.4	10
26	5.0	80	300	223	170	645	600	368	16	26	3.2	198
27	3.0	70	100	180	150	1,180	400	224	16	23	3.6	840
28	2.0	80	80	170	130	1,510	300	185	15	19	4.4	333
29	2.0	80	70	160	-----	1,030	290	167	16	18	5.2	181
30	50	70	70	150	-----	8,930	300	156	18	19	4.8	131
31	80	-----	60	150	-----	18,900	-----	475	-----	17	5.4	-----
TOTAL	280.6	783.7	3,317	6,782	6,091	59,105	30,148	16,521	9,452	982	306.4	5,432.6
MEAN	9.05	26.1	107	219	218	1,907	1,005	533	315	31.7	9.88	181
MAX	80	80	700	1,000	305	18,900	4,760	4,330	5,120	195	25	1,500
MIN	1.8	3.0	30	20	130	172	100	25	15	12	3.2	9.6
AC-FT	557	1,550	6,580	13,450	12,080	117,200	59,800	32,770	18,750	1,950	608	10,780
CAL YR 1972	TOTAL 28,872.05			MEAN 78.9	MAX 2,060	MIN 0	AC-FT 57,270					
WTR YR 1973	TOTAL 139,201.30			MEAN 381	MAX 18,900	MIN 1.8	AC-FT 276,100					

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
3-10	2000	9.15	13,000	4-18	1200	8.40	7,100
3-31	0730	10.21	22,800	6-2	0800	8.58	8,260

07229100 CANADIAN RIVER NEAR NOBLE, OKLA.

LOCATION.--Lat 35°04'55", long 97°22'52", in N 1/2 sec.14, T.7 N., R.2 W., McClain County, on right bank 80 ft (24.4 m) upstream from the Atchison, Topeka, and Santa Fe Railway Co. bridge, 3.6 mi (5.8 km) upstream from Chouteau Creek, 3.8 mi (6.1 km) south of Noble, and at mile 190.8 (307.0 km).

DRAINAGE AREA.--25,911 sq mi (67,109 sq km), of which 4,801 sq mi (12,435 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1959 to June 1961 (published as "at Purcell"), October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,045.29 ft (318.604 m) above mean sea level. Oct. 1, 1959, to June 30, 1961, water-stage recorder at site 5.9 mi (9.5 km) downstream at datum 28.15 ft (8.580 m) lower. Oct. 1, 1963, to Feb. 28, 1964, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--11 years (1959-60, 1963-73), 367 cfs (10.39 cu m/s), 265,900 acre-ft/yr (328 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 21,200 cfs (600 cu m/s) Mar. 11, gage height, 7.15 ft (2.179 m); minimum daily, 4.8 cfs (0.14 cu m/s) Oct. 17.

Period of record: Maximum discharge, 35,500 cfs (1,010 cu m/s) Sept. 22, 1965, gage height, 8.46 ft (2.579 m); no flow Oct. 8-15, 1963.

Floods in 1904 and 1937 reached a stage of about 18.0 ft (5.49 m), and flood of 1914 reached a stage of 16.9 ft (5.15 m), from information by Corps of Engineers.

REMARKS.--Records fair. Extreme low flow sustained by sewage from city of Norman. Occasional slight regulation by reservoirs in Texas and New Mexico.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	4,920	140	142	440	146	12,200	618	2,640	121	52	13
2	6.3	865	120	137	450	172	2,780	1,490	6,390	95	24	21
3	6.4	322	100	861	540	242	4,840	3,570	10,400	76	18	10
4	6.2	189	80	932	588	344	4,060	1,360	1,680	64	15	1,080
5	5.9	110	60	362	530	303	2,130	722	4,590	48	13	856
6	5.9	89	50	157	520	2,770	2,300	1,020	1,180	36	12	786
7	5.7	63	40	130	510	3,410	1,700	821	749	49	11	470
8	5.4	44	40	110	280	884	1,330	334	452	38	11	187
9	5.2	26	40	100	280	1,420	1,570	324	347	29	11	138
10	5.3	20	50	94	257	10,500	1,120	284	274	26	11	161
11	5.4	16	50	94	215	16,700	864	217	230	46	24	134
12	5.7	912	60	94	204	6,370	980	192	225	43	24	90
13	5.8	1,480	60	110	215	2,630	986	173	202	42	14	1,180
14	5.5	208	60	130	232	2,880	841	160	408	56	12	682
15	5.2	58	44	140	215	2,230	1,180	142	581	61	11	245
16	5.0	24	52	168	215	1,400	5,910	125	263	284	12	143
17	4.8	16	43	470	215	688	2,180	109	296	161	17	155
18	4.9	141	58	682	199	371	2,340	94	244	106	28	440
19	5.2	166	87	1,260	194	296	5,470	84	664	69	32	350
20	7.2	101	168	1,340	215	263	2,450	70	692	50	18	209
21	99	80	226	1,630	217	414	1,580	64	264	87	12	131
22	1,150	67	215	3,310	208	296	1,510	137	126	87	9.6	123
23	262	49	232	1,500	212	414	1,510	760	92	83	8.5	123
24	58	53	251	775	187	4,550	765	3,420	66	79	8.0	123
25	28	89	204	681	200	10,700	575	3,000	62	61	7.7	123
26	22	88	1,100	1,050	186	2,130	596	1,100	52	77	7.5	135
27	19	205	674	660	156	1,220	905	636	47	60	7.3	4,350
28	17	179	270	371	142	2,300	753	471	49	48	7.7	2,300
29	16	157	209	380	-----	2,130	515	331	66	47	8.0	592
30	654	160	235	245	-----	1,220	455	264	407	65	25	308
31	3,980	-----	254	270	-----	8,900	-----	1,830	-----	62	8.8	-----
TOTAL	6,418.8	10,897	5,272	18,385	8,022	88,293	66,395	23,922	33,738	2,256	480.1	15,658
MEAN	207	363	170	593	287	2,848	2,213	772	1,125	72.8	15.5	522
MAX	3,980	4,920	1,100	3,310	588	16,700	12,200	3,570	10,400	284	52	4,350
MIN	4.8	16	40	94	142	146	455	64	47	26	7.3	10
AC-FT	12,730	21,610	10,460	36,470	15,910	175,100	131,700	47,450	66,920	4,470	952	31,060
CAL YR 1972	TOTAL	47,177.8	MEAN	129	MAX	4,920	MIN	4.8	AC-FT	93,580		
WTR YR 1973	TOTAL	279,736.9	MEAN	766	MAX	16,700	MIN	4.8	AC-FT	554,900		

PEAK DISCHARGE (BASE, 8,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-31	2130	6.18	8,720	4-16	1415	6.16	11,800
3-11	0245	7.15	21,200	6-03	0915	6.67	14,200
3-25	1300	6.50	14,200	6-05	0700	6.37	10,700
4-01	0030	6.99	18,700	9-27	1630	6.35	8,900

ARKANSAS RIVER BASIN

07229300 WALNUT CREEK AT PURCELL, OKLA.

LOCATION.--Lat 34°59'56", long 97°22'00", in NW 1/4 NW 1/4 sec.13, T.6 N., R.2 W., McClain County, on downstream side of right bank pier of bridge on U.S. Highway 77, at south edge of Purcell, and at mile 1.0 (1.6 km).

DRAINAGE AREA.--202 sq mi (523 sq km).

PERIOD OF RECORD.--Occasional low-flow measurements, made in water years 1951-55, 1958-65. October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,017.68 ft (310.189 m) above mean sea level (Oklahoma State Highway Department bench mark).

AVERAGE DISCHARGE.--8 years, 46.1 cfs (1.306 cu m/s), 33,400 acre-ft/yr (41.2 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 10,500 cfs (297 cu hm/s) May 25, gage height, 13.62 ft (4.151 m); minimum daily, 2.4 cfs (0.068 cu m/s) Oct. 2.

Period of record: Maximum discharge, 17,200 cfs (487 cu m/s) Sept. 23, 1970, gage height, 15.35 ft (4.679 m), from rating curve extended above 8,200 cfs (232 cu m/s), no flow at times in 1966-67.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	543	20	14	63	38	109	121	183	70	29	19
2	2.4	108	21	14	49	38	100	111	2,620	52	25	22
3	3.3	54	21	93	41	39	268	105	428	44	24	15
4	4.2	40	18	37	38	46	119	100	147	40	23	324
5	4.1	33	13	29	37	39	111	97	3,210	36	22	59
6	4.3	32	11	24	37	284	108	586	308	34	21	160
7	4.3	30	12	20	39	58	108	164	194	32	21	81
8	4.5	26	17	18	45	44	118	80	144	32	20	27
9	4.4	24	15	16	41	45	111	66	117	33	27	20
10	4.2	21	13	15	39	1,040	99	60	103	33	26	14
11	4.0	20	14	30	38	144	100	57	91	36	22	19
12	3.9	231	15	27	38	85	100	55	117	39	21	12
13	4.0	330	16	26	38	87	99	57	82	35	20	702
14	4.0	40	17	25	37	86	97	59	169	35	20	130
15	4.1	26	19	30	36	67	387	62	121	49	20	64
16	4.1	22	17	42	36	63	262	63	94	38	35	54
17	4.2	19	16	50	36	64	100	59	156	37	18	20
18	4.2	39	18	36	37	66	90	57	140	33	15	75
19	4.3	46	20	31	38	68	312	57	1,040	32	14	53
20	4.5	30	19	31	36	64	214	55	190	31	13	53
21	11	28	18	52	36	64	132	55	115	41	13	52
22	58	28	17	52	37	64	479	56	103	29	12	52
23	16	27	16	38	39	97	285	355	90	34	12	53
24	9.7	27	15	33	38	1,110	164	950	82	28	12	55
25	7.6	27	15	34	38	1,140	141	2,450	79	25	11	57
26	6.6	25	16	82	38	139	126	159	76	24	11	261
27	6.5	23	15	53	38	125	120	78	74	24	11	1,700
28	6.3	22	15	43	37	125	119	50	74	23	11	143
29	6.1	20	16	37	-----	117	118	41	80	25	11	57
30	2,140	20	24	37	-----	350	117	35	219	29	13	39
31	2,730	-----	16	45	-----	180	-----	1,590	-----	38	12	-----
TOTAL	5,077.4	1,961	515	1,114	1,100	5,976	4,813	7,890	10,646	1,091	565	4,392
MEAN	164	65.4	16.6	35.9	39.3	193	160	255	355	35.2	18.2	146
MAX	2,730	543	24	93	63	1,140	479	2,450	3,210	70	35	1,700
MIN	2.4	19	11	14	36	38	90	35	74	23	11	12
AC=FT	10,070	3,890	1,020	2,210	2,180	11,850	9,550	15,650	21,120	2,160	1,120	8,710
CAL YR 1972	TOTAL 11,365.17	MEAN 31.1	MAX 2,730	MIN .04	AC=FT 22,540							
WTR YR 1973	TOTAL 45,140.40	MEAN 124	MAX 3,210	MIN 2.4	AC=FT 89,540							

PEAK DISCHARGE (BASE, 3,000 CFS REVISED)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-30	2200	13.03	9,170	6-02	1200	12.08	7,130
3-25	0215	9.91	3,440	6-05	0700	13.26	9,630
5-25	0145	13.62	10,500	6-19	1215	9.70	3,210
5-31	1115	11.24	5,450	9-27	1045	11.50	5,970

ARKANSAS RIVER BASIN

77

07229900 LAKE THUNDERBIRD NEAR NORMAN, OKLA.

LOCATION.--Lat 35°13'15", long 97°13'05", in NW 1/4 SE 1/4 sec.29, T.9 N., R.1 E., Cleveland County, near center of dam on Little River, just downstream from Hog Creek and 13 mi (20.9 km) east of Norman, and at mile 96.4 (155.1 km).

DRAINAGE AREA.--256 sq mi (663 sq km).

PERIOD OF RECORD.--March 1965 to current year.

GAGE.--Nonrecording gage at outlet structure and at pump house. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 134,600 acre-ft (166 cu hm) May 3, elevation, 1,041.32 ft (317.394 m); minimum, 94,100 acre-ft (116 cu hm) Oct. 19, elevation, 1,034.45 ft (315.300 m).
Period of record: Maximum contents, 134,600 acre-ft (166 cu hm) May 3, 1973, elevation, 1,041.32 ft (317.394 m), minimum since conservation pool first reached 15,370 acre-ft (19.0 cu hm) Nov. 30, 1965, elevation, 1,011.0 ft (308.153 m).

REMARKS.--Reservoir is formed by an earth dam. Regulated storage began Mar. 1, 1965; minimum conservation pool first filled September 1965. Capacity, 196,200 acre-ft (242 cu hm) at elevation 1,049.4 ft (319.86 m), crest of drop inlet; 119,600 acre-ft (147 cu hm) at elevation 1,039.0 ft (316.687 m), top of conservation pool; 13,640 acre-ft (16.8 cu hm) at elevation 1,010.0 ft (307.848 m), minimum conservation pool. Dead storage, 1,220 acre-ft (1.50 cu hm) below elevation 997.0 ft (303.886 m), sill of gated outlet. Figures given herein represent total contents. Reservoir is used for flood control, irrigation (inactive), and municipal water supplies exported to Del City, Midwest City, and Norman. Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Elevations and data on diversions furnished by Central Oklahoma Master Conservancy District.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30.....	1,034.74	95,600	--	--
Oct. 31.....	1,034.95	96,700	+1,090	595
Nov. 30.....	1,036.63	105,800	+9,130	255
Dec. 31.....	1,036.55	105,300	-500	752
CAL YR 1972.....	--	--	+300	10,411
Jan. 31.....	1,037.66	111,700	+6,400	890
Feb. 28.....	1,037.90	113,000	+1,300	788
Mar. 31.....	1,041.14	133,100	+20,100	820
Apr. 30.....	1,041.23	133,700	+600	638
May 31.....	1,039.34	121,600	-12,100	850
June 30.....	1,039.65	123,500	+1,900	1,040
July 31.....	1,039.03	119,800	-3,700	1,122
Aug. 31.....	1,038.32	115,500	-4,300	882
Sept. 30.....	1,039.89	125,000	+9,500	763
WTR YR 1973.....			+29,420	9,395

† Elevation at 0800.

LOCATION.--Lat 35°13'14", long 97°13'00", in NE 1/4 SE 1/4 sec.29, T.9 N., R.1 E., Cleveland County, at right bank of outlet channel, 170 ft (51.8 m) upstream from State Highway 9, 1,200 ft (365.8 m) downstream from Lake Thunderbird, 1.0 mi (1.6 km) upstream from Prairie Creek, 13.0 mi (20.9 km) east of Norman, and at mile 96.2 (154.8 km).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1964, published as Little River below Hog Creek near Norman.

AVERAGE DISCHARGE.--12 years, (1952-64), 58.9 cfs (1.668 cu m/s), 42,640 acre-ft/yr (52.6 cu hm/yr);
8 years, (1965-73), 9.44 cfs (0.267 cu m/s), 6,840 acre-ft/yr (8.43 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 667 cfs (18.9 cu m/s) May 6, gage height, 8.14 ft (2.481 m); minimum daily, 0.35 cfs (0.010 cu m/s) at times.
Period of record: Maximum discharge, 34,600 cfs (980 cu m/s) May 25, 1957, gage height, 28.85 ft (8.793 m), from high-water mark, at site then in use, from rating curve extended above 15,000 cfs (425 cu m/s); no flow at times in 1954-56, 1964.

REMARKS.--Records fair above 90 cfs (2.55 cu m/s) and poor below. Flow completely regulated by Lake Thunderbird since March 1965 (see sta. 07229900). In prior years occasional small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	1.0	.50	.50	.50	.50	259	400	.50	98	.35	.35
2	.45	.70	.50	.50	.50	.50	255	592	1.0	97	.35	.35
3	.45	.50	.50	.50	.50	.50	259	586	.50	97	.35	.35
4	.45	.50	.50	.50	.50	.50	254	580	1.0	96	.35	.35
5	.45	.50	.50	.50	.50	.50	252	574	.50	96	.35	.35
6	.45	.50	.50	.50	.50	.50	327	455	205	35	.35	.35
7	.45	.50	.50	.50	.50	.50	321	.50	321	.35	.35	.35
8	.45	.50	.50	.50	.50	.50	309	.50	319	.35	.35	.35
9	.45	.50	.50	.50	.50	.50	305	215	319	.35	.35	.35
10	.45	.50	.50	.50	.50	.50	301	556	319	.35	.35	.35
11	.45	.50	.50	.50	.50	.50	301	553	319	.35	.35	.35
12	.45	.70	.50	.50	.50	165	303	547	427	.35	.35	.35
13	.45	1.0	.50	.50	.50	271	301	544	595	.35	.35	.35
14	.45	.50	.50	.50	.50	271	299	544	586	1.0	.35	.35
15	.45	.50	.50	.50	.50	271	230	409	583	.35	.35	.35
16	.45	.50	.50	.50	.50	271	.50	289	577	.35	.35	.35
17	.45	.50	.50	.50	.50	271	150	189	574	.35	.35	.35
18	.45	.50	.50	.50	.50	271	317	105	571	.35	.35	.35
19	.45	.50	.50	.50	.50	269	110	105	215	.35	.35	.35
20	.45	.50	.50	.50	.50	269	1.0	107	.50	.35	.35	.35
21	.70	.50	.50	.50	.50	269	1.0	109	228	.35	.35	.35
22	1.0	.50	.50	.50	.50	115	1.0	110	535	.35	.35	.35
23	.50	.50	.50	.50	.50	.50	.50	112	535	.35	.35	.35
24	.50	.50	.50	.50	.50	2.0	.50	110	511	.35	.35	.35
25	.50	.50	.50	.50	.50	2.0	.50	110	499	.35	.35	.35
26	.50	.50	.50	.50	.50	.50	.50	110	500	.35	.35	.35
27	.50	.50	.50	.50	.50	.50	.50	108	300	.35	.35	1.0
28	.50	.50	.50	.50	.50	.50	.50	107	93	.35	.35	.35
29	.50	.50	.50	.50	-----	114	.50	40	94	.35	.35	.35
30	5.0	.50	.50	.50	-----	353	.50	.50	102	.35	.35	130
31	10	-----	.50	.50	-----	269	-----	1.0	-----	.35	.35	-----
TOTAL	29.20	16.40	15.50	15.50	14.00	3,460.50	4,860.50	8,268.50	9,331.00	528.40	10.85	140.80
MEAN	.94	.55	.50	.50	.50	112	162	267	311	17.0	.35	4.69
MAX	10	1.0	.50	.50	.50	353	327	592	595	98	.35	130
MIN	.45	.50	.50	.50	.50	.50	.50	.50	.50	.35	.35	.35
AC-FT	58	33	31	31	28	6,860	9,640	16,400	18,510	1,050	22	279
CAL YR 1972	TOTAL	196.60	MEAN	.54	MAX	10	MIN	.45	AC-FT	390		
WTR YR 1973	TOTAL	26,691.15	MEAN	73.1	MAX	595	MIN	.35	AC-FT	52,940		

ARKANSAS RIVER BASIN

79

07230500 LITTLE RIVER NEAR TECUMSEH, OKLA.

LOCATION.--Lat 35°10'25", long 96°55'55", near northwest corner sec.18, T.8 N., R.4 E., Pottawatomie County, on downstream side of center pier of bridge on U.S. Highway 177, 1.5 mi (2.4 km) downstream from Dance Creek, 5.0 mi (8.0 km) south of Tecumseh, and at mile 77.2 (124.2 km).

DRAINAGE AREA.--456 sq mi (1,181 sq km).

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 898.52 ft (273.869 m) above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--21 years (1943-64, 149 cfs (4.22 cu m/s), 107,900 acre-ft/yr (133.0 cu hm/yr); 9 years (1964-73), 74.9 cfs (2.121 cu m/s), 54,270 acre-ft/yr (66.9 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 5,990 cfs (170 cu m/s) Oct. 31, gage height, 14.91 ft (4.545 m); no flow at times

Period of record: Maximum discharge, 32,400 cfs (918 cu m/s) May 25, 1957, gage height, 18.84 ft (5.742 m); maximum gage height, 19.68 ft (5.998 m) May 18, 1949; no flow at times in 1952-56, 1963-67, 1969-72.

Flood in 1932 reached a stage of 25.58 ft (7.797 m), from floodmark.

REMARKS.--Records fair. Flow regulated or diverted since 1965 by Lake Thunderbird, 19.2 mi (30.9 km) upstream. (See sta. 07229900).

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2,440	19	18	290	20	487	356	319	298	7.1	2.4
2	0	312	18	17	93	24	428	795	2,540	214	5.7	5.2
3	0	134	18	575	44	40	692	760	1,820	191	4.8	3.4
4	0	66	15	140	36	277	456	752	392	180	3.9	2.7
5	0	36	13	32	32	81	407	753	1,580	172	3.7	4.9
6	0	30	6.0	20	29	1,030	416	1,380	334	156	3.5	58
7	0	22	7.4	15	160	216	416	935	501	70	3.2	104
8	0	17	12	11	174	143	432	301	430	45	4.3	58
9	0	15	13	8.0	61	114	412	322	391	30	3.9	27
10	0	13	10	9.0	44	1,230	397	819	386	25	3.1	12
11	0	12	11	11	40	291	401	801	393	20	3.9	9.2
12	0	362	14	10	37	190	410	784	443	15	3.4	10
13	0	768	10	13	34	463	412	764	615	13	2.6	1,210
14	0	122	15	58	27	421	411	766	505	12	2.4	139
15	0	41	12	190	22	460	1,680	698	475	20	2.1	27
16	0	27	9.0	204	21	464	1,220	499	481	15	2.1	12
17	0	21	13	83	22	458	396	499	483	10	1.9	14
18	0	129	12	110	27	462	597	367	491	8.9	1.6	16
19	0	125	18	34	26	465	603	356	707	7.7	1.7	9.6
20	0	45	24	21	22	457	1,340	348	167	7.1	1.5	8.2
21	46	35	30	173	21	463	758	348	238	20	1.4	7.1
22	220	31	22	97	22	408	3,010	360	604	12	1.2	5.8
23	20	27	21	33	28	126	1,020	536	553	8.0	.82	6.0
24	5.2	28	18	23	24	1,120	520	405	569	7.5	.56	6.1
25	2.5	32	17	46	21	2,380	374	434	579	6.7	.36	8.4
26	1.4	27	17	264	20	387	289	357	593	6.7	.30	835
27	1.5	23	17	104	19	270	242	341	554	6.0	.55	920
28	1.5	21	16	46	18	217	221	340	275	5.7	.69	205
29	1.5	19	19	29	-----	162	210	332	248	6.6	1.4	93
30	1,610	19	30	26	-----	1,140	205	294	799	23	3.6	205
31	4,620	-----	23	275	-----	1,350	-----	960	-----	12	2.1	-----
TOTAL	6,529.6	4,999	499.4	2,695.0	1,414	15,329	18,862	17,762	18,465	1,623.9	79.38	4,024.0
MEAN	211	167	16.1	86.9	50.5	494	629	573	616	52.4	2.56	134
MAX	4,620	2,440	30	575	290	2,380	3,010	1,380	2,540	298	7.1	1,210
MIN	0	12	6.0	8.0	18	20	205	294	167	5.7	.30	2.4
AC-FT	12,950	9,920	991	5,350	2,800	30,410	37,410	35,230	36,630	3,220	157	7,980

CAL YR 1972 TOTAL 18,073.05 MEAN 49.4 MAX 4,620 MIN 0 AC-FT 35,850
WTR YR 1973 TOTAL 92,282.28 MEAN 253 MAX 4,620 MIN 0 AC-FT 183,000

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE
10-31	2000	14.91	5,990
4-22	0130	14.18	5,080

ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OKLA.

LOCATION.--Lat 34°59'02", long 96°33'01", in NE 1/4 sec.22, T.6 N., R.7 E., Seminole County, near left abutment on downstream side of county road bridge, 2.8 mi (4.5 km) northwest of Sasakwa, 8.7 mi (14.0 km) downstream from Salt Creek, and at mile 24.1 (38.8 km).

DRAINAGE AREA.--865 sq mi (2,240 sq km).

PERIOD OF RECORD.--September 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 749.21 ft (228.359 m) above mean sea level (levels by Corps of Engineers). Prior to Apr. 11, 1946, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--31 years, 362 cfs (10.25 cu m/s), 262,300 acre-ft/yr (323 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 9,150 cfs (259 cu m/s) Apr. 22, gage height, 20.35 ft (6.203 m); minimum daily, 0.04 cfs (0.001 cu m/s) Oct. 20.
Period of record: Maximum discharge, 44,600 cfs (1,260 cu m/s) May 11, 1950, gage height, 33.48 ft (10.205 m); no flow at times most years after 1952.

REMARKS.--Records fair. Flow regulated by Lake Thunderbird 72.3 mi (116.3 km) upstream since March 1965 (see sta. 07229900). Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	5,010	69	41	1,190	84	1,160	418	1,150	705	38	1,7
2	.26	4,240	63	41	676	92	1,290	381	2,750	705	32	40
3	.23	3,860	59	1,180	591	135	1,090	419	5,680	411	33	26
4	.21	1,810	56	865	359	1,660	937	653	4,550	239	31	12
5	.18	730	53	780	240	653	921	713	5,960	178	27	314
6	.16	539	50	500	183	1,500	740	726	4,340	170	25	643
7	.14	357	44	168	689	1,420	608	792	2,500	146	23	612
8	.12	223	47	141	566	1,400	556	1,110	1,530	123	22	272
9	.11	160	49	161	516	972	554	949	1,090	80	20	79
10	.10	125	43	180	428	2,490	505	472	837	56	20	63
11	.10	101	41	190	292	3,170	483	337	695	49	74	48
12	.09	663	47	210	227	2,240	461	569	617	48	50	38
13	.09	3,210	49	224	194	1,510	434	648	561	39	21	2,350
14	.09	1,390	48	216	166	1,010	409	665	599	36	13	804
15	.08	1,240	47	390	139	814	1,250	666	724	33	9,8	711
16	.08	676	39	578	121	724	3,170	668	766	31	25	371
17	.07	366	42	357	108	598	2,210	620	983	29	10	163
18	.06	394	39	980	105	538	2,010	443	839	27	7,4	116
19	.05	717	43	549	106	497	2,140	337	4,230	26	6,4	81
20	.04	369	47	354	102	467	1,710	217	3,740	24	5,8	64
21	.16	305	47	518	95	440	1,220	174	1,640	22	5,4	52
22	284	230	60	502	90	420	7,110	156	944	29	5,0	43
23	100	163	112	356	109	422	5,730	160	687	22	4,4	39
24	36	131	94	260	108	971	3,780	197	764	19	4,0	35
25	51	127	65	173	97	5,300	2,980	572	740	19	3,6	288
26	48	116	51	674	95	3,420	1,580	332	720	16	3,4	368
27	35	99	46	529	89	2,770	1,020	299	695	14	3,2	3,450
28	25	88	42	473	82	1,670	717	193	673	14	3,0	1,750
29	19	78	41	315	-----	956	555	147	609	12	2,6	1,380
30	828	74	47	224	-----	745	469	127	736	85	2,3	910
31	4,700	-----	54	210	-----	1,140	-----	555	-----	44	2,0	-----
TOTAL	6,128,70	27,591	1,634	12,339	7,763	40,228	47,799	14,715	52,349	3,451	532,3	15,123,7
MEAN	198	920	52,7	398	277	1,298	1,593	475	1,745	111	17,2	504
MAX	4,700	5,010	112	1,180	1,190	5,300	7,110	1,110	5,960	705	74	3,450
MIN	.04	74	39	41	82	84	409	127	561	12	2,0	1,7
AC=FT	12,160	54,730	3,240	24,470	15,400	79,790	94,810	29,190	103,800	6,850	1,060	30,000

CAL YR 1972 TOTAL 53,714,94 MEAN 147 MAX 5,010 MIN 0 AC=FT 106,500
WTR YR 1973 TOTAL 229,653,70 MEAN 629 MAX 7,110 MIN .04 AC=FT 455,500

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	2230	17.09	5,880	6-3	0400	17.91	6,940
3-25	1200	16.40	5,780	6-19	1600	17.35	6,560
4-22	1600	20.35	9,150				

07231500 CANADIAN RIVER AT CALVIN, OKLA.

LOCATION.--Lat 34°58'32", long 96°14'24", in NE 1/4 SW 1/4 sec.22, T.6 N., R.10 E., Hughes County, near left bank on downstream side of pier of bridge on U.S. Highway 75, 0.5 mi (0.8 km) northeast of Calvin, 2.5 mi (4.0 km) upstream from Shawnee Creek, 8.5 mi (13.7 km) downstream from Little River, and at mile 93.9 (151.1 km).

DRAINAGE AREA.--27,952 sq mi (72,396 sq km), of which 4,801 sq mi (12,435 sq km) is probably noncontributing.

PERIOD OF RECORD.--January 1905 to December 1908 (gage heights and discharge measurements only except for period July 1905 to December 1906), October 1938 to September 1942, July 1944 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1904 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 684.72 ft (208.703 m) above mean sea level. January 1905 to December 1908, nonrecording gage at site 0.8 mi (1.3 km) upstream at datum 2.00 ft (0.611 m) higher. Oct. 1, 1938, to Aug. 12, 1944, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--34 years (1905-6, 1938-42, 1944-73), 1,632 cfs (46.22 cu m/s), 1,182,000 acre-ft/yr (1.46 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 51,900 cfs (1,470 cu m/s) Apr. 22, gage height, 9.07 ft (2.765 m); minimum, 5.0 cfs (0.14 cu m/s) Oct. 12.

Period of record: Maximum discharge, 174,000 cfs (4,930 cu m/s) May 11, 1950, gage height, 17.35 ft (5.288m); maximum gage height, 21.00 ft (6.401 m), Aug. 7, 1906, from floodmark, site and datum then in use; no flow at times in 1939, 1954, 1956, 1966-67.

REMARKS.--Records good. Occasional slight regulation by dams in New Mexico and Texas. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

COOPERATION.--Gage height record and 52 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 1341: Drainage area. WSP 1391: 1941.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	29,300	459	650	4,940	1,270	6,990	2,330	5,210	2,900	411	49
2	20	11,400	407	578	3,150	1,670	10,400	2,070	14,100	1,660	271	52
3	15	6,780	403	3,580	1,770	1,320	6,270	2,200	34,700	1,180	230	96
4	13	3,990	382	3,700	1,440	10,600	6,300	4,850	17,000	799	194	147
5	11	1,810	403	2,020	1,440	5,020	4,190	3,130	18,700	614	177	595
6	8.6	2,240	370	1,500	1,300	6,500	3,080	2,640	14,400	594	127	3,150
7	7.1	1,260	334	744	2,430	7,440	2,940	4,100	5,190	551	116	5,010
8	6.7	562	334	530	5,460	4,820	2,850	3,710	3,650	444	121	2,890
9	7.9	395	347	381	2,600	3,290	2,670	2,690	2,730	389	235	1,470
10	10	302	225	304	1,740	12,900	2,110	1,630	2,110	334	116	900
11	12	210	210	340	1,450	18,300	2,370	870	1,630	348	300	634
12	11	529	250	440	1,270	12,200	2,150	810	1,400	272	276	496
13	18	7,500	340	504	1,130	6,400	2,010	700	1,410	212	155	4,180
14	13	4,930	410	560	1,060	4,840	2,140	1,070	1,190	185	103	3,510
15	11	2,170	410	1,180	978	4,410	10,800	1,030	1,860	195	84	2,540
16	10	1,420	347	2,090	870	4,620	14,200	870	1,790	187	102	1,550
17	9.3	947	286	1,640	798	3,510	8,040	870	3,440	190	97	967
18	8.4	993	270	2,990	730	2,800	5,310	760	2,440	202	102	705
19	8.9	2,210	396	2,740	730	2,250	6,900	560	15,200	377	80	549
20	8.4	1,590	347	1,800	710	1,640	11,100	520	15,100	273	71	629
21	27	800	354	3,770	614	1,450	6,850	375	4,760	206	70	585
22	507	600	354	3,050	569	1,370	32,400	375	2,860	287	63	459
23	961	550	361	2,940	504	1,400	22,300	810	1,810	628	57	382
24	474	500	431	2,310	614	3,970	10,300	560	1,510	371	58	328
25	276	450	396	1,490	798	25,400	5,650	4,610	1,370	211	54	267
26	160	420	361	3,030	738	14,500	3,300	4,240	1,230	194	51	750
27	129	410	328	3,590	750	6,040	2,970	2,250	1,110	170	48	10,200
28	99	400	750	2,440	822	3,900	2,820	1,270	984	238	48	11,100
29	87	390	990	1,730	-----	3,480	2,770	870	883	229	48	4,950
30	2,170	431	1,090	1,130	-----	4,580	2,330	650	2,180	339	47	3,300
31	22,100	-----	750	1,110	-----	8,220	-----	1,440	-----	682	47	-----
TOTAL	27,227.3	85,489	13,095	54,861	41,405	190,110	204,510	54,860	181,947	15,461	3,959	62,440
MEAN	878	2,850	422	1,770	1,479	6,133	6,817	1,770	6,065	499	128	2,081
MAX	22,100	29,300	1,090	3,770	5,460	25,400	32,400	4,850	34,700	2,900	411	11,100
MIN	6.7	210	210	304	504	1,270	2,010	375	883	170	47	49
AC-FT	54,010	169,600	25,970	108,800	82,130	377,100	405,600	108,800	360,900	30,670	7,850	123,800
CAL YR 1972	TOTAL 211,972.5	MEAN 579	MAX 29,300	MIN 2.8	AC-FT 420,400							
WTR YR 1973	TOTAL 935,364.3	MEAN 2,563	MAX 34,700	MIN 6.7	AC-FT 1,855,000							

PEAK DISCHARGE (BASE, 25,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-1	0330	8.63	41,200	6-3	0430	8.62	46,800
3-25	0800	6.64	28,800	6-6	0145	6.57	24,900
4-15	2015	7.66	34,100	6-19	1800	7.34	33,400
4-22	0745	9.07	51,900				

ARKANSAS RIVER BASIN

07232500 BEAVER RIVER NEAR GUYMON, OKLA.
(Headwater of the North Canadian River)

LOCATION.--Lat 36°43'24", long 101°29'30", in NW 1/4 SW 1/4 sec.18, T.3 N., R.15 E., Texas County, near center of span on downstream side of pier of bridge on U.S. Highway 64 at Dry Sand Draw, 1.2 mi (1.9 km) upstream from Goff Creek, 2.5 mi (4.0 km) north of Guymon, and at mile 650.7 (1,047.0 km). Records include flow of Dry Sand Draw.

DRAINAGE AREA.--2,139 sq mi (5,540 sq km) includes that of Dry Sand Draw, of which 964 sq mi (2,497 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1970 published as North Canadian River near Guymon.

GAGE.--Water-stage recorder. Datum of gage is 2,970.93 ft (905.539 m) above mean sea level (levels by Corps of Engineers).

AVERAGE DISCHARGE.--36 years, 27.0 cfs (0.765 cu m/s), 19,560 acre-ft/yr (24.1 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 569 cfs (16.1 cu m/s) July 10, gage height, 6.92 ft (2.109 m); no flow at times.

Period of record: Maximum discharge, 55,400 cfs (1,570 cu m/s) June 15, 1964, gage height, 13.68 ft (4.170 m); maximum gage height, 13.82 ft (4.212 m), Sept. 23, 1941, from floodmark; no flow at times in most years.

REMARKS.--Records good. Records of chemical analyses for current year are published in Part 2 of this report.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	5.9	8.5	10	12	9.5	25	10	3.5	0	20	0
2	0	3.4	8.1	10	11	9.2	20	9.4	2.5	38	15	0
3	0	2.5	6.5	8.2	9.3	9.5	18	9.3	1.8	41	11	0
4	0	2.3	6.4	7.5	9.5	9.5	17	8.4	1.8	13	9.4	0
5	0	2.3	7.0	7.0	9.0	9.4	16	8.0	1.5	10	60	0
6	0	2.2	6.5	6.5	8.3	8.7	16	9.0	1.3	3.0	17	0
7	0	2.0	7.0	6.0	8.3	9.1	15	8.7	1.2	0	6.0	0
8	0	2.7	8.0	5.5	7.7	11	17	8.9	.87	0	2.7	0
9	0	4.4	8.5	5.2	7.5	13	17	8.1	.44	0	1.5	0
10	0	4.2	8.0	5.0	8.0	19	16	6.9	.09	200	.87	0
11	0	3.8	6.0	5.5	9.3	23	14	6.0	0	86	.19	0
12	0	6.2	5.0	7.0	8.5	16	13	5.7	.02	40	.03	0
13	0	14	4.5	9.0	7.9	14	14	6.3	2.5	25	0	0
14	0	8.7	4.3	11	7.8	11	18	7.1	2.2	18	0	0
15	0	6.7	4.0	13	8.3	10	17	6.2	.35	8.2	0	0
16	0	7.0	3.7	15	8.0	9.7	15	5.0	0	2.6	0	0
17	0	7.0	3.8	12	8.9	10	14	4.9	0	.32	0	0
18	0	9.0	4.0	10	8.7	9.5	13	4.6	0	0	0	0
19	0	12	6.0	9.4	7.7	11	12	4.0	0	0	0	0
20	0	11	9.0	9.6	7.7	11	11	3.8	0	0	0	0
21	0	10	9.8	9.1	9.2	11	12	6.1	0	0	0	0
22	0	9.5	11	7.9	9.4	13	12	5.4	0	0	0	0
23	0	9.0	13	9.2	9.1	22	11	6.7	0	0	0	0
24	0	8.5	12	8.7	8.5	28	11	4.3	0	0	0	0
25	.13	8.7	10	8.7	8.4	23	11	3.4	0	.62	0	0
26	.23	7.0	9.3	9.7	9.3	17	16	3.2	0	.01	0	0
27	.39	7.2	10	10	9.7	16	13	4.2	0	0	0	0
28	.79	6.3	12	9.0	10	16	11	4.7	0	0	0	.18
29	1.2	7.0	11	8.0	-----	17	10	3.3	0	0	0	.37
30	.59	8.0	8.3	9.0	-----	25	9.7	3.7	0	.75	0	.04
31	2.0	-----	11	10	-----	30	-----	4.8	-----	51	0	-----
TOTAL	5.33	198.5	242.2	271.7	247.0	451.1	434.7	190.1	20.07	537.50	143.69	.59
MEAN	.17	6.62	7.81	8.76	8.82	14.6	14.5	6.13	.67	17.3	4.64	.020
MAX	2.0	14	13	15	12	30	25	10	3.5	200	60	.37
MIN	0	2.0	3.7	5.0	7.5	8.7	9.7	3.2	0	0	0	0
AC=FT	11	394	480	539	490	895	862	377	40	1,070	285	1.2

CAL YR 1972 TOTAL 3,588.10 MEAN 9.80 MAX 887 MIN 0 AC=FT 7,120
WTR YR 1973 TOTAL 2,742.48 MEAN 7.51 MAX 200 MIN 0 AC=FT 5,440

PEAK DISCHARGE (BASE, 2,400 CFS).--No peak above base.

ARKANSAS RIVER BASIN

83

07234000 BEAVER RIVER AT BEAVER, OKLA.
(Headwater of the North Canadian River)

LOCATION.--Lat 36°49'20", long 100°31'05", in SW 1/4 sec.7, T.4 N., R.24 E., Beaver County, near right bank on downstream side of pier of bridge on U.S. Highway 270 at Beaver, 1.5 mi (2.4 km) downstream from Home Creek, 5 mi (8.0 km) upstream from Clear Creek, and at mile 576.0 (926.8 km).

DRAINAGE AREA.--7,955 sq mi (20,603 sq km), of which 4,270 sq mi (11,059 sq km) is probably noncontributing.

PERIOD OF RECORD.--March 1904 to December 1905 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Beaver Creek at Beaver 1904-5, and October 1937 to September 1970 as North Canadian River at Beaver.

GAGE.--Water-stage recorder. Datum of gage is 2,368.16 ft (721.815 m) above mean sea level (levels by Corps of Engineers). Mar. 29, 1904, to Dec. 31, 1905, nonrecording gage in same vicinity at different datum. Mar. 1, 1938, to Sept. 30, 1946, water-stage recorder at present site at datum 3.0 ft (0.91 m) higher.

AVERAGE DISCHARGE.--36 years, 115 cfs [3.257 cu m/s], 83,320 acre-ft/yr [103 cu km/yr].

EXTREMES.--Current year: Maximum discharge, 3,410 cfs [96.6 cu m/s] July 14, gage height, 6.89 ft (2.100 m); no flow at times.

Period of record: Maximum discharge, 70,000 cfs (1,980 cu m/s) Oct. 8, 1946, by slope-area measurement of peak flow in overflow section and extension of rating curve for main channel above 42,000 cfs (1,190 cu m/s); maximum gage height, 14.55 ft (4.435 m) Oct. 8, 1946; no flow at times in each year.

REMARKS.--Records good. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	13	31	40	64	34	961	131	30	.04	60	0
2	3.0	15	47	38	66	35	613	128	25	0	63	0
3	1.8	16	35	38	62	36	303	102	20	.01	29	0
4	1.3	17	30	30	57	35	205	87	16	.06	11	0
5	.83	15	24	32	52	35	206	72	13	.01	3.2	0
6	.52	14	18	34	48	35	233	67	11	0	.77	0
7	.42	13	22	28	47	33	218	60	8.6	0	.41	0
8	.32	11	28	25	38	32	203	56	6.4	0	.26	0
9	.32	12	22	21	33	32	203	54	4.2	.34	.14	0
10	.25	12	20	23	36	104	212	63	3.0	.52	.10	0
11	.11	12	21	24	43	852	207	56	1.9	.15	.07	.06
12	.12	13	23	20	47	437	189	47	1.3	.02	.02	.25
13	.11	20	22	24	43	355	170	44	.84	0	0	.02
14	.11	23	24	40	39	207	160	43	.51	783	0	0
15	.08	24	25	60	36	139	168	42	.36	161	0	0
16	.10	24	27	84	35	117	158	37	.34	29	0	0
17	.09	22	30	80	35	100	149	31	.28	6.6	0	.17
18	.08	26	33	68	36	93	134	30	.22	1.2	0	.06
19	.10	29	38	52	36	91	155	27	.19	.53	0	.05
20	.26	29	43	47	36	87	124	25	.22	.44	0	.01
21	1.2	25	52	44	36	79	99	23	.19	.60	0	.02
22	2.3	19	70	40	35	77	97	23	.18	1.4	0	0
23	2.8	17	95	36	35	117	96	25	.10	.43	0	.01
24	2.6	33	79	35	35	1,620	81	37	.08	.77	0	5.4
25	2.7	40	70	35	35	2,450	79	126	.08	.81	0	4.0
26	2.5	45	61	37	34	899	91	96	.06	.38	0	91
27	2.6	46	54	32	34	430	96	64	.05	.33	0	71
28	2.9	40	51	25	33	332	90	55	.24	.31	0	7.9
29	3.4	26	51	23	-----	306	80	46	.13	.30	.03	.72
30	3.8	22	48	35	-----	617	76	41	.08	117	4.4	0
31	7.3	-----	42	55	-----	1,370	-----	37	-----	176	.10	-----
TOTAL	48.22	673	1,236	1,205	1,166	11,186	5,856	1,775	144.55	1,281.25	172.50	180.67
MEAN	1.56	22.4	39.9	38.9	41.6	361	195	57.3	4.82	41.3	5.56	6.02
MAX	7.3	46	95	84	66	2,450	961	131	30	783	63	91
MIN	.08	11	18	20	33	32	76	23	.05	0	0	0
AC=FT	96	1,330	2,450	2,390	2,310	22,190	11,620	3,520	287	2,540	342	358

CAL YR 1972 TOTAL 42,094.34 MEAN 115 MAX 8,690 MIN 0 AC=FT 83,490
WTR YR 1973 TOTAL 24,924.19 MEAN 68.3 MAX 2,450 MIN 0 AC=FT 49,440

PEAK DISCHARGE (BASE, 4,000 CFS).--No peaks above base.

ARKANSAS RIVER BASIN

07234100 CLEAR CREEK NEAR ELMWOOD, OKLA.

LOCATION.--Lat 36°38'42", long 100°30'07", in SW 1/4 SW 1/4 sec.8, T.24 N., R.24 E., Beaver County, on downstream side of right pile bent of county road bridge, 1,000 ft (304.8 m) downstream from small irrigation dam, 2.8 mi (4.5 km) northeast of Elmwood, and at mile 16.9 (27.2 km).

DRAINAGE AREA.--170 sq mi (440 sq km).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,550 ft (777 m), from topographic map.

AVERAGE DISCHARGE.--8 years, 10.6 cfs (0.300 cu m/s), 7,680 acre-ft/yr (9.47 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 675 cfs (19.1 cu m/s) Apr. 19, gage height 5.19 ft (1.582 m); minimum daily, 1.7 cfs (0.048 cu m/s) July 3, 4, 7, 8, Aug. 25.
Period of record: Maximum discharge, 20,000 cfs (566 cu m/s) Oct. 16, 1969, gage height, 13.97 ft (4.258 m), from floodmark, from rating curve extended above 12,500 cfs (343 cu m/s) on basis of slope-area measurement at gage height 13.15 ft (4.008 m); no flow part of July 14, 18, 19, 1970, and Oct. 5, 1971.

REMARKS.--Records good. Small diversions for irrigation above station.

REVISIONS (WATER YEAR).--WSP 2121: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.5	2.5	2.7	3.4	3.2	40	7.7	3.6	2.3	2.9	2.1
2	2.4	2.6	2.5	2.8	2.9	3.1	18	6.2	3.3	2.3	2.7	2.1
3	2.3	2.6	2.6	2.9	2.9	3.0	11	6.1	3.3	1.7	2.5	2.1
4	2.3	2.6	2.6	2.8	3.0	2.9	9.3	5.6	3.2	1.7	2.5	2.2
5	2.3	2.5	2.7	2.8	3.1	2.8	8.6	5.5	3.2	1.8	2.4	2.1
6	2.2	2.5	2.8	2.8	3.0	2.9	8.4	5.5	3.2	1.8	2.4	2.1
7	2.3	2.5	2.6	2.9	3.0	2.8	8.4	5.5	3.0	1.7	2.4	2.5
8	2.4	2.4	2.6	2.9	3.0	2.9	8.5	5.4	3.0	1.7	2.5	2.4
9	2.3	2.5	2.7	2.8	2.9	2.8	8.0	5.3	2.9	2.8	2.4	2.2
10	2.3	2.5	2.8	2.8	2.9	4.4	7.7	5.2	2.9	3.2	2.4	2.2
11	2.3	2.5	3.2	2.9	2.9	3.6	7.8	5.2	2.9	2.9	2.3	2.2
12	2.3	2.5	3.2	3.0	3.1	5.4	7.6	5.2	3.2	2.8	2.4	2.4
13	2.4	4.3	3.2	3.1	3.1	3.4	7.6	5.2	3.4	2.9	2.3	2.4
14	2.3	3.5	2.9	2.9	3.0	3.2	7.5	5.1	3.6	7.2	2.4	2.2
15	2.3	3.5	2.9	2.9	3.0	3.1	27	4.8	3.1	2.9	2.3	2.3
16	2.3	3.3	3.0	2.9	3.1	3.1	11	4.5	2.6	2.6	2.3	2.4
17	2.4	3.3	2.9	2.9	3.1	2.9	7.7	4.4	2.9	2.5	2.3	2.5
18	2.3	3.4	2.8	2.9	3.3	2.9	7.8	4.2	2.5	2.5	2.2	2.5
19	2.3	3.3	2.9	2.9	3.4	3.1	201	4.1	2.2	2.5	2.1	2.5
20	2.3	3.2	2.9	3.0	3.2	3.0	17	4.2	2.2	2.5	1.8	2.5
21	2.4	3.2	2.8	3.1	3.3	2.9	9.5	4.1	2.2	2.5	1.8	2.4
22	2.4	3.1	2.7	3.0	3.2	3.0	8.1	4.2	2.2	2.9	1.8	2.5
23	2.4	3.1	2.9	2.9	3.3	20	7.4	4.2	2.2	2.4	1.9	2.4
24	2.4	3.0	2.8	3.0	3.4	163	7.2	4.1	2.3	2.4	1.8	2.8
25	2.4	3.2	2.8	3.0	3.3	55	6.9	4.1	2.3	2.6	1.7	2.4
26	2.4	2.8	2.8	3.1	3.3	20	7.0	3.9	2.0	2.4	1.9	2.9
27	2.4	2.8	2.8	3.7	3.3	9.8	6.5	4.2	1.9	2.4	1.9	2.8
28	2.4	2.7	2.8	3.9	3.1	9.2	6.4	3.9	2.9	2.4	2.0	2.6
29	2.5	2.5	2.8	2.9	-----	8.6	6.3	3.7	3.1	2.5	2.0	2.5
30	2.5	2.4	2.9	2.9	-----	166	6.7	3.7	2.5	2.5	2.2	2.5
31	2.5	-----	2.8	3.0	-----	165	-----	3.7	-----	2.6	2.4	-----
TOTAL	73.1	86.8	87.2	92.1	87.5	687.0	501.9	148.7	83.8	79.9	68.9	71.7
MEAN	2.36	2.89	2.81	2.97	3.13	22.2	16.7	4.80	2.79	2.58	2.22	2.39
MAX	2.5	4.3	3.2	3.9	3.4	166	201	7.7	3.6	7.2	2.9	2.9
MIN	2.2	2.4	2.5	2.7	2.9	2.8	6.3	3.7	1.9	1.7	1.7	2.1
AC=FT	145	172	173	183	174	1,360	996	295	166	158	137	142

CAL YR 1972 TOTAL 3,366.06 MEAN 9.20 MAX 1,440 MIN .36 AC=FT 6,680
WTR YR 1973 TOTAL 2,068.60 MEAN 5.67 MAX 201 MIN 1.7 AC=FT 4,100

PEAK DISCHARGE (BASE, 500 CFS)

DATE TIME G.H.T. DISCHARGE
4-19 0400 5.19 675

ARKANSAS RIVER BASIN

85

07235000 Wolf Creek at Lipscomb, Tex.

LOCATION.--Lat 36°14'16", Long 100°16'28", Lipscomb County, near center of stream on downstream side of bridge on State Highway 305, 0.3 mile (0.5 km) north of Lipscomb, 0.7 mile (1.1 km) downstream from Little Sandy Creek, 2 miles (3 km) upstream from Plum Creek, and at mile 61.2 (98.5 km).

DRAINAGE AREA.--697 mi² (1,805 km²), of which 222 mi² (575 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1942, October 1961 to current year. Prior to 1941, monthly discharge only, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 2,371.29 ft (722.77 m) above mean sea level. Prior to Feb. 25, 1938, nonrecording gage, Feb. 25, 1938, to Sept. 30, 1942, water-stage recorder and nonrecording gage at present site at datum 5.77 ft (1.76 m) higher.

AVERAGE DISCHARGE.--17 years (1937-42, 1961-73), 21.5 ft³/s (0.61 m³/s), 15,580 acre-ft/yr (19.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 761 ft³/s (21.6 m³/s) Mar. 31, gage height, 6.43 ft (1.96 m); minimum daily, 0.13 ft³/s (3.68 dm³/s) Oct. 16-19.

Period of record: Maximum discharge, 20,000 ft³/s (566 m³/s) Oct. 21, 1941, gage height, 11.57 ft (3.53 m) present datum, from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of velocity-area studies; no flow at times.

Maximum stage since 1890, 15.5 ft (4.7 m) June 23, 1957, present site and datum, from floodmarks. Flood in May 1955 reached a stage of 12.1 ft (3.7 m), present site and datum, from information by State Highway Department.

REMARKS.--Records fair. Small diversion upstream from station for irrigation and recreation.

REVISIONS.--WSP 1311: 1938-39, drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	3.9	5.0	5.8	7.2	6.5	126	21	14	3.7	1.2	.53
2	.53	2.6	5.3	6.3	7.2	6.5	76	19	30	3.2	1.5	.53
3	.68	2.1	5.3	6.3	7.0	6.5	61	19	16	2.6	1.2	.53
4	.68	1.9	5.1	5.3	6.5	6.5	52	18	13	2.8	1.0	1.3
5	.68	1.5	4.5	5.0	6.3	6.7	46	17	12	3.0	1.0	4.2
6	.68	1.2	5.0	4.0	6.0	6.5	43	16	10	2.8	1.0	2.6
7	.68	1.2	4.0	3.5	5.8	6.5	41	15	9.7	2.3	1.0	2.3
8	.68	1.5	3.0	3.5	5.3	6.5	40	16	9.2	2.1	.84	2.3
9	.53	1.5	3.5	3.0	5.0	7.0	41	15	9.0	2.6	1.9	2.1
10	.53	1.7	3.0	2.5	4.8	13	38	15	8.5	3.0	1.7	1.2
11	.53	1.5	2.5	2.0	6.5	14	37	14	8.2	3.0	1.0	1.0
12	.40	3.0	2.0	1.0	6.3	12	36	14	7.7	2.1	.53	1.0
13	.29	3.2	2.0	1.0	6.0	16	35	14	7.5	1.9	.40	1.0
14	.29	2.3	2.0	2.0	5.8	16	35	14	7.0	2.3	.40	.84
15	.29	2.3	2.0	4.0	5.8	15	69	14	6.7	3.0	.29	.84
16	.13	2.1	2.0	6.0	6.0	12	55	14	6.3	2.1	.29	.68
17	.13	2.6	2.0	7.0	6.7	11	61	13	6.0	1.9	.29	.68
18	.13	3.0	3.0	7.7	6.7	10	36	13	5.8	1.7	.29	1.0
19	.13	3.2	4.0	7.2	6.5	10	185	13	5.3	1.7	.29	1.0
20	.20	3.2	5.0	6.5	6.3	10	145	12	5.3	1.5	.29	.84
21	.84	3.0	6.0	6.5	6.3	10	46	13	5.1	1.5	.29	.84
22	1.0	3.0	7.5	6.3	6.3	10	35	14	5.1	1.9	.29	.68
23	.40	4.6	7.7	6.0	6.3	9.2	30	35	4.6	2.8	.40	.68
24	.40	5.1	7.5	5.5	6.3	16	36	19	4.4	1.9	.29	.53
25	.40	5.3	7.2	4.6	6.3	64	31	15	3.9	2.1	.29	.53
26	.40	5.3	6.7	4.4	6.3	28	29	14	3.7	2.1	.29	1.9
27	.40	5.5	6.3	4.8	6.3	18	27	13	3.5	1.7	.29	2.1
28	.68	5.0	6.3	5.1	6.0	14	25	13	3.7	1.5	.29	1.9
29	.53	4.5	6.0	6.0	-----	13	23	13	4.6	1.7	.40	1.7
30	.53	4.5	5.8	6.3	-----	41	22	13	4.8	1.5	.40	1.5
31	2.6	-----	5.3	7.0	-----	460	-----	14	-----	1.2	.53	-----
TOTAL	16.90	91.3	142.5	152.1	173.8	881.4	1,562	482	240.6	69.2	20.17	38.83
MEAN	.55	3.04	4.60	4.91	6.21	28.4	52.1	15.5	8.02	2.23	.65	1.29
MAX	2.6	5.5	7.7	7.7	7.2	460	185	35	30	3.7	1.9	4.2
MIN	.13	1.2	2.0	1.0	4.8	6.5	22	12	3.5	1.2	.29	.53
AC-FT	34	181	283	302	345	1,750	3,100	956	477	137	40	77

CAL YR 1972 TOTAL 2,754.55 MEAN 7.53 MAX 201 MIN .13 AC-FT 5,460
WTR YR 1973 TOTAL 3,870.80 MEAN 10.6 MAX 460 MIN .13 AC-FT 7,680

PEAK DISCHARGE (BASE, 500 FT³/S).--Mar. 31 (0600) 761 ft³/s (6.43 ft).

ARKANSAS RIVER BASIN

07236000 WOLF CREEK NEAR FARGO, OKLA.

LOCATION.--Lat 36°23'57", long 99°37'22", in SE 1/4 NE 1/4 sec.11, T.22 N., R.23 W., Ellis County, near right bank on downstream side of pier of county road bridge, 800 ft (243.8 m) downstream from Boggy Creek, 1.2 mi (1.9 km) downstream from Sixteen Mile Creek, 1.5 mi (2.4 km) north of Fargo, and at mile 18.7 (30.1 km).

DRAINAGE AREA.--1,624 sq mi (4,206 sq km), of which 238 sq mi (616 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGL. Water-stage recorder. Datum of gage is 2,044.35 ft (623.118 m) above mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1962, at same site at datum 10.00 ft (3,048 m) higher.

AVERAGE DISCHARGE.--31 years, 69.1 cfs (1.957 cu m/s), 50,060 acre-ft/yr (61.7 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 720 cfs (20.4 cu m/s) Apr. 1, gage height, 11.95 ft (3.642 m); minimum daily, 1.4 cfs (0.040 cu m/s) Aug. 27, 28, 29.

Period of record: Maximum discharge, 81,600 cfs (2,310 cu m/s) June 23, 1957, gage height, 20.0 ft (6.096 m), present datum, from floodmarks, from rating curve extended above 7,000 cfs (198 cu m/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

Maximum stage known since at least 1913, that of June 23, 1957, from information by local residents.

REMARKS.--Records good.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	21	27	29	59	47	447	130	71	23	13	1.8
2	9.5	20	27	29	59	46	229	87	71	20	12	1.6
3	8.6	19	27	32	54	46	180	81	88	18	11	1.6
4	8.2	18	23	31	50	46	142	79	88	17	11	1.8
5	8.1	17	20	27	48	46	121	78	64	20	9.9	10
6	7.8	16	15	24	46	47	108	79	56	17	9.4	11
7	7.6	16	19	21	42	45	104	74	52	15	8.5	9.5
8	7.7	16	23	19	37	49	116	71	49	14	9.5	9.1
9	7.6	16	20	15	33	50	113	70	46	13	13	9.1
10	7.4	16	18	17	36	88	115	69	43	13	11	8.6
11	6.3	16	20	14	44	115	118	67	42	14	10	8.2
12	6.0	17	22	13	49	87	109	68	41	13	9.5	8.8
13	6.3	22	18	18	47	76	101	69	40	13	8.3	9.1
14	6.6	21	20	30	46	82	97	69	39	14	7.7	9.1
15	7.1	20	19	47	46	71	99	68	36	14	7.1	8.7
16	6.6	20	18	53	46	68	101	66	35	12	6.3	8.7
17	6.4	19	20	46	46	66	111	63	34	11	5.5	9.5
18	6.1	22	23	39	48	65	103	63	32	10	4.7	11
19	6.8	24	27	38	48	63	135	61	29	10	4.1	11
20	9.9	22	28	36	46	62	128	59	28	9.5	3.6	11
21	13	23	33	38	45	60	215	58	28	9.0	3.1	11
22	13	25	36	38	44	61	133	59	27	14	2.7	9.8
23	12	24	42	37	45	62	105	74	26	15	2.4	9.1
24	12	26	38	37	46	132	110	75	24	14	2.0	8.6
25	12	28	35	36	45	105	111	80	23	15	1.8	8.2
26	12	28	31	36	44	142	101	64	22	14	1.6	12
27	12	29	31	32	45	126	95	59	20	13	1.4	13
28	13	29	31	28	45	102	91	59	24	13	1.4	13
29	13	28	31	23	-----	90	86	55	28	12	1.4	13
30	14	28	31	31	-----	228	86	55	27	12	1.5	13
31	17	-----	29	45	-----	289	-----	68	-----	13	1.8	-----
TOTAL	293.4	646	802	959	1,289	2,662	3,910	2,177	1,233	434.5	196.2	269.9
MEAN	9.46	21.5	25.9	30.9	46.0	85.9	130	70.2	41.1	14.0	6.33	9.00
MAX	17	29	42	53	59	289	447	130	88	23	13	13
MIN	6.0	16	15	13	33	45	86	55	20	9.0	1.4	1.6
AC=FT	582	1,280	1,590	1,900	2,560	5,280	7,760	4,320	2,450	862	389	535

CAL YR 1972 TOTAL 10,842.1 MEAN 29.6 MAX 191 MIN 1.2 AC=FT 21,510
WTR YR 1973 TOTAL 14,872.0 MEAN 40.7 MAX 447 MIN 1.4 AC=FT 29,500

PEAK DISCHARGE (BASE, 2,000 CFS).--No peak above base.

07236500 FORT SUPPLY LAKE NEAR FORT SUPPLY, OKLA.

LOCATION.--Lat 36°33'14", long 99°34'16", in NE 1/4 SE 1/4 sec.17, T.24 N., R.22 W., Woodward County, in control tower at left end of Fort Supply Dam on Wolf Creek, 2.0 mi (3.2 km) southeast of Fort Supply and at mile 5.5 (8.8 km).

DRAINAGE AREA.--1,735 sq mi (4,494 sq km), of which 241 sq mi (624 sq km) is probably noncontributing.

PERIOD OF RECORD.--June 1942 to current year. Prior to October 1970, published as Fort Supply Reservoir near Fort Supply.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 16,580 acre-ft (20.4 cu hm) Apr. 6, elevation, 2,005.37 ft (611.237 m); minimum, 11,790 acre-ft (14.5 cu hm) Sept. 22, elevation, 2,002.83 ft (610.463 m).

Period of record: Maximum contents, 99,500 acre-ft corrected (123 cu hm), June 25, 1957, elevation, 2,026.97 ft (617.820 m) corrected, from capacity table then in use; no contents at times November 1942 to January 1943.

REMARKS.--Reservoir is formed by an earth dam. Regulated storage began May 4, 1942; conservation pool first filled in June 1942. Capacity, 100,700 acre-ft (124 cu hm) at elevation 2,028.0 ft (618.134 m), crest of spillway and 13,890 acre-ft (17.1 cu hm) at elevation 2,004.0 ft (610.819 m), conservation pool, designated in 1965. No storage below elevation 1,987.0 ft (605.688 m). Figures given herein represent total contents. Reservoir is used for flood control and conservation. Revised capacity table, based on survey in 1969, used Since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

REVISIONS.--WSP 1117: Drainage area.

Capacity table (elevation, in feet, and content, in acre-feet)

2,002	10,430	2,005	15,830
2,003	12,080	2,006	17,890
2,004	13,890		

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13,590	13,350	14,480	15,020	13,830	13,570	15,690	13,850	14,790	13,970	13,240	11,950
2	13,590	13,330	14,520	15,000	13,910	13,590	16,170	13,850	14,890	13,870	13,220	11,950
3	13,480	13,350	14,520	14,940	14,000	13,520	16,380	13,810	14,980	13,850	13,180	11,830
4	13,480	13,460	14,610	14,810	13,970	13,530	16,480	13,850	15,060	13,780	13,150	12,050
5	13,310	13,480	14,560	14,670	13,980	13,520	16,540	13,930	15,180	13,760	13,150	12,010
6	13,350	13,390	14,590	14,520	14,000	13,520	16,520	13,830	15,280	13,740	13,040	12,000
7	13,350	13,420	14,540	14,580	13,850	13,530	16,230	13,850	15,340	13,700	13,080	12,070
8	13,310	13,480	14,610	14,230	13,930	13,630	16,400	13,930	15,370	13,660	13,020	12,050
9	13,310	13,390	14,650	14,140	13,930	13,650	16,310	13,890	15,430	13,590	12,990	12,030
10	13,390	13,460	14,670	14,000	13,930	14,020	16,230	13,890	15,490	13,550	12,990	12,010
11	13,280	13,520	14,790	13,850	13,930	14,210	16,130	13,850	15,470	13,520	12,910	11,980
12	13,240	13,530	14,890	13,760	13,870	14,460	16,030	13,850	15,470	13,500	12,890	11,980
13	13,280	13,420	14,850	13,700	13,810	14,610	15,950	13,850	15,510	13,480	12,820	11,950
14	13,150	13,530	14,850	13,650	13,810	14,580	15,830	13,830	15,340	13,420	12,810	11,930
15	13,220	13,610	14,810	13,630	13,810	14,360	15,570	13,830	15,000	13,420	12,750	11,830
16	13,150	13,570	14,770	13,650	13,800	14,330	15,530	13,800	14,560	13,390	12,730	11,830
17	13,130	13,650	14,750	13,700	13,850	14,310	15,390	13,780	14,270	13,390	12,700	11,840
18	13,040	13,720	14,730	13,630	13,780	14,250	15,340	13,740	13,930	13,330	12,660	11,890
19	13,060	13,760	14,730	13,650	13,760	14,170	15,220	13,680	13,930	13,280	12,570	11,830
20	13,180	13,800	14,730	13,550	13,760	14,140	15,080	13,660	13,930	13,110	12,540	11,840
21	13,150	13,890	14,730	13,660	13,700	14,140	15,060	13,630	13,930	13,150	12,500	11,810
22	13,090	13,950	14,770	13,630	13,720	14,120	15,040	13,660	13,930	13,240	12,470	11,830
23	13,110	13,980	14,850	13,650	13,680	14,150	14,920	13,890	13,950	13,240	12,340	11,890
24	13,130	14,100	14,890	13,650	13,680	14,150	14,890	13,980	13,850	13,220	12,340	11,810
25	13,170	14,120	14,940	13,650	13,650	14,330	14,770	14,170	13,850	13,370	12,260	11,880
26	13,150	14,170	14,960	13,630	13,650	14,460	14,650	14,170	13,780	13,350	12,190	11,840
27	13,150	14,230	14,960	13,610	13,700	14,560	14,540	14,150	13,760	13,330	12,120	11,840
28	13,150	14,310	15,000	13,680	13,650	14,560	14,520	14,290	13,810	13,310	12,120	11,840
29	13,180	14,400	15,040	13,660	-----	14,560	14,230	14,360	13,890	13,290	12,030	11,840
30	13,090	14,440	15,020	13,680	-----	14,830	14,060	14,540	13,910	13,260	12,000	11,830
31	13,280	-----	15,020	13,660	-----	15,240	-----	14,610	-----	13,260	12,050	-----
MAX	13,590	14,440	15,040	15,020	14,000	15,240	16,540	14,610	15,510	13,970	13,240	12,070
MIN	13,040	13,330	14,480	13,550	13,650	13,520	14,060	13,630	13,760	13,110	12,000	11,810
(†)	2,003.67	2,004.29	2,004.59	2,003.88	2,003.87	2,004.70	2,004.09	2,004.38	2,004.01	2,003.66	2,002.98	2,002.85
(‡)	-330	+1,160	+580	-1,360	-10	+1,590	-1,180	+550	-700	-650	-1,210	-220

CAL YR 1972.....† +1,050
WTR YR 1973.....‡ -1,780

Note.--Contents based on revised capacity table, Dec. 31, 1971, 13,970 acre-feet, Sept. 30, 1970, 13,610 acre-feet.

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

ARKANSAS RIVER BASIN

07237000 WOLF CREEK NEAR FORT SUPPLY, OKLA.

LOCATION.--Lat 36°34'00", long 99°33'05", in SE 1/4 SE 1/4 sec.9, T.24 N., R.22 W., Woodward County, near left bank on downstream side of pier of bridge on U.S. Highway 270, 1.0 mi (1.6 km) southeast of Fort Supply, 1.6 mi (2.6 km) downstream from Fort Supply Dam, and at mile 3.9 (6.3 km).

DRAINAGE AREA.--1,739 sq mi (4,504 sq km), of which 241 sq mi (624 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Prior to Oct. 1, 1941, published as "near Supply".

GAGE.--Water-stage recorder. Datum of gage is 1,958.38 ft (596.914 m) above mean sea level (levels by Corps of Engineers). See WSP 1921 for history of changes prior to Sept. 30, 1962.

AVERAGE DISCHARGE.--36 years, 68.6 cfs (1.943 cu m/s), 49,700 acre-ft/yr (61.3 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 214 cfs (6.06 cu m/s) June 15, gage height, 6.83 ft (2.082 m); minimum daily, 0.30 cfs (0.008 cu m/s) Oct. 3.

Period of record: Maximum discharge, 14,200 cfs (403 cu m/s) June 24, 1939, gage height, 15.60 ft (4.775 m), present datum, from rating curve extended above 8,000 cfs (227 cu m/s); no flow at times in most years.

A stage of 19.6 ft (5.97 m), present datum, was reached prior to October 1937, from information by State Highway Department.

REMARKS.--Records good. Flow completely regulated since May 1942 by Fort Supply Lake (see sta. 07236500).

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.35	2.6	1.2	42	65	55	130	158	4.5	4.3	1.3	1.1
2	.31	1.3	1.3	42	62	54	130	127	4.8	3.7	1.2	.94
3	.30	1.3	1.1	73	62	53	132	113	4.5	3.3	1.1	1.2
4	.35	1.2	1.2	106	62	51	133	82	4.5	2.8	1.2	4.4
5	.37	1.1	1.3	105	62	50	133	64	4.3	2.5	1.2	2.7
6	.40	1.0	1.3	104	63	43	148	63	3.5	2.4	1.1	1.8
7	.40	1.0	1.2	103	63	31	187	62	3.0	2.0	.94	2.4
8	.42	1.1	1.2	102	62	34	190	61	2.8	1.9	1.2	2.0
9	.44	1.0	1.1	103	63	30	188	61	2.5	1.7	1.3	1.7
10	.50	.91	.99	104	63	44	189	61	2.1	1.7	1.1	1.4
11	.62	.93	.99	103	65	35	190	61	1.9	1.5	.93	1.3
12	.80	1.2	1.0	88	65	32	189	61	1.7	1.5	.87	2.6
13	1.0	1.5	28	77	65	64	190	61	1.7	1.4	.71	2.7
14	.92	.90	32	73	66	90	191	62	78	1.7	.79	1.8
15	.94	.90	30	64	66	91	187	61	213	1.5	.79	1.7
16	1.1	.90	29	60	65	91	185	61	212	1.3	.73	1.4
17	1.1	1.1	29	58	65	91	184	61	213	1.2	.70	1.7
18	.96	1.8	28	56	64	91	185	61	141	1.1	.57	1.6
19	.98	1.5	29	55	64	90	181	61	20	1.0	.50	1.5
20	1.7	1.1	29	55	63	90	178	61	13	.83	.56	1.5
21	1.7	1.8	28	57	63	91	180	56	10	.73	.73	1.5
22	1.0	1.3	28	56	63	90	180	8.0	10	3.5	.70	1.5
23	.87	1.2	28	56	62	92	181	5.9	8.6	2.2	.70	1.5
24	.82	1.9	28	56	61	90	182	8.0	7.3	2.0	.70	1.9
25	.79	1.8	28	57	60	90	182	4.0	6.3	5.8	.62	1.7
26	.75	1.5	30	58	59	90	182	4.3	5.4	4.0	.69	3.3
27	.78	1.7	44	60	59	98	182	5.6	4.7	2.5	.70	2.3
28	.81	1.4	44	59	58	128	181	4.8	5.3	2.2	.70	1.9
29	.90	1.3	44	59	-----	129	179	4.8	5.7	1.6	.67	1.7
30	1.1	1.3	43	60	-----	134	181	5.0	5.8	1.4	.64	1.9
31	1.8	-----	43	60	-----	131	-----	5.3	-----	1.4	.94	-----
TOTAL	25.28	39.54	644.88	2,211	1,760	2,373	5,230	1,574.7	1,000.9	66.66	26.58	56.64
MEAN	.82	1.32	20.8	71.3	62.9	76.5	174	50.8	33.4	2.15	.86	1.89
MAX	1.8	2.6	44	106	66	134	191	158	213	5.8	1.3	4.4
MIN	.30	.90	.99	42	58	30	130	4.0	1.7	.73	.50	.94
AC=FT	50	78	1,280	4,390	3,490	4,710	10,370	3,120	1,990	132	53	112

CAL YR 1972 TOTAL 6,420.00 MEAN 17.5 MAX 106 MIN .30 AC=FT 12,730
WTR YR 1973 TOTAL 15,009.18 MEAN 41.1 MAX 213 MIN .30 AC=FT 29,770

07237500 NORTH CANADIAN RIVER AT WOODWARD, OKLA.

LOCATION.--Lat 36°26'18", long 99°16'40", in SE 1/4 SE 1/4 sec.25, T.23 N., R.20 W., Woodward County, near right bank on downstream side of pier of bridge on State Highway 15, 200 ft (61.0 m) downstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 6.0 mi (9.7 km) east of Woodward, 7.2 mi (11.6 km) upstream from Indian Creek, 27.5 mi (44.2 km) downstream from Wolf Creek, and at mile 460.2 (740.5 km).

DRAINAGE AREA.--11,589 sq mi (30,016 sq km), of which 4,812 sq mi (12,463 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1903 to September 1905 (gage heights only), October 1905 to June 1906, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Canadian River (North Fork) near Woodward 1903-6. Gage-height records collected in this vicinity since 1919 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 1,830.43 ft (557.915 m) above mean sea level. Prior to July 1906, nonrecording gage at railway bridge 200 ft (61.0 m) upstream at different datum. Oct. 1, 1938, to Oct. 26, 1943, nonrecording gage and Oct. 27, 1943, to July 12, 1951, water-stage recorder, at site 7.8 mi (12.6 km) upstream at datum 37.01 ft (11.281 m) higher than present datum.

AVERAGE DISCHARGE.--35 years (1938-73), 214 cfs (6.06 cu m/s), 155,000 acre-ft/yr (191 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 2,990 cfs (84.7 cu m/s) Apr. 1, gage height, 8.42 ft (2.566 m); no flow, Aug. 24 to Sept. 3.

Period of record: Maximum discharge, 42,000 cfs (1,190 cu m/s) Oct. 10, 1946, gage height, 9.80 ft (2.987 m), site and datum then in use; no flow at times in most years.

Flood of Oct. 12, 1923, reached a stage of 11.0 ft (3.35 m), site and datum then in use; from reports of U.S. Weather Bureau.

REMARKS.--Records good except for winter periods, which are fair. Some regulation since May 1942 by Fort Supply Lake on Wolf Creek 33 mi (5.3 km) upstream (see sta. 07236500).

REVISIONS (WATER YEARS).--WSP 1341: Drainage area. WSP 1731: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	15	20	86	207	128	2,830	653	105	14	5.0	0
2	4.8	5.2	23	82	201	128	1,890	500	109	11	4.1	0
3	3.9	4.3	24	87	199	128	1,300	380	88	9.0	3.3	0
4	3.6	3.7	16	95	194	130	941	391	77	10	6.8	5.6
5	3.5	3.3	14	130	191	128	762	333	140	7.8	3.4	5.4
6	3.4	2.9	10	120	188	130	720	275	197	7.0	2.5	2.1
7	3.3	2.4	7.0	115	183	118	714	259	130	5.9	2.4	3.6
8	3.0	2.4	5.0	110	149	120	690	247	92	5.1	3.9	2.8
9	2.8	2.5	4.5	105	130	118	680	242	69	4.6	3.4	2.2
10	2.7	2.3	4.0	100	140	203	660	232	56	5.5	2.3	1.9
11	2.6	2.3	3.8	95	153	248	705	222	48	5.5	2.0	1.7
12	2.5	2.6	3.7	100	164	914	704	207	43	3.7	1.7	6.2
13	2.4	4.6	3.5	110	170	813	722	199	40	3.7	1.3	7.6
14	2.4	2.8	3.6	130	161	850	795	200	38	5.2	1.5	3.1
15	2.3	2.7	3.7	180	155	724	891	199	40	7.4	1.2	2.6
16	2.1	2.7	14	205	147	500	855	191	163	3.8	1.1	2.5
17	2.0	2.7	19	190	150	402	868	180	175	5.3	.86	3.2
18	1.8	4.3	22	159	155	354	931	176	178	30	.66	3.3
19	2.1	6.7	45	162	156	326	971	169	123	20	.48	3.3
20	3.6	6.9	42	161	150	314	949	160	42	9.8	.34	3.2
21	5.6	7.2	41	163	141	302	1,470	156	31	4.9	.34	3.3
22	3.2	8.1	40	166	140	282	1,080	137	26	10	.14	3.1
23	2.3	5.6	39	181	144	289	958	121	22	9.2	.01	2.7
24	2.3	9.9	46	158	141	375	886	101	19	5.2	0	3.6
25	2.3	9.8	52	145	133	1,540	817	90	15	37	0	4.1
26	2.3	7.4	82	144	132	2,460	827	82	14	16	0	20
27	2.4	7.5	98	140	131	1,440	690	77	12	7.9	0	15
28	2.5	9.0	101	124	129	979	647	81	23	5.2	0	10
29	2.6	12	100	133	-----	828	606	122	25	4.0	0	6.0
30	2.7	17	103	156	-----	997	596	121	19	6.9	0	4.0
31	3.8	-----	92	178	-----	1,580	-----	117	-----	12	0	-----
TOTAL	92.6	175.8	1,081.8	4,210	4,434	17,848	28,155	6,620	2,159	292.6	48.73	132.1
MEAN	2.99	5.86	34.9	136	158	576	939	214	72.0	9.44	1.57	4.40
MAX	5.8	17	103	205	207	2,460	2,830	653	197	37	6.8	20
MIN	1.8	2.3	3.5	82	129	118	596	77	12	3.7	0	0
AC=FT	184	349	2,150	8,350	8,790	35,400	55,850	13,130	4,280	580	97	262

CAL YR 1972 TOTAL 36,018.60 MEAN 98.4 MAX 3,360 MIN 0 AC=FT 71,440
WTR YR 1973 TOTAL 65,249.63 MEAN 179 MAX 2,830 MIN 0 AC=FT 129,400

PEAK DISCHARGE (BASE, 3,500 CFS).--No peak above base.

ARKANSAS RIVER BASIN

07238000 NORTH CANADIAN RIVER NEAR SEILING, OKLA.

LOCATION.--Lat 36°11'06", long 98°55'15", in NW 1/4 sec.28, T.20 N., R.16 W., Major County, near center of span on downstream side of pier of bridge on U.S. Highway 60, 2.0 mi (3.2 km) upstream from Seiling Creek, 2.2 mi (3.5 km) north of Seiling, 2.8 mi (4.5 km) downstream from Deep Creek, and at mile 422.6 (680.0 km).

DRAINAGE AREA.--12,261 sq mi (31,756 sq km), of which 4,847 sq mi (12,554 sq km) is probably noncontributing.

PERIOD OF RECORD.--July 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,675.42 ft (510.668 m) above mean sea level (levels by Corps of Engineers). July 1, 1946, to Aug. 17, 1964, at site 60 ft (18.3 m) downstream and prior to Oct. 1, 1954, at datum 5.00 ft (1.524 m) higher.

AVERAGE DISCHARGE.--27 years, 234 cfs (6.627 cu m/s), 169,500 acre-ft/yr (209 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 4,120 cfs (117 cu m/s) Mar. 30, gage height, 12.42 ft (3.786 m); no flow Sept. 1-3.
Period of record: Maximum discharge, 33,000 cfs (935 cu m/s) May 19, 1951, gage height, 15.61 ft (4.758 m), present datum; maximum gage height, 16.00 ft (4.877 m) Oct. 11, 1946, present datum; no flow at times in most years.

REMARKS.--Records good. Some regulation by Fort Supply Lake on Wolf Creek 70.6 mi (113.6 km) upstream. (See sta. 07236500).

REVISIONS (WATER YEARS).--WSP 1341: Drainage area. WSP 1731: 1951(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	16	31	105	244	162	2,620	1,700	181	29	12	0
2	12	15	32	103	270	159	2,920	1,050	177	25	10	0
3	11	17	35	108	257	157	2,140	729	160	23	9.6	0
4	9.2	14	28	105	244	163	1,590	664	127	21	8.6	.54
5	8.4	13	20	100	226	160	1,260	621	108	19	8.0	.96
6	6.8	12	14	90	215	161	1,040	555	118	18	6.4	.73
7	6.0	11	11	85	211	159	912	490	183	16	5.0	.83
8	5.4	10	9.5	80	192	207	1,110	443	132	15	4.2	.76
9	5.4	9.9	8.5	78	160	230	1,170	413	96	14	3.4	.58
10	5.1	9.8	8.0	75	155	524	1,090	386	86	17	2.8	.48
11	5.1	9.2	7.8	72	160	494	1,090	361	78	15	2.1	.40
12	4.8	12	7.5	70	183	393	1,030	339	70	13	1.4	.30
13	4.9	16	8.0	90	190	878	964	315	62	12	.95	.30
14	4.6	14	10	110	189	662	892	297	55	11	.90	.20
15	4.4	13	15	160	182	684	877	286	54	22	.82	.20
16	4.3	13	16	194	177	568	929	270	50	18	.76	.14
17	4.3	12	17	226	172	459	853	250	98	15	.67	.10
18	4.1	15	18	192	171	390	800	236	127	13	.51	.10
19	4.0	17	21	163	172	350	1,170	222	125	11	.49	.10
20	5.7	17	23	164	169	340	971	207	103	8.9	.48	.10
21	11	19	30	170	166	328	1,490	196	60	7.4	.47	.10
22	12	21	50	163	161	322	1,340	187	48	5.6	.40	.10
23	9.8	20	72	173	159	313	942	260	41	8.1	.40	.10
24	8.8	22	71	178	160	388	1,000	193	36	8.8	.28	.10
25	8.1	25	69	168	157	1,070	1,060	154	30	24	.20	.04
26	8.0	27	70	163	155	2,430	881	136	27	42	.19	.58
27	7.7	31	87	150	152	2,330	862	122	25	30	.10	.6.8
28	7.8	32	102	130	151	1,400	751	116	24	20	.10	1.9
29	8.5	31	109	110	-----	1,030	710	111	26	17	.05	1.4
30	9.6	31	112	145	-----	2,420	735	128	32	15	.10	1.1
31	12	-----	111	203	-----	2,940	-----	272	-----	13	.09	-----
TOTAL	232.8	524.9	1,223.3	4,123	5,200	22,271	35,199	11,709	2,539	526.8	81.46	19.04
MEAN	7.51	17.5	39.5	133	186	718	1,173	378	84.6	17.0	2.63	.63
MAX	14	32	112	226	270	2,940	2,920	1,700	183	42	12	6.8
MIN	4.0	9.2	7.5	70	151	157	710	111	24	5.6	.05	0
AC-FT	462	1,040	2,430	8,180	10,310	44,170	69,820	23,220	5,040	1,040	162	38

CAL YR 1972 TOTAL 45,232.40 MEAN 124 MAX 3,020 MIN 2.4 AC-FT 89,720
WTR YR 1973 TOTAL 83,649.30 MEAN 229 MAX 2,940 MIN 0 AC-FT 165,900

PEAK DISCHARGE (BASE, 3,500 CFS)

DATE TIME G.HT. DISCHARGE
3-30 2030 12.42 4,120

07238500 CANTON LAKE NEAR CANTON, OKLA.

LOCATION.--Lat 36°05'03", long 98°36'05", in SE 1/4 NE 1/4 sec.32, T.19 N., R.13 W., Blaine County, near right end of Canton Dam on North Canadian River, 2.0 mi (3.2 km) northwest of Canton, and at mile 394.3 (634.4 km).

DRAINAGE AREA.--12,483 sq mi (32,331 sq km), of which 4,883 sq mi (12,647 km) is probably noncontributing.

PERIOD OF RECORD.--April 1948 to current year. Prior to October 1970 published as Canton Reservoir near Canton.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 162,500 acre-ft (2,000 cu hm) Apr. 17, elevation, 1,620.49 ft (493.925 m); minimum, 68,640 acre-ft (84.6 cu hm) Oct. 20, elevation, 1,608.25 ft (490.195 m).

Period of record: Maximum contents, 258,600 acre-ft (319 cu hm) May 25, 1951, elevation, 1,628.05 ft (496.230 m); minimum since conservation pool was first filled, 867 acre-ft (1.07 cu hm) May 5, 1955, elevation, 1,585.66 ft (483.309 m), from capacity table then in use.

REMARKS.--Reservoir is formed by an earth dam. Regulated storage began Apr. 15, 1948; conservation pool was first filled July 4, 1948. Capacity, 383,800 acre-ft (473 cu hm) at elevation 1,638.0 ft (499.26 m) (flood-control pool), 116,000 acre-ft (143 cu hm) at elevation 1,615.2 ft (492.31 m) (normal water-supply pool, designated in 1965), 99,400 acre-ft (123 cu hm) at elevation 1,613.0 ft (492 m) (crest of spillway), and 18,460 acre-ft (22.8 cu hm) at elevation 1,596.5 ft (486.61 m) (conservation pool). Dead storage, 4 acre-ft (4,930 cu m) at elevation 1,582.0 ft (482.19 m) (invert of bypass gates). Figures given herein represent total contents. Reservoir was designed for flood control, irrigation, and conservation, but owing to a lack of facilities, it is not being used for irrigation at this time. Revised capacity table, based on survey in 1966, used since Oct. 1, 1967. Records of chemical analyses for current year are published in part 2 of this report.

COOPERATION.--Records furnished by Corps of Engineers.

REVISIONS.--WSP 1341: Drainage area.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,608	67,210	1,617	130,800
1,611	85,580	1,620	157,800
1,614	106,800	1,621	167,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70,440	69,790	70,320	72,740	82,650	92,660	141,600	159,100	125,400	115,400	112,000	105,700
2	70,140	69,790	70,380	72,920	82,970	92,870	146,400	159,000	125,300	115,200	111,900	105,400
3	70,200	69,740	70,490	73,630	83,360	93,490	151,100	158,100	125,800	114,900	111,600	105,300
4	70,140	69,620	70,440	73,630	84,270	93,700	154,300	156,700	126,300	114,900	111,400	105,900
5	70,090	69,500	70,790	73,750	84,930	93,980	156,200	155,500	126,400	114,700	110,900	106,400
6	69,970	69,970	70,440	73,810	85,250	94,400	156,600	154,600	125,300	114,600	110,700	106,300
7	69,850	69,620	70,380	73,930	85,580	94,750	156,500	155,300	123,800	114,300	110,500	106,300
8	69,790	69,500	70,490	73,930	85,910	96,580	156,600	151,800	122,000	114,100	110,300	106,400
9	69,680	69,850	70,440	73,990	86,110	97,150	156,100	150,400	120,300	114,000	110,200	106,400
10	69,500	69,450	70,440	74,060	86,370	99,800	155,600	149,100	118,300	113,800	110,000	106,200
11	69,620	69,330	70,490	74,180	86,700	100,800	155,300	147,500	116,800	113,600	109,900	106,200
12	69,620	69,680	70,610	74,300	87,370	101,800	155,800	145,900	116,400	113,300	109,800	106,300
13	69,450	70,260	70,610	74,420	87,900	102,200	157,300	144,200	116,400	113,300	109,600	106,200
14	69,620	69,620	70,790	74,660	87,970	104,200	158,200	142,800	116,200	113,200	109,400	105,900
15	69,210	69,390	70,790	74,780	88,170	105,300	161,400	141,000	116,000	113,000	109,300	105,900
16	69,210	69,500	70,730	75,140	88,510	106,400	161,900	139,300	116,500	112,700	109,200	105,800
17	69,210	69,500	70,670	75,570	88,710	107,200	162,000	137,400	116,200	112,300	109,000	105,600
18	69,210	69,910	70,790	76,120	89,180	108,000	160,700	137,200	116,600	112,000	108,800	105,400
19	68,810	69,790	70,790	76,300	89,580	109,200	160,500	137,400	116,500	111,500	108,700	105,300
20	68,930	69,850	70,850	76,980	89,790	109,600	160,000	137,600	116,600	111,900	108,500	105,100
21	69,390	69,970	70,960	78,100	90,130	110,000	160,400	138,200	116,700	111,500	108,300	105,100
22	69,620	69,970	70,960	78,410	90,470	110,600	160,600	138,900	116,600	111,500	107,700	105,000
23	69,390	69,910	70,900	78,530	90,740	111,700	160,200	138,600	116,200	111,700	107,700	104,700
24	69,390	70,090	71,260	78,910	91,080	113,500	160,200	136,800	116,000	111,600	107,100	105,000
25	69,270	70,140	71,370	79,280	91,490	114,300	159,700	134,700	115,900	112,700	107,100	104,500
26	69,270	70,090	71,550	79,660	91,630	115,500	159,200	132,900	115,600	112,500	106,800	106,000
27	69,270	70,200	71,670	81,690	91,770	118,400	158,300	131,000	115,600	112,300	106,600	106,000
28	69,270	70,200	71,730	80,800	91,900	122,700	157,200	129,100	115,600	112,300	106,400	105,800
29	69,210	70,200	72,200	80,800	-----	125,100	156,300	127,200	115,600	112,300	106,300	105,600
30	69,970	70,090	72,320	80,730	-----	130,400	157,200	126,000	115,600	112,500	106,100	105,600
31	69,850	-----	72,560	81,880	-----	135,700	-----	125,500	-----	112,300	105,800	-----
MAX	70,440	70,260	72,560	81,880	91,900	135,700	162,000	159,100	126,400	115,400	112,000	106,400
MIN	68,810	69,330	70,320	72,740	82,650	92,660	141,600	125,500	115,600	111,500	105,800	104,500
(7)	1,608.46	1,608.50	1,608.92	1,610.43	1,611.94	1,617.57	1,619.93	1,616.37	1,615.14	1,614.72	1,613.87	1,613.84
(3)	-640	+240	+2,470	+9,320	+10,020	+43,800	+21,500	-31,700	-9,900	-3,300	-6,500	-200

CAL YR 1972.....‡ +1,830

WTR YR 1973.....‡ +35,110

† Elevation, in feet, at end of month.

‡ Change in contents, at end of month.

LOCATION.--Lat 36°04'45", long 98°35'25", in NE 1/4 SW 1/4 sec.33, T.19 N., R.13 W., Blaine County, on right bank 2,700 ft (823.0 m) downstream from Canton Dam, 1.5 mi (2.4 km) northwest of Canton, 4.8 mi (7.7 km) upstream from Minnehaha Creek, and at mile 393.8 (633.6 km).

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1914 are contained in reports of U.S. Weather Bureau.

AVERAGE DISCHARGE.--36 years, 205 cfs (5.806 cu m/s), 148,500 acre-ft/yr (183 cu hm/yr).

Flood of Oct. 13, 1923, reached a stage of 16.8 ft (5.121 m), at site 300 ft (91.4 m) upstream from former site at datum 1.91 ft (0.582 m) lower than present datum, from reports of U.S. Weather Bureau.

REVISIONS.--WSP 1341: Drainage area.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.9	3.9	3.7	3.5	4.0	6.0	625	413	15	4.8	3.5
2	3.0	3.3	3.9	4.3	3.0	3.9	6.6	1,080	464	15	5.1	3.5
3	3.0	3.3	3.7	4.7	3.0	4.4	6.3	1,070	32	19	6.5	3.1
4	2.8	3.5	3.5	4.8	3.0	4.1	5.8	1,070	28	16	10	4.0
5	2.8	3.3	3.5	4.6	3.3	3.9	5.5	1,070	26	18	10	4.3
6	2.4	3.1	3.5	4.3	3.5	4.1	576	1,070	420	16	9.1	4.0
7	2.4	3.1	3.5	4.6	3.3	4.1	1,020	1,050	970	16	7.1	5.0
8	2.6	3.1	3.5	4.3	2.8	11	1,020	1,050	973	15	6.8	4.6
9	2.3	3.1	3.5	4.3	2.8	5.8	1,020	1,050	973	14	6.9	4.1
10	2.3	3.0	3.5	4.1	3.0	13	1,020	1,050	973	15	6.3	3.7
11	2.0	3.0	3.5	4.3	3.7	5.8	1,020	1,040	874	16	5.4	3.9
12	1.9	3.7	3.5	3.9	3.9	5.5	468	1,030	346	15	5.1	4.2
13	1.9	3.9	3.5	3.9	3.7	6.6	23	1,030	27	4.8	4.6	5.0
14	1.7	3.1	3.5	4.3	3.7	5.2	20	1,020	21	4.1	4.6	4.1
15	1.9	3.3	3.5	5.0	3.7	11	20	1,010	18	4.1	4.8	4.1
16	1.9	3.1	3.5	4.7	3.9	3.3	17	1,010	17	4.1	4.0	4.1
17	1.9	3.3	3.5	4.0	3.9	3.9	581	1,000	17	4.1	3.3	4.4
18	2.0	4.0	3.9	3.3	3.9	4.1	1,050	750	18	3.9	3.0	4.3
19	2.0	4.3	4.7	3.1	4.1	4.3	1,060	49	18	3.8	3.0	4.3
20	3.3	4.1	5.2	3.1	4.8	3.7	1,050	44	15	3.2	2.8	4.3
21	5.7	4.1	5.0	4.9	4.8	4.3	1,050	43	12	3.0	3.1	4.3
22	5.3	4.1	5.0	3.3	4.6	4.6	1,050	43	14	3.6	3.2	4.3
23	3.7	4.1	5.0	3.1	5.0	4.9	1,050	383	14	4.6	2.9	3.7
24	3.7	4.4	4.6	3.1	5.0	5.9	1,050	1,120	16	3.9	2.9	3.7
25	3.5	4.1	4.3	3.0	4.6	6.0	1,050	1,120	16	7.4	3.0	3.7
26	3.5	3.9	4.3	2.8	4.1	4.8	1,040	1,120	16	4.8	3.0	6.5
27	3.3	3.9	4.3	2.8	4.1	5.8	1,050	1,110	16	5.0	7.1	5.1
28	3.1	3.7	4.3	2.6	4.2	6.5	1,050	746	16	4.8	3.5	4.0
29	3.1	3.9	4.1	2.6	-----	5.5	1,050	943	15	5.3	5.8	3.7
30	3.7	3.7	3.7	3.0	-----	21	1,040	935	14	5.1	3.9	3.4
31	4.1	-----	3.7	3.1	-----	7.1	-----	550	-----	4.8	3.0	-----
TOTAL	89.8	108.4	122.6	117.6	106.9	188.1	20,475.2	26,281	6,792	274.4	154.6	124.9
MEAN	2.90	3.61	3.95	3.79	3.82	6.07	683	848	226	8.85	4.99	4.16
MAX	5.7	4.4	5.2	5.0	5.0	21	1,060	1,120	973	19	10	6.5
MIN	1.7	3.0	3.5	2.6	2.8	3.3	5.5	43	12	3.0	2.8	3.1
AC=FT	178	215	243	233	212	373	40,610	52,130	13,470	544	307	242

CAL YR 1972	TOTAL 28,987.7	MEAN 79.2	MAX 1,080	MIN 1.6	AC=FT 57,500
WTR YR 1973	TOTAL 54,835.5	MEAN 150	MAX 1,120	MIN 1.7	AC=FT 108,800

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OKLA.

LOCATION.--Lat 35°33'44", long 97°57'32", on east line of sec.32, T.13 N., R.7 W., Canadian County, near left bank on downstream side of pier of bridge of U.S. Highway 81, 2.0 mi (3.2 km) north of courthouse in El Reno, 2.2 mi (3.5 km) downstream from Target Creek, and at mile 307.4 (494.6 km).

DRAINAGE AREA.--13,042 sq mi (33,779 sq km), of which 4,899 sq mi (12,688 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1902 to April 1908, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at site 1 mi (1.6 km) upstream March 1914 to March 1934 and at present site thereafter are contained in reports of U.S. Weather Bureau. Published as Canadian River (North Fork) near El Reno 1902-4.

GAGE.--Water-stage recorder. Datum of gage is 1,299.02 ft (395.941 m) above mean sea level (U.S. Weather Bureau bench mark). October 1902 to April 1908, nonrecording gage at site about 50 ft (15.2 m) downstream at different datum.

AVERAGE DISCHARGE.--41 years (1902-7, 1937-73), 228 cfs (6.457 cu m/s), 165,200 acre-ft/yr (204 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 3,800 cfs (108 cu m/s) June 2, gage height, 11.60 ft (3.536 m); minimum daily, 1.7 cfs (0.048 cu m/s) Aug. 31.

Period of record: Maximum discharge, 15,000 cfs (425 cu m/s) Oct. 28, 1941, gage height, 15.98 ft (4.871 m); maximum gage height, 18.20 ft (5.547 m) Sept. 21, 1965: no flow at times in most years.

Flood of Oct. 15, 1923, reached an elevation of 1,326.3 ft (404.256 m) above mean sea level at railroad bridge 1 mi (1.6 km) above station, from reports of U.S. Weather Bureau.

REMARKS.--Records fair. Some regulation by Fort Supply Lake (see station 07236500) for period May 1942 to April 1948 and by Canton Lake (see station 07238500) thereafter.

REVISIONS.--WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	53	10	21	147	23	2,130	1,150	1,670	47	17	2.6
2	30	56	8.7	16	65	44	886	1,040	2,860	39	15	3.4
3	25	31	8.0	184	40	24	500	1,040	2,000	36	15	3.5
4	22	22	7.5	129	33	79	220	1,060	1,020	34	14	168
5	17	17	7.1	94	28	31	170	971	514	38	13	230
6	14	15	6.8	85	24	854	155	975	312	33	13	66
7	11	13	7.3	77	22	60	150	961	185	35	12	28
8	9.0	11	8.0	70	18	134	500	961	349	32	11	114
9	8.0	9.9	9.0	64	21	425	920	932	871	28	18	78
10	7.0	9.5	10	59	24	2,110	930	935	865	35	13	39
11	6.3	8.5	8.0	56	26	1,280	908	959	834	53	12	22
12	5.7	8.0	7.0	54	27	358	886	950	816	44	18	16
13	5.3	9.8	6.2	54	26	178	868	961	682	31	13	144
14	5.0	8.6	5.7	60	24	131	592	913	396	32	9.4	65
15	4.7	8.8	5.3	67	24	105	300	895	155	181	7.6	29
16	4.5	10	5.1	56	23	83	240	874	105	73	6.8	29
17	4.3	8.7	4.9	50	22	71	220	873	85	43	6.1	27
18	4.0	9.8	16	42	23	59	230	869	74	30	5.2	39
19	3.9	9.3	46	32	22	56	703	851	67	25	5.4	20
20	3.7	10	39	28	23	58	1,080	450	61	21	4.9	17
21	3.6	11	22	177	22	55	998	210	55	22	4.9	13
22	8.1	11	16	282	22	52	1,000	200	47	23	4.9	9.3
23	7.0	10	13	147	21	57	1,000	247	43	25	4.5	5.4
24	6.0	11	11	75	21	298	999	263	37	39	4.5	4.1
25	5.0	12	8.8	53	21	1,200	1,030	350	24	30	4.1	3.0
26	7.0	11	13	52	20	582	998	900	16	24	4.1	200
27	11	12	11	46	21	402	975	980	16	20	3.7	1,210
28	13	12	8.7	36	21	459	982	980	41	20	3.7	403
29	20	9.7	6.8	48	-----	652	1,010	980	54	22	3.7	142
30	27	10	359	31	-----	906	1,100	900	52	22	2.5	80
31	40	-----	47	31	-----	2,180	-----	1,400	-----	22	1.7	-----
TOTAL	377.1	438.6	741.9	2,276	831	13,006	22,680	26,030	14,306	1,159	271.7	3,210.3
MEAN	12.2	14.6	23.9	73.4	29.7	420	756	840	477	37.4	8.76	107
MAX	40	56	359	282	147	2,180	2,130	1,400	2,860	181	18	1,210
MIN	3.6	8.0	4.9	16	18	23	150	200	16	20	1.7	2.6
AC=FT	748	870	1,470	4,510	1,650	25,800	44,990	51,630	28,380	2,300	539	6,370

CAL YR 1972 TOTAL 26,303.30 MEAN 71.9 MAX 960 MIN 0 AC=FT 52,170
WTR YR 1973 TOTAL 85,327.60 MEAN 234 MAX 2,860 MIN 1.7 AC=FT 169,200

PEAK DISCHARGE (BASE, 3,100 CFS)

DATE	TIME	G.H.T.	DISCHARGE
3-10	1600	10.94	3,250
6-2	1800	11.60	3,800

LOCATION.--Lat 35°33'11", long 97°37'11", in SW 1/4 SW 1/4 sec.34, T.13 N., R.4 W., Oklahoma County, attached to left wing wall just downstream from outlet of inverted siphon, 2,600 ft (792.5 m) upstream from Lake Hefner, 3.0 mi (4.8 km) northeast of Bethany, and 7.6 mi (12.2 km) northwest of the State Capitol in Oklahoma City.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,200.96 ft (366.053 m) above mean sea level. Prior to Apr. 8, 1947, nonrecording gage at site 2.7 mi (4.3 km) upstream at different datum. Apr. 8, 1947, to Apr. 30, 1950, water-stage recorder at site 3.0 mi (4.8 km) upstream at different datum. May 1, 1950, to May 19, 1954, water-stage recorder and concrete control at present site and datum. May 20, 1954, to Apr. 25, 1957, water-stage recorder and concrete control at site 2,500 ft (762.0 m) downstream at datum 2.80 ft (0.853 m) lower than present datum, also used as auxiliary gage after Apr. 25, 1957.

REMARKS.--Records good. Use of canal began in March 1944. Canal diverts water from North Canadian River just upstream from Lake Overholser (see sta. 07240500) and delivers water to Lake Hefner, capacity, 80,600 acre-ft (99.4 cu hm), for municipal water supply of Oklahoma City. Subsequent to April 1950, small ground-water seepage, when head gates are closed, included in records.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	670	0	44	46	0	.27	.40	30	.21	.11	.30
2	0	83	0	24	123	0	162	.40	17	.73	0	.30
3	0	.68	0	311	1.0	0	4.1	.35	7.1	.30	0	3.8
4	0	.31	0	574	.24	0	.84	.35	350	.08	0	84
5	0	.19	0	147	.10	0	.45	.30	8.0	.79	0	24
6	0	.11	0	124	.13	507	.34	.30	.35	.41	0	27
7	0	.04	0	124	.17	529	.35	.25	.46	.23	0	24
8	0	0	0	124	.04	56	1.4	.22	.39	.33	0	17
9	0	0	0	124	.11	187	.82	.20	.01	.85	0	14
10	0	0	0	124	.08	708	.39	15	.35	1.5	0	9.8
11	0	0	0	122	.03	910	.34	30	.52	.49	0	6.0
12	0	0	0	118	.09	522	.22	33	.22	.33	0	5.0
13	0	1.3	0	66	.09	2.1	.24	33	.12	.43	0	656
14	0	.01	0	4.5	.02	.79	.25	33	.68	8.1	0	945
15	0	0	0	5.2	.01	.37	1.7	33	.10	6.7	0	38
16	0	0	0	6.1	0	.38	40	30	.32	2.0	0	25
17	0	0	0	84	0	.25	118	19	.07	1.9	0	29
18	0	0	0	142	0	.23	1.2	19	0	1.2	0	330
19	0	0	0	95	0	.21	2.6	19	.02	.25	0	183
20	0	0	0	1.3	0	.06	.49	20	0	.04	0	25
21	0	0	0	261	0	.13	.31	21	0	.88	.14	20
22	.63	0	0	833	0	.14	4.5	19	0	3.0	.30	15
23	.01	0	0	282	0	1.2	17	530	0	.53	.30	10
24	0	0	0	116	0	9.3	17	412	0	.17	.30	8.0
25	0	0	0	115	0	13	14	3.4	0	.11	.70	6.0
26	0	0	0	181	0	1.7	.95	1.3	0	.07	.70	4.6
27	0	0	0	231	0	.82	.50	.89	0	.03	.70	540
28	0	0	0	129	0	3.7	.50	.16	0	0	.30	1,100
29	0	0	0	1.0	-----	.72	.45	13	0	0	.30	325
30	.78	0	190	.64	-----	.61	.45	40	0	.35	.30	5.0
31	234	-----	150	.50	-----	.51	-----	45	-----	.90	.30	-----
TOTAL	235.42	755.64	340	4,514.24	171.11	3,455.22	391.66	1,372.52	415.71	32.91	4.45	4,479.80
MEAN	7.59	25.2	11.0	146	6.11	111	13.1	44.3	13.9	1.06	.14	149
MAX	234	670	190	833	123	910	162	530	350	8.1	.70	1,100
MIN	0	0	0	.50	0	0	.22	.16	0	0	0	.30
AC=FT	467	1,500	674	8,950	339	6,850	777	2,720	825	65	8.8	8,890
CAL YR 1972	TOTAL	15,092.54	MEAN	41.2	MAX	701	MIN	0	AC=FT	29,940		
WTR YR 1973	TOTAL	16,168.68	MEAN	44.3	MAX	1,100	MIN	0	AC=FT	32,070		

07240500 LAKE OVERHOLSER NEAR OKLAHOMA CITY, OKLA.

LOCATION.--Lat 35°29'11", long 97°39'58", on north line of SW 1/4 sec.30, T.12 N., R.4 W, Oklahoma County, at control tower at left end of dam on North Canadian River, 2.9 mi (4.7 km) upstream from Mustang Creek, 9.0 mi (14 km) west of State Capitol in Oklahoma City, and at mile 281.5 (452.9 km).

DRAINAGE AREA.--13,221 sq mi (34,242 sq km), of which 4,899 sq mi (12,688 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Nonrecording gage. Datum of gage is at mean sea level (levels by Oklahoma City Water Department). Prior to Oct. 1, 1955, at same site at datum 1,065.77 ft (324.847 m) elevation. Oct. 1, 1955, to Sept. 30, 1962, water-stage recorder at same site and present datum.

EXTREMES.--Current year: Maximum contents, 16,320 acre-ft (20.1 cu hm) June 3, elevation, 1,241.75 ft (378.485 m); minimum, 10,230 acre-ft (12.6 cu hm) Oct. 20, elevation 1,237.75 ft (377.266 m).
Period of record: Maximum contents, 20,900 acre-ft (25.8 cu hm) June 14, 1944, elevation, 1,242.67 ft (378.766 m), from capacity table then in use; minimum observed, 1,870 acre-ft (2.31 cu hm) May 14, 1955, elevation, 1,230.62 ft (375.093 m).

REMARKS.--Reservoir if formed by Ambursen-type dam flanked by long earth-fill sections. Storage began in 1917. Dam was partly washed out in 1923 and rebuilt in 1924. Capacity, 17,100 acre-ft (21.1 cu hm) below elevation 1,242.27 ft (378.644 m), top of spillway gates. Dead storage, 1,400 acre-ft (1.73 cu hm) below elevation 1,229.77 ft (374.834 m), sill of outlet works. Figures given herein represent total contents. Water diverted for municipal water supply by Oklahoma City. Revised capacity table used since Oct. 1, 1950.

COOPERATION.--Elevations and capacity table furnished by Oklahoma City Water Department.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1,238.35	11,140	--
Oct. 31.....	1,238.35	11,140	0
Nov. 30.....	1,238.20	10,910	-230
Dec. 31.....	1,237.90	10,460	-450
CAL YR 1972.....	--	--	-2,920
Jan. 31.....	1,238.25	10,980	+520
Feb. 28.....	1,238.90	11,970	+990
Mar. 31.....	1,241.45	15,860	+3,890
Apr. 30.....	1,241.10	15,320	-540
May 31.....	1,241.10	15,320	0
June 30.....	1,240.52	14,440	-880
July 31.....	1,239.65	13,110	-1,330
Aug. 31.....	1,238.00	10,610	-2,500
Sept. 30.....	1,240.80	14,860	+4,250
WTR YR 1973.....	--	--	+3,720

† Elevation at 0800 on following day.

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OKLA.

LOCATION.--Lat 35°30'01", long 97°11'37", in SW 1/4 NW 1/4 sec.22, T.12 N., R.1 E., Oklahoma County, near left bank on downstream side of pier of county road bridge, 2.2 mi (3.5 km) northwest of Harrah, 3.8 mi (6.1 km) downstream from Choctaw Creek, and at mile 230.0 (370.1 km).

DRAINAGE AREA.--13,501 sq mi (34,968 sq km), of which 4,899 sq mi (12,688 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,055.60 ft (321.774 m) above mean sea level.

AVERAGE DISCHARGE.--5 years, 254 cfs (7.19 cu m/s) 18,400 acre-ft/yr (22.7 cu hm).

EXTREMES.--Current year: Maximum discharge, 5,030 cfs (142 cu m/s) June 5, gage height, 15.93 ft (4.855 m); minimum daily, 37 cfs (1.05 cu m/s) Aug. 10.
Period of record: Maximum discharge, 5,130 cfs (145 cu m/s) May 30, 1970, gage height, 16.05 ft (4.892 m); minimum, 23 cfs (0.65 cu m/s) Aug. 8, 1972.

REMARKS.--Records good. Some regulation by Canton Lake (see station 07238500) and by Lake Overholser (see sta. 07240500), where diversions are made into Lake Hefner Canal (see sta. 07240000). Low flow sustained by part of sewage effluent from Oklahoma City. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	2,130	92	116	198	93	1,520	1,080	1,970	115	179	71
2	48	804	92	102	180	94	2,680	1,050	3,180	89	96	100
3	48	229	89	404	126	104	2,670	1,050	4,110	177	88	106
4	50	137	88	764	110	103	1,840	1,010	4,480	161	63	682
5	44	108	88	281	101	106	1,480	934	4,880	90	52	268
6	45	92	89	183	101	575	1,020	1,080	4,370	128	49	209
7	47	85	76	140	104	1,110	670	1,460	1,840	133	42	424
8	47	85	90	103	138	283	527	1,200	966	92	40	229
9	45	81	90	80	130	204	787	1,140	695	65	39	136
10	50	78	86	100	107	1,030	1,070	1,080	720	103	37	80
11	49	75	95	110	104	2,100	1,610	1,070	978	339	140	67
12	47	130	114	120	99	620	1,410	1,020	1,180	223	118	96
13	47	639	109	130	100	1,070	1,330	1,010	1,170	124	58	1,690
14	45	446	109	160	97	814	1,270	995	1,230	126	53	863
15	42	151	114	190	99	544	1,310	998	1,610	262	53	227
16	47	135	108	224	98	440	1,740	997	750	199	56	140
17	44	137	90	211	99	405	1,850	996	790	84	57	122
18	47	139	90	175	99	388	1,820	997	571	112	53	340
19	47	231	95	135	102	335	1,210	995	357	205	50	145
20	49	173	106	120	102	211	1,150	983	445	105	49	105
21	70	130	268	184	99	197	1,100	959	330	186	49	92
22	1,040	133	218	924	98	163	1,210	730	244	234	52	85
23	534	114	147	310	100	151	1,320	517	225	200	53	78
24	133	100	125	182	99	1,170	1,140	460	151	101	53	74
25	89	122	110	149	95	2,920	1,100	186	182	159	53	74
26	75	125	101	375	88	3,360	1,120	233	211	155	56	103
27	69	99	100	533	90	2,560	1,110	488	166	97	59	1,880
28	65	93	107	210	94	1,370	1,130	784	153	83	67	2,600
29	59	89	108	163	-----	1,450	1,130	1,020	184	73	82	566
30	62	93	132	133	-----	1,440	1,130	1,100	164	55	78	312
31	681	-----	172	128	-----	1,710	-----	1,330	-----	335	79	-----
TOTAL	3,823	7,183	3,498	7,139	3,057	27,120	40,454	28,952	38,302	4,610	2,053	11,964
MEAN	123	239	113	230	109	875	1,348	934	1,277	149	66.2	399
MAX	1,040	2,130	268	924	198	3,360	2,680	1,460	4,880	339	179	2,600
MIN	42	75	76	80	88	93	527	186	151	55	37	67
AC-FT	7,580	14,250	6,940	14,160	6,060	53,790	80,240	57,430	75,970	9,140	4,070	23,730

CAL YR 1972 TOTAL 39,884 MEAN 109 MAX 2,130 MIN 28 AC-FT 79,110
WTR YR 1973 TOTAL 178,155 MEAN 488 MAX 4,880 MIN 37 AC-FT 353,400

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE TIME G.H.T. DISCHARGE
6-05 0100 15.93 5,030

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OKLA.

LOCATION.--Lat 35°15'53", long 96°12'25", in center of SW 1/4 sec.12, T.9 N., R.10 E., Hughes County, near left bank on downstream side of pier of bridge on U.S. Highway 75, 2.3 mi (3.7 km) upstream from Wewoka Creek, 2.5 mi (4.0 km) northeast of Wetumka, and at mile 84.4 (135.8 km).

DRAINAGE AREA.--14,290 sq mi (37,011 sq km), of which 4,899 sq mi (12,688 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 683.28 ft (208.264 m) above mean sea level. Prior to Jan. 19, 1939, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--36 years, 672 cfs [19.03 cu m/s], 486,900 acre-ft/yr (600 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 12,600 cfs (356 cu m/s) Nov. 1, gage height, 12.00 ft (3.658 m); minimum, 32 cfs (0.91 cu m/s) Oct. 15, 16, 19-21.

Period of record: Maximum discharge, 66,000 cfs (1,870 cu m/s) Apr. 15, 1945, gage height, 26.40 ft (8.047 m); no flow Aug. 27 to Oct. 11, 1954, Aug. 25 to Oct. 22, 1956.

Flood in October 1923 reached a stage of 26.9 ft (8.20 m), from information by Corps of Engineers.

REMARKS.--Records fair. Some regulation by Lake Overholser (see sta. 07240500) and other dams upstream. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and 49 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 977: 1942. WSP 1341: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	11,100	274	650	2,310	336	2,940	1,700	2,270	990	437	185
2	44	9,330	257	595	2,300	429	2,490	2,000	4,700	1,780	285	203
3	42	2,660	250	2,460	1,300	384	2,700	1,590	10,900	1,050	245	256
4	41	1,790	243	3,930	780	2,960	3,470	1,490	10,900	716	322	220
5	39	1,130	234	1,790	618	1,810	2,890	1,450	12,300	547	298	456
6	42	1,050	225	1,270	525	3,330	2,690	1,450	7,830	545	251	517
7	40	934	222	1,000	1,420	5,610	2,090	5,130	537	234	410	
8	37	621	214	725	2,950	2,280	1,710	3,820	4,580	467	218	789
9	37	492	215	568	1,700	1,760	1,480	2,630	4,780	400	273	510
10	35	412	209	474	880	4,590	1,250	1,970	4,350	404	236	438
11	35	355	194	392	648	6,970	1,140	1,690	2,550	399	325	483
12	35	370	203	364	568	3,070	1,120	1,530	1,520	370	547	376
13	35	3,980	220	364	527	2,590	1,420	1,430	1,440	337	321	3,100
14	34	2,710	218	464	487	2,480	1,720	1,290	1,300	345	231	3,470
15	32	1,200	221	705	385	1,670	4,010	1,240	1,360	435	217	1,930
16	33	915	223	954	362	1,580	9,280	1,210	1,540	390	234	1,600
17	35	771	223	972	343	1,240	5,220	1,190	2,560	350	194	1,060
18	34	651	227	1,030	337	1,060	2,850	1,190	1,620	337	173	735
19	33	1,010	248	1,250	341	963	2,830	1,170	1,620	391	159	560
20	32	1,150	277	972	340	898	2,740	1,160	1,440	356	150	460
21	37	802	2,280	1,430	323	826	2,710	1,160	1,120	305	142	434
22	98	663	2,030	1,420	312	799	8,650	1,130	930	304	134	461
23	178	604	1,260	864	307	737	7,590	1,190	810	345	129	375
24	253	511	906	645	305	1,220	3,770	1,140	750	306	123	333
25	280	457	810	833	301	4,490	2,670	981	675	323	118	851
26	496	432	690	972	297	4,750	2,240	917	600	353	115	487
27	284	387	620	1,250	292	3,250	2,010	1,010	575	334	108	3,350
28	214	340	565	1,110	285	3,140	1,860	693	525	314	104	3,540
29	187	312	550	842	-----	3,140	1,770	661	500	556	105	1,680
30	353	294	786	802	-----	2,810	1,710	747	550	611	102	1,860
31	5,590	-----	660	671	-----	3,710	-----	1,350	-----	426	99	-----
TOTAL	8,708	47,433	15,754	31,768	21,543	74,882	91,020	44,899	91,725	15,323	6,629	31,129
MEAN	281	1,581	508	1,025	769	2,416	3,034	1,448	3,058	494	214	1,038
MAX	5,590	11,100	2,280	3,930	2,950	6,970	9,280	3,820	12,300	1,780	547	3,540
MIN	32	294	194	364	285	336	1,120	661	500	304	99	185
AC-FT	17,270	94,080	31,250	63,010	42,730	148,500	180,500	89,060	181,900	30,390	13,150	61,740
CAL YR 1972	TOTAL 135,507		MEAN 370	MAX 11,100	MIN 28	AC-FT 268,800						
WTR YR 1973	TOTAL 480,813		MEAN 1,317	MAX 12,300	MIN 32	AC-FT 953,700						

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
11-1	1445	12.00	12,600	4-16	abt0600	10.5	11,500
3-6	abt1900	9.3	7,000	4-22	abt0700	10.8	12,200
3-10	abt2200	9.9	9,000	6-5	0700	11.98	12,400
3-25	abt1800	9.1	6,400				

ARKANSAS RIVER BASIN

07242350 DEEP FORK NEAR ARCADIA, OKLA.

LOCATION.--Lat 35°39'10", long 97°20'58", on south line of SW 1/4 sec.30, T.14 N., R.1 W., Oklahoma County, on left bank at downstream side of county road bridge, 1.6 mi (2.6 km) upstream from Coffee Creek, 1.6 mi (2.6 km) southwest of Arcadia, and at mile 212.8 (342.4 km).

DRAINAGE AREA.--108 sq mi (280 sq km).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 950 ft (289.6 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 5,030 cfs (142 cu m/s) June 5, gage height, 18.86 ft (5.749 m); minimum daily, 19 cfs (0.54 cu m/s) Oct. 15, 16, 19.

Period of record: Maximum discharge, 5,260 cfs (149 cu m/s) Sept. 22, 1970, gage height, 19.81 ft (6.038 m); maximum gage height, 21.10 ft (6.431 m) Apr. 30, 1970; minimum daily discharge, 16 cfs (0.45 cu m/s) at times in 1969-70.

REMARKS.--Records good. Low flow sustained by part of sewage effluent from Oklahoma City. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	569	27	29	104	34	115	33	93	32	41	25
2	20	127	25	29	63	33	104	30	1,080	29	32	28
3	20	74	24	473	50	33	403	28	216	31	30	33
4	20	58	22	150	47	40	128	28	251	28	29	837
5	20	53	22	69	45	34	97	29	1,380	40	27	84
6	20	51	22	49	43	521	99	48	165	34	25	105
7	20	50	21	45	44	118	90	86	127	25	25	132
8	20	56	22	44	67	115	143	42	110	22	25	75
9	28	53	21	40	45	110	126	33	104	23	27	41
10	25	42	21	38	43	1,400	86	33	97	97	53	28
11	22	37	22	36	42	186	73	35	95	89	194	26
12	21	42	23	34	42	87	66	36	94	36	34	74
13	21	282	24	33	38	77	61	40	91	30	35	1,180
14	20	77	48	42	34	84	53	41	210	30	35	83
15	19	46	23	99	35	48	150	43	126	321	31	56
16	19	42	21	75	35	41	255	46	100	62	29	46
17	21	40	32	56	35	37	95	51	137	51	31	132
18	20	49	32	40	39	35	79	51	66	46	29	70
19	19	108	35	27	41	32	187	63	79	42	27	45
20	20	68	50	30	37	26	95	75	67	42	27	43
21	252	64	148	481	36	24	63	96	55	123	27	40
22	431	67	49	160	35	25	52	101	51	150	26	41
23	41	45	39	71	35	89	56	285	44	63	27	37
24	80	50	33	55	34	843	48	98	39	36	27	31
25	38	65	30	49	33	1,270	43	63	36	31	25	33
26	33	40	29	379	33	196	42	31	36	27	24	437
27	31	34	26	129	33	156	46	55	35	27	24	1,850
28	22	32	31	98	33	194	35	30	38	26	26	190
29	20	30	33	70	-----	116	37	28	59	23	25	112
30	133	29	93	63	-----	112	35	28	42	26	26	91
31	1,210	-----	38	61	-----	224	-----	442	-----	171	24	-----
TOTAL	2,706	2,380	1,086	3,054	1,201	6,340	2,962	2,128	5,123	1,813	1,067	6,005
MEAN	87.3	79.3	35.0	98.5	42.9	205	98.7	68.6	171	58.5	34.4	200
MAX	1,210	569	148	481	104	1,400	403	442	1,380	321	194	1,850
MIN	19	29	21	27	33	24	35	28	35	22	24	25
AC=FT	5,370	4,720	2,150	6,060	2,380	12,580	5,880	4,220	10,160	3,600	2,120	11,910

CAL YR 1972 TOTAL 16,093 MEAN 44.0 MAX 1,210 MIN 19 AC=FT 31,920
WTR YR 1973 TOTAL 35,865 MEAN 98.3 MAX 1,850 MIN 19 AC=FT 71,140

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-22	0030	11.93	2,400	6-02	1000	13.95	3,010
10-31	2100	13.94	3,000	6-05	0300	18.86	5,030
3-10	1400	15.93	3,600	9-13	0500	18.42	4,610
3-25	0230	13.73	2,940	9-27	1300	18.36	4,580

ARKANSAS RIVER BASIN

99

07243000 DRY CREEK NEAR KENDRICK, OKLA.

LOCATION.--Lat 35°46'55", long 96°51'20", in NW 1/4 NW 1/4 sec.14, T.15 N., R.4 E., Lincoln County, near left bank on downstream side of county road bridge, 1.0 mi (1.6 km) downstream from Beaver Creek and 4.5 mi (7.2 km) west of Kendrick.

DRAINAGE AREA.--69.0 sq mi (178.7 sq km).

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 825 ft (251.5 m), from topographic map.

AVERAGE DISCHARGE.--18 years, 17.6 cfs (0.498 cu m/s), 12,750 acre-ft/yr (15.7 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 3,490 cfs (98.8 cu m/s) Mar. 10, gage height, 12.75 ft (3.886 m); no flow at times.

Period of record: Maximum discharge, 5,020 cfs (142 cu m/s) June 25, 1958, gage height, 13.63 ft (4.154 m); no flow at times in most years.

REMARKS.--Records fair. Records of chemical analyses and of suspended sediment loads for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	164	1.4	3.6	209	9.8	51	11	18	6.3	2.4	0
2	0	21	1.4	3.3	38	11	43	13	613	5.0	1.3	0
3	0	9.4	1.3	679	20	12	414	16	137	4.6	1.0	120
4	0	6.4	1.2	52	17	268	62	18	51	4.3	.86	411
5	0	4.7	.05	1.9	14	36	30	17	72	3.8	.61	5.9
6	0	4.3	0	1.3	13	545	12	24	19	3.7	.49	1.6
7	0	5.4	0	.20	18	90	9.5	54	14	3.6	.42	6.3
8	0	5.6	0	.05	18	51	124	20	12	3.3	.44	58
9	0	3.7	0	.20	16	45	79	17	11	3.2	283	4.2
10	0	2.5	0	.05	15	842	27	16	10	3.2	2.7	.11
11	0	2.0	0	0	14	146	9.5	15	9.5	3.0	.36	0
12	0	216	0	.50	14	38	6.4	14	9.5	2.4	.12	164
13	0	257	0	1.0	13	51	3.8	13	9.5	2.2	0	261
14	0	14	0	1.9	11	47	5.0	13	12	5.4	0	14
15	0	4.0	0	3.9	10	27	1,100	12	11	63	0	6.4
16	0	2.7	0	9.5	11	21	324	12	9.0	8.4	0	4.0
17	0	1.8	0	15	11	18	67	12	8.8	6.4	0	3.3
18	0	3.2	.30	13	13	17	27	11	8.8	5.8	0	2.9
19	0	10	12	11	13	13	30	11	9.9	5.0	0	2.2
20	0	6.7	5.4	9.9	12	11	57	10	8.9	4.5	0	1.7
21	24	3.7	21	12	11	11	69	10	7.4	4.2	0	1.4
22	104	6.1	6.9	12	11	9.8	57	9.9	7.1	3.9	0	1.1
23	4.5	3.3	4.6	9.0	11	18	16	107	6.3	3.7	0	1.0
24	.32	2.6	3.2	8.4	10	464	11	16	5.8	3.1	0	1.4
25	0	4.4	2.6	9.7	9.9	814	11	13	5.6	3.4	0	1.1
26	0	3.6	2.5	183	9.9	74	10	10	5.6	3.6	0	83
27	0	2.3	2.4	49	9.5	40	9.5	9.5	5.4	2.9	0	391
28	0	1.5	2.4	26	9.5	68	9.5	8.9	5.5	17	0	21
29	0	1.3	3.6	8.3	-----	25	11	8.1	6.7	6.5	0	10
30	49	1.3	14	8.6	-----	321	11	8.2	7.7	2.2	0	8.2
31	338	-----	5.1	122	-----	200	-----	211	-----	6.2	0	-----
TOTAL	519.82	774.5	91.35	1,255.30	581.8	4,343.6	2,696.2	740.6	1,117.0	203.8	293.70	1,585.81
MEAN	16.8	25.8	2.95	40.5	20.8	140	89.9	23.9	37.2	6.57	9.47	52.9
MAX	338	257	21	679	209	842	1,100	211	613	63	283	411
MIN	0	1.3	0	0	9.5	9.8	3.8	8.1	5.4	2.2	0	0
AC=FT	1,030	1,540	181	2,490	1,150	8,620	5,350	1,470	2,220	404	583	3,150
CAL YR 1972	TOTAL	3,292.92	MEAN	9.00	MAX	338	MIN	0	AC=FT	6,530		
WTR YR 1973	TOTAL	14,203.48	MEAN	38.9	MAX	1,100	MIN	0	AC=FT	28,170		

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
1-3	0800	9.66	2,230	4-15	2000	12.55	3,400
3-10	1300	12.75	3,490	9-4	0100	12.01	3,150
3-24	2345	10.53	2,420				

ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OKLA.

LOCATION.--Lat 35°40'15", long 96°04'08", on line between secs. 19 and 20, T.14 N., R.12 E., Okmulgee County, near left bank on downstream side of pier of county road bridge, 3.0 mi (4.8 km) upstream from Adams Creek, 4.0 mi (6.4 km) south of Beggs, 8.0 mi (12.9 km) downstream from Flat Rock (Checkerboard) Creek, and at mile 85.0 (136.8 km).

DRAINAGE AREA.--2,018 sq mi (5,227 sq km).

PERIOD OF RECORD.--September 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 632.55 ft (192.801 m) above mean sea level. Prior to Aug. 29, 1939, nonrecording gage at site 450 ft (137.2 m) downstream at same datum. Aug. 29, 1939, to June 22, 1953, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--35 years, 790 cfs (22.37 cu m/s), 572,400 acre-ft/yr (706 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 11,600 cfs (329 cu m/s) June 5, gage height, 23.99 ft (7.312 m); minimum, 0.70 cfs (0.020 cu m/s) Oct. 19-21.

Period of record: Maximum discharge, 66,800 cfs (1,890 cu m/s) May 11, 1943, gage height, 34.55 ft (10.531 m); no flow at times in 1939, 1954, 1956.

REMARKS.--Records good. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and 30 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 957: 1941. WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	4,040	275	432	1,810	373	4,970	4,000	2,200	204	99	29
2	7.4	3,980	248	350	2,490	1,210	5,370	2,910	3,260	166	120	43
3	8.7	4,230	226	1,350	2,260	843	5,190	1,770	5,710	125	123	51
4	8.9	3,960	208	3,010	1,770	3,010	4,940	1,130	10,900	160	119	80
5	7.6	2,820	192	3,030	1,550	3,630	4,520	895	10,900	193	117	1,040
6	7.4	1,870	176	2,900	1,340	4,070	4,020	748	9,780	224	116	337
7	7.1	1,660	155	2,350	1,440	4,990	3,490	1,510	8,580	277	112	215
8	7.1	1,540	133	1,690	2,630	5,630	3,140	2,310	7,710	313	105	263
9	6.2	1,160	97	1,300	2,480	5,540	2,940	2,230	7,100	308	101	287
10	5.3	815	110	1,100	1,840	5,620	2,770	2,150	6,500	275	177	262
11	4.2	600	108	1,000	1,200	6,780	2,450	1,920	6,000	255	140	250
12	3.8	557	120	950	1,030	7,660	1,950	1,810	5,510	222	126	256
13	3.2	2,570	112	850	898	7,060	1,540	1,710	4,950	192	139	671
14	2.8	3,000	135	800	763	6,850	1,290	1,460	4,300	165	162	1,340
15	2.1	2,810	132	906	653	6,770	2,220	1,070	3,450	139	161	1,070
16	2.0	2,070	133	1,080	561	6,560	4,660	788	1,890	122	185	754
17	1.4	1,520	146	1,060	494	6,210	6,490	620	1,640	111	231	800
18	1.4	1,340	140	1,130	464	5,660	6,690	520	1,890	110	142	1,000
19	1.1	1,560	162	1,260	456	4,990	5,900	443	1,120	127	123	1,200
20	.70	1,740	245	948	454	4,200	5,510	389	851	134	108	1,380
21	1.6	1,400	2,100	1,200	424	2,980	5,290	347	733	127	92	1,440
22	56	1,110	2,580	1,810	383	1,740	5,240	336	610	124	78	1,290
23	407	950	2,090	1,340	356	1,250	5,580	329	519	122	67	977
24	311	775	1,070	929	339	1,830	6,380	334	496	120	57	744
25	159	647	761	724	328	4,130	6,440	382	419	107	49	578
26	123	583	680	997	321	4,620	7,080	383	359	96	42	471
27	137	515	551	1,570	309	5,040	7,040	361	312	87	37	1,720
28	138	434	442	1,380	293	4,770	6,370	385	277	82	32	2,000
29	136	365	374	1,040	-----	4,180	5,590	436	252	82	31	1,470
30	178	312	413	913	-----	3,610	4,860	512	222	87	41	1,090
31	1,340	-----	492	872	-----	4,200	-----	1,050	-----	88	31	-----
TOTAL	3,083,60	50,933	14,806	40,271	29,336	136,006	139,920	35,238	108,440	4,944	3,263	23,108
MEAN	99.5	1,698	478	1,299	1,048	4,387	4,664	1,137	3,615	159	105	770
MAX	1,340	4,230	2,580	3,030	2,630	7,660	7,080	4,000	10,900	313	231	2,000
MIN	.70	312	97	350	293	373	1,290	329	222	82	31	29
AC-FT	6,120	101,000	29,370	79,880	58,190	269,800	277,500	69,890	215,100	9,810	6,470	45,830

CAL YR 1972 TOTAL 74,925.80 MEAN 205 MAX 4,230 MIN .70 AC-FT 148,600
WTR YR 1973 TOTAL 589,348.60 MEAN 1,615 MAX 10,900 MIN .70 AC-FT 1,169,000

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-3	1400	17.36	4,280	3-12	0830	21.68	7,780	6-5	0015	23.99	11,600
11-13	1800	14.47	3,060	4-2	0730	19.42	5,290				
1-5	1015	14.39	3,040	4-26	1915	21.16	7,010				

ARKANSAS RIVER BASIN

101

07244800 EUFAULA LAKE NEAR BROOKEN, OKLA.

LOCATION.--Lat 35°18'25", long 95°21'45", in SW 1/4 sec.25, T.10 N., R.18 E., McIntosh County, in intake structure near left end of dam on Canadian River, 4.0 mi (6.4 km) northeast of Brooken and at mile 27.0 (43.4 km).

DRAINAGE AREA.--47,522 sq mi (123,082 sq km), of which 9,700 sq mi (25,123 sq km) is probably noncontributing.

PERIOD OF RECORD.--February 1964 to current year. Prior to October 1970 published as Eufaula Reservoir near Brooken.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 3,791,000 acre-ft (4.67 cu km) Apr. 25, elevation, 596.95 ft (181.950 m); minimum, 1,508,000 acre-ft (1.86 cu km) Oct. 20, 21, elevation, 575.65 ft (175.458 m).
Period of record: Maximum contents, 3,791,000 acre-ft (4.67 cu km) Apr. 25, 1973, elevation, 596.95 ft (181.950 m); minimum since power pool first filled, 1,181,800 acre-ft (1,460 cu km) Nov. 4, 1964, elevation, 570.23 ft (173.806 m).

REMARKS.--Reservoir is formed by an earth dam having a gated, concrete, ogee-type spillway weir controlled by 11, 40-foot (12.2 m) taintor gates. Closure for diversion was made Feb. 1, 1963 and regulated storage began Feb. 10, 1964; minimum power pool was first filled June 17, 1964. Capacity, 3,798,000 acre-ft (4.68 cu km) at elevation 597.0 ft (181.966 m), top of flood control pool, 2,329,000 acre-ft (2.87 cu km) at elevation 585.0 ft (178.308 m), top of power pool, and 864,800 acre-ft (1.07 cu km) at elevation 565.0 ft (172.212 m), bottom of power pool. Dead storage is negligible. Figures given herein represent total contents. Reservoir is used for flood control, sediment control, power development, and other water uses. Revised capacity table, based on survey 1969, used since Oct. 1, 1972.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)

575	1,460,000	590	2,880,000
580	1,858,000	595	3,516,000
585	2,330,000	600	4,244,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,554	2,003	2,377	2,250	2,372	2,304	3,202	3,527	2,427	2,421	2,080	1,881
2	1,552	2,115	2,372	2,251	2,375	2,328	3,224	3,495	2,530	2,414	2,078	1,883
3	1,551	2,169	2,377	2,297	2,375	2,340	3,267	3,457	2,737	2,405	2,069	1,882
4	1,551	2,198	2,365	2,344	2,373	2,435	3,281	3,403	2,861	2,388	2,062	1,879
5	1,549	2,219	2,349	2,350	2,368	2,473	3,285	3,351	2,960	2,364	2,060	1,890
6	1,548	2,258	2,331	2,371	2,359	2,514	3,285	3,298	3,007	2,340	2,050	1,900
7	1,547	2,288	2,311	2,392	2,377	2,544	3,280	3,308	2,995	2,322	2,038	1,920
8	1,545	2,306	2,294	2,391	2,417	2,560	3,297	3,288	2,954	2,316	2,028	1,933
9	1,543	2,329	2,294	2,378	2,432	2,557	3,292	3,237	2,909	2,296	2,020	1,940
10	1,542	2,323	2,284	2,365	2,423	2,705	3,272	3,185	2,858	2,281	2,014	1,939
11	1,533	2,325	2,267	2,352	2,408	2,795	3,262	3,140	2,827	2,270	2,018	1,932
12	1,530	2,344	2,247	2,344	2,395	2,847	3,238	3,091	2,802	2,262	2,016	1,922
13	1,526	2,419	2,230	2,348	2,377	2,874	3,211	3,039	2,771	2,252	2,007	1,950
14	1,524	2,434	2,218	2,357	2,360	2,890	3,173	2,987	2,744	2,252	2,001	1,975
15	1,525	2,463	2,208	2,363	2,343	2,908	3,255	2,936	2,719	2,248	1,989	1,988
16	1,521	2,467	2,201	2,373	2,328	2,915	3,392	2,880	2,708	2,240	1,999	1,999
17	1,516	2,473	2,203	2,380	2,322	2,922	3,456	2,817	2,688	2,232	1,993	1,999
18	1,513	2,494	2,204	2,406	2,321	2,934	3,465	2,755	2,657	2,217	1,993	2,003
19	1,510	2,518	2,198	2,403	2,313	2,941	3,471	2,703	2,712	2,192	1,992	2,007
20	1,510	2,538	2,208	2,404	2,308	2,925	3,480	2,649	2,750	2,170	1,984	2,003
21	1,526	2,546	2,217	2,436	2,298	2,905	3,486	2,607	2,749	2,153	1,975	2,003
22	1,601	2,537	2,223	2,436	2,292	2,869	3,617	2,584	2,727	2,139	1,961	2,004
23	1,613	2,526	2,245	2,426	2,281	2,829	3,743	2,563	2,690	2,120	1,953	2,001
24	1,615	2,512	2,247	2,413	2,284	2,908	3,784	2,541	2,633	2,105	1,940	1,998
25	1,618	2,500	2,252	2,396	2,287	3,014	3,769	2,514	2,563	2,102	1,935	2,016
26	1,616	2,475	2,245	2,393	2,284	3,072	3,730	2,506	2,488	2,095	1,934	2,023
27	1,622	2,456	2,238	2,398	2,279	3,081	3,692	2,510	2,457	2,093	1,923	2,075
28	1,620	2,435	2,229	2,382	2,274	3,070	3,642	2,475	2,442	2,096	1,913	2,125
29	1,619	2,416	2,238	2,365	-----	3,055	3,604	2,449	2,429	2,096	1,906	2,149
30	1,657	2,396	2,240	2,351	-----	3,092	3,557	2,419	2,424	2,094	1,894	2,166
31	1,800	-----	2,247	2,349	-----	3,172	-----	2,424	-----	2,082	1,883	-----
MAX	1,800	2,546	2,377	2,436	2,432	3,172	3,784	3,527	3,007	2,421	2,080	2,166
MIN	1,510	2,003	2,198	2,250	2,274	2,304	3,173	2,419	2,424	2,082	1,883	1,879
(†)	579.32	585.64	584.18	585.19	584.45	592.38	595.30	585.91	585.91	582.49	580.29	583.36
(‡)	+245	+596	-149	+102	-75	+898	+385	-1,133	0	-342	-199	+283

CAL YR 1972.....† +107
WTR YR 1973.....† +611

Note.--Contents, in thousands of acre-ft, from revised capacity table, Dec. 31, 1971, 2,354, Sept. 30, 1972, 1,555.

† Elevation in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OKLA.

LOCATION.--Lat 35°15'45", long 95°14'19", in SE 1/4 SE 1/4 sec.12, T.9 N., R.19 E., Haskell County, near right bank on downstream side of pier of bridge on State Highway 2, 0.8 mi (1.3 km) north of Whitefield, 5.5 mi (8.8 km) upstream from Taleka (Snake) Creek, 8.2 mi (13.2 km) downstream from Eufaula Dam, and at mile 18.8 (30.2 km).

DRAINAGE AREA.--47,576 sq mi (123,222 sq km), of which 9,700 sq mi (25,123 sq km) is probably noncontributing.

PERIOD OF RECORD.--July 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 478.16 ft (145.743 m) above mean sea level. Prior to Jan. 11, 1939, nonrecording gage and Jan. 11, 1939, to Dec. 10, 1941, June 12, 1947, to Sept. 30, 1948, water-stage recorder, all at site 2.1 mi (3.4 km) downstream at datum 2.80 ft (0.853 m) lower. Dec. 11, 1941, to June 11, 1947, water-stage recorder at present site and datum.

AVERAGE DISCHARGE.--35 years, 5,414 cfs (153 cu m/s), 3,922,000 acre-ft/yr (4.84 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 38,600 cfs (1,090 cu m/s) June 8, gage height, 13.10 ft (3.993 m); maximum gage height, 13.13 ft (4.002 m) June 26; minimum daily discharge, 65 cfs (1.84 cu m/s) Oct. 5. Period of record: Maximum discharge, 281,000 cfs (7,960 cu m/s) May 10, 1943, gage height, 25.5 ft (7.77 m); minimum daily, 0.4 cfs (.011 cu m/s) Oct. 8, 1956. Maximum stage known since 1898, that of May 10, 1943, from information by local resident.

REMARKS.--Records good. Prior to February 1964, occasional slight regulation by Conchas Lake in New Mexico and, except for 54 sq mi (140 sq km) of intervening area, completely regulated thereafter by Eufaula Lake (see sta. 07244800). Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

COOPERATION.--Gage height record and 34 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1177: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	870	12,200	174	7,480	4,860	1,870	33,300	15,000	5,510	1,750	1,120
2	275	600	4,240	290	9,620	5,960	7,680	33,000	9,120	6,290	985	322
3	117	459	1,090	2,080	9,290	5,070	14,900	33,200	8,680	6,380	4,170	297
4	72	85	5,280	2,530	9,200	4,800	15,300	33,400	10,600	8,870	3,560	1,070
5	65	70	7,980	6,840	9,150	11,400	15,200	33,300	30,100	12,200	919	683
6	254	532	8,380	2,180	9,110	19,100	15,100	33,200	29,000	12,100	3,870	170
7	191	372	12,700	1,480	9,650	22,500	15,200	26,200	31,200	9,200	5,470	1,050
8	71	877	9,080	4,220	11,500	20,100	15,300	22,100	35,700	5,030	5,280	486
9	71	251	2,900	8,820	14,400	17,600	15,300	34,300	37,400	8,430	4,350	98
10	874	1,480	2,610	10,000	14,500	19,100	15,200	32,400	36,800	8,630	5,530	1,630
11	2,910	172	9,740	9,200	14,500	4,870	15,200	29,700	30,800	5,710	1,490	3,900
12	1,870	88	14,200	7,860	14,400	9,730	16,800	29,400	25,200	4,490	676	3,660
13	1,240	2,050	11,600	2,370	14,300	15,100	23,600	28,900	24,800	4,680	4,400	955
14	514	4,470	10,600	812	14,200	14,900	26,400	28,900	24,600	1,000	3,480	2,250
15	86	3,520	6,300	2,780	11,000	14,800	26,000	28,600	22,200	1,210	3,750	956
16	1,150	5,020	3,330	3,710	10,000	10,000	17,000	28,600	20,000	4,500	3,300	110
17	637	4,970	1,910	4,460	7,170	9,500	15,500	31,300	19,800	3,630	3,690	673
18	351	1,100	3,500	6,940	3,050	9,690	18,500	34,100	19,800	6,110	935	1,020
19	1,190	302	2,580	15,000	6,090	10,900	24,600	30,400	17,000	11,100	511	285
20	298	130	380	15,100	5,110	14,700	26,400	26,800	14,200	10,900	3,460	2,710
21	395	2,330	6,390	15,900	6,540	17,900	26,100	25,000	14,000	9,050	4,550	2,800
22	591	9,540	4,560	15,100	6,580	24,100	27,300	18,500	15,400	5,510	4,610	1,960
23	112	10,000	1,470	14,900	5,770	28,000	18,300	15,900	21,700	9,400	4,470	2,300
24	82	11,600	168	15,000	1,010	26,100	31,100	16,100	28,500	9,460	4,990	4,060
25	78	11,300	138	15,000	159	9,290	36,500	16,000	34,200	2,960	2,860	2,490
26	145	11,800	5,020	15,100	2,390	15,200	34,800	15,900	33,600	2,870	731	2,330
27	153	12,300	5,630	15,000	4,280	18,800	33,600	16,300	21,800	1,250	4,330	232
28	163	12,600	5,280	14,900	3,480	23,300	33,400	15,500	9,100	136	4,520	153
29	69	12,400	5,020	14,800	-----	23,000	33,400	15,500	9,150	109	4,980	490
30	146	12,000	1,010	14,800	-----	20,900	33,200	15,500	5,300	2,090	4,420	573
31	900	-----	210	9,720	-----	12,100	-----	15,500	-----	7,080	5,300	-----
TOTAL	15,146	133,288	165,496	267,066	233,929	463,370	648,750	796,800	654,750	185,885	107,337	40,833
MEAN	489	4,443	5,339	8,615	8,355	14,950	21,630	25,700	21,830	5,996	3,462	1,361
MAX	2,910	12,600	14,200	15,900	14,500	28,000	36,500	34,300	37,400	12,200	5,530	4,060
MIN	65	70	138	174	159	4,800	1,870	15,500	5,300	109	511	98
AC-FT	30,040	264,400	328,300	529,700	464,000	919,100	1,287M	1,580M	1,299M	368,700	212,900	80,990
CAL YR 1972	TOTAL	1,060,544	MEAN	2,898	MAX	14,200	MIN	65	AC-FT	2,104,000		
WTR YR 1973	TOTAL	3,712,650	MEAN	10,170	MAX	37,400	MIN	65	AC-FT	7,364,000		

07245500 SALLISAW CREEK NEAR SALLISAW, OKLA.

LOCATION.--Lat 35°27'52", long 94°51'43", in SW 1/4 sec.34, T.12 N., R.23 E., Sequoyah County, on downstream side of right pier of abandoned county road bridge, 300 ft (91.4 m) upstream from U.S. Highway 64, 400 ft (121.9 m) downstream from water-supply dam of city of Sallisaw, 3.5 mi (5.6 km) west of Sallisaw, 5 mi (8 km) upstream from Little Sallisaw Creek, and at mile 9.0 (14.5 km).

DRAINAGE AREA.--182 sq mi (471 sq km).

PERIOD OF RECORD.--October 1942 to current year.

GAGE.--Water-stage recorder. Datum of gage is 474.78 ft (1s4.713 m) above mean sea level. Prior to Aug. 20, 1953, and as supplementary gage since Feb. 21, 1958, water-stage recorder at site 400 ft (121.9 m) upstream at datum 15.22 ft (4.630 m) higher. Aug. 20, 1953, to Apr. 9, 1963, water-stage recorder at present site at datum 2.00 ft (0.610 m) higher.

AVERAGE DISCHARGE.--31 years, 191 cfs (5.41 cu m/s), 138,400 acre-ft/yr (171 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 5,890 cfs (167 cu m/s) June 3, gage height, 10.80 ft (3.292 m); minimum daily, 1.2 cfs (0.034 cu m/s) Oct. 20.

Period of record: Maximum discharge, 110,000 cfs (3,115 cu m/s) Apr. 15, 1945, gage height, 11.25 ft (3.429 m), site and datum then in use, from rating curve extended above 23,000 cfs (651 cu m/s) on basis of contracted-opening measurements at gage heights 7.96 and 11.25 ft (2.462 and 3.429 m); no flow at times in 1943, 1954, 1956, 1960, 1963, 1964.

REMARKS.--Records good. Small diversion above station for municipal water supply of city of Sallisaw.

COOPERATION.--Gage-height record and 33 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1117: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	1,510	128	84	822	511	876	464	976	207	50	7.5
2	4.9	1,180	118	82	744	2,400	627	412	1,810	173	42	7.4
3	4.4	722	109	122	535	1,470	830	345	4,070	129	34	7.2
4	4.0	459	101	225	417	1,370	1,110	285	1,960	105	29	7.6
5	3.8	287	94	213	338	1,060	758	242	2,380	629	26	18
6	3.4	400	88	192	283	988	579	222	1,820	571	23	21
7	3.1	602	82	179	625	1,170	518	966	1,530	395	21	18
8	3.1	391	77	166	1,790	917	501	813	1,320	238	18	14
9	3.0	281	75	151	1,130	892	602	532	1,130	178	17	12
10	2.9	222	71	138	799	2,880	522	368	903	147	34	11
11	2.7	175	68	127	524	2,170	438	287	643	124	87	10
12	2.3	153	72	118	404	1,560	376	245	469	103	102	12
13	1.8	603	77	112	335	1,310	327	200	408	88	62	75
14	2.4	588	78	109	278	1,120	290	173	347	76	44	23
15	2.2	370	87	111	239	830	499	155	313	69	35	15
16	1.6	270	88	112	205	514	2,720	144	270	121	47	14
17	1.3	209	88	115	185	398	1,600	135	380	102	45	12
18	1.5	195	87	158	169	328	1,270	128	226	87	38	9.9
19	1.4	299	88	259	157	278	1,320	123	243	75	32	9.1
20	1.2	311	88	326	146	253	1,320	117	306	65	28	8.9
21	3.7	277	94	1,300	134	217	998	114	248	54	24	8.5
22	144	261	101	1,140	125	197	3,730	116	200	47	21	7.8
23	113	235	99	728	119	195	2,340	141	176	42	18	7.5
24	70	212	94	524	113	1,710	1,720	123	152	38	16	8.5
25	49	207	89	393	107	2,220	1,500	121	134	96	13	307
26	35	207	84	369	102	1,830	1,400	143	120	73	12	182
27	27	197	81	347	97	1,450	1,200	656	112	50	11	177
28	21	174	78	291	93	1,120	1,030	583	103	40	10	1,320
29	16	153	77	244	-----	851	852	467	220	57	9.5	958
30	28	142	85	211	-----	672	627	306	233	82	8.8	550
31	923	-----	86	223	-----	1,330	-----	656	-----	62	8.1	-----
TOTAL	1,486.9	11,292	2,732	8,869	11,015	34,211	32,480	9,782	23,202	4,323	965.4	3,838.9
MEAN	48.0	376	88.1	286	393	1,104	1,083	316	773	139	31.1	128
MAX	923	1,510	128	1,300	1,790	2,880	3,730	966	4,070	629	102	1,320
MIN	1.2	142	68	82	93	195	290	114	103	38	8.1	7.2
AC=FT	2,950	22,400	5,420	17,590	21,850	67,860	64,420	19,400	46,020	8,570	1,910	7,610

CAL YR 1972 TOTAL 35,632.71 MEAN 97.4 MAX 1,510 MIN .05 AC=FT 70,680
WTR YR 1973 TOTAL 144,197.20 MEAN 395 MAX 4,070 MIN 1.2 AC=FT 286,000

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE
3-10	1845	9.69	4,840
4-22	1130	10.60	5,810
6-03	0800	10.80	5,890

ARKANSAS RIVER BASIN

07247000 POTEAU RIVER AT CAUTHRON, ARK.

LOCATION.--Lat 34°55'08", long 94°17'55", in NW 1/4 SW 1/4 sec.16, T.3 N., R.31 W., Scott County, on right bank at downstream side of highway bridge on Cauthron, 2.9 mi (4.7 km) downstream from Cross Creek, 7.8 mi (12.6 km) downstream from Jones Creek, and at mile 109.0 (175.4 km).

DRAINAGE AREA.--203 mi² (526 km²).

PERIOD OF RECORD.--February 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 569.53 ft (173.593 m) above mean sea level. Prior to May 2, 1939, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--34 years, 216 ft³/s (6.12 m³/s), 14.45 in/yr (367 mm/yr), 156,500 acre-ft/yr (193 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,590 ft³/s (215 m³/s) Apr. 16, gage height, 17.28 ft (5.267 m); minimum, 0.06 ft³/s (0.002 m³/s) Oct. 18, gage height, 3.77 ft (1.149 m).
Period of record: Maximum discharge, 32,200 ft³/s (912 m³/s) May 20, 1960, gage height, 23.76 ft (7.242 m); no flow at times in most years.
Flood in June 1935 reached a stage of 27.4 ft (8.35 m), from information by local resident.

REMARKS.--Records good. As of September 1973, flow from 74.8 mi² (120 km²) above this station is controlled by 12 floodwater-detention reservoirs with a total combined capacity of 32,660 acre-ft (40.3 hm³) below the flood spillway crests, of which 29,546 acre-ft (36.4 hm³) is flood-detention capacity, 2,100 acre-ft (2.58 hm³) is water-supply storage, and 1,014 acre-ft (1.25 hm³) is sediment-storage capacity.

REVISIONS (WATER YEARS)--WSP 1037: 1939(M). WRD Ark. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	5,150	72	173	2,070	562	646	350	49	95	34	19
2	2.1	2,580	62	140	667	2,190	482	800	253	69	22	9.0
3	1.5	868	54	319	419	823	558	550	2,610	56	17	5.3
4	1.0	613	50	405	319	2,660	617	400	1,380	47	13	3.5
5	.80	430	45	248	258	1,020	415	300	4,330	93	9.1	4.6
6	.64	2,850	41	227	209	1,240	333	250	1,410	107	6.9	73
7	11	2,150	38	204	322	1,940	355	230	801	87	5.5	573
8	7.2	768	40	198	1,910	768	387	820	534	62	4.3	476
9	3.2	432	96	178	681	1,930	398	350	386	50	3.7	228
10	1.7	316	87	146	446	3,530	284	250	297	52	3.1	192
11	1.0	251	75	141	344	2,060	226	190	236	53	2.6	157
12	.63	208	529	129	282	966	193	160	186	82	4.4	116
13	.42	1,610	881	121	257	726	170	130	150	68	5.6	86
14	.30	656	471	149	209	847	184	110	666	51	3.7	66
15	.19	385	707	174	164	589	366	94	427	39	3.7	49
16	.12	286	415	159	136	467	4,740	80	184	58	96	34
17	.09	220	290	144	118	375	1,200	68	401	127	50	24
18	.08	381	237	398	107	305	1,130	58	297	73	18	17
19	.12	855	221	465	98	253	1,210	50	345	65	8.2	10
20	.09	450	198	315	88	222	2,400	46	404	72	5.3	7.3
21	.11	321	232	3,400	78	196	1,330	42	233	56	4.1	5.4
22	1.1	292	299	1,250	72	166	1,770	39	217	43	3.0	4.0
23	5.1	218	202	642	67	143	6,310	254	317	32	2.4	3.0
24	7.5	178	161	423	63	2,600	1,980	151	175	40	1.9	5.4
25	5.7	198	132	324	58	4,660	1,580	87	126	37	1.5	6.1
26	3.4	193	116	473	216	1,510	1,180	74	100	39	1.2	6.8
27	5.6	142	102	427	233	980	760	321	79	21	.95	7.2
28	16	109	93	302	139	713	500	157	70	12	.59	52
29	18	86	90	221	-----	596	360	95	61	8.7	.39	120
30	72	76	284	189	-----	510	300	74	139	8.9	.30	67
31	4,520	-----	272	227	-----	1,540	-----	59	-----	13	1.9	-----
TOTAL	4,689.59	23,272	6,592	12,311	10,030	37,087	32,364	6,639	16,863	1,716.6	334.33	2,426.6
MEAN	151	776	213	397	358	1,196	1,079	214	562	55.4	10.8	80.9
MAX	4,520	5,150	881	3,400	2,070	4,660	6,310	820	4,330	127	96	573
MIN	.08	76	38	121	58	143	170	39	49	8.7	.30	3.0
AC=FT	9,500	46,160	13,080	24,420	19,890	73,560	64,190	13,170	33,450	3,400	663	4,810

CAL YR 1972 TOTAL 56,133.88 MEAN 153 MAX 7,940 MIN 0 AC=FT 111,300
WTR YR 1973 TOTAL 154,325.12 MEAN 423 MAX 6,310 MIN .08 AC=FT 306,100

07247500 FOURCHE MALINE NEAR RED OAK, OKLA.

LOCATION.--Lat 34°54'44", long 95°09'20", in NW 1/4 NW 1/4 sec.13, T.5 N., R.20 E., Latimer County, on downstream side of left abutment of county road bridge, 0.1 mi (0.2 km) downstream from Little Fourche Maline, 5.0 mi (8.0 km) southwest of Red Oak, and at mile 41.2 (66.3 km).

DRAINAGE AREA.--122 sq mi (316 sq km).

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 540.80 ft (164.836 m) above mean sea level. Prior to Apr. 25, 1939, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--35 years, 127 cfs (3.597 cu m/s), 14.14 inches/yr (359 mm/yr), 92,010 acre-ft/yr (113 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 6,470 cfs (183 cu m/s) Apr. 23, gage height, 17.69 ft (5.392 m); minimum, 1.0 cfs (0.028 cu m/s) Oct. 5, 6.

Period of record: Maximum discharge, 41,500 cfs (1,175 cu m/s) May 19, 1960, gage height, 24.70 ft (7.556 m), from floodmarks, from rating curve extended above 25,000 cfs (709 cu m/s); no flow at times in most years.

Flood in June 1935 reached a stage of 25.4 ft (7.742 m), from floodmarks.

REMARKS.--Records good. Some regulation by several flood retarding structures.

COOPERATION.--Gage-height record and 38 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 1117: Drainage area. WSP 1631: 1940.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	1,260	104	25	519	197	434	1,170	15	37	5.5	1.7
2	2.2	1,030	97	22	443	850	228	1,780	91	28	5.2	3.5
3	2.2	635	91	95	240	537	281	916	1,370	20	4.1	5.6
4	2.0	342	82	334	163	837	343	717	946	16	3.4	2.2
5	1.4	138	76	200	127	747	231	628	1,300	24	3.0	8.6
6	1.3	556	72	136	107	950	177	525	913	21	2.6	85
7	1.4	892	76	106	196	1,100	168	1,050	482	11	2.4	315
8	1.3	450	97	95	1,080	698	180	610	257	8.6	2.4	180
9	1.4	235	95	82	682	494	321	342	152	7.5	2.6	59
10	1.4	148	90	70	379	1,110	262	183	95	6.7	2.4	28
11	1.3	104	77	63	232	1,270	183	144	58	17	3.6	18
12	1.4	107	41	64	170	728	152	122	44	76	4.2	13
13	2.3	1,250	53	62	141	535	134	105	37	74	6.3	11
14	3.2	1,080	52	82	119	549	138	94	38	71	6.5	8.5
15	3.6	663	53	118	98	356	227	87	33	79	4.7	7.1
16	3.5	382	50	137	92	252	1,730	81	26	90	6.2	6.7
17	3.3	183	42	131	116	192	1,040	76	26	68	10	6.4
18	3.6	331	35	136	112	159	805	72	26	65	10	5.3
19	4.3	662	33	144	107	139	757	67	64	61	9.4	4.4
20	4.6	418	32	135	101	124	683	63	237	46	7.2	3.9
21	5.4	260	31	539	95	110	420	58	153	16	5.3	4.6
22	149	198	32	547	90	101	1,920	46	84	7.7	4.2	4.6
23	190	153	32	303	87	96	3,970	26	54	5.1	3.2	4.3
24	60	124	28	173	84	1,060	1,840	17	38	4.0	2.4	4.8
25	32	124	24	125	81	2,320	1,370	16	29	3.4	2.1	20
26	21	122	22	225	88	1,410	1,130	23	23	3.1	1.9	22
27	18	102	20	352	92	932	955	138	19	3.4	1.9	54
28	17	82	18	221	87	780	855	105	16	3.1	2.4	251
29	16	79	16	147	-----	660	773	49	43	13	5.5	117
30	25	109	18	111	-----	587	664	28	77	13	3.2	46
31	723	-----	24	100	-----	642	-----	19	-----	11	2.2	-----
TOTAL	1,304.7	12,219	1,613	5,080	5,928	20,522	22,371	9,357	6,746	909.6	136.2	1,301.2
MEAN	42.1	407	52.0	164	212	662	746	302	225	29.3	4.39	43.4
MAX	723	1,260	104	547	1,080	2,320	3,970	1,780	1,370	90	10	315
MIN	1.3	79	16	22	81	96	134	16	15	3.1	1.9	1.7
CFSM	35	3,34	43	1,34	1,74	5,43	6,11	2,48	1,84	24	0.4	36
IN	40	3,73	49	1,55	1,81	6,26	6,82	2,85	2,06	28	0.4	40
AC=FT	2,590	24,240	3,200	10,080	11,760	40,710	44,370	18,560	13,380	1,800	270	2,580
CAL YR 1972	TOTAL 25,923.28			MEAN 70.8	MAX 1,260	MIN .20	CFSM .58	IN 7.90	AC=FT 51,420			
WTR YR 1973	TOTAL 87,487.70			MEAN 240	MAX 3,970	MIN 1.3	CFSM 1.97	IN 26.68	AC=FT 173,500			

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G. HT.	DISCHARGE
4-23	0030	17.69	6,470

ARKANSAS RIVER BASIN

07248000 WISTER LAKE NEAR WISTER, OKLA.

LOCATION.--Lat 34°56'10", long 94°43'10", in SE 1/4 NE 1/4 sec.1, T.5 N., R.24 E., LeFlore County, in control tower near right end of Wister Dam on Poteau River, 2.0 mi (3.2 km) south of Wister, 2.7 mi (4.3 km) upstream from Casten Creek, and at mile 60.9 (98.0 km).

DRAINAGE AREA.--993 sq mi (2,572 sq km).

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1970 published as Wister Reservoir near Wister.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 408,700 acre-ft (504 cu hm) May 8, elevation, 501.57 ft (152.879 m); minimum, 24,670 acre-ft (30.4 cu hm) Oct. 20, elevation, 470.18 ft (143.311 m).
Period of record: Maximum contents, 507,400 acre-ft (626 cu hm) May 27, 1957, elevation, 505.73 ft (154.147 m); minimum since conservation pool was first filled, 4,020 acre-ft (5.0 cu hm) Oct. 16, 1961, elevation, 456.97 ft (139.284 m).

REMARKS.--Reservoir is formed by an earth dam. Regulated storage began Oct. 4, 1949, conservation pool was first filled Dec. 19, 1949. Capacity, 429,600 acre-ft (530 cu hm) at elevation 502.5 ft (153.16 m) crest of spillway and 29,950 acre-ft (36.9 cu hm) at elevation 471.6 ft (143.74 m) conservation pool. Figures given herein represent total contents. Reservoir is used for flood control and recreation. Revised capacity table used since Oct. 1, 1953.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents in acre-feet)

470	24,030	494	258,800
478	65,130	502	418,200
486	142,400		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25,520	64,780	40,780	35,050	39,810	33,950	204,800	377,200	144,900	36,030	29,750	28,570
2	25,490	101,300	37,770	35,530	44,070	48,110	196,200	394,200	152,100	33,110	29,560	28,530
3	25,450	108,200	34,830	36,080	42,320	55,060	188,200	396,600	187,700	30,940	29,520	28,410
4	25,410	104,300	32,060	35,890	39,130	75,890	181,100	391,300	205,200	29,990	29,480	28,330
5	25,340	95,720	30,740	33,420	35,270	86,150	172,500	383,600	235,500	30,030	29,480	28,760
6	25,310	130,600	30,820	29,950	32,540	84,560	163,900	379,900	253,200	30,380	29,440	28,790
7	25,270	158,300	31,020	26,830	33,730	89,050	159,900	403,000	256,500	30,900	29,400	35,620
8	25,200	167,200	31,330	26,730	47,470	87,640	158,300	408,500	250,900	31,140	29,280	37,580
9	25,130	167,800	31,660	28,050	53,660	90,050	154,900	403,800	241,600	31,250	29,200	39,320
10	25,130	160,200	31,970	29,080	53,210	140,300	149,500	395,500	230,200	31,290	29,120	39,030
11	25,130	150,500	32,320	30,340	48,460	179,600	140,900	385,800	217,100	31,330	29,120	37,000
12	25,060	143,000	33,730	31,060	42,480	189,900	131,600	374,200	204,600	31,370	29,080	34,790
13	25,020	157,500	38,260	31,210	36,120	196,200	122,000	362,100	191,100	31,410	29,080	32,630
14	24,950	163,900	41,100	31,620	32,670	203,000	112,200	350,600	180,600	31,620	29,040	31,330
15	25,020	161,000	41,790	32,410	31,100	205,700	111,100	337,700	170,700	31,320	28,920	31,140
16	24,950	153,600	40,540	33,510	30,740	202,200	150,200	324,800	158,500	32,590	29,080	30,860
17	24,850	144,000	38,360	33,070	31,140	193,500	170,200	311,500	147,400	32,720	29,160	30,540
18	24,920	140,500	35,670	31,790	31,570	184,200	198,000	298,000	135,700	32,810	29,240	30,150
19	24,740	142,000	32,940	33,070	31,930	174,300	209,000	284,400	131,800	32,980	29,280	29,950
20	24,670	140,500	31,620	35,620	32,150	163,900	212,200	271,200	128,400	32,980	29,280	29,990
21	24,920	134,100	32,150	47,410	32,190	153,600	217,100	258,300	120,700	32,980	29,240	30,070
22	25,170	124,800	32,630	57,790	32,230	143,100	246,700	244,500	108,200	32,980	29,200	30,030
23	25,130	114,900	32,980	57,980	32,190	133,700	313,900	236,800	100,500	32,940	29,080	30,030
24	25,490	104,500	33,030	54,290	32,100	157,300	350,400	227,500	90,340	32,720	29,040	30,110
25	25,660	94,300	32,890	49,560	31,970	191,000	368,300	214,200	78,170	32,190	28,960	30,110
26	25,880	84,120	32,590	46,430	32,280	217,600	381,200	204,000	65,200	31,710	28,840	30,110
27	26,020	73,770	32,100	43,640	32,370	226,700	387,400	206,900	53,090	31,170	28,730	30,580
28	26,020	64,300	31,620	39,620	32,190	227,200	387,400	199,200	41,310	30,660	28,650	33,690
29	25,980	55,060	31,660	34,830	-----	221,900	382,700	185,800	39,470	30,420	28,760	37,190
30	26,730	46,250	32,190	31,710	-----	215,000	375,500	172,100	38,840	30,460	28,730	38,690
31	34,080	-----	34,080	31,210	-----	211,000	-----	158,300	-----	30,150	28,690	-----
MAX	34,080	167,800	41,790	57,980	53,660	227,200	387,400	408,500	256,500	36,030	29,750	39,320
MIN	24,670	46,250	30,740	26,730	30,740	33,950	111,100	158,300	38,840	29,990	28,650	28,330
(†)	472.58	475.03	472.58	471.92	472.15	491.03	500.06	487.28	473.60	471.65	471.28	473.57
(‡)	+8,490	+12,170	-12,170	-2,870	+980	+178,800	+164,500	-217,200	-119,500	-8,690	-1,460	+10,000

CAL YR 1972.....‡-225,100

WTR YR 1973.....‡ +13,100

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

ARKANSAS RIVER BASIN

107

07248500 POTEAU RIVER NEAR WISTER, OKLA.

LOCATION.--Lat 34°56'15", long 94°42'54", in NW 1/4 NW 1/4 sec.6, T.5 N., R.25 E., Leflore County, on left bank of outflow channel 700 ft (213.4 m) downstream from Wister Dam, 2.2 mi (3.5 km) southeast of Wister, 2.6 mi (4.2 km) upstream from Caston Creek, and at mile 60.8 (97.8 km).

DRAINAGE AREA.--993 sq mi (2,572 sq km).

PERIOD OF RECORD.--May 1938 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to May 21, 1951, records below about 500 cfs (14.2 cu m/s) include flow from Caston Creek, drainage area, 70 sq mi (181 sq km).

GAGE.--Water-stage recorder. Datum of gage is 445.43 ft (135.767 m) above mean sea level. See WSP 1921 for history of changes prior to June 28, 1953.

AVERAGE DISCHARGE.--35 years, 1,130 cfs (32 cu m/s), 818,700 acre-ft/yr (1.01 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 6,780 cfs (192 cu m/s) May 16, gage height, 8.37 ft (2.551 m); maximum gage height, 12.71 ft (3.874 m) Apr. 23 (backwater); minimum daily discharge, 7.4 cfs (0.21 cu m/s) Oct. 22, 29.

Period of record: Maximum discharge, 78,600 cfs (2,230 cu m/s) May 16, 1945, gage height, 37.16 ft (11.326 m), site and datum then in use; no flow at times in 1938-39, 1943, 1947, 1953-54, 1961, 1964.

Flood in June 1935 reached a stage of 43.0 ft (13.11 m) at site and datum used in 1938, estimated as 38.5 ft (11.73 m) at site and datum used during 1939-47, on basis of fall determined for flood in 1943.

REMARKS.--Records good. Flow completely regulated by Wister Lake since October 1949. (See sta. 07248000).

COOPERATION.--Gage-height record and 16 discharge measurements furnished by Corps of Engineers: records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 1117: Drainage area. WSP 1241: 1939, 1943(M), 1945 (M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	10	3,530	410	1,010	823	5,840	3,380	6,420	1,690	248	25
2	8.4	10	1,770	410	1,980	292	5,790	2,210	2,310	1,660	120	24
3	8.2	1,360	1,750	1,050	3,290	1,530	5,760	4,550	79	1,210	33	25
4	8.2	4,100	1,720	2,160	3,240	819	5,720	5,340	488	626	23	25
5	8.2	5,130	956	3,080	3,180	2,520	5,660	5,630	1,270	344	23	25
6	7.6	1,910	223	3,030	2,550	5,210	5,600	5,330	1,290	89	23	24
7	7.6	29	220	2,960	1,560	5,240	3,530	36	2,430	89	23	24
8	7.6	498	221	1,250	1,640	5,250	2,430	2,000	4,550	89	24	24
9	7.6	2,370	222	320	2,190	5,260	3,320	4,700	5,670	89	24	25
10	7.7	4,440	222	336	3,430	791	4,140	5,430	6,320	90	23	595
11	7.7	5,500	222	142	4,420	29	4,880	5,650	6,560	90	24	1,280
12	8.2	4,880	222	305	4,700	1,010	5,290	5,850	6,480	90	23	1,260
13	8.2	47	225	570	4,550	2,060	5,220	5,970	6,380	91	23	1,250
14	8.2	1,650	665	570	3,160	1,090	5,150	5,930	6,410	91	24	667
15	8.2	4,230	1,690	570	1,690	1,850	4,140	6,220	6,270	92	24	216
16	7.6	5,300	2,310	575	939	3,480	26	6,710	6,130	92	25	215
17	7.6	5,530	2,280	1,160	426	5,170	26	6,660	6,070	93	25	213
18	7.7	4,000	2,230	1,820	428	5,510	21	6,590	6,250	93	25	210
19	7.6	3,240	2,190	1,840	430	5,470	841	6,510	4,540	93	24	130
20	7.6	3,710	1,260	1,850	430	5,410	3,380	6,430	2,970	93	24	20
21	7.6	4,900	616	1,910	430	5,450	4,040	6,360	4,310	93	23	19
22	7.4	5,800	617	2,040	430	5,590	2,620	6,420	6,200	92	24	19
23	7.5	5,710	618	3,190	430	5,650	35	4,730	5,890	92	24	19
24	7.6	5,590	619	4,100	429	2,010	35	5,090	5,300	149	24	20
25	7.6	5,490	617	4,040	427	32	34	5,960	5,690	246	24	18
26	7.7	5,360	616	3,970	644	30	34	6,200	6,300	246	24	17
27	7.7	5,220	616	3,910	819	1,240	1,280	53	6,030	245	25	17
28	7.6	5,080	613	3,850	820	3,540	3,240	3,710	5,740	243	24	17
29	7.4	4,940	498	3,740	-----	5,200	4,610	6,300	3,020	242	24	18
30	7.9	4,780	405	2,820	-----	5,910	5,230	6,460	1,110	240	25	18
31	8.6	-----	408	1,390	-----	5,880	-----	6,560	-----	243	25	-----
TOTAL	242.7	110,814	30,371	59,368	49,672	99,346	97,922	158,969	138,477	9,025	1,071	6,459
MEAN	7.83	3,694	980	1,915	1,774	3,205	3,264	5,128	4,616	291	34.5	215
MAX	8.6	5,800	3,530	4,100	4,700	5,910	5,840	6,710	6,560	1,690	248	1,280
MIN	7.4	10	220	142	426	29	21	36	79	89	23	17
AC=FT	481	219,800	60,240	117,800	98,520	197,100	194,200	315,300	274,700	17,900	2,120	12,810
CAL YR 1972	TOTAL 335,897.74		MEAN 918		MAX 6,630		MIN .84		AC=FT 666,300			
WTR YR 1973	TOTAL 761,736.70		MEAN 2,087		MAX 6,710		MIN 7.4		AC=FT 1,511,000			

ARKANSAS RIVER BASIN

07249400 James Fork near Hackett, Ark.

LOCATION.--Lat 35°09'45", long 94°24'25", in NW¼NW¼ sec.34, T.6 N., R.32 W., Sebastian County, near left bank on downstream side of bridge on State Highway 45, 1.7 mi (2.7 km) south of Hackett, 2 mi (3.2 km) downstream from Elder Branch, 2 mi (3.2 km) upstream from small tributary, and 3.6 mi (5.8 km) upstream from Arkansas-Oklahoma State line.

DRAINAGE AREA.--147 mi² (381 km²).

PERIOD OF RECORD.--April 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 459.71 ft (140.120 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 131 ft³/s (3.71 m³/s), 12.10 in/yr (307 mm/yr), 94,910 acre-ft/yr (117 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 16,100 ft³/s (456 m³/s) Apr. 23, gage height, 22.11 ft (6.739 m); minimum, 0.78 ft³/s (0.022 m³/s) Oct. 11, gage height, 0.57 ft (0.174 m).

Period of record: Maximum discharge, 30,000 ft³/s (850 m³/s) May 14, 1968, gage height, 23.00 ft (7.010 m), from rating curve extended above 20,000 ft³/s (566 m³/s); no flow Aug. 16 to Dec. 12, 1963, Sept. 14-21, 1965.

REMARKS.--Records good. Water-quality records for the current year are published in Part 2 of the Arkansas State report.

REVISIONS.--WRD Ark. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	46	1,980	73	90	1,300	260	448	254	22	31	11	5.9		
2	46	1,710	67	78	557	1,330	274	746	49	24	8.7	4.8		
3	46	386	62	148	300	498	667	404	1,360	19	8.1	4.4		
4	16	178	57	216	218	1,560	675	208	309	16	8.0	4.3		
5	5.6	103	53	146	185	819	344	170	1,590	191	7.5	6.0		
6	4.6	3,560	48	154	164	525	247	154	759	75	5.8	9.3		
7	4.1	2,680	44	142	378	663	401	792	304	54	6.7	11		
8	2.8	600	81	139	1,640	370	419	334	189	43	7.1	8.8		
9	1.8	313	110	128	603	446	487	198	143	37	7.1	7.0		
10	1.1	206	83	113	345	3,770	275	162	120	28	7.4	5.8		
11	.85	160	69	108	245	3,060	207	131	95	26	7.4	5.1		
12	.92	142	265	97	208	701	189	106	86	20	7.2	4.6		
13	1.2	1,400	448	93	190	448	172	85	116	17	6.9	4.3		
14	1.5	639	226	112	164	713	182	69	256	16	6.4	3.8		
15	1.8	304	290	143	140	365	235	57	190	22	6.3	3.2		
16	2.1	171	204	122	121	271	1,870	48	110	16	6.9	3.5		
17	2.4	132	141	108	110	216	627	41	241	14	7.0	3.8		
18	2.8	318	124	465	104	188	858	34	177	13	6.9	3.8		
19	3.4	699	122	370	94	169	560	29	487	13	6.6	3.8		
20	3.5	314	109	246	85	167	409	26	487	12	6.2	3.7		
21	4.0	205	189	2,040	78	144	363	24	224	11	5.6	3.9		
22	6.5	192	156	987	73	122	3,030	22	155	11	5.4	3.8		
23	6.3	150	117	493	67	107	9,890	30	668	11	5.2	3.7		
24	5.7	127	96	283	63	1,930	2,130	63	174	13	5.2	5.8		
25	5.4	155	83	218	60	5,030	3,000	43	106	14	5.3	8.9		
26	9.8	149	74	375	59	1,740	1,490	34	72	11	5.5	7.8		
27	13	118	68	375	95	774	875	151	51	10	5.5	6.5		
28	12	95	62	244	76	460	510	67	39	9.9	5.3	58		
29	11	80	60	181	-----	379	319	44	33	9.4	5.2	68		
30	15	77	79	163	-----	305	244	33	37	9.7	7.4	23		
31	324	-----	118	178	-----	830	-----	26	-----	19	8.7	-----		
TOTAL	607.17	17,343	3,778	8,755	7,722	28,360	31,397	4,585	8,649	816.0	209.5	296.3		
MEAN	19.6	578	122	282	276	915	1,047	148	288	26.3	6.76	9.88		
MAX	324	3,560	448	2,040	1,640	5,030	9,890	792	1,590	191	11	68		
MIN	.85	77	44	78	59	107	172	22	22	9.4	5.2	3.2		
CFSM	.13	3.93	.83	1.92	1.88	6.22	7.12	1.01	1.96	.18	.05	.07		
IN ₄	.15	4.39	.96	2.21	1.95	7.18	7.94	1.16	2.19	.21	.05	.07		
AC=FT	1,200	34,400	7,490	17,370	15,320	56,250	62,280	9,090	17,160	1,620	416	588		
CAL YR 1972	TOTAL	118,227.25	MEAN	77.1	MAX	3,560	MIN	.19	CFSM	0.52	IN	7.14	AC=FT	55,990
WTR YR 1973	TOTAL	112,517.97	MEAN	308	MAX	9,890	MIN	.85	CFSM	2.10	IN	28.47	AC=FT	223,200

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11- 1	2300	18.00	3,850	3-25	0700	20.51	6,380
11- 6	2300	20.41	6,170	4-16	0800	16.34	3,040
3-10	2300	20.80	7,250	4-23	1100	22.11	16,100

ARKANSAS RIVER BASIN

109

07250000 Lee Creek near Van Buren, Ark.

LOCATION.--Lat 35°29'40", long 94°26'58", in SE¼ sec.21, T.12 N., R.27 E., Indian Meridian, Sequoyah County, Okla., on right bank 300 ft (91 m) west of Arkansas-Oklahoma State line, 3.2 mi (5.1 km) downstream from Webbers Creek, 6.8 mi (10.9 km) northwest of Van Buren, and at mile 7.8 (12.6 km).

DRAINAGE AREA.--426 mi² (1,103 km²).

PERIOD OF RECORD.--September 1930 to June 1937, October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 408.04 ft (124.371 m) above mean sea level (Corps of Engineers bench mark). September 1930 to June 1937, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--29 years (1930-36, 1950-73), 486 ft³/s (13.8 m³/s), 15.49 in/yr (393 mm/yr), 352,100 acre-ft/yr (434 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 42,600 ft³/s (1,210 m³/s) Apr. 22, gage height, 23.89 ft (7.282 m); minimum, 3.5 ft³/s (0.099 m³/s) Sept. 3, 4, gage height, 0.82 ft (0.250 m).

Period of record: Maximum discharge, 80,600 ft³/s (2,280 m³/s) May 6, 1960, gage height, 30.30 ft (9.235 m); no flow at times.

Flood of Apr. 15, 1945, reached a stage of about 35.0 ft (10.67 m), from floodmarks, discharge, about 112,000 ft³/s (3,170 m³/s).

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1211: 1931(M). WSP 1441: 1935(M). WRD Ark. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	4,600	313	287	2,740	487	1,950	1,160	2,220	530	32	4,0
2	8,7	3,890	287	259	2,550	6,970	1,410	1,450	2,020	376	26	3,8
3	7,5	1,440	264	338	1,550	3,070	1,390	1,130	14,400	272	22	3,7
4	7,0	828	242	842	1,190	2,450	1,780	939	4,560	214	20	3,7
5	6,5	568	225	812	984	1,950	1,590	806	5,630	566	18	4,9
6	6,4	1,270	205	690	834	2,000	1,140	798	3,890	531	16	7,2
7	6,4	2,330	188	612	1,280	3,610	1,040	10,200	2,080	322	15	7,0
8	6,0	1,230	180	538	5,830	2,630	1,010	3,840	1,340	254	13	8,0
9	5,8	829	172	468	2,820	3,260	1,150	2,090	956	188	12	10
10	6,7	633	162	417	1,850	14,300	1,130	1,440	712	170	16	10
11	5,7	522	154	382	1,390	8,750	980	1,100	550	151	46	7,8
12	5,4	438	164	350	1,130	3,230	887	1,130	506	128	35	6,4
13	5,0	4,120	181	328	968	2,070	778	837	494	111	31	7,9
14	4,6	2,790	194	325	834	2,230	708	681	481	97	24	7,6
15	5,0	1,460	221	311	709	1,740	909	523	477	102	19	6,8
16	5,3	1,000	227	330	605	1,350	7,170	426	593	94	17	6,8
17	5,3	768	218	348	525	1,090	3,280	361	420	87	17	6,2
18	4,9	663	209	438	471	910	2,030	309	433	81	16	5,4
19	5,6	978	209	954	428	804	1,670	264	1,090	72	16	5,0
20	5,0	983	210	809	389	907	1,590	230	1,920	65	13	4,8
21	7,1	830	224	2,260	353	755	1,390	199	1,070	58	11	4,5
22	78	750	234	3,340	323	654	25,300	186	680	51	9,3	4,3
23	146	653	233	2,090	300	627	8,310	185	1,400	47	7,7	4,2
24	142	574	218	1,430	279	4,960	3,870	193	872	44	6,8	4,4
25	103	560	203	1,100	259	10,500	2,740	207	537	40	5,9	7,7
26	86	539	188	1,020	242	5,040	2,920	195	387	36	5,2	15
27	78	503	176	1,050	224	2,880	2,380	2,060	309	32	5,0	64
28	68	437	168	906	210	1,900	1,800	1,300	256	29	4,8	602
29	59	377	163	765	-----	1,530	1,460	798	259	52	4,6	593
30	64	342	193	667	-----	1,260	1,230	556	453	51	4,5	288
31	1,860	-----	233	631	-----	2,190	-----	931	-----	37	4,4	-----
TOTAL	2,814,9	56,905	6,458	25,097	31,067	96,104	84,792	36,524	50,795	4,868	493,2	1,714,1
MEAN	90,8	1,230	208	810	1,110	3,100	2,826	1,178	1,693	157	15,9	57,1
MAX	1,860	4,600	313	3,340	5,830	14,300	25,300	10,200	14,400	566	46	602
MIN	4,6	342	154	259	210	487	708	185	256	29	4,4	3,7
CFSM	21	2,89	49	1,90	2,61	7,28	6,63	2,77	3,97	37	0,4	13
IN	25	3,22	56	2,19	2,71	8,39	7,40	3,19	4,44	43	0,4	15
AC=FT	5,580	73,200	12,810	49,780	61,620	190,600	168,200	72,450	100,800	9,660	978	3,400
CAL YR 1972	TOTAL 111,956,7	MEAN 306	MAX 4,600	MIN 1,8	CFSM .72	IN 9,78	AC=FT 222,100					
WTR YR 1973	TOTAL 377,632,2	MEAN 1,035	MAX 25,300	MIN 3,7	CFSM 2,43	IN 32,98	AC=FT 749,000					

PEAK DISCHARGE (BASE, 13,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-10	2100	19.10	26,000	5-7	1200	14.96	16,400
3-25	0100	14.25	15,000	6-3	1300	16.96	20,700
4-22	1500	23.89	42,600				

ARKANSAS RIVER BASIN

07250550 Arkansas River at Dam No. 13, near Van Buren, Ark.

LOCATION.--Lat 35°20'56", long 94°17'54", in sec.28, T.8 N., R.31 W., Sebastian County, in Dam No. 13 control house on right bank, and at mile 308.9 (497.0 km).

DRAINAGE AREA.--150,547 mi² (389,917 km²); of which 22,241 mi² (57,604 km²) is probably noncontributing.

PERIOD OF RECORD.--October 1927 to current year. Prior to October 1969, published as 07250500 Arkansas River at Van Buren. Gage-height records collected at Fort Smith, 16.3 mi (26.2 km) upstream from 1879 to December 1955, are contained in reports of National Weather Service.

GAGE.--Water-stage and gage position recorder. Datum of gage is at mean sea level (levels by Corps of Engineers). Prior to Oct. 1, 1934, nonrecording gage, and Oct. 1, 1934, to Dec. 20, 1969, recording gage at site 7.9 mi (12.7 km) upstream at datum 372.36 ft (113.495 m) higher.

AVERAGE DISCHARGE.--46 years, 30,590 ft³/s (866 m³/s), 22,160,000 acre-ft/yr (27,300 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 212,000 ft³/s (6,000 m³/s) Apr. 23, tailwater elevation, 394.80 ft (120.335 m); minimum daily discharge, 320 ft³/s (9.06 m³/s) Sept. 3.

Period of record: Maximum discharge, 850,000 ft³/s (24,100 m³/s) May 12, 1943, gage height, 38.0 ft (11.58 m), from floodmark, site and datum then in use; maximum gage height, 38.10 ft (11.613 m), former site and datum, Apr. 16, 1945; minimum daily discharge, 16 ft³/s (0.45 m³/s) Dec. 7, 1970.

Maximum stage since at least 1833, that of Apr. 16, 1945, and maximum discharge since at least 1833, that of May 12, 1943. Flood in June 1833 reached a stage of 38 ft (11.6 m) on Fort Smith gage, from records collected by National Weather Service. Flood of Apr. 16, 1927, reached a stage of 35.0 ft (10.67 m), former site and datum, from information by local resident.

REMARKS.--Records good. Beginning Apr. 26, 1970, daily discharge computed from relation between discharge, head, and gate openings. Flow regulated by many locks, dams, and reservoirs upstream. Water-quality records for the current year are published in Part 2 of the Arkansas State report.

COOPERATION.--Six discharge measurements furnished by Corps of Engineers.

REVISIONS (WATER YEARS).--WSP 1211: 1934-36. WSP 1561: 1954. WRD Ark. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,770	71,900	47,400	28,400	109,000	34,900	150,000	167,000	84,000	47,400	22,000	12,400
2	845	115,000	39,900	33,500	113,000	58,800	149,000	164,000	93,500	42,700	22,100	5,750
3	3,110	111,000	26,000	31,400	110,000	64,500	147,000	162,000	129,000	26,200	14,200	320
4	7,660	91,000	22,800	51,100	102,000	75,800	152,000	159,000	167,000	33,400	16,200	11,000
5	8,880	75,600	36,200	75,000	96,500	101,000	157,000	156,000	163,000	26,900	14,700	9,810
6	7,900	79,400	47,000	96,300	95,000	109,000	156,000	156,000	149,000	32,100	7,720	19,200
7	2,590	86,000	36,900	83,400	91,400	126,000	152,000	172,000	143,000	12,800	4,780	15,000
8	523	75,500	35,600	70,400	112,000	144,000	150,000	171,000	133,000	14,000	13,100	10,400
9	2,850	66,800	27,100	61,300	123,000	145,000	150,000	159,000	125,000	19,200	14,400	8,740
10	3,690	61,300	26,200	62,300	110,000	161,000	149,000	153,000	124,000	25,900	13,300	11,300
11	4,070	48,600	33,300	65,400	97,400	197,000	147,000	156,000	124,000	26,000	22,600	12,200
12	7,660	35,900	25,400	50,400	88,600	167,000	147,000	159,000	116,000	26,300	12,400	12,700
13	7,520	60,200	22,100	50,200	86,900	145,000	147,000	159,000	94,700	20,900	16,400	13,900
14	2,300	83,300	27,800	47,500	79,300	153,000	148,000	159,000	62,700	17,200	13,700	13,900
15	1,300	85,600	37,500	43,000	71,300	160,000	149,000	158,000	56,500	16,900	14,300	6,600
16	7,240	84,200	36,100	31,900	57,600	154,000	167,000	159,000	60,100	20,400	13,800	3,240
17	8,960	86,800	26,900	25,600	47,500	148,000	180,000	159,000	66,600	20,900	15,600	10,800
18	7,210	91,600	23,500	34,400	44,300	149,000	166,000	158,000	87,800	17,300	14,500	13,400
19	3,970	99,300	22,400	55,300	45,700	149,000	157,000	158,000	68,100	21,200	7,790	7,700
20	2,760	78,300	25,000	65,200	45,700	148,000	154,000	158,000	84,800	23,800	11,700	7,920
21	500	45,600	23,900	86,100	38,700	148,000	153,000	154,000	77,000	24,300	16,500	10,900
22	7,010	55,800	33,800	105,000	29,300	148,000	179,000	150,000	66,000	22,500	19,000	7,040
23	25,800	69,600	35,700	102,000	29,600	147,000	209,000	147,000	68,700	19,700	16,100	3,000
24	28,700	76,900	26,300	105,000	22,000	155,000	203,000	140,000	66,800	21,100	14,300	11,000
25	34,200	76,500	23,100	115,000	25,700	180,000	193,000	130,000	56,300	29,800	11,600	13,400
26	31,800	73,700	21,100	119,000	21,600	177,000	193,000	130,000	53,700	23,200	8,090	17,700
27	31,500	69,900	22,300	122,000	18,900	157,000	192,000	123,000	49,400	23,100	13,400	32,000
28	20,600	59,100	15,900	128,000	33,400	146,000	186,000	114,000	44,900	21,400	15,000	43,400
29	20,300	50,700	21,300	129,000	-----	145,000	177,000	88,100	43,000	18,100	17,800	42,000
30	20,900	53,000	26,200	124,000	-----	147,000	169,000	72,600	59,500	22,300	19,700	41,900
31	36,600	-----	15,000	105,000	-----	149,000	-----	70,800	-----	23,000	12,500	-----
TOTAL	352,128	2,218.5M	893,700	2,302.1M	1,945.4M	4,289.0M	4,928.0M	4,521.5M	2,717.1M	740,000	449,280	428,620
MEAN	11,360	73,950	28,830	74,260	69,480	138,400	164,300	145,900	90,570	23,870	14,490	14,290
MAX	36,600	115,000	47,400	129,000	123,000	197,000	209,000	172,000	167,000	47,400	22,600	43,400
MIN	500	35,900	15,000	25,600	18,900	34,900	147,000	70,800	43,000	12,800	4,780	320
AC-FT	698,400	4,400M	1,773M	4,566M	3,859M	8,507M	9,775M	8,968M	5,389M	1,468M	891,100	850,200

CAL YR 1972 TOTAL 7,102,849 MEAN 19,410 MAX 115,000 MIN 200 AC-FT 14,090,000
 WTR YR 1973 TOTAL 25,785,328 MEAN 70,640 MAX 209,000 MIN 320 AC-FT 51,150,000

RED RIVER BASIN

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07299570 Red River near Quanah, Tex.

LOCATION.--Lat 34°24'47", long 99°44'03", Hardeman County, on right bank at downstream side of bridge on State Highway 283, 8 miles (13 km) north of Quanah, 30 miles (48 km) upstream from Salt Fork Red River, and at mile 1,030 (1,657 km).

DRAINAGE AREA.--8,321 mi² (21,551 km²), of which 4,769 mi² (12,352 km²) is probably noncontributing.

PERIOD OF RECORD.--November 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,412.97 ft (430.07 m) above mean sea level.

AVERAGE DISCHARGE.--13 years (1960-73), 142 ft³/s (4.02 m³/s), 102,900 acre-ft/yr (127 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 18,600 ft³/s (527 m³/s) June 2, gage height, 10.83 ft (3.30 m); no flow at times.

Period of record: Maximum discharge, 64,000 ft³/s (1,810 m³/s) June 7, 1960, gage height, 16.00 ft (4.88 m), from rating curve extended above 32,000 ft³/s (906 m³/s); no flow at times.

Maximum stage since at least 1891 occurred in 1896, about 23 ft (7 m); second highest stage occurred June 1, 1957, 21.2 ft (6.5 m), from information by local resident.

REMARKS.--Records poor. Several small diversions above station for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	71	16	11	37	27	399	62	2.4	0	44	15
2	.02	51	16	13	28	22	185	27	4,480	0	16	4.0
3	.01	60	13	50	19	17	125	46	1,690	0	5.7	1.7
4	.01	47	11	71	11	14	144	33	141	0	1.6	521
5	.02	18	11	64	7.4	9.9	213	18	71	0	.39	69
6	.04	8.1	5.6	45	6.2	7.9	139	18	46	0	.31	686
7	.05	1.7	6.8	10	8.7	4.2	117	11	19	0	.05	767
8	.04	.80	6.2	5.0	12	15	163	7.5	14	0	.90	1,190
9	.01	.20	5.0	4.0	15	94	183	4.6	8.0	0	1,850	262
10	.01	.02	4.0	3.0	15	840	153	2.3	6.8	13	1,590	69
11	0	.01	3.0	2.5	15	808	124	1.2	4.2	1.7	840	14
12	0	1.3	4.0	2.0	12	493	120	.59	3.2	5.3	450	2.2
13	0	6.2	5.0	3.0	6.1	248	368	.31	3.2	.38	217	.35
14	.01	5.1	5.0	4.0	4.2	164	351	.42	2.8	.02	120	.01
15	9.2	6.2	4.5	8.0	3.0	110	566	.42	3.2	.01	62	3.3
16	4.2	3.7	5.0	20	2.6	79	420	.25	3.7	.01	30	616
17	2.2	7.4	10	109	7.2	51	242	.27	10	0	14	3,530
18	.68	280	23	71	11	32	154	.18	7.4	0	10	249
19	.20	86	18	52	10	24	131	.13	1.5	0	8.1	155
20	11	69	15	41	7.3	14	361	.02	.47	0	5.6	109
21	237	62	9.4	75	6.2	10	159	.01	.47	0	2.2	104
22	194	64	6.2	62	15	7.8	104	21	.25	0	1.1	90
23	67	56	5.6	41	40	11	69	115	.20	0	.31	75
24	26	54	3.2	31	76	192	1,750	710	.15	0	.03	64
25	3.2	67	2.8	41	77	140	2,230	102	.10	0	0	37
26	.31	60	2.2	67	51	147	457	78	.08	0	0	90
27	2.4	39	1.7	64	37	99	1,180	44	.05	0	.20	229
28	.47	25	1.9	52	28	177	367	14	.03	3.0	.20	223
29	.31	23	4.2	34	-----	138	105	2.0	.02	18	.20	179
30	47	20	8.0	31	-----	496	63	.26	.01	190	.07	90
31	78	-----	9.4	30	-----	838	-----	16	-----	150	.03	-----
TOTAL	683.39	1,192.73	241.7	1,116.5	567.9	5,329.8	11,142	1,335.46	6,519.23	381.42	5,269.99	9,444.56
MEAN	22.0	39.8	7.80	36.0	20.3	172	371	43.1	217	12.3	170	315
MAX	237	280	23	109	77	840	2,230	710	4,480	190	1,850	3,530
MIN	0	.01	1.7	2.0	2.6	4.2	63	.01	.01	0	0	.01
AC-FT	1,360	2,370	479	2,210	1,130	10,570	22,100	2,650	12,930	757	10,450	18,730

CAL YR 1972 TOTAL 20,525.03 MEAN 56.1 MAX 4,140 MIN 0 AC-FT 40,710

WTR YR 1973 TOTAL 43,224.68 MEAN 118 MAX 4,480 MIN 0 AC-FT 85,740

PEAK DISCHARGE (BASE, 5,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
4-24	2015	9.49	8,100	8- 9	1200	9.07	5,170
6- 2	1630	10.83	18,600	9-10	2400	10.32	14,600

07299670 Groesbeck Creek at State Highway 283 near Quanah, Tex.

LOCATION.--Lat 34°21'16", long 99°44'24", Hardeman County, near left bank on downstream side of bridge on State Highway 283, 2 miles (3 km) downstream from confluence of North and South Groesbeck Creeks, 4 miles (6 km) north of Quanah, and 9 miles (14 km) upstream from mouth.

DRAINAGE AREA.--303 mi² (785 km²).

PERIOD OF RECORD.--November 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,425.69 ft (434.55 m) above mean sea level.

AVERAGE DISCHARGE.--11 years (1962-73), 10.3 ft³/s (0.292 m³/s), 7,460 acre-ft/yr (9.20 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,140 ft³/s (88.9 m³/s) June 3, gage height, 18.01 ft (5.49 m); minimum, 0.88 ft³/s (25 dm³/s) Sept. 4.

Period of record: Maximum discharge, 12,000 ft³/s (340 m³/s) Oct. 18, 1965, gage height, 22.93 ft (6.99 m), from rating curve extended above 6,100 ft³/s (173 m³/s); no flow at times.

Highest stage occurred in June 1891; highest stage since 1891 occurred in September 1929; other large floods are reported to have occurred in 1912, 1936, 1946, 1951, 1955, and 1957, from information by local residents.

REMARKS.--Records good. Several diversions upstream from station for farm and ranch use and for a gypsum wallboard plant.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	36	2.8	3.1	3.1	3.1	11	3.9	3.5	3.1	5.8	11
2	1.3	5.2	2.8	3.1	3.3	3.1	3.6	3.8	481	2.9	1.9	2.5
3	1.4	2.5	2.8	2.5	2.8	2.9	2.7	3.8	1,390	2.7	1.4	1.3
4	1.5	3.1	2.8	2.5	2.9	3.1	2.0	3.8	199	2.8	1.4	241
5	1.5	3.5	2.7	2.5	3.0	3.1	1.7	4.0	53	2.5	1.5	205
6	1.4	3.8	2.6	2.3	3.0	3.3	1.8	4.4	52	2.3	1.7	676
7	1.5	3.3	2.0	2.0	3.0	3.6	1.8	4.3	41	3.3	1.6	987
8	1.6	3.4	1.5	1.8	2.8	3.8	1.9	3.9	22	3.4	1.6	287
9	1.5	3.5	1.5	1.5	2.5	4.0	2.0	4.2	12	3.3	1.7	49
10	1.5	2.9	1.5	1.0	2.5	22	1.8	4.1	10	3.6	1.7	23
11	1.5	3.9	1.5	1.0	3.0	14	1.7	4.2	9.2	4.0	1.6	10
12	1.4	5.0	1.5	1.0	3.1	13	2.1	4.1	8.0	3.0	1.6	7.1
13	1.4	6.0	2.2	1.2	3.0	7.6	48	4.7	7.5	3.1	1.4	132
14	1.3	2.2	2.2	1.4	3.1	4.9	22	5.2	7.1	3.3	1.3	142
15	1.2	1.6	2.0	1.6	3.1	3.4	24	5.1	6.7	3.2	1.3	36
16	1.4	1.6	2.2	2.0	2.5	3.4	317	5.1	6.5	2.7	1.3	9.8
17	1.5	1.6	2.5	2.5	2.7	3.1	71	5.7	5.7	2.5	1.3	7.1
18	1.4	2.1	2.8	3.2	3.0	3.1	9.9	5.9	5.7	2.5	1.3	5.7
19	1.4	2.4	2.8	3.0	3.1	3.4	4.3	5.8	5.3	2.4	1.5	5.3
20	2.2	2.2	2.8	2.8	3.1	3.1	2.3	6.3	5.1	2.2	1.4	4.5
21	10	2.6	2.8	6.5	3.1	3.1	1.8	6.1	4.5	1.8	1.4	4.2
22	7.1	2.8	2.5	5.7	3.1	3.6	3.0	6.9	4.5	1.9	1.3	4.2
23	2.5	2.8	2.5	3.1	2.8	4.9	3.3	164	4.5	1.7	1.2	4.5
24	1.9	2.8	2.5	2.5	2.8	4.1	123	29	4.2	1.1	1.1	4.5
25	1.8	2.8	2.5	2.5	2.9	3.7	97	11	4.2	1.0	.99	4.5
26	1.8	2.8	2.5	2.9	3.0	3.4	13	5.9	3.8	1.0	1.0	43
27	1.9	2.5	2.5	2.9	3.1	3.3	5.7	4.0	3.8	1.0	1.2	138
28	2.0	2.5	3.1	2.8	3.1	3.6	4.4	3.1	3.8	2.2	1.4	50
29	2.0	2.5	3.1	2.8	-----	3.6	4.0	5.0	3.8	74	1.5	17
30	38	2.7	3.1	2.6	-----	151	4.1	4.3	3.3	132	1.9	8.1
31	99	-----	3.1	2.9	-----	66	-----	3.4	-----	51	2.7	-----
TOTAL	197.5	122.6	75.7	79.2	82.5	361.3	791.9	335.0	2,370.7	327.5	49.99	3,120.3
MEAN	6.37	4.09	2.44	2.55	2.95	11.7	26.4	10.8	79.0	10.6	1.61	104
MAX	99	36	3.1	6.5	3.3	151	317	164	1,390	132	5.8	987
MIN	1.2	1.6	1.5	1.0	2.5	2.9	1.7	3.1	3.3	1.0	.99	1.3
AC-FT	392	243	150	157	164	717	1,570	664	4,700	650	99	6,190

CAL YR 1972 TOTAL 1,548.99 MEAN 4.23 MAX 216 MIN .06 AC-FT 3,070

WTR YR 1973 TOTAL 7,914.19 MEAN 21.7 MAX 1,390 MIN .99 AC-FT 15,700

PEAK DISCHARGE (BASE, 1,000 FT³/S).--June 3 (0045) 3,140 ft³/s (18.01 ft); Sept. 6 (2200) 1,660 ft³/s (16.10 ft).

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LOCATION.--Lat 34°57'27", long 100°13'14", Collingsworth County, near center of stream on downstream side of bridge on U.S. Highway 83, 4 miles (6 km) downstream from Fort Worth and Denver (Burlington) Railway Co. bridge, 4.5 miles (7.2 km) south of Lutie, and 7.2 miles (11.6 km) north of Wellington.

PERIOD OF RECORD.--June 1952 to current year.

AVERAGE DISCHARGE.--15 years (1952-67) prior to completion of Greenbelt Reservoir, 68.9 ft³/s (1.95 m³/s), 49,920 acre-ft/yr (61.6 hm³/yr); 6 years (1967-73) regulated, 40.8 ft³/s (1.16 m³/s), 29,560 acre-ft/yr (36.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 35,600 ft³/s (1,010 m³/s) Apr. 24, gage height, 11.52 ft (3.51 m); minimum daily, 3.5 ft³/s (99 dm³/s) Oct. 13.
Period of record: Maximum discharge, 146,000 ft³/s (4,130 m³/s) May 16, 1957, gage height, 19.00 ft (5.79 m), from rating curve extended above 11,000 ft³/s (312 m³/s) on basis of slope-area measurement of 63,400 ft³/s (1,800 m³/s); minimum, 0.1 ft³/s (2.8 dm³/s) June 19, 1952.

REMARKS.--Records fair. Flow partly regulated since August 1967 by Greenbelt Reservoir (station 07299840). Water-quality records for the current year are published in Part 2 of the Texas State report.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	38	36	18	41	34	64	58	545	11	11	5.6
2	7.8	23	32	21	43	36	64	58	2,130	11	11	5.6
3	7.3	17	28	28	32	34	150	60	122	10	11	6.5
4	6.4	15	26	25	25	28	68	50	52	11	11	11
5	6.8	14	26	22	25	21	36	41	24	9.4	11	38
6	7.3	13	25	20	25	28	28	43	8.8	8.8	11	22
7	4.6	13	21	18	26	26	38	45	4.7	8.8	11	46
8	4.6	12	23	17	26	56	125	40	6.0	8.2	56	20
9	5.9	13	25	17	23	96	110	35	8.8	8.2	46	19
10	6.4	11	21	16	25	594	56	35	10	8.2	23	18
11	5.9	13	19	15	32	258	41	35	11	9.4	14	18
12	4.2	25	20	14	34	93	100	32	12	10	10	29
13	3.5	54	25	22	25	86	250	32	12	11	10	23
14	3.8	18	23	36	26	93	125	32	11	11	8.2	12
15	4.6	19	23	75	28	51	320	32	11	9.4	7.6	14
16	5.0	18	25	54	34	43	78	29	14	8.8	7.6	176
17	5.9	14	28	22	43	26	43	27	12	7.6	7.1	54
18	7.3	59	25	17	43	26	56	24	11	7.6	7.1	24
19	7.8	110	25	18	43	25	340	23	12	7.6	7.1	23
20	14	46	61	21	36	25	78	23	11	7.6	7.1	22
21	48	34	56	21	34	26	51	23	11	7.6	7.1	20
22	18	43	32	22	48	26	34	23	10	10	7.1	21
23	13	38	21	22	100	43	416	74	9.4	17	6.0	22
24	13	46	17	22	64	168	5,040	35	8.8	11	5.6	21
25	14	34	17	25	46	59	181	23	8.2	9.4	5.1	18
26	15	30	17	28	41	51	176	18	8.2	10	4.7	34
27	15	38	22	26	41	75	126	17	7.6	9.4	5.1	41
28	13	36	23	23	38	89	96	16	7.6	17	5.1	43
29	12	32	23	19	-----	96	74	16	10	15	4.7	32
30	26	38	22	23	-----	390	60	17	12	15	5.1	28
31	32	-----	22	28	-----	125	-----	17	-----	13	5.6	-----
TOTAL	346.5	914	819	755	1,047	2,827	8,424	1,033	3,121.1	319.0	349.0	866.7
MEAN	11.2	30.5	26.4	24.4	37.4	91.2	281	33.3	104	10.3	11.3	28.9
MAX	48	110	61	75	100	594	5,040	74	2,130	17	56	176
MIN	3.5	11	17	14	23	21	28	16	4.7	7.6	4.7	5.6
AC-FT	687	1,810	1,620	1,500	2,080	5,610	16,710	2,050	6,190	633	692	1,720
CAL YR 1972	TOTAL	12,627.8	MEAN	34.5	MAX	2,370	MIN	2.7	AC-FT	25,050		
WTR YR 1973	TOTAL	20,821.3	MEAN	57.0	MAX	5,040	MIN	3.5	AC-FT	41,300		

RED RIVER BASIN

07300500 SALT FORK RED RIVER AT MANGUM, OKLA.

LOCATION.--Lat 34°51'32", long 99°30'28", in SW 1/4 SE 1/4 sec.34, T.5 N., R.22 W., Greer County, near left bank on downstream side of pier of bridge on State Highway 34, 0.5 mi (0.8 km) south of Mangum, 13.0 mi (21 km) downstream from Fish Creek, and at mile 35.5 (57.1 km).

DRAINAGE AREA.--1,566 sq mi (4,056 sq km), of which 209 sq mi (541 sq km) is probably noncontributing.

PERIOD OF RECORD.--April 1905 to June 1906, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,490.87 ft (454.417 m) above mean sea level (levels by Bureau of Reclamation). Apr. 11, 1905, to June 30, 1906, nonrecording gage at stie 0.2 mi (0.3 km) upstream at different datum. Oct. 1, 1937, to Nov. 8, 1938, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--36 years (1937-73), 88.0 cfs (2.492 cu m/s), 63,760 acre-ft/yr (78.6 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 30,700 cfs (869 cu m/s) Apr. 24, gage height, 13.17 ft (4.014 m); no flow at times.

Period of record: Maximum discharge, 72,000 cfs (2,039 cu m/s) May 16, 1957, gage height, 14.55 ft (4.435 m); maximum gage height 14.7 ft (4.48 m) June 16, 1938; no flow at times in each year.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1211: Drainage area. WSP 1241: 1938.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	87	9.0	10	39	34	232	41	88	3.0	9.6	0
2	0	58	7.4	11	34	31	169	39	6,690	2.3	4.1	0
3	0	45	5.4	16	35	30	159	48	1,080	.80	2.3	0
4	0	16	4.5	19	33	36	216	56	163	.56	1.4	.51
5	0	8.2	3.5	16	29	35	160	57	81	.25	.35	.30
6	0	4.4	2.5	4.5	24	31	115	59	49	.01	0	46
7	0	2.2	2.0	4.0	22	24	96	60	40	0	0	64
8	0	1.1	2.1	3.5	23	33	113	62	42	0	0	46
9	0	.69	2.3	3.1	16	58	119	64	52	0	11	33
10	0	.33	2.6	2.9	21	442	149	54	63	.67	82	18
11	0	.15	3.1	2.6	22	617	133	54	60	0	41	13
12	0	.66	4.8	2.3	25	248	99	52	50	0	20	8.6
13	0	3.0	5.8	10	21	169	184	49	42	0	10	6.4
14	0	4.2	6.8	15	18	122	324	50	38	0	5.4	4.6
15	0	5.8	8.2	17	20	95	1,570	53	36	0	1.9	9.8
16	0	3.9	8.5	169	20	73	322	49	33	0	1.1	11
17	0	2.6	9.7	159	20	52	160	42	45	0	.06	190
18	0	7.6	13	98	21	44	139	44	38	0	0	94
19	0	16	16	56	21	41	92	42	27	0	0	50
20	0	22	26	40	22	36	585	37	21	0	0	31
21	0	21	29	43	21	34	257	35	16	0	0	23
22	15	17	29	45	25	32	189	37	15	0	0	18
23	29	15	23	33	33	38	149	159	14	0	0	17
24	8.7	18	15	26	36	50	7,070	198	9.6	0	0	16
25	2.0	22	11	30	53	183	1,410	176	9.2	0	0	13
26	.22	22	8.3	37	55	120	209	111	8.1	0	0	41
27	1.1	21	6.9	34	43	98	98	77	5.7	0	0	66
28	1.1	17	6.4	27	36	127	83	60	5.3	0	0	44
29	2.2	12	7.1	30	-----	167	55	53	5.6	0	0	34
30	14	11	8.3	27	-----	808	47	47	4.4	9.5	0	27
31	157	-----	8.5	36	-----	531	-----	70	-----	18	0	-----
TOTAL	230.32	464.83	295.7	1,026.9	788	4,439	14,703	2,035	8,830.9	35.09	190.21	925.21
MEAN	7.43	15.5	9.54	33.1	28.1	143	490	65.6	294	1.13	6.14	30.8
MAX	157	87	29	169	55	808	7,070	198	6,690	18	82	190
MIN	0	.15	2.0	2.3	16	24	47	35	4.4	0	0	0
AC=FT	457	922	587	2,040	1,560	8,800	29,160	4,040	17,520	70	377	1,840
CAL YR 1972	TOTAL 10,617.44		MEAN 29.0		MAX 2,390		MIN 0		AC=FT 21,060			
WTR YR 1973	TOTAL 33,964.16		MEAN 93.1		MAX 7,070		MIN 0		AC=FT 67,370			

PEAK DISCHARGE (BASE, 6,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE
4-15	1145	10.69	6,650
4-24	1545	13.17	30,700
6-2	1145	11.71	13,900

RED RIVER BASIN

115

07301300 North Fork Red River near Shamrock, Tex.

LOCATION.--Lat 35°15'51", long 100°14'29", Wheeler County, on left bank at downstream side of bridge on U.S. Highway 83, 2.5 miles (4.0 km) north of Shamrock, 16 miles (26 km) upstream from Oklahoma-Texas State line, and 23 miles (37 km) downstream from McClellan Creek.

DRAINAGE AREA.--1,082 mi² (2,802 km²), of which 379 mi² (982 km²) is probably noncontributing.

PERIOD OF RECORD.--1951-63 (occasional low-flow measurements), February 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,165.55 ft (660.06 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 25.6 ft³/s (0.72 m³/s), 18,550 acre-ft/yr (22.9 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,180 ft³/s (147 m³/s) Apr. 14, gage height, 4.87 ft (1.48 m); no flow at times.

Period of record: Maximum discharge, 11,200 ft³/s (317 m³/s) June 7, 1967, gage height, 5.80 ft (1.77 m), from rating curve extended above 3,800 ft³/s (108 m³/s); no flow at times.

Maximum stage since at least 1915, 16.1 ft (4.9 m) in May 1957, from information by State Highway Department and local residents.

REMARKS.--Records poor. Some regulation by Lake McClellan, capacity 5,000 acre-ft (6.16 hm³), 41 miles (66 km) upstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SFP
1	.03	31	21	36	51	30	129	601	2.9			0
2	.01	19	18	45	33	27	198	102	83			0
3	0	5.8	12	55	27	25	210	59	42			0
4	0	1.8	6.6	48	27	19	95	51	7.5			33
5	0	.52	1.0	10	27	19	81	76	.58			11
6	0	.14	0	2.0	25	14	66	61	.20			8.6
7	0	.07	0	1.5	23	14	63	41	.06			16
8	0	.06	0	1.0	20	36	126	28	.05			.58
9	0	.04	0	.70	21	27	90	23	.03			.06
10	0	.04	0	1.5	23	186	55	21	.01			.01
11	0	.03	0	10	25	51	47	18	.02			0
12	0	4.6	.03	20	30	36	96	12	.03			0
13	0	8.5	.06	30	19	39	370	24	.04			0
14	0	3.8	.07	40	15	28	1,260	81	.03			0
15	0	1.4	.07	89	13	18	893	49	.03			7.6
16	0	.58	.29	63	13	16	139	21	.02			261
17	0	.58	8.5	48	19	16	55	7.4	0			48
18	0	12	12	36	19	19	189	3.3	0			16
19	0	45	48	33	15	15	355	2.3	0			5.8
20	.12	30	51	36	12	14	112	.59	0			.20
21	1.2	42	42	23	9.0	13	83	28	0			.08
22	.13	39	33	18	17	11	78	51	0			.03
23	.07	30	27	16	21	23	216	68	0			.02
24	.07	68	23	16	25	223	1,250	23	0			0
25	.06	48	23	27	23	39	405	3.3	0			0
26	.08	36	21	42	19	31	361	.33	0			8.5
27	.08	27	21	39	20	49	169	.14	0			97
28	.09	21	25	30	24	56	77	.01	0			13
29	.09	23	45	25	-----	68	51	.01	0			2.4
30	5.1	23	48	23	-----	948	247	.01	0			.15
31	11	-----	42	51	-----	514	-----	.70	-----			-----
TOTAL	18.13	521.96	528.62	915.70	615.0	2,624	7,566	1,456.09	136.50	0	0	529.03
MEAN	.58	17.4	17.1	29.5	22.0	84.6	252	47.0	4.55	0	0	17.6
MAX	11	68	51	89	51	948	1,260	601	83	0	0	261
MIN	0	.03	0	.70	9.0	11	47	.01	0	0	0	0
AC-FT	36	1,040	1,050	1,820	1,220	5,200	15,010	2,890	271	0	0	1,050

CAL YR 1972 TOTAL 5,672.64 MEAN 15.5 MAX 887 MIN 0 AC-FT 11,250

WTR YR 1973 TOTAL 14,911.03 MEAN 40.9 MAX 1,260 MIN 0 AC-FT 29,580

PEAK DISCHARGE (BASE, 3,000 FT³/S).--Apr. 14 (0900) 5,180 ft³/s (4.87 ft); Apr. 23 (2400) 4,860 ft³/s (4.80 ft).

RED RIVER BASIN

07301410 Sweetwater Creek near Kelton, Tex.

LOCATION.--Lat 35°28'23", long 100°07'14", Wheeler County, near center of stream on downstream side of bridge on Farm Road 592, 5 miles (8 km) north of Kelton, 8 miles (13 km) upstream from Texas-Oklahoma State line, and 8.5 miles (13.7 km) northeast of Wheeler.

DRAINAGE AREA.--287 mi² (743 km²), of which 20 mi² (50 km²) is probably noncontributing.

PERIOD OF RECORD.--November 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,230 ft (680 m), from topographic map.

AVERAGE DISCHARGE.--11 years (1962-73), 13.9 ft³/s (0.394 m³/s), 10,070 acre-ft/yr (12.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 631 ft³/s (17.9 m³/s) May 1, gage height, 12.54 ft (3.82 m); minimum daily, 0.32 ft³/s (9.1 dm³/s) Oct. 6.

Period of record: Maximum discharge, 2,110 ft³/s (59.8 m³/s) Apr. 18, 1970, gage height, 14.95 ft (4.56 m); no flow at times. Maximum stage since at least 1882, about 20 ft (6 m) May 16, 1957.

REMARKS.--Records good. Diversion above station for ranch use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.54	4.3	6.2	11	17	15	45	278	15	2.8	3.8	.76
2	.44	4.0	6.0	11	16	15	37	81	41	2.6	3.0	.76
3	.44	2.8	6.0	12	15	14	47	52	35	2.5	2.8	.76
4	.40	2.5	6.0	10	13	13	35	44	20	2.5	2.6	2.5
5	.36	2.4	6.0	9.0	13	13	30	39	15	2.4	2.4	16
6	.32	2.3	5.0	8.0	12	13	27	39	14	2.3	2.0	2.4
7	.36	2.1	5.0	5.0	12	13	26	35	13	2.2	4.5	5.4
8	.40	2.1	4.0	3.0	11	15	31	32	11	2.2	12	3.3
9	.44	2.1	3.0	2.0	10	16	36	30	10	2.1	3.1	2.1
10	.44	2.2	2.0	1.0	12	89	34	29	9.5	2.1	2.6	1.9
11	.40	2.3	2.0	.80	13	71	31	27	9.0	2.2	2.1	2.1
12	.44	2.5	2.0	1.0	13	39	31	26	9.0	2.1	1.9	3.6
13	.40	4.5	3.0	3.0	12	32	89	25	9.0	2.1	1.8	4.8
14	.40	5.2	3.0	10	12	28	116	27	9.0	2.2	1.6	2.8
15	.44	3.8	3.0	13	12	22	74	26	8.2	2.3	1.5	8.2
16	.44	3.5	4.0	17	12	21	51	24	7.8	2.1	1.4	214
17	.44	3.3	5.0	16	12	20	43	22	7.5	2.0	1.3	70
18	.44	3.8	6.0	15	13	19	40	22	7.0	1.9	1.3	20
19	.64	5.0	7.0	13	13	19	261	20	6.6	1.8	1.2	14
20	.89	5.0	10	13	13	18	72	19	6.2	1.7	1.1	10
21	1.6	5.4	14	13	12	18	48	18	5.6	1.7	1.1	8.4
22	1.7	5.2	13	12	13	17	39	18	5.4	1.9	1.1	7.1
23	1.5	5.4	13	11	16	22	37	39	5.2	9.1	.99	6.1
24	1.4	6.2	12	11	16	41	166	23	4.8	6.0	.96	5.8
25	1.4	8.0	11	12	15	31	88	19	4.5	3.2	.96	5.6
26	1.4	6.8	11	13	14	24	55	18	4.3	2.9	.96	15
27	1.7	6.4	11	13	13	23	46	16	3.8	2.7	.96	20
28	1.6	6.0	11	12	13	47	41	15	3.4	3.8	.88	15
29	1.8	5.8	12	10	-----	46	37	14	3.3	11	.83	11
30	2.1	6.2	13	14	-----	143	49	13	3.1	6.9	.82	9.5
31	2.5	-----	11	14	-----	82	-----	16	-----	5.0	.82	-----
TOTAL	27.77	127.1	226.2	308.80	368	999	1,762	1,106	306.2	98.3	64.38	488.88
MEAN	.90	4.24	7.30	9.96	13.1	32.2	58.7	35.7	10.2	3.17	2.08	16.3
MAX	2.5	8.0	14	17	17	143	261	278	41	11	12	214
MIN	.32	2.1	2.0	.80	10	13	26	13	3.1	1.7	.82	.76
AC-FT	55	252	449	613	730	1,980	3,490	2,190	607	195	128	970

CAL YR 1972 TOTAL 2,830.44 MEAN 7.73 MAX 93 MIN .04 AC-FT 5,610
WTR YR 1973 TOTAL 5,882.63 MEAN 16.1 MAX 278 MIN .32 AC-FT 11,670

PEAK DISCHARGE (BASE, 500 FT³/S).--May 1 (0800) 631 ft³/s (12.54 ft); Sept. 16 (0530) 530 ft³/s (12.20 ft).

RED RIVER BASIN

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07301500 NORTH FORK RED RIVER NEAR CARTER, OKLA.

LOCATION.--Lat 35°10'05", long 99°30'25", in NW 1/4 SE 1/4 sec.15, T.8 N., R.22 W., Beckham County, near left bank on downstream side of pier of bridge on State Highway 34, 3.0 mi (4.8 km) south of Carter, 10.8 mi (17.4 km) downstream from Timber Creek, and at mile 110.5 (177.8 km).

DRAINAGE AREA.--2,337 sq mi (6,053 sq km), of which 399 sq mi (1,033 sq km) is probably noncontributing.

PERIOD OF RECORD.--October 1944 to September 1962. Annual maximum and occasional low-flow measurements, water years 1963-64. August 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,673.71 ft (510.147 m) above mean sea level.

AVERAGE DISCHARGE.--27 years (1944-62, 1964-73), 120 cfs (3.398 cu m/s), 86,940 acre-ft/yr (107 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 8,520 cfs (241 cu m/s) Apr. 25, gage height 10.04 (3.060 m); no flow at times

Period of record: Maximum discharge, 53,400 cfs (1,512 cu m/s) May 26, 1959, gage height, 13.42 ft (4.090 m); no flow at times in most years.

REMARKS.--Records good except winter periods, which are poor. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	26	7.1	71	71	600	678	129	8.1		0
2		0	27	6.0	114	72	440	320	364	6.0		0
3		0	30	6.2	117	80	440	143	349	4.4		0
4		0	27	6.9	84	85	400	143	380	3.3		0
5		0	23	7.0	64	64	330	154	239	2.8		30
6		0	3.5	5.8	56	57	325	170	163	2.0		13
7		0	3.4	5.0	52	49	300	182	122	1.3		9.7
8		0	3.5	4.3	43	115	280	218	96	.88		7.7
9		0	3.5	3.5	36	181	295	213	75	.54		4.8
10		0	3.3	4.3	42	654	299	196	60	.33		5.7
11		0	3.4	5.0	37	934	260	192	51	.42		2.4
12		0	3.3	6.4	37	324	276	177	46	.22		1.0
13		0	3.4	8.0	41	171	725	171	48	.06		1.0
14		0	3.6	10	50	129	564	176	50	.43		.50
15		0	4.0	12	44	122	2,180	190	60	.14		0
16		0	5.4	15	42	105	1,720	224	47	0		.20
17		.16	7.2	184	38	93	390	217	40	0		1.6
18		1.6	10	168	37	90	243	184	34	0		.20
19		3.6	14	113	42	94	846	162	28	0		.20
20		9.1	18	90	44	93	642	140	22	0		0
21		31	137	81	45	96	349	130	21	0		0
22		26	121	69	46	93	236	126	19	0		.20
23		24	98	57	51	94	240	580	17	0		.80
24		34	85	52	54	229	2,350	282	14	0		2.0
25		40	81	48	91	437	4,030	205	11	0		5.9
26		59	59	52	101	188	552	142	8.8	0		12
27		58	51	59	83	169	390	110	9.0	0		95
28		36	45	49	73	301	255	83	8.0	0		152
29		29	46	31	-----	329	265	63	11	0		87
30		28	53	45	-----	1,440	255	54	11	0		40
31		-----	21	55	-----	1,620	-----	101	-----	0		-----
TOTAL	0	379.46	1,019.5	1,265.5	1,635	8,579	20,477	6,126	2,532.8	30.92	0	472.90
MEAN	0	12.6	32.9	40.8	58.4	277	683	198	84.4	1.00	0	15.8
MAX	0	59	137	184	117	1,620	4,030	678	380	8.1	0	152
MIN	0	0	3.3	3.5	36	49	236	54	8.0	0	0	0
AC-FT	0	753	2,020	2,510	3,240	17,020	40,620	12,150	5,020	61	0	938
CAL YR 1972	TOTAL 17,417.13		MEAN 47.6		MAX 3,660		MIN 0		AC-FT 34,550			
WTR YR 1973	TOTAL 42,518.08		MEAN 116		MAX 4,030		MIN 0		AC-FT 84,330			

PEAK DISCHARGE (BASE, 3,200 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-16	0245	8.28	3,770
4-25	0430	10.04	8,520

RED RIVER BASIN

07302500 LAKE ALTUS AT LUGERT, OKLA.

LOCATION.--Lat 34°53'15", long 99°17'47", in SW 1/4 SE 1/4 sec.22, T.5 N., R.20 W., Kiowa County, on upstream face of Altus Dam on North Fork Red River, 1.0 mi (1.6 km) west of Lugert, 2.6 mi (4.2 km) upstream from Elm Fork of North Fork, and at mile 73.5 (118.3 km).

DRAINAGE AREA.--2,515 sq mi (6,514 sq km), of which 399 sq mi (1,033 sq km) is probably noncontributing.

PERIOD OF RECORD.--December 1943 to September 1950 (monthly records only), October 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to Nov. 19, 1948, nonrecording or float gage at same site and datum.

EXTREMES.--Current year: Maximum contents, 102,400 acre-feet (126 cu hm) June 18, elevation, 1,553.42 ft (473.482 m); minimum, 13,070 acre-feet (16.1 cu hm) Oct. 29, elevation, 1,526.35 ft (465.231 m).
Period of record: Maximum contents, 170,600 acre-ft (210 cu hm) May 19, 1951, elevation 1,562.10 ft (476.128 m); minimum after initail storage, 4,690 acre-ft (5.78 cu hm) Aug. 25, 1944, elevation, 1,520.2 ft (463.357 m).

REMARKS.--Reservoir is formed by concrete and coursed masonry dam. Storage began in December 1943. Capacity, 134,600 acre-ft (166 cu hm) at elevation 1,559.0 ft (475.18 m) crest of uncontrolled spillway and 72,500 acre-ft (89.4 cu hm) at elevation 1,547.0 ft (471.53 m) crest of controlled spillway. Dead storage, 1,660 acre-ft (2.05 cu hm) below elevation 1,517.5 ft (462.53 m) sill of headgate at irrigation canal. Figures given herein represent total contents. Reservoir is used for flood control, municipal water supply for city of Altus, and irrigation of about 48,000 acres (194 sq km). Revised capacity table used since Jan. 1, 1969.

COOPERATION.--Data on diversions furnished by Bureau of Reclamation.

Capacity table (elevation, in feet, and contents, in acre-feet)

1,525	10,750	1,545	64,170
1,530	20,280	1,550	85,570
1,535	31,970	1,555	110,960
1,540	46,560		

CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13,860	13,340	13,660	14,620	18,950	21,380	42,420	83,270	96,030	100,200	83,550	57,660
2	13,830	13,460	13,680	14,740	19,000	21,630	44,970	84,190	97,950	100,000	83,320	57,840
3	13,790	13,480	13,700	14,960	19,060	21,740	46,300	87,430	100,400	99,740	83,410	57,660
4	13,750	13,430	13,750	15,130	19,250	21,950	47,470	88,140	100,800	99,740	83,050	57,660
5	13,740	13,410	13,770	15,380	19,420	21,980	48,280	88,140	101,300	99,640	82,820	58,200
6	13,700	13,390	13,810	15,380	19,570	22,160	49,170	88,850	101,700	99,490	82,600	58,270
7	13,700	13,370	13,810	15,470	19,630	22,180	49,610	89,420	101,900	98,720	82,370	58,750
8	13,680	13,430	13,810	15,480	19,700	22,200	50,340	89,560	102,100	98,210	82,150	58,820
9	13,520	13,410	13,810	15,510	19,720	22,250	50,540	89,660	102,100	97,440	81,070	58,820
10	13,660	13,410	13,830	15,530	19,850	22,860	51,050	90,040	102,100	96,430	80,370	58,860
11	13,630	13,370	13,830	15,550	19,630	24,560	51,590	90,330	101,800	95,930	79,490	58,820
12	13,570	13,340	13,840	15,570	19,630	26,740	52,140	90,330	102,100	95,180	78,400	58,780
13	13,550	13,410	13,860	15,610	19,850	27,940	52,620	90,520	102,100	94,190	77,150	58,750
14	13,520	13,410	13,860	15,650	19,930	28,920	54,110	90,620	102,200	93,400	76,040	58,750
15	13,500	13,370	13,880	15,650	19,970	29,420	55,410	90,860	102,100	93,200	74,570	58,640
16	13,500	13,340	13,900	15,710	20,000	29,770	60,780	90,910	102,300	92,460	73,370	58,640
17	13,450	13,260	13,920	15,710	20,100	30,020	65,340	91,100	102,300	91,730	72,100	58,560
18	13,430	13,250	13,940	16,450	20,210	30,170	66,590	91,250	102,100	90,860	71,090	58,490
19	13,410	13,370	13,940	16,750	20,440	30,300	67,430	91,290	102,300	90,190	70,290	58,380
20	13,350	13,370	13,940	17,010	20,510	30,600	68,830	91,490	102,200	89,320	69,500	58,450
21	13,550	13,430	13,960	17,170	20,570	30,760	70,570	91,490	102,000	88,850	68,910	58,380
22	13,640	13,430	13,960	17,550	20,650	30,730	71,530	91,730	101,700	88,370	68,130	58,490
23	13,720	13,370	14,070	17,750	20,750	30,990	72,190	92,460	101,500	87,900	67,160	58,490
24	13,570	13,340	14,250	17,790	20,850	31,370	73,040	94,040	101,000	87,430	66,210	58,310
25	13,390	13,370	14,570	17,960	20,970	31,660	75,410	94,930	100,800	86,960	65,070	58,640
26	13,260	13,390	14,660	18,210	21,120	32,370	80,570	95,180	100,500	86,490	63,600	59,310
27	13,160	13,410	14,570	18,310	21,180	32,710	82,150	95,530	100,400	85,840	62,450	59,120
28	13,090	13,480	14,530	18,410	21,260	33,160	83,500	95,680	100,400	85,100	61,520	59,120
29	13,070	13,550	14,590	18,410	-----	33,620	84,190	95,530	100,300	84,410	60,400	59,740
30	13,100	13,630	14,590	18,520	-----	34,320	84,640	95,580	100,400	83,730	59,480	59,920
31	13,190	-----	14,590	18,560	-----	37,450	-----	95,930	-----	83,730	58,570	-----
MAX	13,860	13,630	14,660	18,560	21,260	37,450	84,640	95,930	102,300	100,200	83,550	59,920
MIN	13,070	13,250	13,660	14,620	18,950	21,380	42,420	83,270	96,030	83,730	58,570	57,660
(+)	1,526.42	1,526.66	1,527.18	1,529.19	1,530.42	1,537.00	1,549.80	1,552.15	1,553.02	1,549.60	1,543.50	1,543.90
(#)	-.73	+.44	+.96	+3.97	+2.70	+16.19	+47.19	+11.29	+4.47	-16.67	-25.16	+1.47
(++)	757	0	554	0	0	0	543	0	786	14,580	23,220	0

CAL YR 1972.....++ 35,680 ‡ -14.08

WTR YR 1973.....++ 40,440 ‡ +46.12

‡ Elevation in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

++ Total diversions, in acre-feet.

07303000 NORTH FORK RED RIVER BELOW ALTUS DAM, NEAR LUGERT, OKLA.

LOCATION.--Lat 34°53'26", long 99°18'22", in SW 1/4 sec.22, T.15 N., R.20 W., Greer County, on right bank 3,500 ft (1,067 m) downstream from Altus Dam, 1.9 mi (3.1 km) upstream from Elm Fork of North Fork, 2.0 mi (3.2 km) west of Lugert, and at mile 72.8 (117.1 km).

DRAINAGE AREA.--2,515 sq mi (6,514 sq km), of which 399 sq mi (1,033 sq km) is probably noncontributing.

PERIOD OF RECORD.--March 1930 to December 1932 (published as "at Lugert Dam"), December 1943 to September 1950 (published as spill from Lake Altus), October 1950 to September 1962, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,471.81 ft (448.608 m) above mean sea level. Mar. 19, 1930, to Dec. 21, 1932, nonrecording gage at former Lugert Dam, 0.7 mi (1.1 km) upstream at datum 1,504.31 ft (458.514 m) above mean sea level, unadjusted.

EXTREMES.--Current year: No flow during year.

Period of record: Maximum discharge, 16,100 cfs (456 cu m/s) May 18, 1951, gage height, 12.70 ft (3.87 m); no flow at times in each year.

Flood of May 16, 1928, reached a stage of 14.5 ft (4.42 m), site and datum then in use, discharge, 14,300 cfs (405 cu m/s).

REMARKS.--Records good. Some regulation at low flow by Lugert Lake prior to December 1943 capacity, 13,500 acre-ft (16.6 cu hm) and completely regulated thereafter by Lake Altus (see sta. 07302500). Diversions at Lake Altus bypass most of streamflow. Seepage from Altus Dam not included except for period March 1951 to January 1953.

REVISIONS.--WSP 1311: Drainage area.

RED RIVER BASIN

07303400 ELM FORK OF NORTH FORK RED RIVER NEAR CARL, OKLA.

LOCATION.--Lat 35°00'42", long 99°54'12", in SW 1/4 NW 1/4 sec.12, T.6 N., R.26 W., Harmon County, near left bank on downstream side of pier of bridge on State Highway 30, 4.0 mi (6.4 km) northeast of Carl, and at mile 54.0 (86.9 km).

DRAINAGE AREA.--416 sq mi (1,077 sq km).

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,714.95 ft (552.717 m) above mean sea level (State Highway Department bench mark).

AVERAGE DISCHARGE.--14 years, 39.0 cfs (1.104 cu m/s), 28,260 acre-ft/yr (34.8 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 8,760 cfs (248 cu m/s) Apr. 24, gage height, 8.44 ft (2.573 m); minimum daily, 3.1 cfs (0.088 cu m/s) Oct. 10.

Period of record: Maximum discharge, 17,900 cfs (507 cu m/s) Apr. 27, 1962, gage height, 11.45 ft (3.490 m), from rating curve extended above 1,000 cfs (28.3 cu m/s) on basis of slope-area measurement of peak flow; no flow Sept. 4, 1964.

REMARKS.--Records good. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS.--WSP 1731: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	18	11	11	19	18	111	126	229	14	16	6.0
2	5.0	15	11	11	17	18	68	111	1,580	12	17	6.7
3	5.1	10	11	14	15	18	68	94	259	12	14	13
4	4.4	8.3	11	12	14	16	53	83	117	12	15	14
5	4.2	7.4	9.9	12	15	13	42	87	71	9.8	13	14
6	3.7	6.2	4.2	9.3	15	12	32	76	54	7.4	11	20
7	4.0	5.4	4.5	9.0	15	11	27	64	49	7.4	17	33
8	4.3	5.2	5.2	8.0	11	27	30	58	43	6.0	37	26
9	3.9	6.1	5.8	6.5	15	49	35	59	40	6.0	140	16
10	3.1	5.6	6.6	5.5	15	452	29	56	36	9.0	104	11
11	3.5	5.3	7.0	5.0	17	218	26	53	34	11	37	7.4
12	4.2	8.2	7.8	5.0	16	80	25	48	31	12	20	6.7
13	3.7	12	8.2	6.4	15	66	180	61	31	11	21	9.8
14	3.9	10	7.6	9.0	14	53	185	61	34	11	19	19
15	4.1	8.5	7.0	14	14	39	464	56	32	11	11	34
16	3.8	8.8	10	37	14	33	388	46	31	11	6.7	237
17	3.6	8.4	15	28	16	29	200	43	25	9.8	9.0	194
18	3.3	14	19	18	17	28	167	40	24	9.8	12	121
19	3.3	16	18	16	18	26	467	36	23	9.0	9.8	91
20	7.6	15	15	16	16	23	313	35	20	11	7.4	60
21	20	14	13	19	16	21	199	38	20	20	7.4	43
22	15	13	12	16	19	19	168	380	19	26	8.2	29
23	10	12	11	15	24	33	157	275	18	23	8.2	20
24	7.8	15	10	14	22	71	2,780	63	16	29	8.2	14
25	7.2	16	10	17	20	43	365	45	15	18	9.0	9.8
26	7.0	15	10	18	17	28	230	35	15	14	8.2	92
27	7.4	13	10	18	16	33	187	33	15	12	6.7	660
28	7.7	12	11	9.4	16	104	153	26	15	12	6.0	310
29	6.7	11	12	14	-----	58	136	22	15	21	6.0	197
30	17	11	12	19	-----	533	126	20	15	23	6.7	150
31	18	-----	12	19	-----	275	-----	67	-----	20	6.7	-----
TOTAL	208.0	325.4	317.8	431.1	458	2,447	7,411	2,297	2,926	420.2	618.2	2,464.4
MEAN	6.71	10.8	10.3	13.9	16.4	78.9	247	74.1	97.5	13.6	19.9	82.1
MAX	20	18	19	37	24	533	2,780	380	1,580	29	140	660
MIN	3.1	5.2	4.2	5.0	11	11	25	20	15	6.0	6.0	6.0
AC-FT	413	645	630	855	908	4,850	14,700	4,560	5,800	833	1,230	4,890
CAL YR 1972	TOTAL 14,712.1	MEAN 40.2	MAX 2,030	MIN 1.5	AC-FT 29,180							
WTR YR 1973	TOTAL 20,324.1	MEAN 55.7	MAX 2,780	MIN 3.1	AC-FT 40,310							

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE
4-24	0645	8.44	8,760
5-22	2100	6.03	3,530
6-2	0145	6.58	4,560

07303500 ELM FORK OF NORTH FORK RED RIVER, NEAR MANGUM, OKLA.

LOCATION.--Lat 34°55'36", long 99°30'00", on east line sec.10, T.5 N., R.22 W., Greer County, at bridge on U.S. Highway 283, 3.0 mi (4.8 km) north of Mangum, 5.0 mi (8.0 km) downstream from Haystack Creek, and at mile 17.8 (28.6 km).

DRAINAGE AREA.--838 sq mi (2,170 sq km).

PERIOD OF RECORD.--April 1905 to March 1908 (published as Elm Fork of Red River), March 1930 to September 1931, October 1937 to September 1947, April 1965 to September 1967, August 1968 to current year. Monthly discharge for some periods, published in WSP 1311. Occasional low-flow measurements, water years 1954, 1958-60, 1962-64, April to September 1965.

GAGE.--Water-stage recorder. Datum of gage is 1,520.77 ft (463.531 m) above mean sea level (Bureau of Reclamation bench mark). Apr. 12, 1905, to Mar. 31, 1908, nonrecording gage at unknown datum. Mar. 16, 1930, to Sept. 30, 1931, nonrecording gage at datum 5.78 ft (1.762 m) higher. Water-stage recorder Jan. 4, 1938, to Sept. 30, 1947, and April 1965 to Sept. 30, 1967, at datum 10.00 ft (3.048 m) higher.

AVERAGE DISCHARGE.--20 years (1905-7, 1930-31, 1937-47, 1965-67, 1968-73), 99.5 cfs (2.818 cu m/s), 72,090 acre-ft/yr (88.9 cu m/yr).

EXTREMES.--Current year: Maximum discharge, 8,270 cfs (234 cu m/s) June 2, gage height, 21.88 ft (6.669 m); minimum, 3.1 cfs (0.088 cu m/s) Oct. 14, 15.
Period of record: Maximum discharge, 30,600 cfs (867 cu m/s) May 12, 1947, gage height, 23.52 ft (7.169 m), present datum; maximum gage height, 15.0 ft (4.57 m) May 27, 1905, datum then in use; no flow at times in 1939-40, 1945-46, 1964, 1970-71.
Flood in spring of 1921 reached a stage of 25.4 ft (8.05 m), present datum, from information by State Highway Department.

REMARKS.--Records good. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1087: 1940(M). WSP 1311: 1906-8, 1931(M), drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	64	16	20	21	18	284	110	180	20	36	11
2	6.2	42	16	20	20	18	160	105	4,920	19	22	9.8
3	6.0	28	16	25	18	18	215	100	1,620	17	19	10
4	5.5	21	15	26	17	18	176	95	347	16	17	20
5	5.5	17	15	24	16	18	119	90	197	16	17	250
6	5.0	15	4.5	24	15	19	102	86	129	15	19	186
7	4.7	13	5.0	21	15	17	95	82	100	14	16	190
8	4.3	13	5.9	18	14	24	99	78	86	13	16	94
9	4.2	12	6.8	15	14	75	112	72	70	13	80	53
10	3.8	12	7.7	12	14	268	114	71	65	12	97	31
11	3.9	11	8.9	14	16	741	96	68	65	12	71	25
12	3.8	11	10	17	16	174	90	64	65	12	45	22
13	3.6	13	11	22	16	91	652	62	59	12	34	20
14	3.5	14	14	27	15	80	515	64	62	12	28	19
15	3.7	14	15	33	15	64	1,150	66	58	12	25	20
16	4.0	14	18	47	15	49	1,090	63	62	12	23	52
17	3.8	13	19	38	15	42	273	60	57	12	20	121
18	3.6	16	24	37	16	39	196	57	49	11	18	63
19	3.5	22	25	29	16	37	162	55	43	10	18	37
20	5.4	22	25	26	16	36	446	53	39	10	17	29
21	24	22	24	27	16	34	197	44	36	9.6	16	24
22	105	20	22	29	16	32	144	45	33	10	15	20
23	46	19	21	26	18	33	122	1,470	31	34	14	18
24	27	19	20	22	19	38	3,100	402	28	35	13	18
25	21	20	19	22	18	71	1,210	129	27	30	11	18
26	18	20	19	23	18	47	355	87	24	30	11	71
27	18	20	18	23	18	39	239	67	23	23	11	975
28	16	19	18	21	17	88	176	57	22	20	10	389
29	16	18	19	19	-----	124	143	50	23	24	10	100
30	24	17	20	17	-----	1,650	128	47	22	24	10	52
31	121	-----	21	19	-----	1,690	-----	74	-----	49	9.2	-----
TOTAL	527.1	581	498.8	743	460	5,692	11,960	3,973	8,542	558.6	768.2	2,947.8
MEAN	17.0	19.4	16.1	24.0	16.4	184	399	128	285	18.0	24.8	98.3
MAX	121	64	25	47	21	1,690	3,100	1,470	4,920	49	97	975
MIN	3.5	11	4.5	12	14	17	90	44	22	9.6	9.2	9.8
AC-FT	1,050	1,150	989	1,470	912	11,290	23,720	7,880	16,940	1,110	1,520	5,850

CAL YR 1972 TOTAL 23,805.28 MEAN 65.0 MAX 3,410 MIN .73 AC-FT 47,220
WTR YR 1973 TOTAL 37,251.50 MEAN 102 MAX 4,920 MIN 3.5 AC-FT 73,890

PEAK DISCHARGE (BASE, 2,400 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-30	1800	17.48	3,260	5-23	1130	17.27	3,070
4-24	1745	21.28	7,430	6-2	1345	21.88	8,270

RED RIVER BASIN

07304500 ELK CREEK NEAR HOBART, OKLA.

LOCATION.--Lat 34°54'51", long 99°06'49", in NE 1/4 NE 1/4 sec.17, T.5 N., R.18 W., Kiowa County, near right bank on downstream side of pier of county road bridge, 7.0 mi (11.3 km) downstream from Little Elk Creek, 7.5 mi (12 km) south of Hobart, and at mile 10.9 (17.5 km).

DRAINAGE AREA.--549 sq mi (1,422 sq km).

PERIOD OF RECORD.--September 1904 to March 1908, October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,429.4 ft (435.68 m) above mean sea level. See WSP 1920 for history of changes prior to Apr. 28, 1954.

AVERAGE DISCHARGE.--27 years (1904-7, 1949-73), 68.4 cfs (1.937 cu m/s), 49,560 acre-ft/yr (61.1 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 9,460 cfs (268 cu m/s) Sept. 4, gage height, 29.01 ft (8.842 m); no flow part of Oct. 6, 7.

Period of record: Maximum discharge, 22,400 cfs (634 cu m/s) Oct. 4, 1955, gage height, 30.75 ft (9.373 m), from floodmarks, from rating curve extended above 5,300 cfs (150 cu m/s) on basis of field estimate of peak flow; no flow at times in most years.

Flood of June 9, 1907, reached a stage of 28.9 ft (8.81 m), datum then in use.

REMARKS.--Records good. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1211: Drainage area. WSP 1241: 1905.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	50	12	7.0	19	14	1,970	79	323	159	25	1.3
2	.38	25	11	7.0	19	13	526	77	1,270	65	20	1.6
3	.42	12	10	9.2	18	12	690	77	1,580	45	18	
4	.42	5.1	9.0	8.0	17	12	423	66	356	34	15	4,820
5	.42	3.9	8.0	7.2	18	13	257	63	238	29	13	3,130
6	.18	3.7	7.4	6.5	17	15	209	62	159	26	12	975
7	.38	4.2	6.8	6.2	17	19	190	61	126	25	11	1,350
8	.46	5.1	6.4	6.6	16	39	202	63	110	23	11	345
9	.42	5.7	6.0	7.2	15	351	204	57	99	22	10	162
10	.46	7.6	6.2	7.8	15	608	191	53	91	28	10	75
11	.50	6.8	7.0	8.4	17	1,100	162	50	85	25	9.0	50
12	.50	7.8	8.0	8.7	17	203	141	57	80	22	9.0	40
13	.59	9.7	8.9	8.7	17	110	253	48	76	18	8.0	245
14	.59	8.9	9.2	8.7	16	96	371	44	72	15	7.8	180
15	.59	9.5	8.9	8.9	14	83	1,220	43	68	25	7.5	71
16	.46	12	8.9	10	13	83	3,430	42	373	22	7.1	45
17	.59	25	8.7	14	12	64	523	42	584	20	7.0	41
18	.86	24	8.1	16	11	56	272	41	156	19	5.5	41
19	.86	24	11	16	12	54	222	38	124	17	4.8	31
20	1.5	23	10	12	13	60	176	35	101	15	4.0	31
21	19	22	9.0	160	14	57	153	33	73	15	3.1	26
22	13	21	9.0	523	15	50	139	33	61	22	2.5	20
23	2.0	21	9.0	131	16	69	131	330	53	26	2.1	18
24	3.2	19	9.0	41	15	69	439	286	45	32	1.8	16
25	3.7	18	9.0	31	14	70	230	115	39	24	1.3	15
26	3.7	17	9.2	61	15	85	137	70	35	21	.98	580
27	4.6	16	8.7	40	16	65	122	56	33	18	.82	1,060
28	6.8	15	8.1	22	15	188	94	53	32	16	.68	123
29	6.8	14	7.8	17	-----	208	86	47	34	15	.62	74
30	11	14	7.6	17	-----	1,680	81	41	158	18	.61	62
31	53	-----	7.3	19	-----	4,450	-----	221	-----	30	.61	-----
TOTAL	137.97	450.0	265.2	1,246.1	433	9,996	13,244	2,383	6,634	891	229.82	13,630.7
MEAN	4.45	15.0	8.55	40.2	15.5	322	441	76.9	221	28.7	7.41	454
MAX	53	50	12	523	19	4,450	3,430	330	1,580	159	25	4,820
MIN	.18	3.7	6.0	6.2	11	12	81	33	32	15	.61	1.3
AC-FT	274	893	526	2,470	859	19,830	26,270	4,730	13,160	1,770	456	27,040
CAL YR 1972	TOTAL	8,380.70	MEAN	22.9	MAX	1,390	MIN	.18	AC-FT	16,620		
WTR YR 1973	TOTAL	49,540.79	MEAN	136	MAX	4,820	MIN	.18	AC-FT	98,260		

PEAK DISCHARGE (BASE, 2,200 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
3-31	1815	26.30	4,750	6-2	2230	19.62	2,360
4-16	1100	24.91	4,160	9-4	1915	29.01	9,460

07305000 NORTH FORK RED RIVER NEAR HEADRICK, OKLA.

LOCATION.--Lat 34°38'04", long 99°05'47", in NW 1/4 NE 1/4 sec.21, T.2 N., R.18 W., Tillman County, near left bank on downstream side of pier of bridge on U.S. Highway 62, 2.5 mi (4.0 km) east of Headrick, 12.9 mi (20.8 km) upstream from Otter Creek, and at mile 33.0 (53.1 km).

DRAINAGE AREA.--4,244 sq mi (10,992 sq km), of which 399 sq mi (1,033 sq km) is probably noncontributing.

PERIOD OF RECORD.--April 1905 to March 1908, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to July 1905, published as "near Snyder".

GAGE.--Water-stage recorder. Datum of gage is 1,294.83 ft (394.664 m) above mean sea level (Bureau of Reclamation bench mark). Prior to July 18, 1905, nonrecording gage at site 0.2 mi (0.3 km) downstream at different datum. July 18, 1905, to Mar. 30, 1908, nonrecording gage at Navajo dam site 10.4 mi (16.7 km) upstream at different datum. Oct. 1, 1937, to Jan. 29, 1969, water-stage recorder at present site at datum 5.0 ft (1.52 m) higher.

AVERAGE DISCHARGE.--38 years (1905-7, 1937-73), 301 cfs (8.524 cu m/s), 218,100 acre-ft/yr (269 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 11,000 cfs (312 cu m/s) June 3, gage height, 13.12 ft (3.999 m); minimum, 1.6 cfs (0.045 cu m/s) Oct. 19.

Period of record: Maximum discharge, 30,700 cfs (869 cu m/s) Oct. 5, 1955, gage height, 16.50 ft (5.029 m) present datum; no flow at times in most years.

A stage of 21.1 ft (6.43 m) present datum occurred sometime prior to 1927, from information by State Highway Department.

REMARKS.--Records good. Flow regulated since December 1943 by storage and diversion at Lake Altus, 39.5 mi (63.6 km) above station (see sta. 07302500). Diversions for irrigation of about 48,000 acres (194 sq km) above station; some return flow may re-enter at Stinking Creek, 16 mi (26 km) below station. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1211: Drainage area. WSP 1241: 1905-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	300	25	24	63	47	7,700	405	374	239	91	24
2	9.9	249	24	25	60	47	2,370	360	2,030	297	88	16
3	8.9	108	22	31	59	46	971	336	8,590	167	74	14
4	8.4	67	20	27	57	46	1,090	317	5,690	127	59	699
5	7.6	48	17	24	56	46	456	294	1,480	110	50	5,660
6	6.9	39	14	21	54	49	269	285	800	95	49	3,260
7	6.5	35	12	20	55	46	185	266	559	86	45	3,130
8	6.1	31	11	19	51	47	150	259	434	76	42	1,970
9	5.7	26	10	18	50	63	129	240	351	70	40	657
10	5.3	24	9.0	17	49	796	113	220	304	68	36	288
11	4.8	22	8.0	17	48	3,150	104	210	273	70	47	135
12	3.5	21	9.0	17	47	2,150	80	200	253	77	109	77
13	2.9	22	10	18	47	807	109	190	237	64	94	52
14	2.6	21	12	22	46	382	388	180	229	64	63	235
15	2.2	21	15	30	46	278	1,260	170	208	67	48	166
16	2.7	20	18	45	45	227	8,200	160	192	149	40	66
17	2.5	20	21	67	44	204	5,220	154	641	86	35	43
18	2.3	21	23	70	44	177	1,430	146	670	81	30	51
19	1.7	28	23	67	44	151	654	140	330	68	28	91
20	3.6	30	23	65	43	134	453	127	259	63	25	52
21	22	35	24	443	43	126	437	119	225	72	23	40
22	37	36	23	1,490	44	123	417	132	190	57	20	31
23	55	35	23	854	47	113	279	503	170	56	17	25
24	91	34	22	288	47	125	1,120	1,150	158	51	15	21
25	53	34	23	151	46	123	4,220	1,350	136	62	14	19
26	40	33	24	167	46	127	2,970	500	118	75	13	131
27	34	31	24	200	46	180	1,030	315	107	65	12	1,560
28	30	29	23	119	46	148	671	234	98	58	11	1,550
29	22	28	24	83	-----	235	529	198	99	61	12	1,020
30	60	27	25	68	-----	2,040	451	179	93	66	11	412
31	500	-----	25	62	-----	8,650	-----	163	-----	62	9.8	-----
TOTAL	1,049.1	1,475	586.0	4,569	1,373	20,883	43,455	9,502	25,298	2,809	1,250.8	21,495
MEAN	33.8	49.2	18.9	147	49.0	674	1,449	307	843	90.6	40.3	717
MAX	500	300	25	1,490	63	8,650	8,200	1,350	8,590	297	109	5,660
MIN	1.7	20	8.0	17	43	46	80	119	93	51	9.8	14
AC-FT	2,080	2,930	1,160	9,060	2,720	41,420	86,190	18,850	50,180	5,570	2,480	42,640
CAL YR 1972	TOTAL	40,410.2	MEAN	110	MAX	5,180	MIN	1.1	AC-FT	80,150		
WTR YR 1973	TOTAL	133,744.9	MEAN	366	MAX	8,650	MIN	1.7	AC-FT	265,300		

07305500 WEST OTTER CREEK AT SNYDER LAKE, NEAR MOUNTAIN PARK, OKLA.

LOCATION.--Lat 34°43'55", long 98°59'12", in NE 1/4 SE 1/4 sec.16, T.3 N., R.17 W., Kiowa County, on left bank 700 ft (213.4 m) downstream from Snyder Dam on West Otter Creek, 0.7 mi (1.1 km) upstream from small tributary, 3.0 mi (4.8 km) northwest of Mountain Park, and at mile 26.0 (41.8 km).

DRAINAGE AREA.--132 sq mi (342 sq km).

PERIOD OF RECORD.--April 1903 to March 1908, October 1951 to September 1971, July 1972 to current year. Published as Otter Creek near Mountain Park 1903-8 and as Otter Creek at Snyder Lake, near Mountain Park 1951-60. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,344.00 ft (409.651 m) above mean sea level. April 1903 to March 1908, nonrecording gage at site 1.8 mi (2.9 km) downstream at different datum. October 1951 to September 1971 at intake tower at Snyder Lake, 700 ft (213.4 m) upstream at datum 1,360.99 ft (414.830 m).

AVERAGE DISCHARGE.--25 years (1903-7, 1951-71, 1973), 22.6 cfs (0.640 cu m/s), 16,370 acre-ft/yr (20.2 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 3,330 cfs (94.3 cu m/s), Mar. 30, gage height, 18.93 ft (5.770 m); no flow at times.

Period of record: Maximum discharge, 14,200 cfs (40.2 cu m/s) June 6, 1953, gage height, 19.50 ft (5.944 m), from floodmarks, from rating curve extended above 1,600 cfs (45.3 cu m/s) on basis of contracted-opening and flow-over-dam measurements of peak flow; no flow at times in most years.

REMARKS.--Records good. The city of Snyder diverted about 130 acre-ft (160,000 cu m) annually prior to October 1958 and none thereafter.

REVISIONS (WATER YEARS).--WSP 1731: 1960(M). Wsp 1920: 1959-60.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	218	2.4	1.3	6.9	1.3	109	7.0	5.2	.18	8.3	0
2	0	87	2.4	1.3	7.0	1.4	43	6.0	1,340	0	1.6	0
3	0	19	2.2	3.0	5.5	1.4	31	5.0	613	0	.40	0
4	0	7.2	1.9	2.0	3.8	1.4	23	4.0	77	0	.02	1,410
5	0	2.6	1.0	1.5	2.7	1.3	15	3.0	23	0	0	639
6	0	1.4	.40	1.0	2.0	4.5	11	5.0	11	0	0	449
7	0	1.1	.40	.70	1.9	7.3	9.4	4.0	7.4	0	0	1,100
8	0	1.5	.50	.50	1.5	3.3	13	4.0	5.0	0	0	199
9	0	1.5	.50	.50	1.2	1.9	23	3.0	4.0	0	0	57
10	0	1.4	.50	.60	1.2	7.40	16	3.0	3.2	0	0	17
11	0	1.1	.60	.80	1.2	339	11	3.0	2.8	0	0	9.1
12	0	1.4	.70	1.0	1.1	56	8.2	2.5	2.4	0	0	4.7
13	0	1.8	.90	2.0	.94	20	59	2.5	2.1	0	0	2.8
14	0	1.4	1.0	4.1	.75	13	30	2.5	2.0	0	0	1.8
15	0	1.4	1.2	6.5	.68	7.6	208	2.5	1.9	0	0	1.5
16	0	1.4	1.5	7.4	.58	5.8	1,450	2.2	1.8	0	0	1.1
17	0	1.4	1.5	56	.57	3.2	149	2.0	1.8	0	0	.84
18	0	1.8	1.6	44	.67	2.8	48	2.5	1.7	0	0	.64
19	0	2.2	1.7	19	.67	2.0	24	2.4	1.8	0	0	.17
20	0	2.2	1.6	8.7	.67	1.6	15	2.7	1.4	0	0	0
21	0	2.2	1.5	88	.67	1.4	8.5	2.5	1.2	0	0	0
22	0	2.4	1.5	471	.79	1.3	6.6	5.2	1.1	0	0	0
23	0	2.6	1.5	79	1.2	1.4	1,210	548	.79	8.4	0	0
24	0	3.0	1.4	35	1.2	2.5	224	91	.35	6.5	0	0
25	0	3.6	1.3	45	1.1	1.6	52	20	.11	1.1	0	0
26	0	3.4	1.3	215	1.1	1.2	25	9.6	.04	.19	0	396
27	0	3.2	1.3	85	1.1	1.2	16	5.2	0	0	0	456
28	0	2.8	1.4	21	1.1	1.9	12	3.3	0	0	0	59
29	0	2.6	1.5	11	-----	3.8	9.4	3.6	.11	0	0	17
30	19	2.6	1.5	8.2	-----	1,630	8.0	3.0	.27	0	0	8.3
31	42	-----	1.3	6.1	-----	948	-----	4.2	-----	34	0	-----
TOTAL	61	385.2	40.00	1,226.20	49.79	3,809.1	3,867.1	764.4	2,112.47	50.37	10.32	4,829.95
MEAN	1.97	12.8	1.29	39.6	1.78	123	129	24.7	70.4	1.62	.33	161
MAX	42	218	2.4	471	7.0	1,630	1,450	548	1,340	34	8.3	1,410
MIN	0	1.1	.40	.50	.57	1.2	6.6	2.0	0	0	0	0
AC-FT	121	764	79	2,430	99	7,560	7,670	1,520	4,190	100	20	9,580

WTR YR 1973 TOTAL 17,205.90 MEAN 47.1 MAX 1,630 MIN 0 AC-FT 34,130

PEAK DISCHARGE (BASE, 1,400 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
3-10	1845	10.57	1,400	6-02	1715	14.00	2,130
3-30	2100	18.93	3,330	9-04	1930	15.29	2,420
4-16	1100	16.45	2,710	9-07	0515	11.00	1,490
4-23	1315	13.06	1,920				

RED RIVER BASIN

125

07308200 Pease River near Vernon, Tex.

LOCATION.--Lat 34°10'44", long 99°16'40", Wilbarger County, near left bank on downstream side of bridge on U.S. Highway 283, 1.9 miles (3.1 km) north of Vernon, and 10 miles (16 km) upstream from mouth.

DRAINAGE AREA.--3,488 mi² (9,034 km²), of which 559 mi² (1,448 km²) is probably noncontributing.

PERIOD OF RECORD.--December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,166.03 ft (355.41 m) above mean sea level.

AVERAGE DISCHARGE.--13 years (1960-73), 98.8 ft³/s (2.80 m³/s), 71,580 acre-ft/yr (88.3 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 12,600 ft³/s (357 m³/s) July 30, gage height, 14.70 ft (4.48 m); no flow Oct. 15-19.

Period of record: Maximum discharge, 31,000 ft³/s (878 m³/s) Sept. 19, 1965, gage height, 18.50 ft (5.64 m); no flow at times each year.

Maximum stage since at least 1890, 24 ft (7 m) in 1891; flood in September 1936 reached a stage of 23.5 ft (7.2 m), and flood of June 2, 1957, reached a stage of 22.0 ft (6.7 m), from information by local residents.

REMARKS.--Records fair. Four small diversions for irrigation above station. For statement regarding regulation by Soil Conservation Service floodwater-retarding structures, see Pease River near Childress (station 07307800). Water-quality records for the current year are published in Part 2 of the Texas State report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	873	28	25	86	55	809	235	18	3.0	255	247
2	9.7	202	27	32	81	53	381	211	1,960	3.0	106	165
3	8.3	120	27	29	70	49	262	197	5,360	2.6	69	72
4	6.0	74	26	25	64	46	186	186	904	2.0	46	1,500
5	4.6	61	25	23	59	43	156	162	424	.93	31	657
6	3.0	49	21	22	56	41	156	130	271	.20	23	3,110
7	2.3	42	19	21	53	38	128	108	193	.10	19	5,390
8	2.0	36	20	20	58	35	115	94	144	.08	15	2,310
9	1.4	31	21	17	56	34	115	94	115	.08	13	900
10	1.2	28	19	14	55	548	113	141	100	.08	247	424
11	.45	25	16	14	52	1,190	113	123	86	.10	214	239
12	.20	27	19	16	49	668	120	120	77	1.7	123	165
13	.10	49	23	20	46	428	204	113	72	12	88	3,210
14	.02	43	23	32	43	251	275	106	69	12	59	840
15	0	29	24	35	42	183	231	108	66	9.0	43	400
16	0	26	24	37	42	138	704	108	61	6.5	34	302
17	0	26	24	40	42	110	305	106	50	5.5	41	235
18	0	30	29	40	45	98	284	106	41	5.5	24	172
19	0	27	28	37	46	88	225	94	35	5.5	18	225
20	.98	26	28	26	43	83	204	104	28	5.5	15	165
21	567	31	26	465	41	79	190	108	24	5.5	14	125
22	1,320	34	26	500	41	76	169	115	21	5.1	12	98
23	274	31	26	275	43	74	169	156	17	4.6	9.0	88
24	80	31	25	128	45	82	954	153	15	4.6	6.5	79
25	46	31	25	150	46	509	1,340	113	13	4.6	6.0	72
26	32	30	26	950	48	446	581	98	7.7	4.2	5.5	221
27	24	28	25	200	62	291	870	70	5.5	3.8	5.5	683
28	18	28	25	130	59	204	752	46	3.4	5.5	5.5	255
29	15	28	27	102	-----	169	383	28	3.0	225	6.0	125
30	32	28	25	94	-----	1,300	289	18	2.3	6,650	255	96
31	929	-----	24	90	-----	933	-----	17	-----	1,320	74	-----
TOTAL	3,390.25	2,124	751	3,609	1,473	8,342	10,783	3,568	10,185.9	8,308.27	1,882.0	22,570
MEAN	109	70.8	24.2	116	52.6	269	359	115	340	268	60.7	752
MAX	1,320	873	29	950	86	1,300	1,340	235	5,360	6,650	255	5,390
MIN	0	25	16	14	41	34	113	17	2.3	.08	5.5	72
AC-FT	6,720	4,210	1,490	7,160	2,920	16,550	21,390	7,080	20,200	16,480	3,730	44,770
CAL YR 1972	TOTAL 40,798.35	MEAN 111	MAX 4,250	MIN 0	AC-FT 80,920							
WTR YR 1973	TOTAL 76,986.42	MEAN 211	MAX 6,650	MIN 0	AC-FT 152,700							

PEAK DISCHARGE (BASE, 2,500 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-30	1900	10.46	2,520	9- 4	1600	12.20	5,960
4-25	0600	10.75	2,940	9- 6	2000	12.63	7,020
6- 3	0700	13.00	7,950	9-13	1300	12.35	6,330
7-30	1100	14.70	12,600				

RED RIVER BASIN

07308500 Red River near Burkburnett, Tex.

LOCATION.--Lat 34°06'30", long 98°32'00", Wichita County, on downstream side of bridge on U.S. Highways 277 and 281, 2 miles (3 km) northeast of Burkburnett, and at mile 933 (1,501 km).

DRAINAGE AREA.--20,570 mi² (53,280 km²), of which 5,936 mi² (15,374 km²) is probably noncontributing.

PERIOD OF RECORD.--July 1924 to August 1925 (monthly discharge only), December 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 956 ft (291 m), from topographic map. July 11, 1924, to Aug. 31, 1925, nonrecording gage at site 1,000 ft (305 m) downstream at same datum.

AVERAGE DISCHARGE.--13 years (1960-73), 749 ft³/s (21.2 m³/s), 542,700 acre-ft/yr (669 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 21,200 ft³/s (600 m³/s) Apr. 26, gage height, 9.55 ft (2.91 m); minimum, 4.3 ft³/s (122 dm³/s) Oct. 19.

Period of record: Maximum discharge, 62,800 ft³/s (1,780 m³/s) Oct. 19, 1965, gage height, 11.46 ft (3.49 m); no flow at times.

Flood of June 3, 1957, reached a stage of 13.54 ft (4.13 m), from floodmarks. According to local residents, higher stages occurred in 1891 and June 1941.

REMARKS.--Records fair. Many small diversions for irrigation above station. Water-quality records for the current year are published in Part 2 of the Texas State report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	391	15,300	112	122	835	322	15,500	1,760	364	216	3,650	184
2	300	8,150	91	122	652	307	15,800	1,560	1,330	204	1,510	196
3	152	3,680	78	275	572	294	13,900	1,500	6,390	188	1,080	491
4	91	3,950	78	336	530	281	2,720	1,430	12,100	192	830	528
5	60	1,690	86	257	460	250	2,190	1,430	14,500	246	610	1,240
6	37	972	78	200	351	1,340	2,450	1,260	8,800	208	469	3,480
7	25	594	78	100	329	1,070	1,760	1,070	2,600	188	357	6,980
8	19	399	70	50	351	373	1,340	737	2,000	176	285	11,800
9	14	294	60	30	344	233	1,060	680	1,450	164	250	9,380
10	13	228	50	30	336	1,350	1,140	626	1,120	164	212	4,280
11	13	186	50	35	315	6,250	940	650	885	151	196	1,920
12	11	147	60	40	300	7,670	925	626	770	148	526	1,390
13	11	207	76	45	288	7,420	1,090	570	690	145	650	840
14	9.6	212	78	50	275	3,420	2,140	498	649	181	476	3,720
15	10	169	94	70	250	1,820	4,560	469	690	196	364	1,650
16	12	152	100	88	244	1,110	6,290	448	650	192	270	1,150
17	12	126	100	248	257	792	13,300	420	740	164	220	955
18	5.0	129	100	510	288	835	15,100	399	570	180	232	4,150
19	5.0	152	102	520	281	850	9,200	371	455	192	245	1,810
20	16	152	115	583	275	714	865	344	719	164	224	1,350
21	62	132	118	572	275	550	895	332	530	160	160	1,020
22	811	147	118	7,890	263	460	1,240	320	434	125	151	810
23	3,820	156	122	6,970	269	443	2,220	371	364	115	139	618
24	1,690	156	122	3,300	288	985	3,210	371	326	115	128	538
25	1,020	169	126	2,380	288	1,760	7,430	1,040	296	118	115	469
26	652	136	132	1,760	307	1,980	19,300	1,860	265	115	105	512
27	560	132	132	2,100	307	1,560	17,200	1,190	240	112	93	932
28	416	129	122	1,560	315	1,390	9,120	710	232	115	85	3,540
29	250	126	126	1,470	-----	1,120	4,500	490	228	173	103	4,350
30	645	118	132	1,120	-----	4,110	2,220	420	220	2,230	122	2,640
31	7,380	-----	129	910	-----	17,500	-----	378	-----	8,650	131	-----
TOTAL	18,512.6	38,290	3,035	33,743	9,845	68,559	179,605	24,330	60,607	15,687	13,988	72,923
MEAN	597	1,276	97.9	1,088	352	2,212	5,987	785	2,020	506	451	2,431
MAX	7,380	15,300	132	7,890	835	17,500	19,300	1,860	14,500	8,650	3,650	11,800
MIN	5.0	118	50	30	244	233	865	320	220	112	85	184
AC-FT	36,720	75,950	6,020	66,930	19,530	136,000	356,200	48,260	120,200	31,120	27,750	144,600

CAL YR 1972 TOTAL 205,061.6 MEAN 560 MAX 15,300 MIN 5.0 AC-FT 406,700
WTR YR 1973 TOTAL 539,124.6 MEAN 1,477 MAX 19,300 MIN 5.0 AC-FT 1,069,000

PEAK DISCHARGE (BASE, 9,000 FT³/S)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	2000	9.33	18,300	4-26	0900	9.55	21,200
1-21	2300	8.89	13,500	6- 5	0130	10.36	15,400
3-11	1800	8.52	9,530	7-31	1200	9.60	11,500
3-31	1300	9.48	20,400	9- 8	1600	10.60	12,900
4-18	1800	9.09	16,100				

RED RIVER BASIN

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07311000 EAST CACHE CREEK NEAR WALTERS, OKLA.

LOCATION.--Lat 34°21'44", long 98°16'56", on south line of SE 1/4 SE 1/4 sec.19, T.2 S., R.10 W., Cotton County at right bank on downstream side of bridge on State Highway 53, 1.8 mi (2.9 km) east of Walters, 12.2 mi (19.6 km) upstream from West Cache Creek, and at mile 19.7 (31.7 km).

DRAINAGE AREA.--675 sq mi (1,748 sq km).

PERIOD OF RECORD.--May 1938 to December 1963; October 1969 to current year. Prior to October 1969, published as Cache Creek near Walters.

GAGE.--Water-stage recorder. Datum of gage is 938.2 ft (285.963 m) above mean sea level (State Highway Department bench mark). Prior to Jan. 8, 1939, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--29 years, 170 cfs (4.814 cu m/s), 123,200 acre-ft/yr (152 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 10,400 cfs (295 cu m/s) Oct. 31, gage height, 27.94 ft (8.516 m); minimum, 3.7 cfs (0.105 cu m/s) Oct. 18, 19.

Period of record: Maximum discharge, 28,200 cfs (799 cu m/s) May 18, 1951, gage height, 29.72 ft (9.059 m); no flow at times in 1939-40.

Flood in 1906 reached a stage about the same as on May 18, 1951, and on May 17, 1947, gage height, 29.62 ft (9.028 m), from information by local residents.

REMARKS.--Records good. Flow partly regulated by Lake Lawtonka, capacity, 42,300 acre-ft (52.2 cu hm) prior to late 1953, and 63,000 acre-ft (77.7 cu hm) thereafter on Medicine Creek, by Lake Thomas capacity, 8,300 acre-ft (10.2 cu hm) on Little Medicine Creek, and since March 1961 by Lake Ellsworth, capacity, 94,500 acre-ft (117 cu hm) on East Cache Creek. Low flow sustained by sewage from cities of Lawton and Walters. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7,830	36	50	91	40	1,310	89	40	29	352	16
2	11	3,510	32	38	94	43	329	83	627	28	118	18
3	9.7	620	30	426	81	146	247	74	1,770	22	63	20
4	9.5	130	28	952	65	414	439	66	1,300	21	37	18
5	8.8	61	28	383	58	164	218	63	255	19	31	15
6	6.5	43	28	149	52	1,820	151	62	139	17	22	33
7	6.4	40	29	80	50	1,080	132	60	133	16	18	251
8	6.6	44	28	45	49	220	122	55	89	15	17	357
9	7.4	39	31	38	62	79	131	58	78	16	15	673
10	6.4	34	31	35	54	768	129	59	72	13	67	367
11	5.7	33	25	34	47	2,200	107	52	66	14	241	132
12	8.0	35	27	36	45	1,050	96	46	62	16	29	69
13	5.3	66	26	40	44	270	105	39	61	19	18	44
14	3.9	385	25	43	43	194	340	35	56	20	15	32
15	3.8	121	25	69	41	170	201	35	59	32	15	28
16	5.2	60	25	241	39	127	492	34	67	27	15	25
17	6.9	36	27	533	38	109	822	35	77	17	13	23
18	4.4	97	27	418	39	98	258	34	121	20	12	21
19	4.5	282	27	231	42	92	220	31	325	20	12	23
20	6.5	158	27	129	44	95	334	32	696	17	13	24
21	20	138	29	124	42	84	204	27	208	20	12	22
22	548	87	30	582	40	78	358	26	99	16	12	20
23	397	73	29	774	48	155	817	40	67	21	12	18
24	65	59	27	281	64	1,190	698	238	50	230	9.7	18
25	28	47	26	243	49	2,180	1,100	132	37	127	10	16
26	20	60	24	1,150	41	2,070	505	208	33	55	11	16
27	18	80	24	1,610	42	432	189	72	31	32	10	626
28	19	89	22	482	46	241	120	49	25	22	12	578
29	18	52	23	197	-----	268	111	40	24	19	16	170
30	308	42	41	121	-----	247	98	36	24	664	16	77
31	3,850	-----	25	96	-----	1,180	-----	40	-----	1,320	16	-----
TOTAL	5,430.5	14,351	862	9,630	1,450	17,304	10,383	1,950	6,691	2,924	1,259.7	3,750
MEAN	175	478	27.8	311	51.8	558	346	62.9	223	94.3	40.6	125
MAX	3,850	7,830	41	1,610	94	2,200	1,310	238	1,770	1,320	352	673
MIN	3.8	33	22	34	38	40	96	26	24	13	9.7	15
AC=FT	10,770	28,470	1,710	19,100	2,880	34,320	20,990	3,870	13,270	5,800	2,500	7,440

CAL YR 1972 TOTAL 31,231.9 MEAN 85.3 MAX 7,830 MIN 3.8 AC=FT 61,950
 WTR YR 1973 TOTAL 75,985.2 MEAN 208 MAX 7,830 MIN 3.8 AC=FT 150,700

PEAK DISCHARGE (BASE, 2,400 CFS REVISED)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	2345	27.94	10,400	3-11	1730	22.62	2,460
3-06	1415	22.47	2,420	3-26	0330	23.47	2,670

RED RIVER BASIN

07311200 BLUE BEAVER CREEK NEAR CACHE, OKLA.
(Hydrologic bench-mark station)

LOCATION.--Lat 34°37'24", long 98°33'48", in NE 1/4 NE 1/4 sec.28, T.2 N., R.13 W., Comanche County, on downstream side of right bank pier of bridge on U.S. Highway 62, 3,000 ft (914.4 m) upstream from St. Louis-San Francisco Railway Co. bridge, 4.0 mi (6.4 km) east of Cache, and at mile 12.0 (19.3 km).

DRAINAGE AREA.--24.6 sq mi (63.7 sq km).

PERIOD OF RECORD.--July 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,215.26 ft (370.411 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 8.04 cfs (0.228 cu m/s), 5,820 acre-ft/yr (7.18 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 2,430 cfs (68.8 cu m/s) Mar. 30, gage height 11.58 ft (3.530 m); no flow at times.

Period of record: Maximum discharge, 3,050 cfs (86.4 cu m/s) May 6, 1969, gage height, 12.17 ft (3.709 m) from floodmarks, from rating curve extended above 250 cfs (7.08 cu m/s) on basis of conveyance studies; no flow at times each year.

REMARKS.--Records good. Minor regulation by Lake Rush, Lake Jed Johns n, and Lake Ketch, combined surface-area 132 acres (534,000 sq m). Records of chemical analyses for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	133	17	3.6	32	10	134	16	1.1	2.4	.39	.10
2	0	46	15	3.7	26	10	82	15	454	2.1	.32	.08
3	0	25	13	25	17	10	81	13	168	1.8	.30	.03
4	0	17	12	24	14	9.5	46	11	62	1.5	.29	.07
5	0	13	11	20	13	10	34	10	32	1.4	.27	.12
6	0	10	11	15	11	32	28	12	16	1.2	.24	2.8
7	0	8.1	9.5	12	10	18	24	11	11	1.1	.21	10
8	0	7.2	8.2	10	9.4	16	26	8.8	8.4	1.0	.19	387
9	0	6.3	7.3	11	10	16	24	8.0	6.9	.91	.18	87
10	0	5.2	6.5	11	11	173	19	7.2	5.8	.92	.33	45
11	0	4.9	6.2	11	11	111	15	6.4	5.1	.94	.40	25
12	0	4.7	6.2	10	11	57	14	5.6	4.7	.79	.22	15
13	0	52	5.9	10	11	48	27	5.6	4.5	.74	.17	9.2
14	0	23	5.5	12	11	40	23	5.6	4.3	.73	.14	6.9
15	0	15	5.3	14	10	27	125	5.2	3.7	.73	.11	5.9
16	0	11	5.0	20	9.2	20	141	5.0	3.7	.65	.13	5.2
17	0	8.7	5.1	32	9.2	15	79	4.6	4.9	.59	.11	4.6
18	0	16	5.0	25	9.2	13	59	3.3	34	.56	.09	4.2
19	0	35	5.0	20	10	11	66	2.8	55	.50	.08	4.1
20	0	27	4.9	17	10	10	52	2.4	19	.42	.07	3.6
21	.26	25	4.8	351	9.6	8.8	42	2.2	12	.50	.06	3.1
22	0	27	5.2	192	9.2	6.6	46	2.1	8.5	.62	.04	2.8
23	0	22	5.3	81	11	14	41	4.2	6.2	1.3	.02	2.7
24	0	27	4.9	53	11	273	190	3.0	5.2	.44	.01	2.7
25	0	54	5.3	157	10	143	63	2.7	4.5	.37	0	2.5
26	0	37	4.9	228	11	74	41	2.1	3.7	.33	0	71
27	0	32	4.4	105	11	56	32	1.5	3.1	.29	0	118
28	0	25	4.3	66	10	79	24	1.3	3.0	.27	0	51
29	0	21	4.1	41	-----	54	21	1.2	3.4	.45	.01	29
30	20	19	3.9	37	-----	1,010	18	1.0	3.4	.98	.02	14
31	516	-----	3.6	33	-----	398	-----	1.1	-----	.54	0	-----
TOTAL	536.26	757.1	215.3	1,650.3	337.8	2,772.9	1,617	180.9	957.1	27.07	4.40	912.70
MEAN	17.3	25.2	6.95	53.2	12.1	89.4	53.9	5.84	31.9	.87	.14	30.4
MAX	516	133	17	351	32	1,010	190	16	454	2.4	.40	387
MIN	0	4.7	3.6	3.6	9.2	6.6	14	1.0	1.1	.27	0	.03
AC-FT	1,060	1,500	427	3,270	670	5,500	3,210	359	1,900	54	8.7	1,810
CAL YR 1972	TOTAL 2,685.43	MEAN 7.34	MAX 516	MIN 0	AC-FT 5,330							
WTR YR 1973	TOTAL 9,968.83	MEAN 27.3	MAX 1,010	MIN 0	AC-FT 19,770							

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	1600	10.49	1,500	6-2	1315	9.51	866
1-21	1230	9.55	888	9-8	0945	10.24	1,320
3-30	1645	11.58	2,430				

RED RIVER BASIN

129

07311500 DEEP RED RUN NEAR RANDLETT, OKLA.

LOCATION.--Lat 34°13'15", long 98°27'10", in SW 1/4 SW 1/4 sec.10, T.4 S., R.12 W., Cotton County, near right bank on downstream side of pier of bridge on U.S. Highway 277, 2.8 mi (4.5 km) north of Randlett, and at mile 4.8 (7.7 km).

DRAINAGE AREA.--617 sq mi (1,598 sq km).

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 924.49 ft (281.785 m) above mean sea level (State Highway Department bench mark). Prior to Nov. 10, 1949, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--24 years, 112 cfs (3.172 cu m/s), 81,140 acre-ft/yr (100 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 13,700 cfs (388 cu m/s) Oct. 31, gage height, 24.82 ft (7.565m); no flow Oct. 19-20.

Period of record: Maximum discharge, 48,700 cfs (1,370 cu m/s) Sept. 22, 1969, gage height, 27.51 ft (8.385 m), from rating curve extended above 13,000 cfs (368 cu m/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

Flood in 1908 reached a stage somewhat exceeding 27 ft (8.2 m), from information by local residents.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1211: Drainage area. WSP 1631: 1956. WSP 1920: 1951.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	279	11,000	11	4.8	48	16	6,770	43	33	9.3	3,330	2.8
2	44	5,670	9.5	7.4	34	15	2,520	35	110	8.3	1,190	2.7
3	18	2,590	8.3	319	23	14	469	29	1,000	7.4	278	3.9
4	10	814	7.1	685	16	71	279	25	4,600	6.9	50	3.3
5	5.9	83	6.3	401	11	116	153	23	2,360	6.5	30	128
6	3.4	36	5.6	119	9.3	1,110	88	25	589	6.0	21	350
7	2.0	24	4.9	35	8.3	1,530	63	28	73	5.6	14	220
8	1.5	19	4.8	20	7.9	194	52	22	44	5.2	11	868
9	1.1	14	4.8	13	8.2	65	49	20	34	4.8	8.8	1,020
10	.7	11	4.7	9.8	8.7	450	44	18	28	4.6	7.6	280
11	.5	9.0	4.4	9.5	9.0	1,000	42	15	24	4.6	7.2	69
12	.3	8.2	4.4	9.0	9.7	1,700	40	16	21	4.2	174	29
13	.2	97	4.3	9.0	10	800	64	15	19	3.8	63	18
14	.2	535	4.3	11	9.6	126	384	14	18	4.0	25	12
15	.1	234	4.3	13	9.1	99	547	13	18	4.4	16	8.6
16	.1	49	4.2	58	9.1	52	410	12	18	3.8	10	6.1
17	0	26	3.9	356	9.4	31	1,390	12	20	3.6	7.2	5.3
18	0	25	3.8	497	10	24	1,540	11	26	4.5	5.6	4.7
19	0	129	3.7	350	12	20	298	10	29	3.4	4.6	4.1
20	0	111	3.6	127	13	16	210	9.4	1,370	3.3	4.0	3.6
21	5.7	59	3.6	465	14	14	87	8.7	2,250	3.2	3.7	3.6
22	744	38	3.6	1,110	14	12	192	8.8	234	3.1	3.4	3.3
23	1,270	25	3.7	2,050	15	15	1,170	9.3	42	3.0	3.1	3.2
24	631	20	3.6	2,320	19	491	1,590	34	27	2.9	2.7	2.9
25	58	17	3.6	452	22	870	1,710	165	21	2.7	2.5	3.5
26	26	23	3.8	1,060	21	339	1,510	132	17	2.6	2.4	23
27	20	25	3.6	1,420	19	100	442	70	14	2.6	2.3	252
28	17	18	3.6	1,190	18	50	101	29	12	2.8	4.1	989
29	12	15	3.9	258	-----	48	69	19	10	3.2	4.3	800
30	218	13	7.4	105	-----	1,070	54	14	9.6	443	2.7	96
31	6,790	-----	5.5	61	-----	5,230	-----	11	-----	4,260	2.2	-----
TOTAL	10,158.7	21,737.2	153.8	13,544.5	417.3	15,688	22,337	896.2	13,070.6	4,833.3	5,290.4	5,215.6
MEAN	328	725	4.96	437	14.9	506	745	28.9	436	156	171	174
MAX	6,790	11,000	11	2,320	48	5,230	6,770	165	4,600	4,260	3,330	1,020
MIN	0	8.2	3.6	4.8	7.9	12	40	8.7	9.6	2.6	2.2	2.7
AC-FT	20,150	43,120	305	26,870	828	31,120	44,310	1,780	25,930	9,590	10,490	10,350
CAL YR 1972	TOTAL	39,812.39	MEAN	109	MAX	11,000	MIN	0	AC-FT	78,970		
WTR YR 1973	TOTAL	113,342.60	MEAN	311	MAX	11,000	MIN	0	AC-FT	224,800		

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	2315	24.82	13,700	3-31	1845	24.47	11,600
1-23	2400	21.61	2,960	6-4	abt2000	a22.85	5,370
3-06	2200	20.86	2,570	6-21	0630	21.23	2,730
3-12	abt2000	a20.54	2,450	7-31	1345	23.28	6,640

07312500 Wichita River at Wichita Falls, Tex.

LOCATION.--Lat 33°54'34", long 98°32'00", Wichita County, near center of stream on downstream side of bridge on Beverly Drive in Wichita Falls, 4 miles (6 km) upstream from Fort Worth and Denver Railway Co. bridge, 8.4 miles (13.5 km) upstream from Holliday Creek, and at mile 55.3 (89.0 km).

DRAINAGE AREA.--3,140 mi² (8,133 km²), of which 2,086 mi² (5,403 km²) is above Lake Kemp Dam.

PERIOD OF RECORD.--February 1900 to January 1902 (monthly discharge only, published in WSP 1311), October 1910 to December 1911 (gage heights only), March 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 924.26 ft (281.71 m) above mean sea level. February 1900 to February 1902 and Oct. 1, 1910, to Dec. 31, 1911, nonrecording gages at site 4 miles (6 km) downstream at different datum. Mar. 30, 1938, to Dec. 1, 1959, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--36 years (1900-1, 1938-73), 291 ft³/s (8.24 m³/s), 210,800 acre-ft/yr (260 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,350 ft³/s (180 m³/s) Nov. 3, gage height, 19.16 ft (5.84 m); minimum daily, 40 ft³/s (1.13 m³/s) Oct. 3.

Period of record: Maximum discharge, 17,800 ft³/s (504 m³/s) Oct. 3, 1941, gage height, 24.0 ft (7.3 m); no flow Oct. 11, 1960 (construction of cofferdam upstream).

Maximum discharge, 50,000 ft³/s (1,420 m³/s) June 8, 1915, computed by Vernon L. Sullivan, engineer for Big Wichita River Irrigation Co.

REMARKS.--Records good. Flow from 2,086 mi² (5,403 km²) is regulated by Lake Kemp, capacity, 672,100 acre-ft (829 hm³) 71 miles (114 km) upstream. Since completion of dam in 1923 no flow has been permitted to pass over spillway. Water is diverted from Lake Diversion, capacity 40,000 acre-ft (49.3 hm³), 51 miles (82 km) upstream for irrigation, 42,000 acres (17,000 hm²) under permit in the vicinity of Wichita Falls. During the water year, Wichita County Water Improvement District No. 2 diverted 68,860 acre-ft (84.9 hm³) from Lake Diversion for mining, industrial use, recreation, and irrigation of 31,817 acres (12,900 hm²). The city of Wichita Falls diverted 13,618 acre-ft (16.8 hm³) from Lake Kickapoo on North Fork Little Wichita River and 4,171 acre-ft (5.14 hm³) from Lake Arrowhead on Little Wichita River for municipal use, of which 14,856 acre-ft (18.3 hm³) was returned to Wichita River below station as sewage effluent and filter plant washwater. Diversion and return flow records for Lake Kickapoo and Lake Arrowhead furnished by the city of Wichita Falls. Diversions from Lake Diversion computed from streamflow records at station 07312110 in the Texas State report.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	5,770	172	117	612	655	2,160	183	84	98	661	135
2	56	5,900	161	116	661	382	685	172	191	104	311	147
3	40	6,250	157	292	654	179	444	168	492	98	163	160
4	46	4,950	151	336	601	149	409	168	265	96	124	158
5	47	2,670	149	231	572	282	369	157	202	97	106	136
6	46	1,410	149	161	577	498	301	154	130	93	98	299
7	50	1,480	156	140	580	619	258	142	112	95	93	587
8	60	1,580	161	100	591	548	233	126	88	105	90	757
9	56	1,510	167	90	579	270	213	144	82	107	121	394
10	58	1,410	170	90	551	266	199	118	82	133	153	225
11	65	1,330	169	90	539	1,170	190	115	76	138	117	176
12	61	1,260	172	110	535	862	184	108	76	132	108	152
13	65	1,310	175	130	534	296	180	98	84	136	113	143
14	64	1,290	182	158	532	233	179	95	81	128	100	141
15	62	1,260	171	200	524	209	186	101	82	143	106	142
16	72	1,230	162	238	361	194	269	106	146	147	107	234
17	71	1,270	156	192	213	184	310	100	464	143	108	492
18	65	1,350	151	164	167	177	219	95	459	128	111	655
19	56	1,420	146	155	151	170	628	99	239	120	105	648
20	75	1,410	136	148	143	167	669	95	144	113	100	467
21	213	1,340	129	143	136	157	684	94	102	136	107	295
22	973	1,290	125	149	134	159	340	110	95	149	106	205
23	787	1,280	124	196	144	203	556	136	81	175	109	161
24	298	1,200	123	174	255	605	1,450	114	82	165	105	178
25	237	810	130	278	395	351	1,850	92	76	136	108	179
26	230	510	129	1,140	418	237	867	101	71	134	112	165
27	390	356	121	1,140	425	179	371	87	74	116	121	550
28	640	275	118	793	548	144	248	82	82	109	125	456
29	748	219	119	598	-----	134	215	79	92	272	131	213
30	1,250	193	131	501	-----	199	194	75	105	1,240	140	184
31	4,070	-----	124	469	-----	1,550	-----	78	-----	1,400	130	-----
TOTAL	11,011	53,533	4,586	8,839	12,132	11,428	15,060	3,592	4,439	6,386	4,289	8,834
MEAN	355	1,784	148	285	433	369	502	116	148	206	138	294
MAX	4,070	6,250	182	1,140	661	1,550	2,160	183	492	1,400	661	757
MIN	40	193	118	90	134	134	179	75	71	93	90	135
AC-FT	21,840	106,200	9,100	17,530	24,060	22,670	29,870	7,120	8,800	12,670	8,510	17,520
CAL YR 1972	TOTAL	97,889	MEAN	267	MAX	6,250	MIN	26	AC-FT	194,200		
WTR YR 1973	TOTAL	144,129	MEAN	395	MAX	6,250	MIN	40	AC-FT	285,900		

RED RIVER BASIN

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07313500 BEAVER CREEK NEAR WAURIKA, OKLA.

LOCATION.--Lat 34°13'00", long 98°02'57", on north line of NW 1/4 NW 1/4 sec.16, T.4 S., R.8 W., Jefferson County, on left bank on downstream side of bridge on State Highway 5, 4.5 mi (7.2 km) northwest of Waurika, 6.2 mi (10.0 km) upstream from Cow Creek, and at mile 25.8 (41.5 km).

DRAINAGE AREA.--563 sq mi (1,458 sq km).

PERIOD OF RECORD.--June 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 874.17 ft (266.447 m) above mean sea level (State Highway Department bench mark). Prior to Apr. 5, 1966, water-stage recorder at same site at datum 5.00 ft (1.524 m) higher.

AVERAGE DISCHARGE.--20 years, 103 cfs (2.917 cu m/s), 74,620 acre-ft/yr (92.0 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 6,400 cfs (181 cu m/s) Nov. 1, gage height, 25.15 ft (7.666 m); no flow Oct. 1-22.

Period of record: Maximum discharge, 32,200 cfs (912 cu m/s) May 20, 1955, gage height, 27.42 ft (8.358 m), present datum; no flow at times in most years.

Flood of May 18, 1951, reached a stage of 27.7 ft (8.44 m), present datum, from floodmark, discharge 65,300 cfs (1,850 cu m/s) by contracted-opening measurement of peak flow. A similar stage was reached prior to 1889, from information by local resident.

REMARKS.--Records good.

REVISIONS (WATER YEARS).--WSP 1731: 1954(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	5,290	24	14	55	38	238	109	16	36	696	4,1
2	0	4,870	23	1,1	55	35	150	101	1,130	31	126	34
3	0	1,510	23	197	50	58	140	89	3,460	26	50	18
4	0	210	21	752	43	135	215	78	3,020	18	10	9,2
5	0	96	23	420	39	213	225	75	1,780	4,7	7,0	7,5
6	0	64	22	105	37	172	142	74	253	15	7,0	12
7	0	47	21	46	33	2,360	124	103	130	19	7,0	47
8	0	39	20	27	31	1,520	118	178	95	19	7,8	80
9	0	34	20	15	31	371	117	87	77	20	8,4	119
10	0	30	21	14	32	240	117	68	60	19	24	74
11	0	27	21	15	33	1,140	116	61	58	18	405	23
12	0	28	20	17	35	1,690	110	56	55	17	124	13
13	0	114	21	17	35	332	110	50	53	9,1	40	15
14	0	329	21	19	35	193	117	46	61	24	30	165
15	0	133	23	23	35	187	134	44	109	311	23	93
16	0	61	23	46	30	130	185	41	73	134	19	49
17	0	40	19	159	28	104	656	42	140	11	16	25
18	0	37	15	170	29	92	277	42	248	1,1	14	22
19	0	78	11	106	31	87	567	29	322	3,5	12	22
20	0	103	11	56	34	50	2,310	34	1,050	9,6	9,6	22
21	0	78	16	37	33	55	1,050	37	808	7,8	8,6	22
22	0	52	16	130	32	70	362	32	130	8,2	7,6	22
23	3,0	41	13	235	32	107	1,500	36	98	47	7,1	22
24	49	35	12	80	34	1,700	1,850	349	71	467	6,6	20
25	28	31	12	49	35	2,380	1,200	147	57	627	6,0	18
26	20	31	11	324	35	1,850	622	182	49	117	5,6	18
27	17	30	6,5	939	34	522	228	90	43	63	5,3	128
28	15	29	1,2	471	27	237	162	51	39	31	5,3	481
29	14	28	1,0	129	-----	225	133	11	36	139	5,1	254
30	38	26	35	75	-----	209	118	13	35	340	5,4	93
31	1,460	-----	14	59	-----	186	-----	15	-----	971	4,9	-----
TOTAL	1,644,0	13,521	540,7	4,747,1	993	16,648	13,393	2,370	13,556	3,564,0	1,703,3	1,931,8
MEAN	53,0	451	17,4	153	35,5	537	446	76,5	452	115	54,9	64,4
MAX	1,460	5,290	35	939	55	2,380	2,310	349	3,460	971	696	481
MIN	0	26	1,0	1,1	27	35	110	11	16	1,1	4,9	4,1
AC=FT	3,260	26,820	1,070	9,420	1,970	33,020	26,570	4,700	26,890	7,070	3,380	3,830
CAL YR 1972	TOTAL	22,829,65	MEAN	62,4	MAX	5,290	MIN	0	AC=FT	45,280		
WTR YR 1973	TOTAL	74,611,90	MEAN	204	MAX	5,290	MIN	0	AC=FT	148,000		

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-01	1730	25.15	6,400	4-20	1615	22.87	2,740
3-07	1615	24.00	3,600	4-24	0900	21.28	2,040
3-12	0415	21.67	2,060	6-03	0500	23.64	3,960
3-25	1800	22.96	2,600				

07315500 Red River near Terral, Okla.

LOCATION.--Lat 33°52'43", long 97°56'03", Jefferson County, near left bank on downstream side of pier of bridge on U.S. Highway 81, 0.5 mile (0.8 km) downstream from Chicago, Rock Island, and Pacific Railroad Co. bridge, 1.2 miles (1.9 km) south of Terral, 3.6 miles (5.8 km) downstream from Little Wichita River, and at mile 872 (1,403 km).

DRAINAGE AREA.--28,723 mi² (74,393 km²), of which 5,936 mi² (15,374 km²) is probably noncontributing.

PERIOD OF RECORD.--January 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 770.31 ft (234.79 m) above mean sea level. Prior to Jan. 12, 1939, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--35 years, 2,193 ft³/s (62.1 m³/s), 1,589,000 acre-ft/yr (1,960 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 48,400 ft³/s (1,370 m³/s) Nov. 2, gage height, 21.24 ft (6.47 m); minimum, 88 ft³/s (2.49 m³/s) Oct. 18, 19.

Period of record: Maximum discharge, 197,000 ft³/s (5,580 m³/s) June 8, 1941, gage height, 28.12 ft (8.57 m); minimum, 43 ft³/s (1.22 m³/s) Mar. 15, 1939.

Maximum stage since at least 1891, that of June 8, 1941. Flood of May 19, 1935, reached a stage of 27.2 ft (8.3 m); floods in 1891 and May 1, 1908, are reported to have reached about the same stage.

REMARKS.--Records good. Flow partly regulated by seven major upstream reservoirs, total capacity, 1,348,900 acre-ft (1,660 hm³). Principal diversions are from Wichita River for irrigation of about 20,000 acres (8,090 hm²) in the vicinity of Wichita Falls, Tex., and from North Fork Red River for irrigation of about 48,000 acres (19,400 hm²) in vicinity of Altus, Okla. Many small diversions for irrigation above station. Water-quality records for the current year are published in Part 2 of the Texas State report.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	30,000	745	384	1,890	914	21,200	3,230	948	596	18,100	315
2	145	44,000	699	359	1,690	984	22,800	3,620	4,480	550	10,900	326
3	371	36,000	652	483	1,660	1,140	15,200	2,270	28,800	530	4,700	400
4	310	11,800	619	1,950	1,600	1,020	9,570	2,000	32,200	535	2,180	434
5	226	7,810	598	3,680	1,520	1,460	5,020	1,830	27,500	450	1,310	499
6	179	7,180	570	2,380	1,400	1,550	4,250	1,700	19,400	430	1,020	642
7	148	5,010	546	1,390	1,390	3,230	3,570	1,830	7,170	456	848	5,510
8	136	2,430	522	940	1,990	7,840	2,940	1,540	3,780	428	730	13,000
9	126	1,940	506	794	1,870	4,620	2,520	1,520	2,880	397	642	15,600
10	117	1,730	501	700	1,560	2,100	2,200	1,370	2,460	385	666	10,600
11	112	1,550	489	600	1,370	3,150	1,960	1,310	1,760	430	623	5,810
12	111	1,430	488	550	1,250	12,200	1,770	1,240	1,480	386	1,130	3,260
13	106	1,430	490	600	1,180	12,500	1,680	1,230	1,450	398	1,240	2,220
14	100	1,950	486	650	1,110	7,120	1,680	1,210	1,310	381	1,100	1,780
15	95	2,530	463	731	1,070	4,000	2,300	1,140	1,820	550	784	3,350
16	94	2,230	458	752	1,030	2,720	5,090	1,080	1,740	1,230	648	1,900
17	95	1,620	459	1,000	1,000	2,160	9,600	1,010	1,340	768	547	1,500
18	91	1,450	451	1,690	897	1,760	13,400	981	1,980	572	504	1,420
19	89	1,510	437	2,010	780	1,470	14,100	941	2,100	495	471	3,370
20	92	1,910	414	1,640	730	1,280	14,800	906	3,140	494	446	2,290
21	111	2,010	401	1,270	683	1,130	13,000	891	5,420	420	443	1,810
22	287	1,870	386	1,220	668	1,020	11,400	870	5,090	395	400	1,560
23	967	1,670	378	8,040	669	1,040	8,070	849	2,370	440	368	1,330
24	5,210	1,580	362	7,230	680	4,960	15,200	1,020	1,160	430	338	1,160
25	3,120	1,560	349	6,200	695	15,000	18,300	1,380	912	761	322	996
26	1,340	1,460	342	5,000	740	14,600	17,500	1,420	788	980	311	933
27	856	1,200	342	9,280	920	9,470	15,600	2,750	716	556	298	1,030
28	740	1,030	350	8,660	926	4,220	9,560	2,940	668	408	296	2,170
29	722	895	352	5,220	-----	2,350	6,280	1,810	644	425	289	7,140
30	2,250	818	344	2,920	-----	2,050	4,400	1,180	638	1,750	309	6,350
31	12,900	-----	338	2,180	-----	7,540	-----	1,060	-----	11,000	311	-----
TOTAL	31,385	179,603	14,537	80,503	32,968	136,598	274,960	48,128	166,144	28,026	52,274	98,705
MEAN	1,012	5,987	469	2,597	1,177	4,406	9,165	1,553	5,538	904	1,686	3,290
MAX	12,900	44,000	745	9,280	1,990	15,000	22,800	3,620	32,200	11,000	18,100	15,600
MIN	89	818	338	359	668	914	1,680	849	638	381	289	315
AC-FT	62,250	356,200	28,830	159,700	65,390	270,900	545,400	95,460	329,500	55,590	103,700	195,800

CAL YR 1972 TOTAL 444,718 MEAN 1,215 MAX 44,000 MIN 89 AC-FT 882,100
WTR YR 1973 TOTAL 1,143,831 MEAN 3,134 MAX 44,000 MIN 89 AC-FT 2,269,000

PEAK DISCHARGE (BASE, 21,000 FT³/S)

DATE	TIME	G.H.T.	DISCHARGE
11-2	2200	21.24	48,400
4-2	0100	17.75	26,800
6-4	0900	18.82	33,000

RED RIVER BASIN

133

07315700 MUD CREEK NEAR COURTNEY, OKLA.

LOCATION.--Lat 34°00'20", long 97°34'00", in NW 1/4 SE 1/4 sec.25, T.6 S., R.4 W., Jefferson County, on downstream side of bridge on State Highway 89, 4.0 mi (6.4 km) downstream from North Mud Creek, 6.0 mi (9.7 km) northwest of Courtney, and at mile 11.5 (18.5 km).

DRAINAGE AREA.--572 sq mi (1,481 sq km).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Datum of gage is 730.00 ft (222.504 m) above mean sea level (State Highway Department bench mark). Prior to Oct. 1, 1968, auxiliary water-stage recorder 2.0 mi (3.2 km) downstream from base gage.

AVERAGE DISCHARGE.--13 years, 95.1 cfs (2.693 cu m/s), 68,900 acre-ft/yr (85.0 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 11,100 cfs (314 cu m/s) Apr. 23, gage height, 29.92 ft (9.120 m); no flow Oct. 1-20.

Period of record: Maximum discharge, 11,100 cfs (314 cu m/s) Apr. 23, 1973, gage height, 29.92 ft (9.120 m); no flow at times.

Flood in May 1957, reached a stage of 30.6 ft (9.33 m).

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2,920	2,4	1,0	84	21	1,240	87	7,2	11	181	1,36
2	0	1,880	2,2	1,0	190	13	576	74	324	10	80	1,32
3	0	1,410	1,8	89	193	16	116	61	7,320	9,6	25	1,26
4	0	226	1,7	498	61	150	146	50	8,060	9,1	13	1,30
5	0	21	1,6	645	29	379	111	44	4,320	8,1	8,9	1,30
6	0	9,4	1,4	209	18	218	60	43	3,190	7,4	6,4	334
7	0	8,2	1,3	51	30	346	40	76	2,900	7,1	5,0	889
8	0	9,7	1,3	24	486	145	39	86	2,280	6,8	4,1	547
9	0	7,4	1,3	15	720	90	33	65	469	6,0	3,8	204
10	0	5,3	1,3	12	308	85	31	44	105	5,6	153	57
11	0	4,3	1,3	10	80	316	30	40	74	69	62	27
12	0	5,5	1,4	9,2	41	406	30	35	64	76	33	13
13	0	8,8	1,4	8,4	27	144	77	29	100	15	21	11
14	0	23	1,3	7,8	20	55	266	25	115	8,2	12	12
15	0	168	1,3	18	15	39	365	22	344	6,1	8,4	68
16	0	62	1,2	63	11	39	902	20	309	5,3	6,0	43
17	0	22	1,2	154	9,7	26	576	18	614	4,9	4,5	16
18	0	12	1,4	147	9,4	14	381	18	610	4,6	3,6	8,4
19	0	7,7	1,4	78	9,7	13	485	18	437	7,1	2,8	5,1
20	0	5,4	1,4	41	9,5	11	1,180	17	105	6,3	2,2	3,8
21	1,13	63	1,3	23	8,3	10	1,560	15	54	4,8	1,7	3,1
22	247	35	1,2	20	7,5	9,2	4,350	13	41	4,0	1,3	2,6
23	570	17	1,2	15	7,9	9,3	8,380	13	28	3,4	1,0	2,2
24	134	11	1,2	10	9,6	307	4,800	14	23	4,0	1,80	2,0
25	17	8,2	1,2	13	10	1,210	3,960	31	20	11	1,62	1,8
26	3,6	6,2	1,2	392	17	1,740	2,740	35	19	8,3	1,47	2,4
27	2,5	4,9	1,2	803	26	2,160	1,780	20	16	5,4	1,45	130
28	2,4	3,7	1,2	769	34	696	266	13	14	3,9	1,40	702
29	2,3	3,0	1,3	170	-----	96	133	11	13	3,3	1,46	723
30	858	2,8	1,2	56	-----	71	102	9,1	12	6,2	1,39	311
31	4,040	-----	1,0	30	-----	632	-----	8,3	-----	47	1,34	-----
TOTAL	5,876,93	6,970,5	42,8	4,382,4	2,471,6	9,466,5	34,755	1,054,4	31,987,2	384,5	643,63	4,122,64
MEAN	190	232	1,38	141	88,3	305	1,159	34,0	1,066	12,4	20,8	137
MAX	4,040	2,920	2,4	803	720	2,160	8,380	87	8,060	76	181	889
MIN	0	2,8	1,0	1,0	7,5	9,2	30	8,3	7,2	3,3	1,34	1,26
AC=FT	11,660	13,830	85	8,690	4,900	18,780	68,940	2,090	63,450	763	1,280	8,180
CAL YR 1972	TOTAL	15,321,61	MEAN	41,9	MAX	4,040	MIN	0	AC=FT	30,390		
WTR YR 1973	TOTAL	102,158,10	MEAN	280	MAX	8,380	MIN	0	AC=FT	202,600		

PEAK DISCHARGE (BASE, 1,300 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-31	1030	26.79	5,030	4-23	0345	29.92	11,100
3-27	1015	24.21	2,330	6-03	2400	29.59	10,900

RED RIVER BASIN

07316000 RED RIVER NEAR GAINESVILLE, TEX.

LOCATION.--Lat 33°43'40", long 97°09'35", in SW 1/4 sec.36, T.9 S., R.1 E., Love County, Okla., near center of span on downstream side of bridge on U.S. Highway 77, 0.2 mi (0.3 km) downstream from Gulf, Colorado and Santa Fe Railway Co. bridge, 5.0 mi (8.0 km) downstream from Fish Creek, 7.0 mi (11.0 km) north of Gainesville, and at mile 791.5 (1,273.5 km).

DRAINAGE AREA.--30,782 sq mi (79,725 sq km) of which 5,936 sq mi (15,374 sq km) is probably noncontributing.

PERIOD OF RECORD.--May 1936 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 627.91 ft (1,913.387 m) above mean sea level. Prior to Jan. 17, 1939, and Feb. 13, 1965 to Nov. 14, 1966, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--37 years, 2,737 cfs (77.5 cu m/s), 1,983,000 acre-ft/yr (24.5 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 51,600 cfs (1,461 cu m/s) June 5, gage height, 21.00 ft (6.401 m); minimum, 104 cfs (2.95 cu m/s) Oct. 20.

Period of record: Maximum discharge, 168,000 cfs (4,758 cu m/s) June 9, 1941, gage height, 24.15 ft (7.361 m); maximum gage height, 26.53 ft (8.086 m) May 21, 1951; minimum discharge, 48 cfs (1.36 cu m/s) Jan. 27, 1940.

REMARKS.--Records poor. Flow slightly regulated by Lake Kemp, in Texas, since 1943 by Lake Altus (see sta. 07302500), since 1946 by Lake Kickapoo, and since 1967 by Lake Arrowhead and Moss Lake, also in Texas.

COOPERATION.--Gage-height record and 45 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	164	21,400	1,220	494	3,380	1,100	8,930	6,880	1,360	1,670	10,000	410
2	157	31,700	1,150	484	2,770	1,300	27,600	4,970	1,260	1,910	17,300	400
3	151	40,700	1,100	623	2,370	1,410	25,000	4,000	8,000	1,030	13,500	396
4	147	43,700	1,090	945	2,230	1,330	15,000	3,420	45,000	890	8,930	396
5	160	14,300	1,090	1,510	2,060	3,230	10,000	2,830	50,000	870	4,560	435
6	356	9,290	1,020	4,250	1,920	2,760	7,720	3,280	45,100	804	2,830	998
7	297	8,230	846	4,630	1,950	3,180	6,540	5,220	25,000	769	2,030	2,210
8	226	7,130	825	2,990	2,800	2,980	5,490	3,190	10,000	691	1,570	5,970
9	189	4,880	811	1,970	4,540	8,710	4,160	2,140	7,000	691	1,360	11,800
10	162	3,650	790	1,210	5,430	9,580	3,430	1,980	4,500	707	1,320	14,100
11	143	2,800	755	642	3,160	5,820	2,910	1,720	3,700	697	1,300	12,200
12	136	2,400	734	623	2,250	3,840	2,640	1,600	3,000	696	1,180	6,990
13	131	2,100	720	751	1,910	13,000	2,520	1,450	2,500	729	1,020	4,870
14	126	2,000	707	928	1,620	13,000	2,420	1,450	2,000	735	1,370	3,480
15	121	2,560	688	949	1,480	8,200	3,620	1,400	2,000	1,190	1,710	2,650
16	118	3,570	678	1,020	1,360	5,880	6,590	1,350	2,680	971	1,560	2,190
17	113	3,890	637	1,150	1,300	4,400	10,300	1,230	3,200	847	1,210	3,310
18	110	3,170	625	1,090	1,270	2,950	14,500	1,110	3,060	1,730	998	2,150
19	105	2,510	625	1,410	1,210	2,160	14,000	1,070	2,670	1,240	889	1,600
20	104	2,240	625	2,470	1,160	1,790	15,000	1,030	3,680	875	811	1,740
21	106	2,390	607	2,730	1,100	1,400	16,000	948	3,010	771	746	3,230
22	153	2,830	587	2,210	1,050	1,200	16,000	988	4,340	717	689	2,410
23	227	2,830	574	1,730	1,050	1,100	17,000	988	5,980	636	657	1,920
24	731	2,560	555	6,620	1,000	1,150	18,000	988	4,670	612	611	1,500
25	2,000	2,260	544	10,300	1,000	3,180	21,100	948	2,610	591	563	1,280
26	3,840	2,100	536	8,650	980	15,100	21,700	1,000	1,820	610	519	1,260
27	2,420	2,070	520	8,800	1,000	17,000	18,500	1,200	1,510	698	486	1,790
28	1,260	1,840	510	12,200	1,000	14,300	17,300	1,500	1,330	1,160	462	1,900
29	832	1,500	498	11,200	-----	8,860	11,900	2,400	1,250	1,360	485	1,900
30	988	1,380	519	6,990	-----	4,630	8,540	3,200	1,310	1,700	466	4,260
31	5,500	-----	511	4,840	-----	3,350	-----	1,800	-----	2,340	425	-----
TOTAL	21,273	233,980	22,697	106,409	54,350	167,890	354,410	67,280	253,540	30,937	81,557	99,745
MEAN	686	7,799	732	3,433	1,941	5,416	11,810	2,170	8,451	998	2,631	3,325
MAX	5,500	43,700	1,220	12,200	5,430	17,000	27,600	6,880	50,000	2,340	17,300	14,100
MIN	104	1,380	498	484	980	1,100	2,420	948	1,250	591	425	396
AC-FT	42,190	464,100	45,020	211,100	107,800	333,000	703,000	133,400	502,900	61,360	161,800	197,800

CAL YR 1972 TOTAL 505,057 MEAN 1,380 MAX 43,700 MIN 104 AC-FT 1,002,000
WTR YR 1973 TOTAL 1,494,068 MEAN 4,093 MAX 50,000 MIN 104 AC-FT 2,963,000

PEAK DISCHARGE (BASE 24,000 CFS)

DATE	TIME	G. HT.	DISCHARGE
11-4	0800	20.0	49,000
4-2	2100	17.8	31,600
4-24	0600	18.4	33,700
6-5	1000	21.00	51,600

RED RIVER BASIN

135

07316500 WASHITA RIVER NEAR CHEYENNE, OKLA.

LOCATION.--Lat 35°37'35", long 99°40'05", in SE 1/4 sec.5, T.13 N., R.23 W., Roger Mills County, near left bank on downstream side of pier of bridge on U.S. Highway 283, 0.5 mi (0.8 km) downstream from Sergeant Major Creek, 1.0 mi (1.6 km) north of Cheyenne, 5.2 mi (8.4 km) upstream from Dead Indian Creek, and at mile 543.9 (875.1 km).

DRAINAGE AREA.--794 sq mi (2,056 sq km).

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,905.98 ft (580.943 m) above mean sea level (levels by Corps of Engineers). May 1, 1938, to Nov. 16, 1946, and Oct. 1, 1947, to Jan. 11, 1948, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--36 years, 31.3 cfs (0.886 cu m/s), 22,680 acre-ft/yr (28.0 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 265 cfs (7.50 cu m/s) Sept. 4, gage height, 3.38 ft (1.030 m), no flow at times.

Period of record: Maximum discharge, 69,800 cfs (1,977 cu m/s) Apr. 29, 1954, gage height, 15.24 ft (4.645 m); from rating curve extended above 27,000 cfs (765 cu m/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

Flood of Apr. 3, 1934, reached a stage of 1.0 ft (0.30 m) lower than that in 1954 at site on upstream side of highway fill.

REMARKS.--Records good. Some regulation by numerous flood-retarding structures. Records of chemical analyses for current year are published in Part 2 of this report.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	2.0	2.0	63	83	25	1.4		0
2				0	2.3	1.7	53	91	25	.21		0
3				0	2.4	1.9	55	136	23	0		0
4				0	2.1	1.9	49	98	19	0		51
5				0	1.9	1.9	46	69	17	0		51
6				0	1.5	1.9	42	58	14	0		1.2
7				0	1.4	1.9	37	51	12	0		4.0
8				0	.85	7.4	39	44	10	0		1.0
9				0	1.2	5.6	40	40	8.2	0		.21
10				0	1.4	33	39	36	7.1	0		0
11				0	1.6	28	40	34	6.2	0		0
12				0	1.6	17	41	30	5.5	0		0
13				0	1.5	12	53	27	5.1	0		0
14				0	1.3	15	64	27	4.8	0		0
15				0	1.1	13	50	26	4.4	0		.07
16				0	1.0	11	46	24	3.7	0		.07
17				0	1.1	11	42	22	3.4	0		5.4
18				0	1.2	11	44	20	3.1	0		1.6
19				0	1.3	12	91	18	2.0	0		.56
20				0	1.2	11	74	16	1.2	0		.21
21				0	1.2	11	69	14	.80	0		.07
22				0	1.3	11	60	17	.49	0		0
23				0	1.6	12	51	62	.28	0		0
24				0	1.6	14	100	46	.21	0		.21
25				0	1.6	14	63	29	.07	0		0
26				0	1.3	14	63	27	.02	0		20
27				0	1.7	17	62	25	.02	0		4.5
28				0	1.7	18	50	22	.07	0		1.9
29				0	-----	19	42	19	7.8	0		1.1
30				.10	-----	102	39	16	7.8	0		.80
31		-----		.71	-----	71	-----	29	-----	0		-----
TOTAL	0	0	0	.81	41.95	503.2	1,607	1,256	217.26	1.61	0	144.90
MEAN	0	0	0	.026	1.50	16.2	53.6	40.5	7.24	.052	0	4.83
MAX	0	0	0	.71	2.4	102	100	136	25	1.4	0	51
MIN	0	0	0	0	.85	1.7	37	14	.02	0	0	0
AC-FT	0	0	0	1.6	83	998	3,190	2,490	431	3.2	0	287

CAL YR 1972 TOTAL 934.52 MEAN 2.55 MAX 152 MIN 0 AC-FT 1,850
WTR YR 1973 TOTAL 3,772.73 MEAN 10.3 MAX 136 MIN 0 AC-FT 7,480

PEAK DISCHARGE (BASE, 1,100 CFS).--No peak above base.

RED RIVER BASIN

07317500 SANDSTONE CREEK SUBWATERSHED NO. 16A (STANDSTONE CREEK) NEAR CHEYENNE, OKLA.

LOCATION.--Lat 35°28'10", long 99°40'10", in SW 1/4 SE 1/4 sec.31, T.12 N., R.23 W., Roger Mills County, near center of upstream side of dam on Sandstone Creek, 5.2 mi (8.4 km) east of Grimes and 10 mi (16 km) south of Cheyenne.

DRAINAGE AREA.--8.78 sq mi (22.74 sq km), of which 3.62 sq mi (9.38 sq km) is probably noncontributing.

PERIOD OF RECORD.--January 1952 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 2,069.14 ft (630.674 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--21 years, 0.38 cfs (0.011 cu m/s), 275 acre-ft/yr (339,000 cu m/yr).

EXTREMES.--Current year, Maximum outflow, 34.8 cfs (0.99 cu m/s) March 30; no outflow at times.

Maximum inflow, 214 cfs (6.06 cu m/s) average for 5-minute interval Apr. 15 computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

Period of record: Maximum outflow, 70 cfs (2 cu m/s) May 26, 1959, gage height, 81.41 ft (24.814 m); no outflow at times. Maximum inflow, 2,710 cfs (76.7 cu m/s) average for 5-minute interval May 26, 1959, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak flow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; storage began Dec. 7, 1951. Outlet structure is a drop inlet with an encasement of trash racks and retaining wall with 24-inch (0.610 m) concrete pipe. There is an 8-inch (0.203 m) diameter iron drain pipe with gate valve at outlet structure. Crest of drop inlet is at gage height 69.89 ft (21.303 m). Crest of emergency earthen spillway is at gage height 102.0 ft (31.09 m). Original capacity at crest of emergency spillway, 2,030 acre-ft (2.50 cu hm) and at outlet structure, 270 acre-ft (333,000 cu m). Storage data given herein are based on capacity curves interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow 1/												
Outflow	0	0	6.8	13.4	5.3	93.0	103.8	21.9	17.7	0	0	0
(†)	156.0	167.1	170.3	170.1	170.1	171.7	168.3	167.5	161.3	147.5	134.6	157.9
(††)	1.98	2.14	0.66	0.92	0.56	6.36	3.44	2.24	1.70	0.90	1.06	6.50
CAL YR 1972: Inflow				Outflow	95.8	†† 20.56						
WTR YR 1973: Inflow				Outflow	261.9	†† 28.46						

1/ Inflow adjusted for rainfall on pool and pool losses. (withheld).

† Contents, in acre-feet, at end of month.

†† Precipitation, in inches, during month at rain gage 21 R., 5.1 miles northwest of dam.

07318000 SANDSTONE CREEK SUBWATERSHED NO. 16 (SANDSTONE CREEK) NEAR CHEYENNE, OKLA.

LOCATION.--Lat 35°28'50", long 99°36'40", in SE 1/4 SE 1/4 sec.27, T.12 N., R.23 W., Roger Mills County, near center of upstream side of dam on Sandstone Creek, 2.2 mi (3.5 km) northeast of Berlin and 9.0 mi (14.5 km) southeast of Cheyenne.

DRAINAGE AREA.--11.47 sq mi (29.71 sq km), excludes that of subwatershed No. 16A, 8.78 sq mi (22.74 sq km).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,925.96 ft (587.033 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--21 years, 0.79 cfs (0.022 cu m/s), 572 acre-ft/yr (705,000 cu m/yr).

EXTREMES.--Current year: Maximum outflow 9.9 cfs (0.28 cu m/s) at times; maximum inflow recorded, maximum inflow recorded, 312 cfs (8.84 cu m/s), average for 5 minute interval, May 22, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

Period of record: Maximum outflow, 168 cfs (4.76 cu m/s) May 23, 1954, gage height, 75.08 ft (22.884 m); no outflow most of time. Maximum inflow known, 18,900 cfs (535 cu m/s), average for 5-minute interval May 23, 1954, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure and rated gate-valve openings. Reservoir is formed by earth dam; storage began in August 1952. Outlet structure is a drop-inlet with an encasement of trash racks and retaining wall with a 34-inch (0.86 m) concrete pipe. There is a 12-inch (0.30 m) diameter iron drain pipe with gate valve at outlet structure. Crest of drop inlet is at gage height 65.62 ft (20.001 m). Crest of emergency earthen spillway is at gage height 81.7 ft (24.90 m). Original capacity at crest of emergency spillway, 4,450 acre-ft (5.49 cu hm) and at outlet structure, 1,460 acre-ft (1.80 cu hm). Storage data given herein are based on capacity curve in interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow ^{1/}												
Outflow	0	0	0	0	0	0	59.4	306.9	297.0	186.5	0	0
(†)	404.2	383.6	359.9	357.3	349.8	512.7	647.8	411.6	191.8	61.3	59.7	64.5
(††)	1.88	1.74	0.72	1.30	0.78	6.32	3.58	2.30	2.96	0.74	1.12	6.36
CAL YR 1972: Inflow			Outflow	0	††	22.08						
WTR YR 1973: Inflow			Outflow	849.8	††	29.80						

^{1/} Inflow adjusted for rainfall on pool and pool losses (withheld).

† Contents, in acre-feet, at end of month.

†† Precipitation, in inches, during month at rain gage 23 R. 3.6 miles west of dam.

07318500 SANDSTONE CREEK SUBWATERSHED NO. 14 (SANDSTONE CREEK TRIBUTARY) NEAR CHEYENNE, OKLA.

LOCATION.--Lat 35°28'40", long 99°36'10", in SW 1/4 NE 1/4 sec.35, T.12 N., R.23 W., Roger Mills County, near center of upstream side of dam on unnamed tributary to Sandstone Creek, 2.5 mi (4.0 km) northeast of Berlin and 11 mi (17.7 km) southeast of Cheyenne.

DRAINAGE AREA.--1.02 sq mi (2.64 sq km).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,896.32 ft (578.000 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--21 years, .007 cfs (0.0002 cu m/s), 5.1 acre-ft/yr (6,290 cu m/yr).

EXTREMES.--Current year: No outflow; maximum gage height, 81.52 ft (24.847 m) June 2; maximum inflow, 113 cfs (3.20 cu m/s) average for 5 minute interval, May 22.

Period of record: Maximum outflow, 6.3 cfs (0.18 cu m/s) June 7, 1961, gage height, 90.35 ft (27.539 m); no outflow most of time. Maximum inflow known, 1,160 cfs (32.9 cu m/s) average for 5-minute interval Apr. 18, 1957, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records fair. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earch dam; storage began in September 1951. Outlet structure is open end of 12-inch (0.30 m) concrete pipe with encasement of trash racks and retaining wall with invert at gage height 88.04 ft (26.835 m). There is a 6-inch (0.15 m) diameter iron drain pipe with gate valve in face of dam. Crest of emergency earthen spillway is at gage height 98.0 ft (29.87 m). Original capacity at crest of emergency spillway, 311 acre-ft (383,000 cu m) and at outlet pipe, 117 acre-ft (144,000 cu m). Storage data given herein are based on capacity curve interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow 1/												
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(+)	2.3	1.9	1.2	1.0	0.4	12.2	14.6	21.1	17.8	8.1	3.8	11.4
(++)	2.16	1.92	0.64	1.08	0.56	5.98	3.12	2.74	2.58	0.78	1.22	6.50
CAL YR 1972: Inflow			Outflow	0	++	21.96						
WTR YR 1973: Inflow			Outflow	0	++	29.28						

1/ Inflow adjusted for rainfall on pool and pool losses (withheld).

† Contents, in acre-feet, at end of month.

†† Precipitation, in inches, during month at rain gage 15 R. 1.9 miles south of dam.

07319000 SANDSTONE CREEK SUBWATERSHED NO. 17 (CURRENT CREEK) NEAR CHEYENNE, OKLA.

LOCATION.--Lat 35°30'30", long 99°36'40", in NE 1/4 NE 1/4 sec.22, T.12 N., R.23 W., Roger Mills County, near center of upstream side of dam on Currant Creek, 4.0 mi (6.4 km) northeast of Berlin and 7.5 mi (12.1 km) southeast of Cheyenne.

DRAINAGE AREA.--10.13 sq mi (26.24 sq km).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,888.17 ft (575.514 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--21 years, 0.78 cfs (0.022 cu m/s), 565 acre-ft/yr (697,000 cu m/yr).

EXTREMES.--Current year: Maximum outflow, 31.7 cfs (0.90 cu m/s), June 2 (gate-valve open); no outflow most of time. Maximum inflow, 1,420 cfs (40.2 cu m/s), average for 5-minute interval, March 8.

Period of record: Maximum outflow, 104 cfs (2.94 cu m/s) May 26, 1959, gage height, 109.42 ft (33.351 m); no outflow most of time. Maximum inflow known, 6,030 cfs (171 cu m/s) average for 5-minute interval Apr. 29, 1954, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure and rated gate-valve openings. Reservoir is formed by earth dam; storage began in September 1951. Outlet structure is a drop inlet with encasement of trash racks and retaining wall with 28-inch (0.71 m) concrete pipe. There is a 12-inch (0.30 m) diameter iron drain pipe with gate valve at outlet structure. Crest of drop inlet is at gage height 96.99 ft (29.563 m). Crest of emergency earthen spillway is at gage height 123.0 ft (37.49 m). Original capacity at crest of emergency spillway, 3,620 acre-ft (4.46 cu hm) and at outlet structure, 477 acre-ft (588,000 cum). Storage data given herein are based on capacity curve interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow 1/												
Outflow	0	0	0	0	0	27.0	294.0	79.0	69.9	0	0	0
(†)	81.7	92.5	114.3	148.7	164.4	294.6	285.8	285.8	261.6	222.9	185.8	206.6
(††)	1.96	1.72	0.60	0.82	0.52	5.76	2.90	2.16	2.72	0.74	1.34	5.64
CAL YR 1972: Inflow				239.5		†† 20.40						
WTR YR 1973: Inflow				469.9		†† 26.88						

1/ Inflow adjusted for rainfall on pool and pool losses (withheld).

† Contents, in acre-feet, at end of month.

†† Precipitation, in inches, during month at rain gage 28 R., 4.5 miles west of dam.

07320000 SANDSTONE CREEK SUBWATERSHED NO. 10A (SANDSTONE CREEK TRIBUTARY) NEAR ELK CITY, OKLA.

LOCATION.--Lat 35°28'00", long 99°33'20", in SW 1/4 SW 1/4 sec.32, T.12 N., R.22 W., Beckham County, near center of upstream side of dam on unnamed tributary to Sandstone Creek, 4.0 mi (6.4 km) northeast of Berlin and 8.0 mi (12.9 km) northwest of Elk City.

DRAINAGE AREA.--2.87 sq mi (7.43 sq km).

PERIOD OF RECORD.--October 1951 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,921.13 ft (585.560 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--22 years, .028 cfs (0.001 cu m/s), 20 acre-ft/yr (24,700 cu m/yr).

EXTREMES.--Current year: No outflow; maximum gage height, 68.89 ft (20.998 m) June 29; maximum inflow not determined.

Period of record: Maximum outflow, 6.6 cfs (0.19 cu m/s) July 5, 1961; maximum gage height, 83.63 ft (25.490 m) June 7, 1961; no outflow most of time. Maximum inflow known, 1,700 cfs (48.1 cu m/s) average for 5-minute interval Aug. 16, 1968, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure and rated gate-valve openings. Reservoir is formed by earth dam; storage began in April 1951. Outlet structure is a 15-inch (0.38 m) concrete pipe with an encasement of trash racks and retaining wall with invert at gage height 79.52 ft (24.238 m). There is a 6-inch (0.15 m) diameter iron drain pipe with gate valve in face of dam. Crest of emergency earthen spillway is at gage height 90.0 ft (27.43 m). Original capacity at crest of emergency spillway, 1,048 acre-ft (1.29 cu hm) and at outlet structure, 445 acre-ft (549,000 cu m). Storage data given herein are based on capacity curve interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow ^{1/}	0	0	0	0	0	0	0	0	0	0	0	0
Outflow	21.1	20.2	17.8	16.4	14.1	37.8	44.8	52.1	57.8	39.2	24.2	50.3
(†)	2.14	1.32	0.63	1.42	0.66	5.36	2.56	2.66	3.06	1.06	0.72	6.40
(††)												
CAL YR 1972: Inflow			Outflow	0	††	17.42						
WTR YR 1973: Inflow			Outflow	0	††	27.99						

^{1/} Inflow adjusted for rainfall on pool and pool losses (withheld).

† Contents, in acre-feet, at end of month.

†† Precipitation, in inches, during month at rain gage 14 R., 2.87 miles southwest of dam.

07320500 SANDSTONE CREEK SUBWATERSHED NO. 6 (EAST BRANCH SANDSTONE CREEK) NEAR ELK CITY, OKLA.

LOCATION.--Lat 35°29'10", long 99°30'10", in NW 1/4 SW 1/4 sec.26, T.12 N., R.22 W., Beckham County, near center of upstream side of dam on East Branch Sandstone Creek, 7.5 mi (12.1 km) northeast of Berlin and 8.0 (12.9) northwest of Elk City.

DRAINAGE AREA.--6.46 sq mi (16.73 sq km).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,874.32 ft (571.293 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--21 years, 0.086 cfs (0.002 cu m/s), 62 acre-ft/yr (76,400 cu m/yr).

EXTREMES.--Current year: No outflow; maximum gage height, 75.23 ft (22.930 m) June 29; maximum inflow 242 cfs (6.85 cu m/s) average for 5 minute intervals, June 29.

Period of record: Maximum outflow, 46 cfs (1.30 cu m/s) May 26, 1959, gage height, 87.80 ft (26.761 m); no outflow most of the time. Maximum inflow know, 1,870 cfs (53.0 cu m/s) average for 5-minute interval May 3, 1957, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records fair. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure, and rated gate-value openings. Reservoir is formed by earth dam; storage began in April 1951. Outlet structure is 21-inch (0.53 m) concrete pipe with an encasement of trash racks and retaining wall with invert at gage height 83.02 ft (25.304 m). There is a 6-inch (0.15 m) diameter iron drain pipe with gage at crest of emergency spillway, 2,060 acre-ft (2.54 cu hm), and at outlet structure, 605 acre-ft (746,000 cu m). Storage data given herein are based on capacity curve interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow 1/	0	0	0	0	0	0	0	0	0	0	0	0
Outflow	34.6	30.3	28.8	27.4	24.3	38.3	58.4	74.8	140.2	112.6	103.2	153.9
(+)	1.96	1.60	0.62	0.94	0.66	5.08	2.96	3.22	4.14	0.96	1.06	7.00
(++)												
CAL YR 1972: Inflow			Outflow	0	++	17.94						
WTR YR 1973: Inflow			Outflow	0	++	30.20						

1/ Inflow adjusted for rainfall on pool and pool losses (withheld).

† Contents, in acre-feet, at end of month.

++ Precipitation, in inches, during month at rain gage 7 R. 2.6 miles southwest of dam.

07321000 SANDSTONE CREEK SUBWATERSHED NO. 5 (EAST BRANCH SANDSTONE CREEK TRIBUTARY) NEAR ELK CITY, OKLA.

LOCATION.--Lat 35°29'30", long 99°29'20", in SE 1/4 NE 1/4 sec.26, T.12 N., R.22 W., Beckham County, near center of upstream side of dam on unnamed tributary of East Branch Sandstone Creek, 7.0 mi (11.3 km) northwest of Elk City and 8.5 mi (13.7 km) northeast of Berlin.

DRAINAGE AREA.--3.89 sq mi (10.08 sq km).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,893.15 ft (577.032 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--21 years, 0.085 cfs (0.002 cu m/s), 62 acre-ft/yr (76,400 cu m/yr).

EXTREMES.--Current year: No outflow; maximum gage height 64.89 ft (19.778 m) Sept. 4; maximum inflow, 1,560 cfs (44.2 cu m/s), average for 5 minute interval, June 29.

Period of record: Maximum outflow, 13 cfs (0.37 cu m/s) May 26, 1959, Aug. 16-18, 1968; maximum gage height, 75.22 ft (22.927 m) Aug. 17, 1968; no outflow most of time. Maximum inflow known, 2,850 cfs (80.7 cu m/s) average for 5-minute interval Aug. 16, 1968, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; storage began in March 1951. Outlet structure is an encasement of trash racks and retaining wall connected to an 18-inch (0.46 m) concrete pipe with invert at gage height 67.91 ft (20.699 m). There is a 6-inch (0.15 m) diameter iron drain pipe with gate valve in face of dam. Crest of emergency earthen spillway is at gage height 84.0 ft (25.60 m). Original capacity at crest of emergency spillway, 1,147 acre-ft (1.41 cu hm), and at outlet pipe, 326 acre-ft (402,000 cu m). Storage data given herein are based on capacity curve, interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow 1/												
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(+)	13.8	12.7	10.9	10.5	9.4	22.4	45.1	64.0	133.9	95.4	70.2	137.9
(++)	1.96	1.56	0.60	1.28	0.58	5.04	3.00	3.14	3.62	1.34	1.40	6.94
CAL YR 1972: Inflow			Outflow	0	++	17.30						
WTR YR 1973: Inflow			Outflow	0	++	30.46						

1/ Inflow adjusted for rainfall on pool and pool losses. (withheld).

† Contents, in acre-feet, at end of month.

++ Precipitation, in inches, during month at rain gage 5 R., 2.5 miles southeast of dam.

RED RIVER BASIN

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07321500 SANDSTONE CREEK SUBWATERSHED NO. 3 (EAST BRANCH SANDSTONE CREEK TRIBUTARY) NEAR ELK CITY, OKLA.

LOCATION.--Lat 35°30'40", long 99°30'40", on south line of SW 1/4 SE 1/4 sec.15, T.12 N., R.22 W., Roger Mills County, near center of upstream side of dam on unnamed tributary to East Branch Sandstone Creek, 7.5 mi (12.1 km) northeast of Berlin and 9.0 mi (14.5 km) northwest of Elk City.

DRAINAGE AREA.--0.62 sq mi (1.61 sq km).

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,828.43 ft (557.305 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--21 years, 0.006 cfs (0.0002 cu m/s), 4.3 acre-ft/yr (5,300 cu m/yr).

EXTREMES.--Current year: No outflow; maximum gage height, 78.92 ft (24.055 m) June 29; maximum inflow, 330 cfs (9.35 cu m/s) average for 5 minute interval, June 29

Period of record: Maximum outflow, 4.7 cfs (0.13 cu m/s) May 26, 1959, gage height, 88.76 ft (27.054 m); no outflow most of time. Maximum inflow known, 1,780 cfs (50.4 cu m/s) average for 5-minute interval Apr. 18, 1957, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; storage began in April 1951. Outlet structure is an encasement of trash racks and retaining wall connected to a 12-inch (0.30 m) concrete pipe with invert at gage height 82.08 ft (25.018 m). There is a 6-inch (0.15 m) diameter iron drain pipe with control gage valve in face of dam. Crest of emergency earthen spillway is at gage height 92.0 ft (28.042 m). Original capacity at crest of emergency spillway, 148.2 acre-ft (183,000 cu m) and at outlet pipe, 56.3 acre-ft (69,400 cu m). Storage data given herein are based on capacity curve interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow 1/												
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(+)	0	0	0	0	0	3.5	2.3	3.6	14.4	2.3	1.1	2.0
(++)	2.28	1.48	0.80	1.20	0.94	5.60	2.98	3.58	4.24	1.36	1.46	6.80
CAL YR 1972: Inflow			Outflow	0	++	18.62						
WTR YR 1973: Inflow			Outflow	0	++	32.72						

1/ Inflow adjusted for rainfall on pool and pool losses (withheld).

+ Contents, in acre-feet, at end of month.

++ Precipitation, in inches, during month at rain gage 2 R. 1.5 miles northeast of dam.

++

07322000 SANDSTONE CREEK SUBWATERSHED NO. 9 (EAST BRANCH SANDSTONE CREEK TRIBUTARY) NEAR ELK CITY, OKLA.

LOCATION.--Lat 35°29'40", long 99°32'00", in NW 1/4 SW 1/4 sec.28, T.12 N., R.22 W., Beckham County, near center of upstream side of dam on unnamed tributary of East Branch Sandstone Creek, 7.5 mi (12.1 km) northeast of Berlin and 9.0 mi (14.5 km) northwest of Elk City.

DRAINAGE AREA.--3.50 sq mi (9.07 sq km), of which 0.37 sq mi (0.96 sq km) is noncontributing.

PERIOD OF RECORD.--October 1951 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,864.85 ft (568.406 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--22 years, .051 cfs (0.001 cu m/s), 37 acre-ft/yr (45,600 cu m/yr).

EXTREMES.--Current year: No outflow; maximum gage height, 70.01 ft (21.339 m) June 29; maximum inflow, 2,110 cfs (59.8 cu m/s), average for 5 minute interval, May 22.

Period of record: Maximum outflow, 17 cfs (0.48 cu m/s) May 26, 1959, July 6, 1961; maximum gage height, 81.30 ft (24.780 m) May 26, 1959; no outflow most of time. Maximum inflow known, 2,420 cfs (68.5 cu m/s) average for 5-minute interval June 8, 1971, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation of outlet structure. Reservoir is formed by earth dam; storage began in March 1951. Outlet structure is the open end of a 15-inch (0.38 m) concrete pipe on an encasement of trash racks and retaining wall at gage height 71.94 ft (21.927 m). There is a 6-inch (0.15 m) diameter iron drain pipe with gate valve in face of dam. Crest of emergency earthen spillway is at gage height 92.0 ft (28.04 m). Original capacity at crest of emergency spillway, 1,250 acre-ft (1.54 cu hm), and at outlet pipe, 252 acre-ft (311,000 cu m). Storage data given herein are based on capacity curve interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow 1/												
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(+)	10.1	10.8	9.8	9.2	7.9	20.5	9.7	47.0	101.6	74.2	55.7	85.4
(++)	1.96	1.60	0.72	0.94	0.66	5.08	2.96	3.22	4.14	0.96	1.06	7.00
CAL YR 1972: Inflow			Outflow	0	++	18.04						
WTR YR 1973: Inflow			Outflow	0	++	30.30						

1/ Inflow adjusted for rainfall on pool and pool losses (withheld).

† Contents, in acre-feet, at end of month.

++ Precipitation, in inches, during month at rain gage 7 R. 2.3 miles south of dam.

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LOCATION.--Lat 35°33'10", long 99°31'50", on south line of SE 1/4 SW 1/4 sec.34, T.13 N., R.22 W., Roger Mills County, near left bank on downstream side of pier on county road bridge, 4.5 mi (7.2 km) upstream from Wildcat Creek, 9.1 mi (14.6 km) southeast of Cheyenne, and at mile 6.0 (9.7 km).

PERIOD OF RECORD.--April 1951 to current year. Monthly discharge only for some periods, published in WSP 1731.

AVERAGE DISCHARGE.--22 years, 6.33 cfs (0.179 cu m/s), 4,590 acre-ft/yr (5.66 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 812 cfs (23.0 cu m/s) June 29, gage height, 8.81 ft (2.685 m); minimum daily, 0.05 cfs (0.001 cu m/s) Oct. 5, 6.
Period of record: Maximum discharge 6,360 cfs (180 cu m/s) Apr. 30, 1954, gage height, 13.64 ft (4.157 m); from rating curve extended above 1,200 cfs (34.0 cu m/s) on basis of slope-area measurement of peak flow; maximum gage height, 16.42 ft (5.005 m), May 26, 1959; no flow at times in 1951-57, 1964, 1970-71.

REMARKS.--Records fair. Flow from 65.6 sq mi (169.9 sq km) regulated by 22 flood-retarding structures combined original capacity, about 21,100 acre-ft (26.0 cu hm). Some diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1711: 1959.

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	.70	1.7	1.0	1.4	1.4	3.2	11	11	9.2	2.4	.45
2	.21	.75	1.7	1.1	1.5	1.5	2.5	11	30	8.8	2.0	.39
3	.09	.80	1.7	1.1	1.6	1.7	2.5	11	15	7.9	2.1	.33
4	.07	.80	1.7	1.1	1.7	1.5	2.0	11	11	7.3	2.2	116
5	.05	.85	1.9	1.1	1.9	1.4	1.6	11	10	6.8	2.0	41
6	.05	.90	1.9	1.1	1.9	1.4	1.4	11	9.4	6.3	2.0	8.1
7	.07	.90	1.8	1.1	2.0	1.4	1.3	11	9.0	6.0	2.0	9.2
8	.13	.95	1.8	1.1	2.0	5.6	1.7	10	8.4	5.6	2.0	8.6
9	.13	1.0	1.7	1.1	1.7	3.3	1.9	10	8.2	5.1	1.9	8.1
10	.13	1.0	1.7	1.1	1.9	7.9	1.8	10	8.2	4.9	2.0	7.1
11	.09	1.0	1.6	1.1	2.0	3.9	1.6	9.8	8.2	5.0	2.0	6.5
12	.09	1.0	1.6	1.1	2.0	2.4	1.3	9.8	8.2	5.1	2.0	7.0
13	.13	1.0	1.5	1.1	2.0	2.0	3.2	9.8	8.4	5.0	1.7	7.7
14	.13	.75	1.5	1.1	1.8	2.0	2.7	9.8	9.6	5.1	1.5	6.5
15	.09	.75	1.4	1.1	1.8	1.9	3.9	10	8.8	5.1	1.3	5.4
16	.13	.70	1.4	1.1	1.8	1.7	14	10	8.8	4.7	1.3	4.1
17	.13	.85	1.3	1.1	2.0	1.7	9.4	9.8	8.6	4.9	1.4	6.5
18	.09	.95	1.3	1.1	2.0	1.7	8.6	9.4	8.6	4.9	1.2	6.0
19	.13	1.2	1.2	1.1	2.0	1.7	14	9.8	8.6	4.9	1.1	5.3
20	.07	1.0	1.2	1.1	1.2	1.6	10	9.8	8.4	4.2	1.0	4.7
21	.11	1.2	1.1	1.1	1.1	1.5	11	9.8	8.6	4.2	.95	4.3
22	.15	1.2	1.1	1.1	1.1	1.5	13	9.8	8.6	4.2	.95	3.7
23	.19	1.4	1.4	1.1	1.4	1.7	12	7.9	8.6	3.8	.90	3.1
24	.19	1.7	1.2	.75	1.4	1.5	20	13	8.4	3.9	.80	3.5
25	.30	1.6	1.5	.80	1.5	1.2	15	11	8.2	3.5	.56	2.6
26	.36	1.6	1.5	.70	1.4	1.1	13	10	8.2	3.3	.60	4.1
27	.48	1.7	1.4	.80	1.3	1.2	12	9.4	8.1	3.3	.52	3.5
28	.48	1.6	1.3	1.0	1.3	3.3	12	9.4	8.2	3.3	.45	3.2
29	.56	1.6	1.2	.95	-----	1.5	11	9.0	140	3.3	.45	3.3
30	.60	1.7	1.1	1.1	-----	26	11	8.8	9.6	3.5	.45	3.3
31	.65	-----	1.1	1.4	-----	5.6	-----	16	-----	2.9	.48	-----
TOTAL	6.41	33.15	45.5	32.70	46.7	93.8	253.7	390.2	422.9	156.0	42.21	293.57
MEAN	.21	1.11	1.47	1.05	1.67	3.03	8.46	12.6	14.1	5.03	1.36	9.79
MAX	.65	1.7	1.9	1.4	2.0	26	39	79	140	9.2	2.4	116
MIN	.05	.70	1.1	.70	1.1	1.1	1.3	8.8	8.1	2.9	.45	.33
AC=FT	13	66	90	65	93	186	503	774	839	309	84	582
CAL YR 1972	TOTAL	791.84	MEAN	2.16	MAX	43	MIN	.05	AC=FT	1,570		
WTR YR 1973	TOTAL	1,816.84	MEAN	4.98	MAX	140	MIN	.05	AC=FT	3,600		

RED RIVER BASIN

07324000 SANDSTONE CREEK SUBWATERSHED NO. 1 (WILDCAT CREEK) NEAR CHEYENNE, OKLA.

LOCATION.--Lat 35°34'00", long 99°30'10", on east line of NE 1/4 NE 1/4 sec.35, T.13 N., R.22 W., Roger Mills County, near center of upstream side of dam on Wildcat Creek, 3 mi (4.8 km) southeast of Herring and 9.5 mi (15.3 km) southeast of Cheyenne.

DRAINAGE AREA.--5.33 sq mi (13.80 sq km).

PERIOD OF RECORD.--October 1951 to current year. Prior to October 1960 monthly discharge and contents only, published in WSP 1731.

GAGE.--Water-stage recorder and recording rain gage. Datum of gage is 1,777.20 ft (541.691 m) above mean sea level (U.S. Soil Conservation Service bench mark).

AVERAGE DISCHARGE.--22 years, .063 cfs (0.002 cu m/s) 46 acre-ft/yr (56,700 cu m/yr).

EXTREMES.--Current year: No outflow; maximum gage height 68.04 ft (20.739 m) Sept. 4; maximum inflow, 767 cfs (21.7 cu m/s) average for 5-minute interval, June 29, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.
Period of record: Maximum outflow, 12 cfs (0.34 cu m/s) May 26, 1959, gage height, 81.00 ft (24.689 m); no outflow most of time. Maximum inflow known, 4,280 cfs (121 cu m/s), average for 5-minute interval Apr. 18, 1957, computed from outflow and change in reservoir contents, adjusted for rainfall on reservoir surface during time of peak inflow.

REMARKS.--Records good. Records of discharge are outflow from reservoir, determined from stage-discharge relation for outlet structure. Reservoir is formed by earth dam; storage began in May 1951. Outlet structure is an encasement of trash racks and retaining wall connected to an 18-inch (0.46 m) concrete pipe with invert at gage height 78.38 ft (23.890 m). There is a 6-inch (0.15 m) diameter iron drain pipe with control gate valve in face of dam. Crest of emergency earthen spillway is at gage height 87.0 ft (26.52 m). Original capacity at crest of emergency spillway, 1,557 acre-ft (1.92 cu hm) and at outlet pipe, 730 acre-ft (900,000 cu m). Storage data given herein are based on capacity curve interpolated successively for each period of storm runoff based on periodic surveys.

COOPERATION.--Elevations and contents furnished by Soil Conservation Service.

POOL WATER BUDGET, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Inflow ^{1/}												
Outflow	0	0	0	0	0	0	0	0	0	0	0	0
(†)	6.1	5.5	4.7	3.6	2.9	7.7	6.6	6.5	48.6	19.8	7.5	49.5
(††)	2.26	1.50	0.74	1.28	0.78	5.52	3.14	2.98	4.84	1.20	1.60	7.10
CAL YR 1972: Inflow			Outflow	0	†† 17.12							
WTR YR 1973: Inflow			Outflow	0	†† 32.94							

^{1/} Inflow adjusted for rainfall on pool and pool losses (withheld).

† Contents, in acre-feet, at end of month.

†† Precipitation, in inches, during month at rain gage 1 R., 2.7 miles south of dam.

RED RIVER BASIN

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07324200 WASHITA RIVER NEAR HAMMON, OKLA.

LOCATION.--Lat 35°39'23", long 99°18'21", on west line of sec.26, T.14 N., R.20 W., Custer County, on right bank near county road bridge, 2.2 mi (3.5 km) downstream from Quartermaster Creek, 4.7 mi (7.6 km) northeast of Hammon, and at mile 494.5 (795.7 km).

DRAINAGE AREA.--1,387 sq mi (3,592 sq km).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,643.22 ft (500.853 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 776 cfs (22.0 cu m/s) May 23, gage height, 12.15 ft (3.703 m); no flow Oct. 1 to Mar. 29, Aug. 16 to Sept. 3.

Period of record: Maximum discharge, 2,540 cfs (71.9 cu m/s) April 18, 1970, gage height, 19.23 ft (5.861 m), from rating curve extended above 500 cfs (14.2 cu m/s) on basis of slope-area measurement of peak flow; no flow at times

REMARKS.--Records good. Some regulation by numerous flood-retarding structures. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	54	82	136	27	.18	0
2						0	39	106	223	18	.14	0
3						0	36	157	151	12	.10	0
4						0	36	149	97	9.2	.32	6.0
5						0	27	164	70	8.2	.18	143
6						0	21	123	52	6.0	.12	87
7						0	19	94	42	4.8	.10	70
8						0	18	80	36	3.3	.08	60
9						0	23	73	32	2.4	.06	43
10						0	27	60	26	2.0	.06	35
11						0	26	54	22	1.8	.04	19
12						0	24	51	19	1.7	.04	10
13						0	27	47	18	1.5	.04	18
14						0	49	46	16	1.3	.02	10
15						0	227	46	15	1.4	.01	4.7
16						0	239	47	12	1.3	0	3.5
17						0	90	41	11	.70	0	21
18						0	64	40	8.6	.45	0	38
19						0	64	36	6.2	.38	0	7.5
20						0	90	32	2.9	.30	0	2.4
21						0	111	33	8.4	.25	0	1.8
22						0	96	35	5.8	.20	0	.68
23						0	94	484	5.0	.62	0	.38
24						0	89	333	4.2	18	0	.32
25						0	94	222	3.1	12	0	.26
26						0	120	149	3.1	4.0	0	3.0
27						0	87	112	2.8	2.3	0	14
28						0	87	86	2.8	1.7	0	5.0
29					-----	0	84	69	13	1.2	0	2.0
30					-----	61	69	53	154	.40	0	3.0
31		-----			-----	83	-----	131	-----	.20	0	-----
TOTAL	0	0	0	0	0	144	2,131	3,235	1,197.9	144.60	1.49	608.54
MEAN	0	0	0	0	0	4.65	71.0	104	39.9	4.66	.048	20.3
MAX	0	0	0	0	0	83	239	484	223	27	.32	143
MIN	0	0	0	0	0	0	18	32	2.8	.20	0	0
AC=FT	0	0	0	0	0	286	4,230	6,420	2,380	287	3.0	1,210
CAL YR 1972	TOTAL	173.16	MEAN	.47	MAX	61	MIN	0	AC=FT	343		
WTR YR 1973	TOTAL	7,462.53	MEAN	20.4	MAX	484	MIN	0	AC=FT	14,800		

PEAK DISCHARGE (BASE, 1,500 CFS).--No peak above base.

RED RIVER BASIN

07324300 FOSS RESERVOIR NEAR FOSS, OKLA.

LOCATION.--Lat 35°32'18", long 99°10'40", in S 1/2 sec.2, T.12 N., R.19 W., Custer County, near right end of dam on Washita River, 0.5 mi (0.8 km) upstream from Oak Creek, 3.5 mi (5.6 km) west of Stafford, 6.0 mi (9.7 km) north of Foss, and at mile 474.4 (763.3 km).

DRAINAGE AREA.--1,496 sq mi (3,875 sq km).

PERIOD OF RECORD.--February 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to October 1961, nonrecording gage at same site and datum.

EXTREMES.--Current year. Maximum contents, 106,800 acre-ft (132 cu hm) June 30, elevation 1,629.60 ft (496.702 m); minimum, 88,700 acre-ft (109 cu hm) Oct. 19, elevation 1,625.60 ft (495.483 m).

Period of record: Maximum contents, 121,800 acre-ft (150 cu hm) May 30, 1970, elevation, 1,632.60 ft (497.616 m).

REMARKS.--Reservoir is formed by an earth dam. Storage began Feb. 13, 1961. Capacity, 436,500 acre-ft (538 cu hm) at elevation 1,668.6 ft (508.59 m) crest of drop inlet and 256,100 acre-ft (316 cu hm) at elevation 1,652.0 ft (503.530 m) conservation pool. Dead storage, 12,420 acre-ft (15.3 cu hm) below elevation 1,597.2 ft (486.83 m) sill of gated outlet. Figures given herein represent total contents. Reservoir is designed for flood control, municipal water supply (inactive), and irrigation release. Revised capacity table used after Sept. 30, 1964. Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Elevations and data on diversions furnished by Foss Reservoir Master Conservancy District.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR 1972 TO SEPTEMBER 1973

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1,626.20	91,300	--
Oct. 31.....	1,625.90	90,000	-1,300
Nov. 30.....	1,625.80	89,600	-400
Dec. 31.....	1,628.50	101,700	+12,100
CAL YR 1972.....	--	--	+500
Jan. 31.....	1,626.00	90,500	-11,200
Feb. 28.....	1,626.00	90,500	0
Mar. 31.....	1,626.90	94,400	+3,900
Apr. 30.....	1,628.10	99,800	+5,400
May 31.....	1,629.30	105,400	+5,600
June 30.....	1,629.60	106,800	+1,400
July 31.....	1,629.20	104,900	-1,900
Aug. 31.....	1,628.50	101,700	-3,200
Sept. 30.....	1,628.80	103,100	+1,400
WTR YR 1973.....	--	--	+11,800

†Elevation at 0800 on following day.

RED RIVER BASIN

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07324400 WASHITA RIVER NEAR FOSS, OKLA.

LOCATION.--Lat 35°32'20", long 99°10'10", in SW 1/4 SW 1/4 sec.1, T.12 N., R.19 W., Custer County, on left bank on downstream side of pile bent of county road bridge, 0.4 mi (0.6 km) downstream from Oak Creek, 0.9 mi (1.4 km) downstream from Foss Dam, 2.5 mi (4.0 km) west of Stafford, 6.0 mi (9.7 km) north of Foss, and at mile 473.5 (761.9 km).

DRAINAGE AREA.--1,511 sq mi (4,017 sq km).

PERIOD OF RECORD.--March 1956 to April 1957, February to December 1958, July 1961 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,560 ft (475.5 m) from preliminary survey by Topographic Division.

AVERAGE DISCHARGE.--12 years (1961-73), 8.64 cfs (0.245 cu m/s), 6,260 acre-ft/yr (7.72 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 2,000 cfs (56.6 cu m/s) Mar. 30, gage height, 18.57 ft (5.660 m); minimum daily, 0.27 cfs (0.008 cu m/s) Oct. 12, 13.

Period of record: Maximum discharge, 14,000 cfs (397 cu m/s) Apr. 19, 1957, gage height, 20.40 ft (6.218 m), from rating curve extended above 3,600 cfs (102 cu m/s) on basis of velocity-area study; no flow at times in 1956.

Flood in May 1959 reached a stage of 23.4 ft (7.13 m), from floodmark.

REMARKS.--Records fair. Except for 55 sq mi (1,425 sq km) intervening area, flow completely regulated since 1961 by Foss Reservoir (see sta. 07324300).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	2.1	2.3	2.0	4.9	4.1	54	18	18	29	3.3	.75
2	.41	1.2	1.8	1.9	3.8	3.9	35	18	103	16	3.3	.75
3	.43	.98	2.0	2.8	3.4	3.6	41	17	32	12	2.7	.75
4	.45	1.1	1.5	2.1	3.2	3.4	30	17	18	9.7	3.2	80
5	.40	.98	1.8	1.9	3.7	4.0	25	16	16	8.5	3.3	93
6	.36	.83	1.7	1.7	3.6	4.1	23	16	13	7.5	2.5	38
7	.34	.74	1.8	1.6	3.7	3.4	22	16	12	7.0	2.9	35
8	.47	.78	1.8	2.3	3.5	6.7	22	15	10	6.4	3.1	26
9	.42	.82	1.8	1.8	3.6	7.0	20	15	10	6.1	3.1	11
10	.38	.79	1.7	2.0	3.7	24	19	14	9.9	5.9	2.9	10
11	.31	.93	1.7	1.9	3.6	11	17	12	9.7	5.7	2.6	12
12	.27	.97	1.8	1.8	3.6	6.7	16	11	8.9	5.2	2.2	7.7
13	.27	1.6	1.8	1.9	3.8	6.9	36	11	8.3	5.2	2.0	14
14	.28	1.2	1.8	2.3	3.9	5.8	31	11	8.7	5.1	4.4	9.7
15	.33	1.3	2.0	2.4	3.9	5.4	60	10	11	4.8	10	7.3
16	.35	1.3	1.8	2.7	3.9	5.1	106	10	154	4.3	9.6	6.7
17	.40	1.6	1.8	3.2	3.9	7.3	60	9.6	48	4.2	8.7	22
18	.38	2.7	2.9	2.6	3.7	5.0	41	9.3	24	3.9	7.1	11
19	.42	3.1	6.3	1.8	3.7	5.5	35	8.8	22	3.5	7.0	9.3
20	.90	2.6	5.7	2.0	3.7	5.5	29	8.4	22	3.2	5.3	7.7
21	2.9	2.9	2.7	3.4	3.9	5.5	24	9.3	18	3.4	.64	6.9
22	1.6	2.6	1.9	4.3	4.2	5.5	23	8.7	10	5.0	.58	7.1
23	.95	2.5	1.8	3.3	4.7	6.3	22	160	9.0	4.9	.51	5.6
24	.91	2.8	1.8	2.7	4.3	23	22	17	7.6	4.3	.42	4.9
25	.98	3.0	1.7	2.6	4.4	10	24	15	7.2	3.9	.36	5.2
26	.98	2.9	1.7	2.9	4.2	7.3	24	14	7.2	3.6	.33	20
27	.99	3.0	1.6	2.9	4.2	6.5	23	14	7.3	3.8	.40	15
28	.97	3.1	1.6	2.7	4.3	29	23	14	7.4	3.8	.35	11
29	1.1	3.1	1.6	3.1	-----	33	22	14	44	3.6	2.0	8.3
30	3.3	6.0	1.6	3.2	-----	630	20	14	59	3.5	.89	7.7
31	3.8	-----	1.5	3.4	-----	174	-----	28	-----	3.5	.89	-----
TOTAL	26.56	59.52	65.3	77.2	109.0	1,058.5	949	571.1	735.2	196.5	96.57	494.35
MEAN	.86	1.98	2.11	2.49	3.89	34.1	31.6	18.4	24.5	6.34	3.12	16.5
MAX	3.8	6.0	6.3	4.3	4.9	630	106	160	154	29	10	93
MIN	.27	.74	1.5	1.6	3.2	3.4	16	8.4	7.2	3.2	.33	.75
AC-FT	53	118	130	153	216	2,100	1,880	1,130	1,460	390	192	981

CAL YR 1972 TOTAL 3,679.27 MEAN 10.1 MAX 483 MIN .27 AC-FT 7,300
WTR YR 1973 TOTAL 4,438.80 MEAN 12.2 MAX 630 MIN .27 AC-FT 8,800

LOCATION.--Lat 35°31'52", long 98°57'57", in SW 1/4 NE 1/4 sec.11, T.12 N., R.17 W., Custer County, within channel on downstream side of pier of bridge on U.S. Highway 183, 0.5 mi (0.8 km) north of Clinton, 0.8 mi (1.3 km) upstream from Beaver Creek, 4.8 mi (7.7 km) downstream from Barnitz Creek, and at mile 447.4 (719.9 km).

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

Period of record: Maximum discharge, 66,800 cfs (1,890 cu m/s) May 16, 1951, gage height, 31.09 ft (9.476 m), from rating curve extended above 7,900 cfs (224 cu m/s) by contracted-opening measurement of peak flow; no flow at times in 1952-56, 1964, 1966.

REVISIONS. --WSP 1211: Drainage area.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	15	7.3	7.1	12	13	698	58	143	80	7.0	7.5
2	1.8	8.6	8.5	7.1	11	14	362	60	480	56	6.0	7.5
3	1.6	6.2	6.9	7.8	11	13	291	52	499	41	6.0	6.7
4	2.0	5.3	6.2	9.2	10	13	250	48	251	32	5.0	194
5	2.4	5.1	5.9	8.2	10	13	194	48	157	28	8.0	263
6	1.9	4.7	5.8	6.5	10	15	167	49	104	26	7.0	251
7	2.0	4.4	5.6	6.0	10	13	149	51	79	23	6.0	223
8	2.5	4.2	5.4	6.5	8.4	25	143	45	66	22	6.0	150
9	2.4	4.4	5.2	6.0	8.2	27	149	43	58	22	6.0	85
10	2.3	4.2	5.0	6.0	11	116	144	42	51	22	5.0	51
11	2.1	4.0	5.8	6.0	12	112	143	42	47	21	5.0	41
12	2.0	4.9	6.4	6.0	11	54	142	39	44	20	5.0	37
13	1.8	5.4	7.2	7.0	11	35	146	38	39	19	5.0	38
14	2.1	5.4	7.8	8.0	11	32	155	38	38	42	5.0	49
15	2.4	5.4	8.2	10	11	32	183	38	37	38	4.6	40
16	2.7	5.3	8.0	12	11	25	288	37	61	25	9.6	35
17	3.0	5.3	8.0	14	11	23	195	36	109	23	9.2	50
18	3.5	6.2	9.0	15	12	22	164	35	57	22	11	60
19	3.5	6.7	10	13	12	22	130	35	96	21	11	42
20	3.7	7.1	11	11	12	21	140	33	52	20	12	37
21	6.4	7.3	12	12	12	20	110	34	46	19	11	29
22	8.0	7.1	11	15	13	19	90	35	40	20	6.8	34
23	5.2	6.9	11	14	14	19	80	522	37	24	5.2	26
24	3.8	7.1	11	13	14	21	75	289	38	37	5.4	24
25	4.4	7.3	9.4	12	14	27	75	115	33	31	5.3	27
26	4.1	7.3	8.2	12	13	27	70	81	30	19	5.3	71
27	4.0	7.1	7.8	11	13	26	65	65	29	13	5.3	65
28	4.4	6.9	7.6	8.0	13	47	65	73	29	10	5.2	49
29	4.5	6.7	7.6	8.0	-----	43	60	53	32	9.0	7.6	39
30	6.5	6.9	7.8	9.0	-----	573	60	46	88	8.0	7.7	30
31	12	-----	7.6	11	-----	1,990	-----	125	-----	7.0	7.7	-----
TOTAL	111.3	188.4	244.2	297.4	321.6	3,452	4,983	2,305	2,870	800.0	211.9	2,061.7
MEAN	3.59	6.28	7.88	9.59	11.5	111	166	74.4	95.7	25.8	6.84	68.7
MAX	12	15	12	15	14	1,990	698	522	499	80	12	263
MIN	1.6	4.0	5.0	6.0	8.2	13	60	33	29	7.0	4.6	6.7
AC=FT	221	374	484	590	638	6,850	9,880	4,570	5,690	1,590	420	4,090

CAL YR 1972	TOTAL	8,754.3	MEAN	23.9	MAX	1,100	MIN	1.5	AC-FT	17,360
WTR YR 1973	TOTAL	17,846.5	MEAN	48.9	MAX	1,990	MIN	1.6	AC-FT	35,400

RED RIVER BASIN

151

07325500 WASHITA RIVER AT CARNEGIE, OKLA.

LOCATION.--Lat 35°07'02", long 98°33'49", in NW 1/4 NW 1/4 sec.3, T.7 N., R.13 W., Caddo County, on downstream side of right pier of bridge on State Highway 9, 1,300 ft (396.2 m) upstream from Running Creek, 2.7 mi (4.3 km) east of Carnegie, and at mile 353.9 (569.4 km). Records include flow of Running Creek.

DRAINAGE AREA.--3,129 sq mi (8,104 sq km), includes that of Running Creek.

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,249.23 ft (380.765 m) above mean sea level. Prior to October 1942, water-stage recorder at site 8.0 mi (12.9 km) upstream at datum 24.57 ft (7.489 m) higher.

AVERAGE DISCHARGE.--36 years, 277 cfs (7.845 cu m/s), 200,700 acre-ft/yr (247 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 5,240 cfs (148 cu m/s) Apr. 1, gage height, 19.52 ft (5.950 m); minimum, 8.0 cfs (0.23 cu m/s) Oct. 18, 20.

Period of record: Maximum discharge, 50,000 cfs (1,420 cu m/s) May 18, 1949, gage height, 26.21 ft (7.989 m), from rating curve extended above 35,500 cfs (1,010 cu m/s) on basis of contracted-opening measurement of peak flow; no flow at times in 1956 and 1964.

Flood of May 23, 1903, reached a stage of about 29 ft (8.8 m) at former site and datum, from information by local resident; flood of May 18, 1949, reached a stage of 20.9 ft (6.37 m), from floodmark, at that site and datum.

REMARKS.--Records good. Some diversion above station for irrigation. October 1942 to May 1949, occasional fluctuation caused by power plant at Carnegie, 7.5 mi (12.1 km) above station. Some regulation by Foss Reservoir since February 1961 (see sta. 07324300), and by numerous flood-retarding structures. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

REVISIONS (WATER YEARS).--WSP 1087: 1938. WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	765	38	39	162	57	5,120	321	1,080	158	559	32
2	16	810	37	39	142	57	3,860	296	1,160	120	201	36
3	16	302	36	62	121	57	2,200	269	3,140	107	109	30
4	16	119	34	69	103	59	1,910	257	2,340	102	95	32
5	15	82	33	62	89	57	1,420	240	1,160	86	86	2,090
6	16	63	32	56	82	67	1,030	237	835	76	80	2,160
7	16	56	31	52	78	458	800	230	604	71	71	1,670
8	14	45	30	50	74	155	708	219	473	69	62	1,990
9	14	44	29	45	67	814	693	207	383	65	56	1,520
10	14	42	30	46	68	1,570	612	194	313	66	46	922
11	13	42	32	46	69	3,180	556	183	264	140	40	697
12	12	42	34	44	68	2,610	485	166	230	78	37	571
13	12	42	35	43	68	795	464	156	205	70	35	1,020
14	11	42	35	39	67	638	813	151	191	64	34	1,780
15	11	42	37	36	68	485	1,010	147	173	177	32	919
16	11	42	37	38	66	356	3,020	143	158	188	32	550
17	9.2	43	36	95	66	290	3,650	137	393	177	32	415
18	8.8	36	35	226	66	237	1,730	130	236	99	27	395
19	8.8	37	36	126	67	196	1,130	121	281	82	26	411
20	9.2	41	40	89	66	159	912	116	211	73	27	298
21	22	37	46	750	64	131	782	163	250	428	25	239
22	25	40	51	1,500	61	112	679	236	194	407	24	190
23	27	47	47	2,000	61	105	550	361	169	228	23	156
24	39	51	45	900	61	112	514	647	149	369	24	136
25	33	53	45	600	61	125	906	683	137	194	22	119
26	29	49	44	550	61	125	764	454	128	113	19	250
27	26	50	41	600	60	121	556	287	123	100	21	1,990
28	24	50	40	300	58	424	455	223	117	85	20	2,290
29	23	43	40	210	-----	541	404	195	117	78	27	968
30	25	38	45	199	-----	2,520	356	177	118	76	68	524
31	142	-----	40	169	-----	4,680	-----	643	-----	87	43	-----
TOTAL	676.0	3,195	1,171	9,080	2,144	21,293	38,089	7,989	15,332	4,233	2,003	24,400
MEAN	21.8	107	37.8	293	76.6	687	1,270	258	511	137	64.6	813
MAX	142	810	51	2,000	162	4,680	5,120	683	3,140	428	559	2,290
MIN	8.8	36	29	36	58	57	356	116	117	64	19	30
AC-FT	1,340	6,340	2,320	18,010	4,250	42,230	75,550	15,850	30,410	8,400	3,970	48,400
CAL YR 1972	TOTAL	30,747.9	MEAN	84.0	MAX	1,580	MIN	4.9	AC-FT	60,990		
WTR YR 1973	TOTAL	129,605.0	MEAN	355	MAX	5,120	MIN	8.8	AC-FT	257,100		

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
3-12	0045	15.46	3,630	6-03	1500	14.78	3,370
4-01	1100	19.52	5,240	9-05	2245	13.89	3,230
4-17	1130	16.40	4,010				

RED RIVER BASIN

07325800 COBB CREEK NEAR EAKLY, OKLA.

LOCATION.--Lat 35°17'26", long 98°35'38", in NW 1/4 NE 1/4 sec.5, T.9 N., R.13 W., Caddo County, near right abutment of bridge on downstream side of State Highway 152, 0.5 mi (0.8 km) downstream from Fivemile Creek, 2.4 mi (3.9 km) southwest of Eakly, 2.5 mi (4.0 km) upstream from Fort Cobb Reservoir, and at mile 22.9 (36.8 km).

DRAINAGE AREA.--132 sq mi (342 sq km).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,369.70 ft (417.485 m) above mean sea level.

AVERAGE DISCHARGE.--5 years, 18.9 cfs (0.535 cu m/s), 13,690 acre-ft/yr (16.9 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 2,520 cfs (71.4 cu m/s) Mar. 30, gage height, 17.04 ft (5.194 m); minimum, 1.4 cfs (0.040 cu m/s) Aug. 23, 24, 28.

Period of record: Maximum discharge, 2,520 cfs (71.4 cu m/s) Mar. 30, 1973, gage height, 17.04 ft (5.194 m); from rating curve extended above 500 cfs (14.2 cu m/s); no flow at times in most years.

REMARKS.--Records good. Minor regulation by three small reservoirs having combined surface-area 262 acres (1.06 sq km) and capacity of 3,100 acre-feet (3.82 cu hm).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	20	8.3	7.8	15	9.0	302	19	71	7.6	20	3.1
2	1.9	10	8.4	7.8	14	15	195	19	569	5.8	13	16
3	1.8	7.5	8.5	19	10	12	157	18	370	5.7	11	18
4	2.2	6.8	8.2	19	8.9	70	61	17	254	5.3	10	31
5	1.8	6.5	6.2	12	8.7	30	37	17	123	4.7	9.1	47
6	1.6	6.1	6.6	11	8.3	200	30	18	47	4.4	8.2	41
7	2.8	6.3	6.8	9.3	8.5	50	24	19	35	4.4	8.0	22
8	2.5	6.9	6.3	7.8	9.5	200	20	18	29	3.1	7.1	25
9	2.4	7.0	5.6	7.8	5.0	100	30	17	25	3.3	6.3	8.8
10	2.3	7.9	5.9	7.8	5.7	450	24	16	21	5.7	6.2	10
11	2.2	8.3	6.7	8.0	7.4	250	20	16	19	7.6	5.7	9.5
12	2.1	9.1	7.0	9.0	8.5	110	19	15	18	6.8	5.3	8.4
13	2.3	15	7.3	10	7.2	76	131	14	17	6.8	4.9	449
14	2.1	8.4	6.3	13	6.2	49	45	13	16	7.0	4.4	119
15	2.0	5.5	7.0	16	5.2	25	569	10	16	6.8	4.2	35
16	2.5	5.0	6.6	20	6.3	18	338	13	17	6.5	6.0	19
17	2.3	4.6	6.3	24	9.5	14	138	11	15	6.5	6.2	12
18	2.4	5.2	6.7	16	12	11	73	11	13	6.1	5.2	8.8
19	2.6	6.1	10	11	11	9.7	49	12	14	5.9	5.1	7.2
20	3.5	5.9	8.8	12	9.5	9.2	33	8.9	16	10	4.1	7.0
21	7.5	5.8	8.3	100	8.8	8.1	31	8.4	16	29	6.3	6.5
22	8.8	6.7	7.6	54	11	7.5	28	9.6	13	16	4.4	4.8
23	6.5	7.0	7.5	30	17	7.3	27	92	10	22	1.9	4.5
24	6.6	8.1	8.3	15	14	12	28	66	9.0	10	1.5	4.5
25	6.8	11	7.5	12	11	19	24	34	8.5	7.4	1.6	4.5
26	6.7	9.5	7.6	10	9.7	12	19	26	8.7	8.2	2.8	113
27	6.7	9.8	7.3	24	9.0	9.7	18	27	8.6	11	2.9	82
28	6.2	7.2	7.6	14	8.2	99	18	33	8.0	19	1.9	32
29	6.2	8.9	8.1	11	-----	46	19	29	7.1	26	3.3	26
30	9.1	8.4	9.0	10	-----	1,130	20	21	7.8	30	3.3	20
31	18	-----	9.1	10	-----	422	-----	138	-----	39	3.1	-----
TOTAL	134.5	240.5	231.4	538.3	265.1	3,480.5	2,527	785.9	1,801.7	337.6	183.0	1,194.6
MEAN	4.34	8.02	7.46	17.4	9.47	112	84.2	25.4	60.1	10.9	5.90	39.8
MAX	18	20	10	100	17	1,130	569	138	569	39	20	449
MIN	1.6	4.6	5.6	7.8	5.0	7.3	18	8.4	7.1	3.1	1.5	3.1
AC-FT	267	477	459	1,070	526	6,900	5,010	1,560	3,570	670	363	2,370

CAL YR 1972 TOTAL 3,143.70 MEAN 8.59 MAX 186 MIN .24 AC-FT 6,240
WTR YR 1973 TOTAL 11,720.10 MEAN 32.1 MAX 1,130 MIN 1.5 AC-FT 23,250

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
3-30	1715	17.04	2,520	6-2	1000	10.44	910
4-15	1545	13.39	1,500	9-13	abt1000	88.93	669

^aFrom floodmark.

RED RIVER BASIN

153

07325850 LAKE CREEK NEAR EAKLY, OKLA.

LOCATION.--Lat 35°17'27", long 98°31'44", in NE 1/4 NW 1/4 sec.1, T.9 N., R.13 W., Caddo County, on downstream side of bridge on State Highway 152, 1.2 mi (1.9 km) upstream from Fort Cobb Reservoir, 2.0 mi (3.2 km) southeast of Eakly, and at mile 4.2 (6.8 km).

DRAINAGE AREA.--52.0 sq mi (134.7 sq km).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,365.47 ft (416.195 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 902 cfs (25.5 cu m/s) Mar. 30, gage hieght, 11.64 ft (3.548 m); no flow at times.

Period of record: Maximum discharge, 907 cfs (25.5 cu m/s) Mar. 30, 1973, gage height 11.64 ft (3.548 m); from rating curve extended above 200 cfs (5.66 cu m/s); no flow at times each year.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.0	1.4	2.5	10	4.9	52	3.5	21	.14	0	0
2	0	.33	1.4	2.9	3.9	6.4	41	2.7	148	.10	0	0
3	0	.16	1.4	16	2.5	5.6	54	2.9	38	.10	0	0
4	0	.14	.97	7.9	2.4	27	20	3.1	15	.08	0	0
5	0	.14	.80	1.8	2.1	12	12	2.9	7.9	.08	0	0
6	0	.12	.75	1.4	2.0	84	10	4.3	5.6	.08	0	0
7	0	.09	.70	1.2	2.6	18	7.9	3.4	4.7	.06	0	0
8	0	.11	.65	1.0	1.2	83	15	2.8	2.4	.02	0	1.9
9	0	.11	.60	1.0	1.8	40	14	2.8	1.8	.02	0	8.8
10	0	.11	.60	1.0	2.0	185	7.9	3.1	1.2	1.5	0	8.2
11	0	.13	.60	1.1	2.5	44	7.4	2.7	.80	.35	0	7.0
12	0	.27	.55	1.2	2.7	14	7.1	1.9	.60	.08	0	6.1
13	0	1.4	.55	1.3	2.2	12	23	1.9	1.0	.06	0	3.9
14	0	.45	.55	2.1	1.8	7.1	12	2.0	1.1	.09	0	.81
15	0	.35	.55	5.0	1.6	3.9	151	2.1	1.1	.21	0	.65
16	0	.35	.68	12	1.9	3.2	66	1.8	.50	.09	0	.65
17	0	.33	.60	13	2.7	2.6	20	1.2	.60	.07	0	2.0
18	0	.91	.60	6.3	4.4	2.6	12	1.1	.60	.04	.02	3.4
19	0	.94	.60	4.0	4.1	2.6	14	.95	2.8	.01	0	.86
20	0	.69	.55	3.8	3.4	1.9	7.1	.66	1.7	0	0	.34
21	.21	.83	.55	64	3.2	1.8	5.9	.81	.60	.06	0	.20
22	.18	1.2	.55	37	3.6	1.9	5.2	.76	.50	.07	0	.18
23	0	1.2	.55	6.4	7.3	2.9	4.8	17	.40	1.0	0	.16
24	0	1.9	2.3	4.2	5.1	21	5.5	4.7	.25	3.4	0	.15
25	0	3.4	2.2	3.8	4.2	31	5.1	2.6	.18	1.1	0	.16
26	0	2.2	2.1	9.5	3.8	11	5.0	1.9	.12	.04	0	36
27	0	1.7	2.3	5.6	3.6	9.0	4.3	1.2	.12	0	0	24
28	0	1.4	2.5	2.6	3.7	37	3.7	.65	.25	0	0	3.1
29	.03	1.3	3.1	1.8	-----	14	3.3	.61	.20	0	0	1.0
30	.37	1.4	4.6	2.4	-----	330	3.2	.60	.18	.01	0	.42
31	2.4	-----	3.0	2.7	-----	125	-----	64	-----	.04	0	-----
TOTAL	3.19	25.66	38.85	226.5	92.3	1,144.4	599.4	142.64	259.20	8.90	.02	109.98
MEAN	.10	.86	1.25	7.31	3.30	36.9	20.0	4.60	8.64	.29	.0006	3.67
MAX	2.4	3.4	4.6	64	10	330	151	64	148	3.4	.02	36
MIN	0	.09	.55	1.0	1.2	1.8	3.2	.60	.12	0	0	0
AC=FT	6.3	51	77	449	183	2,270	1,190	283	514	18	.04	218

CAL YR 1972 TOTAL 657.70 MEAN 1.80 MAX 97 MIN 0 AC=FT 1,300
WTR YR 1973 TOTAL 2,651.04 MEAN 7.26 MAX 330 MIN 0 AC=FT 5,260

PEAK DISCHARGE (BASE, 250 CFS)

DATE	TIME	G.H.T.	DISCHARGE
3-10	1030	9.57	347
3-30	1815	11.64	902
4-15	1715	10.06	399

RED RIVER BASIN

07325860 WILLOW CREEK NEAR ALBERT, OKLA.

LOCATION.--Lat 35°14'00", long 98°27'57", in NE 1/4 NW 1/4 sec.28, T.9 N., R.12 W., Caddo County, at County road bridge 3.1 mi (5.0 km) west of Albert, 5.2 mi (8.4 km) above Fort Cobb Dam, and at mile 2.4 (3.9 km).

DRAINAGE AREA.--28.9 sq mi (72.5 sq km).

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,340.00 ft (408.432 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 732 cfs (20.7 cu m/s) Mar. 30, gage height 7.44 ft (2.268 m); no flow Oct. 10-12.

Period of record: Maximum discharge, 732 cfs (20.7 cu m/s) Mar. 30, 1973, gage height, 7.44 ft (2.268 m) from rating curve extended above 10 cfs (0.28 cu m/s) on basis of computed flow at times each year.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	1.9	.94	1.4	5.0	2.7	7.5	3.1	3.3	1.1	.64	.15
2	.06	.54	.88	1.4	2.6	2.6	7.0	3.0	36	.95	.58	.24
3	.07	.34	.81	9.4	2.7	2.8	11	3.0	4.5	.89	.54	.10
4	.06	.31	.78	2.8	2.7	3.4	5.1	2.9	2.1	1.1	.48	.06
5	.06	.28	.70	2.0	2.5	2.6	4.1	3.0	1.8	1.0	.48	.45
6	.02	.26	.41	1.8	2.3	36	3.9	2.8	1.7	.92	.41	2.0
7	.03	.34	.48	1.9	2.6	4.2	4.5	1.9	1.6	.69	.53	2.0
8	.02	.30	.64	1.1	2.3	8.8	6.6	1.7	1.5	.68	.89	6.6
9	.01	.34	.58	.98	2.3	4.9	4.8	1.7	1.5	.70	1.4	1.4
10	0	.30	.52	.90	2.4	70	3.6	1.6	1.4	1.1	.49	.95
11	0	.34	.54	.69	2.4	7.5	3.5	1.5	1.3	1.3	.57	.84
12	0	.50	.58	.74	2.4	4.3	3.3	1.5	1.2	1.0	.42	2.6
13	.01	2.2	.54	.80	2.2	4.3	12	1.5	1.1	.97	.34	4.2
14	.03	.62	.76	.72	2.1	3.7	4.6	1.5	1.1	9.7	.31	1.1
15	.03	.66	1.0	.64	2.1	3.1	105	1.5	1.0	4.3	.29	.97
16	.10	.60	1.0	.80	2.1	2.9	16	1.5	.92	1.2	.79	.97
17	.09	.60	1.2	1.0	2.2	2.9	6.2	1.5	.87	1.0	.49	8.5
18	.09	.83	1.5	1.3	2.5	2.8	4.8	1.5	45	.90	.55	1.8
19	.15	1.0	1.7	1.6	2.4	2.7	18	1.5	23	.77	.25	1.4
20	.32	.79	1.4	2.1	2.3	2.5	5.5	1.4	3.4	.70	.12	1.1
21	.72	.81	1.3	35	2.2	2.5	3.8	1.4	2.2	1.4	.07	.84
22	1.2	.84	1.2	20	2.5	2.5	3.3	1.4	1.9	.80	.10	.91
23	.44	.82	1.2	6.0	3.3	3.1	3.2	3.4	1.6	.83	.15	.83
24	.36	1.0	1.1	2.5	2.5	24	3.6	1.7	1.4	.74	.08	.70
25	.38	1.1	1.1	2.1	2.5	10	3.2	1.5	1.3	.67	.04	.69
26	.41	.91	1.1	5.0	2.4	4.4	3.2	1.5	1.3	.72	.05	18
27	.46	.88	1.1	3.5	2.4	6.2	3.5	1.3	1.1	.64	.06	5.2
28	.50	.81	1.2	1.8	2.5	25	3.4	1.3	1.2	.61	.03	2.0
29	.50	.88	3.1	1.0	-----	4.9	3.4	1.3	1.4	.70	.08	1.7
30	.75	1.1	4.8	1.3	-----	240	3.3	1.4	1.2	.81	.06	1.7
31	5.0	-----	1.5	1.5	-----	27	-----	20	-----	.79	.03	-----
TOTAL	11.93	22.20	35.66	113.77	70.4	524.3	270.9	75.8	148.89	39.68	11.32	70.00
MEAN	.38	.74	1.15	3.67	2.51	16.9	9.03	2.45	4.96	1.28	.37	2.33
MAX	5.0	2.2	4.8	35	5.0	240	105	20	45	9.7	1.4	18
MIN	0	.26	.41	.64	2.1	2.5	3.2	1.3	.87	.61	.03	.06
AC-FT	24	44	71	226	140	1,040	537	150	295	79	22	139

CAL YR 1972 TOTAL 454.13 MEAN 1.24 MAX 14 MIN 0 AC-FT 901
WTR YR 1973 TOTAL 1,394.85 MEAN 3.82 MAX 240 MIN 0 AC-FT 2,770

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
3-10	0930	5.61	227	4-15	1330	6.44	416
3-30	1130	7.44	732	6-18	2130	6.18	349

RED RIVER BASIN

155

07325900 FORT COBB RESERVOIR NEAR FORT COBB, OKLA.

LOCATION.--Lat 35°09'30", long 98°27'40", in SE 1/4 sec.21, T.8 N., R.12 W., Caddo County, in control house at right center of dam on Cobb Creek, 4.0 mi (6.4 km) northwest of Fort Cobb, and at mile 7.5 (12.1 km).

DRAINAGE AREA.--304 sq mi (787 sq km).

PERIOD OF RECORD.--March 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to October 1961, nonrecording gage at same datum.

EXTREMES.--Current year: Maximum contents, 79,720 acre-ft (98.3 cu hm) Apr. 24, elevation, 1,341.93 ft (409.020 m); minimum, 54,650 acre-ft (67.4 cu hm) Oct. 19, elevation, 1335.06 ft (406.926 m).

Period of record: Maximum contents, 102,600 acre-ft (127 cu hm) Sept. 26, 1965, elevation, 1,347.10 ft (410.596 m); minimum since conservation pool was first filled, 54,650 acre-ft (67.4 cu hm) Oct. 19, 1972, elevation 1,335.06 ft (406.926 m).

REMARKS.--Reservoir is formed by an earth dam. Storage began Mar. 30, 1959. Conservation pool was first filled in June 1962. Capacity, 143,700 acre-ft (177 cu hm) at elevation 1,354.8 ft (412.94 m) crest of drop inlet, 80,010 acre-ft (98.7 cu hm) at elevation 1,342.0 ft (409.04 m) conservation pool, and 1,664 acre-ft (2.05 cu hm) at elevation 1,300.0 ft (396.24 m) crest of gated outlet. Figures given herein represent total contents. Reservoir is used for flood control, for municipal and industrial water supply, and for irrigation releases. Revised capacity table used since May 1, 1964.

COOPERATION.--Elevations and data on diversions furnished by Fort Cobb Reservoir Master Conservancy District.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

Date	Elevation (feet) †	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30.....	1,335.47	55,980	--	--
Oct. 31.....	1,335.30	55,420	-560	847
Nov. 30.....	1,335.25	55,260	-160	659
Dec. 31.....	1,335.32	55,490	+230	508
CAL YR 1972.....	--	--	-11,560	8,578
Jan. 31.....	1,336.15	58,230	+2,740	781
Feb. 28.....	1,336.28	58,660	+430	502
Mar. 31.....	1,340.41	73,670	+15,010	539
Apr. 30.....	1,341.90	79,600	+5,930	691
May 31.....	1,341.90	79,600	0	739
June 30.....	1,342.00	80,010	+410	537
July 31.....	1,341.79	79,150	-860	959
Aug. 31.....	1,340.83	75,310	-3,840	982
Sept. 30.....	1,341.44	77,740	+2,430	839
WTP YR 1973.....	--	--	+21,760	8,583

†Elevation at 0800 on following day.

07326000 COBB CREEK NEAR FORT COBB, OKLA.

LOCATION.--Lat 35°08'37", long 98°26'33", in NE 1/4 NE 1/4 sec.27, T.8 N., R.12 W., Caddo County, on left bank 10 ft (3.0 m) upstream from county road bridge, 0.3 mi (0.5 km) upstream from Punjo Creek, 1.2 mi (1.9 km) downstream from Fort Cobb Dam, 3.0 mi (4.8 km) north of Fort Cobb, and at mile 5.8 (9.3 km).

DRAINAGE AREA.--313 sq mi (811 sq km). Area at site used prior to Oct. 1, 1969, 319 sq mi (826 sq km).

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1960, published as Pond Creek near Fort Cobb.

GAGE.--Water-stage recorder. Datum of gage is 1,259.49 ft (383.893 m) above mean sea level (Bureau of Reclamation bench mark). Oct. 1, 1939, to Aug. 29, 1940, nonrecording gage and Aug. 30, 1940, to Sept. 30, 1969, water-stage recorder at site 0.8 mi (1.3 km) downstream at datum 6.92 ft (2.109 m) lower.

AVERAGE DISCHARGE.--19 years (1939-58), 50.2 cfs (1.42 cu m/s) 36,340 acre-ft/yr (44.8 cu hm/yr); 15 years (1958-73), 14.4 cfs (0.408 cu m/s), 10,430 acre-ft/yr (12.9 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 45 cfs (1.27 cu m/s) Mar. 30, gage height 3.70 ft (1.128 m); minimum daily, 1.3 cfs (0.037 cu m/s) Nov. 9, 10.

Period of record: Maximum discharge, 35,000 cfs (991 cu m/s) May 17, 1949, gage height, 18.72 ft (5.706 m), from floodmark in gage well at former site and datum, from rating curve extended above 4,300 cfs (122 cu m/s) on basis of contracted-opening measurements at gage heights 16.62 (5.066 m), 17.58 (5.358 m), and 18.72 ft (5.706 m), at former site and datum; minimum daily, 0.2 cfs (0.006 cu m/s) Sept. 20, 24-28, 1956.

Flood of June 15, 1973, reached a stage of 19.3 ft (5.88 m), site and datum used in 1939, from information by local resident.

REMARKS.--Records good. Flow regulated since March 1959 by Fort Cobb Reservoir (see sta. 07325900).

REVISIONS (WATER YEARS).--WSP 1087: 1938. WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.0	1.7	1.4	2.4	2.6	3.2	3.2	3.4	2.4	4.3	1.9
2	1.9	1.6	1.7	1.5	2.0	2.6	3.0	3.0	4.7	2.4	2.6	1.8
3	1.9	1.5	1.7	2.9	1.9	2.7	3.3	3.0	3.5	2.4	2.1	1.7
4	1.9	1.5	1.7	2.2	2.1	3.0	3.0	3.0	3.1	2.4	2.1	1.8
5	2.0	1.5	1.7	2.4	2.2	2.6	3.0	3.0	3.0	2.5	2.1	2.0
6	1.9	1.5	1.6	2.0	2.2	3.2	3.0	3.1	2.9	2.4	2.3	2.8
7	2.1	1.8	1.6	2.0	2.2	2.6	3.1	3.0	2.9	2.3	2.0	2.5
8	2.2	1.6	1.6	2.0	2.0	3.2	3.9	3.0	2.9	2.3	2.3	2.7
9	2.2	1.3	1.7	1.8	2.1	2.8	3.4	2.9	2.8	2.3	2.2	2.0
10	2.2	1.3	1.7	1.8	2.2	6.4	3.1	2.9	2.8	3.2	1.9	2.0
11	3.0	1.4	1.6	1.8	2.2	3.0	3.1	2.9	2.8	2.9	1.9	2.0
12	1.7	1.5	1.5	1.8	2.2	2.9	3.1	2.9	2.8	2.6	1.9	2.1
13	1.7	1.8	1.5	2.1	2.3	2.9	3.5	2.9	2.8	2.4	1.8	2.8
14	1.7	1.4	1.5	2.1	2.3	2.8	3.1	3.0	2.8	2.6	1.8	2.0
15	1.8	1.5	1.5	2.3	2.3	2.7	3.8	3.0	2.7	2.8	1.9	2.0
16	2.0	1.5	1.5	2.2	2.3	2.7	3.6	3.0	2.7	2.5	2.0	2.0
17	1.9	1.5	1.5	2.2	2.3	2.7	3.3	2.9	2.7	2.5	1.9	2.5
18	1.9	1.9	1.5	2.2	2.3	2.9	3.3	2.9	2.8	2.6	1.9	2.2
19	2.0	1.7	1.5	2.0	2.3	2.9	3.6	2.9	3.2	2.4	1.9	2.1
20	2.7	1.5	1.5	2.0	2.3	2.8	3.2	2.9	2.7	2.4	1.9	2.1
21	4.4	1.5	1.5	3.3	2.4	2.9	3.2	3.0	2.7	3.3	1.9	2.0
22	2.3	1.5	1.5	2.2	2.4	2.9	3.2	3.2	2.6	2.5	1.8	2.0
23	2.0	1.5	1.5	2.0	2.5	3.3	3.2	4.2	2.6	2.5	1.7	2.0
24	1.8	1.9	1.5	1.9	2.4	8.0	3.4	3.0	2.6	2.5	1.7	2.0
25	1.8	2.0	1.4	2.0	2.4	3.9	3.2	2.9	2.5	2.5	1.7	2.0
26	1.8	1.8	1.4	2.3	2.4	3.1	3.2	2.9	2.5	2.4	1.7	3.9
27	1.8	1.8	1.4	2.0	2.4	3.2	3.1	2.8	2.5	2.4	1.7	2.6
28	1.8	1.8	1.6	1.9	2.5	5.0	3.1	2.9	2.7	2.4	1.7	2.2
29	1.8	1.8	1.8	1.9	-----	5.2	3.2	3.0	2.7	2.5	1.8	2.2
30	2.9	1.7	1.8	2.0	-----	19	3.2	3.0	2.6	2.6	1.8	2.2
31	3.0	-----	1.5	2.1	-----	4.5	-----	5.6	-----	2.5	1.7	-----
TOTAL	66.0	48.6	48.7	64.3	63.5	121.0	97.6	95.9	86.0	78.4	62.0	66.1
MEAN	2.13	1.62	1.57	2.07	2.27	3.90	3.25	3.09	2.87	2.53	2.00	2.20
MAX	4.4	2.0	1.8	3.3	2.5	19	3.9	5.6	4.7	3.3	4.3	3.9
MIN	1.7	1.3	1.4	1.4	1.9	2.6	3.0	2.8	2.5	2.3	1.7	1.7
AC=FT	131	96	97	128	126	240	194	190	171	156	123	131

CAL YR 1972 TOTAL 1,229.9 MEAN 3.36 MAX 61 MIN 1.2 AC=FT 2,440
WTR YR 1973 TOTAL 898.1 MEAN 2.46 MAX 19 MIN 1.3 AC=FT 1,780

07326500 WASHITA RIVER AT ANADARKO, OKLA.

LOCATION.--Lat 35°05'06", long 98°14'35", in NW 1/4 sec.15, T.7 N., R.10 W., Caddo County, at left bank 35 ft (10.7 m) upstream from bridge on U.S. Highway 281 at north edge of Anadarko, 8.1 mi (13.0 km) upstream from Sugar Creek, and about mile 305.2 (491.1 km).

DRAINAGE AREA.--3,656 sq mi (9,460 sq km).

PERIOD OF RECORD.--October 1902 to September 1908; June 1924 to June 1925, published as "near Aandarko", October 1935 to February 1938; October 1963 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,150.00 ft (350.520 m) above mean sea level. Oct. 26, 1902, to June 30, 1908, nonrecording gage at former bridge 125 ft (38.1 m) downstream at datum estimated to be 2.8 ft (8.53 m) higher. May 25, 1924, to June 30, 1925, nonrecording gage at county road bridge 14 mi (22.5 km) downstream at different datum. Jan. 10, 1936, to Mar. 7, 1938, nonrecording gage on upstream side of bridge on U.S. Highway 281 at datum 1.88 ft (0.573 m) higher.

AVERAGE DISCHARGE.--18 years (1902-8, 1935-37, 1963-73), 391 cfs (11.07 cu m/s), 283,300 acre-ft/yr (349 cu hm/s).

EXTREMES.--Current year: Maximum discharge, 4,700 cfs (133 cu m/s) Apr. 2, gage height, 18.02 ft (5.492 m); minimum daily, 6.8 cfs (0.193 cu m/s) Oct. 17, 18.

Period of record: Maximum discharge, about 29,000 cfs (821 cu m/s) May 25, 1903, gage height, 26.8 ft (8.169 m), site and datum then in use, affected by backwater; no flow Aug. 1, 1964. Flood in May 1949, reached an elevation of 1,176.7 ft (358.66 m), from floodmark, at right bank on downstream side of bridge on U.S. Highway 281.

REMARKS.--Some regulation by low-water dams upstream and since March 1959, by Fort Cobb Reservoir (see sta. 07325900), since February 1961, by Foss Reservoir (see sta. 07324300), and by numerous flood-retarding structures.

COOPERATION.--Records furnished by Agricultural Research Service.

REVISIONS (WATER YEARS).--WSP 1311: 1903, 1907-8, drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	232	55	57	194	85	4,400	409	733	148	121	100
2	17	728	49	53	187	85	4,640	384	1,190	191	461	71
3	17	765	49	67	164	85	3,980	360	1,730	164	247	61
4	19	310	49	87	142	85	2,410	332	2,980	177	151	61
5	16	144	55	87	124	87	1,930	318	1,890	161	133	80
6	16	112	51	55	113	95	1,480	314	1,030	139	121	2,010
7	16	101	51	51	124	105	1,180	301	733	127	105	1,820
8	19	34	51	47	121	426	955	288	579	118	107	1,690
9	17	49	51	47	113	265	826	279	466	113	121	1,940
10	16	44	51	47	105	858	757	267	389	116	107	1,310
11	14	46	51	47	100	2,070	678	255	355	118	97	888
12	13	46	51	47	102	2,990	621	247	323	154	82	693
13	11	46	51	51	102	2,120	573	231	297	133	71	884
14	9.2	34	51	51	102	857	557	220	284	124	69	1,190
15	8.4	37	51	51	100	597	855	209	271	205	65	1,530
16	7.6	44	51	63	100	482	1,580	209	251	216	61	860
17	6.8	47	51	73	97	384	3,240	205	243	259	61	572
18	6.8	57	51	113	97	327	3,320	198	424	231	59	461
19	8.4	57	55	221	95	284	1,710	194	362	145	59	445
20	11	53	51	157	95	259	1,220	187	310	116	51	434
21	20	47	51	127	95	239	1,030	180	279	295	45	337
22	22	46	55	790	92	209	833	208	292	607	44	292
23	26	46	63	1,950	90	201	704	383	243	404	42	255
24	29	53	68	1,890	87	216	615	391	201	232	42	220
25	22	61	61	841	87	376	601	576	184	312	40	191
26	28	65	61	570	87	236	1,070	627	170	215	42	209
27	31	65	61	535	87	194	820	435	161	136	42	759
28	31	65	57	589	85	208	579	292	157	130	39	2,030
29	32	65	57	376	-----	359	504	247	154	133	39	1,820
30	40	63	59	255	-----	664	450	216	151	124	63	873
31	106	-----	61	209	-----	3,520	-----	276	-----	118	105	-----
TOTAL	657.2	3,562	1,680	9,604	3,087	18,968	44,118	9,238	16,832	5,861	2,892	24,086
MEAN	21.2	119	54.2	310	110	612	1,471	298	561	189	93.3	803
MAX	106	765	68	1,950	194	3,520	4,640	627	2,980	607	461	2,030
MIN	6.8	34	49	47	85	85	450	180	151	113	39	61
AC-FT	1,300	7,070	3,330	19,050	6,120	37,620	87,510	18,320	33,390	11,630	5,740	47,770
CAL YR 1972	TOTAL	31,065.70	MEAN	84.9	MAX	1,020	MIN	.30	AC-FT	61,620		
WTR YR 1973	TOTAL	140,585.20	MEAN	385	MAX	4,640	MIN	6.8	AC-FT	278,900		

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
3-12	1900	15.05	3,180	4-18	0300	15.94	3,810
4-02	2100	18.02	4,700	6-04	1200	14.42	3,130

RED RIVER BASIN

07327000 SUGAR CREEK NEAR GRACEMONT, OKLA.

LOCATION.--Lat 35°10'30", long 98°15'20", in NW 1/4 NE 1/4 sec.16, T.8 N., R.10 W., Caddo County, on downstream side of county road bridge, 1.0 mi (1.6 km) south of Gracemont, 2.1 mi (3.4 km) downstream from Yellow Creek, 1.1 mi (1.8 km) upstream from bridge on U.S. Highway 281, and at mile 9.9 (15.9 km).

DRAINAGE AREA.--208 sq mi (539 sq km).

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,190.00 ft (362.712 m) above mean sea level. Prior to Oct. 1, 1959, at site 1.1 mi (1.8 km) downstream at datum 3.72 ft (1.134 m) higher. Oct. 1, 1959, to Dec. 31, 1966, at datum 20.00 ft (6.096 m) higher and Jan. 1, 1967, to Mar. 31, 1968, at datum 10.00 ft (3.048 m) higher, at site 1.1 mi (1.8 km) upstream.

AVERAGE DISCHARGE.--18 years, 14.5 cfs (0.411 cu m/s), 10,510 acre-ft/yr (13.0 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 1,070 cfs (30.3 cu m/s) Mar. 30, gage height, 7.43 ft (2.265 m); no flow at times.

Period of record: Maximum discharge, 8,500 cfs (241 cu m/s) Sept. 21, 1965, gage height, 10.77 ft (3.283 m), datum then in use; no flow at times in most years.

Flood of May 17, 1949, reached a stage of 10.8 ft (3.29 m) at former site and datum, from floodmarks discharge, 32,000 cfs (906 cu m/s), on basis of slope-area measurement of peak flow.

REMARKS.--Some regulation by flood-retarding structures and some small diversions for irrigation above station.

COOPERATION.--Records furnished by Agricultural Research Service.

REVISIONS (WATER YEARS).--WSP 1731: 1960(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	3.0	3.9	1.5	15	6.9	188	12	71	3.4	1.5	.40
2	0	3.8	3.9	.90	11	6.5	112	9.5	166	3.1	1.3	.50
3	0	.80	2.6	13	8.6	7.6	107	8.6	112	2.0	1.2	.70
4	.10	.40	.70	1.6	7.7	16	69	8.6	73	1.5	1.3	286
5	.20	.20	.70	1.3	7.3	8.2	51	7.3	49	1.2	1.2	60
6	0	.20	.70	1.0	6.9	160	37	13	32	.80	1.0	51
7	.10	.10	.70	1.0	7.3	34	31	10	22	.30	.80	39
8	.20	.10	.70	1.0	8.2	30	40	9.5	16	.20	.70	42
9	.10	.10	.70	1.0	11	30	35	9.5	12	.10	2.0	29
10	.10	.10	.70	1.0	8.2	247	31	8.6	9.1	2.5	1.2	20
11	0	.10	.70	1.0	6.9	76	29	8.6	8.6	4.1	.90	13
12	.10	.20	.70	.90	6.1	56	27	6.9	7.7	2.6	.40	11
13	.20	2.6	.70	.80	5.4	32	39	6.1	7.7	2.2	.20	14
14	.10	3.9	.70	.70	4.1	20	31	5.8	10	44	.40	7.7
15	0	5.8	.70	.60	3.9	16	226	5.8	6.9	76	.70	7.3
16	.20	5.2	.70	6.5	3.6	16	174	5.1	7.7	40	2.4	6.5
17	.20	4.9	.70	9.5	3.9	15	97	2.2	7.7	24	1.5	27
18	.20	6.4	.70	5.1	4.8	13	68	2.8	29	14	1.2	22
19	.30	6.4	4.2	4.1	4.4	9.5	76	2.0	70	9.1	1.2	19
20	.20	5.5	2.6	4.1	3.3	8.2	46	1.5	28	5.8	1.3	16
21	3.4	5.8	2.1	28	3.3	7.3	34	12	19	8.6	.80	15
22	1.9	5.8	1.7	24	4.4	6.9	27	9.1	14	9.1	.40	15
23	.10	5.2	2.4	12	6.5	11	23	54	10	11	.20	15
24	.10	5.8	1.9	9.5	6.9	206	24	19	6.1	7.7	.20	15
25	0	5.8	1.4	8.6	6.1	117	20	14	4.4	4.4	.10	4.1
26	.10	2.8	1.3	10	5.4	56	19	13	3.6	2.6	.10	66
27	.10	1.7	1.4	9.1	5.8	41	17	11	2.4	1.6	.10	90
28	0	1.4	1.4	6.1	6.1	116	15	7.7	14	.90	.60	51
29	0	1.6	2.4	6.1	-----	35	15	5.1	13	1.5	2.0	32
30	2.1	2.8	4.7	6.1	-----	480	13	4.2	6.5	3.7	1.2	27
31	4.8	-----	3.0	5.4	-----	321	-----	150	-----	2.2	0	-----
TOTAL	15.00	88.50	51.40	181.50	182.1	2,205.1	1,721	442.5	838.4	290.20	28.10	1,002.20
MEAN	.48	2.95	1.66	5.85	6.50	71.1	57.4	14.3	27.9	9.36	.91	33.4
MAX	4.8	6.4	4.7	28	15	480	226	150	166	76	2.4	286
MIN	0	.10	.70	.60	3.3	6.5	13	1.5	2.4	.10	0	.40
AC=FT	30	176	102	360	361	4,370	3,410	878	1,660	576	56	1,990

CAL YR 1972 TOTAL 837.00 MEAN 2.29 MAX 37 MIN 0 AC=FT 1,660
WTR YR 1973 TOTAL 7,046.00 MEAN 19.3 MAX 480 MIN 0 AC=FT 13,980

PEAK DISCHARGE (BASE, 900 CFS)

DATE TIME G.HT. DISCHARGE
3-30 2100 7.43 1,070

RED RIVER BASIN

159

07327490 LITTLE WASHITA RIVER NEAR NINNEKAH, OKLA.

LOCATION.--Lat 34°56'41", long 97°57'08", in SE 1/4 SE 1/4 sec.32, T.6 N., R.7 W., Grady County, at left bank on downstream side of bridge on U.S. Highway 81, 1.0 mi (1.6 km) upstream from Rock Creek, 1.5 mi (2.4 km) west of Ninneka, 5.5 mi (8.8 km) south of Chickasha, and at mile 8.4 (13.5 km).

DRAINAGE AREA.--208 sq mi (539 sq km).

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,065.94 ft (324.899 m) above mean sea level.

AVERAGE DISCHARGE.--10 years, 21.9 cfs (0.620 cu m/s), 15,870 acre-ft/yr (19.6 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 5,950 cfs (169 cu m/s) July 23, gage height, 23.84 ft (7.266 m); no flow Oct. 1, 6, 7, 10-19.

Period of record: Maximum discharge, 7,560 cfs (214 cu m/s) May 10, 1964, gage height, 20.65 ft (6.294 m); no flow at times in most years.

REMARKS.--Small diversions above station for irrigation.

COOPERATION.--Records furnished by Agricultural Research Service.

REVISIONS (WATER YEARS).--WRD Okla. 1971, 1964, 65 (M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	241	10	13	27	25	61	33	217	46	72	17
2	.60	43	11	13	23	59	47	32	2,190	38	58	20
3	1.0	31	10	144	22	31	82	33	437	37	57	16
4	.30	25	9.3	60	22	29	48	33	190	35	50	15
5	.20	21	9.3	29	22	25	40	33	125	33	46	17
6	0	17	9.3	18	21	94	37	95	89	30	42	121
7	0	13	9.3	15	22	44	33	42	63	28	41	199
8	4.0	10	9.8	13	28	32	41	21	45	24	38	94
9	1.0	10	9.8	12	25	29	43	21	39	19	49	44
10	0	9.3	9.8	10	25	284	40	21	40	28	34	36
11	0	9.8	9.8	8.8	25	136	40	17	40	25	35	35
12	0	27	10	8.8	25	55	40	18	38	23	31	35
13	0	105	10	10	22	43	44	19	41	45	28	564
14	0	24	11	12	22	42	38	20	48	143	28	109
15	0	17	12	15	21	33	72	20	41	40	31	49
16	0	12	12	55	18	34	168	20	53	32	35	36
17	0	10	12	41	19	34	48	19	48	27	32	40
18	0	17	13	25	24	34	37	19	161	25	33	39
19	0	29	12	19	23	29	101	20	481	23	28	37
20	.10	17	12	17	22	24	49	20	88	22	27	33
21	31	15	13	60	19	35	44	21	49	434	25	33
22	60	17	12	56	17	27	71	29	38	167	25	33
23	13	15	9.8	28	21	45	81	304	38	2,930	24	33
24	5.3	15	9.3	23	20	381	76	62	38	361	20	35
25	3.6	18	8.8	24	18	192	59	50	38	193	17	39
26	3.4	17	8.8	62	21	70	46	28	36	124	15	241
27	3.2	14	8.8	37	21	51	38	21	38	104	13	271
28	2.8	13	9.3	26	20	52	33	19	44	99	13	71
29	2.8	12	10	23	-----	49	34	17	46	373	13	43
30	669	9.1	30	24	-----	45	34	18	46	202	14	38
31	796	-----	21	23	-----	118	-----	143	-----	112	14	-----
TOTAL	1,597.30	833.2	352.2	924.6	615	2,181	1,625	1,268	4,885	5,822	988	2,393
MEAN	51.5	27.8	11.4	29.8	22.0	70.4	54.2	40.9	163	188	31.9	79.8
MAX	796	241	30	144	28	381	168	304	2,190	2,930	72	564
MIN	0	9.1	8.8	8.8	17	24	33	17	36	19	13	15
AC=FT	3,170	1,650	699	1,830	1,220	4,330	3,220	2,520	9,690	11,550	1,960	4,750
CAL YR 1972	TOTAL	6,169.10	MEAN	16.9	MAX	796	MIN	0	AC=FT	12,240		
WTR YR 1973	TOTAL	23,484.30	MEAN	64.3	MAX	2,930	MIN	0	AC=FT	46,580		

PEAK DISCHARGE (BASE, 1,500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-30	1800	18.40	3,040	7-23	0800	23.84	5,950
6-02	1000	22.50	4,750	9-13	0630	15.39	1,900

RED RIVER BASIN

07328070 WINTER CREEK NEAR ALEX, OKLA.

LOCATION.--Lat 34°59'35", long 97°45'40", in NE 1/4 sec.18, T.6 N., R.5 W., Grady County, at left bank 1,000 ft (304.8) downstream from county road bridge, 0.7 mi (1.1 km) downstream from East Winter Creek, 3.2 mi (5.2 km) upstream from mouth, and 5.5 mi (8.9 km) north of Alex.

DRAINAGE AREA.--33 sq mi (86 sq km).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and broad crest V-notch weir. Datum of gage is 1,048.20 ft (319.491 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 7.62 cfs (0.216 cu m/s), 5,520 acre-ft/yr (6.81 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 4,280 cfs (121 cu m/s) May 24, gage height, 7.88 ft (2.402 m); minimum daily, 0.2 cfs (0.006 cu m/s) Oct. 2-6.
Period of record: Maximum discharge, 4,280 cfs (121 cu m/s) May 24, 1973 gage height, 7.88 ft (2.402 m); no flow in most years.
Flood of May 10, 1964, reached a stage of 8.62 ft (2.627 m).

REMARKS.--Flow regulated by 16 flood-retarding structures, combined capacity, 1,050 acre-ft (1.29 cu hm).
Minor diversions for irrigation above station.

COOPERATION.--Records furnished by Agricultural Research Service.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	121	9.4	5.8	10	7.9	20	13	110	11	7.6	3.8
2	.20	70	8.7	4.9	9.0	8.2	22	11	309	9.4	6.8	3.9
3	.20	55	8.4	28	9.0	8.4	31	12	145	9.0	6.5	3.2
4	.20	43	7.9	12	8.7	9.4	17	12	90	8.4	5.6	3.9
5	.20	29	7.9	9.4	8.4	8.2	16	12	86	7.9	5.6	5.1
6	.20	22	7.1	4.7	7.9	16	15	29	64	7.3	4.9	25
7	.30	18	7.1	4.7	8.7	16	15	17	51	6.8	4.7	12
8	.30	17	7.1	4.7	8.4	14	17	14	42	6.3	4.5	10
9	.30	16	7.1	4.7	8.7	14	16	13	36	6.3	16	8.7
10	.30	14	7.1	4.7	7.9	41	15	12	28	7.6	7.9	7.9
11	.30	13	7.1	4.7	7.6	25	15	11	20	8.7	6.5	6.5
12	.30	44	7.1	4.7	7.6	18	15	9.4	18	6.5	5.6	8.6
13	.30	44	7.1	4.3	7.6	15	14	9.0	17	6.1	5.1	41
14	.30	21	7.1	4.3	7.6	13	15	9.0	38	6.1	4.9	15
15	.30	17	7.1	4.3	6.5	11	34	9.0	28	5.8	5.1	11
16	.40	17	7.1	12	6.5	10	36	8.4	28	5.8	7.9	10
17	.30	14	7.1	10	6.5	9.4	26	7.9	25	5.6	5.6	9.7
18	.30	21	7.6	9.4	7.6	9.4	21	7.9	82	5.4	4.9	8.4
19	.30	17	7.6	7.9	7.6	9.4	35	7.6	68	4.9	4.7	7.3
20	.60	14	7.9	7.9	7.3	8.7	21	7.1	41	4.7	4.1	6.8
21	8.8	15	8.2	24	7.1	7.9	20	7.3	32	20	3.8	6.3
22	8.8	14	7.9	13	6.8	7.9	63	8.7	24	8.0	3.8	7.3
23	2.1	12	7.6	11	7.1	44	33	64	19	23	3.2	6.3
24	1.5	13	7.1	9.7	6.8	102	25	465	16	11	3.1	6.5
25	1.4	12	6.8	11	6.5	100	18	246	14	9.0	2.9	6.5
26	1.4	11	5.6	20	7.6	60	17	193	14	7.6	2.9	42
27	1.5	10	5.1	14	7.6	50	15	115	12	6.5	2.9	50
28	1.4	9.4	5.1	12	7.6	42	14	75	13	7.3	2.8	27
29	1.4	9.4	9.5	11	-----	41	14	62	14	6.8	2.9	18
30	256	9.4	10	9.7	-----	26	14	47	13	11	2.9	13
31	314	-----	6.3	10	-----	24	-----	184	-----	9.0	2.5	-----
TOTAL	604.10	742.2	229.8	298.5	216.2	776.8	649	1,698.3	1,497	258.8	158.2	390.7
MEAN	19.5	24.7	7.41	9.63	7.72	25.1	21.6	54.8	49.9	8.35	5.10	13.0
MAX	314	121	10	28	10	102	63	465	309	23	16	50
MIN	.20	9.4	5.1	4.3	6.5	7.9	14	7.1	12	4.7	2.5	3.2
AC=FT	1,200	1,470	456	592	429	1,540	1,290	3,370	2,970	513	314	775
CAL YR 1972	TOTAL	2,698.30	MEAN	7.37	MAX	314	MIN	0	AC=FT	5,350		
WTR YR 1973	TOTAL	7,519.60	MEAN	20.6	MAX	465	MIN	.20	AC=FT	14,920		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-30	1645	6.63	2,170	5-31	0530	4.78	562
10-31	1245	5.17	785	6-02	0315	4.90	625
5-24	1845	7.88	4,280				

RED RIVER BASIN

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07328100 WASHITA RIVER AT ALEX, OKLA.

LOCATION.--Lat 34°55'35", long 97°46'30", in NW 1/4 sec.7, T.5 N., R.5 W., Grady County, near left bank on downstream side of county road bridge, 1.0 mile (1.6 km) north of Alex, 3.8 miles (6.1 km) downstream from Winter Creek, and at mile 226.5 (362.4 km).

DRAINAGE AREA.--4,787 sq mi (12,398 sq km).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,000.00 ft (304.800 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 316 cfs (8.949 cu m/s), 228,900 acre-ft/yr (282 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 8,850 cfs (251 cu m/s) June 2, gage height, 18.34 ft (5.590 m); minimum daily, 4.1 cfs (0.116 cu m/s) Oct. 15.

Period of record: Maximum discharge, 9,350 cfs (265 cu m/s) May 7, 1969; maximum gage height, 18.34 ft (5.590 m); June 2, 1973; no flow Aug. 13-18, 1970, Aug. 30 to Sept. 1, 1971.

REMARKS.--Some regulation by Fort Cobb Reservoir (sta. 07325900), by Foss Reservoir (sta. 07324300), and by numerous flood-retarding structures.

COOPERATION.--Records furnished by Agricultural Research Service.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	2,920	98	101	367	157	2,800	634	1,980	278	274	63
2	11	694	92	96	326	188	3,680	571	5,850	258	236	112
3	13	542	101	242	304	182	4,130	521	6,390	244	243	132
4	11	733	92	365	283	170	4,220	491	2,740	260	421	348
5	8.9	562	88	211	252	167	3,050	457	5,380	246	299	335
6	7.5	317	84	138	235	605	2,220	532	2,890	252	229	486
7	5.2	216	84	113	219	611	1,730	682	1,630	238	205	1,440
8	4.8	173	84	102	208	388	1,400	510	1,190	218	185	1,980
9	4.8	158	84	96	212	310	1,180	447	956	206	413	1,710
10	4.8	105	84	96	208	1,090	1,040	412	804	201	323	1,810
11	7.1	83	84	96	203	2,000	950	385	671	219	218	1,460
12	7.1	125	84	96	201	1,860	894	362	602	216	182	969
13	7.1	568	84	96	192	2,490	833	348	540	218	162	1,740
14	6.3	273	84	96	185	2,460	806	335	528	338	147	1,210
15	4.1	149	84	102	178	1,170	816	323	476	237	135	1,160
16	5.5	120	87	154	172	772	1,680	312	441	229	165	1,380
17	4.8	98	88	206	168	637	1,850	302	467	262	139	1,060
18	5.2	115	92	238	173	532	2,870	295	520	250	124	915
19	5.5	155	88	167	182	455	3,580	289	1,400	266	116	686
20	6.3	155	103	152	177	402	2,440	283	1,100	254	113	594
21	26	135	106	559	170	374	1,610	276	670	526	108	565
22	230	123	96	566	167	367	1,410	266	542	374	102	491
23	113	116	92	452	167	350	1,280	845	462	2,640	92	419
24	56	110	88	1,360	168	2,260	1,020	1,160	434	1,190	87	374
25	39	113	88	1,830	162	2,890	911	3,010	374	683	79	332
26	32	110	94	1,270	162	1,260	806	964	328	474	78	401
27	34	112	96	882	158	823	1,030	867	302	445	73	1,710
28	34	110	90	644	154	639	1,030	712	293	368	69	1,130
29	32	108	93	618	-----	607	789	523	297	464	71	1,750
30	1,050	105	112	548	-----	600	692	416	295	385	73	1,890
31	3,430	-----	114	427	-----	1,140	-----	1,740	-----	385	62	-----
TOTAL	5,215.8	9,403	2,838	12,119	5,753	27,956	52,747	19,270	40,552	12,824	5,223	28,652
MEAN	168	313	91.5	391	205	902	1,758	622	1,352	414	168	955
MAX	3,430	2,920	114	1,830	367	2,890	4,220	3,010	6,390	2,640	421	1,980
MIN	4.1	83	84	96	154	157	692	266	293	201	62	63
AC=FT	10,350	18,650	5,630	24,040	11,410	55,450	104,600	38,220	80,430	25,440	10,360	56,830
CAL YR 1972	TOTAL	20,748.20	MEAN	56.7	MAX	3,430	MIN	0	AC=FT	41,150		
WTR YR 1973	TOTAL	222,552.80	MEAN	610	MAX	6,390	MIN	4.1	AC=FT	441,400		

PEAK DISCHARGE (BASE, 3,800 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
11-01	0130	13.86	4,660	6-02	2330	18.34	8,850
4-04	1100	12.98	4,300	6-05	1030	15.73	6,580
5-25	0400	13.65	5,240	7-23	1530	12.31	4,490

07328500 WASHITA RIVER NEAR PAULS VALLEY, OKLA.

LOCATION.--Lat 34°45'17", long 97°15'04", in SE 1/4 sec.1, T.3 N., R.1 W., Garvin County, on downstream side of right pier of bridge on U.S. Highway 77, 2 mi (3.2 km) northwest of Pauls Valley, 6 mi (9.7 km) downstream from Owl Creek, 7 mi (11.3 km) upstream from Washington Creek, and at mile 146.5 (235.7 km).

DRAINAGE AREA.--5,330 sq mi (13,805 sq km).

PERIOD OF RECORD.--May to December 1899 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as "at Pauls Valley, Indian Territory" in 1899.

GAGE.--Water-stage recorder. Datum of gage is 854.61 ft (260.485 m) above mean sea level. During 1899, nonrecording gage at site 9 mi (14.5 km) downstream at different datum. Mar. 29, 1938, to Jan. 25, 1939, nonrecording gage and Jan. 26, 1939, to Oct. 6, 1948, water-stage recorder at site 0.7 mi (1.1 km) upstream at datum 1.53 ft (0.466 m) higher.

AVERAGE DISCHARGE.--36 years, 694 cfs (19.65 cu m/s), 502,800 acre-ft/yr (620 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 9,090 cfs (257 cu m/s) Nov. 1, gage height 16.91 ft (5.154 m); minimum, 1.2 cfs (0.034 cu m/s) Oct. 16, 18. Period of record: Maximum discharge, 35,800 cfs (1,010 cu m/s) May 18, 1957, gage height, 27.34 ft (8.333 m); maximum gage height, 29.88 ft (9.107 m) May 11, 1950; no flow at times in 1956, 1964, 1966-67, 1970-72.

Stream is reported to have receded to no flow in 1882 and in 1897 (from information by local resident).

REMARKS.--Records fair. Some diversion for irrigation above station. Some regulation since March 1959, by Fort Cobb Reservoir (see sta. 07325900), since February 1961, by Foss Reservoir (see sta. 07324300), and by numerous flood-retarding structures.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	8,110	146	152	698	172	1,720	875	2,120	466	394	146
2	7.7	4,210	146	149	523	177	2,910	820	2,560	459	352	183
3	7.0	1,560	143	454	433	188	3,770	760	7,060	412	285	209
4	5.2	1,130	142	481	379	312	4,210	710	7,570	400	248	183
5	3.9	1,060	136	483	354	273	4,140	690	7,060	378	294	230
6	3.2	828	110	410	324	413	2,990	660	6,260	364	330	528
7	3.9	591	129	390	304	790	2,210	1,000	3,690	344	243	889
8	4.1	429	133	370	332	687	1,600	800	2,360	347	216	1,490
9	3.4	327	130	300	291	542	1,200	730	1,830	316	204	1,620
10	3.0	269	120	320	264	2,000	900	680	1,520	290	271	1,470
11	3.0	237	125	300	253	2,540	740	650	1,200	312	354	1,500
12	2.8	222	134	240	247	2,390	600	635	1,000	314	277	1,330
13	2.3	1,070	120	260	242	2,230	800	625	840	296	233	1,670
14	1.7	894	132	233	228	2,750	1,200	620	700	274	211	1,690
15	1.5	567	125	199	210	2,460	1,500	600	800	296	186	1,450
16	1.5	368	113	277	201	1,460	1,600	585	640	411	173	1,340
17	1.5	264	123	333	194	1,060	1,900	560	560	315	182	1,420
18	1.3	241	143	502	195	863	2,020	545	500	319	201	1,180
19	1.6	354	137	388	198	728	3,560	520	4,570	326	169	1,060
20	1.5	291	137	310	198	644	5,690	500	2,860	299	159	901
21	23	259	135	242	197	568	4,110	493	1,700	429	146	816
22	259	228	144	516	189	522	5,150	483	1,300	502	141	790
23	143	188	144	632	185	508	3,960	519	1,020	498	143	738
24	175	169	133	573	182	2,030	2,300	1,060	840	1,870	145	655
25	126	162	127	1,250	183	4,260	2,000	2,010	740	1,080	139	623
26	80	158	122	1,910	184	3,440	1,700	2,620	632	623	132	800
27	68	154	121	1,430	181	1,760	1,400	1,420	558	452	120	3,110
28	58	149	124	987	177	1,200	1,200	1,160	517	392	125	2,520
29	50	148	128	731	-----	917	1,070	952	494	350	123	1,570
30	301	147	137	700	-----	1,330	960	782	475	367	125	1,800
31	5,370	-----	143	650	-----	2,130	-----	887	-----	419	127	-----
TOTAL	6,722.0	24,784	4,082	16,172	7,546	41,344	69,110	25,951	63,976	13,920	6,448	34,111
MEAN	217	826	132	522	270	1,334	2,304	837	2,133	449	208	1,137
MAX	5,370	8,110	146	1,910	698	4,260	5,690	2,620	7,570	1,870	394	3,110
MIN	1.3	147	110	149	177	172	600	483	475	274	120	146
AC-FT	13,330	49,160	8,100	32,080	14,970	82,010	137,100	51,470	126,900	27,610	12,790	67,660
CAL YR 1972	TOTAL	82,378.50	MEAN	225	MAX	8,110	MIN	0	AC-FT	163,400		
WTR YR 1973	TOTAL	314,166.00	MEAN	861	MAX	8,110	MIN	1.3	AC-FT	623,100		

PEAK DISCHARGE (BASE, 5,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
11-1	0345	16.91	9,090	6-4	1215	16.09	8,110
4-20	1215	14.85	6,770	6-19	1615	14.62	6,420
4-21	2200	14.80	6,750				

RED RIVER BASIN

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07329500 RUSH CREEK NEAR MAYSVILLE, OKLA.

LOCATION.--Lat 34°44'36", long 97°24'18", in SW 1/4 SW 1/4 sec.10, T.3 N., R.2 W., Garvin County, near right bank on downstream side of pier of bridge on State Highway 74, 2.8 miles (4.5 km) downstream from Panther Creek, 5.3 miles (8.5 km) south of Maysville, and at mile 14.2 (22.8 km).

DRAINAGE AREA.--206 sq mi (534 sq km).

PERIOD OF RECORD.--December 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 903.04 ft (275.247 m) above mean sea level (State Highway Department bench mark).

AVERAGE DISCHARGE.--19 years (1954-73), 50.1 cfs (1.42 cu m/s), 36,300 acre-ft/yr (44.8 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 3,260 cfs (92.3 cu m/s) Oct. 31, gage height, 10.84 ft (3.304 m); no flow Oct. 1-20.

Period of record: Maximum discharge, 38,500 cfs (1,090 cu m/s) May 18, 1957, gage height, 23.62 ft (7.199 m), from rating curve extended above 5,300 cfs (150 cu m/s) on basis of contracted-opening measurement of peak flow; no flow at times in most years.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	534	8.9	9.9	68	21	160	92	41	27	52	33
2	0	120	8.8	9.5	40	23	110	76	973	24	35	84
3	0	68	8.0	96	28	29	114	67	1,340	22	31	25
4	0	48	6.2	51	23	83	102	65	379	21	25	16
5	0	44	5.6	35	21	36	96	63	1,210	21	20	15
6	0	46	4.5	29	19	437	83	88	196	21	16	187
7	0	36	4.7	26	35	238	77	106	108	20	13	958
8	0	31	5.2	23	70	231	73	68	89	20	11	405
9	0	27	5.6	19	50	226	69	57	70	20	76	199
10	0	19	5.0	23	37	921	64	53	55	19	46	108
11	0	15	5.2	26	32	225	64	49	49	28	29	76
12	0	49	5.8	17	29	150	62	43	46	22	21	65
13	0	146	6.0	26	26	96	75	40	44	19	15	388
14	0	61	8.0	30	23	66	72	39	47	19	13	100
15	0	39	2.9	38	19	56	264	38	51	22	12	66
16	0	24	2.7	54	17	50	198	36	57	26	26	40
17	0	17	4.1	31	17	45	102	35	55	24	18	28
18	0	32	7.9	93	17	42	78	34	310	20	14	21
19	0	43	5.2	49	18	39	567	33	1,050	18	12	18
20	0	26	5.2	32	18	37	1,680	30	262	16	10	16
21	37	21	5.1	30	18	35	364	31	122	89	9.3	15
22	84	18	4.7	60	18	33	1,670	32	80	121	8.8	15
23	3.0	15	4.9	43	19	122	822	50	52	76	7.6	14
24	1.7	14	4.4	23	19	922	322	57	40	49	7.3	14
25	1.4	14	4.8	33	21	755	199	59	34	31	6.9	13
26	1.2	12	5.2	102	25	253	139	38	32	23	6.2	135
27	1.1	11	5.1	66	24	157	102	27	30	21	6.1	1,190
28	.98	9.8	5.5	38	22	143	100	24	27	21	6.0	235
29	.94	9.0	5.9	28	-----	142	88	22	27	93	5.9	114
30	627	9.0	8.2	25	-----	1,030	111	22	27	95	5.8	87
31	1,710	-----	8.6	20	-----	400	-----	46	-----	75	5.6	-----
TOTAL	2,468.32	1,557.8	177.9	1,185.4	773	7,043	8,027	1,520	6,903	1,123	570.5	4,680
MEAN	79.6	51.9	5.74	38.2	27.6	227	268	49.0	230	36.2	18.4	156
MAX	1,710	534	8.9	102	70	1,030	1,680	106	1,340	121	76	1,190
MIN	0	9.0	2.7	9.5	17	21	62	22	27	16	5.6	13
AC-FT	4,900	3,090	353	2,350	1,530	13,970	15,920	3,010	13,690	2,230	1,130	9,280

CAL YR 1972 TOTAL 8,968.51 MEAN 24.5 MAX 1,710 MIN 0 AC-FT 17,790
WTR YR 1973 TOTAL 36,028.92 MEAN 98.7 MAX 1,710 MIN 0 AC-FT 71,460

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE
10-31	1745	10.84	3,260
4-20	0500	10.04	3,020
6-2	2315	10.21	3,130

RED RIVER BASIN

07329700 WILDHORSE CREEK NEAR HOOVER, OKLA.

LOCATION.--Lat 34°32'29", long 97°14'49", on west line of SW 1/4 sec.19, T.1 N., R.1 E., Garvin County, on downstream left bank at bridge on State Highway 19A, 1.5 mi (2.4 km) north of Hoover, 1.8 mi (2.9 km) downstream from Sandy Creek, and at mile 7.9 (12.7 km).

DRAINAGE AREA.--604 sq mi (1,564 sq km).

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1944, 1951-69. October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 803.3 ft (244.85 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 12,500 cfs (354 cu m/s) Apr. 22, gage height 24.10 ft (7.346 m); minimum, 0.02 cfs (0.001 cu m/s) Oct. 16, 17.
Period of record: Maximum discharge, 12,500 cfs (354 cu m/s) Apr. 22, 1973, gage height 24.10 ft (7.346 m); no flow at times.

REMARKS.--Records good. Flow regulated by Duncan, Clear Creek, Humphries and Fuqua Lakes, combined surface-area, 3,340 acres (13.5 sq km), and capacity, 44,800 acre-ft (55.2 cu km), and numerous flood-retarding structures.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2,660	46	16	401	77	433	330	128	80	51	9.1
2	.73	984	41	16	220	141	333	320	1,660	70	27	22
3	.49	632	40	553	163	160	348	310	2,460	65	19	32
4	.32	432	35	336	137	1,050	253	300	971	59	14	15
5	.28	333	32	204	122	397	202	280	1,620	56	13	18
6	.16	263	28	147	104	1,070	177	270	830	52	12	1,090
7	.10	206	27	100	236	898	164	980	533	46	9.9	1,790
8	.10	150	28	107	433	470	157	590	401	41	9.2	663
9	.08	115	26	93	269	368	157	400	316	37	17	426
10	.08	90	21	79	207	2,060	137	280	250	34	34	310
11	.08	75	20	72	172	992	125	250	202	35	27	232
12	.06	120	27	66	152	577	116	230	180	35	14	154
13	.07	866	22	64	137	434	164	212	163	31	11	4,160
14	.06	323	24	71	116	343	194	201	159	29	8.9	1,240
15	.06	201	21	150	99	269	495	199	207	29	8.2	615
16	.04	151	18	172	86	223	1,030	190	149	30	14	450
17	.05	125	19	156	88	194	452	178	163	29	12	310
18	.07	141	19	173	91	179	430	172	172	28	8.1	252
19	.16	191	20	143	89	165	1,920	165	903	24	7.4	208
20	.10	145	21	118	88	151	4,820	163	432	22	7.0	177
21	15	122	19	196	79	141	2,430	156	243	26	6.5	153
22	928	109	18	178	76	133	8,720	156	178	39	5.5	134
23	101	93	17	134	76	130	3,720	171	155	45	4.5	111
24	14	84	15	114	73	635	2,500	178	134	30	4.1	91
25	4.7	81	14	121	70	1,130	1,500	161	120	20	3.8	78
26	2.6	72	13	621	97	445	800	160	113	18	3.1	154
27	2.3	65	13	357	91	346	600	149	99	17	3.0	3,510
28	.92	56	13	233	81	320	460	131	89	17	12	1,370
29	.41	52	14	175	-----	258	420	127	85	25	9.3	670
30	654	48	16	148	-----	606	350	119	84	290	4.0	507
31	4,260	-----	17	143	-----	1,510	-----	127	-----	174	3.0	-----
TOTAL	5,987.52	8,985	704	5,256	4,053	15,872	33,607	7,655	13,199	1,533	382.5	18,951.1
MEAN	193	300	22.7	170	145	512	1,120	247	440	49.5	12.3	632
MAX	4,260	2,660	46	621	433	2,060	8,720	980	2,460	290	51	4,160
MIN	.04	48	13	16	70	77	116	119	84	17	3.0	9.1
AC-FT	11,880	17,820	1,400	10,430	8,040	31,480	66,660	15,180	26,180	3,040	759	37,590
CAL YR 1972	TOTAL	29,635.39	MEAN	81.0	MAX	4,260	MIN	.04	AC-FT	58,780		
WTR YR 1973	TOTAL	116,185.12	MEAN	318	MAX	8,720	MIN	.04	AC-FT	230,500		

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-31	1230	16.17	4,940	6-3	0330	14.62	3,830
3-10	1500	14.40	3,680	9-7	0700	12.60	2,580
4-20	0845	20.23	8,430	9-13	1000	20.60	8,800
4-22	0400	24.10	12,500	9-27	1330	18.02	6,420

07331000 WASHITA RIVER NEAR DURWOOD, OKLA.

LOCATION.--Lat 34°14'03", long 96°58'32", in NW 1/4 SW 1/4 sec.3, T.4 S., R.3 E., Carter County, near left bank on downstream side of pier of bridge on U.S. Highway 177, 1.3 miles (2.1 km) downstream from Caddo Creek, 4 miles (6.4 km) north of Durwood, and at mile 63.4 (102.0 km).

DRAINAGE AREA.--7,202 sq mi (18,653 sq km).

PERIOD OF RECORD.--August 1928 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 650.57 ft (198.294 m) above mean sea level (levels by Corps of Engineers). Prior to Feb. 16, 1939, nonrecording gage at same site and datum. Dec. 15, 1950, to Feb. 19, 1952, nonrecording gage at site 500 ft (152.4 m) upstream at same datum.

AVERAGE DISCHARGE.--45 years, 1,365 cfs (38.7 cu m/s), 988,900 acre-ft/yr (1.22 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 35,700 cfs (1,010 cu m/s) Apr. 23, gage height, 29.89 ft (9.110 m); minimum, 6.1 cfs (0.17 cu m/s) Oct. 19.
Period of record: Maximum discharge, 98,000 cfs (2,780 cu m/s) May 19, 1957; gage height, 42.30 ft (12.893 m), from floodmark; maximum gage height, 44.37 ft (13.524 m) Oct. 31, 1941; no flow Aug. 28, Sept. 14 to Oct. 1, Oct. 7-12, 1956.

REMARKS.--Records good. Some diversions above station for irrigation. Some regulation since March 1959 by Fort Cobb Reservoir (see sta. 07325900), since February 1961 by Foss Reservoir (see sta. 07324300), and by numerous flood-retarding structures. Records of chemical analyses and of water temperatures for the current year are published in Part 2 of this report.

COOPERATION.--Results of 22 discharge measurements furnished by Corps of Engineers.

REVISIONS (WATER YEARS).--WSP 1211: Drainage area. WSP 1281: 1935 (m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	18,200	327	191	3,150	864	4,060	3,430	1,110	983	1,600	152
2	27	12,000	306	181	2,850	1,830	3,830	2,760	6,260	915	1,160	242
3	22	6,110	290	1,190	2,080	1,730	4,750	2,000	17,900	782	927	242
4	19	3,960	278	3,300	1,750	7,480	5,240	1,800	15,800	696	725	280
5	18	3,180	268	2,060	1,520	5,270	5,150	1,700	13,400	634	594	316
6	17	3,180	261	1,390	1,360	5,750	4,830	2,620	11,000	605	504	3,250
7	16	2,550	252	1,070	1,690	7,120	4,010	2,530	8,210	538	588	7,140
8	17	1,780	233	775	4,010	4,920	3,340	2,310	5,500	495	533	5,310
9	16	1,330	226	540	2,820	4,110	2,720	2,060	3,650	475	457	4,120
10	14	1,070	226	475	1,930	7,170	2,390	1,910	2,880	475	599	3,340
11	13	872	223	515	1,670	10,800	2,000	1,660	2,390	455	534	2,710
12	12	750	213	605	1,490	6,750	1,860	1,200	2,070	475	584	2,610
13	11	3,010	184	515	1,370	5,670	1,800	1,050	1,740	475	517	6,590
14	11	3,730	205	515	1,220	5,360	1,930	965	1,520	455	371	6,730
15	12	2,340	225	678	902	4,900	2,650	909	1,490	415	308	3,830
16	11	1,710	215	1,040	806	4,120	7,130	865	1,520	395	295	2,740
17	9.6	1,270	190	1,240	652	3,070	4,890	825	1,550	475	299	2,350
18	7.6	993	184	1,150	618	2,630	5,020	788	1,490	678	284	2,310
19	6.4	1,060	200	1,350	600	2,200	6,980	750	3,720	605	265	1,860
20	8.0	1,280	305	1,150	577	1,930	13,400	709	7,970	475	262	1,650
21	13	1,180	320	1,050	548	1,770	13,000	678	4,180	435	233	1,380
22	997	1,170	328	1,360	519	1,550	18,700	641	3,000	489	219	1,070
23	1,440	825	329	1,250	520	1,160	33,600	657	2,390	853	197	900
24	604	628	312	1,270	680	3,180	18,200	670	1,930	961	189	825
25	320	560	250	1,430	674	7,540	11,600	1,200	1,670	2,210	180	725
26	278	515	239	3,900	754	7,350	9,110	2,520	1,490	1,430	180	725
27	225	455	217	4,380	773	5,520	7,370	2,340	1,330	1,070	168	7,000
28	162	416	202	3,190	602	4,210	5,060	1,460	1,080	846	161	9,680
29	125	375	194	2,550	-----	3,630	4,660	1,240	989	847	163	5,120
30	701	347	205	2,370	-----	2,580	4,000	1,050	909	2,270	163	3,760
31	13,900	-----	201	2,220	-----	5,640	-----	871	-----	3,130	142	-----
TOTAL	19,065.6	76,846	7,608	44,900	38,135	137,804	213,280	46,168	130,138	26,002	13,401	88,957
MEAN	615	2,562	245	1,448	1,362	4,445	7,109	1,489	4,338	839	432	2,965
MAX	13,900	18,200	329	4,380	4,010	10,800	33,600	3,430	17,900	3,130	1,600	9,680
MIN	6.4	347	184	181	519	864	1,800	641	909	395	142	152
AC-FT	37,820	152,400	15,090	89,060	75,640	273,300	423,000	91,570	258,100	51,570	26,580	176,400
CAL YR 1972	TOTAL 193,452.6	MEAN 529	MAX 18,200	MIN 6.4	AC-FT 383,700							
WTR YR 1973	TOTAL 842,304.6	MEAN 2,308	MAX 33,600	MIN 6.4	AC-FT 1,671,000							

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
11-1	0830	22.40	18,900	6-3	1800	22.85	18,800
3-11	0445	18.19	13,500	6-5	1830	19.97	15,200
4-21	0100	21.52	17,400	9-28	0245	18.11	11,900
4-23	1345	29.89	35,700				

07331500 LAKE TEXOMA NEAR DENISON, TEX.

LOCATION.--Lat 33°49'05", long 96°34'20", in NE 1/4 sec.33, T.8 S., R.7 E., Bryan County, Okla., in control tower of Denison Dam on Red River, 1.2 miles (1.9 km) upstream from Shawnee Creek, 1.8 miles (2.9 km) upstream from Sand Creek, 4.0 miles (6.4 km) northwest of Denison, and at mile 725.9 (1,168.0 km).

DRAINAGE AREA.--39,719 sq mi (102,872 sq km), of which 5,936 sq mi (15,374 sq km) is probably noncontributing.

PERIOD OF RECORD.--July 1942 to current year. Month-end contents only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Mar. 30, 1944, nonrecording gage at same site and datum. Prior to Oct. 1, 1948, auxiliary nonrecording gage in Cumberland pool at same datum.

EXTREMES.--Current year: Maximum contents, 3,348,000 acre-ft (4.13 cu km) Apr. 27, elevation, 623.36 ft (190.000 m); minimum, 2,016,000 acre-ft (2.49 cu km) Oct. 20, 21, elevation 607.87 ft (185.279 m).

Period of record: Maximum contents, 5,991,300 acre-ft (7.39 cu km) June 5, 1957, elevation, 643.18 ft (196.041 m). Minimum contents since power pool was first filled, 1,565,100 acre-ft (1.93 cu km) Sept. 16, 1964; minimum elevation, 599.96 ft (182.868 m) Mar. 1, 2, 1957.

REMARKS.--Reservoir is formed by a rolled-fill earth dam. Flow was diverted through conduits July 27, 1942; regulated storage began Oct. 31, 1943; power-pool was first filled Mar. 15, 1945. Capacity, based on 1962 survey, 5,392,900 acre-ft (6.65 cu km) at elevation 640.0 ft (195.07 m), crest of spillway, 2,733,300 acre-ft (3.37 cu km) at elevation 617.0 ft (188.06 m), maximum power pool, 1,049,200 acre-ft (1.29 cu km) at elevation 590.0 ft (179.83 m), minimum power pool, in Denison pool. Dead storage, 11,000 acre-ft (13.6 cu km) at elevation 610.0 ft (185.93 m) in Cumberland pool. When contents are below 2,167,900 acre-ft (2.67 cu km), the reservoir is divided into two pools by protective levees around the Cumberland oilfield on the Washita River arm with bottom of outlet channel for the upper pool (known as Cumberland pool) at elevation 610 ft (185.9 m). At higher elevations the two pools are considered as being at a common level, contents being computed from gage in the Denison pool. Figures given herein represent total contents of both pools. Reservoir is used principally for flood control and power development. Revised capacity table, based on survey in 1962, used since Oct. 1, 1963.

COOPERATION.--Records furnished by Corps of Engineers.

REVISIONS.--WSP 1211: Drainage area.

Capacity table (elevation, in feet, and contents, in thousands of acre-feet)

607	1,957	616	2,646
610	2,168	620	3,010
613	2,398	624	3,416

CONTENTS, IN THOUSANDS OF ACRE-Feet, AT 2400, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,122	2,204	2,721	2,629	2,838	2,751	2,887	3,231	2,873	2,816	2,721	2,581
2	2,118	2,276	2,724	2,629	2,836	2,759	2,924	3,181	2,892	2,810	2,750	2,578
3	2,117	2,358	2,732	2,638	2,834	2,778	2,959	3,127	2,959	2,802	2,773	2,575
4	2,113	2,452	2,725	2,641	2,834	2,800	2,973	3,084	3,020	2,794	2,779	2,572
5	2,106	2,526	2,733	2,641	2,831	2,810	2,967	3,050	3,120	2,790	2,780	2,598
6	2,105	2,585	2,720	2,646	2,828	2,833	2,952	3,046	3,198	2,783	2,773	2,619
7	2,102	2,601	2,715	2,658	2,864	2,834	2,938	3,062	3,229	2,778	2,766	2,636
8	2,100	2,611	2,713	2,654	2,870	2,838	2,930	3,056	3,194	2,778	2,761	2,655
9	2,093	2,626	2,718	2,643	2,867	2,845	2,910	3,050	3,137	2,774	2,756	2,685
10	2,086	2,624	2,711	2,638	2,859	2,905	2,898	3,040	3,070	2,770	2,748	2,716
11	2,083	2,626	2,702	2,634	2,849	2,914	2,890	3,026	3,006	2,762	2,745	2,746
12	2,075	2,642	2,695	2,626	2,838	2,924	2,881	3,010	2,973	2,752	2,742	2,762
13	2,067	2,654	2,679	2,629	2,833	2,938	2,874	2,994	2,956	2,745	2,737	2,794
14	2,066	2,649	2,671	2,632	2,818	2,957	2,865	2,980	2,933	2,746	2,729	2,804
15	2,063	2,656	2,653	2,628	2,802	2,958	2,905	2,959	2,915	2,745	2,725	2,811
16	2,054	2,659	2,638	2,632	2,786	2,958	2,926	2,944	2,905	2,745	2,716	2,817
17	2,043	2,659	2,632	2,638	2,773	2,957	2,944	2,923	2,892	2,738	2,707	2,818
18	2,038	2,677	2,624	2,647	2,766	2,954	2,957	2,904	2,879	2,733	2,702	2,818
19	2,024	2,682	2,618	2,650	2,758	2,951	2,986	2,889	2,900	2,723	2,698	2,818
20	2,016	2,681	2,613	2,659	2,750	2,929	3,016	2,881	2,904	2,716	2,690	2,817
21	2,039	2,685	2,612	2,672	2,748	2,900	3,051	2,870	2,905	2,711	2,681	2,814
22	2,044	2,688	2,611	2,678	2,746	2,879	3,087	2,865	2,897	2,707	2,668	2,814
23	2,042	2,696	2,619	2,682	2,740	2,863	3,114	2,863	2,892	2,702	2,659	2,811
24	2,042	2,702	2,615	2,687	2,743	2,863	3,210	2,861	2,884	2,696	2,648	2,804
25	2,043	2,711	2,620	2,716	2,748	2,854	3,281	2,858	2,872	2,688	2,638	2,805
26	2,052	2,711	2,617	2,741	2,750	2,856	3,339	2,860	2,856	2,682	2,632	2,857
27	2,057	2,717	2,617	2,778	2,745	2,879	3,345	2,877	2,847	2,674	2,622	2,896
28	2,063	2,716	2,616	2,794	2,740	2,893	3,332	2,868	2,836	2,679	2,615	2,896
29	2,065	2,717	2,622	2,806	-----	2,895	3,301	2,867	2,822	2,692	2,608	2,898
30	2,127	2,719	2,626	2,814	-----	2,895	3,263	2,868	2,819	2,703	2,596	2,894
31	2,150	-----	2,627	2,828	-----	2,892	-----	2,870	-----	2,709	2,585	-----
(†)	609.75	616.84	615.78	618.07	617.07	618.76	622.53	618.53	617.97	616.72	615.28	618.79
(‡)	+26	+569	-92	+201	-88	+152	+371	-393	-51	-110	-124	+309
MAX	2,150	2,179	2,733	2,828	2,870	2,958	3,345	3,231	3,229	2,816	2,780	2,898
MIN	2,016	2,204	2,611	2,626	2,740	2,751	2,865	2,858	2,819	2,674	2,585	2,572

CAL YR 1972..... ‡ -164

WTR YR 1973..... ‡ +770

† Elevation in feet, at end of month.

‡ Change in contents, in thousands of acre-feet.

07331600 RED RIVER AT DENISON DAM, NEAR DENISON, TEX.

LOCATION.--Lat 33°49'08", long 96°33'47", Grayson County, on right bank 1,800 ft (548.6 m) downstream from Denison Dam powerhouse, 0.4 mile (0.6 km) upstream from Shawnee Creek (spillway flow return), 4.5 miles (7.2 km) north of Denison, and at mile 725.5 (1,167.3 km).

DRAINAGE AREA.--39,720 sq mi (102,875 sq km), of which 5,936 sq mi (15,374 sq km) is probably noncontributing. At site used prior to October 1961, drainage area 39,777 sq mi (103,022 sq km), of which 5,936 sq mi (15,374 sq km) was probably noncontributing.

PERIOD OF RECORD.--October 1923 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1934, published as "near Denison, Tex.", and October 1934 to September 1961, published as "near Colbert, Okla." Gage-height records collected at various sites in this vicinity 1892-93, 1906-28, 1931-49 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft (152.400 m) above mean sea level. Oct. 9, 1923, to Sept. 24, 1934, nonrecording gage, and July 29, 1942, to Sept. 30, 1961, water-stage recorder at county road bridge 2.5 miles (4.0 km) downstream at datum 6.85 ft (2.088 m) higher prior to Oct. 1, 1931, at datum 7.07 ft (2.155 m) higher Oct. 1, 1931, to Sept. 24, 1934, and at datum 2.64 ft (0.805 m) lower July 29, 1942, to Sept. 30, 1961. Sept. 25, 1934, to July 28, 1942, water-stage recorder at railway bridge 1.9 miles (3.1 km) downstream at datum 7.36 ft (2.243 m) higher.

AVERAGE DISCHARGE.--50 years, 4,749 cfs (134 cu m/s), 3,441,000 acre-ft/yr (4.24 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 46,400 cfs (1,310 cu m/s) June 10, gage height, 18.68 ft (5.694 m); minimum daily, 67 cfs (1.90 cu m/s) Dec. 3.

Period of record: Maximum discharge, 201,000 cfs (5,690 cu m/s) May 21, 1935, gage height, 31.8 ft (9.69 m) at site and datum then in use; maximum gage height, 32.0 ft (9.75 m) Apr. 25, 1942 (at site and datum used in 1943); minimum daily discharge, 12 cfs (0.340 cu m/s) Jan. 10, 1944.

Flood of May 26, 1908, reached a stage of 45.5 ft (13.87 m) at site and datum used July 29, 1942, to Sept. 30, 1961, from records of U.S. Weather Bureau.

REMARKS.--Records good. Flow regulated since October 1943 by Lake Texoma (see sta. 07331500).

COOPERATION.--Gage-height record and 23 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 807: 1935 (M). WSP 1211: Drainage area. WSP 1241: 1924-29, 1932-33, 1934 (M), 1935.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	1,960	180	83	5,880	3,900	10,200	34,900	3,300	3,070	250	2,450
2	1,550	1,660	69	2,880	6,300	3,650	10,300	34,900	5,840	5,900	2,020	1,840
3	92	1,620	67	2,930	5,200	866	12,600	33,800	11,700	5,900	4,670	1,440
4	1,340	88	1,700	2,920	5,200	2,320	16,400	28,900	17,200	4,000	5,800	2,960
5	3,300	82	2,080	5,290	5,210	5,400	16,500	21,200	23,900	4,500	5,490	190
6	198	4,280	2,990	2,380	6,010	7,190	16,500	21,700	23,500	3,980	5,900	3,550
7	75	3,040	3,000	2,320	7,900	10,200	16,500	15,800	32,100	3,130	4,600	4,370
8	318	4,490	2,360	5,670	8,550	10,200	16,500	9,280	45,600	209	4,610	1,200
9	3,720	2,950	98	6,480	8,680	10,200	13,300	9,770	44,900	4,480	4,550	105
10	3,390	2,610	2,440	4,270	10,200	11,300	10,300	10,300	45,100	4,750	4,140	2,150
11	2,000	2,290	4,450	3,670	10,300	10,200	8,480	10,400	42,700	4,850	4,610	2,140
12	3,580	108	5,720	3,590	10,300	10,400	9,620	10,400	26,700	4,310	2,410	2,380
13	4,120	2,060	7,960	878	10,300	10,900	9,880	10,500	17,100	4,090	4,280	4,590
14	168	2,860	8,040	189	10,200	10,800	9,860	10,600	16,200	1,670	3,620	4,690
15	1,040	1,220	8,030	4,390	10,300	10,800	11,100	10,600	14,800	1,560	5,260	4,440
16	3,790	4,360	6,420	137	10,200	10,600	10,000	10,500	10,900	3,650	4,740	4,140
17	4,230	3,380	4,080	103	8,290	10,800	9,850	10,600	10,900	4,370	4,970	4,110
18	3,540	566	6,100	478	6,480	10,800	9,880	10,700	11,000	4,230	3,680	3,900
19	2,880	488	3,660	128	8,470	10,800	9,850	10,800	11,300	5,880	3,260	2,930
20	2,720	3,620	1,090	101	5,200	12,600	12,700	5,660	11,200	5,490	4,490	4,530
21	114	3,330	4,220	96	3,120	16,400	16,300	7,080	10,700	2,370	4,640	4,530
22	123	151	824	104	4,540	13,500	16,300	5,340	10,800	2,540	4,840	4,510
23	786	85	80	709	4,450	10,200	20,600	3,820	10,800	3,330	4,500	4,510
24	82	1,870	80	2,250	195	9,900	31,400	3,290	10,800	4,040	4,350	4,410
25	71	668	81	2,590	93	10,000	18,700	2,810	10,800	4,590	4,380	3,010
26	1,070	112	722	1,110	3,750	10,100	14,600	2,830	10,900	4,460	3,560	3,230
27	1,000	859	790	915	4,880	10,200	29,600	699	7,610	4,270	4,640	7,360
28	84	1,360	83	743	3,300	10,200	35,200	2,440	6,850	368	4,380	10,700
29	78	1,820	80	5,880	-----	10,200	35,000	2,930	8,770	123	4,490	10,700
30	3,810	968	79	6,170	-----	10,300	34,800	3,130	5,450	1,910	4,520	10,800
31	3,310	-----	80	3,850	-----	10,100	-----	2,660	-----	2,380	4,500	-----
TOTAL	52,664	54,955	77,653	73,304	183,498	295,026	492,820	358,339	519,420	110,400	132,150	121,865
MEAN	1,699	1,832	2,505	2,365	6,554	9,517	16,430	11,560	17,310	3,561	4,263	4,062
MAX	4,230	4,490	8,040	6,480	10,300	16,400	35,200	34,900	45,600	5,900	5,900	10,800
MIN	71	82	67	83	93	866	8,480	699	3,300	123	250	105
AC=FT	104,500	109,000	154,000	145,400	364,000	585,200	977,500	710,800	1,030M	219,000	262,100	241,700

CAL YR 1972 TOTAL 827,625 MEAN 2,261 MAX 8,040 MIN 59 AC=FT 1,642,000
WTR YR 1973 TOTAL 2,472,094 MEAN 6,773 MAX 45,600 MIN 67 AC=FT 4,903,000

RED RIVER BASIN

07332400 BLUE CREEK AT MILBURN, OKLA.
(Headwater of Blue River)

LOCATION.--Lat 34°15'04", long 96°33'05", in SW 1/4 SW 1/4 sec.35, T.3 S., R.7 E., Johnston County, on downstream side of left bank pier of bridge on State Highway 48A, 0.5 mi (0.8 km) north of Milburn, and at mi 84.9 (136.6 km).

DRAINAGE AREA.--203 sq mi (526 sq km).

PERIOD OF RECORD.--Occasional low flow measurements made in water years 1956-61. October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 650 ft (198.1 m), from topographic map.

AVERAGE DISCHARGE.--8 years, 147 cfs (4.163 cu m/s), 9.83 in/yr (250 mm/yr), 106,500 acre-ft/yr (131 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 14,800 cfs (419 cu m/s) June 3, gage height 26.13 ft (7.964 m); minimum, 28 cfs (0.79 cu m/s) Oct. 18-20.

Period of record: Maximum discharge, 35,100 cfs (994 cu m/s) Oct. 8, 1970, gage height, 27.87 ft (8.495 m); minimum, 20 cfs (0.57 cu m/s) Mar. 15-19, Apr. 5-7, 1967.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	29	775	68	54	631	432	323	392	169	134	84	43		
2	29	315	67	47	216	486	264	310	3,050	126	74	44		
3	30	145	66	376	153	420	267	264	7,010	123	70	46		
4	29	104	63	304	141	3,880	286	247	784	121	66	45		
5	30	86	61	127	133	583	234	235	890	119	64	87		
6	30	586	59	102	127	1,500	219	670	518	120	62	1,220		
7	29	155	56	102	501	937	216	1,160	316	117	61	1,020		
8	29	114	59	90	1,150	380	220	374	256	115	61	213		
9	30	92	58	92	281	324	247	326	222	113	60	124		
10	30	81	56	92	200	2,210	206	280	205	112	60	104		
11	29	74	55	89	181	1,020	196	254	196	120	61	94		
12	29	73	61	81	172	385	192	234	240	106	59	87		
13	29	158	66	75	168	360	199	222	203	99	59	221		
14	29	139	61	100	153	361	189	214	257	96	56	169		
15	29	92	61	151	141	304	1,510	205	315	127	55	105		
16	29	79	58	154	133	284	3,710	200	204	104	53	92		
17	29	74	56	133	130	261	570	195	227	97	53	85		
18	28	128	55	129	130	253	1,170	191	204	92	52	82		
19	28	159	57	126	128	245	975	189	315	91	51	80		
20	28	116	56	107	124	230	648	184	548	88	51	79		
21	44	95	58	112	118	223	1,060	181	239	84	49	77		
22	349	94	55	127	117	219	2,070	177	194	80	48	74		
23	60	86	54	91	121	238	4,370	185	175	76	48	73		
24	42	84	52	86	120	388	1,590	196	157	74	47	72		
25	37	100	50	94	116	848	741	174	154	72	46	71		
26	36	85	49	309	171	428	502	175	149	70	45	109		
27	42	80	47	217	180	309	422	176	144	68	44	1,720		
28	37	72	47	138	130	282	365	158	139	66	44	368		
29	36	69	48	115	-----	256	334	153	136	86	45	170		
30	465	70	56	108	-----	283	320	149	136	160	45	134		
31	2,170	-----	57	205	-----	740	-----	148	-----	100	44	-----		
TOTAL	3,900	4,380	1,772	4,133	6,066	19,069	23,615	8,218	17,752	3,156	1,717	6,908		
MEAN	126	146	57.2	133	217	615	787	265	592	102	55.4	230		
MAX	2,170	775	68	376	1,150	3,880	4,370	1,160	7,010	160	84	1,720		
MIN	28	69	47	47	116	219	189	148	136	66	44	43		
CFSM	.62	.72	.28	.66	1.07	3.03	3.88	1.31	2.92	.50	.27	1.13		
IN.	.71	.80	.32	.76	1.11	3.49	4.33	1.51	3.25	.58	.31	1.27		
AC-FT	7,740	8,690	3,510	8,200	12,030	37,820	46,840	16,300	35,210	6,260	3,410	13,700		
CAL YR 1972	TOTAL	26,456	MEAN	72.3	MAX	2,170	MIN	26	CFSM	.36	IN	4.85	AC-FT	52,480
WTR YR 1973	TOTAL	100,686	MEAN	276	MAX	7,010	MIN	28	CFSM	1.36	IN	18.45	AC-FT	199,700

PEAK DISCHARGE (BASE, 2,200)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	1330	18.41	3,410	4-23	0015	24.26	9,880
3-4	0330	22.42	6,300	4-24	1230	15.32	2,440
3-6	1645	16.44	2,650	5-6	2245	18.20	3,400
3-10	1245	18.95	3,780	6-3	0400	26.13	14,800
4-15	2330	22.54	6,810	9-27	0645	16.42	2,650

RED RIVER BASIN

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07332500 BLUE RIVER NEAR BLUE, OKLA.

LOCATION.--Lat 33°59'49", long 96°14'27", on line between secs. 27 and 34, T.6 S., R.10 E., Bryan County, near left bank on downstream side of pier of bridge on U.S. Highway 70, 1.0 mi (1.6 km) west of Blue, 7.0 mi (11.3 km) east of Durant, 7.7 mi (12.4 km) upstream from Caddo Creek, and at mile 38.8 (62.4 km).

DRAINAGE AREA.--476 sq mi (1,233 sq km).

PERIOD OF RECORD.--June 1936 to current year. Monthly discharge only for some periods, published in WSP 1311, 1731.

GAGE.--Water-stage recorder. Datum of gage is 503.36 ft (153.424 m) above mean sea level. Prior to Mar. 13, 1945, nonrecording gage and Mar. 13, 1945, to Feb. 2, 1960, water-stage recorder at site 1.2 mi (1.9 km) downstream at datum 5.00 ft (1.524 m) lower.

AVERAGE DISCHARGE.--37 years, 298 cfs (8.439 cu m/s), 8.50 in/yr (216 mm/yr), 215,900 acre-ft/yr (266 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 12,200 cfs (346 cu m/s) Oct. 31, gage height 28.16 ft (8.583 m); minimum, 20 cfs (0.57 cu m/s) Oct. 16.

Period of record: Maximum discharge, 34,400 cfs (974 cu m/s) Feb. 17, 1938, gage height, 31.81 ft (9.696 m), site and datum then in use; no flow (estimated) Aug. 3, 4, 1936, result of regulation at fish hatchery, and no flow Sept. 19, to Oct. 16, 1956.

REMARKS.--Records good. Some regulation at low flow by State Fish Hatchery, 16.0 miles (25.7 km) above station. Small diversion above station for municipal water supply of city of Durant.

COOPERATION.--Gage-height record and 27 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 957: 1938. WSP 1241: 1936, drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	4,730	121	102	866	470	1,010	1,160	166	190	227	59
2	30	2,570	120	98	1,070	2,550	512	2,250	265	185	135	58
3	28	591	118	886	424	916	511	676	4,410	176	105	59
4	26	252	116	1,550	240	3,980	525	470	8,880	167	97	57
5	26	161	110	544	199	3,750	438	418	5,230	161	93	199
6	25	1,360	105	234	177	2,600	361	533	1,640	159	91	3,230
7	25	2,770	104	177	791	2,400	334	5,040	886	155	92	3,000
8	24	563	103	165	4,490	1,500	335	2,700	551	151	92	1,610
9	23	250	103	137	2,650	600	500	763	447	147	91	430
10	24	177	103	124	879	3,500	412	605	386	145	89	227
11	23	144	102	114	472	6,160	303	481	394	142	89	173
12	22	130	100	114	392	3,940	267	415	398	165	89	161
13	21	1,330	103	119	347	700	592	366	411	137	86	477
14	21	497	112	155	321	650	639	334	406	130	84	527
15	21	258	120	351	288	500	1,130	313	439	146	82	307
16	20	160	113	438	255	400	8,430	298	534	347	129	172
17	21	123	105	363	234	350	6,230	280	375	219	85	139
18	21	660	98	350	225	330	4,470	266	358	154	75	127
19	21	1,160	96	389	218	310	2,180	254	708	132	74	120
20	21	350	97	208	209	300	1,400	243	2,770	123	73	113
21	22	225	98	212	197	290	800	231	1,080	117	72	110
22	2,290	201	98	262	188	280	1,380	217	468	114	70	106
23	666	194	99	202	195	350	2,390	232	333	111	67	102
24	106	169	96	150	192	650	6,800	234	284	108	66	102
25	44	166	90	121	184	850	7,010	243	248	105	64	100
26	33	194	86	1,150	222	1,200	2,100	216	228	104	62	101
27	97	172	82	1,350	372	600	860	216	215	99	60	5,370
28	51	144	81	565	310	400	696	212	204	95	59	6,420
29	37	131	81	294	-----	350	603	185	196	92	76	1,550
30	1,930	122	81	198	-----	330	545	174	191	109	70	418
31	9,530	-----	91	194	-----	1,120	-----	169	-----	163	63	-----
TOTAL	15,278	19,954	3,132	11,316	16,607	42,326	53,763	20,194	33,101	4,548	2,707	25,624
MEAN	493	665	101	365	593	1,365	1,792	651	1,103	147	87.3	854
MAX	9,530	4,730	121	1,550	4,490	6,160	8,430	5,040	8,880	347	227	6,420
MIN	20	122	81	98	177	280	267	169	166	92	59	57
CFSM	1.04	1.40	.21	.77	1.25	2.87	3.76	1.37	2.32	.31	.18	1.79
IN.	1.19	1.56	.24	.88	1.30	3.31	4.20	1.58	2.59	.36	.21	2.00
AC-FT	30,300	39,580	6,210	22,450	32,940	83,950	106,600	40,050	65,660	9,020	5,370	50,830
CAL YR 1972	TOTAL 66,862	MEAN 183	MAX 9,530	MIN 17	CFSM .38	IN 5.23	AC-FT 132,600					
WTR YR 1973	TOTAL 248,550	MEAN 681	MAX 9,530	MIN 20	CFSM 1.43	IN 19.42	AC-FT 493,000					

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-31	0730	28.16	12,200	4-24	2045	27.98	11,900
2-8	0945	21.45	4,800	5-7	1245	22.68	5,560
3-4	1815	22.07	5,170	6-4	1145	26.87	10,300
3-11	0300	23.69	6,300	9-27	2145	26.03	9,150
4-16	1000	27.21	10,600				

RED RIVER BASIN

07334000 MUDDY BOGGY CREEK NEAR FARRIS, OKLA.

LOCATION.--Lat 34°16'17", long 95°54'43", in NE 1/4 NW 1/4 sec.26, T.3 S., R.13 E., Atoka County, on downstream side of left bank pier of main span of bridge on State Highway 3, 1.3 miles (2.1 km) downstream from McGee Creek, 2.8 miles (4.5 km) northwest of Farris, and at mile 57.7 (92.8 km).

DRAINAGE AREA.--1,087 sq mi (2,815 sq km).

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 444.58 ft (135.508 m) above mean sea level. Prior to Mar. 13, 1945, nonrecording gage, and Mar. 13, 1945, to Sept. 30, 1961, water-stage recorder at same site at datum 2.00 ft (0.610 m) higher.

AVERAGE DISCHARGE.--36 years, 892 cfs (25.26 cu m/s), 646,300 acre-ft/yr (797 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 19,300 cfs (547 cu m/s) June 6, gage height, 39.17 ft (11.939 m); minimum, 2.8 cfs (0.079 cu m/s) Oct. 14, 15.

Period of record: Maximum discharge, 61,900 cfs (1,750 cu m/s) June 17, 1945, gage height, 44.94 ft (13.698 m), datum then in use, from rating curve extended above 37,000 cfs (1,050 cu m/s); no flow at times in many years.

REMARKS.--Records good. Some regulation since June 1959 by Atoka Reservoir, capacity, 125,000 acre-ft (154 sq hm), on North Boggy Creek, drainage area, 176 sq mi (456 sq km); pipeline diversions to Oklahoma City since November 1963, normal capacity, 60 mgd (227,100 cu m/d).

COOPERATION.--Gage-height records and 37 discharge measurements by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1211: Drainage area,

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	8,330	156	224	3,240	1,290	5,510	5,460	110	92	1,040	7.1
2	14	8,080	133	324	2,820	5,040	4,670	11,100	398	75	307	6.7
3	10	6,440	119	1,950	2,050	4,880	2,090	3,790	9,690	88	163	6.4
4	8.0	5,920	114	4,150	987	9,110	1,660	1,620	14,600	134	106	6.4
5	6.5	1,870	118	3,840	690	9,560	1,680	929	16,100	82	93	32
6	5.5	4,500	118	2,210	561	9,640	1,030	842	18,200	63	63	1,690
7	4.8	7,970	138	823	1,630	11,400	748	7,780	15,700	52	44	5,150
8	4.2	3,520	94	636	7,940	8,630	701	8,100	10,100	48	34	4,980
9	3.7	1,380	87	522	7,230	5,740	1,360	4,510	2,370	58	28	2,700
10	3.7	715	86	440	5,420	6,740	1,410	1,820	977	49	29	1,070
11	3.6	490	104	418	1,820	12,700	961	862	649	44	269	535
12	3.5	352	104	397	1,040	10,900	635	612	527	46	976	310
13	3.3	4,300	137	336	818	10,400	511	416	446	64	551	1,010
14	3.0	3,000	162	414	706	6,200	443	293	443	38	248	2,620
15	3.0	2,100	221	1,020	567	2,400	2,150	207	408	31	155	2,290
16	3.7	824	254	1,760	449	1,500	15,500	164	332	48	101	869
17	3.8	497	205	1,770	360	1,000	12,500	129	474	57	108	401
18	3.5	907	176	1,390	292	740	11,600	126	371	62	256	251
19	3.2	2,650	159	1,640	252	589	12,000	117	800	37	125	138
20	3.1	2,280	148	1,670	232	508	7,170	110	1,500	24	90	81
21	5.8	1,300	141	4,010	210	433	3,990	100	3,260	27	55	52
22	2,380	832	148	4,140	199	336	3,930	85	2,380	26	40	37
23	3,220	605	146	2,170	178	304	10,100	87	941	26	30	28
24	1,770	477	136	1,130	162	2,230	14,000	88	396	22	20	23
25	297	448	126	756	154	9,160	14,400	141	258	20	15	20
26	113	461	113	1,890	428	8,610	11,900	904	195	18	12	16
27	159	377	101	3,110	1,110	6,450	4,520	778	203	16	10	2,550
28	149	338	92	3,160	976	3,140	1,640	432	199	16	9.9	6,380
29	88	244	88	1,990	-----	1,400	1,100	470	161	17	8.9	6,430
30	2,660	183	100	1,050	-----	1,060	856	287	106	192	8.1	5,760
31	10,800	-----	167	928	-----	3,940	-----	146	-----	1,470	7.6	-----
TOTAL	21,754.9	71,390	4,191	50,268	42,521	156,030	150,765	52,505	102,294	3,042	5,002.5	45,449.6
MEAN	702	2,380	135	1,622	1,519	5,033	5,026	1,694	3,410	98.1	161	1,515
MAX	10,800	8,330	254	4,150	7,940	12,700	15,500	11,100	18,200	1,470	1,040	6,430
MIN	3.0	183	86	224	154	304	443	85	106	16	7.6	6.4
AC-FT	43,150	141,600	8,310	99,710	84,340	309,500	299,000	104,100	202,900	6,030	9,920	90,150
CAL YR 1972	TOTAL 138,659.82											
WTR YR 1973	TOTAL 705,213.00											
	MEAN 379											
	MAX 10,800											
	MIN 0											
	AC-FT 275,000											
	WTR YR 1973											
	TOTAL 705,213.00											
	MEAN 1,932											
	MAX 18,200											
	MIN 3.0											
	AC-FT 1,399,000											

PEAK DISCHARGE (BASE, 10,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-31	1400	31.17	11,600	3-11	0400	32.90	13,600	4-24	2130	34.68	15,200
11-7	0245	29.51	10,400	3-25	1745	28.42	10,100	5-1	2345	35.29	14,800
3-7	0300	31.46	12,400	4-16	1345	35.94	16,400	6-6	0030	39.17	19,300

RED RIVER BASIN

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07334200 BYRD'S MILL SPRING NEAR FITTSTOWN, OKLA.

LOCATION.--Lat 34°35'45", long 96°39'55", in SW 1/4 SW 1/4 sec.34, T.2 N., R.6 E., Pontotoc County, upstream from weir outlet of spring, 0.5 mile (0.8 km) upstream from Big Spring Creek, 2.0 miles (3.2 km) west of Fittstown, and 12.0 miles (19.3 km) south of Ada.

PERIOD OF RECORD.--April 1959 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 1,022 ft (311.5 m) from ground-water survey map.

AVERAGE DISCHARGE.--14 years, 7.82 cfs (0.221 cu m/s), 5,670 acre-ft/yr (6.99 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 25 cfs (0.71 cu m/s) Apr. 26-May 7, gage height, 3.17 ft (0.996 m); minimum daily, 1.1 cfs (0.031 cu m/s) Oct. 17-21.
Period of record: Maximum discharge, 30 cfs (0.850 cu m/s) May 30, 1960, gage height, 3.22 ft (0.981 m); no flow at times in 1959, 1964-67.

REMARKS.--Records good. Records do not include diversion of about 6 to 10 cfs (0.170 to 0.283 cu m/s) by city of Ada for municipal water supply, a part of which is discharged as effluent to Sandy Creek, tributary to Canadian River.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	6.4	8.9	8.0	11	13	21	25	19	18	13	10
2	1.6	6.6	8.9	8.0	11	13	21	25	20	18	13	10
3	1.6	6.7	8.9	8.4	12	14	21	25	20	18	13	10
4	1.5	6.8	8.9	8.4	12	15	20	25	20	18	13	9.9
5	1.5	7.2	8.9	8.7	12	15	20	25	21	18	13	9.9
6	1.5	7.5	8.7	8.5	12	16	20	25	21	18	13	11
7	1.5	7.9	8.7	8.7	12	16	20	24	21	18	13	11
8	1.4	7.9	8.8	8.4	12	17	20	24	20	17	13	11
9	1.4	7.8	8.4	8.4	12	17	20	24	20	17	13	11
10	1.3	7.9	8.4	8.8	13	18	20	24	20	17	12	11
11	1.3	8.0	8.4	8.8	13	18	20	23	20	17	12	11
12	1.3	8.0	8.1	8.9	13	19	20	23	20	16	12	11
13	1.2	8.0	8.0	8.9	13	19	19	23	20	16	12	11
14	1.2	8.0	8.0	8.9	13	19	19	23	20	16	12	11
15	1.2	8.0	8.0	8.9	13	20	19	23	20	16	12	11
16	1.2	8.0	8.0	8.9	13	20	20	22	20	16	12	11
17	1.1	8.0	8.0	9.2	13	20	20	22	20	15	12	11
18	1.1	8.0	8.1	9.4	13	20	20	22	20	15	12	11
19	1.1	8.0	12	9.4	13	20	21	22	20	15	12	11
20	1.1	8.0	8.9	9.4	13	20	21	22	20	15	12	11
21	1.1	8.1	8.0	9.4	13	20	21	22	20	15	12	11
22	1.2	8.1	8.9	9.9	13	20	22	21	20	15	11	10
23	1.3	8.4	8.4	9.9	13	20	23	21	20	15	11	10
24	1.3	8.4	8.4	9.9	13	20	23	21	20	19	11	10
25	5.1	8.4	8.4	10	13	21	24	21	19	16	11	10
26	6.9	8.5	8.4	10	13	21	24	20	19	14	11	10
27	3.1	8.5	8.4	10	13	21	24	20	19	14	11	14
28	1.3	8.4	8.4	10	13	21	25	20	19	14	11	13
29	1.3	8.7	8.4	10	-----	21	25	19	19	14	10	13
30	2.8	8.9	8.0	11	-----	21	25	19	18	14	10	13
31	9.0	-----	8.0	11	-----	21	-----	19	-----	13	10	-----
TOTAL	61.1	237.1	264.7	286.1	353	576	638	694	595	497	368	328.8
MEAN	1.97	7.90	8.54	9.23	12.6	18.6	21.3	22.4	19.8	16.0	11.9	11.0
MAX	9.0	8.9	12	11	13	21	25	25	21	19	13	14
MIN	1.1	6.4	8.0	8.0	11	13	19	19	18	13	10	9.9
AC-FT	121	470	525	567	700	1,140	1,270	1,380	1,180	986	730	652

CAL YR 1972 TOTAL 2,323.4 MEAN 6.35 MAX 14 MIN 1.1 AC-FT 4,610
WTR YR 1973 TOTAL 4,898.8 MEAN 13.4 MAX 25 MIN 1.1 AC-FT 9,720

07335000 CLEAR BOGGY CREEK NEAR CANEY, OKLA.

LOCATION.--Lat 34°15'09", long 96°12'19", in NW 1/4 SE 1/4 sec.36, T.3 S., R.10 E., Atoka County, on down-stream side of left pier of bridge on old U.S. Highways 69 and 75, 0.5 mi (0.8 km) downstream from Caney Creek, 1.5 mi (2.4 km) north of Caney, and at mile 24.1 (38.8 km).

DRAINAGE AREA.--720 sq mi (1,865 sq km).

PERIOD OF RECORD.--October 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 485.05 ft (147.843 m) above mean sea level. Prior to Mar. 13, 1945, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--31 years, 486 cfs (13.76 cu m/s), 9.17 in/yr (233 mm/yr), 352,500 acre-ft/yr (435 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 13,800 cfs (391 cu m/s) June 4, gage height 23.54 (7.175 m); minimum, 7.6 cfs (0.22 cu m/s) Oct. 18, 19.

Period of record: Maximum discharge, 52,800 cfs (1,500 cu m/s) Dec. 11, 1946, gage height, 26.77 ft (8.159 m); no flow at times in 1954, 1956, 1964.

Flood in February 1938 reached a stage of 26.9 (8.20 m), from information by local resident.

REMARKS.--Records good. Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Gage-height record and 34 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	4,310	187	179	1,430	938	2,350	3,010	112	194	550	41
2	33	4,300	178	146	2,230	3,360	1,090	3,230	621	182	210	39
3	30	4,060	168	1,140	1,020	3,380	1,050	1,720	5,390	158	138	38
4	25	2,000	155	2,860	694	4,960	900	1,180	12,300	141	111	35
5	20	1,160	144	2,220	541	6,120	766	960	10,100	133	93	104
6	17	2,870	134	978	448	6,610	600	874	6,470	163	81	2,990
7	15	4,140	126	709	966	6,330	552	3,830	4,800	169	73	3,580
8	13	1,910	122	563	4,230	5,140	564	3,460	4,040	132	67	3,110
9	12	970	121	455	4,150	3,950	733	1,550	2,280	126	63	1,480
10	11	772	119	405	2,670	6,860	665	1,060	1,870	116	58	898
11	11	651	113	375	1,290	9,150	482	810	1,650	151	61	611
12	12	548	114	314	935	7,220	408	679	1,680	205	697	407
13	11	1,220	125	306	734	5,490	471	569	1,360	146	619	520
14	9.8	1,270	136	340	609	2,840	411	461	1,230	124	196	976
15	8.6	749	141	700	512	1,960	1,660	398	1,210	116	130	623
16	8.3	516	137	1,100	446	1,520	8,760	351	1,070	203	179	391
17	8.1	417	129	948	389	1,310	7,630	310	774	194	191	287
18	8.0	599	123	857	356	1,170	7,540	279	734	127	224	225
19	7.8	1,190	121	867	335	1,000	5,920	255	1,050	177	110	187
20	7.9	1,010	120	686	312	871	4,410	236	1,730	157	87	160
21	13	621	121	876	280	747	3,700	216	2,160	108	74	144
22	2,000	501	123	883	252	621	3,310	200	936	91	64	135
23	938	422	118	580	241	570	4,280	195	640	85	56	122
24	420	363	116	414	237	1,130	9,230	189	507	80	49	114
25	177	357	110	351	231	2,380	8,880	245	404	76	45	104
26	118	348	103	1,400	427	3,290	6,070	209	328	75	41	103
27	113	307	98	1,890	713	2,660	3,590	192	284	77	38	4,550
28	91	258	95	1,190	516	1,310	2,260	166	254	78	36	5,300
29	76	219	95	833	-----	1,020	1,900	155	225	72	49	4,820
30	2,380	200	105	585	-----	1,080	1,670	129	208	87	37	2,780
31	5,310	-----	121	504	-----	2,830	-----	119	-----	435	55	-----
TOTAL	11,941.5	38,258	3,918	25,654	27,194	97,817	91,852	27,237	66,417	4,378	4,482	34,874
MEAN	385	1,275	126	828	971	3,155	3,062	879	2,214	141	145	1,162
MAX	5,310	4,310	187	2,860	4,230	9,150	9,230	3,830	12,300	435	697	5,300
MIN	7.8	200	95	146	231	570	408	119	112	72	36	35
CFSM	.53	1.77	.18	1.15	1.35	4.38	4.25	1.22	3.08	.20	.20	1.61
IN.	.62	1.98	.20	1.33	1.41	5.05	4.75	1.41	3.43	.23	.23	1.80
AC-FT	23,690	75,880	7,770	50,880	53,940	194,000	182,200	54,020	131,700	8,680	8,890	69,170
CAL YR 1972	TOTAL 88,426.4	MEAN 242	MAX 5,310	MIN 3.9	CFSM .34	IN 4.57	AC-FT 175,400					
WTR YR 1973	TOTAL 434,022.5	MEAN 1,189	MAX 12,300	MIN 7.8	CFSM 1.65	IN 22.42	AC-FT 860,900					

PEAK DISCHARGE (BASE, 4,500 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
10-30	2315	22.06	6,750	4-16	0415	22.88	9,970
11-6	2145	20.74	4,530	4-24	1530	23.23	11,800
2-8	0630	20.48	4,500	5-1	1930	21.14	4,990
3-5	1415	21.98	6,810	6-4	1345	23.54	13,800
3-11	1400	22.76	9,870	9-27	1345	21.65	6,320

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LOCATION.--Lat 33°52'32", long 95°30'08", in NW 1/4 sec.11, T.8 S., R.17 E., Choctaw County, Okla., near right bank on downstream side of pier of bridge on U.S. Highway 271 at Arthur City, 10.6 miles (17.1 km) downstream from Muddy Boggy River, 26.0 miles (41.8 km) upstream from Kiamichi River, and at mile 633.1 (1,018.7 km).

PERIOD OF RECORD.--January to September 1905 (gage heights and discharge measurements only), October 1905 to December 1911, July 1936 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at same site since 1891 are contained in reports of U.S. Weather Bureau.

EXTREMES.--Current year: Maximum discharge, 73,000 cfs (2,067 cu m/s) Apr. 25, gage height, 22.25 ft (6.781 m); minimum, 388 cfs (10.9 cu m/s) Oct. 4, gage height, 4.00 ft (1.219 m).
Period of record: Maximum discharge, about 400,000 cfs (11,300 cu m/s) May 28, 1908, gage height, 43.2 ft (13.17 m), from rating curve extended above 41,000 cfs (1,160 cu m/s) on basis of records for later years; minimum, 130 cfs (3.68 cu m/s) Dec. 11, 12, 1956, gage height, 4.49 ft (1.369 m).

REVISIONS (WATER YEARS).--WSP 1241: Drainage area. WSP 1311: 1906-11.

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2,240	39,800	2,720	1,380	11,400	8,300	18,200	44,000	3,870	9,220	2,530	5,310
2	1,080	33,200	2,710	1,300	15,300	12,700	19,600	44,000	4,530	7,600	4,550	5,180
3	558	29,200	2,260	1,400	15,400	20,400	19,500	45,400	13,400	5,790	3,740	4,180
4	404	22,700	1,530	6,140	13,200	28,700	18,700	43,600	34,100	7,300	2,430	3,050
5	1,000	17,900	1,240	12,400	9,870	32,200	18,900	40,600	39,400	7,390	5,210	2,920
6	637	16,300	1,260	11,500	8,240	29,300	20,700	32,300	50,300	6,280	6,210	10,300
7	1,040	22,500	2,600	11,800	8,140	26,600	19,800	41,300	50,300	6,070	6,280	24,800
8	2,300	25,200	3,460	9,130	25,700	31,600	18,900	53,300	49,200	5,500	6,290	28,700
9	966	19,500	3,930	6,600	32,400	31,400	18,800	35,200	64,500	4,720	5,310	20,000
10	481	15,600	3,580	7,300	25,200	33,500	19,000	27,200	65,800	2,890	5,340	12,300
11	530	12,800	2,450	7,660	21,900	45,200	15,800	24,700	60,000	4,230	5,400	8,930
12	2,670	9,160	2,200	6,490	21,500	44,600	13,300	22,800	53,400	5,740	5,220	6,200
13	2,770	7,690	5,700	5,760	20,000	37,300	11,600	17,400	41,500	5,800	5,840	5,130
14	2,460	12,700	7,290	5,310	16,700	34,200	14,100	14,300	28,100	5,410	4,670	6,730
15	3,440	13,500	8,970	3,680	13,600	32,000	14,900	13,200	24,500	5,220	5,490	13,000
16	3,010	10,900	9,370	3,630	12,800	29,500	32,200	12,600	22,700	3,830	5,340	11,500
17	1,020	7,170	8,710	6,550	12,500	25,800	43,400	12,400	18,600	3,280	7,220	8,490
18	1,440	6,340	7,560	5,860	11,600	22,300	36,400	12,000	18,800	4,760	6,470	6,820
19	3,460	8,120	6,040	4,590	10,400	18,400	34,300	11,800	18,700	5,510	6,100	6,300
20	3,720	8,920	6,890	4,270	9,100	14,900	34,300	11,700	21,300	5,350	5,050	5,620
21	3,450	7,650	5,680	4,530	9,220	14,000	33,100	10,600	31,200	6,210	4,270	4,740
22	3,850	7,270	3,390	6,170	7,540	16,500	36,200	7,660	23,900	6,050	4,820	5,720
23	7,400	7,050	5,140	7,310	5,930	18,800	43,100	8,800	18,000	3,990	5,680	5,660
24	11,800	4,500	3,320	6,150	6,400	18,100	47,900	6,930	15,100	3,340	5,520	5,560
25	6,880	2,990	2,170	3,880	6,350	24,100	70,800	5,890	13,300	3,600	5,180	5,560
26	3,280	2,960	1,630	5,590	3,590	25,100	58,800	5,270	12,700	4,240	5,240	5,180
27	1,750	3,300	1,460	11,900	2,580	22,700	42,800	5,410	12,400	4,740	5,190	5,190
28	1,550	2,750	1,440	13,200	5,520	22,500	45,300	5,720	11,700	4,960	4,690	31,200
29	2,950	2,150	1,830	10,000	-----	22,300	51,900	3,440	9,060	4,430	5,110	37,300
30	4,520	2,690	1,820	7,								

RED RIVER BASIN

07335700 KIAMICHI RIVER NEAR BIG CEDAR, OKLA.

(Hydrologic bench mark station)

LOCATION.--Lat 34°38'18", long 94°36'45", in SW 1/4 SE 1/4 sec.18, T.2 N., R.26 E., LeFlore County, in Ouachita National Forest, on downstream side of right bank pier of bridge on State Highway 63, 0.2 mile (0.3 km) upstream from Rattlesnake Creek, 1.1 miles (1.8 km) upstream from Big Branch, 2.1 miles (3.4 km) east of Big Cedar, and at mile 157.6 (253.6 km).

DRAINAGE AREA.--40.1 sq mi (103.9 sq km).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 886.97 ft (270.348 m) above mean sea level (State Highway Department bench mark).

AVERAGE DISCHARGE.--8 years, 80.1 cfs (2.268 cu m/s), 27.1 inches/yr (688 mm/yr), 58,030 acre-ft/yr (71.6 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 14,200 cfs (402 cu m/s) Mar. 10, gage height, 15.68 ft (4.779 m); no flow Oct. 1-21.

Period of record: Maximum discharge, 21,500 cfs (609 cu m/s) Dec. 10, 1971, gage height, 17.08 ft (5.206 m), from rating curve extended above 9,000 cfs (255 cu m/s); no flow at times in most years.

REMARKS.--Records good. Records of chemical analyses for the current year are published in Part 2 of this report.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1,580	34	142	400	300	126	602	25	11	6.3	.62
2	0	509	31	112	212	716	106	795	634	8.8	4.3	.77
3	0	202	29	168	155	275	101	272	1,120	12	3.7	.74
4	0	127	26	139	124	700	86	179	397	21	3.2	.69
5	0	86	24	114	101	293	71	133	940	106	2.8	1.3
6	0	578	21	90	82	572	61	164	326	88	2.6	11
7	0	337	19	77	172	421	71	1,250	180	40	2.3	189
8	0	162	23	59	345	233	67	295	118	26	2.1	71
9	0	98	24	47	216	239	74	196	79	25	2.0	44
10	0	62	22	41	162	2,700	64	146	56	31	1.9	27
11	0	41	22	34	129	506	62	114	42	39	2.4	18
12	0	32	150	29	111	242	59	88	34	26	3.2	14
13	0	343	207	25	98	188	57	66	28	18	2.5	13
14	0	225	168	25	76	207	53	52	175	14	2.1	11
15	0	161	149	26	62	149	534	41	127	16	1.9	8.9
16	0	125	114	23	54	120	1,220	33	91	21	3.5	7.5
17	0	97	96	23	48	95	294	26	208	15	4.3	6.5
18	0	195	83	106	43	76	614	21	134	12	3.2	5.8
19	0	250	77	130	39	65	396	18	140	9.3	2.7	5.1
20	0	187	64	262	34	57	394	15	128	7.7	2.2	5.0
21	0	149	70	998	30	46	537	15	94	6.3	1.9	4.7
22	.60	121	61	360	27	38	1,530	16	69	5.4	1.7	4.3
23	.85	96	55	216	25	33	1,230	28	61	4.8	1.6	4.1
24	.90	81	49	161	23	1,060	822	20	40	4.5	1.4	13
25	.75	79	44	130	21	796	387	25	29	4.0	1.3	34
26	.71	66	39	165	69	318	237	20	22	3.5	1.2	27
27	1.8	56	35	133	54	210	173	196	17	3.2	1.2	109
28	3.5	47	31	114	47	163	132	79	14	2.9	1.1	890
29	3.1	41	59	95	-----	133	104	56	13	2.8	1.0	241
30	119	38	298	83	-----	110	84	40	13	4.5	.94	138
31	2,380	-----	195	124	-----	.161	-----	30	-----	6.0	.88	-----
TOTAL	2,511.21	6,171	2,319	4,251	2,959	11,222	9,746	5,031	5,354	594.7	73.42	1,906.22
MEAN	81.0	206	74.8	137	106	362	325	162	178	19.2	2.37	63.5
MAX	2,380	1,580	298	998	400	2,700	1,530	1,250	1,120	106	6.3	890
MIN	0	32	19	23	21	33	53	15	13	2.8	.88	.69
CFSM	2.02	5.14	1.87	3.42	2.64	9.03	8.10	4.04	4.44	.48	.06	1.58
IN	2.33	5.72	2.15	3.94	2.75	10.41	9.04	4.67	4.97	.55	.07	1.77
AC=FT	4,980	12,240	4,600	8,430	5,870	22,260	19,330	9,980	10,620	1,180	146	3,780

CAL YR 1972 TOTAL 17,235.64 MEAN 47.1 MAX 2,380 MIN 0 CFSM 1.17 IN 15.99 AC=FT 34,190
WTR YR 1973 TOTAL 52,138.55 MEAN 143 MAX 2,700 MIN 0 CFSM 3.57 IN 48.37 AC=FT 103,400

PEAK DISCHARGE (BASE, 3,500 REVISED)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	0700	13.21	7,230	4-15	2345	13.35	7,500
3-10	1330	15.68	14,200	4-22	2245	12.74	6,380
3-24	2000	10.82	3,510	5-07	0315	11.65	4,580

RED RIVER BASIN

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07336200 KIAMICHI RIVER NEAR ANTLERS, OKLA.

LOCATION.--Lat 34°14'55", long 95°36'18", in SW 1/4 sec.35, T.3 S., R.16 E., Pushmataha County, on right bank, 50 ft (15.240 m) downstream from bridge on U.S. Highway 271 and State Highway 2, 2.0 mi (3.2 km) northeast of Antlers, 7.7 mi (12.4 km) downstream from Tenmile Creek, 5.4 mi (8.7 km) upstream from Cedar Creek and at mile 59.6 (95.9 km).

DRAINAGE AREA.--1,138 sq mi (2,947 sq km).

PERIOD OF RECORD.--Current year.

GAGE.--Water-stage recorder. Datum of gage is 419.82 ft (127.961 m) above mean sea level.

EXTREMES.--Maximum discharge, 29,300 cfs (839 cu m/s) Apr. 24, gage height, 28.16 ft (8.583 m); no flow Oct. 1-21.

REMARKS.--Records good. Small diversion above station for municipal water supply of city of Antlers.

COOPERATION.--Gage height record, 45 discharge measurements and 1 observation of no flow furnished by Corps of Engineers; records computed by Geological Survey

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	12,700	542	1,200	5,190	1,770	2,860	2,620	497	196	976	17
2	0	15,700	472	920	6,370	7,880	1,990	17,000	2,020	175	444	101
3	0	10,200	429	1,810	3,370	6,790	1,620	15,900	17,200	158	276	776
4	0	2,900	396	5,080	2,250	7,810	1,970	4,280	23,300	139	183	248
5	0	1,570	354	3,230	1,740	10,300	1,850	2,350	22,400	132	132	223
6	0	11,300	321	2,170	1,410	6,470	1,430	1,980	19,000	120	98	7,820
7	0	22,800	298	1,890	2,030	7,730	1,240	16,300	9,910	104	79	8,630
8	0	18,500	288	1,620	11,900	5,490	1,270	13,000	2,870	103	65	4,760
9	0	3,840	278	1,420	10,500	3,650	1,770	4,870	1,780	149	54	1,760
10	0	2,120	290	1,220	4,320	7,290	2,230	2,490	1,360	212	45	872
11	0	1,500	348	1,100	2,860	17,300	1,570	1,710	1,060	851	516	527
12	0	1,160	399	938	2,180	17,400	1,260	1,260	868	552	212	369
13	0	7,500	847	889	1,800	5,770	1,090	976	774	289	184	780
14	0	10,900	1,640	956	1,520	4,610	972	777	760	214	172	2,940
15	0	4,060	1,390	1,360	1,270	5,220	2,220	613	955	167	95	1,350
16	0	2,380	1,490	1,640	1,060	3,020	18,300	518	1,310	159	368	704
17	0	1,680	1,160	1,600	922	2,260	18,500	433	1,070	171	748	467
18	0	2,100	925	1,590	832	1,770	9,310	373	1,980	206	437	335
19	0	5,100	808	3,160	764	1,450	7,480	324	1,480	162	229	255
20	0	4,560	768	2,380	697	1,230	5,130	292	4,030	140	147	199
21	0	2,690	728	2,540	633	1,050	3,650	265	3,720	111	101	163
22	208	2,060	672	5,630	584	919	7,400	238	1,810	87	75	135
23	405	1,680	630	3,970	542	820	20,000	264	1,080	72	59	112
24	273	1,330	616	2,400	529	4,200	27,200	257	759	63	47	94
25	205	1,140	556	1,780	521	17,400	24,100	1,630	606	54	38	80
26	140	1,100	472	2,050	1,040	16,200	8,550	1,610	503	46	32	108
27	141	1,000	429	3,340	2,320	5,890	4,070	2,040	382	39	28	343
28	130	838	396	2,940	1,710	3,490	2,880	3,740	300	36	25	1,050
29	105	684	396	2,030	-----	2,650	2,130	1,530	259	43	22	3,250
30	2,890	580	390	1,500	-----	2,230	1,690	903	224	609	20	1,970
31	10,700	-----	700	1,380	-----	2,360	-----	641	-----	3,060	18	-----
TOTAL	15,197	155,672	19,428	65,733	70,864	182,419	185,732	101,184	124,267	8,619	5,925	40,438
MEAN	490	5,189	627	2,120	2,531	5,884	6,191	3,264	4,142	278	191	1,348
MAX	10,700	22,800	1,640	5,630	11,900	17,400	27,200	17,000	23,300	3,060	976	8,630
MIN	0	580	278	889	521	820	972	238	224	36	18	17
CFSM	.43	4.56	.55	1.86	2.22	5.17	5.44	2.87	3.64	.24	.17	1.18
IN.	.50	5.09	.64	2.15	2.32	5.96	6.07	3.31	4.06	.28	.19	1.32
AC-FT	30,140	308,800	38,540	130,400	140,600	361,800	368,400	200,700	246,500	17,100	11,750	80,210

WTR YR 1973 TOTAL 975,478 MEAN 2,673 MAX 27,200 MIN 0 CFSM 2.35 IN 31.89 AC-FT 1,935,000

PEAK DISCHARGE (BASE, 18,000 CFS)

DATE	TIME	G.H.T.	DISCHARGE	DATE	TIME	G.H.T.	DISCHARGE
11-07	0230	24.79	23,100	4-24	1845	28.16	29,300
3-11	2345	22.02	18,900	5-02	2000	22.27	19,400
3-25	2100	22.29	19,300	5-07	1345	21.92	18,400
4-16	1715	22.89	20,100	6-04	0615	25.01	23,900

LOCATION.--Lat 33°41'15", long 94°41'39", Bowie, Tex.--McCurtain, Okla. County line, near left bank at downstream side of bridge on U.S. Highway 259, 4.8 miles (7.7 km) upstream from North Mill Creek, 13 miles (20.9 km) north of De Kalb, and at mile 556.9 (896.1 km).

PERIOD OF RECORD.--December 1967 to current year.

AVERAGE DISCHARGE.--5 years, 12,050 ft³/s (341 m³/s), 8,730,000 acre-ft/yr (10,760 hm³/yr).

Period of record: Maximum discharge, 189,000 ft³/s (5,350 m³/s) Dec. 11, 1971, gage height, 31.55 ft (9.62 m), from graph based on gage readings; minimum, 431 ft³/s (12.2 m³/s) Sept. 4, 5, 1972.

Maximum stage since 1957, 32.2 ft (9.81 m) in June 1957. Greatest flood since 1936 occurred in February 1938, stage unknown.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,660	55,800	5,430	3,220	15,000	6,100	28,600	68,400	7,260	11,300	3,330	5,450
2	1,270	76,700	5,730	2,900	19,100	13,500	26,000	65,500	7,990	11,900	3,070	5,520
3	1,900	69,400	5,750	3,140	25,900	21,900	27,200	66,200	14,300	9,420	4,490	5,560
4	1,360	59,100	5,200	3,730	27,600	34,500	26,200	71,300	29,900	7,730	5,600	5,350
5	749	47,000	4,720	6,080	23,400	46,800	25,200	69,400	64,200	7,880	3,930	4,350
6	500	35,700	3,970	15,400	17,800	53,300	24,400	57,900	84,700	8,520	3,600	4,170
7	672	34,600	3,520	18,000	13,600	51,600	26,100	47,400	93,200	8,090	5,850	11,000
8	694	45,700	3,910	18,100	18,000	45,500	25,600	58,200	91,000	7,100	6,950	33,200
9	796	54,100	5,140	16,000	40,500	46,400	24,800	77,700	81,400	7,030	6,790	40,700
10	1,860	49,400	5,960	12,000	48,800	49,800	24,600	64,500	82,300	6,330	6,360	33,200
11	1,270	35,100	6,170	10,400	41,700	67,200	24,700	46,200	82,500	5,390	5,750	22,800
12	694	25,000	6,010	10,400	33,200	78,500	22,400	36,500	78,000	4,250	6,030	18,200
13	530	18,200	6,380	9,500	29,600	75,000	18,800	35,100	70,400	6,240	6,430	11,100
14	2,120	14,500	8,330	8,300	26,600	64,300	17,500	26,800	55,700	7,160	6,520	8,250
15	2,810	21,100	12,800	7,570	22,500	54,300	17,900	21,000	41,400	7,030	6,120	7,710
16	2,760	26,300	15,000	6,690	18,200	48,500	29,900	18,300	35,000	6,840	5,520	14,900
17	3,540	21,600	15,500	5,810	16,100	43,400	55,700	17,000	32,600	6,170	6,260	17,000
18	3,180	15,900	14,600	7,160	15,100	36,700	70,300	16,300	26,400	5,080	7,100	13,000
19	1,450	14,300	12,800	9,140	14,000	30,900	70,000	15,800	20,500	4,910	8,220	9,480
20	1,330	16,100	10,900	7,940	12,300	25,600	69,000	15,500	22,500	6,190	7,520	7,880
21	3,080	18,500	9,810	9,280	10,800	20,800	58,000	15,100	31,300	6,790	6,740	7,030
22	4,050	17,200	9,790	9,670	10,300	18,300	51,800	14,100	43,200	7,030	5,470	5,900
23	4,090	14,700	6,950	10,200	9,170	18,900	54,900	11,400	39,000	7,440	4,550	5,920
24	5,560	13,500	6,520	13,600	7,520	24,600	79,000	10,700	28,800	6,520	4,490	6,200
25	8,850	11,100	6,280	13,600	6,840	36,200	105,000	10,500	23,500	4,630	5,950	7,340
26	10,400	8,720	4,930	11,400	7,160	48,100	128,000	8,380	19,400	4,190	5,770	6,720
27	7,000	7,470	4,030	10,900	6,190	52,000	103,000	8,470	17,300	4,450	5,500	6,170
28	4,310	7,490	3,480	17,300	4,990	48,400	85,800	8,920	16,300	4,970	5,500	8,030
29	3,070	6,640	3,180	22,800	-----	48,000	72,900	9,530	14,600	5,710	5,390	30,900
30	3,710	5,850	3,050	19,300	-----	35,400	72,500	9,730	12,500	5,560	4,930	41,300
31	11,600	-----	3,450	14,900	-----	32,600	-----	7,600	-----	5,100	5,370	-----
TOTAL	96,865	846,770	219,290	334,430	541,970	1,277,114	1,465,814	1,009,414	1,267,214	206,950	175,000	404,330
MEAN	3,125	28,230	7,074	10,790	19,360	41,200	48,860	32,560	42,240	6,676	5,645	13,480
MAX	11,600	76,700	15,500	22,800	48,800	78,500	128,000	77,700	93,200	11,900	8,220	41,300
MIN	500	5,850	3,050	2,900	4,990	6,100	17,500	7,600	7,260	4,190	3,070	4,170
AC-FT	192,100	1,680M	435,000	663,300	1,075M	2,533M	2,907M	2,002M	2,513M	410,500	347,100	802,000
CAL YR 1972	TOTAL 7,843,385		MEAN 21,430		MAX 128,000		MIN 500		AC-FT 15,560,000			
WTR YR 1973	TOTAL 7,845,085		MEAN 21,490		MAX 128,000		MIN 500		AC-FT 15,560,000			

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LOCATION.--Lat 33°33'07", long 94°02'28", in NW¼SW¼ sec.7, T.14 S., R.28 W., Miller County, near right bank on downstream side of bridge on U.S. Highway 71 at Index, 2.2 mi (3.5 km) south of Ogden, 20.6 mi (33.1 km) upstream from Little River, and at mile 485.3 (780.8 km).

PERIOD OF RECORD.--July 1936 to current year. Gage-height records collected at same site since 1917 are contained in reports of National Weather Service.

AVERAGE DISCHARGE.--37 years, 11,860 ft³/s (336 m³/s), 8,593,000 acre-ft/yr (10,600 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 97,900 ft³/s (2,800 m³/s) Apr. 27, gage height, 22.01 ft (6.709 m); minimum, 1,040 ft³/s (29.5 m³/s) Oct. 15, gage height, 3.01 ft (0.917 m).
Period of record: Maximum discharge, 297,000 ft³/s (8,410 m³/s) Feb. 23, 1938, gage height, 34.25 ft (10.439 m); minimum, 378 ft³/s (10.7 m³/s) Nov. 28, 1956.

REMARKS.--Records good. Some regulation since Oct. 31, 1943, by Lake Texoma (Texas), 241 mi (388 km) upstream capacity, 5,392,900 acre-ft (6,650 km³).

REVISIONS.--WSP 1211: Drainage area.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1,640	12,600	5,250	3,070	15,800	5,770	32,200	64,400	6,750	12,500	5,060	4,800
2	1,540	52,900	4,580	3,210	16,100	6,550	28,200	60,600	6,210	10,700	4,160	5,080
3	1,720	67,500	4,560	2,970	19,000	12,100	25,800	60,600	6,650	11,200	3,310	5,090
4	1,600	63,100	4,550	3,010	23,700	23,100	25,900	61,400	12,400	9,560	3,770	5,150
5	1,820	52,800	4,410	3,210	25,000	37,200	25,000	63,600	37,700	7,940	4,890	5,430
6	1,610	41,500	3,990	4,020	21,200	45,600	23,500	62,000	65,300	7,200	4,860	5,350
7	1,270	36,500	3,510	11,000	16,700	52,100	22,800	53,700	76,000	7,870	3,720	4,570
8	1,090	36,100	3,310	15,500	16,300	47,700	23,500	46,200	78,600	7,770	4,510	7,090
9	1,120	43,300	3,670	15,900	25,500	42,300	23,800	59,000	76,200	6,920	5,870	28,600
10	1,170	48,500	4,230	14,500	41,700	43,600	22,900	69,000	69,900	6,640	6,430	35,400
11	1,210	43,100	5,600	11,500	43,300	51,100	22,300	59,200	70,200	6,130	6,420	28,200
12	1,700	32,100	6,550	9,540	36,700	61,500	21,900	47,000	70,200	5,380	5,740	20,000
13	1,530	25,100	7,840	9,120	30,800	68,400	19,900	39,200	68,000	4,280	5,530	14,700
14	1,210	19,800	8,020	8,530	27,700	67,700	16,900	35,000	63,600	4,900	5,740	10,600
15	1,080	16,400	10,600	7,400	25,000	59,600	15,500	27,300	54,300	6,370	5,990	7,660
16	1,780	20,800	14,400	6,510	21,500	52,800	20,400	21,300	42,800	6,650	6,200	6,260
17	2,330	25,300	15,300	5,760	18,100	47,900	34,200	18,200	36,800	6,520	5,410	9,710
18	2,520	22,700	14,600	4,810	16,400	42,600	50,200	16,500	33,700	6,270	5,460	14,100
19	3,350	19,100	13,400	5,210	15,600	36,700	56,500	15,400	28,200	5,210	5,770	12,200
20	2,740	16,200	11,600	7,050	14,700	31,900	63,000	14,700	25,500	4,570	6,820	8,940
21	1,890	16,300	9,700	8,160	13,200	27,000	61,600	14,200	27,800	5,150	7,200	7,090
22	1,980	17,900	8,360	8,970	11,600	22,600	52,700	13,700	35,900	5,890	6,560	6,190
23	3,260	17,100	8,220	10,000	10,900	20,200	49,200	13,000	41,700	6,140	5,770	5,300
24	3,780	14,400	6,610	9,550	9,910	22,900	56,400	10,500	35,100	6,610	4,840	4,760
25	3,900	12,900	5,340	11,000	8,390	35,400	73,800	9,410	27,800	6,420	4,690	5,050
26	6,050	10,800	5,480	13,700	7,490	43,400	88,000	9,430	23,200	5,040	5,250	5,240
27	10,300	8,200	4,500	13,700	7,520	47,000	96,200	7,780	19,300	4,070	5,430	5,660
28	8,770	6,710	3,640	12,400	6,960	47,200	92,300	7,220	17,100	4,070	5,200	5,490
29	5,880	6,320	3,140	15,300	-----	43,100	75,000	7,440	15,800	4,460	5,120	6,160
30	4,470	5,910	2,930									

07337300 PINE CREEK LAKE NEAR WRIGHT CITY, OKLA.

LOCATION.--Lat 34°06'43", long 95°04'46", in NE 1/4 NW 1/4 sec.23, T.5 S., R.21 E., McCurtain County, at left of outlet works of dam on Little River, 4.7 mi (7.6 km) upstream from bridge on State Highway 98, 5.0 mi (8.0 km) northwest of Wright City, and at mile 145.3 (233.8 km).

DRAINAGE AREA.--635 sq mi (1,645 sq km).

PERIOD OF RECORD.--June 1969 to current year. Prior to October 1970 published as Pine Creek Reservoir near Wright City.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 204,900 acre-ft (253 cu hm) May 9, elevation 460.77 ft (140.443 m); minimum, 28,220 acre-ft (34.8 cu hm) Oct. 21, elevation 429.34 ft (130.863 m).

Period of record: Maximum contents, 348,410 acre-ft (430 cu hm) Dec. 16, 1971, elevation, 472.57 ft (144.039 m); minimum since conservation pool was first filled, 28,220 acre-ft (34.8 cu hm) Oct. 21, 1972, elevation, 429.34 ft (130.863 m).

REMARKS.--Reservoir is formed by rolled earth dam; regulated storage began June 1, 1969; conservation pool was first filled Jan. 7, 1970. Total capacity, 1,136,000 acre-ft (1.40 cu km) at elevation 509.0 ft (155.14 m), top of dam, 465,800 acre-ft (574 cu hm) at elevation 480.0 ft (146.30 m), crest of spillway, 53,800 acre-ft (66.3 cu hm) at elevation 438.0 ft (133.50 m) top of conservation pool, 7,140 acre-ft (8.80 cu hm) dead storage at elevation 414.0 ft (126.19 m). Figures given herein represent total contents. Reservoir is designed for flood control, municipal and industrial water supply, and recreation.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)

429	27,470	450	115,400
436	46,650	457	169,400
443	75,230	461	207,200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30,390	148,800	55,190	56,040	60,970	60,810	106,700	170,100	59,780	54,130	53,940	53,490
2	30,250	168,000	55,420	56,120	62,730	77,200	97,470	190,800	85,870	54,170	54,050	53,340
3	30,130	171,500	55,730	56,740	62,860	84,380	87,490	193,200	136,900	54,200	54,090	53,230
4	30,060	172,600	55,580	58,370	62,020	100,000	77,750	185,800	153,100	54,200	54,130	53,080
5	29,960	167,200	55,650	58,970	60,730	108,900	68,110	177,500	187,800	54,130	54,130	54,200
6	29,780	176,000	55,500	58,370	58,690	116,300	62,190	169,400	199,200	54,130	54,130	57,020
7	29,680	179,200	55,420	58,010	61,060	121,700	60,360	200,900	200,800	54,010	54,130	58,570
8	29,590	171,900	55,580	57,100	71,050	124,000	58,490	204,600	193,200	53,980	54,010	59,330
9	29,470	161,800	55,850	55,850	73,120	124,700	57,020	199,700	181,800	53,980	54,350	59,130
10	29,380	150,900	55,960	55,080	71,890	170,600	56,040	189,500	170,000	54,130	54,660	58,330
11	29,270	139,600	56,120	54,430	69,480	191,000	55,930	179,200	158,800	54,660	54,730	57,370
12	29,240	128,400	57,610	54,170	66,950	197,500	55,580	166,500	147,400	54,770	54,930	56,240
13	29,150	121,200	59,540	54,240	63,800	200,500	55,080	154,800	136,600	54,730	55,040	55,580
14	29,040	112,800	60,030	54,280	59,860	201,000	54,540	143,700	125,600	54,730	55,040	55,960
15	28,920	103,300	60,070	54,350	55,850	193,100	58,530	131,900	114,800	54,730	54,890	55,580
16	28,810	93,060	59,130	54,430	53,300	182,300	99,320	120,100	104,600	54,930	55,310	54,810
17	28,720	83,740	57,730	54,730	53,380	171,900	106,600	108,200	95,660	55,080	55,770	54,130
18	28,560	79,910	56,040	55,460	53,410	161,600	111,400	96,240	86,890	55,040	56,000	54,130
19	28,400	77,600	55,040	57,290	53,490	150,200	116,500	84,910	80,520	54,730	56,120	54,240
20	28,270	72,600	54,810	57,930	53,490	138,400	121,300	73,500	76,700	54,510	56,040	54,280
21	28,360	67,390	54,090	59,050	53,300	127,000	124,500	62,310	69,750	54,350	55,850	54,320
22	28,850	63,670	53,980	60,360	53,080	116,000	132,000	56,630	64,100	54,280	55,540	54,320
23	28,760	60,190	53,860	60,150	53,340	104,600	159,800	56,590	62,270	54,170	55,270	54,280
24	28,670	58,210	54,170	58,970	53,560	113,600	180,100	56,080	59,860	54,050	55,000	54,280
25	28,560	58,170	54,350	57,610	53,830	134,900	191,700	56,160	57,180	53,860	54,730	54,770
26	28,740	57,890	54,580	57,490	54,240	142,600	196,000	57,140	55,190	53,790	54,470	55,080
27	28,850	57,450	54,700	58,330	56,270	144,600	195,700	61,850	54,320	53,640	54,240	56,820
28	28,880	56,430	54,890	58,410	56,820	140,600	191,400	63,970	54,050	53,560	54,090	66,720
29	28,990	55,540	55,040	57,530	-----	131,100	181,700	64,100	53,940	53,450	53,940	68,930
30	43,620	54,960	55,460	56,120	-----	122,000	170,300	62,520	54,390	53,830	53,830	69,200
31	116,400	-----	55,930	56,200	-----	115,100	-----	58,610	-----	53,640	53,680	-----
MAX	116,400	179,200	60,070	60,360	73,120	201,000	196,000	204,600	200,800	55,080	56,120	69,200
MIN	28,270	54,960	53,860	54,170	53,080	60,810	54,540	56,080	53,940	53,450	53,680	53,080
(†)	450.14	438.32	438.57	438.64	438.80	449.95	457.10	439.25	438.17	437.97	437.98	441.72
(‡)	+85,920	-61,440	+970	+270	+620	+58,280	+55,200	-111,700	-4,220	-750	+40	+15,520

CAL YR 1972.....‡ -111,800

WTR YR 1973.....‡ +38,720

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-ft.

RED RIVER BASIN

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07337500 LITTLE RIVER NEAR WRIGHT CITY, OKLA.

LOCATION.--Lat 34°04'10", long 95°02'47", in NE 1/4 NW 1/4 sec.6, T.6 S., R.22 E., McCurtain County, on left bank on downstream side of bridge on State Highway 98, 1.8 mi (2.9 km) upstream from White Oak Creek, 2.0 mi (3.2 km) west of Wright City, 4.7 mi (7.6 km) downstream from Pine Creek Lake, and at mile 140.6 (226.2 km).

DRAINAGE AREA.--645 sq mi (1,671 sq km).

PERIOD OF RECORD.--October 1929 to September 1931, October 1994 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 346.76 ft (105.692 m) above mean sea level. Oct. 12, 1929, to Sept. 30, 1931, nonrecording gage at railroad bridge 1.0 mi (1.6 km) downstream at datum 4.15 ft (1.265 m) higher. Dec. 6, 1944, to July 30, 1951, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--31 years, 926 cfs (26.22 cu m/s), 670,900 acre-ft/yr (827 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 7,260 cfs (206 cu m/s) May 12; maximum gage height, 26.55 ft (8.092 m) Oct. 31 (backwater); minimum daily discharge, 2.0 cfs (0.057 cu m/s) July 30 to Aug. 15.

Period of record: Maximum discharge, 78,200 cfs (2,210 cu m/s) May 6, 1961, gage height, 45.60 ft (13.899 m); maximum gage height, 45.77 ft (13.951 m) Sept. 16, 1950; no flow at times in 1930, 1954, 1956, 1964.

REMARKS.--Records good. Except for 10 sq mi (25.9 sq km) intervening area, flow completely regulated since June 1969 by Pine Creek Lake. (See sta. 07337300).

COOPERATION.--Gage height record and 26 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	100	218	402	2,440	1,180	6,270	6,370	1,320	69	2.0	12
2	15	20	226	478	2,190	2,170	6,160	2,080	1,200	69	2.0	15
3	16	10	230	598	2,070	1,660	6,060	1,490	1,200	69	2.0	15
4	14	1,010	232	567	2,050	1,210	5,960	5,540	900	70	2.0	12
5	13	3,390	234	1,040	2,040	240	5,850	5,690	500	72	2.0	55
6	15	5,370	228	1,630	2,030	566	4,570	5,660	600	71	2.0	126
7	15	5,920	232	1,670	2,190	1,120	1,980	5,410	1,500	70	2.0	274
8	13	6,160	237	1,660	2,980	1,820	1,910	3,800	5,020	71	2.0	646
9	14	6,900	242	1,630	2,730	1,900	1,920	4,390	6,580	74	2.0	654
10	14	6,790	236	1,300	3,130	3,000	1,740	6,530	6,680	75	2.0	662
11	15	6,660	336	950	3,060	1,000	990	6,640	6,630	79	2.0	670
12	15	6,550	623	687	3,030	200	982	7,110	6,630	79	2.0	670
13	16	6,580	1,310	452	3,010	1,120	991	6,760	6,590	78	2.0	663
14	16	6,610	2,060	460	2,960	3,520	997	6,530	6,590	78	2.0	654
15	14	6,460	2,250	461	2,920	6,560	1,060	6,400	6,500	87	2.0	653
16	12	6,330	2,200	460	2,300	6,690	2,390	6,290	6,380	89	4.0	648
17	14	5,890	2,190	460	445	6,630	1,550	6,200	6,380	92	11	530
18	15	5,420	2,170	483	445	6,560	1,200	6,100	6,230	124	25	64
19	14	5,640	1,780	744	448	6,490	866	6,000	6,180	222	29	62
20	14	5,440	1,030	1,010	451	6,410	25	5,890	6,410	199	42	61
21	21	4,970	1,010	1,090	448	6,340	802	5,780	6,230	66	104	62
22	45	3,790	652	1,490	344	6,250	3,240	4,000	5,290	64	108	61
23	24	3,090	329	2,070	198	6,170	5,290	459	2,210	64	110	63
24	20	2,460	330	2,060	154	6,030	5,310	447	2,050	65	112	60
25	15	1,330	330	2,060	154	4,170	2,310	453	2,030	50	113	18
26	25	1,210	330	2,070	261	827	500	453	1,590	5.3	115	25
27	35	1,170	278	1,650	459	1,630	2,350	529	775	3.9	74	218
28	24	1,170	216	1,640	693	3,420	3,290	467	345	3.1	11	393
29	27	1,150	252	1,810	-----	6,160	5,360	862	189	2.6	13	982
30	102	886	415	2,050	-----	6,310	6,470	1,610	69	2.0	12	990
31	800	-----	408	2,080	-----	6,360	-----	1,600	-----	2.0	12	-----
TOTAL	1,425	118,476	22,814	37,212	45,630	113,713	88,393	127,540	110,798	2,164.9	925.0	10,018
MEAN	46.0	3,949	736	1,200	1,630	3,668	2,946	4,114	3,693	69.8	29.8	334
MAX	800	6,900	2,250	2,080	3,130	6,690	6,470	7,110	6,680	222	115	990
MIN	12	10	216	402	154	200	25	447	69	2.0	2.0	12
AC-FT	2,830	235,000	45,250	73,810	90,510	225,500	175,300	253,000	219,800	4,290	1,830	19,870

CAL YR 1972 TOTAL 273,171.2 MEAN 746 MAX 6,900 MIN 1.9 AC-FT 541,800
WTR YR 1973 TOTAL 679,108.9 MEAN 1,861 MAX 7,110 MIN 2.0 AC-FT 1,347,000

RED RIVER BASIN

07337900 GLOVER CREEK NEAR GLOVER, OKLA.

LOCATION.--Lat 34°05'51", long 94°54'07", in NW 1/4 NE 1/4 sec.28, T.5 S., R.23 E., McCurtain County, near right bank on downstream side of pier of bridge on State Highways 3 and 7, 2.0 mi (3.2 km) north of Glover, 11.0 mi (17.7 km) northwest of Broken Bow, and at mile 9.2 (14.8 km).

DRAINAGE AREA.--315 sq mi (816 sq km).

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 378.70 ft (115.428 m) above mean sea level.

AVERAGE DISCHARGE.--12 years, 442 cfs (12.52 cu m/s), 19.05 in/yr (484 mm/yr), 320,200 acre-ft/yr (395 cu hm/yr).

EXTREMES.--Current year: Maximum discharge, 86,300 cfs (2,440 cu m/s) Oct. 31, gage height 28.66 ft (8.736 m); no flow Oct. 1-3.

Period of record: Maximum discharge, 98,600 cfs (2,790 cu m/s) Dec. 10, 1971, gage height, 29.72 ft (9.059 m); no flow at times in 1966, 1968, 1970, 1972, 1973.

Flood in May 1961 reached a stage of 28.84 ft (8.790 m), from floodmark. Flood in 1908 was higher than that in May 1961, from information by local residents.

REMARKS.--Records good.

COOPERATION.--Gage height record and 28 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	8,940	216	346	3,710	664	784	1,540	206	87	16	3.3
2	0	6,790	196	313	2,100	8,860	616	6,710	5,550	73	15	4.4
3	0	2,090	182	345	1,260	3,040	509	1,770	9,960	61	13	7.1
4	.7	1,200	167	937	896	5,020	449	1,080	4,920	49	12	10
5	1.6	778	152	808	686	2,850	379	742	9,140	53	11	28
6	2.0	3,380	138	670	536	3,270	318	599	3,650	60	10	492
7	2.6	3,570	130	604	840	4,160	299	7,390	1,530	60	10	329
8	2.6	1,640	123	582	4,590	1,950	310	2,340	835	56	9.0	213
9	2.6	1,050	119	478	2,260	1,420	352	1,230	540	70	19	219
10	2.5	749	174	400	1,380	11,900	394	797	394	100	39	157
11	2.6	533	176	364	988	5,770	352	662	313	170	16	116
12	2.6	413	507	323	758	2,130	312	1,230	259	165	12	78
13	2.6	1,020	1,650	287	644	1,360	291	585	259	96	9.1	171
14	2.0	1,370	1,270	267	517	2,100	278	392	736	65	7.3	424
15	2.0	904	1,350	255	415	1,310	365	302	824	58	7.2	292
16	2.0	673	1,110	248	350	936	7,060	238	506	159	11	194
17	2.0	518	833	248	310	714	2,460	194	502	224	12	144
18	1.8	856	651	275	281	556	2,270	169	512	246	12	105
19	1.8	2,910	546	482	255	450	3,290	146	473	150	10	77
20	1.6	1,660	468	536	232	394	2,220	122	1,240	96	9.5	61
21	1.6	1,100	393	2,130	211	341	1,700	104	920	73	8.2	48
22	3.2	904	368	1,780	194	293	2,130	87	544	55	7.4	38
23	42	651	318	1,230	185	263	6,180	98	396	40	6.9	31
24	28	524	280	860	174	3,280	8,060	121	299	39	6.8	28
25	17	464	248	673	170	7,190	3,840	166	237	34	5.4	28
26	14	446	223	1,090	160	2,620	1,850	304	192	27	5.0	26
27	206	380	205	1,190	318	1,510	1,140	1,410	149	21	4.4	31
28	206	322	187	969	375	1,040	769	908	122	19	3.8	249
29	142	257	177	762	-----	826	594	491	105	16	3.9	629
30	5,340	238	184	614	-----	681	474	343	96	15	4.4	348
31	33,400	-----	314	550	-----	780	-----	253	-----	13	4.6	-----
TOTAL	39,435.4	46,330	13,055	20,616	24,795	77,678	50,045	32,523	45,409	2,450	320.9	4,580.8
MEAN	1,272	1,544	421	665	886	2,506	1,668	1,049	1,514	79.0	10.4	153
MAX	33,400	8,940	1,650	2,130	4,590	11,900	8,060	7,390	9,960	246	39	629
MIN	0	238	119	248	160	263	278	87	96	13	3.8	3.3
CFSM	4.04	4.90	1.34	2.11	2.81	7.96	5.30	3.33	4.81	.25	.03	.49
IN	4.66	5.47	1.54	2.43	2.93	9.17	5.91	3.84	5.36	.29	.04	.54
AC-FT	78,220	91,900	25,890	40,890	49,180	154,100	99,260	64,510	90,070	4,860	637	9,090

CAL YR 1972 TOTAL 129,428.70 MEAN 354 MAX 33,400 MIN 0 CFSM 1.12 IN 15.28 AC-FT 256,700
WTR YR 1973 TOTAL 357,238.10 MEAN 979 MAX 33,400 MIN 0 CFSM 3.11 IN 42.19 AC-FT 708,600

PEAK DISCHARGE (BASE, 8,000 CFS)

DATE	TIME	G.HT.	DISCHARGE	DATE	TIME	G.HT.	DISCHARGE
10-31	0845	28.66	86,300	4-24	1230	13.16	12,200
3-2	0915	14.66	15,200	5-2	0315	15.01	15,900
3-4	1330	11.13	8,520	5-7	1000	16.13	18,300
3-10	1945	18.34	13,400	6-2	2045	11.94	9,900
3-25	0145	12.35	10,700	6-3	1515	16.28	18,600
4-16	0745	14.32	14,500	6-5	1415	15.62	17,200

RED RIVER BASIN

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07338500 LITTLE RIVER BELOW LUKFATA CREEK, NEAR IDABEL, OKLA.

LOCATION.--Lat 33°56'28", long 94°45'30", in SE 1/4 SE 1/4 sec.14, T.7 S., R.24 E., McCurtain County, on left bank at downstream side of bridge on U.S. Highway 70 just downstream from Lukfata Creek, 5.0 mi (8.0 km) northeast of Idabel, and at mile 103.4 (166.4 km).

DRAINAGE AREA.--1,226 sq mi (3,175 sq km).

PERIOD OF RECORD.--October 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 312.08 ft (95.122 m) above mean sea level. Oct. 1, 1946, to Oct. 26, 1950, and for stages below 9.0 ft (2.7 m) Oct. 26, 1950, to Oct. 10, 1951, nonrecording gage at same site and datum.

AVERAGE DISCHARGE.--27 years, 1,671 cfs (47.32 cu m/s), 1,211,000 acre-ft/yr (1.49 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 23,600 cfs (668 cu m/s) Nov. 1, gage height 32.46 ft (9.894 m); minimum daily, 9.0 cfs (0.25 cu m/s) Oct. 21.
Period of record: Maximum discharge, 103,000 cfs (2,920 cu m/s) Dec. 10, 1971, gage height, 39.39 ft (12.006 m); minimum, 0.4 cfs (0.011 cu m/s) Sept. 15, 16, Sept. 21 to Oct. 1, 1956.
Flood in February 1938 reached a stage of 39.7 ft (12.10 m), from information by local residents, discharge, 86,000 cfs (2,440 cu m/s).

REMARKS.--Records good. Flow regulated since June 1969 by Pine Creek Lake 41.9 miles (67.4 km) upstream. (See sta. 07337300). Records of chemical analyses for the current year are published in Part 2 of this report.

COOPERATION.--Gage height record and 34 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS.--WSP 1211: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	17,300	1,080	943	4,540	1,520	8,240	7,400	350	264	62	55
2	27	21,700	647	902	6,310	5,480	8,040	9,990	300	208	56	53
3	24	16,600	603	1,090	5,010	9,040	7,710	8,840	700	190	46	54
4	19	9,770	574	1,530	3,620	8,180	7,370	6,840	9,000	179	41	66
5	18	5,690	546	1,750	2,990	7,270	7,060	6,860	11,000	229	36	106
6	15	4,900	505	1,980	2,720	5,610	6,770	6,920	12,400	196	34	762
7	15	8,820	497	2,300	2,690	7,000	5,200	7,410	10,800	213	34	1,220
8	13	9,540	641	2,520	7,040	6,460	2,850	9,720	8,290	244	36	808
9	13	9,070	688	2,270	8,440	5,540	2,600	9,050	6,800	269	37	825
10	13	8,280	675	2,020	6,690	7,000	2,520	7,410	7,330	222	54	797
11	12	7,950	739	1,640	5,210	12,500	2,040	7,680	7,610	221	174	740
12	11	8,130	1,240	1,410	4,350	13,800	1,480	8,170	7,610	278	100	718
13	11	8,190	2,700	1,100	3,980	10,300	1,480	8,870	7,650	279	62	725
14	12	8,540	3,290	936	3,730	5,450	1,530	8,640	8,810	213	45	909
15	12	8,590	4,140	909	3,460	6,020	1,590	8,060	9,050	211	33	996
16	12	8,230	4,070	895	3,240	7,710	6,590	7,530	8,520	390	30	858
17	13	7,770	3,300	887	2,350	8,200	9,250	7,160	8,050	382	33	772
18	13	7,600	2,860	885	1,060	8,170	6,840	6,890	7,830	600	41	629
19	11	8,530	2,660	988	960	7,980	7,690	6,700	7,610	517	46	270
20	9.2	8,910	2,130	1,520	920	7,750	10,400	6,520	7,680	473	52	196
21	9.0	8,280	1,610	5,590	879	7,520	6,290	6,340	8,140	407	47	176
22	24	6,980	1,490	5,640	844	7,300	4,220	6,160	8,090	311	67	161
23	57	5,150	1,120	4,130	712	7,110	8,630	3,910	6,600	216	116	152
24	87	3,820	856	3,390	565	8,330	12,900	1,010	3,270	172	127	142
25	78	2,670	796	2,920	505	11,900	13,400	820	2,270	151	129	138
26	69	1,720	751	3,580	556	12,300	10,800	852	2,100	139	127	125
27	95	1,600	715	4,030	744	8,860	6,940	1,500	1,530	115	126	102
28	227	1,490	636	3,360	1,050	4,920	4,560	1,000	955	80	124	532
29	469	1,410	559	2,860	-----	5,310	4,630	700	579	69	100	1,350
30	1,550	1,360	637	2,690	-----	7,030	6,000	500	395	63	67	1,640
31	7,910	-----	829	2,720	-----	8,070	-----	400	-----	57	58	-----
TOTAL	10,881.2	228,590	43,584	69,385	85,165	239,630	185,620	179,852	181,319	7,558	2,140	16,077
MEAN	351	7,620	1,406	2,238	3,042	7,730	6,187	5,802	6,044	244	69.0	536
MAX	7,910	21,700	4,140	5,640	8,440	13,800	13,400	9,990	12,400	600	174	1,640
MIN	9.0	1,360	497	885	505	1,520	1,480	400	300	57	30	53
AC-FT	21,580	453,400	86,450	137,600	168,900	475,300	368,200	356,700	359,600	14,990	4,240	31,890
CAL YR 1972	TOTAL	476,171.2	MEAN	1,301	MAX	21,700	MIN	9.0	AC-FT	944,500		
WTR YR 1973	TOTAL	1,249,801.2	MEAN	3,424	MAX	21,700	MIN	9.0	AC-FT	2,479,000		

RED RIVER BASIN

07338900 BROKEN BOW LAKE NEAR BROKEN BOW, OKLA.

LOCATION.--Lat 34°08'35", long 94°41'00", in SW 1/4 sec.3, T.5 S., R.25 E., McCurtain County, at intake structure on upstream side of dam on Mountain Fork, 9.0 mi (14.5 km) northeast of Broken Bow, and at mile 20.3 (32.7 km).

DRAINAGE AREA.--754 sq mi (1,953 sq km).

PERIOD OF RECORD.--October 1968 to current year. Prior to October 1970 published as Broken Bow Reservoir near Broken Bow.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 1,148,000 acre-ft (1.42 cu km) Apr. 27, elevation 614.60 ft (187.330 m); minimum, 672,000 acre-ft (829 cu hm) Oct. 21, elevation 580.48 ft (176.930 m).
Period of record: Maximum contents, 1,178,000 acre-ft (1.45 cu km), Dec. 17, 1971, elevation, 616.41 ft (187.882 m); minimum since conservation pool was first filled, 672,000 acre-ft (829 cu hm) Oct. 21, 1972, elevation, 580.48 ft (176.930 m).

REMARKS.--Reservoir is formed by a rolled earth and gravel structure. Regulated storage began Oct. 3, 1968; conservation pool was first filled Jan. 30, 1969. Total capacity, 1,368,000 acre-ft (1.69 cu km) at elevation 627.5 ft (191.26 m), top of flood pool and spillway gates, 918,100 acre-ft (1.13 cu km) at elevation 599.5 ft (182.73 m), top of power pool, and 448,200 acre-ft (553 cu hm) at elevation 559.0 ft (170.38 m), conservation pool. Figures given herein represent total contents. Reservoir is used for flood control, power development and water supply.

COOPERATION.--Records furnished by Corps of Engineers.

Capacity table (elevation, in feet, and contents, in acre-feet)

580	666,400	604	983,400
588	763,700	612	1,106,000
596	869,200	615	1,155,000

CONTENTS, IN THOUSANDS OF ACRE-FEET, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	687.4	912.6	907.0	908.7	942.5	911.0	1,045	1,118	930.9	925.6	893.3	818.5
2	687.4	943.2	907.8	909.0	945.1	950.5	1,036	1,137	942.4	923.2	893.5	818.9
3	687.2	951.2	908.9	911.6	942.5	964.8	1,025	1,132	987.4	920.3	892.3	818.6
4	685.2	955.4	900.7	913.3	937.4	968.3	1,014	1,122	1,009	920.3	892.2	816.1
5	685.2	959.2	893.5	911.0	931.6	997.7	1,003	1,111	1,050	918.8	892.1	818.3
6	685.2	978.6	883.2	915.0	926.6	1,015	991.1	1,101	1,064	916.6	891.2	820.1
7	685.1	995.9	874.3	918.4	925.8	1,032	980.2	1,121	1,067	916.8	886.9	823.9
8	684.6	996.5	868.0	912.3	934.2	1,037	968.2	1,121	1,063	919.6	882.1	826.7
9	683.8	993.2	869.7	904.5	932.9	1,037	955.9	1,116	1,056	917.5	877.5	827.1
10	683.5	988.7	871.3	897.4	927.9	1,074	944.8	1,107	1,044	917.4	872.5	827.4
11	681.9	983.1	862.4	893.0	921.8	1,090	937.2	1,098	1,032	918.9	872.4	825.6
12	680.2	977.2	864.2	886.6	915.9	1,097	930.6	1,087	1,020	916.4	871.9	824.2
13	678.6	976.6	871.3	888.2	912.8	1,099	922.8	1,075	1,009	912.1	869.0	827.2
14	678.6	974.2	868.8	889.3	912.1	1,098	921.9	1,062	1,007	913.3	867.5	827.4
15	678.1	969.8	875.4	888.6	909.9	1,092	930.5	1,050	1,011	915.8	864.3	827.6
16	676.8	961.1	880.8	888.3	902.4	1,082	951.1	1,038	1,009	915.4	863.2	827.9
17	674.2	951.6	884.3	888.3	903.5	1,071	954.8	1,025	999.9	914.5	860.1	828.3
18	674.4	951.8	884.8	890.7	903.5	1,060	965.5	1,012	989.3	910.7	860.1	825.8
19	672.6	955.4	885.7	894.6	904.0	1,049	997.1	1,000	979.8	905.4	860.0	825.8
20	672.2	952.5	887.8	904.4	902.1	1,037	1,015	986.6	971.4	899.3	855.3	824.3
21	672.6	947.4	889.7	936.6	897.9	1,025	1,029	973.5	960.4	900.0	851.8	822.8
22	674.6	941.0	890.7	944.4	897.9	1,013	1,046	959.7	948.8	900.2	848.8	822.7
23	674.7	938.8	891.5	946.0	899.3	1,001	1,078	950.5	948.3	898.5	845.0	822.7
24	674.1	931.6	892.9	943.8	900.4	1,015	1,126	945.6	947.6	895.4	839.8	822.2
25	674.0	929.9	894.2	941.5	901.6	1,052	1,144	940.8	943.5	895.0	839.4	820.9
26	675.4	931.3	893.7	940.4	899.2	1,063	1,146	941.0	938.1	894.7	839.4	818.5
27	675.5	927.2	895.1	942.0	898.8	1,070	1,144	944.8	933.8	892.8	834.2	820.3
28	676.1	920.6	896.0	941.7	898.4	1,065	1,134	945.4	929.9	892.3	827.9	833.2
29	676.6	915.1	895.4	939.4	-----	1,061	1,124	941.0	925.0	892.1	823.8	840.1
30	704.3	911.6	899.6	936.5	-----	1,053	1,113	937.5	925.2	892.9	823.4	843.0
31	860.1	-----	904.7	933.8	-----	1,051	-----	934.2	-----	893.0	818.6	-----
MAX	860.1	996.5	908.9	946.0	945.1	1,099	1,146	1,137	1,067	925.6	893.5	843.0
MIN	672.2	911.6	862.4	886.6	897.9	911.0	921.9	934.2	925.0	892.1	818.6	816.1
(+)	595.33	599.04	598.55	600.60	598.10	608.45	612.42	600.63	600.00	597.72	592.24	594.07
(-)	+172.1	+51.5	-6.9	+29.1	-35.4	+152.6	+62.0	-178.8	-9.0	-32.2	-74.4	+24.4

CAL YR 1972.....+ -133.3

WTR YR 1973.....+ +155.0

+ Elevation, in feet, at end of month.

+ Change in contents, in thousands of acre-ft.

RED RIVER BASIN

183

07339000 MOUNTAIN FORK NEAR EAGLETOWN, OKLA.

LOCATION.--Lat 34°02'30", long 94°37'15", in SE 1/4 SE 1/4 sec.7, T.6 S., R.26 E., McCurtain County, near center of span on downstream side of pier of bridge on U.S. Highway 70, 2.0 miles (3.2 km) west of Eagletown, 10.7 miles (17.2 km) downstream from Broken Bow Dam, and at mile 8.9 (14.3 km).

DRAINAGE AREA.--787 sq mi (2,040 sq km).

PERIOD OF RECORD.--March 1924 to December 1925, October 1929 to current year. Published as Mountain Fork River near Broken Bow 1924-25 and as Mountain Fork River near Eagletown 1929-60. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 333.87 ft (101.763 m) above mean sea level. See WSP 1920 for history of changes prior to July 23, 1950.

AVERAGE DISCHARGE.--45 years, 1,280 cfs (36.2 cu m/s), 927,400 acre-ft/yr (1.14 cu km/yr).

EXTREMES.--Current year: Maximum discharge, 9,330 cfs (2,640 cu m/s) Mar. 24, gage height, 8.34 ft (2.54 m); maximum gage height, 8.50 ft (2.591 m) Feb. 7; minimum discharge, 111 cfs (3.14 cu m/s) Oct. 4.
Period of record: Maximum discharge, 101,000 cfs (2,850 cu m/s) May 20, 1960, gage height, 26.73 ft (8.147 m), from rating curve extended above 65,000 cfs (1,840 cu m/s); no flow at times.
Flood of Aug. 18-19, 1915, reached a stage of 26.4 ft (8.05 m), from information by local residents, discharge, 92,500 cfs (2,620 cu m/s).

REMARKS.--Records good. Except for 33 sq mi (85 sq km) intervening area, flow completely regulated since October 1968 by Broken Bow Lake. (See sta. 07338900).

COOPERATION.--Gage-height record and 17 discharge measurements furnished by Corps of Engineers; records computed by Geological Survey.

REVISIONS (WATER YEARS).--WSP 1211: Drainage area. WSP 1241: 1924-26, 1930 (M), 1936-37 (M), 1938, 1939 (M), 1942 (M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1972 TO SEPTEMBER 1973

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	3,650	2,850	187	3,140	403	7,200	6,800	2,120	201	374	1,270
2	147	1,060	1,170	372	2,860	672	7,180	7,500	2,040	301	203	222
3	129	569	230	1,260	4,160	822	7,150	8,200	1,020	1,280	228	187
4	111	550	2,560	1,400	4,240	447	7,130	8,110	1,190	887	351	291
5	190	208	4,200	3,050	4,200	860	7,150	7,850	2,010	823	193	665
6	182	683	4,710	1,210	3,680	2,430	7,200	7,870	1,090	1,270	178	392
7	173	2,040	4,050	253	4,250	3,900	7,280	5,820	1,320	761	935	210
8	161	3,720	3,980	2,310	4,900	3,760	7,300	5,930	1,770	210	2,130	195
9	155	4,030	919	3,770	5,290	4,400	7,640	5,820	1,320	851	2,390	250
10	169	4,080	120	4,480	5,480	4,650	7,220	6,760	1,340	1,600	2,640	544
11	188	3,780	2,860	2,910	5,070	2,300	5,040	6,230	1,340	1,450	1,270	807
12	360	3,970	2,460	3,620	4,530	2,730	4,500	7,110	3,270	1,760	217	1,230
13	746	4,370	1,470	1,160	2,650	1,650	4,820	7,000	6,630	2,530	760	1,030
14	514	4,150	3,870	236	2,070	3,500	2,500	7,000	7,330	1,210	1,010	321
15	190	4,070	1,530	340	1,450	4,530	1,140	6,800	1,640	243	1,130	366
16	234	5,610	281	755	3,830	7,000	3,850	6,940	1,680	226	1,260	199
17	625	5,890	197	631	1,300	7,020	4,130	6,960	6,300	511	1,320	179
18	723	4,070	709	509	245	7,040	4,510	6,960	6,550	1,940	837	240
19	222	3,540	1,080	180	561	7,040	4,660	6,860	6,170	2,810	201	590
20	412	4,840	554	207	1,330	7,050	1,260	7,260	6,130	3,120	824	359
21	190	4,970	225	710	1,920	7,070	1,120	7,150	6,640	1,260	2,100	737
22	186	5,010	273	1,880	1,080	7,110	1,720	7,300	6,620	235	1,630	556
23	169	2,150	309	3,080	370	6,960	6,090	5,970	1,830	369	1,320	195
24	158	4,740	196	3,270	190	6,700	2,280	2,520	990	1,070	2,540	180
25	158	2,290	188	3,340	180	1,500	1,040	2,560	1,840	1,040	1,260	323
26	153	1,000	223	3,360	1,000	596	2,180	1,730	2,320	276	210	969
27	162	2,110	275	2,030	1,610	835	4,600	730	2,610	333	840	863
28	172	2,810	191	1,880	1,280	3,220	6,800	461	1,890	542	2,840	534
29	188	3,170	189	2,650	-----	7,040	6,800	1,800	2,190	199	2,320	445
30	829	2,060	305	2,490	-----	7,150	6,800	2,080	1,270	183	1,300	207
31	4,950	-----	194	3,010	-----	7,440	-----	1,770	-----	222	1,170	-----
TOTAL	13,106	95,190	42,368	56,540	72,866	127,825	148,290	173,851	90,460	29,713	35,981	14,556
MEAN	423	3,173	1,367	1,824	2,602	4,123	4,943	5,608	3,015	958	1,161	485
MAX	4,950	5,890	4,710	4,480	5,480	7,440	7,640	8,200	7,330	3,120	2,840	1,270
MIN	111	208	120	180	180	403	1,040	461	990	183	178	179
AC-FT	26,000	188,800	84,040	112,100	144,500	253,500	294,100	344,800	179,400	58,940	71,370	28,870

CAL YR 1972 TOTAL 405,754 MEAN 1,109 MAX 7,310 MIN 88 AC-FT 804,800
WTR YR 1973 TOTAL 900,746 MEAN 2,468 MAX 8,200 MIN 111 AC-FT 1,787,000

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which stream flow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements made at low-flow partial-record stations during water year 1973

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Arkansas River basin						
07148360	Greenwood Creek near Winchester	Lat 36°55'23", long 98°47'27", in SW 1/4 NW 1/4 sec.11, T.28 N., R.14 N., Woods County, at county road bridge 2.4 mi (3.9 km) south of Winchester and at mile 1.9 (3.1 km).	41.2	1972-73	12- 8-71 2-24-72 5-22-72 8- 3-72 11-17-72 3-13-73 5-18-73 8-22-73	3.0 .67 .58 .35 2.1 4.2 12 .16
07149700	Sandy Creek near Byron, Okla. (discontinued June 30)	Lat 36°53'03", long 98°13'02", in NE 1/4 NE 1/4 sec.25, T.28 N., R.10 W., Alfalfa County, at county road bridge, 0.2 mile downstream from Little Sandy Creek, 4.5 miles southeast of Byron, and about 6 miles upstream from Great Salt Plains Lake.	434	1965-73	10-25-72 2-28-73 5-23-73	19 38 55
07150900	Deer Creek near Tonkawa, Okla (discontinued June 30)	Lat 36°42'33", long 97°22'22", on south line SW 1/4 SE 1/4 sec.23, T.26 N., R.2 W., Kay County, at county road bridge, 4.5 miles northwest of Tonkawa and about 3.5 miles upstream from mouth.	150	1965-73	12- 6-72 5-22-73 6-12-73	0 1.0 .81
07152250	Bois d' Arc Creek near Ponca City, Okla. (discontinued June 30)	Lat 36°40'00", long 97°07'30", on south line SW 1/4 SE 1/4 sec.6, T.25 N., R.2 E., Kay County, at county road bridge 1 mile south and 0.5 mile east of junction of U. S. Highways 60 and 77, 5 miles southwest of Ponca City and about 4 miles upstream from mouth.	100	1965-73	5-21-73	13
07158010	Main Creek near Waynoka, Okla. (discontinued June 30)	Lat 36°29'30", long 98°53'30", on south line SE 1/4 SE 1/4 sec.3, T.23 N., R.16 W., Major County, at county road bridge on FAS road, 0.5 mile west of U. S. Highway 281, 6 miles south of Waynoka and about 2 miles upstream from mouth.	105	1965-73	10-26-72 3-14-73 5-18-73	4.3 7.3 16
07158100	Eagle Chief Creek near Aline, Okla. (discontinued June 30)	Lat 36°30'23", long 98°26'24", in NW 1/4 sec.1, T.23 N., R.12 W., Alfalfa County, at bridge on State Highway 8B, at Aline.	406	1953-55, 1958-59, 1961-73	10-25-72 2-28-73 5-23-73	25 8.0 34
07159000	Turkey Creek near Drummond, Okla. (discontinued June 30)	Lat 36°19'05", long 98°00'03", in NE 1/4 NE 1/4 sec.12, T.21 N., R.8 W., Garfield County, at county road bridge, 2.2 miles northeast of Drummond, and 9 miles southwest of Enid.	248	1947-70 1973	10-26-72 2-28-73 5-23-73	.02 4.5 43
07159200	Kingfisher Creek near Kingfisher, Okla. (discontinued June 30)	Lat 35°50'03", long 98°03'57", in NW 1/4 SW 1/4 sec.28, T.16 N., R.8 W., Kingfisher County, at county road bridge, 7.6 miles west of Kingfisher, and at mile 17.6.	157	1966-70 1973	10-26-72 3- 1-73 5-22-73	0 2.2 5.3

* Also a crest-stage partial-record station.

* Operated as a continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1973--Continued

Discharge measurements made at low-flow partial-record stations during water year 1973--Continued						
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements	
					Date	Discharge (cfs)
Arkansas River basin--Continued						
*07165500	Snake Creek near Bixby, Okla. (discontinued June 30)	Lat 35°49'08", long 95°53'18", in NW 1/4 SW 1/4 sec.36, T.16 N., R.13 E., Okmulgee County, on right bank 5.5 miles upstream from Duck Creek, 8.8 miles south of Bixby, and at mile 11.0.	50	1961-70† 1973	12-20-72	abv. base
*07188500	Lost Creek at Seneca, Mo. (discontinued June 30)	Lat 36°50'28", long 94°36'30", in SE 1/4 SE 1/4 sec.35, T.25 N., R.34 W., Newton County, at Seneca Street bridge in Seneca, 0.5 mile upstream from Little Lost Creek and 9.5 miles upstream from mouth.	42	1949-59† 1960-73	6-27-73	abv. base
*07189700	Horse Creek at Afton, Okla. (discontinued June 30)	Lat 36°49'50", long 94°57'20", in NE 1/4 NW 1/4 sec.33, T.26 N., R.22 E., Ottawa County, at bridge on U. S. Highway 66, at northeast edge of Afton, and about 3 miles upstream from Lake O' The Cherokees.	21.9	1965-73	6-25-73	.16
07228220	Turkey Creek near Camargo, Okla. (discontinued June 30)	Lat 36°02'30", long 99°24'30", in NE 1/4 NW 1/4 sec.14, T.18 N., R.21 W., Ellis County, at pasture 0.1 mile south of county road, 7.5 miles northwest of Camargo, and about 3.5 miles upstream from mouth.	86	1965-73	12-20-72 3- 2-73 6-15-73	3.2 2.2 .21
07232250	Beaver River near Felt (discontinued)	Lat 36°37'47", long 102°41'42", in NE 1/4 NE 1/4 sec.24, T.2 N., R.3 E., Cimarron County, at bridge on U.S. Highway 64, 8.0 mi (12.9 km) northeast of Felt, and at mile 754.9 (1,214.6).	879	1972-73	11- 8-71 to 7-11-73	Twenty-two no flow observations
07232450	Tepee Creek near Eva, Okla. (discontinued June 30)	Lat 36°42'30", long 101°43'30", on west line sec.29, T.3 N., R.13 E., Texas County, at low water crossing on county road, 8 miles northwest of Goodwell.	95	1967-73	12-18-72 3- 7-77 5-30-73	.15 .11 .14
07233700	Palo Duro Creek near Range, Okla. (discontinued June 30)	Lat 36°37'00", long 101°01'24", in SW 1/4 sec.21, T.2 N., R.19 E., Texas County, at bridge on State Highway 3, 6 miles northeast of Range.	1,745	1952-73	12-18-72 3- 8-73 5-30-73	3.4 6.9 12
07234130	Duck Pond Creek near Clear Lake, Okla. (discontinued June 30)	Lat 36°44'50", long 100°17'05", in NW 1/4 sec.8, T.3 N., R.26 E., Beaver County, at county road bridge, miles north of Clear Lake.	97	1967-73	12-20-72 3-20-73 5-24-73	2.4 3.4 2.1
07234200	Kiowa Creek near Slapout, Okla. (discontinued June 30)	Lat 36°36'55", long 100°10'00", on south line sec.20, T.2 N., R.27 E., Beaver County, at bridge on U. S. Highway 270, 3 miles west of Slapout.	371	1945 1949-61 1963-73	12-21-72 3-20-73 5-24-73	6.8 10 10
07234300	Clear Creek near May, Okla. (discontinued June 30)	Lat 36°39'22", long 99°51'00", in SW 1/4 sec.24, T.25 N., R.25 W., Harper County, at bridge on U. S. Highway 270, 8.5 miles west of May.	109	1953-73	12-21-72 3-20-73 6-13-73	7.5 11 10
07237700	Persimmon Creek near Mutual, Okla. (discontinued June 30)	Lat 36°15'45", long 99°10'30", in NW 1/4 NW 1/4 sec.31, T.21 N., R.18 W., Woodward County, at bridge on U. S. Highway 270, 2 miles north of Mutual, and 5 miles upstream from mouth.	164	1958-59 1961 1965-73	12-21-72 3- 1-73 5-22-73	11 9.6 7.9
*07237800	Bent Creek near Seiling, Okla. (discontinued June 30)	Lat 36°11'26", long 99°00'36", in NW 1/4 SE 1/4 sec.21, T.20 N., R.17 W., Woodward County, at bridge on U. S. Highways 183 and 270, 6 miles northwest of Seiling, and at mile 2.0.	139	1966-70† 1973	12-21-72 3- 2-73	3.1 5.5

* Also a crest-stage partial-record station.

† Operated as a continuous-record gaging station.

Discharge measurements made at low-flow partial-record stations during water year 1973--Continued

Discharge measurements made at low flow partial record stations during water year 1973							Continued	
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Measurements			
					Date	Discharge (cfs)		
Red River basin								
07299780	Gypsum Creek near Olustee, Okla. (discontinued June 30)	Lat 34°28'45", long 99°26'15", in SW 1/4 sec.21, T.1 S., R.21 W., Jackson County, at county bridge on FAS road, 6.5 miles south of Olustee and about 2.5 miles upstream from mouth.	107	1954-57 1965-73	11- 6-72 2- 8-73	.30 3.3		
07301100	Turkey Creek at Olustee, Okla. (discontinued June 30)	Lat 34°35'58", long 99°26'12", in NW 1/4 sec.5, T.1 N., R.21 W., Jackson County, at county road bridge, 3.2 miles north of Olustee, and at mile 6.4.	293	1951-57 1960-63* 1970-73	11- 6-72 2- 8-73	1.3 .50		
07301452	Starvation Creek near Prentiss, Okla. (discontinued June 30)	Lat 35°19'25", long 99°45'30", in SW 1/4 SE 1/4 sec.20, T.10 N., R.24 W., Beckham County, at bridge on State Highway 152, 3 miles southeast of Prentiss, and about 2 miles upstream from mouth.	44.5	1965-73	11-14-72 2- 7-73 5-30-73	.44 .60 1.1		
07301460	Turkey Creek near Sayre, Okla. (discontinued June 30)	Lat 35°15'35", long 99°43'20", in NE 1/4 NE 1/4 sec.15, T.9 N., R.24 W., Beckham County, at east-bound bridge on U. S. Highway 66, 5.5 miles southwest of Sayre, and about 1 mile upstream from mouth.	47.5	1953-56 1965-73	11-14-72 2- 7-73 5-30-73	.71 1.1 1.6		
07311240	West Cache Creek near Cookietown, Okla. (discontinued June 30)	Lat 34°16'30", long 98°23'15", in NE 1/4 sec.30, T.3 S., R.11 W., Cotton County, at bridge on State Highway 5A, 3.5 miles east of Cookietown, and about 11 miles upstream from mouth.	1,112	1951-55 1965-73	10-11-72 2-21-73 5-15-73	0 31 26		
07313600	Cow Creek at Waurika, Okla. (discontinued June 30)	Lat 34°10'55", long 98°00'05", in SE 1/4 NE 1/4 sec.26, T.4S., R.8 W., Jefferson County, at Chicago, Rock Island and Pacific Railway Co. bridge, near north edge of Waurika, and at mile 1.7.	193	1966-70 1973	10-11-72 2-21-73 5-15-73	2.2 12 17		
07316070	Hickory Creek near Marietta, Okla. (discontinued June 30)	Lat 34°00'46", long 97°04'59", in NE 1/4 NW 1/4 sec.27, T.6 S., R.2 E., Love County, at bridge on State Highway 77S, 5.5 miles northeast of Marietta, and 5.5 miles upstream from Lake Texoma.	116	1965-73	10- 2-72 2-20-73 5-14-73	0 4.8 12		
07331300	Pennington Creek near Reagan, Okla. (discontinued June 30)	Lat 34°21'51", long 96°43'01", in SE 1/4 sec.30, T.2 S., R.6 E., Johnston County, at low-water dam, 0.8 mile above bridge on State Highway 7, 0.8 mile northeast of Reagan.	65.7	1951-55 1958-73	5-15-73	83		
07332250	Island Bayou near Albany, Okla. (discontinued June 30)	Lat 33°51'25", long 96°09'55", in south-east corner sec.17, T.8 S., R.11 E., Bryan County, at county road bridge, 2 miles south of Albany, and about 3.5 miles upstream from mouth.	132	1965-73	10- 4-72 2-21-73 6-26-73	0 4.6 8.0		
07332700	Muddy Boggy Creek near Parker, Okla. (discontinued June 30)	Lat 34°44'28", long 96°15'51", in SW 1/4 sec.9, T.3 N., R.10 E., Coal County, at bridge on U. S. Highway 75, 5 miles west of Parker.	174	1958-73	12- 5-72 2-21-73 5-15-73	25 23 45		
07334400	Clear Boggy Creek near Tupelo, Okla. (discontinued June 30)	Lat 34°32'45", long 96°24'30", in NE 1/4 sec.24, T.1 N., R.8 E., Coal County, at bridge on State Highway 48, 700 ft downstream from Goose Creek and 4 miles south of Tupelo.	248	1958-73	12- 5-72 2-21-73 5-15-73	84 87 135		
07334420	Leader Creek at Tupelo, Okla. (discontinued June 30)	Lat 34°35'55", long 96°23'45", in NW 1/4 sec.31, T.2 N., R.9 E., Coal County, at bridge on State Highway 3, 1 mile east of Tupelo.	64.3	1958-73	12- 5-72 2-21-73 5-15-73	.08 3.0 16		
07334440	Delaware Creek near Wapanucka, Okla. (discontinued June 30)	Lat 34°24'30", long 96°25'15", in SW 1/4 sec.1, T.2 S., R.8 E., Johnston County, at bridge on State Highway 48, 2 miles north of Wapanucka.	45.8	1958-73	12- 5-72 2-21-73 5-15-73	16 18 23.0		
07335900	Buck Creek near Moyers, Okla. (discontinued June 30)	Lat 34°20'22", long 95°37'55", in NE 1/4 sec.32, T.2 S., R.16 E., Pushmataha County, at bridge on State Highway 144, 1 mile northeast of Moyers.	100	1956-73		no meas.		
07336000	Tenmile Creek near Miller, Okla. (discontinued June 30)	Lat 34°17'55", long 95°44'40", in NW 1/4 sec.16, T.3S., R.15 E., Pushmataha County, at county road bridge, 1.2 mile miles south of Miller, and at mile 11.6.	68	1955-70 1973	12- 6-72 5-22-73	10 4.5		

* Also a crest-stage partial-record station.

* Operated as a continuous-record gaging station.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain, but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Arkansas River Basin							
07150580	Sand Creek tributary near Kremlin, Okla.	Lat 36°33'00", long 97°48'38", in SE 1/4 SW 1/4 sec.14, T.24 N., R.6 W., Garfield County, at county road bridge, 1.2 mi (1.9 km) east of Kremlin.	7.21	1964-73	06-06-64 11-17-64 06-20-67 08-17-68 06-17-69 04-01-70 09-17-71 09-09-72 03-10-73	6.84 5.56 6.20 5.25 6.65 5.40 4.77 4.95 5.69	920* 368* 600* 290* 825* 320* 200* 230* 407
07150870	Salt Fork Arkansas River tributary near Eddy, Okla.	Lat 36°41'42", long 97°25'30", in SW 1/4 SW 1/4 sec.28, T.26 N., R.2 W., Kay County, at culvert on U.S. Highway 60, 3.0 mi (4.8 km) southeast of Eddy.	2.35	1964-73	03-10-73	13.97	470
07152360	Elm Creek near Foraker, Okla.	Lat 36°52'08", long 96°36'50", in SE 1/4 SW 1/4 sec.25, T.28 N., R.6 E., Osage County, at county road bridge, 2.8 mi (4.5 km) west of Foraker	18.2	1964-73	04-15-73	8.34	2,670
07152520	Black Bear Creek tributary near Garber, Okla.	Lat 36°23'25", long 97°37'20", in SE 1/4 SE 1/4 sec.9, T.22 N., R.4 W., Garfield County, at culvert on old U.S. Highway 64, 4.0 mi (6.4 km) southwest of Garber.	.97	1964-73	03-10-73	4.15	282
07154650	Tesesquite Creek near Kenton, Okla.	Lat 36°53'52", long 102°54'04", in NE 1/4 SE 1/4 sec.13, T.5 N., R.1 E., Cimarron County, at county road bridge, 3.9 mi (6.3 km) east of Kenton	25.4	1964-73	06-17-69 08-06-71 06-23-72 09-23-73	17.50* 19.81 18.10 17.71	4,450* 6,020* 3,800* 3,410
07155100	Cold Springs Creek near Wheelless, Okla.	Lat 36°46'20", long 102°48'16", in SE 1/4 NE 1/4 sec.35, T.4 N., R.2 E., Cimarron County, at county road multi-barrel culvert, 6.0 mi (9.7 km) northeast of Wheelless.	11.0	1964-73	09-24-73	10.92	57
07157550	West Fork Creek near Knowles, Okla.	Lat 36°52'30", long 100°07'20", in SE 1/4 SE 1/4 sec.22, T.5 N., R.27 E., Beaver County, at county road culvert, 4.2 mi (6.8 km) east of Knowles.	4.22	1964-73	09-05-73	17.19	389
07158020	Cimarron River tributary near Lone Wolf, Okla.	Lat 36°24'25", long 98°44'10", in SW 1/4 SE 1/4 sec.6, T.22 N., R.14 W., Major County, at multi-barrel culvert on State Highway 15, 5.4 mi (8.7 km) west of Lone Wolf.	4.07	1964-73	09-24-73	4.46	504
07158080	Sand Creek tributary near Waynoka, Okla.	Lat 36°35'40", long 98°44'00", in NW 1/4 NE 1/4 sec.6, T.24 N., R.14 W., Woods County, at multi-barrel culvert on U.S. Highway 281, 8.0 mi (12.9 km) east of Waynoka.	1.61	1964-73	03-30-73	3.70	160
07158180	Salt Creek tributary near Okeene, Okla.	Lat 36°03'00", long 98°19'00", in SW 1/4 NW 1/4 sec.7, T.18 N., R.10 W., Blaine County, at multi-barrel culvert on State Highway 8, 4.4 mi (7.1 km) south of Okeene.	8.23	1964-73	08-09-73	7.05	2,060
07158500	Preacher Creek near Dover, Okla.	Lat 36°02'37", long 98°00'48", in NW 1/4 NW 1/4 sec.13, T.18 N., R.8 W., Kingfisher County, at county road bridge, 7.1 mi (11.4 km) northwest of Dover.	14.5	1952-57 1964-73	03-30-73	4.50	190
07158550	Turkey Creek tributary near Goltry, Okla.	Lat 36°28'40", long 98°08'05", in SE 1/4 SW 1/4 sec.11, T.23 N., R.9 W., Alfalfa County, at multi-barrel culvert on State Highway 45, 4.1 mi (6.6 km) south of Goltry.	5.08	1964-73	04-18-70 03-03-73	10.6 9.32	1,180* 694
+07159000	Turkey Creek near Drummond, Okla.	Lat 36°19'05", long 98°00'03", in NE 1/4 NE 1/4 sec.12, T.21 N., R.8 W., Garfield County, at county road bridge, 2.2 mi (3.5 km) northeast of Drummond.	248	1948-70 1971-73	03-10-73	13.28	5,300
+07159200	Kingfisher Creek near Kingfisher, Okla.	Lat 35°50'03", long 98°03'57", in NW 1/4 SW 1/4 sec.28, T.16 N., R.8 W., Kingfisher County, at county road bridge, 7.6 mi (12.2 km) west of Kingfisher.	157	1967-70 1971-73	03-30-73	25.13	9,320

See footnotes at end of table, p. 192.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Arkansas River Basin--Continued							
07160550	West Reaver Creek near Orlando, Okla.	Lat 36°08'45", long 97°28'05", in NW 1/4 NE 1/4 sec.12, T.19 N., R.3 W., Logan County, at county road bridge, 5.0 mi (8.0 km) west of Orlando.	13.9	1964-73	3-10-73	6.54	885
07163020	Corral Creek near Yale, Okla.	Lat 36°07'50", long 96°49'50", in NE 1/4 NW 1/4 sec.13, T.19 N., R.4 E., Payne County, at multi-barrel culvert on Old State Highway 51, 7.7 mi (12.4 km) west of Yale.	2.89	1964-73	09-05-73	11.58	1,000
+07165550	Snake Creek near Bixby, Okla.	Lat 35°49'08", long 95°53'18", in NW 1/4 SW 1/4 sec.36, T.16 N., R.13 E., Okmulgee County, on right bank 5.5 mi (8.8 km) upstream from Duck Creek, 8.8 mi (14.2 km) south of Bixby, and at mile 11.0 (17.7 km).	50	1962-70# 1971-73	06-02-73	17.98	3,430
07171120	Clear Creek tributary near Hollow, Okla.	Lat 36°52'50", long 95°16'00", in SW 1/4 NW 1/4 sec.27, T.28 N., R.19 E., Craig County, on downstream side of multi-barrel box culvert on State Highway 10, 1.2 mi (1.9 km) southeast of Hollow.	2.19	1966-73	06-29-67 03-19-68 06-74-69 05-15-70 12-14-71 05-06-73	7.20 6.70 6.85* 6.93 6.80 6.80	500* 260* 390* 340* 300* 305
07174720	Hogshooter Creek tributary near Bartlesville, Okla.	Lat 36°43'40", long 95°50'52", in SE 1/4 SE 1/4 sec.18, T.26 N., R.14 E., Washington County, at multi-barrel culvert on U.S. Highway 60, 4.9 mi (7.9 km) east of junction with U.S. Highway 75 southeast of Bartlesville.	.94	1965-73	10-22-72	8.35	356
07178640	Bull Creek near Inola, Okla.	Lat 36°08'55", long 95°27'05", in NE 1/4 NW 1/4 sec.12, T.19 N., R.17 E., Rogers County, at county road bridge, 3.2 mi (5.1 km) east of Inola.	10.7	1965-73	06-03-73	13.25	1,570
07188140	Flint Branch near Peoria, Okla.	Lat 36°52'25", long 94°41'35", in SW 1/4 SW 1/4 sec.26, T.28 N., R.24 E., Ottawa County, at upstream side of dam, 3.2 mi (5.1 km) southwest of Peoria.	4.90	1964-73	11-13-72	14.76	1,140
+07188500	Lost Creek at Seneca, Mo.	Lat 36°50'28", long 94°36'30", in SE 1/4 SE 1/4 sec.35, T.25 N., R.34 W., Newton County, at Seneca Street bridge in Seneca, half a mile upstream from Little Lost Creek and 9.5 mi (15 km) upstream from mouth.	42	1949-59# 1960-73	11-13-72	9.14	7,290
+07189700	Horse Creek at Afton, Okla.	Lat 36°41'50", long 94°57'20", in NE 1/4 NW 1/4 sec.33, T.26 N., R.22 E., Ottawa County, on downstream side of bridge on U.S. Highway 60 at east edge of Afton.	21.9	1966-73	11-13-72	11.40	1,700
07190600	Rig Cabin Creek near Pyramid Corners, Okla.	Lat 36°48'10", long 94°44'50", in SE 1/4 SE 1/4 sec.21, T.27 N., R.20 E., Craig County, on left bank 60 ft (18 m) upstream from county highway bridge, on graveled road 1.2 mi (1.9 km) west of Pyramid Corners, about 7 mi (11 km) upstream from West Fork, and 34.4 mi (55.4 km) above mouth.	71.1	1964-72# 1973-	03-10-73	15.00	4,000
07194515	Mill Creek near Park Hill, Okla.	Lat 35°48'37", long 95°04'07", in NE 1/4 NW 1/4 sec.3, T.15 N., R.21 E., Cherokee County, at multi-barrel culvert on U.S. Highway 62, 6.3 mi (10.1 km) southwest of junction with State Highway 82 near Park Hill.	2.57	1965-73	11-01-72	8.88	915
07196380	Illinois River tributary near Tahlequah, Okla.	Lat 35°58'45", long 94°55'25", in SE 1/4 SE 1/4 sec.2, T.17 N., R.22 E., Cherokee County, at multi-barrel culvert on State Highway 10, 4.9 mi (7.9 km) northeast of Tahlequah.	3.59	1965-73	04-03-65 04-23-66 02-01-68 01-29-69 05-10-70 10-08-70 04-19-72 06-16-73	5.30 4.40 4.52 7.05 9.30 7.45 3.60 5.80	520* 240* 276* 825* 2,860* 1,620* 90* 750
07228290	Rough Creek near Thomas, Okla.	Lat 35°48'08", long 98°47'15", in NW 1/4 SW 1/4 sec.3, T.15 N., R.15 W., Custer County, at county road bridge, 4.7 mi (7.6 km) northwest of Thomas.	10.4	1964-73	09-04-73	9.88	1,000
07228450	Deer Creek tributary near Hydro, Okla.	Lat 35°32'10", long 98°28'50", in NW 1/4 NW 1/4 sec.9, T.12 N., R.12 W., Caddo County, at county road culvert, 5.5 mi (8.8 km) east of Hydro.	2.31	1964-73	09-04-73	10.10	472

See footnotes at end of table, p. 192.

Annual maximum discharge at crest-stage partial-record stations.

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Arkansas River Basin--Continued							
07228960	Canadian River tributary near Newcastle, Okla.	Lat 35°17'27", long 97°37'20", in NW 1/4 NE 1/4 sec.4, T.9 N., R.4 W., McClain County, at multi-barrel culvert on State Highway 37, 1.3 mi (2.1 km) west of junction with U.S. Highway 62 north of Newcastle.	3.32	1965-73	06-02-73	21.26	1,400
07229420	Julian Creek tributary near Asher, Okla.	Lat 34°59'09", long 96°58'48", in SW 1/4 SW 1/4 sec.15, T.6 N., R.3 E., Pottawatomie County, at multi-barrel culvert on State Highway 39, 3.4 mi (5.5 km) west of Asher.	2.28	1964-73	06-02-73	13.31	398
07231280	Arbeca Creek near Allen, Okla.	Lat 34°54'10", long 96°23'20", in NE 1/4 SE 1/4 sec.18, T.5 N., R.9 E., Hughes County, at multi-barrel culvert on State Highway 12, 1.7 mi (2.7 km) northeast of Allen.	2.26	1964-73	06-02-73	5.62	594
07231320	Leader Creek tributary near Atwood, Okla.	Lat 34°57'10", long 96°20'40", in NW 1/4 NW 1/4 sec.34, T.6 N., R.9 E., Hughes County, at multi-barrel culvert on State Highway 12, 0.7 mi (1.1 km) southwest of Atwood.	.72	1964-73	06-02-73	12.44	580
07231560	Middle Creek near Carson, Okla. (discontinued)	Lat 35°11'10", long 96°04'20", in NE 1/4 NE 1/4 sec.7, T.8 N., R.12 E., Hughes County, at multi-barrel culvert on State Highway 84, 1.2 mi (1.9 km) northeast of Carson.	7.40	1964-73	10-31-72	12.30	1,740
07231950	Pine Creek near Higgins, Okla.	Lat 34°47'40", long 95°20'50", in NE 1/4 NE 1/4 sec.30, T.4 N., R.19 E., Latimer County, at bridge on State Highway 63, 5.4 mi (8.7 km) east of Higgins.	9.99	1964-73	09-16-67 03-31-68 11-26-68 04-17-70 10-23-70 04-23-73 07-31-73	13.40 10.20 10.50 11.32 10.50 11.22 6.75	5,800* 1,880* 2,120* 2,820* 2,120* 2,720 24
07232550	South Fork tributary near Guymon, Okla.	Lat 36°40'06", long 101°29'54", in SW 1/4 NE 1/4 sec.1, T.2 N., R.14 E., Texas County, at multiple culvert on Chicago, Rock Island, and Pacific Railroad, 1.8 mi (2.9 km) southwest of junction of U.S. Highways 54 and 64 at Guymon.	.26	1964-73	07-24-73	11.90	465
07232650	Aqua Frio Creek near Felt, Okla.	Lat 36°33'23", long 102°47'10", in SW 1/4 NW 1/4 sec.18, T.1 N., R.3 E., Cimarron County, at county road culvert, 1.1 mi (1.8 km) south of junction with U.S. Highway 64 at Felt.	31.0	1964-73	07-24-73	11.90	465
07233850	Sharp Creek tributary near Turpin, Okla.	Lat 36°51'50", long 100°54'45", in SE 1/4 SE 1/4 sec.29, T.5 N., R.20 E., Beaver County, at culvert on U.S. Highway 64, 2.1 mi (3.4 km) west of Turpin.	1	1964-73	03-23-73	13.76	120
07234050	North Fork Clear Creek tributary near Balko, Okla.	Lat 36°37'01", long 100°39'50", in SW 1/4 SW 1/4 sec.23, T.2 N., R.22 E., Beaver County, at multi-barrel culvert on State Highway 3, 1.5 mi (2.4 km) southeast of Balko.	4.0	1964-73	03-23-73	10.50	11
07234290	Clear Creek tributary near Catesby, Okla.	Lat 36°29'30", long 99°57'20", in SE 1/4 SW 1/4 sec.2, T.23 N., R.26 W., Ellis County, on downstream side of county road bridge, 0.1 mi (0.2 km) east of Catesby.	9.18	1966-73	09-12-73	3.06	83
07235700	Little Wolf Creek tributary near Gage, Okla.	Lat 36°14'26", long 99°45'30", in NW 1/4 NW 1/4 sec.4, T.20 N., R.24 W., Ellis County, at multi-barrel culvert on State Highway 46, 5.5 mi (8.8 km) south of Gage.	17.6*	1964-73	07-01-71 06-13-72 03-23-73	3.80 5.45 5.70	140* 1,150* 1,400
07237750	Cottonwood Creek near Vici, Okla.	Lat 36°08'45", long 99°12'00", in SE 1/4 SW 1/4 sec.2, T.19 N., R.19 W., Dewey County, at bridge on U.S. Highway 60, 5.4 mi (8.7 km) east of Vici.	11.5	1964-73	04-30-73	6.95	358
†07237800	Bent Creek near Seiling, Okla.	Lat 36°11'26", long 99°00'36", in NW 1/4 SE 1/4 sec.21, T.20 N., R.17 W., Woodward County, at bridge on U.S. Highway 183 and 270, 6 mi (10 km) northwest of Seiling.	139	1967-70* 1971-73	03-30-73	16.79	3,030
07239050	North Canadian River tributary near Eagle City, Okla.	Lat 35°55'30", long 98°35'00", in SE 1/4 NE 1/4 sec.28, T.17 N., R.13 W., Blaine County, at culvert on State Highway 58, 0.5 mi (0.8 km) south of Eagle City.	.52	1964-73		<1.80	<45

See footnotes at end of table, p. 192.

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Arkansas River Basin--Continued							
07241880	Sand Creek near Cromwell, Okla.	Lat 35°20'56", long 96°29'40", in SE 1/4 SE 1/4 sec.7, T.10 N., R.8 E., Seminole County, at bridge on State Highway 99A, 2.2 mi (3.5 km) west of Cromwell.	9.48	1964-73	06-02-73	14.64	2,180
07242160	Alabama Creek near Weleetka, Okla. (discontinued)	Lat 35°21'40", long 96°08'55", in NW 1/4 NE 1/4 sec.9, T.10 N., R.11 E., Okfuskee County, at county road multi-barrel culvert, 2.0 mi (3.2 km) north of Weleetka.	16.5	1965-73	06-02-73	14.32	3,820
07242180	Stidham Creek near Dustin, Okla.	Lat 35°17'16", long 96°03'05", in NW 1/4 NW 1/4 sec.3, T.9 N., R.12 E., Hughes County, at multi-barrel culvert on State Highway 84, 1.1 mi (1.8 km) north of Dustin.	2.56	1964-73	06-02-73	10.14	525
07243550	Adams Creek near Beggs, Okla.	Lat 35°44'55", long 96°02'15", in NE 1/4 SE 1/4 sec.28, T.15 N., R.12 E., Okmulgee County, at county road bridge, 2.0 mi (3.2 km) northeast of Beggs.	5.90	1965-73	06-02-73	10.80	1,570
07244790	Brooken Creek near Enterprise, Okla.	Lat 35°14'50", long 95°22'50", in SE 1/4 SE 1/4 sec.15, T.9 N., R.18 E., Haskell County, at county road multi-barrel culvert, 1.5 mi (2.4 km) north of Enterprise.	5.66	1964-73	06-02-73	9.24	1,630
07246610	Pecan Creek near Spiro, Okla.	Lat 35°14'40", long 94°44'35", in NE 1/4 NE 1/4 sec.22, T.9 N., R.24 E., LeFlore County, at multi-barrel culvert on U.S. Highway 59, 4.2 mi (6.8 km) west of Junction with U.S. Highway 271 west of Spiro.	.90	1965-73	03-10-73	10.42	420
07246630	Big Black Fox Creek near Long, Okla.	Lat 35°31'15", long 94°37'10", in NE 1/4 NE 1/4 sec.14, T.12 N., R.25 E., Sequoyah County, at county road bridge, 2.3 mi (3.7 km) northwest of Long.	5.32	1964-73	05-07-73	9.88	1,460
Red River Basin							
07300150	Salt Fork Red River tributary near Vinson, Okla.	Lat 34°54'10", long 99°58'50", in NW 1/4 NE 1/4 sec.19, T.5 N., R.26 W., Harmon County, at bridge on State Highway 9, 6.9 mi (11.1 km) west of Vinson.	7.49	1964-73	06-12-64 06-03-65 09-18-66 07-03-67 06-01-68 07-22-69 06-10-71 04-24-73 03-30-73	6.99 10.64 8.71 9.72 10.13 5.40 10.20 11.3 14.00	159* 956* 442* 656* 779* 42* 800* 1,220 570
07301480	Short Creek near Sayre, Okla.	Lat 35°18'20", long 99°39'15", in SW 1/4 SE 1/4 sec.29, T.10 N., R.23 W., Beckham County, at county road multi-barrel culvert, 0.9 mi (1.4 km) northwest of Sayre.	9.12	1964-73	03-30-73	6.52	389
07301495	Indian Creek near Carter, Okla.	Lat 35°17'30", long 99°30'35", in NW 1/4 NE 1/4 sec.3, T.9 N., R.22 W., Beckham County, at bridge on State Highway 152, 5.0 mi (8.0 km) north of Carter.	24.9	1965-73	03-30-73	6.52	389
07303450	Deer Creek near Plainview, Okla.	Lat 35°02'50", long 99°46'10", in NW 1/4 SE 1/4 sec.31, T.7 N., R.24 W., Greer County, at county road bridge, 3.8 mi (6.1 km) southwest of Plainview.	27.8	1964-73	06-02-73	12.38	2,680
07309480	Canyon Creek near Medicine Park, Okla.	Lat 34°49'55", long 98°32'10", in NW 1/4 SE 1/4 sec.11, T.4 N., R.13 W., Comanche County, at multi-barrel culvert on State Highway 58, 7.3 mi (11.7 km) northwest of Medicine Park.	3.35	1965-73	03-30-73	7.9	1,120
07311410	Red Creek near Snyder, Okla.	Lat 34°40'58", long 98°51'40", in SE 1/4 SE 1/4 sec.34, T.3 N., R.16 W., Kiowa County, at multi-barrel culvert on State Highway 54, 5.4 mi (8.7 km) northeast of Snyder.	6.12	1965-73	05-30-73	5.00	130
07312850	Nine Mile Beaver Creek near Elgin, Okla.	Lat 34°46'40", long 98°15'25", in SE 1/4 NW 1/4 sec.33, T.4 N., R.10 W., Comanche County, at multi-barrel culvert on State Highway 17, 2.0 mi (3.2 km) east of Elgin.	6.29	1964-73	05-10-64 07-29-73	10.33 11.39	2,330* 3,290

See footnotes at end of table, p. 192.

Annual maximum discharge at crest-stage partial-record stations.

Annual maximum discharge at crest-stage partial-record stations.							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Red River Basin--Continued							
07312950	Little Beaver Creek near Marlow, Okla.	Lat 34°40'55", long 98°00'30", in SW 1/4 SE 1/4 sec.35, T.3 N., R.8 W., Grady County, at county road bridge, 3.6 mi (5.8 km) northwest of Marlow.	35.4	1964-73	07-30-73	3.61	660
+07313600	Cow Creek at Waurika, Okla.	Lat 34°10'55", long 98°00'05", in SE 1/4 NE 1/4 sec.26, T.4 S., R.8 W., Jefferson County, at Chicago, Rock Island and Pacific Railway Co. bridge, near north edge of Waurika.	193	1967-70 1971-73	04-24-73	22.01	4,220
07315680	Cottonwood Creek tributary near Loco, Okla.	Lat 34°18'40", long 97°34'00", in SE 1/4 NE 1/4 sec.12, T.3 S., R.4 W., Stephens County, at multi-barrel culvert on State Highway 53, 6.6 mi (10.6 km) southeast of Loco.	1.74	1964-73	06-04-73	10.22	1,030
07315880	Demijohn Creek near Wilson, Okla. (discontinued)	Lat 34°08'10", long 97°25'20", in SW 1/4 NW 1/4 sec.9, T.5 S., R.2 W., Carter County, at multi-barrel culvert on State Highway 76, 1.7 mi (2.7 km) south of Wilson.	5.74	1964-73	10-31-72	10.13	2,150
07316130	Wilson Creek tributary near McMillan, Okla.	Lat 34°06'00", long 96°58'35", in NW 1/4 NE 1/4 sec.27, T.5 S., R.3 E., Carter County, at county road culvert, 2.5 mi (4.0 km) northwest of McMillan.	2.97	1965-73	09-05-73	7.02	1,110
07316140	Brier Creek near Powell, Okla.	Lat 33°59'54", long 96°49'35", in NW 1/4 NW 1/4 sec.31, T.6 S., R.5 E., Marshall County, at bridge on State Highway 32, 3.6 mi (5.8 km) northeast of Powell.	12.0	1965-73	10-30-72	11.40	2,560
07328030	Big Dry Creek near Alex, Okla.	Lat 34°56'44", long 97°50'18", in NE 1/4 SW 1/4 sec.33, T.6 N., R.6 W., Grady County, upstream from box culvert on State Highway 19, 4.5 mi (7.2 km) northwest of Alex.	7.57	1962-73	06-02-73	4.08	269
07328040	Little Dry Creek near Alex, Okla.	Lat 34°57'06", long 97°50'48", in SW 1/4 NW 1/4 sec.33, T.6 N., R.6 W., Grady County, upstream from box culvert on State Highway 19, 5.0 mi (8.0 km) northwest of Alex.	.88	1962-73	06-02-73	2.75	184
07329870	Honey Creek near Davis, Okla.	Lat 34°26'50", long 97°07'40", in NW 1/4 NE 1/4 sec.30, T.1 S., R.2 E., Murray County, at bridge on State Highway 77D, 4.0 mi (6.4 km) south of Davis.	18.7	1964-73	10-30-72	11.20	1,890
07331410	Buzzard Creek near Reagan, Okla.	Lat 34°19'50", long 96°39'28", in NE 1/4 NE 1/4 sec.3, T.3 S., R.6 E., Johnson County, at bridge on State Highway 99, 4.0 mi (6.4 km) southeast of Reagan.	4.30	1965-73	06-02-73	8.62	609
07332070	Rock Creek near Achilles, Okla.	Lat 33°48'35", long 96°22'38", in SW 1/4 SW 1/4 sec.33, T.8 S., R.9 E., Bryan County, at county road culvert, 2.0 mi (3.2 km) south of Achilles.	.72	1965-73	10-22-72	10.00	1,000
07333500	Chickasaw Creek near Stringtown, Okla.	Lat 34°27'41", long 96°01'36", in NE 1/4 NE 1/4 sec.22, T.1 S., R.12 E., Atoka County, on right upstream pier of county road bridge, 1.5 mi (2.4 km) east of Stringtown.	32.7	1956-68 1969-73	05-01-73	16.72	6,290
07333800	McGee Creek near Stringtown, Okla.	Lat 34°26'33", long 95°52'10", in NE 1/4 sec.30, T.1 S., R.14 E., Atoka County, on right bank 10.6 mi (17.0 km) east of Stringtown.	86.6	1956-68 1969-73	05-01-73	12.30	5,940
07335310	Rock Creek near Boswell, Okla.	Lat 33°57'57", long 95°52'02", in NE 1/4 NE 1/4 sec.7, T.7 S., R.14 E., Choctaw County, at culvert on State Highway 109, 4.2 mi (6.7 km) south of Boswell.	.94	1965-73	05-06-73	7.47	546
07335320	Bokchito Creek near Soper, Okla.	Lat 34°02'20", long 95°40'10", in NE 1/4 NW 1/4 sec.18, T.6 S., R.16 E., Choctaw County, at bridge on U.S. Highway 70, 1.9 mi (3.1 km) east of Soper.	16.6	1965-73	04-23-66 10-31-72	8.87* 8.95	5,320* 5,430
+07336000	Tenmile Creek near Miller, Okla.	Lat 34°17'55", long 95°44'40", in NW 1/4 sec.16, T.3 S., R.15 E., Pushmataha County, at county road bridge, 1.2 mi (1.9 km) south of Miller.	68	1956-70 1971-73	05-01-73	17.28	3,140

See footnotes at end of table, p. 192

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Red River Basin--Continued							
07336520	Frazier Creek near Oleta, Okla. (discontinued)	Lat 34°11'50", long 95°21'00", in NW 1/4 NE 1/4 sec.19, T.4 S., R.19 E., Pushmataha County, at bridge on State Highway 3, 0.5 mi (0.8 km) west of Oleta.	19.4	1964-73	10-31-72	17.04	5,740
07336710	Rock Creek near Sawyer, Okla. (discontinued)	Lat 34°01'05", long 95°21'30", in NW 1/4 SW 1/4 sec.19, T.6 S., R.19 E., Choctaw County, at county road bridge, 0.5 mi (0.8 km) east of Sawyer.	3.39	1964-73	10-31-72	7.10	1,540
07336780	Perry Creek near Idabel, Okla. (discontinued)	Lat 33°53'44", long 94°53'15", in NE 1/4 NW 1/4 sec.3, T.8 S., R.23 E., McCurtain County, at multi-barrel culvert on State Highway 37, 3.5 mi (5.6 km) west of Idabel.	7.53	1965-73	10-31-73	9.60	2,100
07336785	Bokchito Creek near Garvin, Okla.	Lat 33°53'44", long 94°54'23", in NE 1/4 NW 1/4 sec.4, T.8 S., R.23 E., McCurtain County, at multi-barrel culvert on State Highway 37, 4.5 mi (7.2 km) southeast of Garvin.	2.96	1965-73	4-20-73	a9.44	1,220
07337220	Big Branch near Ringold, Okla.	Lat 34°10'27", long 95°04'33", in NW 1/4 SW 1/4 sec.26, T.4 S., R.21 E., McCurtain County, at multiple culvert on State Highway 3, 3.8 mi (6.1 km) southeast of Ringold.	1.99	1964-73	10-31-72	14.42	1,540
07337920	Fifteen Creek near Glover, Okla. (discontinued)	Lat 34°06'33", long 94°55'42", in SW 1/4 NW 1/4 sec.20, T.5 S., R.23 E., McCurtain County, at culvert on State Highways 3 and 7, 2.7 mi (4.3 km) northwest of Glover.	1.23	1967-73	10-31-72	9.83	968
07338520	Yanubbee Creek near Broken Bow, Okla.	Lat 34°03'35", long 94°44'22", in NW 1/4 SW 1/4 sec.6, T.6 S., R.25 E., McCurtain County, at bridge on U.S. Highway 259, 2.3 mi (3.7 km) north of Broken Bow.	9.10	1964-73	10-31-72	12.40	2,300
07338780	Mountain Fork tributary near Smithville, Okla.	Lat 34°29'48", long 94°40'06", in NW 1/4 SE 1/4 sec.3, T.1 S., R.25 E., McCurtain County, at multi-barrel culvert on U.S. Highway 259, 2.5 mi (4.0 km) northwest of Smithville.	.85	1965-73	10-31-72	4.49	211

† Also a low-flow partial-record station.

†† Operated as a continuous-record station.

* Revised.

a Gage height on upstream side of culvert.

Measurements at miscellaneous sites

Indirect measurements of peak discharges were made at the following sites in Oklahoma City in connection with urban studies of runoff.

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Arkansas River Basin						
Bluff Creek	Cimarron River	Lat 35°32'26", long 97°35'56", in SW 1/4 sec.2, T.12 N., R.4 W., Oklahoma County at 68 St. and Northwest Highway in Oklahoma City.			06-04-73 09-03-73	1,100 840
Deep Fork	North Canadian River	Lat 35°30'06", long 97°34'58", in NW 1/4 sec.24, T.12 N., R.4 W., Oklahoma County at N.W. 31 St. and Portland in Oklahoma City.	2.95		09-03-73	3,490
Deep Fork	North Canadian River	Lat 35°30'12", long 97°34'50", in NW 1/4 sec.24, T.12 N., R.4 W., Oklahoma County in Will Rogers Park in Oklahoma City.	3.19		09-03-73	3,540
Deep Fork	North Canadian River	Lat 35°30'17", long 97°34'28", in NW 1/4 sec.24, T.12 N., R.4 W., Oklahoma County at control structure at 34 St. and Grand Blvd. in Oklahoma City.	4.02		09-03-73	1,810

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